API Reference

Amazon Location Service

API Version 2020-11-19

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Amazon Location Service: API Reference

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Welcome

Amazon Location Service Routes V2

With the Routes API you can calculate routes and estimate travel time based on up-to-date road network and live traffic information. Key features include:

- Point-to-point routing with estimated travel time, distance, and turn-by-turn directions. See CalculateRoutes.
- Multi-point route optimization to minimize travel time or distance. See OptimizeWaypoints.
- Route matrices for efficient multi-destination planning. See CalculateRouteMatrix.
- Isoline calculations to determine reachable areas within specified time or distance thresholds. See CalculateIsolines.
- Map-matching to align GPS traces with the road network. See SnapToRoads.

Amazon Location Service Maps V2

Integrate high-quality base map data into your applications using MapLibre. Capabilities include:

- Access to comprehensive base map data, allowing you to tailor the map display to your specific needs. See GetTile.
- Multiple pre-designed map styles suited for various application types, such as navigation, logistics, or data visualization. See GetStyleDescriptor.
- Generation of static map images for scenarios where interactive maps aren't suitable. See GetStaticMap. Use cases include:
  - Embedding in emails or documents
  - Displaying in low-bandwidth environments
  - Creating printable maps
  - Enhancing application performance by reducing client-side rendering

Amazon Location Service Places V2

The Places API enables powerful location search and geocoding capabilities for your applications, offering global coverage with rich, detailed information. Key features include:

- Forward and reverse geocoding for addresses and coordinates. See Geocode and ReverseGeocode.
- Comprehensive place searches with detailed information. See SearchText, SearchNearby, and GetPlace. Place information you can find include:
  - Business names and addresses
  - Contact information
  - Hours of operation
  - Points of Interest (POI) categories
  - Food types for restaurants
  - Chain affiliation for relevant businesses
- Address and place completion as users type, enhancing input efficiency by completing partial queries with valid addresses. See Autocomplete.
- Intelligent place and query recommendation based on user's input or context, returning relevant places, points of interest, query terms, or search categories. See Suggest.
- Global data coverage with a wide range of POI categories.
- Regular data updates to ensure accuracy and relevance.
- Bulk address validation for verifying and standardizing large volumes of addresses in a single operation using Amazon Location Service Jobs.

Amazon Location Service API Keys

Use API key authentication in Amazon Location Service to manage and authenticate API key resources that grant access to Amazon Location APIs. API keys let you grant actions for Amazon Location resources to the API key bearer.

For more information about using API keys to authenticate, see the Amazon Location Service Developer Guide.

Amazon Location Service Jobs

Amazon Location Service Jobs provide asynchronous bulk processing capabilities that enable you to validate and standardize large volumes of addresses efficiently and cost-effectively. Instead of making individual API calls for each address, you can process thousands of addresses in a single operation using the Jobs API.

The Jobs API introduces a new paradigm for address validation within Amazon Location Service, allowing you to submit bulk operations that run asynchronously in the background. You upload your address data to Amazon S3, submit a job through the API, and retrieve standardized results when processing is complete.

Amazon Location Service Tags

Use resource tagging in Amazon Location Service to create tags to categorize your resources by purpose, owner, environment, or criteria. Tagging your resources helps you manage, identify, organize, search, and filter your resources.

For more information about tagging your Amazon Location resources, see the Amazon Location Service Developer Guide. It provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into your application.

Amazon Location Service Geofences

Amazon Location Geofences lets you give your application the ability to detect and act when a tracked device enters or exits a defined geographical boundary known as a geofence.

With Amazon Location Geofences, you can automatically send an exit or entry event to Amazon EventBridge when a geofence breach is detected. This lets you trigger downstream actions such as sending a notification to a target. For additional information, see the Amazon Location Service Developer Guide. It provides definitions, tutorials, code examples, and instructions about how to integrate features into web or mobile apps.

Amazon Location Service Trackers

Use trackers to store position updates for a collection of devices. The tracker can be used to query the devices' current location or location history. It stores the updates, but reduces storage space and visual noise by filtering the locations before storing them.

For more information, see the Amazon Location Service Developer Guide. It provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into your application.

Actions

The following actions are supported by Amazon Location Service Routes V2:

- CalculateIsolines
- CalculateRouteMatrix
- CalculateRoutes
- OptimizeWaypoints
- SnapToRoads

The following actions are supported by Amazon Location Service Maps V2:

- GetGlyphs
- GetSprites
- GetStaticMap
- GetStyleDescriptor
- GetTile

The following actions are supported by Amazon Location Service Places V2:

- Autocomplete
- Geocode
- GetPlace
- ReverseGeocode
- SearchNearby
- SearchText
- Suggest

The following actions are supported by Amazon Location Service API Keys:

- CreateKey
- DeleteKey
- DescribeKey

- ListKeys
- UpdateKey

The following actions are supported by Amazon Location Service Jobs:

- CancelJob
- GetJob
- ListJobs
- StartJob

The following actions are supported by Amazon Location Service Tags:

- ListTagsForResource
- TagResource
- UntagResource

The following actions are supported by Amazon Location Service Geofences:

- BatchDeleteGeofence
- BatchEvaluateGeofences
- BatchPutGeofence
- CreateGeofenceCollection
- DeleteGeofenceCollection
- DescribeGeofenceCollection
- ForecastGeofenceEvents
- GetGeofence
- ListGeofenceCollections
- ListGeofences
- PutGeofence
- UpdateGeofenceCollection

The following actions are supported by Amazon Location Service Trackers:

- AssociateTrackerConsumer
- BatchDeleteDevicePositionHistory
- BatchGetDevicePosition
- BatchUpdateDevicePosition
- CreateTracker
- DeleteTracker
- DescribeTracker
- DisassociateTrackerConsumer
- GetDevicePosition
- GetDevicePositionHistory
- ListDevicePositions
- ListTrackerConsumers
- ListTrackers
- UpdateTracker
- VerifyDevicePosition

Amazon Location Service Routes V2

The following actions are supported by Amazon Location Service Routes V2:

- CalculateIsolines
- CalculateRouteMatrix
- CalculateRoutes
- OptimizeWaypoints
- SnapToRoads

CalculateIsolines

Service: Amazon Location Service Routes V2

Calculates areas that can be reached within specified time or distance thresholds from a given point. For example, you can use this operation to determine the area within a 30-minute drive of a store location, find neighborhoods within walking distance of a school, or identify delivery zones based on drive time.

Isolines (also known as isochrones for time-based calculations) are useful for various applications including:

- Service area visualization - Show customers the area you can serve within promised delivery times
- Site selection - Analyze potential business locations based on population within travel distance
- Site selection - Determine areas that can be reached within specified response times

> **Note**
>
> Route preferences such as avoiding toll roads or ferries are treated as preferences rather than absolute restrictions. If a viable route cannot be calculated while honoring all preferences, some may be ignored.

For more information, see Calculate isolines in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/isolines?key=Key HTTP/1.1
Content-type: application/json

{
   "Allow": {
      "Hot": boolean,
      "Hov": boolean
   },
   "ArrivalTime": "string",
   "Avoid": {
      "Areas": [
         {
```

```
            "Except": [
               {
                  "BoundingBox": [ number ],
                  "Corridor": {
                     "LineString": [
                        [ number ]
                     ],
                     "Radius": number
                  },
                  "Polygon": [
                     [
                        [ number ]
                     ]
                  ],
                  "PolylineCorridor": {
                     "Polyline": "string",
                     "Radius": number
                  },
                  "PolylinePolygon": [ "string" ]
               }
            ],
            "Geometry": {
               "BoundingBox": [ number ],
               "Corridor": {
                  "LineString": [
                     [ number ]
                  ],
                  "Radius": number
               },
               "Polygon": [
                  [
                     [ number ]
                  ]
               ],
               "PolylineCorridor": {
                  "Polyline": "string",
                  "Radius": number
               },
               "PolylinePolygon": [ "string" ]
            }
         }
      ],
      "CarShuttleTrains": boolean,
      "ControlledAccessHighways": boolean,
```

```
        "DirtRoads": boolean,
        "Ferries": boolean,
        "SeasonalClosure": boolean,
        "TollRoads": boolean,
        "TollTransponders": boolean,
        "TruckRoadTypes": [ "string" ],
        "Tunnels": boolean,
        "UTurns": boolean,
        "ZoneCategories": [
           {
              "Category": "string"
           }
        ]
     },
     "DepartNow": boolean,
     "DepartureTime": "string",
     "Destination": [ number ],
     "DestinationOptions": {
        "AvoidActionsForDistance": number,
        "Heading": number,
        "Matching": {
           "NameHint": "string",
           "OnRoadThreshold": number,
           "Radius": number,
           "Strategy": "string"
        },
        "SideOfStreet": {
           "Position": [ number ],
           "UseWith": "string"
        }
     },
     "IsolineGeometryFormat": "string",
     "IsolineGranularity": {
        "MaxPoints": number,
        "MaxResolution": number
     },
     "OptimizeIsolineFor": "string",
     "OptimizeRoutingFor": "string",
     "Origin": [ number ],
     "OriginOptions": {
        "AvoidActionsForDistance": number,
        "Heading": number,
        "Matching": {
           "NameHint": "string",
```

```
            "OnRoadThreshold": number,
            "Radius": number,
            "Strategy": "string"
         },
         "SideOfStreet": {
            "Position": [ number ],
            "UseWith": "string"
         }
      },
      "Thresholds": {
         "Distance": [ number ],
         "Time": [ number ]
      },
      "Traffic": {
         "FlowEventThresholdOverride": number,
         "Usage": "string"
      },
      "TravelMode": "string",
      "TravelModeOptions": {
         "Car": {
            "EngineType": "string",
            "LicensePlate": {
               "LastCharacter": "string"
            },
            "MaxSpeed": number,
            "Occupancy": number
         },
         "Scooter": {
            "EngineType": "string",
            "LicensePlate": {
               "LastCharacter": "string"
            },
            "MaxSpeed": number,
            "Occupancy": number
         },
         "Truck": {
            "AxleCount": number,
            "EngineType": "string",
            "GrossWeight": number,
            "HazardousCargos": [ "string" ],
            "Height": number,
            "HeightAboveFirstAxle": number,
            "KpraLength": number,
            "Length": number,
```

```
            "LicensePlate": {
               "LastCharacter": "string"
            },
            "MaxSpeed": number,
            "Occupancy": number,
            "PayloadCapacity": number,
            "TireCount": number,
            "Trailer": {
               "AxleCount": number,
               "TrailerCount": number
            },
            "TruckType": "string",
            "TunnelRestrictionCode": "string",
            "WeightPerAxle": number,
            "WeightPerAxleGroup": {
               "Quad": number,
               "Quint": number,
               "Single": number,
               "Tandem": number,
               "Triple": number
            },
            "Width": number
         }
      }
   }
```

URI Request Parameters

The request uses the following URI parameters.

Key

An Amazon Location Service API Key with access to this action. If omitted, the request must be signed using Signature Version 4.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Enables special road types or features that should be considered for routing even if they might be restricted by default for the selected travel mode. These include high-occupancy vehicle and toll lanes.

Type: IsolineAllowOptions object

Required: No

ArrivalTime

Determine areas from which `Destination` can be reached by this time, taking into account predicted traffic conditions and working backward to account for congestion patterns. This attribute cannot be used together with `DepartureTime` or `DepartNow`. Specified as an ISO-8601 timestamp with timezone offset.

Time format: `YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Avoid

Specifies road types, features, or areas to avoid (if possible) when calculating reachable areas. These are treated as preferences rather than strict constraints—if a route cannot be calculated without using an avoided feature, that avoidance preference may be ignored.

Type: IsolineAvoidanceOptions object

Required: No

DepartNow

When true, uses the current time as the departure time and takes current traffic conditions into account. This attribute cannot be used together with `DepartureTime` or `ArrivalTime`.

Type: Boolean

Required: No

DepartureTime

Determine areas that can be reached when departing at this time, taking into account predicted traffic conditions. This attribute cannot be used together with `ArrivalTime` or `DepartNow`. Specified as an ISO-8601 timestamp with timezone offset.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Destination

An optional destination point, specified as `[longitude, latitude]` coordinates. When provided, the service calculates areas from which this destination can be reached within the specified thresholds. This reverses the usual isoline calculation to show areas that could reach your location, rather than areas you could reach from your location. Either `Origin` or `Destination` must be provided.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

DestinationOptions

Options that control how the destination point is matched to the road network and how routes can approach it. These options help improve travel time accuracy by accounting for real-world access to the destination.

Type: IsolineDestinationOptions object

Required: No

IsolineGeometryFormat

The format of the returned IsolineGeometry.

Default value:`FlexiblePolyline`

Type: String

Valid Values: `FlexiblePolyline | Simple`

Required: No

IsolineGranularity

Controls the detail level of the generated isolines. Higher granularity produces smoother shapes but requires more processing time and results in larger responses.

Type: IsolineGranularityOptions object

Required: No

OptimizeIsolineFor

Controls the trade-off between calculation speed and isoline precision. Choose `FastCalculation` for quicker results with less detail, `AccurateCalculation` for more precise results, or `BalancedCalculation` for a middle ground.

Default value: `BalancedCalculation`

Type: String

Valid Values: `AccurateCalculation | BalancedCalculation | FastCalculation`

Required: No

OptimizeRoutingFor

Determines whether routes prioritize shortest travel time (`FastestRoute`) or shortest physical distance (`ShortestRoute`) when calculating reachable areas.

Default value: `FastestRoute`

Type: String

Valid Values: `FastestRoute | ShortestRoute`

Required: No

Origin

The starting point for isoline calculations, specified as `[longitude, latitude]` coordinates. For example, this could be a store location, service center, or any point from which you want to calculate reachable areas. Either `Origin` or `Destination` must be provided.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

OriginOptions

Options that control how the origin point is matched to the road network and how routes can depart from it. These options help improve travel time accuracy by accounting for real-world access from the origin.

Type: IsolineOriginOptions object

Required: No

Thresholds

The distance or time thresholds used to determine reachable areas. You can specify up to five thresholds (which all must be the same type) to calculate multiple isolines in a single request. For example, to determine the areas that are reachable within 10 and 20 minutes of the origin, specify time thresholds of 600 and 1200 seconds.

You incur a calculation charge for each threshold. Using a large number of thresholds in a request can lead to unexpected charges. For more information, see Routes pricing in the *Amazon Location Service Developer Guide*.

Type: IsolineThresholds object

Required: Yes

Traffic

Configures how real-time and historical traffic data affects isoline calculations. Traffic patterns can significantly impact reachable areas, especially during peak hours.

Type: IsolineTrafficOptions object

Required: No

TravelMode

The mode of transportation to use for calculations. This affects which road types or features can be used, estimated speed, and the traffic levels that are applied.

- `Car`—Standard passenger vehicle routing using roads accessible to cars
- `Pedestrian`—Walking routes using pedestrian paths, sidewalks, and crossings
- `Scooter`—Light two-wheeled vehicle routing using roads and paths accessible to scooters
- `Truck`—Commercial truck routing considering vehicle dimensions, weight restrictions, and hazardous material regulations

> **Note**
>
> The mode `Scooter` also applies to motorcycles; set this to `Scooter` when calculating isolines for motorcycles.

Default value: `Car`

Type: String

Valid Values: `Car | Pedestrian | Scooter | Truck`

Required: No

TravelModeOptions

Additional attributes that refine how reachable areas are calculated based on specific vehicle characteristics. These options help produce more accurate results by accounting for real-world constraints and capabilities.

For example:

- For trucks (`Truck`), specify dimensions, weight limits, and hazardous cargo restrictions to ensure isolines only include roads that can physically and legally accommodate the vehicle
- For cars (`Car`), set maximum speed capabilities or indicate high-occupancy vehicle eligibility to better estimate reachable areas
- For scooters (`Scooter`), specify engine type and speed limitations to more accurately model their travel capabilities

Without these options, calculations use default assumptions that may not match your specific use case.

Type: IsolineTravelModeOptions object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "ArrivalTime": "string",
   "DepartureTime": "string",
   "IsolineGeometryFormat": "string",
   "Isolines": [
      {
         "Connections": [
            {
               "FromPolygonIndex": number,
               "Geometry": {
                  "LineString": [
                     [ number ]
                  ],
```

```
                "Polyline": "string"
            },
            "ToPolygonIndex": number
        }
    ],
    "DistanceThreshold": number,
    "Geometries": [
        {
            "Polygon": [
                [
                    [ number ]
                ]
            ],
            "PolylinePolygon": [ "string" ]
        }
    ],
    "TimeThreshold": number
  }
],
"SnappedDestination": [ number ],
"SnappedOrigin": [ number ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket applied to this calculation. Different buckets apply based on the travel mode and thresholds used.

The following data is returned in JSON format by the service.

ArrivalTime

Time of arrival at the destination, used for traffic calculations. This attribute is returned only if the `Destination` and `ArrivalTime` attributes were provided in the request.

Time format: `YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

DepartureTime

Time of departure from the origin, used for traffic calculations. This attribute is returned when `Origin` was provided in the request and either a specific departure time was requested (`DepartureTime`) or `DepartNow` was set to true.

Time format: `YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

IsolineGeometryFormat

The format of the returned geometries, matching the format specified in the request. Either `FlexiblePolyline` for compact encoding or `Simple` for GeoJSON-compatible coordinates.

Default value:`FlexiblePolyline`

Type: String

Valid Values: `FlexiblePolyline | Simple`

Isolines

Reachable areas, or isolines, for each threshold specified in the request.

Type: Array of Isoline objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

SnappedDestination

The actual point on the road network used for calculations, which may differ from the requested destination if `Destination` was not directly on a road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

SnappedOrigin

The actual point on the road network used for calculations, which may differ from the requested origin if `Origin` was not directly on a road.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

CalculateRouteMatrix

Service: Amazon Location Service Routes V2

Use `CalculateRouteMatrix` to compute results for all pairs of Origins to Destinations. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destinations positions.

For more information, see Calculate route matrix in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/route-matrix?key=Key HTTP/1.1
Content-type: application/json

{
   "Allow": {
      "Hot": boolean,
      "Hov": boolean
   },
   "Avoid": {
      "Areas": [
         {
            "Geometry": {
               "BoundingBox": [ number ],
               "Polygon": [
                  [
                     [ number ]
                  ]
               ],
               "PolylinePolygon": [ "string" ]
            }
         }
      ],
      "CarShuttleTrains": boolean,
      "ControlledAccessHighways": boolean,
      "DirtRoads": boolean,
      "Ferries": boolean,
      "TollRoads": boolean,
      "TollTransponders": boolean,
      "TruckRoadTypes": [ "string" ],
      "Tunnels": boolean,
      "UTurns": boolean,
      "ZoneCategories": [
```

```
            {
               "Category": "string"
            }
         ]
      },
      "DepartNow": boolean,
      "DepartureTime": "string",
      "Destinations": [
         {
            "Options": {
               "AvoidActionsForDistance": number,
               "Heading": number,
               "Matching": {
                  "NameHint": "string",
                  "OnRoadThreshold": number,
                  "Radius": number,
                  "Strategy": "string"
               },
               "SideOfStreet": {
                  "Position": [ number ],
                  "UseWith": "string"
               }
            },
            "Position": [ number ]
         }
      ],
      "Exclude": {
         "Countries": [ "string" ]
      },
      "OptimizeRoutingFor": "string",
      "Origins": [
         {
            "Options": {
               "AvoidActionsForDistance": number,
               "Heading": number,
               "Matching": {
                  "NameHint": "string",
                  "OnRoadThreshold": number,
                  "Radius": number,
                  "Strategy": "string"
               },
               "SideOfStreet": {
                  "Position": [ number ],
                  "UseWith": "string"
```

```
            }
         },
         "Position": [ number ]
      }
   ],
   "RoutingBoundary": {
      "Geometry": {
         "AutoCircle": {
            "Margin": number,
            "MaxRadius": number
         },
         "BoundingBox": [ number ],
         "Circle": {
            "Center": [ number ],
            "Radius": number
         },
         "Polygon": [
            [
               [ number ]
            ]
         ]
      },
      "Unbounded": boolean
   },
   "Traffic": {
      "FlowEventThresholdOverride": number,
      "Usage": "string"
   },
   "TravelMode": "string",
   "TravelModeOptions": {
      "Car": {
         "LicensePlate": {
            "LastCharacter": "string"
         },
         "MaxSpeed": number,
         "Occupancy": number
      },
      "Scooter": {
         "LicensePlate": {
            "LastCharacter": "string"
         },
         "MaxSpeed": number,
         "Occupancy": number
      },
```

```
        "Truck": {
            "AxleCount": number,
            "GrossWeight": number,
            "HazardousCargos": [ "string" ],
            "Height": number,
            "KpraLength": number,
            "Length": number,
            "LicensePlate": {
                "LastCharacter": "string"
            },
            "MaxSpeed": number,
            "Occupancy": number,
            "PayloadCapacity": number,
            "Trailer": {
                "TrailerCount": number
            },
            "TruckType": "string",
            "TunnelRestrictionCode": "string",
            "WeightPerAxle": number,
            "WeightPerAxleGroup": {
                "Quad": number,
                "Quint": number,
                "Single": number,
                "Tandem": number,
                "Triple": number
            },
            "Width": number
        }
    }
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Features that are allowed while calculating a route.

Type: RouteMatrixAllowOptions object

Required: No

Avoid

Features that are avoided while calculating a route. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, it violates the avoidance and the returned response produces a notice for the violation. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `TollRoads`, `Ferries`, and `ControlledAccessHighways`.

Type: RouteMatrixAvoidanceOptions object

Required: No

DepartNow

Uses the current time as the time of departure.

Type: Boolean

Required: No

DepartureTime

Time of departure from the origin.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Destinations

List of destinations for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

> **Note**
>
> Route calculations are billed for each origin and destination pair. If you use a large matrix of origins and destinations, your costs will increase accordingly. For more information, see Routes pricing in the *Amazon Location Service Developer Guide*.

The maximum number of destinations depends on the routing boundary configuration:

- With `RoutingBoundary.Geometry` set: maximum 500 destinations
- With `RoutingBoundary.Unbounded` set to `true`: maximum 100 destinations
- For GrabMaps customers in `ap-southeast-1` and `ap-southeast-5`: maximum 350 destinations

The total matrix size (origins × destinations) must not exceed:

- With `RoutingBoundary.Geometry`: 160,000
- With `RoutingBoundary.Unbounded`: 100
- For GrabMaps customers in `ap-southeast-1` and `ap-southeast-5`: 122,500

Type: Array of RouteMatrixDestination objects

Array Members: Minimum number of 1 item.

Required: Yes

Exclude

Features to be strictly excluded while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatrixExclusionOptions object

Required: No

OptimizeRoutingFor

Controls the trade-off between finding the shortest travel time (`FastestRoute`) and the shortest distance (`ShortestRoute`) when calculating reachable areas.

Default value: `FastestRoute`

Type: String

Valid Values: `FastestRoute | ShortestRoute`

Required: No

Origins

List of origins for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

> **Note**
>
> Route calculations are billed for each origin and destination pair. Using a large amount of Origins in a request can lead you to incur unexpected charges. For more information, see Routes pricing in the *Amazon Location Service Developer Guide*.

The maximum number of origins depends on the routing boundary configuration:

- With `RoutingBoundary.Geometry` set: maximum 500 origins
- With `RoutingBoundary.Unbounded` set to `true`: maximum 15 origins
- For GrabMaps customers in `ap-southeast-1` and `ap-southeast-5`: maximum 350 origins

The total matrix size (origins × destinations) must not exceed:

- With `RoutingBoundary.Geometry`: 160,000
- With `RoutingBoundary.Unbounded`: 100
- For GrabMaps customers in `ap-southeast-1` and `ap-southeast-5`: 122,500

Type: Array of RouteMatrixOrigin objects

Array Members: Minimum number of 1 item.

Required: Yes

RoutingBoundary

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only Unbounded set to `true`.

Default value: `Unbounded set to true`

> **Note**
>
> When `AutoCircle` is set in the request, the response routing boundary will return `Circle` derived from the `AutoCircle` settings.

Type: RouteMatrixBoundary object

Required: No

Traffic

Traffic related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatrixTrafficOptions object

Required: No

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `Car`, `Pedestrian`, and `Scooter`.

Default value: `Car`

Type: String

Valid Values: `Car | Pedestrian | Scooter | Truck`

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatrixTravelModeOptions object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "ErrorCount": number,
   "RouteMatrix": [
      [
         {
            "Distance": number,
            "Duration": number,
            "Error": "string"
         }
      ]
   ],
   "RoutingBoundary": {
      "Geometry": {
         "AutoCircle": {
            "Margin": number,
            "MaxRadius": number
         },
         "BoundingBox": [ number ],
         "Circle": {
            "Center": [ number ],
            "Radius": number
         },
         "Polygon": [
            [
               [ number ]
            ]
         ]
      },
```

```
        "Unbounded": boolean
    }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

ErrorCount

The count of error results in the route matrix. If this number is 0, all routes were calculated successfully.

Type: Integer

Valid Range: Minimum value of 0.

RouteMatrix

The calculated route matrix containing the results for all pairs of Origins to Destination positions. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destination positions.

Type: Array of arrays of RouteMatrixEntry objects

RoutingBoundary

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid.

> **Note**
>
> When `AutoCircle` is set in the request, the response routing boundary will return `Circle` derived from the `AutoCircle` settings.

Type: RouteMatrixBoundary object

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2

- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

CalculateRoutes

Service: Amazon Location Service Routes V2

`CalculateRoutes` computes routes given the following required parameters: `Origin` and `Destination`.

For more information, see Calculate routes in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/routes?key=Key HTTP/1.1
Content-type: application/json

{
   "Allow": {
      "Hot": boolean,
      "Hov": boolean
   },
   "ArrivalTime": "string",
   "Avoid": {
      "Areas": [
         {
            "Except": [
               {
                  "BoundingBox": [ number ],
                  "Corridor": {
                     "LineString": [
                        [ number ]
                     ],
                     "Radius": number
                  },
                  "Polygon": [
                     [
                        [ number ]
                     ]
                  ],
                  "PolylineCorridor": {
                     "Polyline": "string",
                     "Radius": number
                  },
                  "PolylinePolygon": [ "string" ]
               }
            ],
```

```
            "Geometry": {
               "BoundingBox": [ number ],
               "Corridor": {
                  "LineString": [
                     [ number ]
                  ],
                  "Radius": number
               },
               "Polygon": [
                  [
                     [ number ]
                  ]
               ],
               "PolylineCorridor": {
                  "Polyline": "string",
                  "Radius": number
               },
               "PolylinePolygon": [ "string" ]
            }
         }
      ],
      "CarShuttleTrains": boolean,
      "ControlledAccessHighways": boolean,
      "DirtRoads": boolean,
      "Ferries": boolean,
      "SeasonalClosure": boolean,
      "TollRoads": boolean,
      "TollTransponders": boolean,
      "TruckRoadTypes": [ "string" ],
      "Tunnels": boolean,
      "UTurns": boolean,
      "ZoneCategories": [
         {
            "Category": "string"
         }
      ]
   },
   "DepartNow": boolean,
   "DepartureTime": "string",
   "Destination": [ number ],
   "DestinationOptions": {
      "AvoidActionsForDistance": number,
      "AvoidUTurns": boolean,
      "Heading": number,
```

```
        "Matching": {
           "NameHint": "string",
           "OnRoadThreshold": number,
           "Radius": number,
           "Strategy": "string"
        },
        "SideOfStreet": {
           "Position": [ number ],
           "UseWith": "string"
        },
        "StopDuration": number
     },
     "Driver": {
        "Schedule": [
           {
              "DriveDuration": number,
              "RestDuration": number
           }
        ]
     },
     "Exclude": {
        "Countries": [ "string" ]
     },
     "InstructionsMeasurementSystem": "string",
     "Languages": [ "string" ],
     "LegAdditionalFeatures": [ "string" ],
     "LegGeometryFormat": "string",
     "MaxAlternatives": number,
     "OptimizeRoutingFor": "string",
     "Origin": [ number ],
     "OriginOptions": {
        "AvoidActionsForDistance": number,
        "AvoidUTurns": boolean,
        "Heading": number,
        "Matching": {
           "NameHint": "string",
           "OnRoadThreshold": number,
           "Radius": number,
           "Strategy": "string"
        },
        "SideOfStreet": {
           "Position": [ number ],
           "UseWith": "string"
        }
```

```
    },
    "SpanAdditionalFeatures": [ "string" ],
    "Tolls": {
       "AllTransponders": boolean,
       "AllVignettes": boolean,
       "Currency": "string",
       "EmissionType": {
          "Co2EmissionClass": "string",
          "Type": "string"
       },
       "VehicleCategory": "string"
    },
    "Traffic": {
       "FlowEventThresholdOverride": number,
       "Usage": "string"
    },
    "TravelMode": "string",
    "TravelModeOptions": {
       "Car": {
          "EngineType": "string",
          "LicensePlate": {
             "LastCharacter": "string"
          },
          "MaxSpeed": number,
          "Occupancy": number
       },
       "Intermodal": {
          "AccessibilityAttributes": [ "string" ],
          "MaxTransfers": number,
          "Pedestrian": {
             "MaxDistance": number,
             "Speed": number
          },
          "Rental": {
             "AllowedModes": [ "string" ],
             "EnabledFor": [ "string" ],
             "ExcludedModes": [ "string" ]
          },
          "Taxi": {
             "AllowedModes": [ "string" ],
             "EnabledFor": [ "string" ],
             "ExcludedModes": [ "string" ]
          },
          "Transit": {
```

```
            "AllowedModes": [ "string" ],
            "EnabledFor": [ "string" ],
            "ExcludedModes": [ "string" ]
         },
         "Vehicle": {
            "AllowedModes": [ "string" ],
            "EnabledFor": [ "string" ],
            "ExcludedModes": [ "string" ]
         }
      },
      "Pedestrian": {
         "Speed": number
      },
      "Scooter": {
         "EngineType": "string",
         "LicensePlate": {
            "LastCharacter": "string"
         },
         "MaxSpeed": number,
         "Occupancy": number
      },
      "Transit": {
         "AccessibilityAttributes": [ "string" ],
         "AllowedModes": [ "string" ],
         "ExcludedModes": [ "string" ],
         "MaxTransfers": number,
         "Pedestrian": {
            "MaxDistance": number,
            "Speed": number
         }
      },
      "Truck": {
         "AxleCount": number,
         "EngineType": "string",
         "GrossWeight": number,
         "HazardousCargos": [ "string" ],
         "Height": number,
         "HeightAboveFirstAxle": number,
         "KpraLength": number,
         "Length": number,
         "LicensePlate": {
            "LastCharacter": "string"
         },
         "MaxSpeed": number,
```

```
            "Occupancy": number,
            "PayloadCapacity": number,
            "TireCount": number,
            "Trailer": {
               "AxleCount": number,
               "TrailerCount": number
            },
            "TruckType": "string",
            "TunnelRestrictionCode": "string",
            "WeightPerAxle": number,
            "WeightPerAxleGroup": {
               "Quad": number,
               "Quint": number,
               "Single": number,
               "Tandem": number,
               "Triple": number
            },
            "Width": number
         }
      },
      "TravelStepType": "string",
      "Waypoints": [
         {
            "AvoidActionsForDistance": number,
            "AvoidUTurns": boolean,
            "Heading": number,
            "Matching": {
               "NameHint": "string",
               "OnRoadThreshold": number,
               "Radius": number,
               "Strategy": "string"
            },
            "PassThrough": boolean,
            "Position": [ number ],
            "SideOfStreet": {
               "Position": [ number ],
               "UseWith": "string"
            },
            "StopDuration": number
         }
      ]
   }
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Allow

Features that are allowed while calculating a route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteAllowOptions object

Required: No

ArrivalTime

Time of arrival at the destination. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Avoid

Features that are avoided while calculating a route. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, it violates the avoidance and the returned response produces a notice for the violation. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `ControlledAccessHighways`, `Ferries`, and `TollRoads`

Type: RouteAvoidanceOptions object

Required: No

DepartNow

Uses the current time as the time of departure.

Type: Boolean

Required: No

DepartureTime

Time of departure from the origin.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Destination

The final position for the route. In the World Geodetic System (WGS 84) format: `[longitude, latitude]`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

DestinationOptions

Destination related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteDestinationOptions object

Required: No

Driver

Driver related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteDriverOptions object

Required: No

Exclude

Features to be strictly excluded while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteExclusionOptions object

Required: No

InstructionsMeasurementSystem

Measurement system to be used for instructions within steps in the response.

Type: String

Valid Values: `Metric | Imperial`

Required: No

Languages

List of languages for instructions within steps in the response. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

> **Note**
>
> Instructions in the requested language are returned only if they are available.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 10 items.

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

LegAdditionalFeatures

A list of optional additional parameters such as timezone that can be requested for each result. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `PassThroughWaypoints`, `Summary`, and `TravelStepInstructions`

- `Elevation`: Retrieves the elevation information for each location.
- `Incidents`: Provides information on traffic incidents along the route.
- `PassThroughWaypoints`: Indicates waypoints that are passed through without stopping.
- `Summary`: Returns a summary of the route, including distance and duration.
- `Tolls`: Supplies toll cost information along the route.
- `TravelStepInstructions`: Provides step-by-step instructions for travel along the route.
- `TruckRoadTypes`: Returns information about road types suitable for trucks.
- `TypicalDuration`: Gives typical travel duration based on historical data.
- `Zones`: Specifies the time zone information for each waypoint.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 12 items.

Valid Values: `Elevation | Incidents | PassThroughWaypoints | Summary | Tolls | TravelStepInstructions | TruckRoadTypes | TypicalDuration | Zones | Bookings | IntermediateStops | NextDepartures`

Required: No

LegGeometryFormat

Specifies the format of the geometry returned for each leg of the route. You can choose between two different geometry encoding formats.

`FlexiblePolyline`: A compact and precise encoding format for the leg geometry. For more information on the format, see the GitHub repository for https://github.com/aws-geospatial/polyline.

`Simple`: A less compact encoding, which is easier to decode but may be less precise and result in larger payloads.

Type: String

Valid Values: `FlexiblePolyline | Simple`

Required: No

MaxAlternatives

Maximum number of alternative routes to be provided in the response, if available. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only up to 3 alternative routes.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 5.

Required: No

OptimizeRoutingFor

Controls the trade-off between achieving the shortest travel time (`FastestRoute`) and achieving the shortest physical distance ((`ShortestRoute`) when calculating each route in the matrix.

Default value: `FastestRoute`

Type: String

Valid Values: `FastestRoute | ShortestRoute`

Required: No

Origin

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

OriginOptions

Specifies how the origin point should be matched to the road network and any routing constraints that apply when the traveler is departing the origin. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteOriginOptions object

Required: No

SpanAdditionalFeatures

A list of optional features such as `SpeedLimit` that can be requested for a Span. A span is a section of a Leg for which the requested features have the same values. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 24 items.

Valid Values: `BestCaseDuration | CarAccess | Country | Distance | Duration | DynamicSpeed | FunctionalClassification | Gates | Incidents | Names | Notices | PedestrianAccess | RailwayCrossings | Region | RoadAttributes | RouteNumbers | ScooterAccess | SpeedLimit | TollSystems | TruckAccess | TruckRoadTypes | TypicalDuration | Zones | Consumption`

Required: No

Tolls

Toll related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteTollOptions object

Required: No

Traffic

Traffic related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteTrafficOptions object

Required: No

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `Car`, `Pedestrian`, and `Scooter` values.

Default value: `Car`

Type: String

Valid Values: `Car | Pedestrian | Scooter | Truck | Intermodal | Transit`

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `Car` and `Pedestrian` travel mode options.

Type: RouteTravelModeOptions object

Required: No

TravelStepType

Type of step returned by the response. `Default` provides basic steps intended for web based applications. `TurnByTurn` provides detailed instructions with more granularity intended for a turn based navigation system. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions `Default` does not return any steps.

Type: String

Valid Values: `Default | TurnByTurn`

Required: No

Waypoints

List of waypoints between the Origin and Destination. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions max length is `100`.

Max length: 23

Type: Array of RouteWaypoint objects

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "LegGeometryFormat": "string",
   "Notices": [
      {
         "Code": "string",
         "Impact": "string"
      }
   ],
   "Routes": [
      {
         "Legs": [
            {
               "FerryLegDetails": {
                  "AfterTravelSteps": [
                     {
                        "Duration": number,
                        "Instruction": "string",
                        "Type": "string"
                     }
                  ],
                  "Arrival": {
                     "Place": {
                        "Name": "string",
                        "OriginalPosition": [ number ],
                        "Position": [ number ],
                        "WaypointIndex": number
```

```
            },
            "Time": "string"
        },
        "BeforeTravelSteps": [
            {
                "Duration": number,
                "Instruction": "string",
                "Type": "string"
            }
        ],
        "Departure": {
            "Place": {
                "Name": "string",
                "OriginalPosition": [ number ],
                "Position": [ number ],
                "WaypointIndex": number
            },
            "Time": "string"
        },
        "Notices": [
            {
                "Code": "string",
                "Impact": "string"
            }
        ],
        "PassThroughWaypoints": [
            {
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                "Place": {
                    "OriginalPosition": [ number ],
                    "Position": [ number ],
                    "WaypointIndex": number
                }
            }
        ],
        "RouteName": "string",
        "Spans": [
            {
                "Country": "string",
                "Distance": number,
                "Duration": number,
                "GeometryOffset": number,
                "Names": [
                    {
```

```
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                        "Value": "string"
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                ],
                "Region": "string"
            }
        ],
        "Summary": {
            "Overview": {
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                "Duration": number
            },
            "TravelOnly": {
                "Duration": number
            }
        },
        "TravelSteps": [
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                "Distance": number,
                "Duration": number,
                "GeometryOffset": number,
                "Instruction": "string",
                "Type": "string"
            }
        ]
    },
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        ],
        "Polyline": "string"
    },
    "Language": "string",
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            {
                "Duration": number,
                "Instruction": "string",
                "Type": "string"
            }
        ],
        "Arrival": {
            "Place": {
                "AccessPointDetails": {
```

```
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                    }
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            "Time": "string"
        },
        "Departure": {
            "Place": {
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                    "ShortName": "string"
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```

```
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                    "TypicalSpeed": number
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                        "Value": "string"
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```

```
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                         "Value": "string"
                      }
                   ]
                },
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                         "Value": "string"
                      }
                   ],
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                         "Language": "string",
                         "Value": "string"
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```

```
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                    "Value": "string"
                }
            ],
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                    "Language": "string",
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            ],
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```

```
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```

```
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```
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```

```
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```

```
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```

```
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```

```
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```

```
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```

```
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                }
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                "LicensePlate": "string",
                "Mode": "string",
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                "Name": "string",
                "TextColor": "string"
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                                "Value": "string"
                            }
                        ]
                    },
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                    "Duration": number,
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```
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                   ],
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                         "Language": "string",
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                      }
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                         "Value": "string"
                      }
                   ],
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                         "Value": "string"
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```

```
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                ],
```

```
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                  }
               ]
            },
            "TransitLegDetails": {
               "AfterTravelSteps": [
                  {
                     "Duration": number,
                     "Instruction": "string",
                     "Type": "string"
                  }
               ],
               "Agency": {
                  "Name": "string",
                  "Url": "string"
               },
               "Arrival": {
                  "Delay": number,
                  "Place": {
                     "Name": "string",
                     "OriginalPosition": [ number ],
                     "Position": [ number ],
                     "StationDetails": {
                        "Accessibility": {
                           "Wheelchair": "string"
                        },
                        "PlatformName": "string",
                        "ShortName": "string"
                     },
                     "Type": "string",
                     "WaypointIndex": number
                  },
                  "Status": "string",
                  "Time": "string"
               },
               "Attributions": [
                  {
                     "AttributionType": "string",
                     "WebLink": {
                        "AnchorText": "string",
                        "Description": "string",
```

```
                "DeviceType": "string",
                "Url": "string"
            }
        }
    ],
    "BeforeTravelSteps": [
        {
            "Duration": number,
            "Instruction": "string",
            "Type": "string"
        }
    ],
    "BookingWebLinks": [
        {
            "AnchorText": "string",
            "Description": "string",
            "DeviceType": "string",
            "Url": "string"
        }
    ],
    "Departure": {
        "Delay": number,
        "Place": {
            "Name": "string",
            "OriginalPosition": [ number ],
            "Position": [ number ],
            "StationDetails": {
                "Accessibility": {
                    "Wheelchair": "string"
                },
                "PlatformName": "string",
                "ShortName": "string"
            },
            "Type": "string",
            "WaypointIndex": number
        },
        "Status": "string",
        "Time": "string"
    },
    "Incidents": [
        {
            "Description": "string",
            "Effect": "string",
            "EndTime": "string",
```

```
                "StartTime": "string",
                "Type": "string",
                "Url": "string"
            }
        ],
        "IntermediateStops": [
            {
                "Attributes": [ "string" ],
                "Departure": {
                    "Delay": number,
                    "Place": {
                        "Name": "string",
                        "OriginalPosition": [ number ],
                        "Position": [ number ],
                        "StationDetails": {
                            "Accessibility": {
                                "Wheelchair": "string"
                            },
                            "PlatformName": "string",
                            "ShortName": "string"
                        },
                        "Type": "string",
                        "WaypointIndex": number
                    },
                    "Status": "string",
                    "Time": "string"
                },
                "Duration": number,
                "GeometryOffset": number,
                "Transport": {
                    "Accessibility": {
                        "Wheelchair": "string"
                    },
                    "Color": "string",
                    "Headsign": "string",
                    "LongRouteName": "string",
                    "Mode": "string",
                    "RouteName": "string",
                    "ShortRouteName": "string",
                    "TextColor": "string"
                }
            }
        ],
        "NextDepartures": [
```

```
                {
                    "Delay": number,
                    "PlatformName": "string",
                    "Status": "string",
                    "Time": "string",
                    "Transport": {
                        "Accessibility": {
                            "Wheelchair": "string"
                        },
                        "Color": "string",
                        "Headsign": "string",
                        "LongRouteName": "string",
                        "Mode": "string",
                        "RouteName": "string",
                        "ShortRouteName": "string",
                        "TextColor": "string"
                    }
                }
            ],
            "Notices": [
                {
                    "Code": "string",
                    "Impact": "string"
                }
            ],
            "PassThroughWaypoints": [
                {
                    "GeometryOffset": number,
                    "Place": {
                        "OriginalPosition": [ number ],
                        "Position": [ number ],
                        "WaypointIndex": number
                    }
                }
            ],
            "Spans": [
                {
                    "Country": "string",
                    "Distance": number,
                    "Duration": number,
                    "GeometryOffset": number,
                    "Names": [
                        {
                            "Language": "string",
```

```
                    "Value": "string"
                }
            ],
            "Region": "string"
        }
    ],
    "Summary": {
        "Overview": {
            "Distance": number,
            "Duration": number
        },
        "TravelOnly": {
            "Duration": number
        }
    },
    "Transport": {
        "Accessibility": {
            "Wheelchair": "string"
        },
        "Color": "string",
        "Headsign": "string",
        "LongRouteName": "string",
        "Mode": "string",
        "RouteName": "string",
        "ShortRouteName": "string",
        "TextColor": "string"
    },
    "TravelSteps": [
        {
            "Distance": number,
            "Duration": number,
            "GeometryOffset": number,
            "Instruction": "string",
            "Type": "string"
        }
    ]
},
"TravelMode": "string",
"Type": "string",
"VehicleLegDetails": {
    "AfterTravelSteps": [
        {
            "ChargeStepDetails": {
                "ArrivalCharge": number,
```

```
                    "ConsumablePower": number,
                    "DesiredCharge": number
                },
                "Duration": number,
                "Instruction": "string",
                "Type": "string"
            }
        ],
        "Arrival": {
            "Place": {
                "AccessPointDetails": {
                    "Accessibility": {
                        "Wheelchair": "string"
                    }
                },
                "Name": "string",
                "OriginalPosition": [ number ],
                "Position": [ number ],
                "SideOfStreet": "string",
                "StationDetails": {
                    "Accessibility": {
                        "Wheelchair": "string"
                    },
                    "PlatformName": "string",
                    "ShortName": "string"
                },
                "Type": "string",
                "WaypointIndex": number
            },
            "Time": "string"
        },
        "Departure": {
            "Place": {
                "AccessPointDetails": {
                    "Accessibility": {
                        "Wheelchair": "string"
                    }
                },
                "Name": "string",
                "OriginalPosition": [ number ],
                "Position": [ number ],
                "SideOfStreet": "string",
                "StationDetails": {
                    "Accessibility": {
```

```
                        "Wheelchair": "string"
                    },
                    "PlatformName": "string",
                    "ShortName": "string"
                },
                "Type": "string",
                "WaypointIndex": number
            },
            "Time": "string"
        },
        "Incidents": [
            {
                "Description": "string",
                "EndTime": "string",
                "Severity": "string",
                "StartTime": "string",
                "Type": "string"
            }
        ],
        "Notices": [
            {
                "Code": "string",
                "Details": [
                    {
                        "Title": "string",
                        "ViolatedConstraints": {
                            "AllHazardsRestricted": boolean,
                            "AxleCount": {
                                "Max": number,
                                "Min": number
                            },
                            "HazardousCargos": [ "string" ],
                            "MaxHeight": number,
                            "MaxKpraLength": number,
                            "MaxLength": number,
                            "MaxPayloadCapacity": number,
                            "MaxWeight": {
                                "Type": "string",
                                "Value": number
                            },
                            "MaxWeightPerAxle": number,
                            "MaxWeightPerAxleGroup": {
                                "Quad": number,
                                "Quint": number,
```

```
                                "Single": number,
                                "Tandem": number,
                                "Triple": number
                            },
                            "MaxWidth": number,
                            "Occupancy": {
                                "Max": number,
                                "Min": number
                            },
                            "RestrictedTimes": "string",
                            "TimeDependent": boolean,
                            "TrailerCount": {
                                "Max": number,
                                "Min": number
                            },
                            "TravelMode": boolean,
                            "TruckRoadType": "string",
                            "TruckType": "string",
                            "TunnelRestrictionCode": "string"
                        }
                    }
                ],
                "Impact": "string"
            }
        ],
        "PassThroughWaypoints": [
            {
                "GeometryOffset": number,
                "Place": {
                    "OriginalPosition": [ number ],
                    "Position": [ number ],
                    "WaypointIndex": number
                }
            }
        ],
        "Spans": [
            {
                "BestCaseDuration": number,
                "CarAccess": [ "string" ],
                "Country": "string",
                "Distance": number,
                "Duration": number,
                "DynamicSpeed": {
                    "BestCaseSpeed": number,
```

```
                "TurnDuration": number,
                "TypicalSpeed": number
            },
            "FunctionalClassification": number,
            "Gate": "string",
            "GeometryOffset": number,
            "Incidents": [ number ],
            "Names": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "Notices": [ number ],
            "RailwayCrossing": "string",
            "Region": "string",
            "RoadAttributes": [ "string" ],
            "RouteNumbers": [
                {
                    "Direction": "string",
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "ScooterAccess": [ "string" ],
            "SpeedLimit": {
                "MaxSpeed": number,
                "Unlimited": boolean
            },
            "TollSystems": [ number ],
            "TruckAccess": [ "string" ],
            "TruckRoadTypes": [ number ],
            "TypicalDuration": number,
            "Zones": [ number ]
        }
    ],
    "Summary": {
        "Overview": {
            "BestCaseDuration": number,
            "Distance": number,
            "Duration": number,
            "TypicalDuration": number
        },
        "TravelOnly": {
```

```
                "BestCaseDuration": number,
                "Duration": number,
                "TypicalDuration": number
            }
        },
        "Tolls": [
            {
                "Country": "string",
                "PaymentSites": [
                    {
                        "Name": "string",
                        "Position": [ number ]
                    }
                ],
                "Rates": [
                    {
                        "ApplicableTimes": "string",
                        "ConvertedPrice": {
                            "Currency": "string",
                            "Estimate": boolean,
                            "PerDuration": number,
                            "Range": boolean,
                            "RangeValue": {
                                "Max": number,
                                "Min": number
                            },
                            "Value": number
                        },
                        "Id": "string",
                        "LocalPrice": {
                            "Currency": "string",
                            "Estimate": boolean,
                            "PerDuration": number,
                            "Range": boolean,
                            "RangeValue": {
                                "Max": number,
                                "Min": number
                            },
                            "Value": number
                        },
                        "Name": "string",
                        "Pass": {
                            "IncludesReturnTrip": boolean,
                            "SeniorPass": boolean,
```

```
                        "TransferCount": number,
                        "TripCount": number,
                        "ValidityPeriod": {
                           "Period": "string",
                           "PeriodCount": number
                        }
                     },
                     "PaymentMethods": [ "string" ],
                     "Transponders": [
                        {
                           "SystemName": "string"
                        }
                     ]
                  }
               ],
               "Systems": [ number ]
            }
         ],
         "TollSystems": [
            {
               "Name": "string"
            }
         ],
         "TravelSteps": [
            {
               "ContinueHighwayStepDetails": {
                  "Intersection": [
                     {
                        "Language": "string",
                        "Value": "string"
                     }
                  ],
                  "SteeringDirection": "string",
                  "TurnAngle": number,
                  "TurnIntensity": "string"
               },
               "ContinueStepDetails": {
                  "Intersection": [
                     {
                        "Language": "string",
                        "Value": "string"
                     }
                  ]
               },
```

```
                    "CurrentRoad": {
                       "RoadName": [
                          {
                             "Language": "string",
                             "Value": "string"
                          }
                       ],
                       "RouteNumber": [
                          {
                             "Direction": "string",
                             "Language": "string",
                             "Value": "string"
                          }
                       ],
                       "Towards": [
                          {
                             "Language": "string",
                             "Value": "string"
                          }
                       ],
                       "Type": "string"
                    },
                    "Distance": number,
                    "Duration": number,
                    "EnterHighwayStepDetails": {
                       "Intersection": [
                          {
                             "Language": "string",
                             "Value": "string"
                          }
                       ],
                       "SteeringDirection": "string",
                       "TurnAngle": number,
                       "TurnIntensity": "string"
                    },
                    "ExitNumber": [
                       {
                          "Language": "string",
                          "Value": "string"
                       }
                    ],
                    "ExitStepDetails": {
                       "Intersection": [
                          {
```

```
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "RelativeExit": number,
            "SteeringDirection": "string",
            "TurnAngle": number,
            "TurnIntensity": "string"
        },
        "GeometryOffset": number,
        "Instruction": "string",
        "KeepStepDetails": {
            "Intersection": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "SteeringDirection": "string",
            "TurnAngle": number,
            "TurnIntensity": "string"
        },
        "NextRoad": {
            "RoadName": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "RouteNumber": [
                {
                    "Direction": "string",
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "Towards": [
                {
                    "Language": "string",
                    "Value": "string"
                }
            ],
            "Type": "string"
        },
```

```
                "RampStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "SteeringDirection": "string",
                   "TurnAngle": number,
                   "TurnIntensity": "string"
                },
                "RoundaboutEnterStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "SteeringDirection": "string",
                   "TurnAngle": number,
                   "TurnIntensity": "string"
                },
                "RoundaboutExitStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "RelativeExit": number,
                   "RoundaboutAngle": number,
                   "SteeringDirection": "string"
                },
                "RoundaboutPassStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "SteeringDirection": "string",
                   "TurnAngle": number,
                   "TurnIntensity": "string"
                },
```

```
                "Signpost": {
                   "Labels": [
                      {
                         "RouteNumber": {
                            "Direction": "string",
                            "Language": "string",
                            "Value": "string"
                         },
                         "Text": {
                            "Language": "string",
                            "Value": "string"
                         }
                      }
                   ]
                },
                "TurnStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "SteeringDirection": "string",
                   "TurnAngle": number,
                   "TurnIntensity": "string"
                },
                "Type": "string",
                "UTurnStepDetails": {
                   "Intersection": [
                      {
                         "Language": "string",
                         "Value": "string"
                      }
                   ],
                   "SteeringDirection": "string",
                   "TurnAngle": number,
                   "TurnIntensity": "string"
                }
             }
          ],
          "TruckRoadTypes": [ "string" ],
          "Zones": [
             {
                "Category": "string",
```

```
                        "Name": "string"
                     }
                  ]
               }
            }
         ],
         "MajorRoadLabels": [
            {
               "RoadName": {
                  "Language": "string",
                  "Value": "string"
               },
               "RouteNumber": {
                  "Direction": "string",
                  "Language": "string",
                  "Value": "string"
               }
            }
         ],
         "Summary": {
            "Distance": number,
            "Duration": number,
            "Tolls": {
               "Total": {
                  "Currency": "string",
                  "Estimate": boolean,
                  "Range": boolean,
                  "RangeValue": {
                     "Max": number,
                     "Min": number
                  },
                  "Value": number
               }
            }
         }
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

LegGeometryFormat

Specifies the format of the geometry returned for each leg of the route.

Type: String

Valid Values: `FlexiblePolyline | Simple`

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteResponseNotice objects

Routes

The path from the origin to the destination.

Type: Array of Route objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

OptimizeWaypoints

Service: Amazon Location Service Routes V2

`OptimizeWaypoints` calculates the optimal order to travel between a set of waypoints to minimize either the travel time or the distance travelled during the journey, based on road network restrictions and the traffic pattern data.

For more information, see Optimize waypoints in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/optimize-waypoints?key=Key HTTP/1.1
Content-type: application/json

{
   "Avoid": {
      "Areas": [
         {
            "Geometry": {
               "BoundingBox": [ number ]
            }
         }
      ],
      "CarShuttleTrains": boolean,
      "ControlledAccessHighways": boolean,
      "DirtRoads": boolean,
      "Ferries": boolean,
      "TollRoads": boolean,
      "Tunnels": boolean,
      "UTurns": boolean
   },
   "Clustering": {
      "Algorithm": "string",
      "DrivingDistanceOptions": {
         "DrivingDistance": number
      }
   },
   "DepartureTime": "string",
   "Destination": [ number ],
   "DestinationOptions": {
      "AccessHours": {
         "From": {
            "DayOfWeek": "string",
```

```
            "TimeOfDay": "string"
         },
         "To": {
            "DayOfWeek": "string",
            "TimeOfDay": "string"
         }
      },
      "AppointmentTime": "string",
      "Heading": number,
      "Id": "string",
      "ServiceDuration": number,
      "SideOfStreet": {
         "Position": [ number ],
         "UseWith": "string"
      }
   },
   "Driver": {
      "RestCycles": {
         "LongCycle": {
            "RestDuration": number,
            "WorkDuration": number
         },
         "ShortCycle": {
            "RestDuration": number,
            "WorkDuration": number
         }
      },
      "RestProfile": {
         "Profile": "string"
      },
      "TreatServiceTimeAs": "string"
   },
   "Exclude": {
      "Countries": [ "string" ]
   },
   "OptimizeSequencingFor": "string",
   "Origin": [ number ],
   "OriginOptions": {
      "Id": "string"
   },
   "Traffic": {
      "Usage": "string"
   },
   "TravelMode": "string",
```

```
    "TravelModeOptions": {
       "Pedestrian": {
          "Speed": number
       },
       "Truck": {
          "GrossWeight": number,
          "HazardousCargos": [ "string" ],
          "Height": number,
          "Length": number,
          "Trailer": {
             "TrailerCount": number
          },
          "TruckType": "string",
          "TunnelRestrictionCode": "string",
          "WeightPerAxle": number,
          "Width": number
       }
    },
    "Waypoints": [
       {
          "AccessHours": {
             "From": {
                "DayOfWeek": "string",
                "TimeOfDay": "string"
             },
             "To": {
                "DayOfWeek": "string",
                "TimeOfDay": "string"
             }
          },
          "AppointmentTime": "string",
          "Before": [ number ],
          "Heading": number,
          "Id": "string",
          "Position": [ number ],
          "ServiceDuration": number,
          "SideOfStreet": {
             "Position": [ number ],
             "UseWith": "string"
          }
       }
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

Avoid

Features that are avoided. Avoidance is on a best-case basis. If an avoidance can't be satisfied for a particular case, this setting is ignored.

Type: WaypointOptimizationAvoidanceOptions object

Required: No

Clustering

Clustering allows you to specify how nearby waypoints can be clustered to improve the optimized sequence.

Type: WaypointOptimizationClusteringOptions object

Required: No

DepartureTime

Departure time from the waypoint.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Destination

The final position for the route in the World Geodetic System (WGS 84) format: `[longitude, latitude]`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

DestinationOptions

Destination related options.

Type: WaypointOptimizationDestinationOptions object

Required: No

Driver

Driver related options.

Type: WaypointOptimizationDriverOptions object

Required: No

Exclude

Features to be strictly excluded while calculating the route.

Type: WaypointOptimizationExclusionOptions object

Required: No

OptimizeSequencingFor

Specifies the optimization criteria for the calculated sequence.

Default value: `FastestRoute`.

Type: String

Valid Values: `FastestRoute | ShortestRoute`

Required: No

Origin

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

OriginOptions

Origin related options.

Type: WaypointOptimizationOriginOptions object

Required: No

Traffic

Traffic-related options.

Type: WaypointOptimizationTrafficOptions object

Required: No

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility.

Default value: `Car`

Type: String

Valid Values: `Car | Pedestrian | Scooter | Truck`

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode.

Type: WaypointOptimizationTravelModeOptions object

Required: No

Waypoints

List of waypoints between the `Origin` and `Destination`, in World Geodetic System (WGS 84) format: [longitude, latitude].

The maximum number of waypoints allowed per request:

- Maximum 50 waypoints per request
- Maximum 20 waypoints when using constraints (`AccessHours`, `AppointmentTime`, `ServiceDuration`, `Heading`, `SideOfStreet`, `Before`)

Type: Array of WaypointOptimizationWaypoint objects

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "Connections": [
      {
         "Distance": number,
         "From": "string",
         "RestDuration": number,
         "To": "string",
         "TravelDuration": number,
         "WaitDuration": number
      }
   ],
   "Distance": number,
   "Duration": number,
   "ImpedingWaypoints": [
```

```
        {
            "FailedConstraints": [
                {
                    "Constraint": "string",
                    "Reason": "string"
                }
            ],
            "Id": "string",
            "Position": [ number ]
        }
    ],
    "OptimizedWaypoints": [
        {
            "ArrivalTime": "string",
            "ClusterIndex": number,
            "DepartureTime": "string",
            "Id": "string",
            "Position": [ number ]
        }
    ],
    "TimeBreakdown": {
        "RestDuration": number,
        "ServiceDuration": number,
        "TravelDuration": number,
        "WaitDuration": number
    }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

Connections

Details about the connection from one waypoint to the next, within the optimized sequence.

Type: Array of WaypointOptimizationConnection objects

Distance

Overall distance to travel the whole sequence.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Duration

Overall duration to travel the whole sequence.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

ImpedingWaypoints

Returns waypoints that caused the optimization problem to fail, and the constraints that were unsatisfied leading to the failure.

Type: Array of WaypointOptimizationImpedingWaypoint objects

OptimizedWaypoints

Waypoints in the order of the optimized sequence.

Type: Array of WaypointOptimizationOptimizedWaypoint objects

TimeBreakdown

Time breakdown for the sequence.

Type: WaypointOptimizationTimeBreakdown object

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)

- AWS SDK for Ruby V3

SnapToRoads

Service: Amazon Location Service Routes V2

SnapToRoads matches GPS trace to roads most likely traveled on.

For more information, see Snap to Roads in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/snap-to-roads?key=Key HTTP/1.1
Content-type: application/json

{
   "SnappedGeometryFormat": "string",
   "SnapRadius": number,
   "TracePoints": [
      {
         "Heading": number,
         "Position": [ number ],
         "Speed": number,
         "Timestamp": "string"
      }
   ],
   "TravelMode": "string",
   "TravelModeOptions": {
      "Truck": {
         "GrossWeight": number,
         "HazardousCargos": [ "string" ],
         "Height": number,
         "Length": number,
         "Trailer": {
            "TrailerCount": number
         },
         "TunnelRestrictionCode": "string",
         "Width": number
      }
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

SnappedGeometryFormat

Chooses what the returned SnappedGeometry format should be.

Default value: `FlexiblePolyline`

Type: String

Valid Values: `FlexiblePolyline | Simple`

Required: No

SnapRadius

The radius around the provided tracepoint that is considered for snapping.

Unit: `meters`

Default value: `300`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 10000.

Required: No

TracePoints

List of trace points to be snapped onto the road network.

Type: Array of RoadSnapTracePoint objects

Array Members: Minimum number of 2 items. Maximum number of 5000 items.

Required: Yes

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility.

Default value: `Car`

Type: String

Valid Values: `Car | Pedestrian | Scooter | Truck`

Required: No

TravelModeOptions

Travel mode related options for the provided travel mode.

Type: RoadSnapTravelModeOptions object

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "Notices": [
      {
         "Code": "string",
         "Title": "string",
         "TracePointIndexes": [ number ]
      }
   ],
   "SnappedGeometry": {
      "LineString": [
         [ number ]
      ],
      "Polyline": "string"
   },
   "SnappedGeometryFormat": "string",
```

```
    "SnappedTracePoints": [
       {
          "Confidence": number,
          "OriginalPosition": [ number ],
          "SnappedPosition": [ number ]
       }
    ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

The following data is returned in JSON format by the service.

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of RoadSnapNotice objects

SnappedGeometry

The interpolated geometry for the snapped route onto the road network.

Type: RoadSnapSnappedGeometry object

SnappedGeometryFormat

Specifies the format of the geometry returned for each leg of the route.

Type: String

Valid Values: `FlexiblePolyline | Simple`

SnappedTracePoints

The trace points snapped onto the road network.

Type: Array of RoadSnapSnappedTracePoint objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

The field where the invalid entry was detected.

Reason

A message with the reason for the validation exception error.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2

- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Maps V2

The following actions are supported by Amazon Location Service Maps V2:

- GetGlyphs
- GetSprites
- GetStaticMap
- GetStyleDescriptor
- GetTile

GetGlyphs

Service: Amazon Location Service Maps V2

`GetGlyphs` returns the map's glyphs.

For more information, see Style labels with glyphs in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /v2/glyphs/FontStack/FontUnicodeRange HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

FontStack

Name of the `FontStack` to retrieve.

Example: `Amazon Ember Bold,Noto Sans Bold`.

The supported font stacks are as follows:

- Amazon Ember Bold
- Amazon Ember Bold Italic
- Amazon Ember Bold,Noto Sans Bold
- Amazon Ember Bold,Noto Sans Bold,Noto Sans Arabic Bold
- Amazon Ember Condensed RC BdItalic
- Amazon Ember Condensed RC Bold
- Amazon Ember Condensed RC Bold Italic
- Amazon Ember Condensed RC Bold,Noto Sans Bold
- Amazon Ember Condensed RC Bold,Noto Sans Bold,Noto Sans Arabic Condensed Bold
- Amazon Ember Condensed RC Light
- Amazon Ember Condensed RC Light Italic
- Amazon Ember Condensed RC LtItalic
- Amazon Ember Condensed RC Regular
- Amazon Ember Condensed RC Regular Italic

- Amazon Ember Condensed RC Regular,Noto Sans Regular
- Amazon Ember Condensed RC Regular,Noto Sans Regular,Noto Sans Arabic Condensed Regular
- Amazon Ember Condensed RC RgItalic
- Amazon Ember Condensed RC ThItalic
- Amazon Ember Condensed RC Thin
- Amazon Ember Condensed RC Thin Italic
- Amazon Ember Heavy
- Amazon Ember Heavy Italic
- Amazon Ember Light
- Amazon Ember Light Italic
- Amazon Ember Medium
- Amazon Ember Medium Italic
- Amazon Ember Medium,Noto Sans Medium
- Amazon Ember Medium,Noto Sans Medium,Noto Sans Arabic Medium
- Amazon Ember Regular
- Amazon Ember Regular Italic
- Amazon Ember Regular Italic,Noto Sans Italic
- Amazon Ember Regular Italic,Noto Sans Italic,Noto Sans Arabic Regular
- Amazon Ember Regular,Noto Sans Regular
- Amazon Ember Regular,Noto Sans Regular,Noto Sans Arabic Regular
- Amazon Ember Thin
- Amazon Ember Thin Italic
- AmazonEmberCdRC_Bd
- AmazonEmberCdRC_BdIt
- AmazonEmberCdRC_Lt
- AmazonEmberCdRC_LtIt
- AmazonEmberCdRC_Rg
- AmazonEmberCdRC_RgIt
- AmazonEmberCdRC_Th
- AmazonEmberCdRC_ThIt

- AmazonEmber_Bd
- AmazonEmber_BdIt
- AmazonEmber_He
- AmazonEmber_HeIt
- AmazonEmber_Lt
- AmazonEmber_LtIt
- AmazonEmber_Md
- AmazonEmber_MdIt
- AmazonEmber_Rg
- AmazonEmber_RgIt
- AmazonEmber_Th
- AmazonEmber_ThIt
- Noto Sans Black
- Noto Sans Black Italic
- Noto Sans Bold
- Noto Sans Bold Italic
- Noto Sans Extra Bold
- Noto Sans Extra Bold Italic
- Noto Sans Extra Light
- Noto Sans Extra Light Italic
- Noto Sans Italic
- Noto Sans Light
- Noto Sans Light Italic
- Noto Sans Medium
- Noto Sans Medium Italic
- Noto Sans Regular
- Noto Sans Semi Bold
- Noto Sans Semi Bold Italic
- Noto Sans Thin
- Noto Sans Thin Italic

- NotoSans-Bold
- NotoSans-Italic
- NotoSans-Medium
- NotoSans-Regular
- Open Sans Regular,Arial Unicode MS Regular

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

FontUnicodeRange

A Unicode range of characters to download glyphs for. This must be aligned to multiples of 256.

Example: `0-255.pbf`

Length Constraints: Minimum length of 0. Maximum length of 50.

Pattern: `[0-9]+-[0-9]+\.pbf`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The glyph's Etag.

The response returns the following as the HTTP body.

Blob

The Glyph, as a binary blob.

Errors

For information about the errors that are common to all actions, see Common Error Types.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetSprites

Service: Amazon Location Service Maps V2

`GetSprites` returns the map's sprites.

For more information, see Style iconography with sprites in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /v2/styles/Style/ColorScheme/Variant/sprites/FileName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ColorScheme

Sets the color tone for the map sprites, such as dark and light.

Example: `Light`

Default value: `Light`

> **Note**
> Valid values for ColorScheme are case sensitive.

Valid Values: `Light | Dark`

Required: Yes

FileName

`Sprites` API: The name of the sprite file to retrieve, following pattern `sprites(@2x)?\.(png|json)`.

Example: `sprites.png`

Pattern: `sprites(@2x)?\.(png|json)`

Required: Yes

Style

Style specifies the desired map style for the `Sprites` APIs.

Valid Values: `Standard | Monochrome | Hybrid | Satellite`

Required: Yes

Variant

Optimizes map styles for specific use case or industry. You can choose allowed variant only with Standard map style.

Example: `Default`

> **Note**
> Valid values for Variant are case sensitive.

Valid Values: `Default`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The sprite's Etag.

The response returns the following as the HTTP body.

Blob

The body of the sprite sheet or JSON offset file (image/png or application/json, depending on input).

Errors

For information about the errors that are common to all actions, see Common Error Types.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetStaticMap

Service: Amazon Location Service Maps V2

`GetStaticMap` provides high-quality static map images with customizable options. You can modify the map's appearance and overlay additional information. It's an ideal solution for applications requiring tailored static map snapshots. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

For more information, see the following topics in the *Amazon Location Service Developer Guide*:

- Static maps
- Customize static maps
- Overlay on the static map

Request Syntax

```
GET /v2/static/FileName?bounded-positions=BoundedPositions&bounding-
box=BoundingBox&center=Center&color-scheme=ColorScheme&compact-
overlay=CompactOverlay&crop-labels=CropLabels&geojson-
overlay=GeoJsonOverlay&height=Height&key=Key&label-
size=LabelSize&lang=Language&padding=Padding&pois=PointsOfInterests&political-
view=PoliticalView&radius=Radius&scale-
unit=ScaleBarUnit&style=Style&width=Width&zoom=Zoom HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

BoundedPositions

Takes in two or more pair of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], with each coordinate separated by a comma. The API will generate an image to encompass all of the provided coordinates.

> **Note**
>
> Cannot be used with `Zoom` and or `Radius`

Example: 97.170451,78.039098,99.045536,27.176178

Length Constraints: Minimum length of 0. Maximum length of 5000.

Pattern: `(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?)(,(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?))*`

BoundingBox

Takes in two pairs of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], denoting south-westerly and north-easterly edges of the image. The underlying area becomes the view of the image.

Example: -123.17075,49.26959,-123.08125,49.31429

Length Constraints: Minimum length of 0. Maximum length of 100.

Pattern: `(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?)(,(-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?))*`

Center

Takes in a pair of coordinates in World Geodetic System (WGS 84) format: [longitude, latitude], which becomes the center point of the image. This parameter requires that either zoom or radius is set.

> **Note**
>
> Cannot be used with `Zoom` and or `Radius`

Example: 49.295,-123.108

Length Constraints: Minimum length of 3. Maximum length of 36.

Pattern: `-?\d{1,3}(\.\d{1,14})?,-?\d{1,2}(\.\d{1,14})?`

ColorScheme

Sets the color tone for the map, such as dark and light.

Example: `Light`

Default value: `Light`

> **Note**
>
> Valid values for `ColorScheme` are case sensitive.

Valid Values: `Light | Dark`

CompactOverlay

Takes in a string to draw geometries on the image. The input is a comma separated format as follows format: `[Lon, Lat]`

Example: `line:-122.407653,37.798557,-122.413291,37.802443;color=%23DD0000;width=7;outline-color=#00DD00;outline-width=5yd|point:-122.40572,37.80004;label=Fog Hill Market;size=large;text-color=%23DD0000;color=#EE4B2B`

> **Note**
>
> Currently it supports the following geometry types: point, line and polygon. It does not support multiPoint , multiLine and multiPolgyon.

Length Constraints: Minimum length of 1. Maximum length of 5000.

CropLabels

It is a flag that takes in true or false. It prevents the labels that are on the edge of the image from being cut or obscured.

FileName

The map scaling parameter to size the image, icons, and labels. It follows the pattern of `^map(@2x)?$`.

Example: `map, map@2x`

Pattern: `map(@2x)?`

Required: Yes

GeoJsonOverlay

Takes in a string to draw geometries on the image. The input is a valid GeoJSON collection object.

Example: `{"type":"FeatureCollection","features":[{"type":"Feature","geometry":{"type":"MultiPoint","coordinates":[[-90.076345,51.504107],[-0.074451,51.506892]]},"properties":{"color":"#00DD00"}}]}`

Length Constraints: Minimum length of 1. Maximum length of 4200.

Height

Specifies the height of the map image.

Valid Range: Minimum value of 64. Maximum value of 1400.

Required: Yes

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

LabelSize

Overrides the label size auto-calculated by `FileName`. Takes in one of the values - `Small` or `Large`.

Valid Values: `Small | Large`

Language

Specifies the language on the map labels using the BCP 47 language tag, limited to ISO 639-1 two-letter language codes. If the specified language data isn't available for the map image, the labels will default to the regional primary language.

Supported codes:

- `ar`
- `as`

- az
- be
- bg
- bn
- bs
- ca
- cs
- cy
- da
- de
- el
- en
- es
- et
- eu
- fi
- fo
- fr
- ga
- gl
- gn
- gu
- he
- hi
- hr
- hu
- hy
- id
- is
- it

- ja
- ka
- kk
- km
- kn
- ko
- ky
- lt
- lv
- mk
- ml
- mr
- ms
- mt
- my
- nl
- no
- or
- pa
- pl
- pt
- ro
- ru
- sk
- sl
- sq
- sr
- sv
- ta
- te

- th
- tr
- uk
- uz
- vi
- zh

Length Constraints: Minimum length of 2. Maximum length of 35.

Padding

Applies additional space (in pixels) around overlay feature to prevent them from being cut or obscured.

> **Note**
>
> Value for max and min is determined by:
> Min: 1
> Max: `min(height, width)/4`

Example: `100`

Valid Range: Minimum value of 0. Maximum value of 350.

PointsOfInterests

Determines if the result image will display icons representing points of interest on the map.

Valid Values: `Enabled | Disabled`

PoliticalView

Specifies the political view, using ISO 3166-2 or ISO 3166-3 country code format.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands
- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan

- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi
- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Radius

Used with center parameter, it specifies the zoom of the image where you can control it on a granular level. Takes in any value >= 1.

Example: `1500`

> **Note**
>
> Cannot be used with Zoom.

Unit: `Meters`

Valid Range: Minimum value of 0. Maximum value of 4294967295.

ScaleBarUnit

Displays a scale on the bottom right of the map image with the unit specified in the input.

Example: `KilometersMiles, Miles, Kilometers, MilesKilometers`

Valid Values: `Kilometers | KilometersMiles | Miles | MilesKilometers`

Style

`Style` specifies the desired map style.

Valid Values: `Satellite | Standard`

Width

Specifies the width of the map image.

Valid Range: Minimum value of 64. Maximum value of 1400.

Required: Yes

Zoom

Specifies the zoom level of the map image.

> **Note**
>
> Cannot be used with `Radius`.

Valid Range: Minimum value of 0. Maximum value of 20.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
x-amz-geo-pricing-bucket: PricingBucket

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The static map's Etag.

PricingBucket

The pricing bucket for which the request is charged at.

The response returns the following as the HTTP body.

Blob

The blob represents a map image as a `jpeg` for the `GetStaticMap` API.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

The request was denied because of insufficient access or permissions. Check with an administrator to verify your permissions.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

A message with the reason for the validation exception error.

Reason

The field where the invalid entry was detected.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetStyleDescriptor

Service: Amazon Location Service Maps V2

`GetStyleDescriptor` returns information about the style.

For more information, see Style dynamic maps in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /v2/styles/Style/descriptor?buildings=Buildings&color-scheme=ColorScheme&contour-density=ContourDensity&key=Key&poi-categories=PoiCategories&poi-density=PoiDensity&political-view=PoliticalView&terrain=Terrain&traffic=Traffic&travel-modes=TravelModes HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

Buildings

Adjusts how building details are rendered on the map.

The following building styles are currently supported:

- `Buildings3D`: Displays buildings as three-dimensional extrusions on the map.

`Buildings3D` is valid only for the `Standard` and `Monochrome` map styles.

Valid Values: `Buildings3D`

ColorScheme

Sets the color tone for the map, such as dark and light.

Example: `Light`

Default value: `Light`

> **Note**
>
> Valid values for ColorScheme are case sensitive.

Valid Values: `Light` | `Dark`

ContourDensity

Displays the shape and steepness of terrain features using elevation lines. The density value controls how densely the available contour line information is rendered on the map. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

This parameter is valid for all map styles except `Satellite`.

Valid Values: `Low | Medium | High`

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

PoiCategories

Renders only the specified categories of points of interest. When you omit this parameter, the map renders all categories.

The following categories are currently supported:

- `FoodAndDrink`
- `Entertainment`
- `SightsAndMuseums`
- `Transportation`
- `Accommodations`
- `LeisureAndOutdoor`
- `Shopping`
- `BusinessAndServices`
- `FacilitiesAndBuildings`

Specify each category as a separate `poi-categories` query parameter. Duplicate values are rejected.

> **Note**
>
> This parameter has no effect when `poi-density` is set to `Off`, which hides all points of interest regardless of category.

This parameter is valid only for the `Standard` and `Hybrid` map styles. In `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers, this parameter is valid only for the `Standard` map style.

Array Members: Minimum number of 0 items. Maximum number of 9 items.

Valid Values: `FoodAndDrink | Entertainment | SightsAndMuseums | Transportation | Accommodations | LeisureAndOutdoor | Shopping | BusinessAndServices | FacilitiesAndBuildings`

PoiDensity

Controls how densely points of interest are rendered on the map. The density value controls the zoom level at which each category of points of interest appears, and how quickly less prominent points of interest are revealed as you zoom in. Denser values display more points of interest at lower zoom levels.

Use `Off` to hide all points of interest. When you omit this parameter, the map renders at `Default` density.

> **Note**
>
> The difference between density values is most noticeable at mid-range zoom levels. At high zoom levels, all density values converge on displaying every available point of interest.

This parameter is valid only for the `Standard` and `Hybrid` map styles. In `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers, this parameter is valid only for the `Standard` map style.

Valid Values: `Off | VerySparse | Sparse | Default | Dense | VeryDense`

PoliticalView

Specifies the political view using ISO 3166-2 or ISO 3166-3 country code format. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands

- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan
- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi
- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Style

Style specifies the desired map style. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only the `Standard` and `Monochrome` values.

Valid Values: `Standard | Monochrome | Hybrid | Satellite`

Required: Yes

Terrain

Adjusts how physical terrain details are rendered on the map. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

The following terrain styles are currently supported:

- `Hillshade`: Displays the physical terrain details through shading and highlighting of elevation change and geographic features.
- `Terrain3D`: Displays physical terrain details and elevations as a three-dimensional model.

`Hillshade` is valid only for the `Standard` and `Monochrome` map styles.

Valid Values: `Hillshade | Terrain3D`

Traffic

Displays real-time traffic information overlay on map, such as incident events and flow events. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

This parameter is valid for all map styles except `Satellite`.

Valid Values: `All | Congestion`

TravelModes

Renders additional map information relevant to selected travel modes. Information for multiple travel modes can be displayed simultaneously, although this increases the overall information density rendered on the map. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

This parameter is valid for all map styles except `Satellite`.

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: `Transit | Truck`

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The style descriptor's Etag.

The response returns the following as the HTTP body.

Blob

This Blob contains the body of the style descriptor which is in application/json format.

Errors

For information about the errors that are common to all actions, see Common Error Types.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetTile

Service: Amazon Location Service Maps V2

`GetTile` returns a tile. Map tiles are used by clients to render a map. They're addressed using a grid arrangement with an X coordinate, Y coordinate, and Z (zoom) level.

For more information, see Tiles in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /v2/tiles/Tileset/Z/X/Y?additional-features=AdditionalFeatures&key=Key HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

AdditionalFeatures

A list of optional additional parameters such as map styles that can be requested for each result. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Array Members: Minimum number of 0 items. Maximum number of 4 items.

Valid Values: `ContourLines | Hillshade | Logistics | Transit`

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Tileset

Specifies the desired tile set. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only the `vector.basemap` value.

Valid Values: `raster.satellite | vector.basemap | vector.traffic | raster.dem`

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-.\w]+`

Required: Yes

X

The X axis value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 7.

Pattern: `.*\d+.*`

Required: Yes

Y

The Y axis value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 7.

Pattern: `.*\d+.*`

Required: Yes

Z

The zoom value for the map tile.

Length Constraints: Minimum length of 0. Maximum length of 2.

Pattern: `.*\d+.*`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-Type: ContentType
Cache-Control: CacheControl
ETag: ETag
```

```
x-amz-geo-pricing-bucket: PricingBucket

Blob
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

CacheControl

Header that instructs caching configuration for the client.

ContentType

Header that represents the format of the response. The response returns the following as the HTTP body.

ETag

The pricing bucket for which the request is charged at.

PricingBucket

The pricing bucket for which the request is charged at.

The response returns the following as the HTTP body.

Blob

The blob represents a vector tile in `mvt` or a raster tile in an image format.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

The request was denied because of insufficient access or permissions. Check with an administrator to verify your permissions.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

Exception thrown when the associated resource could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

A message with the reason for the validation exception error.

Reason

The field where the invalid entry was detected.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Places V2

The following actions are supported by Amazon Location Service Places V2:

- Autocomplete
- Geocode
- GetPlace
- ReverseGeocode
- SearchNearby
- SearchText
- Suggest

Autocomplete

Service: Amazon Location Service Places V2

`Autocomplete` completes potential places and addresses as the user types, based on the partial input. The API enhances the efficiency and accuracy of address by completing query based on a few entered keystrokes. It helps you by completing partial queries with valid address completion. Also, the API supports the filtering of results based on geographic location, country, or specific place types, and can be tailored using optional parameters like language and political views. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this operation.

For more information, see Autocomplete in the *Amazon Location Service Developer Guide*.

Try the Autocomplete API in the API Playground.

Request Syntax

```
POST /v2/autocomplete?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "BiasPosition": [ number ],
   "Filter": {
      "BoundingBox": [ number ],
      "Circle": {
         "Center": [ number ],
         "Radius": number
      },
      "IncludeCountries": [ "string" ],
      "IncludePlaceTypes": [ "string" ]
   },
   "IntendedUse": "string",
   "Language": "string",
   "MaxResults": number,
   "PoliticalView": "string",
   "PostalCodeMode": "string",
   "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters that can be requested for each result.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `Core`

Required: No

BiasPosition

The position in longitude and latitude that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in `[lng, lat]` and in the WGS 84 format.

> **Note**
>
> The fields `BiasPosition`, `FilterBoundingBox`, and `FilterCircle` are mutually exclusive.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: AutocompleteFilter object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored). Currently, `Autocomplete` does not support storage of results.

Type: String

Valid Values: `SingleUse`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 5

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

The following political views are currently supported:

- ARG: Argentina's view on the Southern Patagonian Ice Field and Tierra Del Fuego, including the Falkland Islands, South Georgia, and South Sandwich Islands
- EGY: Egypt's view on Bir Tawil
- IND: India's view on Gilgit-Baltistan
- KEN: Kenya's view on the Ilemi Triangle
- MAR: Morocco's view on Western Sahara
- RUS: Russia's view on Crimea
- SDN: Sudan's view on the Halaib Triangle
- SRB: Serbia's view on Kosovo, Vukovar, and Sarengrad Islands
- SUR: Suriname's view on the Courantyne Headwaters and Lawa Headwaters
- SYR: Syria's view on the Golan Heights
- TUR: Turkey's view on Cyprus and Northern Cyprus
- TZA: Tanzania's view on Lake Malawi
- URY: Uruguay's view on Rincon de Artigas
- VNM: Vietnam's view on the Paracel Islands and Spratly Islands

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

PostalCodeMode

The `PostalCodeMode` affects how postal code results are returned. If a postal code spans multiple localities and this value is empty, partial district or locality information may be returned under a single postal code result entry. If it's populated with the value `EnumerateSpannedLocalities`, all cities in that postal code are returned. If it's populated

with the value `EnumerateSpannedDistricts`, all combinations of the postal code with the corresponding district and city names are returned.

Type: String

Valid Values: `MergeAllSpannedLocalities | EnumerateSpannedLocalities | EnumerateSpannedDistricts`

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

> **Note**
>
> The fields `QueryText`, and `QueryID` are mutually exclusive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: Yes

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "ResultItems": [
      {
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
```

```
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
            "SecondaryAddressComponents": [
               {
                  "Designator": "string",
                  "Number": "string"
               }
            ],
            "Street": "string",
            "StreetComponents": [
               {
                  "BaseName": "string",
                  "Direction": "string",
                  "Language": "string",
                  "Prefix": "string",
                  "Suffix": "string",
                  "Type": "string",
                  "TypePlacement": "string",
                  "TypeSeparator": "string"
               }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "Distance": number,
         "EstimatedPointAddress": boolean,
         "Highlights": {
            "Address": {
               "AddressNumber": [
                  {
                     "EndIndex": number,
                     "StartIndex": number,
```

```
                "Value": "string"
            }
        ],
        "Block": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Building": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Country": {
            "Code": [
                {
                    "EndIndex": number,
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "Name": [
                {
                    "EndIndex": number,
                    "StartIndex": number,
                    "Value": "string"
                }
            ]
        },
        "District": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Intersection": [
            [
                {
                    "EndIndex": number,
```

```
                "StartIndex": number,
                "Value": "string"
            }
        ]
    ],
    "Label": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ],
    "Locality": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ],
    "PostalCode": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ],
    "Region": {
        "Code": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Name": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ]
    },
    "Street": [
        {
```

```
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "SubBlock": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "EndIndex": number,
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "SubRegion": {
            "Code": [
                {
                    "EndIndex": number,
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "Name": [
                {
                    "EndIndex": number,
                    "StartIndex": number,
                    "Value": "string"
                }
            ]
        }
    },
    "Title": [
        {
            "EndIndex": number,
            "StartIndex": number,
            "Value": "string"
        }
    ]
},
```

```
            "Language": "string",
            "PlaceId": "string",
            "PlaceType": "string",
            "PoliticalView": "string",
            "Title": "string"
        }
    ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of AutocompleteResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Geocode

Service: Amazon Location Service Places V2

Geocode converts a textual address or place into geographic coordinates. You can obtain geographic coordinates, address component, and other related information. It supports flexible queries, including free-form text or structured queries with components like street names, postal codes, and regions. The Geocode API can also provide additional features such as time zone information and the inclusion of political views. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this operation.

For more information, see Geocode in the *Amazon Location Service Developer Guide*.

Try the Geocode API in the API Playground.

Request Syntax

```
POST /v2/geocode?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "AddressNamesMode": "string",
   "AddressTranslations": [ "string" ],
   "BiasPosition": [ number ],
   "Filter": {
      "IncludeCountries": [ "string" ],
      "IncludePlaceTypes": [ "string" ]
   },
   "IntendedUse": "string",
   "Language": "string",
   "MaxResults": number,
   "PoliticalView": "string",
   "PostalCodeMode": "string",
   "QueryComponents": {
      "AddressNumber": "string",
      "Country": "string",
      "District": "string",
      "Locality": "string",
      "PostalCode": "string",
      "Region": "string",
      "Street": "string",
      "SubRegion": "string"
```

```
    },
    "QueryText": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: `TimeZone | Access | SecondaryAddresses | Intersections`

Required: No

AddressNamesMode

Specifies how address names are returned. If not set, the service returns normalized (official) names by default. When set to `Matched`, address names in the response are based on the input query rather than official names. When set to `Administrative`, the service returns the official administrative names for address components. `Administrative` currently applies only to addresses in the United States.

Type: String

Valid Values: `Matched | Administrative`

Required: No

AddressTranslations

Specifies which address components to include translations for. Translations include all name variants and alternative names for the requested fields in all available languages. Valid values are `District`, `Locality`, `Region`, and `SubRegion`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Valid Values: `District | Locality | Region | SubRegion`

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in `[lng, lat]` and in the WGS 84 format.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: GeocodeFilter object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored). If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> When storing `Geocode` responses, you *must* set this field to `Storage` to comply with the terms of service. These requests will be charged at a higher rate. Please review the user agreement and service pricing structure to determine the correct setting for your use case.

Type: String

Valid Values: `SingleUse | Storage`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

PostalCodeMode

The `PostalCodeMode` affects how postal code results are returned. If a postal code spans multiple localities and this value is empty, partial district or locality information may be returned under a single postal code result entry. If it's populated with the value `EnumerateSpannedLocalities`, all cities in that postal code are returned. If it's populated with the value `EnumerateSpannedDistricts`, all combinations of the postal code with the corresponding district and city names are returned.

Type: String

Valid Values: `MergeAllSpannedLocalities | EnumerateSpannedLocalities | EnumerateSpannedDistricts`

Required: No

QueryComponents

A structured free text query allows you to search for places by the name or text representation of specific properties of the place.

Type: GeocodeQueryComponents object

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "ResultItems": [
      {
         "AccessPoints": [
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
            }
         ],
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
            "SecondaryAddressComponents": [
               {
                  "Designator": "string",
                  "Number": "string"
               }
            ],
            "Street": "string",
            "StreetComponents": [
```

```
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
            }
        },
        "AddressNumberCorrected": boolean,
        "Categories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
        "Distance": number,
        "EstimatedPointAddress": boolean,
        "FoodTypes": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Primary": boolean
            }
        ],
        "Intersections": [
            {
                "AccessPoints": [
                    {
                        "Label": "string",
                        "Position": [ number ],
                        "Primary": boolean,
                        "Type": "string"
```

```
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
                "Code2": "string",
                "Code3": "string",
                "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
                "Code": "string",
                "Name": "string"
            },
            "SecondaryAddressComponents": [
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
            "StreetComponents": [
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
```

```
                }
            },
            "Distance": number,
            "MapView": [ number ],
            "PlaceId": "string",
            "Position": [ number ],
            "RouteDistance": number,
            "Title": "string"
        }
    ],
    "MainAddress": {
        "AccessPoints": [
            {
                "Label": "string",
                "Position": [ number ],
                "Primary": boolean,
                "Type": "string"
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
                "Code2": "string",
                "Code3": "string",
                "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
                "Code": "string",
                "Name": "string"
            },
            "SecondaryAddressComponents": [
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
```

```
            "StreetComponents": [
               {
                  "BaseName": "string",
                  "Direction": "string",
                  "Language": "string",
                  "Prefix": "string",
                  "Suffix": "string",
                  "Type": "string",
                  "TypePlacement": "string",
                  "TypeSeparator": "string"
               }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "PlaceId": "string",
         "PlaceType": "string",
         "Position": [ number ],
         "Title": "string"
      },
      "MapView": [ number ],
      "MatchScores": {
         "Components": {
            "Address": {
               "AddressNumber": number,
               "Block": number,
               "Building": number,
               "Country": number,
               "District": number,
               "Intersection": [ number ],
               "Locality": number,
               "PostalCode": number,
               "Region": number,
               "SecondaryAddressComponents": [
                  {
                     "Number": number
                  }
               ],
               "SubBlock": number,
               "SubDistrict": number,
```

```
                "SubRegion": number
            },
            "Title": number
        },
        "Overall": number
    },
    "ParsedQuery": {
        "Address": {
            "AddressNumber": [
                {
                    "EndIndex": number,
                    "QueryComponent": "string",
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "Block": [
                {
                    "EndIndex": number,
                    "QueryComponent": "string",
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "Building": [
                {
                    "EndIndex": number,
                    "QueryComponent": "string",
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "Country": [
                {
                    "EndIndex": number,
                    "QueryComponent": "string",
                    "StartIndex": number,
                    "Value": "string"
                }
            ],
            "District": [
                {
                    "EndIndex": number,
                    "QueryComponent": "string",
```

```
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Locality": [
            {
                "EndIndex": number,
                "QueryComponent": "string",
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "OtherComponents": [
            {
                "EndIndex": number,
                "QueryComponent": "string",
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "PostalCode": [
            {
                "EndIndex": number,
                "QueryComponent": "string",
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "Region": [
            {
                "EndIndex": number,
                "QueryComponent": "string",
                "StartIndex": number,
                "Value": "string"
            }
        ],
        "SecondaryAddressComponents": [
            {
                "Designator": "string",
                "EndIndex": number,
                "Number": "string",
                "StartIndex": number,
                "Value": "string"
            }
```

```
                ],
                "Street": [
                   {
                      "EndIndex": number,
                      "QueryComponent": "string",
                      "StartIndex": number,
                      "Value": "string"
                   }
                ],
                "SubBlock": [
                   {
                      "EndIndex": number,
                      "QueryComponent": "string",
                      "StartIndex": number,
                      "Value": "string"
                   }
                ],
                "SubDistrict": [
                   {
                      "EndIndex": number,
                      "QueryComponent": "string",
                      "StartIndex": number,
                      "Value": "string"
                   }
                ],
                "SubRegion": [
                   {
                      "EndIndex": number,
                      "QueryComponent": "string",
                      "StartIndex": number,
                      "Value": "string"
                   }
                ]
             },
             "Title": [
                {
                   "EndIndex": number,
                   "QueryComponent": "string",
                   "StartIndex": number,
                   "Value": "string"
                }
             ]
          },
          "PlaceId": "string",
```

```
        "PlaceType": "string",
        "PoliticalView": "string",
        "Position": [ number ],
        "PostalCodeDetails": [
           {
              "PostalAuthority": "string",
              "PostalCode": "string",
              "PostalCodeType": "string",
              "UspsZip": {
                 "ZipClassificationCode": "string"
              },
              "UspsZipPlus4": {
                 "RecordTypeCode": "string"
              }
           }
        ],
        "SecondaryAddresses": [
           {
              "AccessPoints": [
                 {
                    "Label": "string",
                    "Position": [ number ],
                    "Primary": boolean,
                    "Type": "string"
                 }
              ],
              "Address": {
                 "AddressNumber": "string",
                 "Block": "string",
                 "Building": "string",
                 "Country": {
                    "Code2": "string",
                    "Code3": "string",
                    "Name": "string"
                 },
                 "District": "string",
                 "Intersection": [ "string" ],
                 "Label": "string",
                 "Locality": "string",
                 "PostalCode": "string",
                 "Region": {
                    "Code": "string",
                    "Name": "string"
                 },
```

```
                "SecondaryAddressComponents": [
                   {
                      "Designator": "string",
                      "Number": "string"
                   }
                ],
                "Street": "string",
                "StreetComponents": [
                   {
                      "BaseName": "string",
                      "Direction": "string",
                      "Language": "string",
                      "Prefix": "string",
                      "Suffix": "string",
                      "Type": "string",
                      "TypePlacement": "string",
                      "TypeSeparator": "string"
                   }
                ],
                "SubBlock": "string",
                "SubDistrict": "string",
                "SubRegion": {
                   "Code": "string",
                   "Name": "string"
                }
             },
             "PlaceId": "string",
             "PlaceType": "string",
             "Position": [ number ],
             "Title": "string"
          }
       ],
       "TimeZone": {
          "Name": "string",
          "Offset": "string",
          "OffsetSeconds": number
       },
       "Title": "string",
       "Translations": {
          "District": [
             {
                "Names": [
                   {
                      "Language": "string",
```

```
                    "Primary": boolean,
                    "Transliterated": boolean,
                    "Type": "string",
                    "Value": "string"
                }
            ],
            "Preference": "string"
        }
    ],
    "Locality": [
        {
            "Names": [
                {
                    "Language": "string",
                    "Primary": boolean,
                    "Transliterated": boolean,
                    "Type": "string",
                    "Value": "string"
                }
            ],
            "Preference": "string"
        }
    ],
    "Region": [
        {
            "Names": [
                {
                    "Language": "string",
                    "Primary": boolean,
                    "Transliterated": boolean,
                    "Type": "string",
                    "Value": "string"
                }
            ],
            "Preference": "string"
        }
    ],
    "SubRegion": [
        {
            "Names": [
                {
                    "Language": "string",
                    "Primary": boolean,
                    "Transliterated": boolean,
```

```
                        "Type": "string",
                        "Value": "string"
                    }
                ],
                "Preference": "string"
            }
        ]
    }
  }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at, or the maximum pricing bucket when the query is charged per item within the query.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of GeocodeResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)

- AWS SDK for Ruby V3

GetPlace

Service: Amazon Location Service Places V2

`GetPlace` finds a place by its unique ID. A `PlaceId` is returned by other place operations.

For more information, see GetPlace in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /v2/place/PlaceId?additional-features=AdditionalFeatures&address-names-
mode=AddressNamesMode&intended-use=IntendedUse&key=Key&language=Language&political-
view=PoliticalView HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

AdditionalFeatures

A list of optional additional parameters such as time zone that can be requested for each result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the `TimeZone` value.

Array Members: Minimum number of 1 item. Maximum number of 6 items.

Valid Values: `TimeZone | Phonemes | Access | Contact | SecondaryAddresses | CrossReferences`

AddressNamesMode

Specifies how address names are returned. When set to `Administrative`, the service returns the official administrative names for address components. `Administrative` currently applies only to addresses in the United States.

Valid Values: `Administrative`

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored). If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> When storing `GetPlace` responses, you *must* set this field to `Storage` to comply with the terms of service. These requests will be charged at a higher rate. Please review the user agreement and service pricing structure to determine the correct setting for your use case.

Valid Values: `SingleUse | Storage`

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the following codes: `en, id, km, lo, ms, my, pt, th, tl, vi, zh`

Length Constraints: Minimum length of 2. Maximum length of 35.

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "AccessPoints": [
      {
         "Label": "string",
         "Position": [ number ],
         "Primary": boolean,
         "Type": "string"
      }
   ],
   "AccessRestrictions": [
      {
         "Categories": [
            {
               "Id": "string",
               "LocalizedName": "string",
               "Name": "string",
               "Primary": boolean
            }
         ],
         "Restricted": boolean
      }
   ],
   "Address": {
      "AddressNumber": "string",
      "Block": "string",
      "Building": "string",
      "Country": {
         "Code2": "string",
         "Code3": "string",
         "Name": "string"
      },
      "District": "string",
      "Intersection": [ "string" ],
```

```
        "Label": "string",
        "Locality": "string",
        "PostalCode": "string",
        "Region": {
           "Code": "string",
           "Name": "string"
        },
        "SecondaryAddressComponents": [
           {
              "Designator": "string",
              "Number": "string"
           }
        ],
        "Street": "string",
        "StreetComponents": [
           {
              "BaseName": "string",
              "Direction": "string",
              "Language": "string",
              "Prefix": "string",
              "Suffix": "string",
              "Type": "string",
              "TypePlacement": "string",
              "TypeSeparator": "string"
           }
        ],
        "SubBlock": "string",
        "SubDistrict": "string",
        "SubRegion": {
           "Code": "string",
           "Name": "string"
        }
     },
     "AddressNumberCorrected": boolean,
     "BusinessChains": [
        {
           "Id": "string",
           "Name": "string"
        }
     ],
     "Categories": [
        {
           "Id": "string",
           "LocalizedName": "string",
```

```
            "Name": "string",
            "Primary": boolean
        }
    ],
    "Contacts": {
        "Emails": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
                "Label": "string",
                "Value": "string"
            }
        ],
        "Faxes": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
                "Label": "string",
                "Value": "string"
            }
        ],
        "Phones": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
                "Label": "string",
```

```
            "Value": "string"
         }
      ],
      "Websites": [
         {
            "Categories": [
               {
                  "Id": "string",
                  "LocalizedName": "string",
                  "Name": "string",
                  "Primary": boolean
               }
            ],
            "Label": "string",
            "Value": "string"
         }
      ]
   },
   "CrossReferences": [
      {
         "Source": "string",
         "SourceCategories": [
            {
               "Id": "string",
               "LocalizedName": "string",
               "Name": "string",
               "Primary": boolean
            }
         ],
         "SourcePlaceId": "string"
      }
   ],
   "EstimatedPointAddress": boolean,
   "FoodTypes": [
      {
         "Id": "string",
         "LocalizedName": "string",
         "Primary": boolean
      }
   ],
   "MainAddress": {
      "AccessPoints": [
         {
            "Label": "string",
```

```
            "Position": [ number ],
            "Primary": boolean,
            "Type": "string"
         }
      ],
      "Address": {
         "AddressNumber": "string",
         "Block": "string",
         "Building": "string",
         "Country": {
            "Code2": "string",
            "Code3": "string",
            "Name": "string"
         },
         "District": "string",
         "Intersection": [ "string" ],
         "Label": "string",
         "Locality": "string",
         "PostalCode": "string",
         "Region": {
            "Code": "string",
            "Name": "string"
         },
         "SecondaryAddressComponents": [
            {
               "Designator": "string",
               "Number": "string"
            }
         ],
         "Street": "string",
         "StreetComponents": [
            {
               "BaseName": "string",
               "Direction": "string",
               "Language": "string",
               "Prefix": "string",
               "Suffix": "string",
               "Type": "string",
               "TypePlacement": "string",
               "TypeSeparator": "string"
            }
         ],
         "SubBlock": "string",
         "SubDistrict": "string",
```

```
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "PlaceId": "string",
         "PlaceType": "string",
         "Position": [ number ],
         "Title": "string"
      },
      "MapView": [ number ],
      "OpeningHours": [
         {
            "Categories": [
               {
                  "Id": "string",
                  "LocalizedName": "string",
                  "Name": "string",
                  "Primary": boolean
               }
            ],
            "Components": [
               {
                  "OpenDuration": "string",
                  "OpenTime": "string",
                  "Recurrence": "string"
               }
            ],
            "Display": [ "string" ],
            "OpenNow": boolean
         }
      ],
      "Phonemes": {
         "Address": {
            "Block": [
               {
                  "Language": "string",
                  "Preferred": boolean,
                  "Value": "string"
               }
            ],
            "Country": [
               {
                  "Language": "string",
```

```
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "District": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Locality": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Region": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Street": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubBlock": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
```

```
            }
         ],
         "SubRegion": [
            {
               "Language": "string",
               "Preferred": boolean,
               "Value": "string"
            }
         ]
      },
      "Title": [
         {
            "Language": "string",
            "Preferred": boolean,
            "Value": "string"
         }
      ]
   },
   "PlaceAttributes": [ "string" ],
   "PlaceId": "string",
   "PlaceType": "string",
   "PoliticalView": "string",
   "Position": [ number ],
   "PostalCodeDetails": [
      {
         "PostalAuthority": "string",
         "PostalCode": "string",
         "PostalCodeType": "string",
         "UspsZip": {
            "ZipClassificationCode": "string"
         },
         "UspsZipPlus4": {
            "RecordTypeCode": "string"
         }
      }
   ],
   "SecondaryAddresses": [
      {
         "AccessPoints": [
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
```

```
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
                "Code2": "string",
                "Code3": "string",
                "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
                "Code": "string",
                "Name": "string"
            },
            "SecondaryAddressComponents": [
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
            "StreetComponents": [
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
```

```
            }
         },
         "PlaceId": "string",
         "PlaceType": "string",
         "Position": [ number ],
         "Title": "string"
      }
   ],
   "TimeZone": {
      "Name": "string",
      "Offset": "string",
      "OffsetSeconds": number
   },
   "Title": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude]. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction. If you use

GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of AccessRestriction objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Address

The place's address.

Type: Address object

AddressNumberCorrected

Boolean indicating if the address provided has been corrected. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Boolean

BusinessChains

The Business Chains associated with the place.

Type: Array of BusinessChain objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Contacts

List of potential contact methods for the place or result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Contacts object

CrossReferences

The list of supplier references available for this place. Requires the `CrossReferences` additional feature to be enabled.

Type: Array of CrossReference objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

EstimatedPointAddress

If `true`, indicates that the coordinates of the position and access points of the point address are estimated.

Type: Boolean

FoodTypes

List of food types offered by this result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

MainAddress

The main address corresponding to a place of type Secondary Address. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: RelatedPlace object

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set of four coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

OpeningHours

List of opening hours objects. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of OpeningHours objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Phonemes

How the various components of the result's address are pronounced in various languages. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: PhonemeDetails object

PlaceAttributes

A list of place attributes for the result, such as whether the business offers drive-through service.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `DriveThrough`

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

PostalCodeDetails

Contains details about the postal code of the place or result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of PostalCodeDetails objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

SecondaryAddresses

All secondary addresses that are associated with a main address. A secondary address is one that includes secondary designators, such as a Suite or Unit Number, Building, or Floor information. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> Coverage for this functionality is available in the following countries: AUS, CAN, NZL, USA, PRI.

Type: Array of RelatedPlace objects

Array Members: Minimum number of 1 item.

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Title

The localized display name of this result item based on request parameter `language`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ReverseGeocode

Service: Amazon Location Service Places V2

`ReverseGeocode` converts geographic coordinates into a human-readable address or place. You can obtain address component, and other related information such as place type, category, street information. The Reverse Geocode API supports filtering to on place type so that you can refine result based on your need. Also, The Reverse Geocode API can also provide additional features such as time zone information and the inclusion of political views.

For more information, see Reverse Geocode in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/reverse-geocode?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "AddressNamesMode": "string",
   "Filter": {
      "IncludePlaceTypes": [ "string" ]
   },
   "Heading": number,
   "IntendedUse": "string",
   "Language": "string",
   "MaxResults": number,
   "PoliticalView": "string",
   "QueryPosition": [ number ],
   "QueryRadius": number
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone that can be requested for each result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the `TimeZone` value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 3 items.

Valid Values: `TimeZone | Access | Intersections`

Required: No

AddressNamesMode

Specifies how address names are returned. When set to `Administrative`, the service returns the official administrative names for address components. `Administrative` currently applies only to addresses in the United States.

Type: String

Valid Values: `Administrative`

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: ReverseGeocodeFilter object

Required: No

Heading

The heading in degrees from true north in a navigation context. The heading is measured as the angle clockwise from the North direction.

Example: North is `0` degrees, East is `90` degrees, South is `180` degrees, and West is `270` degrees.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored).

> **Note**
>
> When storing `ReverseGeocode` responses, you *must* set this field to `Storage` to comply with the terms of service. These requests will be charged at a higher rate. Please review the user agreement and service pricing structure to determine the correct setting for your use case.

Type: String

Valid Values: `SingleUse | Storage`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the following codes: `en, id, km, lo, ms, my, pt, th, tl, vi, zh`

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

QueryPosition

The position in World Geodetic System (WGS 84) format: [longitude, latitude] for which you are querying nearby results for. Results closer to the position will be ranked higher then results further away from the position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

QueryRadius

The maximum distance in meters from the QueryPosition from which a result will be returned. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only up to a maximum value of 100,000.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "ResultItems": [
      {
         "AccessPoints": [
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
            }
         ],
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
            "SecondaryAddressComponents": [
               {
                  "Designator": "string",
                  "Number": "string"
               }
            ],
            "Street": "string",
            "StreetComponents": [
```

```
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
            }
        },
        "AddressNumberCorrected": boolean,
        "Categories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
        "Distance": number,
        "EstimatedPointAddress": boolean,
        "FoodTypes": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Primary": boolean
            }
        ],
        "Intersections": [
            {
                "AccessPoints": [
                    {
                        "Label": "string",
                        "Position": [ number ],
                        "Primary": boolean,
                        "Type": "string"
```

```
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
                "Code2": "string",
                "Code3": "string",
                "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
                "Code": "string",
                "Name": "string"
            },
            "SecondaryAddressComponents": [
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
            "StreetComponents": [
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
```

```
                }
            },
            "Distance": number,
            "MapView": [ number ],
            "PlaceId": "string",
            "Position": [ number ],
            "RouteDistance": number,
            "Title": "string"
        }
    ],
    "MainAddress": {
        "AccessPoints": [
            {
                "Label": "string",
                "Position": [ number ],
                "Primary": boolean,
                "Type": "string"
            }
        ],
        "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
                "Code2": "string",
                "Code3": "string",
                "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
                "Code": "string",
                "Name": "string"
            },
            "SecondaryAddressComponents": [
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
```

```
            "StreetComponents": [
               {
                  "BaseName": "string",
                  "Direction": "string",
                  "Language": "string",
                  "Prefix": "string",
                  "Suffix": "string",
                  "Type": "string",
                  "TypePlacement": "string",
                  "TypeSeparator": "string"
               }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "PlaceId": "string",
         "PlaceType": "string",
         "Position": [ number ],
         "Title": "string"
      },
      "MapView": [ number ],
      "PlaceId": "string",
      "PlaceType": "string",
      "PoliticalView": "string",
      "Position": [ number ],
      "PostalCodeDetails": [
         {
            "PostalAuthority": "string",
            "PostalCode": "string",
            "PostalCodeType": "string",
            "UspsZip": {
               "ZipClassificationCode": "string"
            },
            "UspsZipPlus4": {
               "RecordTypeCode": "string"
            }
         }
      ],
      "TimeZone": {
         "Name": "string",
```

```
            "Offset": "string",
            "OffsetSeconds": number
        },
        "Title": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

ResultItems

List of places or results returned for a query.

Type: Array of ReverseGeocodeResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

SearchNearby

Service: Amazon Location Service Places V2

`SearchNearby` queries for points of interest within a radius from a central coordinates, returning place results with optional filters such as categories, business chains, food types and more. The API returns details such as a place name, address, phone, category, food type, contact, opening hours. Also, the API can return phonemes, time zones and more based on requested parameters.

For more information, see Search Nearby in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /v2/search-nearby?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "Filter": {
      "BoundingBox": [ number ],
      "ExcludeBusinessChains": [ "string" ],
      "ExcludeCategories": [ "string" ],
      "ExcludeFoodTypes": [ "string" ],
      "IncludeBusinessChains": [ "string" ],
      "IncludeCategories": [ "string" ],
      "IncludeCountries": [ "string" ],
      "IncludeFoodTypes": [ "string" ]
   },
   "IntendedUse": "string",
   "Language": "string",
   "MaxResults": number,
   "NextToken": "string",
   "PoliticalView": "string",
   "QueryPosition": [ number ],
   "QueryRadius": number
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the `TimeZone` value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Values: `TimeZone | Phonemes | Access | Contact | CrossReferences`

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: SearchNearbyFilter object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored).

> **Note**
>
> When storing `SearchNearby` responses, you *must* set this field to `Storage` to comply with the terms of service. These requests will be charged at a higher rate. Please review

the user agreement and service pricing structure to determine the correct setting for your use case.

Type: String

Valid Values: `SingleUse | Storage`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the following codes: `en, id, km, lo, ms, my, pt, th, tl, vi, zh`

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

QueryPosition

The position in World Geodetic System (WGS 84) format: [longitude, latitude] for which you are querying nearby results for. Results closer to the position will be ranked higher then results further away from the position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

QueryRadius

The maximum distance in meters from the QueryPosition from which a result will be returned. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only up to a maximum value of 100,000.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json
```

```
{
   "NextToken": "string",
   "ResultItems": [
      {
         "AccessPoints": [
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
            }
         ],
         "AccessRestrictions": [
            {
               "Categories": [
                  {
                     "Id": "string",
                     "LocalizedName": "string",
                     "Name": "string",
                     "Primary": boolean
                  }
               ],
               "Restricted": boolean
            }
         ],
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
```

```
            "SecondaryAddressComponents": [
               {
                  "Designator": "string",
                  "Number": "string"
               }
            ],
            "Street": "string",
            "StreetComponents": [
               {
                  "BaseName": "string",
                  "Direction": "string",
                  "Language": "string",
                  "Prefix": "string",
                  "Suffix": "string",
                  "Type": "string",
                  "TypePlacement": "string",
                  "TypeSeparator": "string"
               }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "AddressNumberCorrected": boolean,
         "BusinessChains": [
            {
               "Id": "string",
               "Name": "string"
            }
         ],
         "Categories": [
            {
               "Id": "string",
               "LocalizedName": "string",
               "Name": "string",
               "Primary": boolean
            }
         ],
         "Contacts": {
            "Emails": [
               {
```

```
                "Categories": [
                   {
                      "Id": "string",
                      "LocalizedName": "string",
                      "Name": "string",
                      "Primary": boolean
                   }
                ],
                "Label": "string",
                "Value": "string"
             }
          ],
          "Faxes": [
             {
                "Categories": [
                   {
                      "Id": "string",
                      "LocalizedName": "string",
                      "Name": "string",
                      "Primary": boolean
                   }
                ],
                "Label": "string",
                "Value": "string"
             }
          ],
          "Phones": [
             {
                "Categories": [
                   {
                      "Id": "string",
                      "LocalizedName": "string",
                      "Name": "string",
                      "Primary": boolean
                   }
                ],
                "Label": "string",
                "Value": "string"
             }
          ],
          "Websites": [
             {
                "Categories": [
                   {
```

```
                    "Id": "string",
                    "LocalizedName": "string",
                    "Name": "string",
                    "Primary": boolean
                }
            ],
            "Label": "string",
            "Value": "string"
        }
    ]
},
"CrossReferences": [
    {
        "Source": "string",
        "SourceCategories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
        "SourcePlaceId": "string"
    }
],
"Distance": number,
"FoodTypes": [
    {
        "Id": "string",
        "LocalizedName": "string",
        "Primary": boolean
    }
],
"MapView": [ number ],
"OpeningHours": [
    {
        "Categories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
```

```
                "Components": [
                   {
                      "OpenDuration": "string",
                      "OpenTime": "string",
                      "Recurrence": "string"
                   }
                ],
                "Display": [ "string" ],
                "OpenNow": boolean
             }
          ],
          "Phonemes": {
             "Address": {
                "Block": [
                   {
                      "Language": "string",
                      "Preferred": boolean,
                      "Value": "string"
                   }
                ],
                "Country": [
                   {
                      "Language": "string",
                      "Preferred": boolean,
                      "Value": "string"
                   }
                ],
                "District": [
                   {
                      "Language": "string",
                      "Preferred": boolean,
                      "Value": "string"
                   }
                ],
                "Locality": [
                   {
                      "Language": "string",
                      "Preferred": boolean,
                      "Value": "string"
                   }
                ],
                "Region": [
                   {
                      "Language": "string",
```

```
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Street": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubBlock": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubRegion": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ]
    },
    "Title": [
        {
            "Language": "string",
            "Preferred": boolean,
            "Value": "string"
        }
    ]
},
"PlaceAttributes": [ "string" ],
"PlaceId": "string",
"PlaceType": "string",
```

```
            "PoliticalView": "string",
            "Position": [ number ],
            "TimeZone": {
               "Name": "string",
               "Offset": "string",
               "OffsetSeconds": number
            },
            "Title": "string"
         }
      ]
   }
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

NextToken

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

ResultItems

List of places or results returned for a query.

Type: Array of SearchNearbyResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++

- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

SearchText

Service: Amazon Location Service Places V2

`SearchText` searches for geocode and place information. You can then complete a follow-up query suggested from the `Suggest` API via a query id.

For more information, see Search Text in the *Amazon Location Service Developer Guide*.

Try the Search Text API in the API Playground.

Request Syntax

```
POST /v2/search-text?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "BiasPosition": [ number ],
   "Filter": {
      "BoundingBox": [ number ],
      "Circle": {
         "Center": [ number ],
         "Radius": number
      },
      "IncludeCountries": [ "string" ]
   },
   "IntendedUse": "string",
   "Language": "string",
   "MaxResults": number,
   "NextToken": "string",
   "PoliticalView": "string",
   "QueryId": "string",
   "QueryText": "string",
   "TravelMode": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the `TimeZone` value.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Values: `TimeZone | Phonemes | Access | Contact | CrossReferences`

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in `[lng, lat]` and in the WGS 84 format.

> **Note**
>
> Exactly one of the following fields must be set: `BiasPosition`, `Filter.BoundingBox`, or `Filter.Circle`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: SearchTextFilter object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored).

> **Note**
>
> When storing `SearchText` responses, you *must* set this field to `Storage` to comply with the terms of service. These requests will be charged at a higher rate. Please review the user agreement and service pricing structure to determine the correct setting for your use case.

Type: String

Valid Values: `SingleUse | Storage`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the following codes: `en, id, km, lo, ms, my, pt, th, tl, vi, zh`

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

QueryId

The query Id returned by the suggest API. If passed in the request, the SearchText API will preform a SearchText query with the improved query terms for the original query made to the suggest API. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> Exactly one of the following fields must be set: `QueryText` or `QueryId`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 500.

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

> **Note**
>
> Exactly one of the following fields must be set: `QueryText` or `QueryId`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: No

TravelMode

Indicates the mode of mobility used by the end user. This is used to improve the relevance of search results. Valid values are `Car`, `Scooter`, and `Truck`.

Type: String

Valid Values: `Car | Scooter | Truck`

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "NextToken": "string",
   "ResultItems": [
      {
         "AccessPoints": [
```

```
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
            }
         ],
         "AccessRestrictions": [
            {
               "Categories": [
                  {
                     "Id": "string",
                     "LocalizedName": "string",
                     "Name": "string",
                     "Primary": boolean
                  }
               ],
               "Restricted": boolean
            }
         ],
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
            "SecondaryAddressComponents": [
               {
                  "Designator": "string",
                  "Number": "string"
               }
            ],
```

```
            "Street": "string",
            "StreetComponents": [
               {
                  "BaseName": "string",
                  "Direction": "string",
                  "Language": "string",
                  "Prefix": "string",
                  "Suffix": "string",
                  "Type": "string",
                  "TypePlacement": "string",
                  "TypeSeparator": "string"
               }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
               "Code": "string",
               "Name": "string"
            }
         },
         "AddressNumberCorrected": boolean,
         "BusinessChains": [
            {
               "Id": "string",
               "Name": "string"
            }
         ],
         "Categories": [
            {
               "Id": "string",
               "LocalizedName": "string",
               "Name": "string",
               "Primary": boolean
            }
         ],
         "Contacts": {
            "Emails": [
               {
                  "Categories": [
                     {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
```

```
                    }
                ],
                "Label": "string",
                "Value": "string"
            }
        ],
        "Faxes": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
                "Label": "string",
                "Value": "string"
            }
        ],
        "Phones": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
                "Label": "string",
                "Value": "string"
            }
        ],
        "Websites": [
            {
                "Categories": [
                    {
                        "Id": "string",
                        "LocalizedName": "string",
                        "Name": "string",
                        "Primary": boolean
                    }
                ],
```

```
                "Label": "string",
                "Value": "string"
            }
        ]
    },
    "CrossReferences": [
        {
            "Source": "string",
            "SourceCategories": [
                {
                    "Id": "string",
                    "LocalizedName": "string",
                    "Name": "string",
                    "Primary": boolean
                }
            ],
            "SourcePlaceId": "string"
        }
    ],
    "Distance": number,
    "FoodTypes": [
        {
            "Id": "string",
            "LocalizedName": "string",
            "Primary": boolean
        }
    ],
    "MapView": [ number ],
    "OpeningHours": [
        {
            "Categories": [
                {
                    "Id": "string",
                    "LocalizedName": "string",
                    "Name": "string",
                    "Primary": boolean
                }
            ],
            "Components": [
                {
                    "OpenDuration": "string",
                    "OpenTime": "string",
                    "Recurrence": "string"
                }
```

```
                ],
                "Display": [ "string" ],
                "OpenNow": boolean
            }
        ],
        "Phonemes": {
            "Address": {
                "Block": [
                    {
                        "Language": "string",
                        "Preferred": boolean,
                        "Value": "string"
                    }
                ],
                "Country": [
                    {
                        "Language": "string",
                        "Preferred": boolean,
                        "Value": "string"
                    }
                ],
                "District": [
                    {
                        "Language": "string",
                        "Preferred": boolean,
                        "Value": "string"
                    }
                ],
                "Locality": [
                    {
                        "Language": "string",
                        "Preferred": boolean,
                        "Value": "string"
                    }
                ],
                "Region": [
                    {
                        "Language": "string",
                        "Preferred": boolean,
                        "Value": "string"
                    }
                ],
                "Street": [
                    {
```

```
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubBlock": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubRegion": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ]
    },
    "Title": [
        {
            "Language": "string",
            "Preferred": boolean,
            "Value": "string"
        }
    ]
},
"PlaceAttributes": [ "string" ],
"PlaceId": "string",
"PlaceType": "string",
"PoliticalView": "string",
"Position": [ number ],
"TimeZone": {
    "Name": "string",
    "Offset": "string",
    "OffsetSeconds": number
```

```
            },
            "Title": "string"
        }
    ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

NextToken

If `nextToken` is returned, there are more results available. The value of `nextToken` is a unique pagination token for each page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

ResultItems

List of places or results returned for a query.

Type: Array of SearchTextResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)

- AWS SDK for Ruby V3

Suggest

Service: Amazon Location Service Places V2

`Suggest` provides intelligent predictions or recommendations based on the user's input or context, such as relevant places, points of interest, query terms or search category. It is designed to help users find places or point of interests candidates or identify a follow on query based on incomplete or misspelled queries. It returns a list of possible matches or refinements that can be used to formulate a more accurate query. Users can select the most appropriate suggestion and use it for further searching. The API provides options for filtering results by location and other attributes, and allows for additional features like phonemes and timezones. The response includes refined query terms and detailed place information.

For more information, see Suggest in the *Amazon Location Service Developer Guide*.

Try the Suggest API in the API Playground.

Request Syntax

```
POST /v2/suggest?key=Key HTTP/1.1
Content-type: application/json

{
   "AdditionalFeatures": [ "string" ],
   "BiasPosition": [ number ],
   "Filter": {
      "BoundingBox": [ number ],
      "Circle": {
         "Center": [ number ],
         "Radius": number
      },
      "IncludeCountries": [ "string" ]
   },
   "IntendedUse": "string",
   "Language": "string",
   "MaxQueryRefinements": number,
   "MaxResults": number,
   "PoliticalView": "string",
   "QueryText": "string",
   "TravelMode": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

Key

Optional: The API key to be used for authorization. Either an API key or valid SigV4 signature must be provided when making a request.

Length Constraints: Minimum length of 0. Maximum length of 1000.

Request Body

The request accepts the following data in JSON format.

AdditionalFeatures

A list of optional additional parameters, such as time zone, that can be requested for each result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the `Core` and `TimeZone` values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Values: `Core | TimeZone | Phonemes | Access | CrossReferences`

Required: No

BiasPosition

The position, in longitude and latitude, that the results should be close to. Typically, place results returned are ranked higher the closer they are to this position. Stored in `[lng, lat]` and in the WGS 84 format.

> **Note**
>
> The fields `BiasPosition`, `FilterBoundingBox`, and `FilterCircle` are mutually exclusive.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Filter

A structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Type: SuggestFilter object

Required: No

IntendedUse

Indicates if the query results will be persisted in customer infrastructure. Defaults to `SingleUse` (not stored). Currently, `Suggest` does not support storage of results.

Type: String

Valid Values: `SingleUse`

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only the following codes: `en, id, km, lo, ms, my, pt, th, tl, vi, zh`

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

MaxQueryRefinements

Maximum number of query terms to be returned for use with a search text query. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 10.

Required: No

MaxResults

An optional limit for the number of results returned in a single call.

Default value: 20

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

QueryText

The free-form text query to match addresses against. This is usually a partially typed address from an end user in an address box or form.

> **Note**
>
> The fields `QueryText` and `QueryID` are mutually exclusive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: Yes

TravelMode

Indicates the mode of mobility used by the end user. This is used to improve the relevance of search results. Valid values are `Car`, `Scooter`, and `Truck`.

Type: String

Valid Values: `Car | Scooter | Truck`

Required: No

Response Syntax

```
HTTP/1.1 200
x-amz-geo-pricing-bucket: PricingBucket
Content-type: application/json

{
   "QueryRefinements": [
      {
         "EndIndex": number,
         "OriginalTerm": "string",
         "RefinedTerm": "string",
         "StartIndex": number
      }
   ],
   "ResultItems": [
      {
         "Highlights": {
            "Address": {
               "Label": [
                  {
                     "EndIndex": number,
                     "StartIndex": number,
                     "Value": "string"
                  }
               ]
            },
            "Title": [
               {
                  "EndIndex": number,
                  "StartIndex": number,
                  "Value": "string"
```

```
            }
         ]
      },
      "Place": {
         "AccessPoints": [
            {
               "Label": "string",
               "Position": [ number ],
               "Primary": boolean,
               "Type": "string"
            }
         ],
         "AccessRestrictions": [
            {
               "Categories": [
                  {
                     "Id": "string",
                     "LocalizedName": "string",
                     "Name": "string",
                     "Primary": boolean
                  }
               ],
               "Restricted": boolean
            }
         ],
         "Address": {
            "AddressNumber": "string",
            "Block": "string",
            "Building": "string",
            "Country": {
               "Code2": "string",
               "Code3": "string",
               "Name": "string"
            },
            "District": "string",
            "Intersection": [ "string" ],
            "Label": "string",
            "Locality": "string",
            "PostalCode": "string",
            "Region": {
               "Code": "string",
               "Name": "string"
            },
            "SecondaryAddressComponents": [
```

```
                {
                    "Designator": "string",
                    "Number": "string"
                }
            ],
            "Street": "string",
            "StreetComponents": [
                {
                    "BaseName": "string",
                    "Direction": "string",
                    "Language": "string",
                    "Prefix": "string",
                    "Suffix": "string",
                    "Type": "string",
                    "TypePlacement": "string",
                    "TypeSeparator": "string"
                }
            ],
            "SubBlock": "string",
            "SubDistrict": "string",
            "SubRegion": {
                "Code": "string",
                "Name": "string"
            }
        },
        "BusinessChains": [
            {
                "Id": "string",
                "Name": "string"
            }
        ],
        "Categories": [
            {
                "Id": "string",
                "LocalizedName": "string",
                "Name": "string",
                "Primary": boolean
            }
        ],
        "CrossReferences": [
            {
                "Source": "string",
                "SourceCategories": [
                    {
```

```
                    "Id": "string",
                    "LocalizedName": "string",
                    "Name": "string",
                    "Primary": boolean
                }
            ],
            "SourcePlaceId": "string"
        }
    ],
    "Distance": number,
    "FoodTypes": [
        {
            "Id": "string",
            "LocalizedName": "string",
            "Primary": boolean
        }
    ],
    "MapView": [ number ],
    "Phonemes": {
        "Address": {
            "Block": [
                {
                    "Language": "string",
                    "Preferred": boolean,
                    "Value": "string"
                }
            ],
            "Country": [
                {
                    "Language": "string",
                    "Preferred": boolean,
                    "Value": "string"
                }
            ],
            "District": [
                {
                    "Language": "string",
                    "Preferred": boolean,
                    "Value": "string"
                }
            ],
            "Locality": [
                {
                    "Language": "string",
```

```
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Region": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "Street": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubBlock": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubDistrict": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ],
        "SubRegion": [
            {
                "Language": "string",
                "Preferred": boolean,
                "Value": "string"
            }
        ]
    },
    "Title": [
        {
            "Language": "string",
            "Preferred": boolean,
```

```
                    "Value": "string"
                }
            ]
        },
        "PlaceAttributes": [ "string" ],
        "PlaceId": "string",
        "PlaceType": "string",
        "PoliticalView": "string",
        "Position": [ number ],
        "TimeZone": {
            "Name": "string",
            "Offset": "string",
            "OffsetSeconds": number
        }
    },
    "Query": {
        "QueryId": "string",
        "QueryType": "string"
    },
    "SuggestResultItemType": "string",
    "Title": "string"
  }
 ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The response returns the following HTTP headers.

PricingBucket

The pricing bucket for which the query is charged at.

For more information on pricing, please visit Amazon Location Service Pricing.

The following data is returned in JSON format by the service.

QueryRefinements

Maximum number of query terms to be returned for use with a search text query. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of QueryRefinement objects

Array Members: Minimum number of 0 items. Maximum number of 10 items.

ResultItems

List of places or results returned for a query.

Type: Array of SuggestResultItem objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

FieldList

Test stub for FieldList.

Reason

Test stub for reason

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service API Keys

The following actions are supported by Amazon Location Service API Keys:

- CreateKey
- DeleteKey
- DescribeKey
- ListKeys
- UpdateKey

CreateKey

Service: Amazon Location Service API Keys

Creates an API key resource in your AWS account, which lets you grant actions for Amazon Location resources to the API key bearer.

For more information, see Use API keys to authenticate in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/keys HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "ExpireTime": "string",
   "KeyName": "string",
   "NoExpiry": boolean,
   "Restrictions": {
      "AllowActions": [ "string" ],
      "AllowAndroidApps": [
         {
            "CertificateFingerprint": "string",
            "Package": "string"
         }
      ],
      "AllowAppleApps": [
         {
            "BundleId": "string"
         }
      ],
      "AllowReferers": [ "string" ],
      "AllowResources": [ "string" ]
   },
   "Tags": {
      "string" : "string"
   }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Description

An optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

ExpireTime

The optional timestamp for when the API key resource will expire in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`. One of `NoExpiry` or `ExpireTime` must be set.

Type: Timestamp

Required: No

KeyName

A custom name for the API key resource.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).
- Must be a unique API key name.
- No spaces allowed. For example, `ExampleAPIKey`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

NoExpiry

Optionally set to `true` to set no expiration time for the API key. One of `NoExpiry` or `ExpireTime` must be set.

Type: Boolean

Required: No

Restrictions

Contains the API key restrictions for the API key resource.

Type: ApiKeyRestrictions object

Required: Yes

Tags

Applies one or more tags to the API key resource. A tag is a key-value pair that helps manage, identify, search, and filter your resources by labelling them.

Format: `"key" : "value"`

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use `"aws:"` as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "Key": "string",
   "KeyArn": "string",
   "KeyName": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the API key resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Key

The key value/string of an API key. This value is used when making API calls to authorize the call. For example, see GetTile.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum quota set for the service.

HTTP Status Code: 402

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DeleteKey

Service: Amazon Location Service API Keys

Deletes the specified API key. The API key must have been deactivated more than 90 days previously.

For more information, see Use API keys to authenticate in the *Amazon Location Service Developer Guide*.

Request Syntax

```
DELETE /metadata/v0/keys/KeyName?forceDelete=ForceDelete HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ForceDelete

ForceDelete bypasses an API key's expiry conditions and deletes the key. Set the parameter `true` to delete the key or to `false` to not preemptively delete the API key.

Valid values: `true`, or `false`.

Required: No

> **Note**
>
> This action is irreversible. Only use ForceDelete if you are certain the key is no longer in use.

KeyName

The name of the API key to delete.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

A resource associated with the request could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DescribeKey

Service: Amazon Location Service API Keys

Retrieves the API key resource details.

For more information, see Use API keys to authenticate in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /metadata/v0/keys/KeyName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

KeyName

The name of the API key resource.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "Description": "string",
   "ExpireTime": "string",
   "Key": "string",
```

```
    "KeyArn": "string",
    "KeyName": "string",
    "Restrictions": {
       "AllowActions": [ "string" ],
       "AllowAndroidApps": [
          {
             "CertificateFingerprint": "string",
             "Package": "string"
          }
       ],
       "AllowAppleApps": [
          {
             "BundleId": "string"
          }
       ],
       "AllowReferers": [ "string" ],
       "AllowResources": [ "string" ]
    },
    "Tags": {
       "string" : "string"
    },
    "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the API key resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Description

The optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

ExpireTime

The timestamp for when the API key resource will expire in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Key

The key value/string of an API key.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Restrictions

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Type: ApiKeyRestrictions object

Tags

Tags associated with the API key resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

UpdateTime

The timestamp for when the API key resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

A resource associated with the request could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListKeys

Service: Amazon Location Service API Keys

Lists API key resources in your AWS account.

For more information, see Use API keys to authenticate in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/list-keys HTTP/1.1
Content-type: application/json

{
   "Filter": {
      "KeyStatus": "string"
   },
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Filter

Optionally filter the list to only `Active` or `Expired` API keys.

Type: ApiKeyFilter object

Required: No

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "CreateTime": "string",
         "Description": "string",
         "ExpireTime": "string",
         "KeyName": "string",
         "Restrictions": {
            "AllowActions": [ "string" ],
            "AllowAndroidApps": [
               {
                  "CertificateFingerprint": "string",
                  "Package": "string"
               }
            ],
            "AllowAppleApps": [
               {
                  "BundleId": "string"
               }
            ],
```

```
            "AllowReferers": [ "string" ],
            "AllowResources": [ "string" ]
         },
         "UpdateTime": "string"
      }
   ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains API key resources in your AWS account. Details include API key name, allowed referers and timestamp for when the API key will expire.

Type: Array of ListKeysResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

UpdateKey

Service: Amazon Location Service API Keys

Updates the specified properties of a given API key resource.

Request Syntax

```
PATCH /metadata/v0/keys/KeyName HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "ExpireTime": "string",
   "ForceUpdate": boolean,
   "NoExpiry": boolean,
   "Restrictions": {
      "AllowActions": [ "string" ],
      "AllowAndroidApps": [
         {
            "CertificateFingerprint": "string",
            "Package": "string"
         }
      ],
      "AllowAppleApps": [
         {
            "BundleId": "string"
         }
      ],
      "AllowReferers": [ "string" ],
      "AllowResources": [ "string" ]
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

KeyName

The name of the API key resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

ExpireTime

Updates the timestamp for when the API key resource will expire in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: No

ForceUpdate

The boolean flag to be included for updating `ExpireTime` or `Restrictions` details.

Must be set to `true` to update an API key resource that has been used in the past 7 days.

`False` if force update is not preferred

Default value: `False`

Type: Boolean

Required: No

NoExpiry

Whether the API key should expire. Set to `true` to set the API key to have no expiration time.

Type: Boolean

Required: No

Restrictions

Updates the API key restrictions for the API key resource.

Type: ApiKeyRestrictions object

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "KeyArn": "string",
   "KeyName": "string",
   "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

KeyArn

The Amazon Resource Name (ARN) for the API key resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:key/ExampleKey`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

UpdateTime

The timestamp for when the API key resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

A resource associated with the request could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Jobs

The following actions are supported by Amazon Location Service Jobs:

- CancelJob
- GetJob
- ListJobs
- StartJob

CancelJob

Service: Amazon Location Service Jobs

`CancelJob` cancels a job that is currently running or pending. If the job is already in a terminal state (`Completed`, `Failed`, or `Cancelled`), the operation returns successfully with the current status.

For more information, see Job concepts in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/jobs/cancel-job HTTP/1.1
Content-type: application/json

{
   "JobId": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

JobId

The unique identifier of the job to cancel.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
   "JobArn": "string",
   "JobId": "string",
   "Status": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

JobArn

Amazon Resource Name (ARN) of the cancelled job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*):geo(:([a-z0-9]+([.-][a-z0-9]+)*))(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))`

JobId

Unique job identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Status

Job status after cancellation request.

Type: String

Valid Values: `Pending | Running | Completed | Failed | Cancelling | Cancelled`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++

- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetJob

Service: Amazon Location Service Jobs

`GetJob` retrieves detailed information about a specific job, including its current status, configuration, and error information if the job failed.

For more information, see Job concepts in the *Amazon Location Service Developer Guide*.

Request Syntax

```
GET /metadata/v0/jobs/JobId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

JobId

The unique identifier of the job to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Action": "string",
   "ActionOptions": {
      "ValidateAddress": {
         "AdditionalFeatures": [ "string" ]
```

```
        }
    },
    "CreatedAt": "string",
    "EndedAt": "string",
    "Error": {
        "Code": "string",
        "Messages": [ "string" ]
    },
    "ExecutionRoleArn": "string",
    "InputOptions": {
        "Format": "string",
        "Location": "string"
    },
    "JobArn": "string",
    "JobId": "string",
    "Name": "string",
    "OutputOptions": {
        "Format": "string",
        "Location": "string"
    },
    "Status": "string",
    "Tags": {
        "string" : "string"
    },
    "UpdatedAt": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Action

Action performed by the job.

Type: String

Valid Values: `ValidateAddress`

ActionOptions

Additional options for configuring job action parameters.

Type: JobActionOptions object

CreatedAt

Job creation time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

EndedAt

Job completion time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`. Only returned for jobs in a terminal status: `Completed` | `Failed` | `Cancelled`.

Type: Timestamp

Error

Error information if the job failed.

Type: JobError object

ExecutionRoleArn

IAM role used for permissions when running the job.

Type: String

InputOptions

Input configuration.

Type: JobInputOptions object

JobArn

Amazon Resource Name (ARN) of the specified job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*):geo(:([a-z0-9]+([.-][a-z0-9]+)*))(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))`

JobId

Unique job identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Name

Job name (if provided during creation).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

OutputOptions

Output configuration.

Type: JobOutputOptions object

Status

Current job status.

Type: String

Valid Values: `Pending | Running | Completed | Failed | Cancelling | Cancelled`

Tags

Tags and corresponding values associated with the specified job.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

UpdatedAt

Last update time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ResourceNotFoundException

A resource associated with the request could not be found.

HTTP Status Code: 404

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListJobs

Service: Amazon Location Service Jobs

`ListJobs` retrieves a list of jobs with optional filtering and pagination support.

For more information, see Job concepts in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/jobs/list-jobs HTTP/1.1
Content-type: application/json

{
   "Filter": {
      "JobStatus": "string"
   },
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Filter

An optional structure containing criteria by which to filter job results.

Type: JobsFilter object

Required: No

MaxResults

Maximum number of jobs to return.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "Action": "string",
         "ActionOptions": {
            "ValidateAddress": {
               "AdditionalFeatures": [ "string" ]
            }
         },
         "CreatedAt": "string",
         "EndedAt": "string",
         "Error": {
            "Code": "string",
            "Messages": [ "string" ]
         },
         "ExecutionRoleArn": "string",
         "InputOptions": {
            "Format": "string",
            "Location": "string"
         },
         "JobArn": "string",
         "JobId": "string",
         "Name": "string",
         "OutputOptions": {
            "Format": "string",
```

```
            "Location": "string"
         },
         "Status": "string",
         "UpdatedAt": "string"
      }
   ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

List of jobs in your AWS account.

Type: Array of ListJobsResponseEntry objects

NextToken

Token for retrieving the next page (present if more results available).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

StartJob

Service: Amazon Location Service Jobs

`StartJob` starts a new asynchronous bulk processing job. You specify the input data location in Amazon S3, the action to perform, and the output location where results are written. Currently, the Jobs APIs support bulk address validation.

For more information, see Job concepts in the *Amazon Location Service Developer Guide*.

Request Syntax

```
POST /metadata/v0/jobs HTTP/1.1
Content-type: application/json

{
   "Action": "string",
   "ActionOptions": {
      "ValidateAddress": {
         "AdditionalFeatures": [ "string" ]
      }
   },
   "ClientToken": "string",
   "ExecutionRoleArn": "string",
   "InputOptions": {
      "Format": "string",
      "Location": "string"
   },
   "Name": "string",
   "OutputOptions": {
      "Format": "string",
      "Location": "string"
   },
   "Tags": {
      "string" : "string"
   }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Action

The action to perform on the input data.

Type: String

Valid Values: `ValidateAddress`

Required: Yes

ActionOptions

Additional parameters that can be requested for each result.

Type: JobActionOptions object

Required: No

ClientToken

A unique identifier for this request to ensure idempotency.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[!-~]+`

Required: No

ExecutionRoleArn

The Amazon Resource Name (ARN) of the IAM role that Amazon Location Service assumes during job processing. Amazon Location Service uses this role to access the input and output locations specified for the job.

> **Note**
>
> The IAM role must be created in the same AWS account where you plan to run your job.

For more information about configuring IAM roles for Amazon Location jobs, see Configure IAM permissions in the *Amazon Location Service Developer Guide*.

Type: String

Required: Yes

InputOptions

Configuration for input data location and format.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

Type: JobInputOptions object

Required: Yes

Name

An optional name for the job resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: No

OutputOptions

Configuration for output data location and format.

Type: JobOutputOptions object

Required: Yes

Tags

Tags and corresponding values to be associated with the job.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreatedAt": "string",
   "JobArn": "string",
   "JobId": "string",
   "Status": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreatedAt

Job creation time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

JobArn

The Amazon Resource Name (ARN) for the job resource. Used when you need to specify a resource across all AWS.

Format example: `arn:aws:geo:region:account-id:job/ExampleJob`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*):geo(:([a-z0-9]+([.-][a-z0-9]+)*))(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))`

JobId

Unique job identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Status

Initial job status (always "Pending" for new jobs).

Type: String

Valid Values: `Pending | Running | Completed | Failed | Cancelling | Cancelled`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

You don't have sufficient access to perform this action.

HTTP Status Code: 403

InternalServerException

Request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Tags

The following actions are supported by Amazon Location Service Tags:

- ListTagsForResource
- TagResource

- UntagResource

ListTagsForResource

Service: Amazon Location Service Tags

Returns a list of tags that are applied to the specified Amazon Location resource.

Request Syntax

```
GET /tags/ResourceArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource whose tags you want to retrieve.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Tags": {
      "string" : "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Tags

Tags that have been applied to the specified resource. Tags are mapped from the tag key to the tag value: `"TagKey" : "TagValue"`.

- Format example: `{"tag1" : "value1", "tag2" : "value2"}`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

TagResource

Service: Amazon Location Service Tags

Assigns one or more tags (key-value pairs) to the specified Amazon Location Service resource.

Tags can help you organize and categorize your resources. You can also use them to scope user permissions, by granting a user permission to access or change only resources with certain tag values.

You can use the `TagResource` operation with an Amazon Location Service resource that already has tags. If you specify a new tag key for the resource, this tag is appended to the tags already associated with the resource. If you specify a tag key that's already associated with the resource, the new tag value that you specify replaces the previous value for that tag.

You can associate up to 50 tags with a resource.

Request Syntax

```
POST /tags/ResourceArn HTTP/1.1
Content-type: application/json

{
   "Tags": {
      "string" : "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource whose tags you want to update.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Tags

Applies one or more tags to specific resource. A tag is a key-value pair that helps you manage, identify, search, and filter your resources.

Format: `"key" : "value"`

Restrictions:

- Maximum 50 tags per resource.
- Each tag key must be unique and must have exactly one associated value.
- Maximum key length: 128 Unicode characters in UTF-8.
- Maximum value length: 256 Unicode characters in UTF-8.
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @
- Cannot use `"aws:"` as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

UntagResource

Service: Amazon Location Service Tags

Removes one or more tags from the specified Amazon Location resource.

Request Syntax

```
DELETE /tags/ResourceArn?tagKeys=TagKeys HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ResourceArn

The Amazon Resource Name (ARN) of the resource from which you want to remove tags.

- Format example: `arn:aws:geo:region:account-id:resourcetype/ExampleResource`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

Required: Yes

TagKeys

The list of tag keys to remove from the specified resource.

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Geofences

The following actions are supported by Amazon Location Service Geofences:

- BatchDeleteGeofence
- BatchEvaluateGeofences
- BatchPutGeofence
- CreateGeofenceCollection
- DeleteGeofenceCollection
- DescribeGeofenceCollection
- ForecastGeofenceEvents
- GetGeofence
- ListGeofenceCollections
- ListGeofences
- PutGeofence
- UpdateGeofenceCollection

BatchDeleteGeofence

Service: Amazon Location Service Geofences

Deletes a batch of geofences from a geofence collection.

> **Note**
>
> This operation deletes the resource permanently.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/delete-geofences HTTP/1.1
Content-type: application/json

{
   "GeofenceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection storing the geofences to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

GeofenceIds

The batch of geofences to be deleted.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Errors": [
      {
         "Error": {
            "Code": "string",
            "Message": "string"
         },
         "GeofenceId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each geofence that failed to delete.

Type: Array of BatchDeleteGeofenceError objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

BatchEvaluateGeofences

Service: Amazon Location Service Geofences

Evaluates device positions against the geofence geometries from a given geofence collection.

This operation always returns an empty response because geofences are asynchronously evaluated. The evaluation determines if the device has entered or exited a geofenced area, and then publishes one of the following events to Amazon EventBridge:

- `ENTER` if Amazon Location determines that the tracked device has entered a geofenced area.
- `EXIT` if Amazon Location determines that the tracked device has exited a geofenced area.

> **Note**
>
> The last geofence that a device was observed within is tracked for 30 days after the most recent device position update.

> **Note**
>
> Geofence evaluation uses the given device position. It does not account for the optional `Accuracy` of a `DevicePositionUpdate`.

> **Note**
>
> The `DeviceID` is used as a string to represent the device. You do not need to have a `Tracker` associated with the `DeviceID`.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/positions HTTP/1.1
Content-type: application/json

{
   "DevicePositionUpdates": [
```

```
        {
            "Accuracy": {
                "Horizontal": number
            },
            "DeviceId": "string",
            "Position": [ number ],
            "PositionProperties": {
                "string" : "string"
            },
            "SampleTime": "string"
        }
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection used in evaluating the position of devices against its geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DevicePositionUpdates

Contains device details for each device to be evaluated against the given geofence collection.

Type: Array of DevicePositionUpdate objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Errors": [
      {
         "DeviceId": "string",
         "Error": {
            "Code": "string",
            "Message": "string"
         },
         "SampleTime": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device that failed to evaluate its position against the given geofence collection.

Type: Array of BatchEvaluateGeofencesError objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

BatchPutGeofence

Service: Amazon Location Service Geofences

A batch request for storing geofence geometries into a given geofence collection, or updates the geometry of an existing geofence if a geofence ID is included in the request.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/put-geofences HTTP/1.1
Content-type: application/json

{
   "Entries": [
      {
         "GeofenceId": "string",
         "GeofenceProperties": {
            "string" : "string"
         },
         "Geometry": {
            "Circle": {
               "Center": [ number ],
               "Radius": number
            },
            "Geobuf": blob,
            "MultiPolygon": [
               [
                  [
                     [ number ]
                  ]
               ]
            ],
            "Polygon": [
               [
                  [ number ]
               ]
            ]
         }
      }
   ]
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection storing the geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Entries

The batch of geofences to be stored in a geofence collection.

Type: Array of BatchPutGeofenceRequestEntry objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Errors": [
      {
         "Error": {
            "Code": "string",
            "Message": "string"
         },
         "GeofenceId": "string"
      }
```

```
    ],
    "Successes": [
       {
          "CreateTime": "string",
          "GeofenceId": "string",
          "UpdateTime": "string"
       }
    ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains additional error details for each geofence that failed to be stored in a geofence collection.

Type: Array of BatchPutGeofenceError objects

Successes

Contains each geofence that was successfully stored in a geofence collection.

Type: Array of BatchPutGeofenceSuccess objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

CreateGeofenceCollection

Service: Amazon Location Service Geofences

Creates a geofence collection, which manages and stores geofences.

Request Syntax

```
POST /geofencing/v0/collections HTTP/1.1
Content-type: application/json

{
   "CollectionName": "string",
   "Description": "string",
   "KmsKeyId": "string",
   "PricingPlan": "string",
   "PricingPlanDataSource": "string",
   "Tags": {
      "string" : "string"
   }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

CollectionName

A custom name for the geofence collection.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (_).
- Must be a unique geofence collection name.
- No spaces allowed. For example, `ExampleGeofenceCollection`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Description

An optional description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

KmsKeyId

A key identifier for an AWS KMS customer managed key. Enter a key ID, key ARN, alias name, or alias ARN.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Tags

Applies one or more tags to the geofence collection. A tag is a key-value pair helps manage, identify, search, and filter your resources by labelling them.

Format: `"key" : "value"`

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use `"aws:"` as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CollectionArn": "string",
   "CollectionName": "string",
```

```
    "CreateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) for the geofence collection resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

CollectionName

The name for the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

CreateTime

The timestamp for when the geofence collection was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerException

HTTP Status Code: 500

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DeleteGeofenceCollection

Service: Amazon Location Service Geofences

Deletes a geofence collection from your AWS account.

> **Note**
>
> This operation deletes the resource permanently. If the geofence collection is the target of a tracker resource, the devices will no longer be monitored.

Request Syntax

```
DELETE /geofencing/v0/collections/CollectionName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DescribeGeofenceCollection

Service: Amazon Location Service Geofences

Retrieves the geofence collection details.

Request Syntax

```
GET /geofencing/v0/collections/CollectionName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CollectionArn": "string",
   "CollectionName": "string",
   "CreateTime": "string",
   "Description": "string",
   "GeofenceCount": number,
   "KmsKeyId": "string",
   "PricingPlan": "string",
```

```
    "PricingPlanDataSource": "string",
    "Tags": {
       "string" : "string"
    },
    "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) for the geofence collection resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

CollectionName

The name of the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

CreateTime

The timestamp for when the geofence resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Description

The optional description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

GeofenceCount

The number of geofences in the geofence collection.

Type: Integer

Valid Range: Minimum value of 0.

KmsKeyId

A key identifier for an AWS KMS customer managed key assigned to the Amazon Location resource

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

PricingPlan

This parameter has been deprecated.

No longer used. Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

PricingPlanDataSource

This parameter has been deprecated.

No longer used. Always returns an empty string.

Type: String

Tags

Displays the key, value pairs of tags associated with this resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

UpdateTime

The timestamp for when the geofence collection was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ForecastGeofenceEvents

Service: Amazon Location Service Geofences

This action forecasts future geofence events that are likely to occur within a specified time horizon if a device continues moving at its current speed. Each forecasted event is associated with a geofence from a provided geofence collection. A forecast event can have one of the following states:

`ENTER`: The device position is outside the referenced geofence, but the device may cross into the geofence during the forecasting time horizon if it maintains its current speed.

`EXIT`: The device position is inside the referenced geofence, but the device may leave the geofence during the forecasted time horizon if the device maintains it's current speed.

`IDLE`:The device is inside the geofence, and it will remain inside the geofence through the end of the time horizon if the device maintains it's current speed.

> **Note**
>
> Heading direction is not considered in the current version. The API takes a conservative approach and includes events that can occur for any heading.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/forecast-geofence-events HTTP/1.1
Content-type: application/json

{
   "DeviceState": {
      "Position": [ number ],
      "Speed": number
   },
   "DistanceUnit": "string",
   "MaxResults": number,
   "NextToken": "string",
   "SpeedUnit": "string",
   "TimeHorizonMinutes": number
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceState

Represents the device's state, including its current position and speed. When speed is omitted, this API performs a *containment check*. The *containment check* operation returns `IDLE` events for geofences where the device is currently inside of, but no other events.

Type: ForecastGeofenceEventsDeviceState object

Required: Yes

DistanceUnit

The distance unit used for the `NearestDistance` property returned in a forecasted event. The measurement system must match for `DistanceUnit` and `SpeedUnit`; if `Kilometers` is specified for `DistanceUnit`, then `SpeedUnit` must be `KilometersPerHour`.

Default Value: `Kilometers`

Type: String

Valid Values: `Kilometers | Miles`

Required: No

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: `20`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Required: No

SpeedUnit

The speed unit for the device captured by the device state. The measurement system must match for `DistanceUnit` and `SpeedUnit`; if `Kilometers` is specified for `DistanceUnit`, then `SpeedUnit` must be `KilometersPerHour`.

Default Value: `KilometersPerHour`.

Type: String

Valid Values: `KilometersPerHour | MilesPerHour`

Required: No

TimeHorizonMinutes

The forward-looking time window for forecasting, specified in minutes. The API only returns events that are predicted to occur within this time horizon. When no value is specified, this API performs a *containment check*. The *containment check* operation returns `IDLE` events for geofences where the device is currently inside of, but no other events.

Type: Double

Valid Range: Minimum value of 0.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "DistanceUnit": "string",
   "ForecastedEvents": [
      {
         "EventId": "string",
         "EventType": "string",
         "ForecastedBreachTime": "string",
         "GeofenceId": "string",
         "GeofenceProperties": {
            "string" : "string"
         },
         "IsDeviceInGeofence": boolean,
         "NearestDistance": number
      }
   ],
   "NextToken": "string",
   "SpeedUnit": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DistanceUnit

The distance unit for the forecasted events.

Type: String

Valid Values: `Kilometers | Miles`

ForecastedEvents

The list of forecasted events.

Type: Array of ForecastedEvent objects

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

SpeedUnit

The speed unit for the forecasted events.

Type: String

Valid Values: `KilometersPerHour | MilesPerHour`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetGeofence

Service: Amazon Location Service Geofences

Retrieves the geofence details from a geofence collection.

> **Note**
>
> The returned geometry will always match the geometry format used when the geofence was created.

Request Syntax

```
GET /geofencing/v0/collections/CollectionName/geofences/GeofenceId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection storing the target geofence.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

GeofenceId

The geofence you're retrieving details for.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "GeofenceId": "string",
   "GeofenceProperties": {
      "string" : "string"
   },
   "Geometry": {
      "Circle": {
         "Center": [ number ],
         "Radius": number
      },
      "Geobuf": blob,
      "MultiPolygon": [
         [
            [
               [ number ]
            ]
         ]
      ],
      "Polygon": [
         [
            [ number ]
         ]
      ]
   },
   "Status": "string",
   "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the geofence collection was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

GeofenceId

The geofence identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

GeofenceProperties

User defined properties of the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Geometry

Contains the geofence geometry details describing a polygon or a circle.

Type: GeofenceGeometry object

Status

Identifies the state of the geofence. A geofence will hold one of the following states:

- `ACTIVE` — The geofence has been indexed by the system.
- `PENDING` — The geofence is being processed by the system.
- `FAILED` — The geofence failed to be indexed by the system.

- `DELETED` — The geofence has been deleted from the system index.
- `DELETING` — The geofence is being deleted from the system index.

Type: String

UpdateTime

The timestamp for when the geofence collection was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
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- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListGeofenceCollections

Service: Amazon Location Service Geofences

Lists geofence collections in your AWS account.

Request Syntax

```
POST /geofencing/v0/list-collections HTTP/1.1
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "CollectionName": "string",
         "CreateTime": "string",
         "Description": "string",
         "PricingPlan": "string",
         "PricingPlanDataSource": "string",
         "UpdateTime": "string"
      }
   ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Lists the geofence collections that exist in your AWS account.

Type: Array of ListGeofenceCollectionsResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListGeofences

Service: Amazon Location Service Geofences

Lists geofences stored in a given geofence collection.

Request Syntax

```
POST /geofencing/v0/collections/CollectionName/list-geofences HTTP/1.1
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection storing the list of geofences.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of geofences returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "CreateTime": "string",
         "GeofenceId": "string",
         "GeofenceProperties": {
            "string" : "string"
         },
         "Geometry": {
            "Circle": {
               "Center": [ number ],
               "Radius": number
            },
            "Geobuf": blob,
            "MultiPolygon": [
               [
                  [
                     [ number ]
                  ]
               ]
            ],
            "Polygon": [
               [
```

```
                    [ number ]
                ]
            ]
        },
        "Status": "string",
        "UpdateTime": "string"
    }
  ],
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains a list of geofences stored in the geofence collection.

Type: Array of ListGeofenceResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

PutGeofence

Service: Amazon Location Service Geofences

Stores a geofence geometry in a given geofence collection, or updates the geometry of an existing geofence if a geofence ID is included in the request.

Request Syntax

```
PUT /geofencing/v0/collections/CollectionName/geofences/GeofenceId HTTP/1.1
Content-type: application/json

{
   "GeofenceProperties": {
      "string" : "string"
   },
   "Geometry": {
      "Circle": {
         "Center": [ number ],
         "Radius": number
      },
      "Geobuf": blob,
      "MultiPolygon": [
         [
            [
               [ number ]
            ]
         ]
      ],
      "Polygon": [
         [
            [ number ]
         ]
      ]
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The geofence collection to store the geofence in.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

GeofenceId

An identifier for the geofence. For example, `ExampleGeofence-1`.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

GeofenceProperties

Associates one of more properties with the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

Geometry

Contains the details to specify the position of the geofence. Can be a circle, a polygon, or a multipolygon. `Polygon` and `MultiPolygon` geometries can be defined using their respective parameters, or encoded in Geobuf format using the `Geobuf` parameter. Including multiple geometry types in the same request will return a validation error.

> **Note**
>
> The geofence `Polygon` and `MultiPolygon` formats support a maximum of 1,000 total vertices. The `Geobuf` format supports a maximum of 100,000 vertices.

Type: GeofenceGeometry object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "GeofenceId": "string",
   "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the geofence was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

GeofenceId

The geofence identifier entered in the request.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

UpdateTime

The timestamp for when the geofence was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

UpdateGeofenceCollection

Service: Amazon Location Service Geofences

Updates the specified properties of a given geofence collection.

Request Syntax

```
PATCH /geofencing/v0/collections/CollectionName HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "PricingPlan": "string",
   "PricingPlanDataSource": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

CollectionName

The name of the geofence collection to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the geofence collection.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CollectionArn": "string",
   "CollectionName": "string",
   "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CollectionArn

The Amazon Resource Name (ARN) of the updated geofence collection. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollection`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

CollectionName

The name of the updated geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

UpdateTime

The time when the geofence collection was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Amazon Location Service Trackers

The following actions are supported by Amazon Location Service Trackers:

- AssociateTrackerConsumer
- BatchDeleteDevicePositionHistory
- BatchGetDevicePosition
- BatchUpdateDevicePosition
- CreateTracker
- DeleteTracker

- DescribeTracker
- DisassociateTrackerConsumer
- GetDevicePosition
- GetDevicePositionHistory
- ListDevicePositions
- ListTrackerConsumers
- ListTrackers
- UpdateTracker
- VerifyDevicePosition

AssociateTrackerConsumer

Service: Amazon Location Service Trackers

Creates an association between a geofence collection and a tracker resource. This allows the tracker resource to communicate location data to the linked geofence collection.

You can associate up to five geofence collections to each tracker resource.

> **Note**
>
> Currently not supported — Cross-account configurations, such as creating associations between a tracker resource in one account and a geofence collection in another account.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/consumers HTTP/1.1
Content-type: application/json

{
   "ConsumerArn": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be associated with a geofence collection.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

ConsumerArn

The Amazon Resource Name (ARN) for the geofence collection to be associated to tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollectionConsumer`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

BatchDeleteDevicePositionHistory

Service: Amazon Location Service Trackers

Deletes the position history of one or more devices from a tracker resource.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/delete-positions HTTP/1.1
Content-type: application/json

{
   "DeviceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to delete the device position history from.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceIds

Devices whose position history you want to delete.

- For example, for two devices: `“DeviceIds” : [DeviceId1,DeviceId2]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Errors": [
      {
         "DeviceId": "string",
         "Error": {
            "Code": "string",
            "Message": "string"
         }
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device history that failed to delete.

Type: Array of BatchDeleteDevicePositionHistoryError objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

BatchGetDevicePosition

Service: Amazon Location Service Trackers

Lists the latest device positions for requested devices.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/get-positions HTTP/1.1
Content-type: application/json

{
   "DeviceIds": [ "string" ]
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource retrieving the device position.

Length Constraints: Minimum length of 1.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceIds

Devices whose position you want to retrieve.

- For example, for two devices: `device-ids=DeviceId1&device-ids=DeviceId2`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "DevicePositions": [
      {
         "Accuracy": {
            "Horizontal": number
         },
         "DeviceId": "string",
         "Position": [ number ],
         "PositionProperties": {
            "string" : "string"
         },
         "ReceivedTime": "string",
         "SampleTime": "string"
      }
   ],
   "Errors": [
      {
         "DeviceId": "string",
         "Error": {
            "Code": "string",
            "Message": "string"
         }
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DevicePositions

Contains device position details such as the device ID, position, and timestamps for when the position was received and sampled.

Type: Array of DevicePosition objects

Errors

Contains error details for each device that failed to send its position to the tracker resource.

Type: Array of BatchGetDevicePositionError objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

BatchUpdateDevicePosition

Service: Amazon Location Service Trackers

Uploads position update data for one or more devices to a tracker resource (up to 10 devices per batch). Amazon Location uses the data when it reports the last known device position and position history. Amazon Location retains location data for 30 days.

> **Note**
>
> Position updates are handled based on the `PositionFiltering` property of the tracker. When `PositionFiltering` is set to `TimeBased`, updates are evaluated against linked geofence collections, and location data is stored at a maximum of one position per 30 second interval. If your update frequency is more often than every 30 seconds, only one update per 30 seconds is stored for each unique device ID.
> When `PositionFiltering` is set to `DistanceBased` filtering, location data is stored and evaluated against linked geofence collections only if the device has moved more than 30 m (98.4 ft).
> When `PositionFiltering` is set to `AccuracyBased` filtering, location data is stored and evaluated against linked geofence collections only if the device has moved more than the measured accuracy. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is neither stored or evaluated if the device has moved less than 15 m. If `PositionFiltering` is set to `AccuracyBased` filtering, Amazon Location uses the default value `{ "Horizontal": 0}` when accuracy is not provided on a `DevicePositionUpdate`.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/positions HTTP/1.1
Content-type: application/json

{
   "Updates": [
      {
         "Accuracy": {
            "Horizontal": number
         },
         "DeviceId": "string",
         "Position": [ number ],
```

```
            "PositionProperties": {
               "string" : "string"
            },
            "SampleTime": "string"
         }
      ]
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Updates

Contains the position update details for each device, up to 10 devices.

Type: Array of DevicePositionUpdate objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
```

```
    "Errors": [
       {
          "DeviceId": "string",
          "Error": {
             "Code": "string",
             "Message": "string"
          },
          "SampleTime": "string"
       }
    ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Errors

Contains error details for each device that failed to update its position.

Type: Array of BatchUpdateDevicePositionError objects

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

CreateTracker

Service: Amazon Location Service Trackers

Creates a tracker resource in your AWS account, which lets you retrieve current and historical location of devices.

Request Syntax

```
POST /tracking/v0/trackers HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "EventBridgeEnabled": boolean,
   "KmsKeyEnableGeospatialQueries": boolean,
   "KmsKeyId": "string",
   "PositionFiltering": "string",
   "PricingPlan": "string",
   "PricingPlanDataSource": "string",
   "Tags": {
      "string" : "string"
   },
   "TrackerName": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Description

An optional description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

EventBridgeEnabled

Whether to enable position `UPDATE` events from this tracker to be sent to EventBridge.

> **Note**
>
> You do not need enable this feature to get `ENTER` and `EXIT` events for geofences with this tracker. Those events are always sent to EventBridge.

Type: Boolean

Required: No

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a AWS KMS customer managed key.

This parameter is only used if you are using a KMS customer managed key.

> **Note**
>
> If you wish to encrypt your data using your own KMS customer managed key, then the Bounding Polygon Queries feature will be disabled by default. This is because by using this feature, a representation of your device positions will not be encrypted using the your KMS managed key. The exact device position, however; is still encrypted using your managed key.
> You can choose to opt-in to the Bounding Polygon Quseries feature. This is done by setting the `KmsKeyEnableGeospatialQueries` parameter to true when creating or updating a Tracker.

Type: Boolean

Required: No

KmsKeyId

A key identifier for an AWS KMS customer managed key. Enter a key ID, key ARN, alias name, or alias ARN.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

PositionFiltering

Specifies the position filtering for the tracker resource.

Valid values:

- `TimeBased` - Location updates are evaluated against linked geofence collections, but not every location update is stored. If your update frequency is more often than 30 seconds, only one update per 30 seconds is stored for each unique device ID.
- `DistanceBased` - If the device has moved less than 30 m (98.4 ft), location updates are ignored. Location updates within this area are neither evaluated against linked geofence collections, nor stored. This helps control costs by reducing the number of geofence evaluations and historical device positions to paginate through. Distance-based filtering can also reduce the effects of GPS noise when displaying device trajectories on a map.
- `AccuracyBased` - If the device has moved less than the measured accuracy, location updates are ignored. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is ignored if the device has moved less than 15 m. Ignored location updates are neither evaluated against linked geofence collections, nor stored. This can reduce the effects of GPS noise when displaying device trajectories on a map, and can help control your costs by reducing the number of geofence evaluations.

This field is optional. If not specified, the default value is `TimeBased`.

Type: String

Valid Values: `TimeBased | DistanceBased | AccuracyBased`

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Tags

Applies one or more tags to the tracker resource. A tag is a key-value pair helps manage, identify, search, and filter your resources by labelling them.

Format: `"key" : "value"`

Restrictions:

- Maximum 50 tags per resource
- Each resource tag must be unique with a maximum of one value.
- Maximum key length: 128 Unicode characters in UTF-8
- Maximum value length: 256 Unicode characters in UTF-8
- Can use alphanumeric characters (A–Z, a–z, 0–9), and the following characters: + - = . _ : / @.
- Cannot use `"aws:"` as a prefix for a key.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Required: No

TrackerName

The name for the tracker resource.

Requirements:

- Contain only alphanumeric characters (A-Z, a-z, 0-9) , hyphens (-), periods (.), and underscores (_).
- Must be a unique tracker resource name.
- No spaces allowed. For example, `ExampleTracker`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "TrackerArn": "string",
   "TrackerName": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the tracker resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

TrackerArn

The Amazon Resource Name (ARN) for the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

ConflictException

HTTP Status Code: 409

InternalServerException

HTTP Status Code: 500

ServiceQuotaExceededException

HTTP Status Code: 402

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DeleteTracker

Service: Amazon Location Service Trackers

Deletes a tracker resource from your AWS account.

> **Note**
>
> This operation deletes the resource permanently. If the tracker resource is in use, you may encounter an error. Make sure that the target resource isn't a dependency for your applications.

Request Syntax

```
DELETE /tracking/v0/trackers/TrackerName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be deleted.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DescribeTracker

Service: Amazon Location Service Trackers

Retrieves the tracker resource details.

Request Syntax

```
GET /tracking/v0/trackers/TrackerName HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "CreateTime": "string",
   "Description": "string",
   "EventBridgeEnabled": boolean,
   "KmsKeyEnableGeospatialQueries": boolean,
   "KmsKeyId": "string",
   "PositionFiltering": "string",
   "PricingPlan": "string",
   "PricingPlanDataSource": "string",
   "Tags": {
```

```
        "string" : "string"
    },
    "TrackerArn": "string",
    "TrackerName": "string",
    "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

CreateTime

The timestamp for when the tracker resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Description

The optional description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

EventBridgeEnabled

Whether `UPDATE` events from this tracker in EventBridge are enabled. If set to `true` these events will be sent to EventBridge.

Type: Boolean

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a AWS KMS customer managed key.

This parameter is only used if you are using a KMS customer managed key.

> **Note**
>
> If you wish to encrypt your data using your own KMS customer managed key, then the Bounding Polygon Queries feature will be disabled by default. This is because by using

this feature, a representation of your device positions will not be encrypted using the your KMS managed key. The exact device position, however; is still encrypted using your managed key.
You can choose to opt-in to the Bounding Polygon Quseries feature. This is done by setting the `KmsKeyEnableGeospatialQueries` parameter to true when creating or updating a Tracker.

Type: Boolean

KmsKeyId

A key identifier for an AWS KMS customer managed key assigned to the Amazon Location resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

PositionFiltering

The position filtering method of the tracker resource.

Type: String

Valid Values: `TimeBased | DistanceBased | AccuracyBased`

PricingPlan

This parameter has been deprecated.

Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

PricingPlanDataSource

This parameter has been deprecated.

No longer used. Always returns an empty string.

Type: String

Tags

The tags associated with the tracker resource.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 50 items.

Key Length Constraints: Minimum length of 1. Maximum length of 128.

Key Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `([\p{L}\p{Z}\p{N}_.,:/=+\-@]*)`

TrackerArn

The Amazon Resource Name (ARN) for the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

UpdateTime

The timestamp for when the tracker resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3

- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

DisassociateTrackerConsumer

Service: Amazon Location Service Trackers

Removes the association between a tracker resource and a geofence collection.

> **Note**
>
> Once you unlink a tracker resource from a geofence collection, the tracker positions will no longer be automatically evaluated against geofences.

Request Syntax

```
DELETE /tracking/v0/trackers/TrackerName/consumers/ConsumerArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

ConsumerArn

The Amazon Resource Name (ARN) for the geofence collection to be disassociated from the tracker resource. Used when you need to specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:geofence-collection/ExampleGeofenceCollectionConsumer`

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

Required: Yes

TrackerName

The name of the tracker resource to be dissociated from the consumer.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetDevicePosition

Service: Amazon Location Service Trackers

Retrieves a device's most recent position according to its sample time.

> **Note**
>
> Device positions are deleted after 30 days.

Request Syntax

```
GET /tracking/v0/trackers/TrackerName/devices/DeviceId/positions/latest HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

DeviceId

The device whose position you want to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

TrackerName

The tracker resource receiving the position update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Accuracy": {
      "Horizontal": number
   },
   "DeviceId": "string",
   "Position": [ number ],
   "PositionProperties": {
      "string" : "string"
   },
   "ReceivedTime": "string",
   "SampleTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Accuracy

The accuracy of the device position.

Type: PositionalAccuracy object

DeviceId

The device whose position you retrieved.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

ReceivedTime

The timestamp for when the tracker resource received the device position. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

GetDevicePositionHistory

Service: Amazon Location Service Trackers

Retrieves the device position history from a tracker resource within a specified range of time.

> **Note**
>
> Device positions are deleted after 30 days.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/devices/DeviceId/list-positions HTTP/1.1
Content-type: application/json

{
   "EndTimeExclusive": "string",
   "MaxResults": number,
   "NextToken": "string",
   "StartTimeInclusive": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

DeviceId

The device whose position history you want to retrieve.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

TrackerName

The tracker resource receiving the request for the device position history.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

EndTimeExclusive

Specify the end time for the position history in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`. By default, the value will be the time that the request is made.

Requirement:

- The time specified for `EndTimeExclusive` must be after the time for `StartTimeInclusive`.

Type: Timestamp

Required: No

MaxResults

An optional limit for the number of device positions returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

StartTimeInclusive

Specify the start time for the position history in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`. By default, the value will be 24 hours prior to the time that the request is made.

Requirement:

- The time specified for `StartTimeInclusive` must be before `EndTimeExclusive`.

Type: Timestamp

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "DevicePositions": [
      {
         "Accuracy": {
            "Horizontal": number
         },
         "DeviceId": "string",
         "Position": [ number ],
         "PositionProperties": {
            "string" : "string"
         },
         "ReceivedTime": "string",
         "SampleTime": "string"
      }
   ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DevicePositions

Contains the position history details for the requested device.

Type: Array of DevicePosition objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListDevicePositions

Service: Amazon Location Service Trackers

A batch request to retrieve all device positions.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/list-positions HTTP/1.1
Content-type: application/json

{
   "FilterGeometry": {
      "Polygon": [
         [
            [ number ]
         ]
      ]
   },
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource containing the requested devices.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

FilterGeometry

The geometry used to filter device positions.

Type: TrackingFilterGeometry object

Required: No

MaxResults

An optional limit for the number of entries returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "Accuracy": {
            "Horizontal": number
         },
         "DeviceId": "string",
         "Position": [ number ],
         "PositionProperties": {
            "string" : "string"
```

```
            },
            "SampleTime": "string"
        }
    ],
    "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains details about each device's last known position.

Type: Array of ListDevicePositionsResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListTrackerConsumers

Service: Amazon Location Service Trackers

Lists geofence collections currently associated to the given tracker resource.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/list-consumers HTTP/1.1
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The tracker resource whose associated geofence collections you want to list.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "ConsumerArns": [ "string" ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ConsumerArns

Contains the list of geofence collection ARNs associated to the tracker resource.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

ListTrackers

Service: Amazon Location Service Trackers

Lists tracker resources in your AWS account.

Request Syntax

```
POST /tracking/v0/list-trackers HTTP/1.1
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults

An optional limit for the number of resources returned in a single call.

Default value: `100`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The pagination token specifying which page of results to return in the response. If no token is provided, the default page is the first page.

Default value: `null`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Entries": [
      {
         "CreateTime": "string",
         "Description": "string",
         "PricingPlan": "string",
         "PricingPlanDataSource": "string",
         "TrackerName": "string",
         "UpdateTime": "string"
      }
   ],
   "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Entries

Contains tracker resources in your AWS account. Details include tracker name, description and timestamps for when the tracker was created and last updated.

Type: Array of ListTrackersResponseEntry objects

NextToken

A pagination token indicating there are additional pages available. You can use the token in a following request to fetch the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)

- AWS SDK for Ruby V3

UpdateTracker

Service: Amazon Location Service Trackers

Updates the specified properties of a given tracker resource.

Request Syntax

```
PATCH /tracking/v0/trackers/TrackerName HTTP/1.1
Content-type: application/json

{
   "Description": "string",
   "EventBridgeEnabled": boolean,
   "KmsKeyEnableGeospatialQueries": boolean,
   "PositionFiltering": "string",
   "PricingPlan": "string",
   "PricingPlanDataSource": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to update.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

Description

Updates the description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

EventBridgeEnabled

Whether to enable position `UPDATE` events from this tracker to be sent to EventBridge.

> **Note**
>
> You do not need enable this feature to get `ENTER` and `EXIT` events for geofences with this tracker. Those events are always sent to EventBridge.

Type: Boolean

Required: No

KmsKeyEnableGeospatialQueries

Enables `GeospatialQueries` for a tracker that uses a AWS KMS customer managed key.

This parameter is only used if you are using a KMS customer managed key.

Type: Boolean

Required: No

PositionFiltering

Updates the position filtering for the tracker resource.

Valid values:

- `TimeBased` - Location updates are evaluated against linked geofence collections, but not every location update is stored. If your update frequency is more often than 30 seconds, only one update per 30 seconds is stored for each unique device ID.
- `DistanceBased` - If the device has moved less than 30 m (98.4 ft), location updates are ignored. Location updates within this distance are neither evaluated against linked geofence collections, nor stored. This helps control costs by reducing the number of geofence evaluations and historical device positions to paginate through. Distance-based filtering can also reduce the effects of GPS noise when displaying device trajectories on a map.

- `AccuracyBased` - If the device has moved less than the measured accuracy, location updates are ignored. For example, if two consecutive updates from a device have a horizontal accuracy of 5 m and 10 m, the second update is ignored if the device has moved less than 15 m. Ignored location updates are neither evaluated against linked geofence collections, nor stored. This helps educe the effects of GPS noise when displaying device trajectories on a map, and can help control costs by reducing the number of geofence evaluations.

Type: String

Valid Values: `TimeBased | DistanceBased | AccuracyBased`

Required: No

PricingPlan

This parameter has been deprecated.

No longer used. If included, the only allowed value is `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This parameter has been deprecated.

This parameter is no longer used.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "TrackerArn": "string",
```

```
    "TrackerName": "string",
    "UpdateTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

TrackerArn

The Amazon Resource Name (ARN) of the updated tracker resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:tracker/ExampleTracker`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*){2}(:([a-z0-9]+([.-][a-z0-9]+)*)?){2}:([^/].*)?`

TrackerName

The name of the updated tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

UpdateTime

The timestamp for when the tracker resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

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- AWS SDK for C++
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- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

VerifyDevicePosition

Service: Amazon Location Service Trackers

Verifies the integrity of the device's position by determining if it was reported behind a proxy, and by comparing it to an inferred position estimated based on the device's state.

> **Note**
>
> The Location Integrity SDK provides enhanced features related to device verification, and it is available for use by request. To get access to the SDK, contact Sales Support.

Request Syntax

```
POST /tracking/v0/trackers/TrackerName/positions/verify HTTP/1.1
Content-type: application/json

{
   "DeviceState": {
      "Accuracy": {
         "Horizontal": number
      },
      "CellSignals": {
         "LteCellDetails": [
            {
               "CellId": number,
               "LocalId": {
                  "Earfcn": number,
                  "Pci": number
               },
               "Mcc": number,
               "Mnc": number,
               "NetworkMeasurements": [
                  {
                     "CellId": number,
                     "Earfcn": number,
                     "Pci": number,
                     "Rsrp": number,
                     "Rsrq": number
                  }
               ],
               "NrCapable": boolean,
```

```
                "Rsrp": number,
                "Rsrq": number,
                "Tac": number,
                "TimingAdvance": number
            }
         ]
      },
      "DeviceId": "string",
      "Ipv4Address": "string",
      "Position": [ number ],
      "SampleTime": "string",
      "WiFiAccessPoints": [
         {
            "MacAddress": "string",
            "Rss": number
         }
      ]
   },
   "DistanceUnit": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

TrackerName

The name of the tracker resource to be associated with verification request.

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Request Body

The request accepts the following data in JSON format.

DeviceState

The device's state, including position, IP address, cell signals and Wi-Fi access points.

Type: DeviceState object

Required: Yes

DistanceUnit

The distance unit for the verification request.

Default Value: `Kilometers`

Type: String

Valid Values: `Kilometers | Miles`

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "DeviceId": "string",
   "DistanceUnit": "string",
   "InferredState": {
      "Accuracy": {
         "Horizontal": number
      },
      "DeviationDistance": number,
      "Position": [ number ],
      "ProxyDetected": boolean
   },
   "ReceivedTime": "string",
   "SampleTime": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DeviceId

The device identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

DistanceUnit

The distance unit for the verification response.

Type: String

Valid Values: `Kilometers | Miles`

InferredState

The inferred state of the device, given the provided position, IP address, cellular signals, and Wi-Fi- access points.

Type: InferredState object

ReceivedTime

The timestamp for when the tracker resource received the device position in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Error Types.

AccessDeniedException

HTTP Status Code: 403

InternalServerException

HTTP Status Code: 500

ResourceNotFoundException

HTTP Status Code: 404

ThrottlingException

HTTP Status Code: 429

ValidationException

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

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- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python (Boto3)
- AWS SDK for Ruby V3

Data Types

The following data types are supported by Amazon Location Service Routes V2:

- Circle
- Corridor
- Isoline
- IsolineAllowOptions
- IsolineAvoidanceArea
- IsolineAvoidanceAreaGeometry
- IsolineAvoidanceOptions
- IsolineAvoidanceZoneCategory
- IsolineCarOptions
- IsolineConnection
- IsolineConnectionGeometry
- IsolineDestinationOptions
- IsolineGranularityOptions
- IsolineMatchingOptions
- IsolineOriginOptions
- IsolineScooterOptions
- IsolineShapeGeometry
- IsolineSideOfStreetOptions
- IsolineThresholds
- IsolineTrafficOptions
- IsolineTrailerOptions
- IsolineTravelModeOptions
- IsolineTruckOptions
- IsolineVehicleLicensePlate
- LocalizedString
- PolylineCorridor

- RoadSnapNotice
- RoadSnapSnappedGeometry
- RoadSnapSnappedTracePoint
- RoadSnapTracePoint
- RoadSnapTrailerOptions
- RoadSnapTravelModeOptions
- RoadSnapTruckOptions
- Route
- RouteAccessibilityAvailabilityDetails
- RouteAccessPointDetails
- RouteAllowOptions
- RouteAttribution
- RouteAvoidanceArea
- RouteAvoidanceAreaGeometry
- RouteAvoidanceOptions
- RouteAvoidanceZoneCategory
- RouteCarOptions
- RouteChargeStepDetails
- RouteContinueHighwayStepDetails
- RouteContinueStepDetails
- RouteDestinationOptions
- RouteDriverOptions
- RouteDriverScheduleInterval
- RouteEmissionType
- RouteEnterHighwayStepDetails
- RouteExclusionOptions
- RouteExitStepDetails
- RouteFerryAfterTravelStep
- RouteFerryArrival
- RouteFerryBeforeTravelStep

- RouteFerryDeparture
- RouteFerryLegDetails
- RouteFerryNotice
- RouteFerryOverviewSummary
- RouteFerryPlace
- RouteFerrySpan
- RouteFerrySummary
- RouteFerryTravelOnlySummary
- RouteFerryTravelStep
- RouteIntermodalOptions
- RouteIntermodalPedestrianOptions
- RouteIntermodalRentalOptions
- RouteIntermodalTaxiOptions
- RouteIntermodalTransitOptions
- RouteIntermodalVehicleOptions
- RouteKeepStepDetails
- RouteLeg
- RouteLegGeometry
- RouteMajorRoadLabel
- RouteMatchingOptions
- RouteMatrixAllowOptions
- RouteMatrixAutoCircle
- RouteMatrixAvoidanceArea
- RouteMatrixAvoidanceAreaGeometry
- RouteMatrixAvoidanceOptions
- RouteMatrixAvoidanceZoneCategory
- RouteMatrixBoundary
- RouteMatrixBoundaryGeometry
- RouteMatrixCarOptions
- RouteMatrixDestination

- RouteMatrixDestinationOptions
- RouteMatrixEntry
- RouteMatrixExclusionOptions
- RouteMatrixMatchingOptions
- RouteMatrixOrigin
- RouteMatrixOriginOptions
- RouteMatrixScooterOptions
- RouteMatrixSideOfStreetOptions
- RouteMatrixTrafficOptions
- RouteMatrixTrailerOptions
- RouteMatrixTravelModeOptions
- RouteMatrixTruckOptions
- RouteMatrixVehicleLicensePlate
- RouteNoticeDetailRange
- RouteNumber
- RouteOriginOptions
- RoutePassThroughPlace
- RoutePassThroughWaypoint
- RoutePedestrianAfterTravelStep
- RoutePedestrianArrival
- RoutePedestrianDeparture
- RoutePedestrianLegDetails
- RoutePedestrianNotice
- RoutePedestrianOptions
- RoutePedestrianOverviewSummary
- RoutePedestrianPlace
- RoutePedestrianSpan
- RoutePedestrianSummary
- RoutePedestrianTravelOnlySummary
- RoutePedestrianTravelStep

- RouteRampStepDetails
- RouteRentalAfterTravelStep
- RouteRentalAgency
- RouteRentalArrival
- RouteRentalBeforeTravelStep
- RouteRentalDeparture
- RouteRentalLegDetails
- RouteRentalOverviewSummary
- RouteRentalPlace
- RouteRentalSummary
- RouteRentalTransportModeDetails
- RouteRentalTravelOnlySummary
- RouteRentalTravelStep
- RouteResponseNotice
- RouteRoad
- RouteRoundaboutEnterStepDetails
- RouteRoundaboutExitStepDetails
- RouteRoundaboutPassStepDetails
- RouteScooterOptions
- RouteSideOfStreetOptions
- RouteSignpost
- RouteSignpostLabel
- RouteSpanDynamicSpeedDetails
- RouteSpanSpeedLimitDetails
- RouteStationDetails
- RouteSummary
- RouteTaxiAfterTravelStep
- RouteTaxiAgency
- RouteTaxiArrival
- RouteTaxiBeforeTravelStep

- RouteTaxiDeparture
- RouteTaxiLegDetails
- RouteTaxiNotice
- RouteTaxiOverviewSummary
- RouteTaxiPlace
- RouteTaxiSummary
- RouteTaxiTransportModeDetails
- RouteTaxiTravelOnlySummary
- RouteTaxiTravelStep
- RouteToll
- RouteTollOptions
- RouteTollPass
- RouteTollPassValidityPeriod
- RouteTollPaymentSite
- RouteTollPrice
- RouteTollPriceSummary
- RouteTollPriceValueRange
- RouteTollRate
- RouteTollSummary
- RouteTollSystem
- RouteTrafficOptions
- RouteTrailerOptions
- RouteTransitAfterTravelStep
- RouteTransitAgency
- RouteTransitArrival
- RouteTransitBeforeTravelStep
- RouteTransitDeparture
- RouteTransitIncident
- RouteTransitIntermediateStop
- RouteTransitLegDetails

- RouteTransitNextDeparture
- RouteTransitNotice
- RouteTransitOptions
- RouteTransitOverviewSummary
- RouteTransitPedestrianOptions
- RouteTransitPlace
- RouteTransitSpan
- RouteTransitSummary
- RouteTransitTransportModeDetails
- RouteTransitTravelOnlySummary
- RouteTransitTravelStep
- RouteTransponder
- RouteTravelModeOptions
- RouteTruckOptions
- RouteTurnStepDetails
- RouteUTurnStepDetails
- RouteVehicleAfterTravelStep
- RouteVehicleArrival
- RouteVehicleDeparture
- RouteVehicleIncident
- RouteVehicleLegDetails
- RouteVehicleLicensePlate
- RouteVehicleNotice
- RouteVehicleNoticeDetail
- RouteVehicleOverviewSummary
- RouteVehiclePlace
- RouteVehicleSpan
- RouteVehicleSummary
- RouteVehicleTravelOnlySummary
- RouteVehicleTravelStep

- RouteViolatedConstraints
- RouteWaypoint
- RouteWebLink
- RouteWeightConstraint
- RouteZone
- ValidationExceptionField
- WaypointOptimizationAccessHours
- WaypointOptimizationAccessHoursEntry
- WaypointOptimizationAvoidanceArea
- WaypointOptimizationAvoidanceAreaGeometry
- WaypointOptimizationAvoidanceOptions
- WaypointOptimizationClusteringOptions
- WaypointOptimizationConnection
- WaypointOptimizationDestinationOptions
- WaypointOptimizationDriverOptions
- WaypointOptimizationDrivingDistanceOptions
- WaypointOptimizationExclusionOptions
- WaypointOptimizationFailedConstraint
- WaypointOptimizationImpedingWaypoint
- WaypointOptimizationOptimizedWaypoint
- WaypointOptimizationOriginOptions
- WaypointOptimizationPedestrianOptions
- WaypointOptimizationRestCycleDurations
- WaypointOptimizationRestCycles
- WaypointOptimizationRestProfile
- WaypointOptimizationSideOfStreetOptions
- WaypointOptimizationTimeBreakdown
- WaypointOptimizationTrafficOptions
- WaypointOptimizationTrailerOptions
- WaypointOptimizationTravelModeOptions

- WaypointOptimizationTruckOptions
- WaypointOptimizationWaypoint
- WeightPerAxleGroup

The following data types are supported by Amazon Location Service Maps V2:

- ValidationExceptionField

The following data types are supported by Amazon Location Service Places V2:

- AccessPoint
- AccessRestriction
- Address
- AddressComponentMatchScores
- AddressComponentPhonemes
- AdminNames
- AutocompleteAddressHighlights
- AutocompleteFilter
- AutocompleteHighlights
- AutocompleteResultItem
- BusinessChain
- Category
- ComponentMatchScores
- ContactDetails
- Contacts
- Country
- CountryHighlights
- CrossReference
- FilterCircle
- FoodType
- GeocodeFilter
- GeocodeParsedQuery

- GeocodeParsedQueryAddressComponents
- GeocodeQueryComponents
- GeocodeResultItem
- Highlight
- Intersection
- MatchScoreDetails
- OpeningHours
- OpeningHoursComponents
- ParsedQueryComponent
- ParsedQuerySecondaryAddressComponent
- PhonemeDetails
- PhonemeTranscription
- PostalCodeDetails
- QueryRefinement
- Region
- RegionHighlights
- RelatedPlace
- ReverseGeocodeFilter
- ReverseGeocodeResultItem
- SearchNearbyFilter
- SearchNearbyResultItem
- SearchTextFilter
- SearchTextResultItem
- SecondaryAddressComponent
- SecondaryAddressComponentMatchScore
- StreetComponents
- SubRegion
- SubRegionHighlights
- SuggestAddressHighlights
- SuggestFilter

- SuggestHighlights
- SuggestPlaceResult
- SuggestQueryResult
- SuggestResultItem
- TimeZone
- TranslationDetails
- TranslationName
- UspsZip
- UspsZipPlus4
- ValidationExceptionField

The following data types are supported by Amazon Location Service API Keys:

- AndroidApp
- ApiKeyFilter
- ApiKeyRestrictions
- AppleApp
- ListKeysResponseEntry
- ValidationExceptionField

The following data types are supported by Amazon Location Service Jobs:

- JobActionOptions
- JobError
- JobInputOptions
- JobOutputOptions
- JobsFilter
- ListJobsResponseEntry
- ValidateAddressActionOptions
- ValidationExceptionField

The following data types are supported by Amazon Location Service Tags:

- ValidationExceptionField

The following data types are supported by Amazon Location Service Geofences:

- BatchDeleteGeofenceError
- BatchEvaluateGeofencesError
- BatchItemError
- BatchPutGeofenceError
- BatchPutGeofenceRequestEntry
- BatchPutGeofenceSuccess
- Circle
- DevicePositionUpdate
- ForecastedEvent
- ForecastGeofenceEventsDeviceState
- GeofenceGeometry
- ListGeofenceCollectionsResponseEntry
- ListGeofenceResponseEntry
- PositionalAccuracy
- ValidationExceptionField

The following data types are supported by Amazon Location Service Trackers:

- BatchDeleteDevicePositionHistoryError
- BatchGetDevicePositionError
- BatchItemError
- BatchUpdateDevicePositionError
- CellSignals
- DevicePosition
- DevicePositionUpdate
- DeviceState
- InferredState
- ListDevicePositionsResponseEntry

- ListTrackersResponseEntry
- LteCellDetails
- LteLocalId
- LteNetworkMeasurements
- PositionalAccuracy
- TrackingFilterGeometry
- ValidationExceptionField
- WiFiAccessPoint

Amazon Location Service Routes V2

The following data types are supported by Amazon Location Service Routes V2:

- Circle
- Corridor
- Isoline
- IsolineAllowOptions
- IsolineAvoidanceArea
- IsolineAvoidanceAreaGeometry
- IsolineAvoidanceOptions
- IsolineAvoidanceZoneCategory
- IsolineCarOptions
- IsolineConnection
- IsolineConnectionGeometry
- IsolineDestinationOptions
- IsolineGranularityOptions
- IsolineMatchingOptions
- IsolineOriginOptions
- IsolineScooterOptions
- IsolineShapeGeometry
- IsolineSideOfStreetOptions

- IsolineThresholds
- IsolineTrafficOptions
- IsolineTrailerOptions
- IsolineTravelModeOptions
- IsolineTruckOptions
- IsolineVehicleLicensePlate
- LocalizedString
- PolylineCorridor
- RoadSnapNotice
- RoadSnapSnappedGeometry
- RoadSnapSnappedTracePoint
- RoadSnapTracePoint
- RoadSnapTrailerOptions
- RoadSnapTravelModeOptions
- RoadSnapTruckOptions
- Route
- RouteAccessibilityAvailabilityDetails
- RouteAccessPointDetails
- RouteAllowOptions
- RouteAttribution
- RouteAvoidanceArea
- RouteAvoidanceAreaGeometry
- RouteAvoidanceOptions
- RouteAvoidanceZoneCategory
- RouteCarOptions
- RouteChargeStepDetails
- RouteContinueHighwayStepDetails
- RouteContinueStepDetails
- RouteDestinationOptions
- RouteDriverOptions

- RouteDriverScheduleInterval
- RouteEmissionType
- RouteEnterHighwayStepDetails
- RouteExclusionOptions
- RouteExitStepDetails
- RouteFerryAfterTravelStep
- RouteFerryArrival
- RouteFerryBeforeTravelStep
- RouteFerryDeparture
- RouteFerryLegDetails
- RouteFerryNotice
- RouteFerryOverviewSummary
- RouteFerryPlace
- RouteFerrySpan
- RouteFerrySummary
- RouteFerryTravelOnlySummary
- RouteFerryTravelStep
- RouteIntermodalOptions
- RouteIntermodalPedestrianOptions
- RouteIntermodalRentalOptions
- RouteIntermodalTaxiOptions
- RouteIntermodalTransitOptions
- RouteIntermodalVehicleOptions
- RouteKeepStepDetails
- RouteLeg
- RouteLegGeometry
- RouteMajorRoadLabel
- RouteMatchingOptions
- RouteMatrixAllowOptions
- RouteMatrixAutoCircle

- RouteMatrixAvoidanceArea
- RouteMatrixAvoidanceAreaGeometry
- RouteMatrixAvoidanceOptions
- RouteMatrixAvoidanceZoneCategory
- RouteMatrixBoundary
- RouteMatrixBoundaryGeometry
- RouteMatrixCarOptions
- RouteMatrixDestination
- RouteMatrixDestinationOptions
- RouteMatrixEntry
- RouteMatrixExclusionOptions
- RouteMatrixMatchingOptions
- RouteMatrixOrigin
- RouteMatrixOriginOptions
- RouteMatrixScooterOptions
- RouteMatrixSideOfStreetOptions
- RouteMatrixTrafficOptions
- RouteMatrixTrailerOptions
- RouteMatrixTravelModeOptions
- RouteMatrixTruckOptions
- RouteMatrixVehicleLicensePlate
- RouteNoticeDetailRange
- RouteNumber
- RouteOriginOptions
- RoutePassThroughPlace
- RoutePassThroughWaypoint
- RoutePedestrianAfterTravelStep
- RoutePedestrianArrival
- RoutePedestrianDeparture
- RoutePedestrianLegDetails

- RoutePedestrianNotice
- RoutePedestrianOptions
- RoutePedestrianOverviewSummary
- RoutePedestrianPlace
- RoutePedestrianSpan
- RoutePedestrianSummary
- RoutePedestrianTravelOnlySummary
- RoutePedestrianTravelStep
- RouteRampStepDetails
- RouteRentalAfterTravelStep
- RouteRentalAgency
- RouteRentalArrival
- RouteRentalBeforeTravelStep
- RouteRentalDeparture
- RouteRentalLegDetails
- RouteRentalOverviewSummary
- RouteRentalPlace
- RouteRentalSummary
- RouteRentalTransportModeDetails
- RouteRentalTravelOnlySummary
- RouteRentalTravelStep
- RouteResponseNotice
- RouteRoad
- RouteRoundaboutEnterStepDetails
- RouteRoundaboutExitStepDetails
- RouteRoundaboutPassStepDetails
- RouteScooterOptions
- RouteSideOfStreetOptions
- RouteSignpost
- RouteSignpostLabel

- RouteSpanDynamicSpeedDetails
- RouteSpanSpeedLimitDetails
- RouteStationDetails
- RouteSummary
- RouteTaxiAfterTravelStep
- RouteTaxiAgency
- RouteTaxiArrival
- RouteTaxiBeforeTravelStep
- RouteTaxiDeparture
- RouteTaxiLegDetails
- RouteTaxiNotice
- RouteTaxiOverviewSummary
- RouteTaxiPlace
- RouteTaxiSummary
- RouteTaxiTransportModeDetails
- RouteTaxiTravelOnlySummary
- RouteTaxiTravelStep
- RouteToll
- RouteTollOptions
- RouteTollPass
- RouteTollPassValidityPeriod
- RouteTollPaymentSite
- RouteTollPrice
- RouteTollPriceSummary
- RouteTollPriceValueRange
- RouteTollRate
- RouteTollSummary
- RouteTollSystem
- RouteTrafficOptions
- RouteTrailerOptions

- RouteTransitAfterTravelStep
- RouteTransitAgency
- RouteTransitArrival
- RouteTransitBeforeTravelStep
- RouteTransitDeparture
- RouteTransitIncident
- RouteTransitIntermediateStop
- RouteTransitLegDetails
- RouteTransitNextDeparture
- RouteTransitNotice
- RouteTransitOptions
- RouteTransitOverviewSummary
- RouteTransitPedestrianOptions
- RouteTransitPlace
- RouteTransitSpan
- RouteTransitSummary
- RouteTransitTransportModeDetails
- RouteTransitTravelOnlySummary
- RouteTransitTravelStep
- RouteTransponder
- RouteTravelModeOptions
- RouteTruckOptions
- RouteTurnStepDetails
- RouteUTurnStepDetails
- RouteVehicleAfterTravelStep
- RouteVehicleArrival
- RouteVehicleDeparture
- RouteVehicleIncident
- RouteVehicleLegDetails
- RouteVehicleLicensePlate

- RouteVehicleNotice
- RouteVehicleNoticeDetail
- RouteVehicleOverviewSummary
- RouteVehiclePlace
- RouteVehicleSpan
- RouteVehicleSummary
- RouteVehicleTravelOnlySummary
- RouteVehicleTravelStep
- RouteViolatedConstraints
- RouteWaypoint
- RouteWebLink
- RouteWeightConstraint
- RouteZone
- ValidationExceptionField
- WaypointOptimizationAccessHours
- WaypointOptimizationAccessHoursEntry
- WaypointOptimizationAvoidanceArea
- WaypointOptimizationAvoidanceAreaGeometry
- WaypointOptimizationAvoidanceOptions
- WaypointOptimizationClusteringOptions
- WaypointOptimizationConnection
- WaypointOptimizationDestinationOptions
- WaypointOptimizationDriverOptions
- WaypointOptimizationDrivingDistanceOptions
- WaypointOptimizationExclusionOptions
- WaypointOptimizationFailedConstraint
- WaypointOptimizationImpedingWaypoint
- WaypointOptimizationOptimizedWaypoint
- WaypointOptimizationOriginOptions
- WaypointOptimizationPedestrianOptions

- WaypointOptimizationRestCycleDurations
- WaypointOptimizationRestCycles
- WaypointOptimizationRestProfile
- WaypointOptimizationSideOfStreetOptions
- WaypointOptimizationTimeBreakdown
- WaypointOptimizationTrafficOptions
- WaypointOptimizationTrailerOptions
- WaypointOptimizationTravelModeOptions
- WaypointOptimizationTruckOptions
- WaypointOptimizationWaypoint
- WeightPerAxleGroup

Circle

Service: Amazon Location Service Routes V2

Geometry defined as a circle. The circle defines the routing boundary area. Any waypoints outside the circle will result in a route matrix entry error.

You can specify a `Circle` directly in the request, or it will be auto-derived when `AutoCircle` is used. When `AutoCircle` is set in the request, the response routing boundary will return `Circle` derived from the `AutoCircle` settings.

Contents

Center

Center of the Circle in World Geodetic System (WGS 84) format: [longitude, latitude].

Example: `[-123.1174, 49.2847]` represents the position with longitude `-123.1174` and latitude `49.2847`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Radius of the Circle.

Unit: `meters`

Valid Range: Minimum value of 0. Maximum value of 200000.

Type: Double

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Corridor

Service: Amazon Location Service Routes V2

Geometry defined as a corridor - a LineString with a radius that defines the width of the corridor.

Contents

LineString

An ordered list of positions used to plot a route on a map.

> **Note**
>
> LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Radius that defines the width of the corridor.

Type: Integer

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Isoline

Service: Amazon Location Service Routes V2

Represents a single reachable area calculated for a specific threshold.

Contents

Connections

Lines connecting separate parts of the reachable area that can be reached within the same threshold. These occur when areas are reachable but not contiguous, such as when separated by water or unroutable areas. When present, these lines represent actual transportation network segments (such as ferry routes or bridges) that connect the separated areas.

Type: Array of IsolineConnection objects

Required: Yes

Geometries

The shapes that define the reachable area, provided in the requested geometry format.

Type: Array of IsolineShapeGeometry objects

Required: Yes

DistanceThreshold

The travel distance in meters used to calculate this isoline, if distance-based thresholds were specified in the request.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TimeThreshold

The travel time in seconds used to calculate this isoline, if time-based thresholds were specified in the request.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineAllowOptions

Service: Amazon Location Service Routes V2

Special road types or features that should be considered available for routing. For example, this attribute can be used to allow the use of HOV (high-occupancy vehicle) or HOT (high-occupancy toll) lanes, even if they would otherwise not be.

Contents

Hot

When true, allows the use of HOT (high-occupancy toll) lanes, which may affect travel times and reachable areas.

Default value: `false`

Type: Boolean

Required: No

Hov

When true, allows the use of HOV (high-occupancy vehicle) lanes, which may affect travel times and reachable areas.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineAvoidanceArea

Service: Amazon Location Service Routes V2

Defines an area to avoid when calculating routes. Consists of a primary geometry to avoid, with the ability to specify exception areas within that geometry where travel is permitted.

Contents

Geometry

The primary area to avoid, specified using a bounding box, corridor, polygon, or polyline corridor.

Type: IsolineAvoidanceAreaGeometry object

Required: Yes

Except

Areas within the primary avoidance geometry where travel is allowed. For example, you might want to avoid a neighborhood but allow travel on a major road that passes through it.

Type: Array of IsolineAvoidanceAreaGeometry objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Defines an area to avoid during calculations using one of several supported geometry types. The service will prefer routes that avoid these areas when possible.

Contents

BoundingBox

A rectangular area defined by its southwest and northeast corners: `[min longitude, min latitude, max longitude, max latitude]`.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Corridor

A buffer zone around a line, defined by a series of coordinates and a radius in meters.

Type: Corridor object

Required: No

Polygon

A polygon defined by a list of coordinate rings. The first ring defines the outer boundary; subsequent rings will be ignored.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylineCorridor

A buffer zone around a compressed polyline, defined by an encoded polyline string and a radius in meters. For more information on polyline encoding, see https://github.com/aws-geospatial/polyline.

Type: PolylineCorridor object

Required: No

PolylinePolygon

A polygon defined by encoded polyline strings. The first string defines the outer boundary; subsequent strings will be ignored. For more information on polyline encoding, see https://github.com/aws-geospatial/polyline.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies features of the road network to avoid when calculating reachable areas. These preferences guide route calculations but may be overridden when no reasonable alternative exists. For example, if avoiding toll roads would make an area unreachable, toll roads may still be used.

Avoidance options include physical features (like ferries and tunnels), road characteristics (like dirt roads and highways), and regulated areas (like congestion zones). They can be combined to match specific routing needs, such as avoiding both toll roads and ferries.

Contents

Areas

Specifies geographic areas to avoid where possible. Routes may still pass through these areas if no reasonable alternative exists.

Type: Array of IsolineAvoidanceArea objects

Required: No

CarShuttleTrains

Indicates a preference to avoid car shuttle trains (auto trains) where possible. These may still be included if no reasonable alternative route exists.

Type: Boolean

Required: No

ControlledAccessHighways

Indicates a preference to avoid controlled-access highways (such as interstate highways or motorways) where possible. If a viable route cannot be calculated using only local roads, controlled-access highways may still be included.

Type: Boolean

Required: No

DirtRoads

Indicates a preference to avoid unpaved or dirt roads where possible. Routes may still include dirt roads if no reasonable paved alternative exists.

Type: Boolean

Required: No

Ferries

Indicates a preference to avoid ferries where possible. If a viable route cannot be calculated without using ferries, they may still be included.

Type: Boolean

Required: No

SeasonalClosure

Indicates a preference to avoid roads that may be subject to seasonal closures where possible. These roads may still be included if no reasonable year-round alternative exists.

Type: Boolean

Required: No

TollRoads

Indicates a preference to avoid toll roads where possible. If a viable route cannot be calculated without using toll roads, they may still be included.

Type: Boolean

Required: No

TollTransponders

Indicates a preference to avoid roads that require electronic toll collection transponders where possible. These roads may still be included if no viable alternative route exists.

Type: Boolean

Required: No

TruckRoadTypes

For truck travel modes, indicates specific road classification types in Sweden (`BK1` through `BK4`) and Mexico (`A2`, `A4`, `B2`, `B4`, `C`, `D`, `ET2`, `ET4`) to avoid where possible. These road types may still be used if no reasonable alternative exists.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Indicates a preference to avoid tunnels where possible. If a viable route cannot be calculated without using tunnels, they may still be included.

Type: Boolean

Required: No

UTurns

Indicates a preference to avoid U-turns where possible. U-turns may still be included if necessary to reach certain areas or when no reasonable alternative exists.

Type: Boolean

Required: No

ZoneCategories

Indicates types of regulated zones (such as congestion pricing or environmental zones) to avoid where possible. Routes may still pass through these zones if no reasonable alternative exists.

Type: Array of IsolineAvoidanceZoneCategory objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Types of regulated zones that may affect routing.

Contents

Category

The type of regulated zone: `CongestionPricing` for toll zones based on traffic levels, `Environmental` for low-emission zones, or `Vignette` for areas requiring special permits or stickers.

Type: String

Valid Values: `CongestionPricing | Environmental | Vignette`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineCarOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics and preferences that affect routing for passenger cars. This includes vehicle type, occupancy, and speed restrictions that may influence which roads can be used and expected travel times.

Contents

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: IsolineVehicleLicensePlate object

Required: No

MaxSpeed

The maximum speed of the vehicle in kilometers per hour. When specified, routes will not include roads with higher speed limits. Valid values range from 3.6 km/h (1 m/s) to 252 km/h (70 m/s).

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineConnection

Service: Amazon Location Service Routes V2

Represents a segment of the transportation network that connects separate parts of a reachable area. These connections show how discontinuous areas are linked, such as by ferry routes or bridges crossing unroutable terrain.

Contents

FromPolygonIndex

The index of the starting polygon in the isoline's `Geometries` list.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Geometry

The shape of the connection, representing the actual path through the transportation network that links the polygons.

Type: IsolineConnectionGeometry object

Required: Yes

ToPolygonIndex

The index of the ending polygon in the isoline's `Geometries` list.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineConnectionGeometry

Service: Amazon Location Service Routes V2

Represents the geometry of connections between non-contiguous parts of an isoline. These connections can be provided in either coordinate pairs (LineString) or encoded (Polyline) format, matching the format specified in the request.

Contents

LineString

A series of `[longitude, latitude]` coordinate pairs defining the connection path when `Simple` geometry format is requested. These coordinates can be directly used as the coordinates array in a GeoJSON LineString without transformation.

> **Note**
>
> LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An encoded representation of the connection path when `FlexiblePolyline` geometry format is requested. This provides a more compact representation suitable for transmission and storage. To convert to GeoJSON, first decode to obtain coordinate pairs, then use those coordinates as the coordinates array in a GeoJSON LineString.

> **Note**
>
> LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineDestinationOptions

Service: Amazon Location Service Routes V2

Options that control how the destination point is interpreted and matched to the road network when calculating reachable areas. This affects which roads are considered accessible near the destination and how the final approach is calculated.

Contents

AvoidActionsForDistance

The distance in meters from the destination point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the endpoint.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Heading

The initial direction of travel in degrees (0-360, where 0 is north). This can affect which road segments are considered accessible from the starting point.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Controls how the destination point is matched to the road network, including search radius and name-based matching preferences.

Type: IsolineMatchingOptions object

Required: No

SideOfStreet

Specifies which side of the street should be considered accessible, which is important when building entrances or parking access points are only reachable from one side of the road.

Type: IsolineSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineGranularityOptions

Service: Amazon Location Service Routes V2

Controls the detail level and smoothness of generated isolines. More detailed isolines provide better visual representation of reachable areas but require more processing time and result in larger responses.

Contents

MaxPoints

The maximum number of points used to define each isoline. Higher values create smoother, more detailed shapes.

Type: Integer

Valid Range: Minimum value of 31.

Required: No

MaxResolution

The maximum distance in meters between points along the isoline. Smaller values create more detailed shapes.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineMatchingOptions

Service: Amazon Location Service Routes V2

Controls how origin and destination points are matched to the road network when they don't fall exactly on a road. Matching options help ensure realistic routing by connecting points to appropriate roads.

Contents

NameHint

The expected street name near the point. Helps disambiguate matching when multiple roads are within range.

Type: String

Required: No

OnRoadThreshold

The maximum distance in meters that a point can be from a road while still being considered "on" that road. Points further than this distance require explicit matching.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Radius

The maximum distance in meters to search for roads to match to. Points with no roads within this radius will fail to match. The roads that are considered within this radius are determined by the specified `Strategy`

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Determines how points are matched to the road network. `MatchAny` finds the nearest viable road segment, while `MatchMostSignificantRoad` prioritizes major roads.

Type: String

Valid Values: `MatchAny | MatchMostSignificantRoad`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineOriginOptions

Service: Amazon Location Service Routes V2

Options that control how the origin point is interpreted when calculating reachable areas. These options affect which roads are considered accessible from the starting point and how initial routing decisions are made.

Contents

AvoidActionsForDistance

The distance in meters from the origin point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the starting point.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Heading

Initial direction of travel in degrees (0-360, where 0 is north). This affects which road segments are considered accessible from the starting point and is particularly useful when the origin is on a divided road or at a complex intersection.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Controls how the origin point is matched to the road network, including search radius and matching strategy.

Type: IsolineMatchingOptions object

Required: No

SideOfStreet

Controls which side of the street is considered accessible from the origin point, particularly important for divided roads where building entrances or parking access may only be available from one direction.

Type: IsolineSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineScooterOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics that affect which roads and paths can be used when calculating reachable areas for scooters. This includes areas such as bike lanes, shared paths, and roads where scooters are permitted.

Contents

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: IsolineVehicleLicensePlate object

Required: No

MaxSpeed

The maximum speed of the vehicle in kilometers per hour. When specified, routes will not include roads with higher speed limits. Valid values range from 3.6 km/h (1 m/s) to 252 km/h (70 m/s).

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineShapeGeometry

Service: Amazon Location Service Routes V2

Represents the shape of a reachable area. The geometry can be provided either as coordinate pairs (`Polygon`) or in encoded format (`PolylinePolygon`), matching the format specified in the request.

Contents

Polygon

A series of coordinate rings defining the reachable area when Simple geometry format is requested. Each ring is a list of `[longitude, latitude]` coordinate pairs. The first ring defines the outer boundary; subsequent rings define holes representing unreachable areas.

> **Note**
>
> Polygon and PolylinePolygon are mutually exclusive properties.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylinePolygon

An encoded representation of the reachable area when FlexiblePolyline geometry format is requested. Provides a compact representation suitable for transmission and storage. The first string defines the outer boundary; subsequent strings define holes representing unreachable areas. For more information on polyline encoding, see https://github.com/aws-geospatial/polyline.

> **Note**
>
> Polygon and PolylinePolygon are mutually exclusive properties.

Type: Array of strings

Array Members: Minimum number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineSideOfStreetOptions

Service: Amazon Location Service Routes V2

Controls how points are matched to specific sides of streets. This is important when the side of the street matters for accessibility - for example, when building entrances or parking lot access points can only be reached from one side of a divided road.

Contents

Position

The `[longitude, latitude]` coordinates of the point that should be matched to a specific side of the street.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Controls whether side-of-street matching is applied to any street (`AnyStreet`) or only to divided roads (`DividedStreetOnly`). This is important when the exact side of the street matters - for example, if a building entrance is only accessible from one side of a divided highway, or if a parking lot can only be entered from northbound lanes. Without correct side-of-street matching, travel time estimates may be inaccurate because they don't account for necessary U-turns or detours to reach the correct side.

Default value: `DividedStreetOnly`

Type: String

Valid Values: `AnyStreet | DividedStreetOnly`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineThresholds

Service: Amazon Location Service Routes V2

Specifies the time or distance limits used to calculate reachable areas. You can provide up to five thresholds for a single type to generate multiple isolines in a single request. For example, you might request areas reachable within 5, 10, and 15 minutes, or within 1, 2, and 5 kilometers.

Contents

Distance

List of travel distances in meters. For example, [1000, 2000, 5000] would calculate areas reachable within 1, 2, and 5 kilometers.

Type: Array of longs

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Range: Minimum value of 0. Maximum value of 300000.

Required: No

Time

List of travel times in seconds. For example, [300, 600, 900] would calculate areas reachable within 5, 10, and 15 minutes.

Type: Array of longs

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Valid Range: Minimum value of 0. Maximum value of 10800.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

IsolineTrafficOptions

Service: Amazon Location Service Routes V2

Controls how real-time and historical traffic data is used when calculating reachable areas. This affects both the size and shape of isolines by accounting for expected travel speeds based on congestion patterns.

Contents

FlowEventThresholdOverride

The duration in seconds that real-time congestion data is considered valid before reverting to historical traffic patterns. This helps balance between using current conditions and more predictable historical data when calculating travel times.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Controls whether traffic data is used in calculations. `UseTrafficData` considers both real-time congestion and historical patterns, while `IgnoreTrafficData` calculates routes based solely on road types and speed limits. Using traffic data provides more accurate real-world estimates but may produce different results at different times of day.

Default value: `UseTrafficData`

Type: String

Valid Values: `IgnoreTrafficData | UseTrafficData`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineTrailerOptions

Service: Amazon Location Service Routes V2

Additional specifications when the vehicle includes one or more trailers.

Contents

AxleCount

The total number of axles across all trailers. Used for weight distribution calculations and road restrictions.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

TrailerCount

The number of trailers being pulled. Affects which roads can be used based on local regulations.

Default value: `0`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineTravelModeOptions

Service: Amazon Location Service Routes V2

Mode-specific routing options that further refine how reachable areas are calculated. Options are only considered when they match the selected travel mode.

Contents

Car

Options specific to passenger vehicle routing (`Car`, such as vehicle characteristics and license plate restrictions.

Type: IsolineCarOptions object

Required: No

Scooter

Options specific to scooter routing (`Scooter`, such as vehicle characteristics and license plate restrictions.

> **Note**
>
> When using the `Scooter` travel mode, controlled-access highways are automatically avoided unless explicitly allowed.

Type: IsolineScooterOptions object

Required: No

Truck

Options specific to commercial truck routing (`Truck`, including vehicle dimensions, weight limits, and hazardous cargo specifications.

Type: IsolineTruckOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineTruckOptions

Service: Amazon Location Service Routes V2

Vehicle characteristics and restrictions that affect which roads can be used when calculating reachable areas for trucks. These details ensure that routes respect physical limitations and legal requirements.

These apply when the provided travel mode is `Truck`

Contents

AxleCount

The total number of axles on the vehicle. Required for certain road restrictions and weight limit calculations.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

EngineType

The type of engine powering the vehicle, which may affect route calculation due to road restrictions or vehicle characteristics.

- `INTERNAL_COMBUSTION`—Standard gasoline or diesel engine.
- `ELECTRIC`—Battery electric vehicle.
- `PLUGIN_HYBRID`—Combination of electric and internal combustion engines with plug-in charging capability.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

GrossWeight

The gross vehicle weight (the maximum weight a vehicle can safely operate at, as specified by the manufacturer) in kilograms. Used to avoid roads with weight restrictions and ensure compliance with maximum allowed vehicle weight regulations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

Types of hazardous materials being transported. This affects which roads and tunnels can be used based on local regulations.

- `Combustible`—Materials that can burn readily
- `Corrosive`—Materials that can destroy or irreversibly damage other substances
- `Explosive`—Materials that can produce an explosion by chemical reaction
- `Flammable`—Materials that can easily ignite
- `Gas`—Hazardous materials in gaseous form
- `HarmfulToWater`—Materials that pose a risk to water sources if released
- `Organic`—Hazardous organic compounds
- `Other`—Hazardous materials not covered by other categories
- `Poison`—Toxic materials
- `PoisonousInhalation`—Materials that are toxic when inhaled
- `Radioactive`—Materials that emit ionizing radiation

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: No

Height

The vehicle height in centimeters. Used to avoid routes with low bridges or other height restrictions.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

HeightAboveFirstAxle

The height in centimeters measured from the ground to the highest point above the first axle. Used for specific bridge and tunnel clearance restrictions.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

The kingpin to rear axle (KPRA) length in centimeters. Used to determine if the vehicle can safely navigate turns and intersections.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

The total vehicle length in centimeters. Used to avoid roads with length restrictions and determine if the vehicle can safely navigate turns.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Type: IsolineVehicleLicensePlate object

Required: No

MaxSpeed

The maximum speed in kilometers per hour at which the vehicle can or is permitted to travel. This affects travel time calculations and may result in different reachable areas compared to using default speed limits. Value must be between 3.6 and 252 kilometers per hour.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. This can affect route calculations by enabling the use of high-occupancy vehicle (HOV) lanes where minimum occupancy requirements are met.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

The maximum cargo weight in kilograms that the vehicle (including attached trailers) is rated to carry.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TireCount

The total number of tires on the vehicle.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

Trailer

Optional specifications for attached trailers. When provided, trailer characteristics affect route calculations to ensure compliance with trailer-specific restrictions such as length limits, weight distribution requirements, and access restrictions for multi-trailer configurations.

Type: IsolineTrailerOptions object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck | StraightTruck | Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions

- *Tunnel Category C*
  - *Risk Level*: Medium risk
  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk
  - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

The heaviest weight per axle in kilograms, regardless of axle type or grouping. Used for roads with axle-weight restrictions in regions where regulations don't distinguish between different axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for different axle group configurations. Used in regions where regulations set different weight limits based on axle group types.

Unit: `kilograms`

Type: WeightPerAxleGroup object

Required: No

Width

The vehicle width in centimeters. Used to avoid routes with width restrictions.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

IsolineVehicleLicensePlate

Service: Amazon Location Service Routes V2

License plate information used in regions where road access or routing restrictions are based on license plate numbers.

Contents

LastCharacter

The last character of the vehicle's license plate. Used to determine road access restrictions in regions with license plate-based traffic management systems.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LocalizedString

Service: Amazon Location Service Routes V2

The localized string.

Contents

Value

The value of the localized string.

Type: String

Required: Yes

Language

A list of BCP 47 compliant language codes for the results to be rendered in. The request uses the regional default as the fallback if the requested language can't be provided.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

PolylineCorridor

Service: Amazon Location Service Routes V2

Geometry defined as an encoded corridor - an encoded polyline with a radius that defines the width of the corridor.

Contents

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

> **Note**
>
> LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: `meters`

Type: Integer

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RoadSnapNotice

Service: Amazon Location Service Routes V2

Notices provide information around factors that may have influenced snapping in a manner atypical to the standard use cases.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `TracePointsHeadingIgnored | TracePointsIgnored | TracePointsMovedByLargeDistance | TracePointsNotMatched | TracePointsOutOfSequence | TracePointsSpeedEstimated | TracePointsSpeedIgnored`

Required: Yes

Title

The notice title.

Type: String

Required: Yes

TracePointIndexes

TracePoint indices for which the provided notice code corresponds to.

Type: Array of integers

Array Members: Minimum number of 1 item. Maximum number of 1000 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapSnappedGeometry

Service: Amazon Location Service Routes V2

Interpolated geometry for the snapped route that is overlay-able onto a map.

Contents

LineString

An ordered list of positions used to plot a route on a map.

> **Note**
> LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

> **Note**
> LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapSnappedTracePoint

Service: Amazon Location Service Routes V2

TracePoints snapped onto the road network.

Contents

Confidence

Confidence value for the correctness of this point match.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: Yes

OriginalPosition

Position of the TracePoint provided within the request, at the same index.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SnappedPosition

Snapped position of the TracePoint provided within the request, at the same index.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapTracePoint

Service: Amazon Location Service Routes V2

TracePoint indices for which the provided notice code corresponds to.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Speed

Speed at the specified trace point .

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

Timestamp

Timestamp of the event.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: `0`

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 4.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: RoadSnapTruckOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoadSnapTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`.

Contents

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargos contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: No

Height

Height of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

Length

Length of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: RoadSnapTrailerOptions object

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions
- *Tunnel Category C*
  - *Risk Level*: Medium risk
  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk
  - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

Width

Width of the vehicle in centimeters.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Route

Service: Amazon Location Service Routes V2

The route.

Contents

Legs

A leg is a section of a route from one waypoint to the next. A leg could be of type Vehicle, Pedestrian or Ferry. Legs of different types could occur together within a single route. For example, a car employing the use of a Ferry will contain Vehicle legs corresponding to journey on land, and Ferry legs corresponding to the journey via Ferry.

Type: Array of RouteLeg objects

Required: Yes

MajorRoadLabels

Important labels including names and route numbers that differentiate the current route from the alternatives presented.

Type: Array of RouteMajorRoadLabel objects

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Required: Yes

Summary

Summarized details of the leg.

Type: RouteSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAccessibilityAvailabilityDetails

Service: Amazon Location Service Routes V2

Details about the availability of accessibility features.

Contents

Wheelchair

Wheelchair accessibility status.

Type: String

Valid Values: `Available | Limited | Unavailable | Unknown`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAccessPointDetails

Service: Amazon Location Service Routes V2

Details of the access point.

Contents

Accessibility

Wheelchair accessibility information for the access point.

Type: RouteAccessibilityAvailabilityDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAllowOptions

Service: Amazon Location Service Routes V2

Features that are allowed while calculating a route.

Contents

Hot

Allow Hot (High Occupancy Toll) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

Hov

Allow Hov (High Occupancy vehicle) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAttribution

Service: Amazon Location Service Routes V2

Required attribution to display.

Contents

WebLink

The URL to an external resource.

Type: RouteWebLink object

Required: Yes

AttributionType

The type of the attribution link.

Type: String

Valid Values: `Disclaimer | Tariff`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAvoidanceArea

Service: Amazon Location Service Routes V2

Areas to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: RouteAvoidanceAreaGeometry object

Required: Yes

Except

Exceptions to the provided avoidance geometry, to be included while calculating the route.

Type: Array of RouteAvoidanceAreaGeometry objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Corridor

Geometry defined as a corridor - a LineString with a radius that defines the width of the corridor.

Type: Corridor object

Required: No

Polygon

Geometry defined as a polygon with only one linear ring.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylineCorridor

Geometry defined as an encoded corridor - an encoded polyline with a radius that defines the width of the corridor.

Type: PolylineCorridor object

Required: No

PolylinePolygon

A list of Isoline PolylinePolygon, for each isoline PolylinePolygon, it contains PolylinePolygon of the first linear ring (the outer ring) and from 2nd item to the last item (the inner rings). For more information on polyline encoding, see https://github.com/aws-geospatial/polyline.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid when calculating the route. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteAvoidanceArea objects

Required: No

CarShuttleTrains

Avoid car-shuttle-trains while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

Ferries

Avoid ferries while calculating the route.

Type: Boolean

Required: No

SeasonalClosure

Avoid roads that have seasonal closure while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TollTransponders

Avoids roads where the specified toll transponders are the only mode of payment. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

TruckRoadTypes

Truck road type identifiers. `BK1` through `BK4` apply only to Sweden. `A2,A4,B2,B4,C,D,ET2,ET4` apply only to Mexico. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Avoid tunnels while calculating the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

ZoneCategories

Zone categories to be avoided. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteAvoidanceZoneCategory objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RouteAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Zone categories to be avoided. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Contents

Category

Zone category to be avoided.

Type: String

Valid Values: `CongestionPricing | Environmental | Vignette`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteCarOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Car`. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `LicensePlate` options.

Contents

EngineType

Engine type of the vehicle. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

The vehicle License Plate.

Type: RouteVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed specified. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteChargeStepDetails

Service: Amazon Location Service Routes V2

Details about the EV charge at the current step.

Contents

ArrivalCharge

Estimated vehicle battery charge before this step (in kWh).

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

ConsumablePower

Maximum charging power available to the vehicle.

Unit: `KwH`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

DesiredCharge

Details that are specific to a Charge step.

Unit: `KwH`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteContinueHighwayStepDetails

Service: Amazon Location Service Routes V2

Details related to the continue highway step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteContinueStepDetails

Service: Amazon Location Service Routes V2

Details related to the continue step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteDestinationOptions

Service: Amazon Location Service Routes V2

Options related to the destination.

Contents

AvoidActionsForDistance

The distance in meters from the destination point within which certain routing actions (such as U-turns or left turns across traffic) are restricted. This helps generate more practical routes by avoiding potentially dangerous maneuvers near the endpoint.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: RouteMatchingOptions object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: RouteSideOfStreetOptions object

Required: No

StopDuration

Duration of the stop.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteDriverOptions

Service: Amazon Location Service Routes V2

Driver related options.

Contents

Schedule

Driver work-rest schedule. Stops are added to fulfil the provided rest schedule.

Type: Array of RouteDriverScheduleInterval objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteDriverScheduleInterval

Service: Amazon Location Service Routes V2

Interval of the driver work-rest schedule. Stops are added to fulfil the provided rest schedule.

Contents

DriveDuration

Maximum allowed driving time before stopping to rest.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

RestDuration

Resting time before the driver can continue driving.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteEmissionType

Service: Amazon Location Service Routes V2

Type of the emission.

Valid values: `Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev`

Contents

Type

Type of the emission.

Valid values: `Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev`

Type: String

Required: Yes

Co2EmissionClass

The CO 2 emission classes.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteEnterHighwayStepDetails

Service: Amazon Location Service Routes V2

Details related to the enter highway step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteExitStepDetails

Service: Amazon Location Service Routes V2

Details related to the exit step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

RelativeExit

Exit to be taken.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 12.

Required: No

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryAfterTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Deboard`

Required: Yes

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for the leg.

Contents

Place

Place details corresponding to the arrival.

Type: RouteFerryPlace object

Required: Yes

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryBeforeTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed before the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Board`

Required: Yes

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

Place details corresponding to the departure.

Type: RouteFerryPlace object

Required: Yes

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryLegDetails

Service: Amazon Location Service Routes V2

FerryLegDetails is populated when the Leg type is Ferry, and provides additional information that is specific to ferry travel.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RouteFerryAfterTravelStep objects

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RouteFerryArrival object

Required: Yes

BeforeTravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteFerryBeforeTravelStep objects

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RouteFerryDeparture object

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of RouteFerryNotice objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of RoutePassThroughWaypoint objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures.

Type: Array of RouteFerrySpan objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteFerryTravelStep objects

Required: Yes

RouteName

Route name of the ferry line.

Type: String

Required: No

Summary

Summarized details of the leg.

Type: RouteFerrySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable | NoSchedule | Other | ViolatedAvoidFerry | ViolatedAvoidRailFerry | SeasonalClosure | PotentialViolatedVehicleRestrictionUsage | ViolatedAvoidAreas | ViolatedVehicleRestriction`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High | Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryPlace

Service: Amazon Location Service Routes V2

Position provided in the request.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerrySpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Names

Names of the ferry span in available languages.

Type: Array of LocalizedString objects

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerrySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: RouteFerryOverviewSummary object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: RouteFerryTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Duration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteFerryTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Depart | Continue | Arrive`

Required: Yes

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalOptions

Service: Amazon Location Service Routes V2

Options related to intermodal routing.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Contents

AccessibilityAttributes

Accessibility attributes to consider when calculating the route.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `Wheelchair`

Required: No

MaxTransfers

Maximum number of transfers allowed when calculating the route.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 6.

Required: No

Pedestrian

Options for the pedestrian leg of the intermodal route.

Type: RouteIntermodalPedestrianOptions object

Required: No

Rental

Options for the rental leg of the intermodal route.

Type: RouteIntermodalRentalOptions object

Required: No

Taxi

Options for the taxi leg of the intermodal route.

Type: RouteIntermodalTaxiOptions object

Required: No

Transit

Options for the transit leg of the intermodal route.

Type: RouteIntermodalTransitOptions object

Required: No

Vehicle

Options for the vehicle leg of the intermodal route.

Type: RouteIntermodalVehicleOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalPedestrianOptions

Service: Amazon Location Service Routes V2

Options for the pedestrian leg of the intermodal route.

Contents

MaxDistance

Maximum walking distance allowed.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 6000.

Required: No

Speed

Walking speed.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalRentalOptions

Service: Amazon Location Service Routes V2

Options for the rental leg of the intermodal route.

Contents

AllowedModes

Allowed rental transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `ExcludedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All | Car`

Required: No

EnabledFor

Specifies the portion of the route for which this leg type is enabled. By default, the leg type is enabled for all legs. Valid values:

- `FirstLeg` - Enable this leg type for the first non-pedestrian leg of the route.
- `LastLeg` - Enable this leg type for the last non-pedestrian leg of the route.
- `EntireRoute` - Enable this leg type for the entire route.
- `None` - Disable this leg type entirely.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: `FirstLeg | LastLeg | EntireRoute | None`

Required: No

ExcludedModes

Excluded rental transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `AllowedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All` | `Car`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalTaxiOptions

Service: Amazon Location Service Routes V2

Options for the taxi leg of the intermodal route.

Contents

AllowedModes

Allowed taxi transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `ExcludedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All | Car`

Required: No

EnabledFor

Specifies the portion of the route for which this leg type is enabled. By default, the leg type is enabled for all legs. Valid values:

- `FirstLeg` - Enable this leg type for the first non-pedestrian leg of the route.
- `LastLeg` - Enable this leg type for the last non-pedestrian leg of the route.
- `EntireRoute` - Enable this leg type for the entire route.
- `None` - Disable this leg type entirely.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: `FirstLeg | LastLeg | EntireRoute | None`

Required: No

ExcludedModes

Excluded taxi transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `AllowedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All` | `Car`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalTransitOptions

Service: Amazon Location Service Routes V2

Options for the transit leg of the intermodal route.

Contents

AllowedModes

Allowed transit transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `ExcludedModes`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 15 items.

Valid Values: `AerialTramway | Airplane | All | Bus | BusRapidTransit | CityTrain | Ferry | FunicularRailway | HighSpeedTrain | IntercityTrain | InterregionalTrain | LightRail | Monorail | PrivateBus | RegionalTrain | Subway`

Required: No

EnabledFor

Specifies the portion of the route for which this leg type is enabled. By default, the leg type is enabled for all legs. Valid values:

- `FirstLeg` - Enable this leg type for the first non-pedestrian leg of the route.
- `LastLeg` - Enable this leg type for the last non-pedestrian leg of the route.
- `EntireRoute` - Enable this leg type for the entire route.
- `None` - Disable this leg type entirely.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: `FirstLeg | LastLeg | EntireRoute | None`

Required: No

ExcludedModes

Excluded transit transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `AllowedModes`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 15 items.

Valid Values: `AerialTramway | Airplane | All | Bus | BusRapidTransit | CityTrain | Ferry | FunicularRailway | HighSpeedTrain | IntercityTrain | InterregionalTrain | LightRail | Monorail | PrivateBus | RegionalTrain | Subway`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteIntermodalVehicleOptions

Service: Amazon Location Service Routes V2

Options for the vehicle leg of the intermodal route.

Contents

AllowedModes

Allowed vehicle transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `ExcludedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All | Car`

Required: No

EnabledFor

Specifies the portion of the route for which this leg type is enabled. By default, the leg type is enabled for all legs. Valid values:

- `FirstLeg` - Enable this leg type for the first non-pedestrian leg of the route.
- `LastLeg` - Enable this leg type for the last non-pedestrian leg of the route.
- `EntireRoute` - Enable this leg type for the entire route.
- `None` - Disable this leg type entirely.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: `FirstLeg | LastLeg | EntireRoute | None`

Required: No

ExcludedModes

Excluded vehicle transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `AllowedModes`.

Type: Array of strings

Array Members: Fixed number of 1 item.

Valid Values: `All` | `Car`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteKeepStepDetails

Service: Amazon Location Service Routes V2

Details that are specific to a Keep step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteLeg

Service: Amazon Location Service Routes V2

A leg is a section of a route from one waypoint to the next. A leg could be of type Vehicle, Pedestrian or Ferry. Legs of different types could occur together within a single route. For example, a car employing the use of a Ferry will contain Vehicle legs corresponding to journey on land, and Ferry legs corresponding to the journey via Ferry.

Contents

Geometry

Geometry of the area to be avoided.

Type: RouteLegGeometry object

Required: Yes

TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility.

Default value: `Car`

Type: String

Valid Values: `Car | Ferry | Pedestrian | Scooter | Truck | CarShuttleTrain | AerialTramway | Airplane | Bus | BusRapidTransit | CityTrain | FunicularRailway | HighSpeedTrain | IntercityTrain | InterregionalTrain | LightRail | Monorail | PrivateBus | RegionalTrain | Subway`

Required: Yes

Type

Type of the leg.

Type: String

Valid Values: `Ferry | Pedestrian | Vehicle | Rental | Taxi | Transit`

Required: Yes

FerryLegDetails

FerryLegDetails is populated when the Leg type is Ferry, and provides additional information that is specific to ferry travel. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteFerryLegDetails object

Required: No

Language

List of languages for instructions within steps in the response. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

PedestrianLegDetails

Details related to the pedestrian leg.

Type: RoutePedestrianLegDetails object

Required: No

RentalLegDetails

Details related to the rental leg.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteRentalLegDetails object

Required: No

TaxiLegDetails

Details related to the taxi leg.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteTaxiLegDetails object

Required: No

TransitLegDetails

Details related to the transit leg.

Type: RouteTransitLegDetails object

Required: No

VehicleLegDetails

Details related to the vehicle leg.

Type: RouteVehicleLegDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteLegGeometry

Service: Amazon Location Service Routes V2

The returned Route leg geometry.

Contents

LineString

An ordered list of positions used to plot a route on a map.

> **Note**
> LineString and Polyline are mutually exclusive properties.

Type: Array of arrays of doubles

Array Members: Minimum number of 2 items.

Array Members: Fixed number of 2 items.

Required: No

Polyline

An ordered list of positions used to plot a route on a map in a lossy compression format.

> **Note**
> LineString and Polyline are mutually exclusive properties.

Type: String

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMajorRoadLabel

Service: Amazon Location Service Routes V2

Important labels including names and route numbers that differentiate the current route from the alternatives presented.

Contents

RoadName

Name of the road (localized).

Type: LocalizedString object

Required: No

RouteNumber

Route number of the road.

Type: RouteNumber object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatchingOptions

Service: Amazon Location Service Routes V2

Options related to route matching.

Contents

NameHint

Attempts to match the provided position to a road similar to the provided name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 100.

Required: No

OnRoadThreshold

If the distance to a highway/bridge/tunnel/sliproad is within threshold, the waypoint will be snapped to the highway/bridge/tunnel/sliproad.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Strategy that defines matching of the position onto the road network. MatchAny considers all roads possible, whereas MatchMostSignificantRoad matches to the most significant road.

Type: String

Valid Values: `MatchAny | MatchMostSignificantRoad`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAllowOptions

Service: Amazon Location Service Routes V2

Allow Options related to the route matrix.

Contents

Hot

Allow Hot (High Occupancy Toll) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

Hov

Allow Hov (High Occupancy vehicle) lanes while calculating the route.

Default value: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAutoCircle

Service: Amazon Location Service Routes V2

`AutoCircle` requests the route matrix service to define a `Circle` boundary that best attempts to include most waypoints (`Origins` and `Destinations`) using the `AutoCircle` settings. Any waypoints outside of the auto-defined `Circle` boundary will be considered out of the routing boundary, which results in a route matrix entry error.

`AutoCircle` is only used in the request to configure a `Circle` for the route calculation. The derived `Circle` will also be provided in the response.

Contents

Margin

The minimal distance, in meters, between any waypoint and the perimeter of the circle auto-defined for the boundary. Some margin is usually recommended so that the routing has enough leeway to travel from one waypoint to another optimally without conflicting with the routing boundary.

The total of `MaxRadius` and `Margin` must be less than or equal to 200,000 meters.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 200000.

Required: No

MaxRadius

The maximum radius, in meters, that the auto-defined `Circle` boundary should have, before the `Margin` distance is added to the circle.

The total of `MaxRadius` and `Margin` must be less than or equal to 200,000 meters.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 200000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAvoidanceArea

Service: Amazon Location Service Routes V2

Area to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: RouteMatrixAvoidanceAreaGeometry object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Polygon

Geometry defined as a polygon with only one linear ring.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

PolylinePolygon

A list of Isoline PolylinePolygon, for each isoline PolylinePolygon, it contains PolylinePolygon of the first linear ring (the outer ring) and from second item to the last item (the inner rings). For more information on polyline encoding, see https://github.com/aws-geospatial/polyline.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid when calculating the route. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided.

Type: Array of RouteMatrixAvoidanceArea objects

Array Members: Minimum number of 0 items. Maximum number of 250 items.

Required: No

CarShuttleTrains

Avoid car-shuttle-trains while calculating the route.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route.

Type: Boolean

Required: No

Ferries

Avoid ferries while calculating the route.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TollTransponders

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

TruckRoadTypes

Truck road type identifiers. `BK1` through `BK4` apply only to Sweden. `A2`, `A4`, `B2`, `B4`, `C`, `D`, `ET2`, `ET4` apply only to Mexico.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: No

Tunnels

Avoid tunnels while calculating the route.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

ZoneCategories

Zone categories to be avoided.

Type: Array of RouteMatrixAvoidanceZoneCategory objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixAvoidanceZoneCategory

Service: Amazon Location Service Routes V2

Zone categories to be avoided.

Contents

Category

Zone category to be avoided.

Type: String

Valid Values: `CongestionPricing | Environmental | Vignette`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixBoundary

Service: Amazon Location Service Routes V2

Boundary within which the matrix is to be calculated. All data, origins and destinations outside the boundary are considered invalid.

Contents

Geometry

Geometry of the area to be avoided.

Type: RouteMatrixBoundaryGeometry object

Required: No

Unbounded

No restrictions in terms of a routing boundary, and is typically used for longer routes.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixBoundaryGeometry

Service: Amazon Location Service Routes V2

Geometry of the routing boundary.

Contents

AutoCircle

`AutoCircle` requests the route matrix service to define a `Circle` boundary that best attempts to include most waypoints (`Origins` and `Destinations`) using the `AutoCircle` settings. Any waypoints outside of the auto-defined `Circle` boundary will be considered out of the routing boundary, which results in a route matrix entry error.

`AutoCircle` is only used in the request to configure a `Circle` for the route calculation. The derived `Circle` will also be provided in the response.

Type: RouteMatrixAutoCircle object

Required: No

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Diagonal distance of the bounding box must be less than or equal to 400,000 meters.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

Geometry defined as a circle. The circle defines the routing boundary area. Any waypoints outside the circle will result in a route matrix entry error.

You can specify a `Circle` directly in the request, or it will be auto-derived when `AutoCircle` is used. When `AutoCircle` is set in the request, the response routing boundary will return `Circle` derived from the `AutoCircle` settings.

Type: Circle object

Required: No

Polygon

Geometry defined as a polygon with only one linear ring. A linear ring is a closed sequence of four or more coordinates. The first and last coordinates are the same, forming a closed boundary. Each coordinate is a position in [longitude, latitude] format.

The structure is an array of linear rings (only 1 allowed). Each linear ring is an array of coordinates (minimum 4), and each coordinate is an array of two doubles [longitude, latitude].

Maximum distance between any two vertices must be less than or equal to 400,000 meters.

Type: Array of arrays of arrays of doubles

Array Members: Fixed number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixCarOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Car`.

Contents

LicensePlate

The vehicle License Plate.

Type: RouteMatrixVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixDestination

Service: Amazon Location Service Routes V2

The route destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Options

Destination related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatrixDestinationOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixDestinationOptions

Service: Amazon Location Service Routes V2

Options related to the destination.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Minimum value of 0.

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: RouteMatrixMatchingOptions object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: RouteMatrixSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixEntry

Service: Amazon Location Service Routes V2

The calculated route matrix containing the results for all pairs of Origins to Destination positions. Each row corresponds to one entry in Origins. Each entry in the row corresponds to the route from that entry in Origins to an entry in Destination positions.

Contents

Distance

The total distance of travel for the route.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

The expected duration of travel for the route.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Error

Error code that occurred during calculation of the route.

Type: String

Valid Values: `NoMatch | NoMatchDestination | NoMatchOrigin | NoRoute | OutOfBounds | OutOfBoundsDestination | OutOfBoundsOrigin | Other | Violation`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixMatchingOptions

Service: Amazon Location Service Routes V2

Matching options.

Contents

NameHint

Attempts to match the provided position to a road similar to the provided name.

Type: String

Required: No

OnRoadThreshold

If the distance to a highway/bridge/tunnel/sliproad is within threshold, the waypoint will be snapped to the highway/bridge/tunnel/sliproad.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0.

Required: No

Radius

Considers all roads within the provided radius to match the provided destination to. The roads that are considered are determined by the provided Strategy.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Strategy

Strategy that defines matching of the position onto the road network. MatchAny considers all roads possible, whereas MatchMostSignificantRoad matches to the most significant road.

Type: String

Valid Values: `MatchAny | MatchMostSignificantRoad`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixOrigin

Service: Amazon Location Service Routes V2

The start position for the route in World Geodetic System (WGS 84) format: [longitude, latitude].

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Options

Origin related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatrixOriginOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Minimum value of 0.

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: RouteMatrixMatchingOptions object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: RouteMatrixSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixScooterOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Scooter`.

Contents

LicensePlate

The vehicle License Plate.

Type: RouteMatrixVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used. AnyStreet will always use the provided position.

Default value: `DividedStreetOnly`

Type: String

Valid Values: `AnyStreet | DividedStreetOnly`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixTrafficOptions

Service: Amazon Location Service Routes V2

Traffic related options.

Contents

FlowEventThresholdOverride

Duration for which flow traffic is considered valid. For this period, the flow traffic is used over historical traffic data. Flow traffic refers to congestion, which changes very quickly. Duration in seconds for which flow traffic event would be considered valid. While flow traffic event is valid it will be used over the historical traffic data.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Determines if traffic should be used or ignored while calculating the route.

Default value: `UseTrafficData`

Type: String

Valid Values: `IgnoreTrafficData | UseTrafficData`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: `0`

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Car

Travel mode options when the provided travel mode is `Car`.

Type: RouteMatrixCarOptions object

Required: No

Scooter

Travel mode options when the provided travel mode is `Scooter`.

> **Note**
>
> When travel mode is set to `Scooter`, then the avoidance option `ControlledAccessHighways` defaults to `true`.

Type: RouteMatrixScooterOptions object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: RouteMatrixTruckOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: No

Height

Height of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

Kingpin to rear axle length of the vehicle

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

Length of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

The vehicle License Plate.

Type: RouteMatrixVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

Payload capacity of the vehicle and trailers attached.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: RouteMatrixTrailerOptions object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck | StraightTruck | Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions
- *Tunnel Category C*
  - *Risk Level*: Medium risk
  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk
  - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for the specified axle group. Meant for usage in countries that have different regulations based on the axle group type.

Type: WeightPerAxleGroup object

Required: No

Width

Width of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteMatrixVehicleLicensePlate

Service: Amazon Location Service Routes V2

The vehicle License Plate.

Contents

LastCharacter

The last character of the License Plate.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteNoticeDetailRange

Service: Amazon Location Service Routes V2

Notice Detail that is a range.

Contents

Max

Maximum value for the range.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Min

Minimum value for the range.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteNumber

Service: Amazon Location Service Routes V2

The route number.

Contents

Value

The route number.

Type: String

Required: Yes

Direction

Directional identifier of the route.

Type: String

Valid Values: `East | North | South | West`

Required: No

Language

List of languages for instructions corresponding to the route number.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network.

Type: RouteMatchingOptions object

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: RouteSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePassThroughPlace

Service: Amazon Location Service Routes V2

The place where the waypoint is passed through and not treated as a stop.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePassThroughWaypoint

Service: Amazon Location Service Routes V2

If the waypoint should be treated as a stop. If yes, the route is split up into different legs around the stop.

Contents

Place

Place details corresponding to the pass-through waypoint.

Type: RoutePassThroughPlace object

Required: Yes

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianAfterTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Wait`

Required: Yes

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for a leg.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Contents

Place

Place details corresponding to the arrival.

Type: RoutePedestrianPlace object

Required: Yes

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RoutePedestrianDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for a leg.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Contents

Place

Place details corresponding to the departure.

Type: RoutePedestrianPlace object

Required: Yes

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RoutePedestrianLegDetails

Service: Amazon Location Service Routes V2

Details that are specific to a pedestrian leg.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RoutePedestrianAfterTravelStep objects

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RoutePedestrianArrival object

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RoutePedestrianDeparture object

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RoutePedestrianNotice objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of RoutePassThroughWaypoint objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RoutePedestrianSpan objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RoutePedestrianTravelStep objects

Required: Yes

Summary

Summarized details of the leg.

Type: RoutePedestrianSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable | Other | ViolatedAvoidDirtRoad | ViolatedAvoidTunnel | ViolatedPedestrianOption | ViolatedAvoidAreas`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High | Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianOptions

Service: Amazon Location Service Routes V2

Options related to the pedestrian. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Contents

Speed

Walking speed in Kilometers per hour.

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianPlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

AccessPointDetails

Details of the access point.

Type: RouteAccessPointDetails object

Required: No

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: String

Valid Values: `Left | Right`

Required: No

StationDetails

Details about the station.

Type: RouteStationDetails object

Required: No

Type

The type of the place.

Type: String

Valid Values: `AccessPoint | DockingStation | ParkingLot | Station`

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianSpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

BestCaseDuration

Duration of the computed span without traffic congestion.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

DynamicSpeed

Dynamic speed details corresponding to the span.

Unit: `kilometers per hour`

Type: RouteSpanDynamicSpeedDetails object

Required: No

FunctionalClassification

A numerical value indicating the functional classification of the road segment corresponding to the span.

Classification values are part of the hierarchical network that helps determine a logical and efficient route, and have the following definitions:

1. Roads that allow for high volume, maximum speed traffic movement between and through major metropolitan areas.
2. Roads that are used to channel traffic to functional class 1 roads for travel between and through cities in the shortest amount of time.
3. Roads that intersect functional class 2 roads and provide a high volume of traffic movement at a lower level of mobility than functional class 2 roads.
4. Roads that provide for a high volume of traffic movement at moderate speeds between neighborhoods.
5. Roads with volume and traffic movement below the level of any other functional class.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 5.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Incidents

Incidents corresponding to the span. These index into the Incidents in the parent Leg.

Type: Array of integers

Required: No

Names

Provides an array of names of the pedestrian span in available languages.

Type: Array of LocalizedString objects

Required: No

PedestrianAccess

Access attributes for a pedestrian corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 6 items.

Valid Values: `Allowed | Indoors | NoThroughTraffic | Park | Stairs | TollRoad`

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

RoadAttributes

Attributes for the road segment corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 12 items.

Valid Values: `Bridge | BuiltUpArea | ControlledAccessHighway | DirtRoad | DividedRoad | Motorway | PrivateRoad | Ramp | RightHandTraffic | Roundabout | Tunnel | UnderConstruction`

Required: No

RouteNumbers

Designated route name or number corresponding to the span.

Type: Array of RouteNumber objects

Required: No

SpeedLimit

Speed limit details corresponding to the span.

Unit: `kilometers per hour`

Type: RouteSpanSpeedLimitDetails object

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianSummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including before travel, travel and after travel steps.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: RoutePedestrianOverviewSummary object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: RoutePedestrianTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RoutePedestrianTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Arrive | Continue | Depart | Keep | RoundaboutEnter | RoundaboutExit | RoundaboutPass | Turn`

Required: Yes

ContinueStepDetails

Details related to the continue step.

Type: RouteContinueStepDetails object

Required: No

CurrentRoad

Details of the current road. See RouteRoad for details of sub-attributes.

Type: RouteRoad object

Required: No

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

ExitNumber

Exit number of the road exit, if applicable.

Type: Array of LocalizedString objects

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: RouteKeepStepDetails object

Required: No

NextRoad

Details of the next road. See RouteRoad for details of sub-attributes.

Type: RouteRoad object

Required: No

RoundaboutEnterStepDetails

Details that are specific to a Roundabout Enter step.

Type: RouteRoundaboutEnterStepDetails object

Required: No

RoundaboutExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: RouteRoundaboutExitStepDetails object

Required: No

RoundaboutPassStepDetails

Details that are specific to a Roundabout Pass step.

Type: RouteRoundaboutPassStepDetails object

Required: No

Signpost

Sign post information of the action, applicable only for TurnByTurn steps. See RouteSignpost for details of sub-attributes.

Type: RouteSignpost object

Required: No

TurnStepDetails

Details that are specific to a turn step.

Type: RouteTurnStepDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRampStepDetails

Service: Amazon Location Service Routes V2

Details that are specific to a ramp step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalAfterTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Park`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalAgency

Service: Amazon Location Service Routes V2

Details about the rental agency.

Contents

Name

Name of the agency.

Type: String

Required: Yes

Url

URL to the agency's website.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for the leg.

Contents

Place

Place details corresponding to the arrival.

Type: RouteRentalPlace object

Required: Yes

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalBeforeTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed before the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Setup`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

Place details corresponding to the departure.

Type: RouteRentalPlace object

Required: Yes

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalLegDetails

Service: Amazon Location Service Routes V2

Populated when the Leg type is Rental, and provides additional information that is specific to rental vehicle travel.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RouteRentalAfterTravelStep objects

Required: Yes

Agency

Details about the rental agency.

Type: RouteRentalAgency object

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RouteRentalArrival object

Required: Yes

Attributions

List of required attributions to display.

Type: Array of RouteAttribution objects

Required: Yes

BeforeTravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteRentalBeforeTravelStep objects

Required: Yes

BookingWebLinks

Web links to external ticket booking services for the rental.

Type: Array of RouteWebLink objects

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RouteRentalDeparture object

Required: Yes

Transport

Transport mode details for the rental leg.

Type: RouteRentalTransportModeDetails object

Required: Yes

TravelSteps

Steps of a leg that must be performed during the travel portion of the leg.

Type: Array of RouteRentalTravelStep objects

Required: Yes

Summary

Summary of the rental leg.

Type: RouteRentalSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalPlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

AccessPointDetails

Details of the access point.

Type: RouteAccessPointDetails object

Required: No

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

StationDetails

Details about the station.

Type: RouteStationDetails object

Required: No

Type

The type of the place.

Type: String

Valid Values: `AccessPoint | DockingStation | ParkingLot | Station`

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalSummary

Service: Amazon Location Service Routes V2

Summary of the rental leg.

Contents

Overview

Summary including duration and distance for the entire leg.

Type: RouteRentalOverviewSummary object

Required: No

TravelOnly

Summary including duration and distance for the travel portion of the leg only.

Type: RouteRentalTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalTransportModeDetails

Service: Amazon Location Service Routes V2

Transport mode details for the rental leg.

Contents

Mode

Mode of the rental transport.

Type: String

Valid Values: `All | Car`

Required: Yes

AvailableSeats

Number of available seats in the vehicle.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Category

Human readable transport category.

Type: String

Required: No

Color

Color of the transport polyline and background for the transport name.

Type: String

Required: No

Engine

Vehicle engine type.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

Vehicle license plate number.

Type: String

Required: No

Model

Vehicle model.

Type: String

Required: No

Name

Vehicle name or mobility provider name.

Type: String

Required: No

TextColor

Color of the transport name text.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RouteRentalTravelOnlySummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the travel portion of the leg only.

Contents

Duration

Duration of the travel portion of the rental leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRentalTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Arrive | Continue | Depart | Exit | Keep | Ramp | RoundaboutEnter | RoundaboutExit | RoundaboutPass | Turn | UTurn`

Required: Yes

ContinueStepDetails

Details related to the continue step.

Type: RouteContinueStepDetails object

Required: No

Distance

Distance of the step.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

ExitStepDetails

Details related to the exit step.

Type: RouteExitStepDetails object

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: RouteKeepStepDetails object

Required: No

RampStepDetails

Details that are specific to a ramp step.

Type: RouteRampStepDetails object

Required: No

RoundaboutEnterStepDetails

Details about the roundabout leg.

Type: RouteRoundaboutEnterStepDetails object

Required: No

RoundaboutExitStepDetails

Details about the roundabout step.

Type: RouteRoundaboutExitStepDetails object

Required: No

RoundaboutPassStepDetails

Details about the step.

Type: RouteRoundaboutPassStepDetails object

Required: No

TurnStepDetails

Details related to the turn step.

Type: RouteTurnStepDetails object

Required: No

UTurnStepDetails

Details related to the U-turn step.

Type: RouteUTurnStepDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteResponseNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `MainLanguageNotFound | Other | TravelTimeExceedsDriverWorkHours | TransitDataUnavailable | TransitRouteUnavailable | NoTransitStationsFound`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High | Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRoad

Service: Amazon Location Service Routes V2

The road on the route.

Contents

RoadName

Name of the road (localized).

Type: Array of LocalizedString objects

Required: Yes

RouteNumber

Route number of the road.

Type: Array of RouteNumber objects

Required: Yes

Towards

Names of destinations that can be reached when traveling on the road.

Type: Array of LocalizedString objects

Required: Yes

Type

The type of road.

Type: String

Valid Values: `Highway | Rural | Urban`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRoundaboutEnterStepDetails

Service: Amazon Location Service Routes V2

Details about the roundabout leg.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRoundaboutExitStepDetails

Service: Amazon Location Service Routes V2

Details about the roundabout step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

RelativeExit

Exit to be taken.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 12.

Required: No

RoundaboutAngle

Angle of the roundabout.

Type: Double

Valid Range: Minimum value of -360. Maximum value of 360.

Required: No

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteRoundaboutPassStepDetails

Service: Amazon Location Service Routes V2

Details about the step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteScooterOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Scooter`. For GrabMaps customers, `ap-southeast-1` and `ap-southeast-5` regions support only `LicensePlate` options.

Contents

EngineType

Engine type of the vehicle. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

The vehicle License Plate.

Type: RouteVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used.

Default value: `DividedStreetOnly`

Type: String

Valid Values: `AnyStreet | DividedStreetOnly`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSignpost

Service: Amazon Location Service Routes V2

Sign post information of the action, applicable only for TurnByTurn steps. See RouteSignpost for details of sub-attributes.

Contents

Labels

Labels present on the sign post.

Type: Array of RouteSignpostLabel objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSignpostLabel

Service: Amazon Location Service Routes V2

Labels presented on the sign post.

Contents

RouteNumber

Route number of the road.

Type: RouteNumber object

Required: No

Text

The Signpost text.

Type: LocalizedString object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSpanDynamicSpeedDetails

Service: Amazon Location Service Routes V2

Details about the dynamic speed.

Unit: `kilometers per hour`

Contents

BestCaseSpeed

Estimated speed while traversing the span without traffic congestion.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

TurnDuration

Estimated time to turn from this span into the next.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalSpeed

Estimated speed while traversing the span under typical traffic congestion.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSpanSpeedLimitDetails

Service: Amazon Location Service Routes V2

Details about the speed limit corresponding to the span.

Unit: `kilometers per hour`

Contents

MaxSpeed

Maximum speed.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 0.0.

Required: No

Unlimited

If the span doesn't have a speed limit like the Autobahn.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteStationDetails

Service: Amazon Location Service Routes V2

Details about the station.

Contents

Accessibility

Wheelchair accessibility information for the station.

Type: RouteAccessibilityAvailabilityDetails object

Required: No

PlatformName

Platform name or number.

Type: String

Required: No

ShortName

Short text or a number that identifies the station.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteSummary

Service: Amazon Location Service Routes V2

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is the same as the Distance within the Overview summary.

Contents

Distance

Distance of the route.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the route.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Tolls

Toll summary for the complete route.

Type: RouteTollSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiAfterTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Park`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiAgency

Service: Amazon Location Service Routes V2

Details about the taxi agency.

Contents

Name

Name of the agency.

Type: String

Required: Yes

Url

URL to the agency's website.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for the leg.

Contents

Place

Place details corresponding to the arrival.

Type: RouteTaxiPlace object

Required: Yes

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiBeforeTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed before the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Wait`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

Place details corresponding to the departure.

Type: RouteTaxiPlace object

Required: Yes

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiLegDetails

Service: Amazon Location Service Routes V2

Populated when the Leg type is Taxi, and provides additional information that is specific to taxi travel.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RouteTaxiAfterTravelStep objects

Required: Yes

Agency

Details about the taxi agency.

Type: RouteTaxiAgency object

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RouteTaxiArrival object

Required: Yes

Attributions

List of required attributions to display.

Type: Array of RouteAttribution objects

Required: Yes

BeforeTravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteTaxiBeforeTravelStep objects

Required: Yes

BookingWebLinks

Web links to external ticket booking services for the taxi.

Type: Array of RouteWebLink objects

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RouteTaxiDeparture object

Required: Yes

Notices

List of notices that indicate issues that occurred during route calculation.

Type: Array of RouteTaxiNotice objects

Required: Yes

Transport

Transport mode details for the taxi leg.

Type: RouteTaxiTransportModeDetails object

Required: Yes

TravelSteps

Steps of a leg that must be performed during the travel portion of the leg.

Type: Array of RouteTaxiTravelStep objects

Required: Yes

Summary

Summary of the taxi leg.

Type: RouteTaxiSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiNotice

Service: Amazon Location Service Routes V2

A notice that indicates an issue that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable | Other`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High | Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiPlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

AccessPointDetails

Details of the access point.

Type: RouteAccessPointDetails object

Required: No

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

StationDetails

Details about the station.

Type: RouteStationDetails object

Required: No

Type

The type of the place.

Type: String

Valid Values: `AccessPoint | Station`

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiSummary

Service: Amazon Location Service Routes V2

Summary of the taxi leg.

Contents

Overview

Summary including duration and distance for the entire leg.

Type: RouteTaxiOverviewSummary object

Required: No

TravelOnly

Summary including duration and distance for the travel portion of the leg only.

Type: RouteTaxiTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiTransportModeDetails

Service: Amazon Location Service Routes V2

Transport mode details for the taxi leg.

Contents

Mode

Mode of the taxi transport.

Type: String

Valid Values: `All | Car`

Required: Yes

AvailableSeats

Number of available seats in the vehicle.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Category

Human readable transport category.

Type: String

Required: No

Color

Color of the transport polyline and background for the transport name.

Type: String

Required: No

Engine

Vehicle engine type.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

LicensePlate

Vehicle license plate number.

Type: String

Required: No

Model

Vehicle model.

Type: String

Required: No

Name

Vehicle name or mobility provider name.

Type: String

Required: No

TextColor

Color of the transport name text.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RouteTaxiTravelOnlySummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the travel portion of the leg only.

Contents

Duration

Duration of the travel portion of the taxi leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTaxiTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Arrive | Continue | Depart | Exit | Keep | Ramp | RoundaboutEnter | RoundaboutExit | RoundaboutPass | Turn | UTurn`

Required: Yes

ContinueStepDetails

Details related to the continue step.

Type: RouteContinueStepDetails object

Required: No

Distance

Distance of the step.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

ExitStepDetails

Details related to the exit step.

Type: RouteExitStepDetails object

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: RouteKeepStepDetails object

Required: No

RampStepDetails

Details that are specific to a ramp step.

Type: RouteRampStepDetails object

Required: No

RoundaboutEnterStepDetails

Details about the roundabout leg.

Type: RouteRoundaboutEnterStepDetails object

Required: No

RoundaboutExitStepDetails

Details about the roundabout step.

Type: RouteRoundaboutExitStepDetails object

Required: No

RoundaboutPassStepDetails

Details about the step.

Type: RouteRoundaboutPassStepDetails object

Required: No

TurnStepDetails

Details related to the turn step.

Type: RouteTurnStepDetails object

Required: No

UTurnStepDetails

Details related to the U-turn step.

Type: RouteUTurnStepDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteToll

Service: Amazon Location Service Routes V2

Provides details about toll information along a route, including the payment sites, applicable toll rates, toll systems, and the country associated with the toll collection.

Contents

PaymentSites

Locations or sites where the toll fare is collected.

Type: Array of RouteTollPaymentSite objects

Required: Yes

Rates

Toll rates that need to be paid to travel this leg of the route.

Type: Array of RouteTollRate objects

Required: Yes

Systems

Toll systems are authorities that collect payments for the toll.

Type: Array of integers

Required: Yes

Country

The alpha-2 or alpha-3 character code for the country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollOptions

Service: Amazon Location Service Routes V2

Options related to Tolls on a route.

Contents

AllTransponders

Specifies if the user has valid transponder with access to all toll systems. This impacts toll calculation, and if true the price with transponders is used.

Type: Boolean

Required: No

AllVignettes

Specifies if the user has valid vignettes with access for all toll roads. If a user has a vignette for a toll road, then toll cost for that road is omitted since no further payment is necessary.

Type: Boolean

Required: No

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

EmissionType

Emission type of the vehicle for toll cost calculation.

Valid values: `Euro1, Euro2, Euro3, Euro4, Euro5, Euro6, EuroEev`

Type: RouteEmissionType object

Required: No

VehicleCategory

Vehicle category for toll cost calculation.

Type: String

Valid Values: `Minibus`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPass

Service: Amazon Location Service Routes V2

Details if the toll rate can be a pass that supports multiple trips.

Contents

IncludesReturnTrip

If the pass includes the rate for the return leg of the trip.

Type: Boolean

Required: No

SeniorPass

If the pass is only valid for senior persons.

Type: Boolean

Required: No

TransferCount

If the toll pass can be transferred, and how many times.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

TripCount

Number of trips the pass is valid for.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ValidityPeriod

Period for which the pass is valid.

Type: RouteTollPassValidityPeriod object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPassValidityPeriod

Service: Amazon Location Service Routes V2

Period for which the pass is valid.

Contents

Period

Validity period.

Type: String

Valid Values: `Annual | Days | ExtendedAnnual | Minutes | Months`

Required: Yes

PeriodCount

Counts for the validity period.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPaymentSite

Service: Amazon Location Service Routes V2

Locations or sites where the toll fare is collected.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

Name of the payment site.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPrice

Service: Amazon Location Service Routes V2

The toll price.

Contents

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: Yes

Estimate

If the price is an estimate or an exact value.

Type: Boolean

Required: Yes

Range

If the price is a range or an exact value. If any of the toll fares making up the route is a range, the overall price is also a range.

Type: Boolean

Required: Yes

Value

Exact price, if not a range.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

PerDuration

Duration for which the price corresponds to.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

RangeValue

Price range with a minimum and maximum value, if a range.

Type: RouteTollPriceValueRange object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPriceSummary

Service: Amazon Location Service Routes V2

Summary of the route and toll price.

Contents

Currency

Currency code corresponding to the price. This is the same as Currency specified in the request.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: Yes

Estimate

If the price is an estimate or an exact value.

Type: Boolean

Required: Yes

Range

If the price is a range or an exact value. If any of the toll fares making up the route is a range, the overall price is also a range.

Type: Boolean

Required: Yes

Value

Exact price, if not a range.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

RangeValue

Price range with a minimum and maximum value, if a range.

Type: RouteTollPriceValueRange object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollPriceValueRange

Service: Amazon Location Service Routes V2

Price range with a minimum and maximum value, if a range.

Contents

Max

Maximum price.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

Min

Minimum price.

Type: Double

Valid Range: Minimum value of 0.0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollRate

Service: Amazon Location Service Routes V2

The toll rate.

Contents

Id

The Toll rate Id.

Type: String

Required: Yes

LocalPrice

Price in the local regional currency.

Type: RouteTollPrice object

Required: Yes

Name

The name of the toll.

Type: String

Required: Yes

PaymentMethods

Accepted payment methods at the toll.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 8 items.

Valid Values: `BankCard | Cash | CashExact | CreditCard | PassSubscription | TravelCard | Transponder | VideoToll`

Required: Yes

Transponders

Transponders for which this toll can be applied.

Type: Array of RouteTransponder objects

Required: Yes

ApplicableTimes

Time when the rate is valid.

Type: String

Required: No

ConvertedPrice

Price in the converted currency as specified in the request.

Type: RouteTollPrice object

Required: No

Pass

Details if the toll rate can be a pass that supports multiple trips.

Type: RouteTollPass object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollSummary

Service: Amazon Location Service Routes V2

The toll summary for the complete route.

Contents

Total

Total toll summary for the complete route. Total is the only summary available today.

Type: RouteTollPriceSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTollSystem

Service: Amazon Location Service Routes V2

Toll systems are authorities that collect payments for the toll.

Contents

Name

The toll system name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTrafficOptions

Service: Amazon Location Service Routes V2

Traffic options for the route.

Contents

FlowEventThresholdOverride

Duration for which flow traffic is considered valid. For this period, the flow traffic is used over historical traffic data. Flow traffic refers to congestion, which changes very quickly. Duration in seconds for which flow traffic event would be considered valid. While flow traffic event is valid it will be used over the historical traffic data.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Usage

Specifies how traffic data should be used when calculating routes.

Default Value: `UseTrafficData`

> **Note**
>
> Traffic data usage depends on the time parameters in your route request:
>
> - When `Usage` is set to `UseTrafficData`:
> - If `DepartNow` is set to `true`, or if you specify `DepartureTime` or `ArrivalTime`, then all traffic data is considered (including live traffic and closures).
> - If `DepartNow`, `DepartureTime`, and `ArrivalTime` are all unspecified, then only long-term closures are considered, regardless of this setting.
> - When `Usage` is set to `IgnoreTrafficData`, then all traffic data is ignored regardless of the time parameters in your route request.

Type: String

Valid Values: `IgnoreTrafficData | UseTrafficData`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

TrailerCount

Number of trailers attached to the vehicle.

Default value: `0`

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitAfterTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Deboard`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitAgency

Service: Amazon Location Service Routes V2

Details about the transit agency.

Contents

Name

Name of the agency.

Type: String

Required: Yes

Url

URL to the agency's website.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for the leg.

Contents

Place

Place details corresponding to the arrival.

Type: RouteTransitPlace object

Required: Yes

Delay

The delay from the scheduled arrival time.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Status

The status of the arrival.

Type: String

Valid Values: `Added | Cancelled | Replaced | Scheduled`

Required: No

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitBeforeTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed before the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Board`

Required: Yes

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

Place details corresponding to the departure.

Type: RouteTransitPlace object

Required: Yes

Delay

The delay from the scheduled departure time.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Status

The status of the departure.

Type: String

Valid Values: `Added | Cancelled | Replaced | Scheduled`

Required: No

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitIncident

Service: Amazon Location Service Routes V2

An incident describes disruptions on the transit route.

Contents

Effect

The effect of the incident on the transit service.

Type: String

Valid Values: `Delayed | Detoured | Other | ServiceAdded | ServiceCancelled | ServiceModified | ServiceReduced | StopMoved`

Required: Yes

Type

Type of the incident.

Type: String

Valid Values: `Accident | Construction | Demonstration | Holiday | Maintenance | MedicalEmergency | Other | PoliceActivity | Strike | TechnicalProblem | Weather`

Required: Yes

Description

A human readable description of the incident.

Type: String

Required: No

EndTime

The end time of the incident.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

StartTime

The start time of the incident.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Url

URL to the original incident published at the agency website.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitIntermediateStop

Service: Amazon Location Service Routes V2

An intermediate stop between departure and destination of the transit route.

Contents

Departure

Departure details for the intermediate stop.

Type: RouteTransitDeparture object

Required: Yes

Duration

Duration of the stop.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Attributes

Attributes of the intermediate stop.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: `NoEntry | NoExit`

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this stop.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Transport

Transport mode details at the intermediate stop.

Type: RouteTransitTransportModeDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitLegDetails

Service: Amazon Location Service Routes V2

Populated when the Leg type is Transit, and provides additional information that is specific to public transit travel.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RouteTransitAfterTravelStep objects

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RouteTransitArrival object

Required: Yes

Attributions

List of required attributions to display.

Type: Array of RouteAttribution objects

Required: Yes

BeforeTravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteTransitBeforeTravelStep objects

Required: Yes

BookingWebLinks

Web links to external ticket booking services for the transit.

Type: Array of RouteWebLink objects

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RouteTransitDeparture object

Required: Yes

Incidents

Incidents affecting this leg of the transit route.

Type: Array of RouteTransitIncident objects

Required: Yes

IntermediateStops

Intermediate stops between departure and destination of the transit route.

Type: Array of RouteTransitIntermediateStop objects

Required: Yes

NextDepartures

List of next departures that cover the same section of the route.

Type: Array of RouteTransitNextDeparture objects

Required: Yes

Notices

List of notices that indicate issues that occurred during route calculation.

Type: Array of RouteTransitNotice objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option. Not populated when the TravelMode is `Transit` or `Intermodal`.

Type: Array of RoutePassThroughWaypoint objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures. Not populated when the TravelMode is `Transit` or `Intermodal`.

Type: Array of RouteTransitSpan objects

Required: Yes

Transport

Transport mode details for the transit leg.

Type: RouteTransitTransportModeDetails object

Required: Yes

TravelSteps

Steps of a leg that must be performed during the travel portion of the leg.

Type: Array of RouteTransitTravelStep objects

Required: Yes

Agency

Details about the transit agency.

Type: RouteTransitAgency object

Required: No

Summary

Summary of the transit leg.

Type: RouteTransitSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitNextDeparture

Service: Amazon Location Service Routes V2

Details about the next available departure for the transit service.

Contents

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: Yes

Delay

The delay from the scheduled departure time.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

PlatformName

Platform name or number for the departure.

Type: String

Required: No

Status

The status of the departure.

Type: String

Valid Values: `Added | Cancelled | Replaced | Scheduled`

Required: No

Transport

Transport mode details for this departure.

Type: RouteTransitTransportModeDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitNotice

Service: Amazon Location Service Routes V2

A notice that indicates an issue that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable | IntermediateStopsUnavailable | NoSchedule | Other | PotentialViolatedVehicleRestrictionUsage | ScheduledTimes | SeasonalClosure | ViolatedAvoidFerry | ViolatedAvoidRailFerry | ViolatedExcludedTransitMode | ViolatedVehicleRestriction | ViolatedAvoidAreas`

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High | Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitOptions

Service: Amazon Location Service Routes V2

Options related to transit routing.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Contents

AccessibilityAttributes

Accessibility attributes to consider when calculating the route.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `Wheelchair`

Required: No

AllowedModes

Allowed transit transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `ExcludedModes`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 15 items.

Valid Values: `AerialTramway` | `Airplane` | `All` | `Bus` | `BusRapidTransit` | `CityTrain` | `Ferry` | `FunicularRailway` | `HighSpeedTrain` | `IntercityTrain` | `InterregionalTrain` | `LightRail` | `Monorail` | `PrivateBus` | `RegionalTrain` | `Subway`

Required: No

ExcludedModes

Excluded transit transport modes when calculating the route. By default, all transport modes are allowed. Cannot be used together with `AllowedModes`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 15 items.

Valid Values: `AerialTramway | Airplane | All | Bus | BusRapidTransit | CityTrain | Ferry | FunicularRailway | HighSpeedTrain | IntercityTrain | InterregionalTrain | LightRail | Monorail | PrivateBus | RegionalTrain | Subway`

Required: No

MaxTransfers

Maximum number of transfers allowed when calculating the route.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 6.

Required: No

Pedestrian

Options for the pedestrian leg of the transit route.

Type: RouteTransitPedestrianOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitPedestrianOptions

Service: Amazon Location Service Routes V2

Options for the pedestrian leg of the transit route.

Contents

MaxDistance

Maximum walking distance allowed.

Unit: `meters`

Type: Long

Valid Range: Maximum value of 6000.

Required: No

Speed

Walking speed.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitPlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

StationDetails

Details about the station.

Type: RouteStationDetails object

Required: No

Type

The type of the place.

Type: String

Valid Values: `Station`

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitSpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Names

Names of the transit span in available languages.

Type: Array of LocalizedString objects

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitSummary

Service: Amazon Location Service Routes V2

Summary of the transit leg.

Contents

Overview

Summary including duration and distance for the entire leg.

Type: RouteTransitOverviewSummary object

Required: No

TravelOnly

Summary including duration and distance for the travel portion of the leg only.

Type: RouteTransitTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitTransportModeDetails

Service: Amazon Location Service Routes V2

Transport mode details for the transit leg.

Contents

Mode

Mode of the transit transport.

Type: String

Valid Values: `AerialTramway | Airplane | All | Bus | BusRapidTransit | CityTrain | Ferry | FunicularRailway | HighSpeedTrain | IntercityTrain | InterregionalTrain | LightRail | Monorail | PrivateBus | RegionalTrain | Subway`

Required: Yes

Accessibility

Wheelchair accessibility information for the transit vehicle.

Type: RouteAccessibilityAvailabilityDetails object

Required: No

Color

Color of the transport polyline and background for the transport name.

Type: String

Pattern: `.*#[0-9A-Fa-f]{6}.*`

Required: No

Headsign

Transit route headsign.

Type: String

Required: No

LongRouteName

Long name of the transit route.

Type: String

Required: No

RouteName

Transit route name.

Type: String

Required: No

ShortRouteName

Short name of the transit route.

Type: String

Required: No

TextColor

Color of the transport name text.

Type: String

Pattern: `.*#[0-9A-Fa-f]{6}.*`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitTravelOnlySummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the travel portion of the leg only.

Contents

Duration

Duration of the travel portion of the transit leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransitTravelStep

Service: Amazon Location Service Routes V2

A step that must be performed during the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Depart`

Required: Yes

Distance

Distance of the step.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTransponder

Service: Amazon Location Service Routes V2

Transponders for which this toll can be applied.

Contents

SystemName

Names of the toll system collecting the toll.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Car

Travel mode options when the provided travel mode is `Car`.

Type: RouteCarOptions object

Required: No

Intermodal

Travel mode options when the provided travel mode is `Intermodal`.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteIntermodalOptions object

Required: No

Pedestrian

Travel mode options when the provided travel mode is `Pedestrian`.

Type: RoutePedestrianOptions object

Required: No

Scooter

Travel mode options when the provided travel mode is `Scooter`.

> **Note**
>
> When travel mode is set to `Scooter`, then the avoidance option `ControlledAccessHighways` defaults to `true`.

Type: RouteScooterOptions object

Required: No

Transit

Travel mode options when the provided travel mode is `Transit`.

> **Note**
>
> Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteTransitOptions object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: RouteTruckOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Contents

AxleCount

Total number of axles of the vehicle.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 255.

Required: No

EngineType

Engine type of the vehicle.

Type: String

Valid Values: `Electric | InternalCombustion | PluginHybrid`

Required: No

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: No

Height

Height of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

HeightAboveFirstAxle

Height of the vehicle above its first axle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

KpraLength

Kingpin to rear axle length of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Length

Length of the vehicle.

Unit: `c`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

LicensePlate

The vehicle License Plate.

Type: RouteVehicleLicensePlate object

Required: No

MaxSpeed

Maximum speed

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 3.6. Maximum value of 252.0.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

PayloadCapacity

Payload capacity of the vehicle and trailers attached.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TireCount

Number of tires on the vehicle.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 255.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: RouteTrailerOptions object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck | StraightTruck | Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions
- *Tunnel Category C*
  - *Risk Level*: Medium risk

  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk
  - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Minimum length of 0. Maximum length of 20.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

WeightPerAxleGroup

Specifies the total weight for the specified axle group. Meant for usage in countries that have different regulations based on the axle group type.

Unit: `kilograms`

Type: WeightPerAxleGroup object

Required: No

Width

Width of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteTurnStepDetails

Service: Amazon Location Service Routes V2

Details related to the turn step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteUTurnStepDetails

Service: Amazon Location Service Routes V2

Details related to the U-turn step.

Contents

Intersection

Name of the intersection, if applicable to the step.

Type: Array of LocalizedString objects

Required: Yes

SteeringDirection

Steering direction for the step.

Type: String

Valid Values: `Left | Right | Straight`

Required: No

TurnAngle

Angle of the turn.

Type: Double

Valid Range: Minimum value of -180. Maximum value of 180.

Required: No

TurnIntensity

Intensity of the turn.

Type: String

Valid Values: `Sharp | Slight | Typical`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleAfterTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that must be performed after the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Park`

Required: Yes

ChargeStepDetails

Details that are specific to a Charge step.

Unit: `KwH`

Type: RouteChargeStepDetails object

Required: No

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleArrival

Service: Amazon Location Service Routes V2

Details corresponding to the arrival for a leg.

Contents

Place

Place details corresponding to the arrival.

Type: RouteVehiclePlace object

Required: Yes

Time

The arrival time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleDeparture

Service: Amazon Location Service Routes V2

Details corresponding to the departure for the leg.

Contents

Place

Place details corresponding to the departure.

Type: RouteVehiclePlace object

Required: Yes

Time

The departure time.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleIncident

Service: Amazon Location Service Routes V2

Incidents corresponding to this leg of the route.

Contents

Description

Brief readable description of the incident.

Type: String

Required: No

EndTime

End timestamp of the incident.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Severity

Severity of the incident Critical - The part of the route the incident affects is unusable. Major- Major impact on the leg duration, for example stop and go Minor- Minor impact on the leg duration, for example traffic jam Low - Low on duration, for example slightly increased traffic

Type: String

Valid Values: `Critical | High | Medium | Low`

Required: No

StartTime

Start time of the incident.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Type

Type of the incident.

Type: String

Valid Values: `Accident | Congestion | Construction | DisabledVehicle | LaneRestriction | MassTransit | Other | PlannedEvent | RoadClosure | RoadHazard | Weather`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleLegDetails

Service: Amazon Location Service Routes V2

Steps of a leg that correspond to the travel portion of the leg.

Contents

AfterTravelSteps

Steps of a leg that must be performed after the travel portion of the leg.

Type: Array of RouteVehicleAfterTravelStep objects

Required: Yes

Arrival

Details corresponding to the arrival for the leg.

Type: RouteVehicleArrival object

Required: Yes

Departure

Details corresponding to the departure for the leg.

Type: RouteVehicleDeparture object

Required: Yes

Incidents

Incidents corresponding to this leg of the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteVehicleIncident objects

Required: Yes

Notices

Notices are additional information returned that indicate issues that occurred during route calculation. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteVehicleNotice objects

Required: Yes

PassThroughWaypoints

Waypoints that were passed through during the leg. This includes the waypoints that were configured with the PassThrough option.

Type: Array of RoutePassThroughWaypoint objects

Required: Yes

Spans

Spans that were computed for the requested SpanAdditionalFeatures. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteVehicleSpan objects

Required: Yes

Tolls

Toll related options. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteToll objects

Required: Yes

TollSystems

Toll systems are authorities that collect payments for the toll. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteTollSystem objects

Required: Yes

TravelSteps

Steps of a leg that must be performed before the travel portion of the leg.

Type: Array of RouteVehicleTravelStep objects

Required: Yes

TruckRoadTypes

Truck road type identifiers. `BK1` through `BK4` apply only to Sweden. `A2`,`A4`,`B2`,`B4`,`C`,`D`,`ET2`,`ET4` apply only to Mexico. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 12 items.

Length Constraints: Minimum length of 1. Maximum length of 3.

Required: Yes

Zones

Zones corresponding to this leg of the route. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Array of RouteZone objects

Required: Yes

Summary

Summarized details of the leg.

Type: RouteVehicleSummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleLicensePlate

Service: Amazon Location Service Routes V2

License plate information of the vehicle. Currently, only the last character is used where license plate based controlled access is enforced.

Contents

LastCharacter

The last character of the License Plate.

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleNotice

Service: Amazon Location Service Routes V2

Notices are additional information returned that indicate issues that occurred during route calculation.

Contents

Code

Code corresponding to the issue.

Type: String

Valid Values: `AccuratePolylineUnavailable | Other | PotentialViolatedAvoidTollRoadUsage | PotentialViolatedCarpoolUsage | PotentialViolatedTurnRestrictionUsage | PotentialViolatedVehicleRestrictionUsage | PotentialViolatedZoneRestrictionUsage | SeasonalClosure | TollsDataTemporarilyUnavailable | TollsDataUnavailable | TollTransponder | ViolatedAvoidControlledAccessHighway | ViolatedAvoidDifficultTurns | ViolatedAvoidDirtRoad | ViolatedAvoidSeasonalClosure | ViolatedAvoidTollRoad | ViolatedAvoidTollTransponder | ViolatedAvoidTruckRoadType | ViolatedAvoidTunnel | ViolatedAvoidUTurns | ViolatedBlockedRoad | ViolatedCarpool | ViolatedEmergencyGate | ViolatedStartDirection | ViolatedTurnRestriction | ViolatedVehicleRestriction | ViolatedZoneRestriction | TravelTimeExceedsDriverWorkHours`

Required: Yes

Details

Additional details of the notice.

Type: Array of RouteVehicleNoticeDetail objects

Required: Yes

Impact

Impact corresponding to the issue. While Low impact notices can be safely ignored, High impact notices must be evaluated further to determine the impact.

Type: String

Valid Values: `High` | `Low`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleNoticeDetail

Service: Amazon Location Service Routes V2

Additional details of the notice.

Contents

Title

The notice title.

Type: String

Required: No

ViolatedConstraints

Any violated constraints.

Type: RouteViolatedConstraints object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleOverviewSummary

Service: Amazon Location Service Routes V2

Summary including duration and distance for the entire leg.

Contents

Distance

Distance of the entire leg.

Unit: `meters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Duration

Duration of the entire leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

BestCaseDuration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalDuration

Duration of the leg under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehiclePlace

Service: Amazon Location Service Routes V2

Place details corresponding to the arrival or departure.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: Yes

AccessPointDetails

Details of the access point.

Type: RouteAccessPointDetails object

Required: No

Name

The name of the place.

Type: String

Required: No

OriginalPosition

Position provided in the request.

Type: Array of doubles

Array Members: Minimum number of 2 items. Maximum number of 3 items.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: String

Valid Values: `Left | Right`

Required: No

StationDetails

Details about the station.

Type: RouteStationDetails object

Required: No

Type

The type of the place.

Type: String

Valid Values: `AccessPoint | DockingStation | ParkingLot | Station`

Required: No

WaypointIndex

Index of the waypoint in the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleSpan

Service: Amazon Location Service Routes V2

Span computed for the requested SpanAdditionalFeatures.

Contents

BestCaseDuration

Duration of the computed span without traffic congestion.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

CarAccess

Access attributes for a car corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: `Allowed | NoThroughTraffic | TollRoad`

Required: No

Country

3 letter Country code corresponding to the Span.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Distance

Distance of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Duration

Duration of the computed span. This feature doesn't split a span, but is always computed on a span split by other properties.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

DynamicSpeed

Dynamic speed details corresponding to the span.

Unit: `kilometers per hour`

Type: RouteSpanDynamicSpeedDetails object

Required: No

FunctionalClassification

A numerical value indicating the functional classification of the road segment corresponding to the span.

Classification values are part of the hierarchical network that helps determine a logical and efficient route, and have the following definitions:

1. Roads that allow for high volume, maximum speed traffic movement between and through major metropolitan areas.
2. Roads that are used to channel traffic to functional class 1 roads for travel between and through cities in the shortest amount of time.
3. Roads that intersect functional class 2 roads and provide a high volume of traffic movement at a lower level of mobility than functional class 2 roads.

4. Roads that provide for a high volume of traffic movement at moderate speeds between neighborhoods.
5. Roads with volume and traffic movement below the level of any other functional class.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 5.

Required: No

Gate

Attributes corresponding to a gate. The gate is present at the end of the returned span.

Type: String

Valid Values: `Emergency | KeyAccess | PermissionRequired`

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this span.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Incidents

Incidents corresponding to the span. These index into the Incidents in the parent Leg.

Type: Array of integers

Required: No

Names

Provides an array of names of the vehicle span in available languages.

Type: Array of LocalizedString objects

Required: No

Notices

Notices are additional information returned that indicate issues that occurred during route calculation.

Type: Array of integers

Required: No

RailwayCrossing

Attributes corresponding to a railway crossing. The gate is present at the end of the returned span.

Type: String

Valid Values: `Protected | Unprotected`

Required: No

Region

2-3 letter Region code corresponding to the Span. This is either a province or a state.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

RoadAttributes

Attributes for the road segment corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 12 items.

Valid Values: `Bridge | BuiltUpArea | ControlledAccessHighway | DirtRoad | DividedRoad | Motorway | PrivateRoad | Ramp | RightHandTraffic | Roundabout | Tunnel | UnderConstruction`

Required: No

RouteNumbers

Designated route name or number corresponding to the span.

Type: Array of RouteNumber objects

Required: No

ScooterAccess

Access attributes for a scooter corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: `Allowed | NoThroughTraffic | TollRoad`

Required: No

SpeedLimit

Speed limit details corresponding to the span.

Unit: `kilometers per hour`

Type: RouteSpanSpeedLimitDetails object

Required: No

TollSystems

Toll systems are authorities that collect payments for the toll.

Type: Array of integers

Required: No

TruckAccess

Access attributes for a truck corresponding to the span.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: `Allowed | NoThroughTraffic | TollRoad`

Required: No

TruckRoadTypes

Truck road type identifiers. `BK1` through `BK4` apply only to Sweden. `A2`, `A4`, `B2`, `B4`, `C`, `D`, `ET2`, `ET4` apply only to Mexico.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: Array of integers

Required: No

TypicalDuration

Duration of the computed span under typical traffic congestion.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Zones

Zones corresponding to this leg of the route.

Type: Array of integers

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleSummary

Service: Amazon Location Service Routes V2

Summarized details of the route.

Contents

Overview

Summarized details for the leg including before travel, travel and after travel steps.

Type: RouteVehicleOverviewSummary object

Required: No

TravelOnly

Summarized details for the leg including travel steps only. The Distance for the travel only portion of the journey is in meters

Type: RouteVehicleTravelOnlySummary object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleTravelOnlySummary

Service: Amazon Location Service Routes V2

Summarized details of the route.

Contents

Duration

Duration of the step.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

BestCaseDuration

Total duration in free flowing traffic, which is the best case or shortest duration possible to cover the leg.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

TypicalDuration

Duration of the leg under typical traffic congestion.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteVehicleTravelStep

Service: Amazon Location Service Routes V2

Steps of a leg that correspond to the travel portion of the leg.

Contents

Duration

Duration of the step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

Type

Type of the step.

Type: String

Valid Values: `Arrive` | `Continue` | `ContinueHighway` | `Depart` | `EnterHighway` | `Exit` | `Keep` | `Ramp` | `RoundaboutEnter` | `RoundaboutExit` | `RoundaboutPass` | `Turn` | `UTurn`

Required: Yes

ContinueHighwayStepDetails

Details that are specific to a Continue Highway step.

Type: RouteContinueHighwayStepDetails object

Required: No

ContinueStepDetails

Details that are specific to a Continue step.

Type: RouteContinueStepDetails object

Required: No

CurrentRoad

Details of the current road.

Type: RouteRoad object

Required: No

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

EnterHighwayStepDetails

Details that are specific to a Enter Highway step.

Type: RouteEnterHighwayStepDetails object

Required: No

ExitNumber

Exit number of the road exit, if applicable.

Type: Array of LocalizedString objects

Required: No

ExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: RouteExitStepDetails object

Required: No

GeometryOffset

Offset in the leg geometry corresponding to the start of this step.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Instruction

Brief description of the step in the requested language.

> **Note**
>
> Only available when the TravelStepType is Default.

Type: String

Required: No

KeepStepDetails

Details that are specific to a Keep step.

Type: RouteKeepStepDetails object

Required: No

NextRoad

Details of the next road. See RouteRoad for details of sub-attributes.

Type: RouteRoad object

Required: No

RampStepDetails

Details that are specific to a Ramp step.

Type: RouteRampStepDetails object

Required: No

RoundaboutEnterStepDetails

Details that are specific to a Roundabout Enter step.

Type: RouteRoundaboutEnterStepDetails object

Required: No

RoundaboutExitStepDetails

Details that are specific to a Roundabout Exit step.

Type: RouteRoundaboutExitStepDetails object

Required: No

RoundaboutPassStepDetails

Details that are specific to a Roundabout Pass step.

Type: RouteRoundaboutPassStepDetails object

Required: No

Signpost

Sign post information of the action, applicable only for TurnByTurn steps. See RouteSignpost for details of sub-attributes.

Type: RouteSignpost object

Required: No

TurnStepDetails

Details that are specific to a Turn step.

Type: RouteTurnStepDetails object

Required: No

UTurnStepDetails

Details that are specific to a Turn step.

Type: RouteUTurnStepDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteViolatedConstraints

Service: Amazon Location Service Routes V2

This property contains a summary of violated constraints.

Contents

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 11 items.

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: Yes

AllHazardsRestricted

This restriction applies to truck cargo, where the resulting route excludes roads on which hazardous materials are prohibited from being transported.

Type: Boolean

Required: No

AxleCount

Total number of axles of the vehicle.

Type: RouteNoticeDetailRange object

Required: No

MaxHeight

The maximum height of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxKpraLength

The maximum Kpra length of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxLength

The maximum length of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxPayloadCapacity

The maximum load capacity of the vehicle.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxWeight

The maximum weight of the route.

Unit: `kilograms`

Type: RouteWeightConstraint object

Required: No

MaxWeightPerAxle

The maximum weight per axle of the vehicle.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MaxWeightPerAxleGroup

The maximum weight per axle group of the vehicle.

Unit: `kilograms`

Type: WeightPerAxleGroup object

Required: No

MaxWidth

The maximum width of the vehicle.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Occupancy

The number of occupants in the vehicle.

Default value: 1

Type: RouteNoticeDetailRange object

Required: No

RestrictedTimes

Access radius restrictions based on time.

Type: String

Required: No

TimeDependent

The time dependent constraint.

Type: Boolean

Required: No

TrailerCount

Number of trailers attached to the vehicle.

Default value: `0`

Type: RouteNoticeDetailRange object

Required: No

TravelMode

Travel mode corresponding to the leg.

Type: Boolean

Required: No

TruckRoadType

Truck road type identifiers. `BK1` through `BK4` apply only to Sweden. `A2`, `A4`, `B2`, `B4`, `C`, `D`, `ET2`, `ET4` apply only to Mexico.

> **Note**
>
> There are currently no other supported values as of 26th April 2024.

Type: String

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `LightTruck | StraightTruck | Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions
- *Tunnel Category C*
  - *Risk Level*: Medium risk
  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk
  - *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

RouteWaypoint

Service: Amazon Location Service Routes V2

Waypoint between the Origin and Destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

AvoidActionsForDistance

Avoids actions for the provided distance. This is typically to consider for users in moving vehicles who may not have sufficient time to make an action at an origin or a destination. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Long

Valid Range: Maximum value of 2000.

Required: No

AvoidUTurns

Avoid U-turns for calculation on highways and motorways. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

Heading

GPS Heading at the position. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Matching

Options to configure matching the provided position to the road network. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteMatchingOptions object

Required: No

PassThrough

If the waypoint should not be treated as a stop. If yes, the waypoint is passed through and doesn't split the route into different legs. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: Boolean

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Type: RouteSideOfStreetOptions object

Required: No

StopDuration

Duration of the stop. Not supported in `ap-southeast-1` and `ap-southeast-5` regions for GrabMaps customers.

Unit: `seconds`

Type: Long

Valid Range: Maximum value of 49999.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteWebLink

Service: Amazon Location Service Routes V2

The URL to an external resource.

Contents

Description

Text describing the URL.

Type: String

Required: Yes

AnchorText

The interactive or clickable portion of the text.

Type: String

Required: No

DeviceType

Device type for which the link is intended.

Type: String

Valid Values: `Android | Ios | Web`

Required: No

Url

The URL of the link.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteWeightConstraint

Service: Amazon Location Service Routes V2

The weight constraint for the route.

Unit: `kilograms`

Contents

Type

The type of constraint.

Type: String

Valid Values: `Current | Gross | Unknown`

Required: Yes

Value

The constraint value.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RouteZone

Service: Amazon Location Service Routes V2

The zone.

Contents

Category

The zone category.

Type: String

Valid Values: `CongestionPricing | Environmental | Vignette`

Required: No

Name

The name of the zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service Routes V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the Validation Exception Field.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationAccessHours

Service: Amazon Location Service Routes V2

Access hours corresponding to when a destination can be visited.

Contents

From

Contains the ID of the starting waypoint in this connection.

Type: WaypointOptimizationAccessHoursEntry object

Required: Yes

To

Contains the ID of the ending waypoint in this connection.

Type: WaypointOptimizationAccessHoursEntry object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationAccessHoursEntry

Service: Amazon Location Service Routes V2

Hours of entry.

Contents

DayOfWeek

Day of the week.

Type: String

Valid Values: `Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday`

Required: Yes

TimeOfDay

Time of the day.

Type: String

Pattern: `([0-1]?[0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9](Z|[+-]([0-1]?[0-9]|2[0-3]):[0-5][0-9])`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationAvoidanceArea

Service: Amazon Location Service Routes V2

The area to be avoided.

Contents

Geometry

Geometry of the area to be avoided.

Type: WaypointOptimizationAvoidanceAreaGeometry object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationAvoidanceAreaGeometry

Service: Amazon Location Service Routes V2

Geometry of the area to be avoided.

Contents

BoundingBox

Geometry defined as a bounding box. The first pair represents the X and Y coordinates (longitude and latitude,) of the southwest corner of the bounding box; the second pair represents the X and Y coordinates (longitude and latitude) of the northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationAvoidanceOptions

Service: Amazon Location Service Routes V2

Specifies options for areas to avoid. This is a best-effort avoidance setting, meaning the router will try to honor the avoidance preferences but may still include restricted areas if no feasible alternative route exists. If avoidance options are not followed, the response will indicate that the avoidance criteria were violated.

Contents

Areas

Areas to be avoided.

Type: Array of WaypointOptimizationAvoidanceArea objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

Required: No

CarShuttleTrains

Avoidance options for cars-shuttles-trains.

Type: Boolean

Required: No

ControlledAccessHighways

Avoid controlled access highways while calculating the route.

Type: Boolean

Required: No

DirtRoads

Avoid dirt roads while calculating the route.

Type: Boolean

Required: No

Ferries

Avoidance options for ferries.

Type: Boolean

Required: No

TollRoads

Avoids roads where the specified toll transponders are the only mode of payment.

Type: Boolean

Required: No

Tunnels

Avoid tunnels while calculating the route.

Type: Boolean

Required: No

UTurns

Avoid U-turns for calculation on highways and motorways.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationClusteringOptions

Service: Amazon Location Service Routes V2

Options for WaypointOptimizationClustering.

Contents

Algorithm

The algorithm to be used. `DrivingDistance` assigns all the waypoints that are within driving distance of each other into a single cluster. `TopologySegment` assigns all the waypoints that are within the same topology segment into a single cluster. A Topology segment is a linear stretch of road between two junctions.

Type: String

Valid Values: `DrivingDistance | TopologySegment`

Required: Yes

DrivingDistanceOptions

Driving distance options to be used when the clustering algorithm is DrivingDistance.

Type: WaypointOptimizationDrivingDistanceOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationConnection

Service: Amazon Location Service Routes V2

This contains information such as distance and duration from one waypoint to the next waypoint in the sequence.

Contents

Distance

Distance of the step.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

From

contains the ID of the starting waypoint in this connection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: Yes

RestDuration

Resting time before the driver can continue driving.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

To

Contains the ID of the ending waypoint in this connection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: Yes

TravelDuration

Total duration.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WaitDuration

Duration of a wait step.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationDestinationOptions

Service: Amazon Location Service Routes V2

Destination related options.

Contents

AccessHours

Access hours corresponding to when a waypoint can be visited.

Type: WaypointOptimizationAccessHours object

Required: No

AppointmentTime

Appointment time at the destination.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: No

ServiceDuration

Service time spent at the destination. At an appointment, the service time should be the appointment duration.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: WaypointOptimizationSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationDriverOptions

Service: Amazon Location Service Routes V2

Driver related options.

Contents

RestCycles

Driver work-rest schedules defined by a short and long cycle. A rest needs to be taken after the short work duration. The short cycle can be repeated until you hit the long work duration, at which point the long rest duration should be taken before restarting.

Type: WaypointOptimizationRestCycles object

Required: No

RestProfile

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Type: WaypointOptimizationRestProfile object

Required: No

TreatServiceTimeAs

If the service time provided at a waypoint/destination should be considered as rest or work. This contributes to the total time breakdown returned within the response.

Type: String

Valid Values: `Rest | Work`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationDrivingDistanceOptions

Service: Amazon Location Service Routes V2

Driving distance related options.

Contents

DrivingDistance

DrivingDistance assigns all the waypoints that are within driving distance of each other into a single cluster.

Type: Long

Valid Range: Minimum value of 5. Maximum value of 50000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationExclusionOptions

Service: Amazon Location Service Routes V2

Specifies strict exclusion options for the route calculation. This setting mandates that the router will avoid any routes that include the specified options, rather than merely attempting to minimize them.

Contents

Countries

List of countries to be avoided defined by two-letter or three-letter country codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationFailedConstraint

Service: Amazon Location Service Routes V2

The failed constraint.

Contents

Constraint

The failed constraint.

Type: String

Valid Values: `AccessHours | AppointmentTime | Before | Heading | ServiceDuration | SideOfStreet`

Required: No

Reason

Reason for the failed constraint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationImpedingWaypoint

Service: Amazon Location Service Routes V2

The impeding waypoint.

Contents

FailedConstraints

Failed constraints for an impeding waypoint.

Type: Array of WaypointOptimizationFailedConstraint objects

Required: Yes

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: Yes

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationOptimizedWaypoint

Service: Amazon Location Service Routes V2

The optimized waypoint.

Contents

DepartureTime

Estimated time of departure from the origin.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: Yes

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: Yes

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

ArrivalTime

Estimated time of arrival at the destination.

Time format:`YYYY-MM-DDThh:mm:ss.sssZ | YYYY-MM-DDThh:mm:ss.sss+hh:mm`

Examples:

`2020-04-22T17:57:24Z`

`2020-04-22T17:57:24+02:00`

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

ClusterIndex

Index of the cluster the waypoint is associated with. The index is included in the response only if clustering was performed while processing the request.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationOriginOptions

Service: Amazon Location Service Routes V2

Origin related options.

Contents

Id

The Origin Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationPedestrianOptions

Service: Amazon Location Service Routes V2

Options related to a pedestrian.

Contents

Speed

Walking speed.

Unit: `kilometers per hour`

Type: Double

Valid Range: Minimum value of 1.8. Maximum value of 7.2.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationRestCycleDurations

Service: Amazon Location Service Routes V2

Driver work-rest schedules defined by a short and long cycle. A rest needs to be taken after the short work duration. The short cycle can be repeated until you hit the long work duration, at which point the long rest duration should be taken before restarting.

Unit: `seconds`

Contents

RestDuration

Resting phase of the cycle.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WorkDuration

Working phase of the cycle.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

WaypointOptimizationRestCycles

Service: Amazon Location Service Routes V2

Resting phase of the cycle.

Contents

LongCycle

Long cycle for a driver work-rest schedule.

Type: WaypointOptimizationRestCycleDurations object

Required: Yes

ShortCycle

Short cycle for a driver work-rest schedule

Type: WaypointOptimizationRestCycleDurations object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationRestProfile

Service: Amazon Location Service Routes V2

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Contents

Profile

Pre defined rest profiles for a driver schedule. The only currently supported profile is EU.

Type: String

Length Constraints: Fixed length of 2.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationSideOfStreetOptions

Service: Amazon Location Service Routes V2

Options to configure matching the provided position to a side of the street.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

UseWith

Strategy that defines when the side of street position should be used. AnyStreet will always use the provided position.

Default value: `DividedStreetOnly`

Type: String

Valid Values: `AnyStreet | DividedStreetOnly`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationTimeBreakdown

Service: Amazon Location Service Routes V2

Time breakdown for the sequence.

Contents

RestDuration

Resting phase of the cycle.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

ServiceDuration

Service time spent at the destination. At an appointment, the service time should be the appointment duration.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

TravelDuration

Traveling phase of the cycle.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

WaitDuration

Waiting phase of the cycle.

Unit: seconds

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationTrafficOptions

Service: Amazon Location Service Routes V2

Options related to traffic.

Contents

Usage

Determines if traffic should be used or ignored while calculating the route.

Default value: `UseTrafficData`

Type: String

Valid Values: `IgnoreTrafficData | UseTrafficData`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationTrailerOptions

Service: Amazon Location Service Routes V2

Trailer options corresponding to the vehicle.

Contents

TrailerCount

Number of trailers attached to the vehicle.

Default value: `0`

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 255.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationTravelModeOptions

Service: Amazon Location Service Routes V2

Travel mode related options for the provided travel mode.

Contents

Pedestrian

Travel mode options when the provided travel mode is `Pedestrian`.

Type: WaypointOptimizationPedestrianOptions object

Required: No

Truck

Travel mode options when the provided travel mode is `Truck`.

Type: WaypointOptimizationTruckOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationTruckOptions

Service: Amazon Location Service Routes V2

Travel mode options when the provided travel mode is `Truck`.

Contents

GrossWeight

Gross weight of the vehicle including trailers, and goods at capacity.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

HazardousCargos

List of Hazardous cargo contained in the vehicle.

Type: Array of strings

Valid Values: `Combustible | Corrosive | Explosive | Flammable | Gas | HarmfulToWater | Organic | Other | Poison | PoisonousInhalation | Radioactive`

Required: No

Height

Height of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

Length

Length of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 30000.

Required: No

Trailer

Trailer options corresponding to the vehicle.

Type: WaypointOptimizationTrailerOptions object

Required: No

TruckType

The type of truck: `LightTruck` for smaller delivery vehicles, `StraightTruck` for rigid body trucks, or `Tractor` for tractor-trailer combinations.

Type: String

Valid Values: `StraightTruck | Tractor`

Required: No

TunnelRestrictionCode

The tunnel restriction code.

Tunnel categories in this list indicate the restrictions which apply to certain tunnels in Great Britain. They relate to the types of dangerous goods that can be transported through them.

- *Tunnel Category B*
  - *Risk Level*: Limited risk
  - *Restrictions*: Few restrictions
- *Tunnel Category C*
  - *Risk Level*: Medium risk
  - *Restrictions*: Some restrictions
- *Tunnel Category D*
  - *Risk Level*: High risk

- *Restrictions*: Many restrictions occur
- *Tunnel Category E*
  - *Risk Level*: Very high risk
  - *Restrictions*: Restricted tunnel

Type: String

Length Constraints: Fixed length of 1.

Required: No

WeightPerAxle

Heaviest weight per axle irrespective of the axle type or the axle group. Meant for usage in countries where the differences in axle types or axle groups are not distinguished.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Width

Width of the vehicle.

Unit: `centimeters`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 5000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

WaypointOptimizationWaypoint

Service: Amazon Location Service Routes V2

Waypoint between the Origin and Destination.

Contents

Position

Position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

AccessHours

Access hours corresponding to when a waypoint can be visited.

Type: WaypointOptimizationAccessHours object

Required: No

AppointmentTime

Appointment time at the waypoint.

Type: String

Pattern: `([1-2][0-9]{3})-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])T([01][0-9]|2[0-3]):([0-5][0-9]):([0-5][0-9]|60)(\.[0-9]{0,9})?(Z|[+-]([01][0-9]|2[0-3]):[0-5][0-9])`

Required: No

Before

Constraint defining what waypoints are to be visited after this waypoint.

Type: Array of integers

Required: No

Heading

GPS Heading at the position.

Type: Double

Valid Range: Minimum value of 0.0. Maximum value of 360.0.

Required: No

Id

The waypoint Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^,;!]+`

Required: No

ServiceDuration

Service time spent at the waypoint. At an appointment, the service time should be the appointment duration.

Unit: `seconds`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

SideOfStreet

Options to configure matching the provided position to a side of the street.

Type: WaypointOptimizationSideOfStreetOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WeightPerAxleGroup

Service: Amazon Location Service Routes V2

Specifies the total weight for different axle group configurations. Used in regions where regulations set different weight limits based on axle group types.

Unit: `kilograms`

Contents

Quad

Total weight in kilograms for quad (four adjacent) axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Quint

Total weight in kilograms for quint (five adjacent) axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Single

Total weight in kilograms for single axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Tandem

Total weight in kilograms for tandem (two adjacent) axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

Triple

Total weight in kilograms for triple (three adjacent) axle configurations.

Unit: `kilograms`

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Maps V2

The following data types are supported by Amazon Location Service Maps V2:

- ValidationExceptionField

ValidationExceptionField

Service: Amazon Location Service Maps V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the resource.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Places V2

The following data types are supported by Amazon Location Service Places V2:

- AccessPoint
- AccessRestriction
- Address

- AddressComponentMatchScores
- AddressComponentPhonemes
- AdminNames
- AutocompleteAddressHighlights
- AutocompleteFilter
- AutocompleteHighlights
- AutocompleteResultItem
- BusinessChain
- Category
- ComponentMatchScores
- ContactDetails
- Contacts
- Country
- CountryHighlights
- CrossReference
- FilterCircle
- FoodType
- GeocodeFilter
- GeocodeParsedQuery
- GeocodeParsedQueryAddressComponents
- GeocodeQueryComponents
- GeocodeResultItem
- Highlight
- Intersection
- MatchScoreDetails
- OpeningHours
- OpeningHoursComponents
- ParsedQueryComponent
- ParsedQuerySecondaryAddressComponent
- PhonemeDetails

- PhonemeTranscription
- PostalCodeDetails
- QueryRefinement
- Region
- RegionHighlights
- RelatedPlace
- ReverseGeocodeFilter
- ReverseGeocodeResultItem
- SearchNearbyFilter
- SearchNearbyResultItem
- SearchTextFilter
- SearchTextResultItem
- SecondaryAddressComponent
- SecondaryAddressComponentMatchScore
- StreetComponents
- SubRegion
- SubRegionHighlights
- SuggestAddressHighlights
- SuggestFilter
- SuggestHighlights
- SuggestPlaceResult
- SuggestQueryResult
- SuggestResultItem
- TimeZone
- TranslationDetails
- TranslationName
- UspsZip
- UspsZipPlus4
- ValidationExceptionField

AccessPoint

Service: Amazon Location Service Places V2

Position of the access point represented by longitude and latitude for a vehicle.

Contents

Label

A short textual description of the access point, such as `"North Entrance"`.

Type: String

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

Primary

Set to `true` for the primary access position when the place has more than one access point.

Type: Boolean

Required: No

Type

The type of access point, indicating its intended use. Only applies to results of type place.

Type: String

Valid Values: `Delivery` | `Emergency` | `Entrance` | `Loading` | `Other` | `Parking` | `Taxi`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AccessRestriction

Service: Amazon Location Service Places V2

Indicates if the access location is restricted. Index correlates to that of an access point and indicates if access through this point has some form of restriction.

Contents

Categories

Categories of results that results must belong too.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Restricted

The restriction.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Address

Service: Amazon Location Service Places V2

The place address.

Contents

AddressNumber

The number that identifies an address within a street.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: No

Block

Name of the block. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Example: `Sunny Mansion 203 block: 2 Chome`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Building

The name of the building at the address. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Country

The country component of the address.

Type: Country object

Required: No

District

The district or division of a locality associated with this address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Intersection

Name of the streets in the intersection. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Example: `["Friedrichstraße","Unter den Linden"]`

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Label

Assembled address value built out of the address components, according to the regional postal rules. This is the correctly formatted address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Locality

The city or locality of the address.

Example: `Vancouver`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Region

The region or state results should be present in.

Example: `North Rhine-Westphalia`.

Type: Region object

Required: No

SecondaryAddressComponents

Components that correspond to secondary identifiers on an Address. Secondary address components include information such as Suite or Unit Number, Building, or Floor. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> Coverage for `Address.SecondaryAddressComponents` is available in the following countries:
> AUS, CAN, NZL, USA, PRI

Type: Array of SecondaryAddressComponent objects

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Required: No

Street

The name of the street results should be present in.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

StreetComponents

Components of the street. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Example: Yonge from "Yonge street".

Type: Array of StreetComponents objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubBlock

Name of sub-block. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Example: `Sunny Mansion 203 sub-block: 4`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

SubDistrict

A subdivision of a district.

Example: `Minden-Lübbecke`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: SubRegion object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AddressComponentMatchScores

Service: Amazon Location Service Places V2

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Contents

AddressNumber

The house number or address results should have.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Block

Name of the block.

Example: `Sunny Mansion 203 block: 2 Chome`

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Building

The name of the building at the address.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

District

The district or division of a city the results should be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Intersection

Name of the streets in the intersection.

Example: `["Friedrichstraße","Unter den Linden"]`

Type: Array of doubles

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Locality

The city or locality results should be present in.

Example: `Vancouver`.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

Region

The region or state results should be to be present in.

Example: `North Rhine-Westphalia`.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SecondaryAddressComponents

Match scores for the secondary address components in the result.

> **Note**
>
> Coverage for this functionality is available in the following countries: AUS, AUT, BRA, CAN, ESP, FRA, GBR, IDN, IND, NZL, TUR, TWN, USA.

Type: Array of SecondaryAddressComponentMatchScore objects

Required: No

SubBlock

Name of sub-block.

Example: `Sunny Mansion 203 sub-block: 4`

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SubDistrict

A subdivision of a district.

Example: `Minden-Lübbecke`

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AddressComponentPhonemes

Service: Amazon Location Service Places V2

How to pronounce the various components of the address or place.

Contents

Block

How to pronounce the name of the block.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

District

How to pronounce the district or division of a city results should be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Locality

How to pronounce the city or locality results should be present in.

Example: `Vancouver`.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Region

How to pronounce the region or state results should be to be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Street

How to pronounce the name of the street results should be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubBlock

How to pronounce the name of the sub-block.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubDistrict

How to pronounce the sub-district or division of a city results should be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SubRegion

How to pronounce the sub-region or county for which results should be present in.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AdminNames

Service: Amazon Location Service Places V2

The official administrative names for an address component, returned when `AddressNamesMode` is set to `Administrative`.

Contents

Names

A list of translation names for the administrative address component, including name variants and translations in available languages.

Type: Array of TranslationName objects

Array Members: Minimum number of 1 item.

Required: Yes

Preference

Indicates the preference level of the administrative name. Valid values are `Primary` and `Alternative`.

Type: String

Valid Values: `Alternative | Primary`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AutocompleteAddressHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Contents

AddressNumber

The house number or address results should have.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Block

Name of the block.

Example: `Sunny Mansion 203 block: 2 Chome`

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Building

The name of the building at the address.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: CountryHighlights object

Required: No

District

The district or division of a city the results should be present in.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Intersection

Name of the streets in the intersection. For example: e.g. ["Friedrichstraße","Unter den Linden"]

Type: Array of arrays of Highlight objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Label

Indicates the starting and ending indexes for result items where they are identified to match the input query. This should be used to provide emphasis to output display to make selecting the correct result from a list easier for end users.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Locality

The city or locality results should be present in.

Example: `Vancouver`.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Region

The region or state results should be to be present in.

Example: `North Rhine-Westphalia`.

Type: RegionHighlights object

Required: No

Street

The name of the street results should be present in.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubBlock

Name of sub-block.

Example: `Sunny Mansion 203 sub-block: 4`

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubDistrict

Indicates the starting and ending index of the title in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: SubRegionHighlights object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AutocompleteFilter

Service: Amazon Location Service Places V2

Autocomplete structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The `Circle` that all results must be in.

Type: FilterCircle object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

IncludePlaceTypes

The included place types.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 8 items.

Valid Values: `Locality | PostalCode | Street | Intersection | PointAddress | InterpolatedAddress | Country | Region`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AutocompleteHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Contents

Address

Describes how part of the result address match the input query.

Type: AutocompleteAddressHighlights object

Required: No

Title

Indicates where the title field in the result matches the input query.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AutocompleteResultItem

Service: Amazon Location Service Places V2

A result matching the input query text.

Contents

PlaceId

The PlaceId of the place associated with this result. This can be used to look up additional details about the result via GetPlace.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

PlaceType describes the type of result entry returned.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

A formatted string for display when presenting this result to an end user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Address

The address associated with this result.

Type: Address object

Required: No

Distance

The distance in meters between the center of the search area and this result. Useful to evaluate how far away from the original bias position the result is.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

EstimatedPointAddress

If `true`, indicates that the coordinates of the position and access points of the point address are estimated.

Type: Boolean

Required: No

Highlights

Indicates the starting and ending index of the place in the text query that match the found title.

Type: AutocompleteHighlights object

Required: No

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BusinessChain

Service: Amazon Location Service Places V2

A businesschain is a chain of businesses that belong to the same brand. For example 7-11.

Contents

Id

The Business Chain Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Name

The business chain name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Category

Service: Amazon Location Service Places V2

Category of the `Place` returned.

Contents

Id

The category ID.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

Name

The category name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

LocalizedName

Localized name of the category type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Primary

Boolean which indicates if this category is the primary offered by the place.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ComponentMatchScores

Service: Amazon Location Service Places V2

Indicates how well the returned title and address components matches the input TextQuery. For each component a score is provied with 1 indicating all tokens were matched and 0 indicating no tokens were matched.

Contents

Address

The place's address.

Type: AddressComponentMatchScores object

Required: No

Title

Indicates the match score of the title in the text query that match the found title.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ContactDetails

Service: Amazon Location Service Places V2

Details related to contacts.

Contents

Categories

Categories of results that results must belong too.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Label

The contact's label.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Value

The contact's value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

Contacts

Service: Amazon Location Service Places V2

A list of potential contact methods for the place or result.

Contents

Emails

List of emails for contacts of the result.

Type: Array of ContactDetails objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Faxes

List of fax addresses for the result contact.

Type: Array of ContactDetails objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phones

List of phone numbers for the results contact.

Type: Array of ContactDetails objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Websites

List of website URLs that belong to the result.

Type: Array of ContactDetails objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Country

Service: Amazon Location Service Places V2

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Contents

Code2

Country, represented by its alpha 2-character code.

Type: String

Length Constraints: Fixed length of 2.

Pattern: `[A-Z]{2}`

Required: No

Code3

Country, represented by its alpha t-character code.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Name

Name of the country.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

CountryHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the country in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the country code in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the country code in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

CrossReference

Service: Amazon Location Service Places V2

A reference to a third-party supplier's identifier for a place, enabling correlation of places across external systems.

Contents

Source

The name of the third-party data supplier (for example, `Yelp` or `TripAdvisor`).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

SourcePlaceId

The place identifier assigned by the third-party supplier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

SourceCategories

The list of place category identifiers this supplier reference relates to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

FilterCircle

Service: Amazon Location Service Places V2

The `Circle` that all results must be in.

Contents

Center

The center position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

The radius, in meters, of the `FilterCircle`. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only up to a maximum value of 300,000.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 21000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

FoodType

Service: Amazon Location Service Places V2

List of Food types offered by this result.

Contents

LocalizedName

Localized name of the food type.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: Yes

Id

The Food Type Id.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

Primary

Boolean which indicates if this food type is the primary offered by the place. For example, if a location serves fast food, but also dessert, he primary would likely be fast food.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

GeocodeFilter

Service: Amazon Location Service Places V2

Geocode structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

IncludePlaceTypes

The included place types.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Valid Values: `Locality | PostalCode | Intersection | Street | PointAddress | InterpolatedAddress | SecondaryAddress | PointOfInterest | Country | Region`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

GeocodeParsedQuery

Service: Amazon Location Service Places V2

Parsed components in the provided QueryText.

Contents

Address

The place address.

Type: GeocodeParsedQueryAddressComponents object

Required: No

Title

The localized display name of this result item based on request parameter `language`.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

GeocodeParsedQueryAddressComponents

Service: Amazon Location Service Places V2

Parsed address components in the provided QueryText.

Contents

AddressNumber

The number that identifies an address within a street.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Block

Name of the block.

Example: `Sunny Mansion 203 block: 2 Chome`

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Building

The name of the building at the address.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

District

The district or division of a city the results should be present in.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Locality

The city or locality of the address.

Example: `Vancouver`.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

OtherComponents

Additional information extracted from the query that does not correspond to standard address components.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code, for which the result should possess.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Region

The region or state results should be present in.

Example: `North Rhine-Westphalia`.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SecondaryAddressComponents

Parsed secondary address components from the provided query text.

> **Note**
>
> Coverage for `ParsedQuery.Address.SecondaryAddressComponents` is available in the following countries:
> AUS, AUT, BRA, CAN, ESP, FRA, GBR, HKG, IDN, IND, NZL, TUR, TWN, USA

Type: Array of ParsedQuerySecondaryAddressComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Street

The name of the street results should be present in.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubBlock

Name of sub-block.

Example: `Sunny Mansion 203 sub-block: 4`

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubDistrict

A subdivision of a district.

Example: `Minden-Lübbecke`.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: Array of ParsedQueryComponent objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

GeocodeQueryComponents

Service: Amazon Location Service Places V2

A structured free text query allows you to search for places by the name or text representation of specific properties of the place.

Contents

AddressNumber

The house number or address results should have.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

Country

The alpha-2 or alpha-3 character code for the country that the results will be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

District

The district or division of a city the results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

Locality

The city or locality results should be present in.

Example: `Vancouver`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

Region

The region or state results should be to be present in.

Example: `North Rhine-Westphalia`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

Street

The name of the street results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

SubRegion

The sub-region or county for which results should be present in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[^;]+`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

GeocodeResultItem

Service: Amazon Location Service Places V2

The Geocoded result.

Contents

PlaceId

The `PlaceId` of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

The localized display name of this result item based on request parameter `language`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: Address object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

EstimatedPointAddress

If `true`, indicates that the coordinates of the position and access points of the point address are estimated.

Type: Boolean

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Intersections

All Intersections that are near the provided address.

Type: Array of Intersection objects

Array Members: Minimum number of 1 item.

Required: No

MainAddress

The main address corresponding to a place of type Secondary Address.

Type: RelatedPlace object

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

MatchScores

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: MatchScoreDetails object

Required: No

ParsedQuery

Free-form text query.

Type: GeocodeParsedQuery object

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

PostalCodeDetails

Contains details about the postal code of the place or result.

Type: Array of PostalCodeDetails objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

SecondaryAddresses

All secondary addresses that are associated with a main address. A secondary address is one that includes secondary designators, such as a Suite or Unit Number, Building, or Floor information.

> **Note**
>
> Coverage for this functionality is available in the following countries: AUS, CAN, NZL, USA, PRI.

Type: Array of RelatedPlace objects

Array Members: Minimum number of 1 item.

Required: No

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Required: No

Translations

All name translations and alternative names for the requested address fields in all available languages.

Type: TranslationDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

Highlight

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the text query that match the found title.

Contents

EndIndex

End index of the highlight.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

StartIndex

Start index of the highlight.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Value

The highlight's value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

Intersection

Service: Amazon Location Service Places V2

All Intersections that are near the provided address.

Contents

PlaceId

The `PlaceId` of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

Title

The localized display name of this result item based on request parameter `language`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place address.

Type: Address object

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set of four coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

RouteDistance

The distance from the routing position of the nearby address to the street result.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

MatchScoreDetails

Service: Amazon Location Service Places V2

Details related to the match score.

Contents

Components

Indicates how well the component input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: ComponentMatchScores object

Required: No

Overall

Indicates how well the entire input matches the returned. It is equal to 1 if all input tokens are recognized and matched.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

OpeningHours

Service: Amazon Location Service Places V2

List of opening hours objects.

Contents

Categories

Categories of results that results must belong too.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Components

Components of the opening hours object.

Type: Array of OpeningHoursComponents objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Display

List of opening hours in the format they are displayed in. This can vary by result and in most cases represents how the result uniquely formats their opening hours.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

OpenNow

Boolean which indicates if the place or result is currently open.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

OpeningHoursComponents

Service: Amazon Location Service Places V2

Components of the opening hours object.

Contents

OpenDuration

String which represents the duration of the opening period, such as `"PT12H00M"`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

OpenTime

String which represents the opening hours, such as `"T070000"`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 21.

Required: No

Recurrence

Days or periods when the provided opening hours are in affect.

Example: `FREQ:DAILY;BYDAY:MO,TU,WE,TH,SU`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ParsedQueryComponent

Service: Amazon Location Service Places V2

Parsed components in the provided QueryText.

Contents

EndIndex

End index of the parsed query component.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

QueryComponent

The address component that the parsed query component corresponds to.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 11.

Required: No

StartIndex

Start index of the parsed query component.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Value

Value of the parsed query component.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ParsedQuerySecondaryAddressComponent

Service: Amazon Location Service Places V2

Information about a secondary address component parsed from the query text.

Contents

Designator

Secondary address designator provided in the query.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 4.

Required: Yes

EndIndex

End index of the parsed secondary address component in the query text.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Number

Secondary address number provided in the query.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: Yes

StartIndex

Start index of the parsed secondary address component in the query text.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

Value

Value of the parsed secondary address component.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

PhonemeDetails

Service: Amazon Location Service Places V2

The phoneme details.

Contents

Address

How to pronounce the address.

Type: AddressComponentPhonemes object

Required: No

Title

List of `PhonemeTranscription`. See `PhonemeTranscription` for fields.

Type: Array of PhonemeTranscription objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

PhonemeTranscription

Service: Amazon Location Service Places V2

How to pronounce the various components of the address or place.

Contents

Language

A list of BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

Preferred

Boolean which indicates if it the preferred pronunciation.

Type: Boolean

Required: No

Value

Value which indicates how to pronounce the value.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

PostalCodeDetails

Service: Amazon Location Service Places V2

Contains details about the postal code of the place or result.

Contents

PostalAuthority

The postal authority or entity. This could be a governmental authority, a regulatory authority, or a designated postal operator.

Type: String

Valid Values: `Usps`

Required: No

PostalCode

An alphanumeric string included in a postal address to facilitate mail sorting, such as post code, postcode, or ZIP code for which the result should possess.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

PostalCodeType

The postal code type.

Type: String

Valid Values: `UspsZip | UspsZipPlus4`

Required: No

UspsZip

The ZIP Classification Code, or in other words what type of postal code is it.

Type: UspsZip object

Required: No

UspsZipPlus4

The USPS ZIP+4 Record Type Code.

Type: UspsZipPlus4 object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

QueryRefinement

Service: Amazon Location Service Places V2

Suggestions for refining individual query terms. Suggestions are returned as objects which note the term, suggested replacement, and its index in the query.

Contents

EndIndex

End index of the parsed query.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

OriginalTerm

The sub-string of the original query that is replaced by this query term.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

RefinedTerm

The term that will be suggested to the user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

StartIndex

Start index of the parsed component.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Region

Service: Amazon Location Service Places V2

The region or state results should be to be present in.

Example: `North Rhine-Westphalia`.

Contents

Code

Abbreviated code for the state, province or region of the country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Example: BC.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

Name

Name for the state, province, or region of the country.

Example: `British Columbia`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RegionHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the region in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the region in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the region name in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RelatedPlace

Service: Amazon Location Service Places V2

Place that is related to the result item.

Contents

PlaceId

The `PlaceId` of the place result.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

The localized display name of this result item based on request parameter `language`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place address.

Type: Address object

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ReverseGeocodeFilter

Service: Amazon Location Service Places V2

The included place types.

Contents

IncludePlaceTypes

The included place types. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions support only `Street` and `PointAddress` values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 7 items.

Valid Values: `Locality | Intersection | Street | PointAddress | InterpolatedAddress | SecondaryAddress | PointOfInterest`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ReverseGeocodeResultItem

Service: Amazon Location Service Places V2

The returned location from the `Reverse Geocode` action.

Contents

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

The localized display name of this result item based on request parameter `language`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude]. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: Address object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Boolean

Required: No

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

EstimatedPointAddress

If `true`, indicates that the coordinates of the position and access points of the point address are estimated.

Type: Boolean

Required: No

FoodTypes

List of food types offered by this result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Intersections

All Intersections that are near the provided address. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of Intersection objects

Array Members: Minimum number of 1 item.

Required: No

MainAddress

The main address corresponding to a place of type Secondary Address.

Type: RelatedPlace object

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

PostalCodeDetails

Contains details about the postal code of the place or result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of PostalCodeDetails objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SearchNearbyFilter

Service: Amazon Location Service Places V2

SearchNearby structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

ExcludeBusinessChains

The Business Chains associated with the place.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

ExcludeCategories

Categories of results that results are excluded from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

ExcludeFoodTypes

Food types that results are excluded from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeBusinessChains

The Business Chains associated with the place.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeCategories

Categories of results that results must belong too.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

IncludeFoodTypes

Food types that results are included from.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 1. Maximum length of 100.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SearchNearbyResultItem

Service: Amazon Location Service Places V2

The search results of nearby places.

Contents

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

The item's title.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction.

Type: Array of AccessRestriction objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: Address object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

BusinessChains

The Business Chains associated with the place.

Type: Array of BusinessChain objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Contacts

List of potential contact methods for the place or result.

Type: Contacts object

Required: No

CrossReferences

The list of supplier references available for this place. Requires the `CrossReferences` additional feature to be enabled.

Type: Array of CrossReference objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

OpeningHours

List of opening hours objects.

Type: Array of OpeningHours objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages.

Type: PhonemeDetails object

Required: No

PlaceAttributes

A list of place attributes for the result, such as whether the business offers drive-through service.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `DriveThrough`

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SearchTextFilter

Service: Amazon Location Service Places V2

SearchText structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The `Circle` that all results must be in.

Type: FilterCircle object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SearchTextResultItem

Service: Amazon Location Service Places V2

The text search result.

Contents

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: Yes

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: Yes

Title

The item's title.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction.

Type: Array of AccessRestriction objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: Address object

Required: No

AddressNumberCorrected

Boolean indicating if the address provided has been corrected.

Type: Boolean

Required: No

BusinessChains

The Business Chains associated with the place.

Type: Array of BusinessChain objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Contacts

List of potential contact methods for the place or result.

Type: Contacts object

Required: No

CrossReferences

The list of supplier references available for this place. Requires the `CrossReferences` additional feature to be enabled.

Type: Array of CrossReference objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

OpeningHours

List of opening hours objects. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of OpeningHours objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages.

Type: PhonemeDetails object

Required: No

PlaceAttributes

A list of place attributes for the result, such as whether the business offers drive-through service.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `DriveThrough`

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SecondaryAddressComponent

Service: Amazon Location Service Places V2

Components that correspond to secondary identifiers on an address. The only component type supported currently is Unit.

Contents

Number

Number that uniquely identifies a secondary address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 10.

Required: Yes

Designator

The designator of the secondary address component.

Example: `Apt`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 20.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SecondaryAddressComponentMatchScore

Service: Amazon Location Service Places V2

Match score for a secondary address component in the result.

Contents

Number

Match score for the secondary address number.

Type: Double

Valid Range: Minimum value of 0. Maximum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

StreetComponents

Service: Amazon Location Service Places V2

Components of a street.

Contents

BaseName

Base name part of the street name.

Example: Younge from the "Younge street".

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

Direction

Indicates the official directional identifiers assigned to highways.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Language

A BCP 47 compliant language codes for the results to be rendered in. If there is no data for the result in the requested language, data will be returned in the default language for the entry.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

Prefix

A prefix is a directional identifier that precedes, but is not included in, the base name of a road.

Example: E for East.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Suffix

A suffix is a directional identifier that follows, but is not included in, the base name of a road.

Example W for West.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

Type

Street type part of the street name.

Example: `"avenue"`.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 50.

Required: No

TypePlacement

Defines if the street type is before or after the base name.

Type: String

Valid Values: `BeforeBaseName | AfterBaseName`

Required: No

TypeSeparator

Defines a separator character such as `""` or `" "` between the base name and type.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1.

Pattern: $ | ^

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SubRegion

Service: Amazon Location Service Places V2

The sub-region.

Contents

Code

Abbreviated code for the county or sub-region. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 3.

Required: No

Name

Name for the county or sub-region.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SubRegionHighlights

Service: Amazon Location Service Places V2

Indicates the starting and ending index of the sub-region in the text query that match the found title.

Contents

Code

Indicates the starting and ending index of the sub-region in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

Name

Indicates the starting and ending index of the name in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestAddressHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the textQuery matched the input query by returning the sections of the response which matched to textQuery terms.

Contents

Label

Indicates the starting and ending indexes of the places in the result which were identified to match the textQuery. This result is useful for providing emphasis to results where the user query directly matched to make selecting the correct result from a list easier for an end user.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestFilter

Service: Amazon Location Service Places V2

SuggestFilter structure which contains a set of inclusion/exclusion properties that results must possess in order to be returned as a result.

Contents

BoundingBox

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Circle

The `Circle` that all results must be in.

Type: FilterCircle object

Required: No

IncludeCountries

A list of countries that all results must be in. Countries are represented by either their alpha-2 or alpha-3 character codes.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Length Constraints: Minimum length of 2. Maximum length of 3.

Pattern: `([A-Z]{2}|[A-Z]{3})`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestHighlights

Service: Amazon Location Service Places V2

Describes how the parts of the textQuery matched the input query by returning the sections of the response which matched to textQuery terms.

Contents

Address

The place's address.

Type: SuggestAddressHighlights object

Required: No

Title

Indicates the starting and ending index of the title in the text query that match the found title.

Type: Array of Highlight objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestPlaceResult

Service: Amazon Location Service Places V2

The suggested place results.

Contents

AccessPoints

Position of the access point in World Geodetic System (WGS 84) format: [longitude, latitude]. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of AccessPoint objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

AccessRestrictions

Indicates known access restrictions on a vehicle access point. The index correlates to an access point and indicates if access through this point has some form of restriction. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of AccessRestriction objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Address

The place's address.

Type: Address object

Required: No

BusinessChains

The Business Chains associated with the place. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of BusinessChain objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

Categories

Categories of results that results must belong to.

Type: Array of Category objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

CrossReferences

The list of supplier references available for this place. Requires the `CrossReferences` additional feature to be enabled.

Type: Array of CrossReference objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Distance

The distance in meters from the QueryPosition.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 4294967295.

Required: No

FoodTypes

List of food types offered by this result. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: Array of FoodType objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: No

MapView

The bounding box enclosing the geometric shape (area or line) that an individual result covers.

The bounding box formed is defined as a set 4 coordinates: `[{westward lng}, {southern lat}, {eastward lng}, {northern lat}]`

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

Phonemes

How the various components of the result's address are pronounced in various languages. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: PhonemeDetails object

Required: No

PlaceAttributes

A list of place attributes for the result, such as whether the business offers drive-through service.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1 item.

Valid Values: `DriveThrough`

Required: No

PlaceId

The `PlaceId` of the place you wish to receive the information for.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 500.

Required: No

PlaceType

A `PlaceType` is a category that the result place must belong to.

Type: String

Valid Values: `Country | Region | SubRegion | Locality | District | SubDistrict | PostalCode | Block | SubBlock | Intersection | Street | PointOfInterest | PointAddress | InterpolatedAddress | SecondaryAddress | InferredSecondaryAddress`

Required: No

PoliticalView

The alpha-2 or alpha-3 character code for the political view of a country. The political view applies to the results of the request to represent unresolved territorial claims through the point of view of the specified country. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Length Constraints: Fixed length of 3.

Pattern: `[A-Z]{3}`

Required: No

Position

The position in World Geodetic System (WGS 84) format: [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

TimeZone

The time zone in which the place is located.

Type: TimeZone object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestQueryResult

Service: Amazon Location Service Places V2

The suggested query results.

Contents

QueryId

QueryId can be used to complete a follow up query through the SearchText API. The QueryId retains context from the original Suggest request such as filters, political view and language. See the SearchText API documentation for more details SearchText API docs. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

> **Note**
>
> The fields `QueryText`, and `QueryID` are mutually exclusive.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 500.

Required: No

QueryType

The query type. Category queries will search for places which have an entry matching the given category, for example "doctor office". BusinessChain queries will search for instances of a given business. If you use GrabMaps, the `ap-southeast-1` and `ap-southeast-5` AWS Regions do not support this parameter.

Type: String

Valid Values: `Category | BusinessChain`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SuggestResultItem

Service: Amazon Location Service Places V2

The resulting item from the suggested query.

Contents

SuggestResultItemType

The result type. Place results represent the final result for a point of interest, Query results represent a follow up query which can be completed through the SearchText operation.

Type: String

Valid Values: `Place | Query`

Required: Yes

Title

The display title that should be used when presenting this option to the end user.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Highlights

Describes how the parts of the response element matched the input query by returning the sections of the response which matched to input query terms.

Type: SuggestHighlights object

Required: No

Place

The suggested place by its unique ID.

Type: SuggestPlaceResult object

Required: No

Query

The suggested query results.

Type: SuggestQueryResult object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TimeZone

Service: Amazon Location Service Places V2

The time zone in which the place is located.

Contents

Name

The time zone name.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 200.

Required: Yes

Offset

Time zone offset of the timezone from UTC.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 6.

Required: No

OffsetSeconds

The offset of the time zone from UTC, in seconds.

Type: Long

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

TranslationDetails

Service: Amazon Location Service Places V2

Translation details for the address, including alternative names and translations in available languages.

Contents

District

A list of administrative names and translations for the district address component.

Type: Array of AdminNames objects

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Required: No

Locality

A list of administrative names and translations for the locality address component.

Type: Array of AdminNames objects

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Required: No

Region

A list of administrative names and translations for the region address component.

Type: Array of AdminNames objects

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Required: No

SubRegion

A list of administrative names and translations for the sub-region address component.

Type: Array of AdminNames objects

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TranslationName

Service: Amazon Location Service Places V2

A translation or alternative name for an address component.

Contents

Type

The type of translation name. Valid values are `Abbreviation`, `AreaCode`, `BaseName`, `Exonym`, `Shortened`, and `Synonym`.

Type: String

Valid Values: `Abbreviation | AreaCode | BaseName | Exonym | Shortened | Synonym`

Required: Yes

Value

The translated or alternative name value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: Yes

Language

A BCP 47 compliant language code for the translation name.

Type: String

Length Constraints: Minimum length of 2. Maximum length of 35.

Required: No

Primary

If `true`, indicates this is the primary name variant for the given language.

Type: Boolean

Required: No

Transliterated

If `true`, indicates this name is a transliterated version rather than a native script translation.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

UspsZip

Service: Amazon Location Service Places V2

The USPS zip code.

Contents

ZipClassificationCode

The ZIP Classification Code, or in other words what type of postal code is it.

Type: String

Valid Values: `Military | PostOfficeBoxes | Unique`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

UspsZipPlus4

Service: Amazon Location Service Places V2

The USPS zip+4 code.

Contents

RecordTypeCode

The USPS ZIP+4 Record Type Code.

Type: String

Valid Values: `Firm | General | HighRise | PostOfficeBox | Rural | Street`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service Places V2

The input fails to satisfy the constraints specified by the Amazon Location service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the resource.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service API Keys

The following data types are supported by Amazon Location Service API Keys:

- AndroidApp
- ApiKeyFilter
- ApiKeyRestrictions

- AppleApp
- ListKeysResponseEntry
- ValidationExceptionField

AndroidApp

Service: Amazon Location Service API Keys

Unique identifying information for an Android app. Consists of a package name and a 20 byte SHA-1 certificate fingerprint.

Contents

CertificateFingerprint

20 byte SHA-1 certificate fingerprint associated with the Android app signing certificate.

Example: `BB:0D:AC:74:D3:21:E1:43:67:71:9B:62:91:AF:A1:66:6E:44:5D:75`

Type: String

Length Constraints: Fixed length of 59.

Pattern: `([A-Fa-f0-9]{2}:){19}[A-Fa-f0-9]{2}`

Required: Yes

Package

Unique package name identifier for an Android app.

Example: `com.mydomain.appname`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: `([A-Za-z][A-Za-z\d_]*\.)+[A-Za-z][A-Za-z\d_]*`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

ApiKeyFilter

Service: Amazon Location Service API Keys

Options for filtering API keys.

Contents

KeyStatus

Filter on `Active` or `Expired` API keys.

Type: String

Valid Values: `Active | Expired`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ApiKeyRestrictions

Service: Amazon Location Service API Keys

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Contents

AllowActions

A list of allowed actions that an API key resource grants permissions to perform. You must have at least one action for each type of resource. For example, if you have a place resource, you must include at least one place action.

The following are valid values for the actions.

- **Map actions**
  - `geo:GetMap*` - Allows all actions needed for map rendering.
  - `geo-maps:GetTile` - Allows retrieving map tiles.
  - `geo-maps:GetStaticMap` - Allows retrieving static map images.
  - `geo-maps:*` - Allows all actions related to map functionalities.
- **Place actions**
  - `geo:SearchPlaceIndexForText` - Allows geocoding.
  - `geo:SearchPlaceIndexForPosition` - Allows reverse geocoding.
  - `geo:SearchPlaceIndexForSuggestions` - Allows generating suggestions from text.
  - `geo:GetPlace` - Allows finding a place by place ID.
  - `geo-places:Geocode` - Allows geocoding using place information.
  - `geo-places:ReverseGeocode` - Allows reverse geocoding from location coordinates.
  - `geo-places:SearchNearby` - Allows searching for places near a location.
  - `geo-places:SearchText` - Allows searching for places based on text input.
  - `geo-places:Autocomplete` - Allows auto-completion of place names based on text input.
  - `geo-places:Suggest` - Allows generating suggestions for places based on partial input.
  - `geo-places:GetPlace` - Allows finding a place by its ID.
  - `geo-places:*` - Allows all actions related to place services.

- **Route actions**
  - `geo:CalculateRoute` - Allows point to point routing.
  - `geo:CalculateRouteMatrix` - Allows calculating a matrix of routes.
  - `geo-routes:CalculateRoutes` - Allows calculating multiple routes between points.
  - `geo-routes:CalculateRouteMatrix` - Allows calculating a matrix of routes between points.
  - `geo-routes:CalculateIsolines` - Allows calculating isolines for a given area.
  - `geo-routes:OptimizeWaypoints` - Allows optimizing the order of waypoints in a route.
  - `geo-routes:SnapToRoads` - Allows snapping a route to the nearest roads.
  - `geo-routes:*` - Allows all actions related to routing functionalities.

> **Note**
>
> You must use these strings exactly. For example, to provide access to map rendering, the only valid action is `geo:GetMap*` as an input to the list. `["geo:GetMap*"]` is valid but `["geo:GetMapTile"]` is not. Similarly, you cannot use `["geo:SearchPlaceIndexFor*"]` - you must list each of the Place actions separately.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 24 items.

Length Constraints: Minimum length of 5. Maximum length of 200.

Pattern: `(geo|geo-routes|geo-places|geo-maps):\w*\*?`

Required: Yes

AllowResources

A list of allowed resource ARNs that an API key bearer can perform actions on.

- The ARN must be the correct ARN for a map, place, or route ARN. You may include wildcards in the resource-id to match multiple resources of the same type.
- The resources must be in the same `partition`, `region`, and `account-id` as the key that is being created.

- Other than wildcards, you must include the full ARN, including the `arn`, `partition`, `service`, `region`, `account-id` and `resource-id` delimited by colons (:).
- No spaces allowed, even with wildcards. For example, `arn:aws:geo:region:`*`account-id`*`:map/ExampleMap*`.

For more information about ARN format, see Amazon Resource Names (ARNs).

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 8 items.

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `.*(^arn(:[a-z0-9]+([.-][a-z0-9]+)*):geo(:([a-z0-9]+([.-][a-z0-9]+)*))(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))$)|(^arn(:[a-z0-9]+([.-][a-z0-9]+)*):(geo-routes|geo-places|geo-maps)(:((\*)|([a-z0-9]+([.-][a-z0-9]+)*))):((provider[\/][*-._\w]+))$).*`

Required: Yes

AllowAndroidApps

An optional list of allowed Android applications for which requests must originate from. Requests using this API key from other sources will not be allowed.

Type: Array of AndroidApp objects

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Required: No

AllowAppleApps

An optional list of allowed Apple applications for which requests must originate from. Requests using this API key from other sources will not be allowed.

Type: Array of AppleApp objects

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Required: No

AllowReferers

An optional list of allowed HTTP referers for which requests must originate from. Requests using this API key from other domains will not be allowed.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9) or any symbols in this list `$\-._+!*`(),;/?:@=&`
- May contain a percent (%) if followed by 2 hexadecimal digits (A-F, a-f, 0-9); this is used for URL encoding purposes.
- May contain wildcard characters question mark (?) and asterisk (*).

  Question mark (?) will replace any single character (including hexadecimal digits).

  Asterisk (*) will replace any multiple characters (including multiple hexadecimal digits).
- No spaces allowed.

Example:

`https://example.com`

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Length Constraints: Minimum length of 0. Maximum length of 253.

Pattern: `([\w!$&()*+,./:;=?@\x{60}-]|%([\dA-Fa-f]{2}|[\dA-Fa-f]?\*))+`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AppleApp

Service: Amazon Location Service API Keys

Unique identifying information for an Apple app (iOS, macOS, tvOS and watchOS). Consists of an Apple Bundle ID.

Contents

BundleId

The unique identifier of the app across all Apple platforms (iOS, macOS, tvOS and watchOS).

Example: `com.mydomain.appname`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 155.

Pattern: `[A-Za-z0-9\-]+(\.[A-Za-z0-9\-]+)+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListKeysResponseEntry

Service: Amazon Location Service API Keys

An API key resource listed in your AWS account.

Contents

CreateTime

The timestamp of when the API key was created, in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

ExpireTime

The timestamp for when the API key resource will expire, in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

KeyName

The name of the API key resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

Restrictions

API Restrictions on the allowed actions, resources, referers, Android apps, and Apple apps for an API key resource.

Type: ApiKeyRestrictions object

Required: Yes

UpdateTime

The timestamp of when the API key was last updated, in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

Description

The optional description for the API key resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service API Keys

The input fails to satisfy the constraints specified by the Amazon Location Service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the Validation Exception Field.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Jobs

The following data types are supported by Amazon Location Service Jobs:

- JobActionOptions
- JobError
- JobInputOptions

- JobOutputOptions
- JobsFilter
- ListJobsResponseEntry
- ValidateAddressActionOptions
- ValidationExceptionField

JobActionOptions

Service: Amazon Location Service Jobs

Additional options for configuring job action parameters. Currently, only `ValidateAddress` is supported.

Contents

ValidateAddress

Options specific to address validation jobs.

Type: ValidateAddressActionOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

JobError

Service: Amazon Location Service Jobs

Error information for failed jobs.

Contents

Code

Error code indicating the type of error that occurred.

Type: String

Valid Values: `ValidationError | InternalServerError`

Required: Yes

Messages

Error messages providing details about the failure.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 4 items.

Length Constraints: Minimum length of 1. Maximum length of 200.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

JobInputOptions

Service: Amazon Location Service Jobs

Configuration for input data location and format.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

Contents

Format

Input data format. Currently only `Parquet` is supported.

> **Note**
>
> Input files have a limitation of 10gb per file, and 1gb per Parquet row-group within the file.

Type: String

Valid Values: `Parquet`

Required: Yes

Location

S3 ARN or URI where input files are stored.

> **Note**
>
> The Amazon S3 bucket must be created in the same AWS region where you plan to run your job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 300.

Pattern: `(arn:aws(-[a-z]+)*:[a-z0-9-]+:[a-z0-9-]*:(\d{12})?:[\w/+=,.-]+|s3://[a-z0-9][a-z0-9._-]{2,254}(/[^/]+)*/?)`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

JobOutputOptions

Service: Amazon Location Service Jobs

Configuration for output data location and format.

Contents

Format

Output data format. Currently only "Parquet" is supported.

Type: String

Valid Values: `Parquet`

Required: Yes

Location

S3 ARN or URI where output files will be written.

> **Note**
>
> The Amazon S3 bucket must exist in the same AWS region where you plan to run your job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 300.

Pattern: `(arn:aws(-[a-z]+)*:[a-z0-9-]+:[a-z0-9-]*:(\d{12})?:[\w/+=,.-]+|s3://[a-z0-9][a-z0-9._-]{2,254}(/[^/]+)*/)`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

JobsFilter

Service: Amazon Location Service Jobs

Criteria for filtering jobs.

Contents

JobStatus

Filter by job status.

Type: String

Valid Values: `Pending | Running | Completed | Failed | Cancelling | Cancelled`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListJobsResponseEntry

Service: Amazon Location Service Jobs

Job summary information returned in list operations.

Contents

Action

Action performed by the job.

Type: String

Valid Values: `ValidateAddress`

Required: Yes

CreatedAt

Job creation time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

ExecutionRoleArn

IAM role used for job execution.

Type: String

Required: Yes

InputOptions

Input configuration.

Type: JobInputOptions object

Required: Yes

JobArn

Amazon Resource Name (ARN) of the job.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1600.

Pattern: `arn(:[a-z0-9]+([.-][a-z0-9]+)*):geo(:([a-z0-9]+([.-][a-z0-9]+)*))(:[0-9]+):((\*)|([-a-z]+[/][*-._\w]+))`

Required: Yes

JobId

Unique job identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 200.

Pattern: `[-._\w]+`

Required: Yes

OutputOptions

Output configuration.

Type: JobOutputOptions object

Required: Yes

Status

Current job status.

Type: String

Valid Values: `Pending | Running | Completed | Failed | Cancelling | Cancelled`

Required: Yes

UpdatedAt

Last update time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

ActionOptions

Additional options for configuring job action parameters.

Type: JobActionOptions object

Required: No

EndedAt

Job completion time in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`. Only returned for jobs in a terminal status: `Completed` | `Failed` | `Cancelled`.

Type: Timestamp

Required: No

Error

Error information if the job failed.

Type: JobError object

Required: No

Name

Job name (if provided during creation).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

ValidateAddressActionOptions

Service: Amazon Location Service Jobs

Options specific to address validation jobs.

Contents

AdditionalFeatures

A list of optional additional parameters that can be requested for each result.

Values:

- `Position` - Return the position coordinates of the address if available. This feature is only available in the United States, Canada, and Australia, and incurs additional costs. For more information, see Amazon Location Service pricing.
- `CountrySpecificAttributes` - Return additional information about the address specific to the country of origin.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 2 items.

Valid Values: `Position | CountrySpecificAttributes`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service Jobs

The input fails to satisfy the constraints specified by the Amazon Location Service.

Contents

message

The error message.

Type: String

Required: Yes

name

The name of the Validation Exception Field.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Tags

The following data types are supported by Amazon Location Service Tags:

- ValidationExceptionField

ValidationExceptionField

Service: Amazon Location Service Tags

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Geofences

The following data types are supported by Amazon Location Service Geofences:

- BatchDeleteGeofenceError
- BatchEvaluateGeofencesError
- BatchItemError
- BatchPutGeofenceError
- BatchPutGeofenceRequestEntry
- BatchPutGeofenceSuccess

- Circle
- DevicePositionUpdate
- ForecastedEvent
- ForecastGeofenceEventsDeviceState
- GeofenceGeometry
- ListGeofenceCollectionsResponseEntry
- ListGeofenceResponseEntry
- PositionalAccuracy
- ValidationExceptionField

BatchDeleteGeofenceError

Service: Amazon Location Service Geofences

Contains error details for each geofence that failed to delete from the geofence collection.

Contents

Error

Contains details associated to the batch error.

Type: BatchItemError object

Required: Yes

GeofenceId

The geofence associated with the error message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchEvaluateGeofencesError

Service: Amazon Location Service Geofences

Contains error details for each device that failed to evaluate its position against the geofences in a given geofence collection.

Contents

DeviceId

The device associated with the position evaluation error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Error

Contains details associated to the batch error.

Type: BatchItemError object

Required: Yes

SampleTime

Specifies a timestamp for when the error occurred in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchItemError

Service: Amazon Location Service Geofences

Contents

Code

Type: String

Valid Values: `AccessDeniedError | ConflictError | InternalServerError | ResourceNotFoundError | ThrottlingError | ValidationError`

Required: No

Message

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchPutGeofenceError

Service: Amazon Location Service Geofences

Contains error details for each geofence that failed to be stored in a given geofence collection.

Contents

Error

Contains details associated to the batch error.

Type: BatchItemError object

Required: Yes

GeofenceId

The geofence associated with the error message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchPutGeofenceRequestEntry

Service: Amazon Location Service Geofences

Contains geofence geometry details.

Contents

GeofenceId

The identifier for the geofence to be stored in a given geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Geometry

Contains the details to specify the position of the geofence. Can be a polygon, a circle or a polygon encoded in Geobuf format. Including multiple selections will return a validation error.

> **Note**
>
> The geofence polygon format supports a maximum of 1,000 vertices. The Geofence geobuf format supports a maximum of 100,000 vertices.

Type: GeofenceGeometry object

Required: Yes

GeofenceProperties

Associates one of more properties with the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchPutGeofenceSuccess

Service: Amazon Location Service Geofences

Contains a summary of each geofence that was successfully stored in a given geofence collection.

Contents

CreateTime

The timestamp for when the geofence was stored in a geofence collection in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

GeofenceId

The geofence successfully stored in a geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

UpdateTime

The timestamp for when the geofence was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

Circle

Service: Amazon Location Service Geofences

Contents

Center

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Radius

Type: Double

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

DevicePositionUpdate

Service: Amazon Location Service Geofences

Contents

DeviceId

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

Type: Timestamp

Required: Yes

Accuracy

Type: PositionalAccuracy object

Required: No

PositionProperties

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ForecastedEvent

Service: Amazon Location Service Geofences

A forecasted event represents a geofence event in relation to the requested device state, that may occur given the provided device state and time horizon.

Contents

EventId

The forecasted event identifier.

Type: String

Pattern: `[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}`

Required: Yes

EventType

The event type, forecasting three states for which a device can be in relative to a geofence:

`ENTER`: If a device is outside of a geofence, but would breach the fence if the device is moving at its current speed within time horizon window.

`EXIT`: If a device is inside of a geofence, but would breach the fence if the device is moving at its current speed within time horizon window.

`IDLE`: If a device is inside of a geofence, and the device is not moving.

Type: String

Valid Values: `ENTER | EXIT | IDLE`

Required: Yes

GeofenceId

The geofence identifier pertaining to the forecasted event.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

IsDeviceInGeofence

Indicates if the device is located within the geofence.

Type: Boolean

Required: Yes

NearestDistance

The closest distance from the device's position to the geofence.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

ForecastedBreachTime

The forecasted time the device will breach the geofence in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: No

GeofenceProperties

The geofence properties.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ForecastGeofenceEventsDeviceState

Service: Amazon Location Service Geofences

The device's position and speed.

Contents

Position

The device's position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

Speed

The device's speed.

Type: Double

Valid Range: Minimum value of 0.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

GeofenceGeometry

Service: Amazon Location Service Geofences

Contains the geofence geometry details.

A geofence geometry can be a circle, a polygon, or a multipolygon. `Polygon` and `MultiPolygon` geometries can be defined using their respective parameters, or encoded in Geobuf format using the `Geobuf` parameter. Including multiple geometry types in the same request will return a validation error.

> **Note**
>
> Amazon Location doesn't currently support polygons that cross the antimeridian.

Contents

Circle

A circle on the earth, as defined by a center point and a radius.

Type: Circle object

Required: No

Geobuf

Geobuf is a compact binary encoding for geographic data that provides lossless compression of GeoJSON polygons. The Geobuf must be Base64-encoded.

This parameter can contain a Geobuf-encoded GeoJSON geometry object of type `Polygon` *OR* `MultiPolygon`. For more information and specific configuration requirements for these object types, see Polygon and MultiPolygon.

> **Note**
>
> The following limitations apply specifically to geometries defined using the `Geobuf` parameter, and supercede the corresponding limitations of the `Polygon` and `MultiPolygon` parameters:
>
> - A `Polygon` in `Geobuf` format can have up to 25,000 rings and up to 100,000 total vertices, including all vertices from all component rings.

- A `MultiPolygon` in `Geobuf` format can contain up to 10,000 `Polygons` and up to 100,000 total vertices, including all vertices from all component `Polygons`.

Type: Base64-encoded binary data object

Length Constraints: Minimum length of 0. Maximum length of 700000.

Required: No

MultiPolygon

A `MultiPolygon` is a list of up to 250 `Polygon` elements which represent the shape of a geofence. The `Polygon` components of a `MultiPolygon` geometry can define separate geographical areas that are considered part of the same geofence, perimeters of larger exterior areas with smaller interior spaces that are excluded from the geofence, or some combination of these use cases to form complex geofence boundaries.

For more information and specific configuration requirements for the `Polygon` components that form a `MultiPolygon`, see Polygon.

> **Note**
>
> The following additional requirements and limitations apply to geometries defined using the `MultiPolygon` parameter:
>
> - The entire `MultiPolygon` must consist of no more than 1,000 vertices, including all vertices from all component `Polygons`.
> - Each edge of a component `Polygon` must intersect no more than 5 edges from other `Polygons`. Parallel edges that are shared but do not cross are not counted toward this limit.
> - The total number of intersecting edges of component `Polygons` must be no more than 100,000. Parallel edges that are shared but do not cross are not counted toward this limit.

Type: Array of arrays of arrays of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 250 items.

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

Polygon

A `Polygon` is a list of up to 250 linear rings which represent the shape of a geofence. This list *must* include 1 exterior ring (representing the outer perimeter of the geofence), and can optionally include up to 249 interior rings (representing polygonal spaces within the perimeter, which are excluded from the geofence area).

A linear ring is an array of 4 or more vertices, where the first and last vertex are the same (to form a closed boundary). Each vertex is a 2-dimensional point represented as an array of doubles of length 2: `[longitude, latitude]`.

Each linear ring is represented as an array of arrays of doubles (`[[longitude, latitude], [longitude, latitude], ...]`). The vertices for the exterior ring must be listed in *counter-clockwise* sequence. Vertices for all interior rings must be listed in *clockwise* sequence.

The list of linear rings that describe the entire `Polygon` is represented as an array of arrays of arrays of doubles (`[[[longitude, latitude], [longitude, latitude], ...], [[longitude, latitude], [longitude, latitude], ...], ...]`). The exterior ring must be listed first, before any interior rings.

> **Note**
>
> The following additional requirements and limitations apply to geometries defined using the `Polygon` parameter:
>
> - The entire `Polygon` must consist of no more than 1,000 vertices, including all vertices from the exterior ring and all interior rings.
> - Rings must not touch or cross each other.
> - All interior rings must be fully contained within the exterior ring.
> - Interior rings must not contain other interior rings.
> - No ring is permitted to intersect itself.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 250 items.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListGeofenceCollectionsResponseEntry

Service: Amazon Location Service Geofences

Contains the geofence collection details.

> **Note**
>
> The returned geometry will always match the geometry format used when the geofence was created.

Contents

CollectionName

The name of the geofence collection.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

CreateTime

The timestamp for when the geofence collection was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

Description

The description for the geofence collection

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

UpdateTime

Specifies a timestamp for when the resource was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

PricingPlan

This member has been deprecated.

No longer used. Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This member has been deprecated.

No longer used. Always returns an empty string.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListGeofenceResponseEntry

Service: Amazon Location Service Geofences

Contains a list of geofences stored in a given geofence collection.

> **Note**
>
> The returned geometry will always match the geometry format used when the geofence was created.

Contents

CreateTime

The timestamp for when the geofence was stored in a geofence collection in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

GeofenceId

The geofence identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Geometry

Contains the geofence geometry details describing a polygon or a circle.

Type: GeofenceGeometry object

Required: Yes

Status

Identifies the state of the geofence. A geofence will hold one of the following states:

- `ACTIVE` — The geofence has been indexed by the system.
- `PENDING` — The geofence is being processed by the system.
- `FAILED` — The geofence failed to be indexed by the system.
- `DELETED` — The geofence has been deleted from the system index.
- `DELETING` — The geofence is being deleted from the system index.

Type: String

Required: Yes

UpdateTime

The timestamp for when the geofence was last updated in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`

Type: Timestamp

Required: Yes

GeofenceProperties

User defined properties of the geofence. A property is a key-value pair stored with the geofence and added to any geofence event triggered with that geofence.

Format: `"key" : "value"`

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

PositionalAccuracy

Service: Amazon Location Service Geofences

Contents

Horizontal

Type: Double

Valid Range: Minimum value of 0. Maximum value of 10000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service Geofences

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Amazon Location Service Trackers

The following data types are supported by Amazon Location Service Trackers:

- BatchDeleteDevicePositionHistoryError
- BatchGetDevicePositionError
- BatchItemError
- BatchUpdateDevicePositionError
- CellSignals
- DevicePosition

- DevicePositionUpdate
- DeviceState
- InferredState
- ListDevicePositionsResponseEntry
- ListTrackersResponseEntry
- LteCellDetails
- LteLocalId
- LteNetworkMeasurements
- PositionalAccuracy
- TrackingFilterGeometry
- ValidationExceptionField
- WiFiAccessPoint

BatchDeleteDevicePositionHistoryError

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

DeviceId

The ID of the device for this position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Error

Type: BatchItemError object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchGetDevicePositionError

Service: Amazon Location Service Trackers

Contains error details for each device that didn't return a position.

Contents

DeviceId

The ID of the device that didn't return a position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Error

Contains details related to the error code.

Type: BatchItemError object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchItemError

Service: Amazon Location Service Trackers

Contents

Code

Type: String

Valid Values: `AccessDeniedError | ConflictError | InternalServerError | ResourceNotFoundError | ThrottlingError | ValidationError`

Required: No

Message

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

BatchUpdateDevicePositionError

Service: Amazon Location Service Trackers

Contains error details for each device that failed to update its position.

Contents

DeviceId

The device associated with the failed location update.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Error

Contains details related to the error code such as the error code and error message.

Type: BatchItemError object

Required: Yes

SampleTime

The timestamp at which the device position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

CellSignals

Service: Amazon Location Service Trackers

The cellular network communication infrastructure that the device uses.

Contents

LteCellDetails

Information about the Long-Term Evolution (LTE) network the device is connected to.

Type: Array of LteCellDetails objects

Array Members: Minimum number of 1 item. Maximum number of 16 items.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

DevicePosition

Service: Amazon Location Service Trackers

Contains the device position details.

Contents

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

ReceivedTime

The timestamp for when the tracker resource received the device position in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

Accuracy

The accuracy of the device position.

Type: PositionalAccuracy object

Required: No

DeviceId

The device whose position you retrieved.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: No

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

DevicePositionUpdate

Service: Amazon Location Service Trackers

Contents

DeviceId

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Position

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

Type: Timestamp

Required: Yes

Accuracy

Type: PositionalAccuracy object

Required: No

PositionProperties

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

DeviceState

Service: Amazon Location Service Trackers

The device's position, IP address, and Wi-Fi access points.

Contents

DeviceId

The device identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Position

The last known device position.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

Accuracy

Type: PositionalAccuracy object

Required: No

CellSignals

The cellular network infrastructure that the device is connected to.

Type: CellSignals object

Required: No

Ipv4Address

The device's Ipv4 address.

Type: String

Pattern: `(?:(?:25[0-5]|(?:2[0-4]|1\d|[0-9]|)\d)\.?\b){4}`

Required: No

WiFiAccessPoints

The Wi-Fi access points the device is using.

Type: Array of WiFiAccessPoint objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

InferredState

Service: Amazon Location Service Trackers

The inferred state of the device, given the provided position, IP address, cellular signals, and Wi-Fi-access points.

Contents

ProxyDetected

Indicates if a proxy was used.

Type: Boolean

Required: Yes

Accuracy

The level of certainty of the inferred position.

Type: PositionalAccuracy object

Required: No

DeviationDistance

The distance between the inferred position and the device's self-reported position.

Type: Double

Required: No

Position

The device position inferred by the provided position, IP address, cellular signals, and Wi-Fi-access points.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListDevicePositionsResponseEntry

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

DeviceId

The ID of the device for this position.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\p{L}\p{N}]+`

Required: Yes

Position

The last known device position. Empty if no positions currently stored.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

SampleTime

The timestamp at which the device position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

Accuracy

The accuracy of the device position.

Type: PositionalAccuracy object

Required: No

PositionProperties

The properties associated with the position.

Type: String to string map

Map Entries: Minimum number of 0 items. Maximum number of 4 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 150.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ListTrackersResponseEntry

Service: Amazon Location Service Trackers

Contains the tracker resource details.

Contents

CreateTime

The timestamp for when the tracker resource was created in ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

Description

The description for the tracker resource.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1000.

Required: Yes

TrackerName

The name of the tracker resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `[-._\w]+`

Required: Yes

UpdateTime

The timestamp at which the device's position was determined. Uses ISO 8601 format: `YYYY-MM-DDThh:mm:ss.sss`.

Type: Timestamp

Required: Yes

PricingPlan

This member has been deprecated.

Always returns `RequestBasedUsage`.

Type: String

Valid Values: `RequestBasedUsage | MobileAssetTracking | MobileAssetManagement`

Required: No

PricingPlanDataSource

This member has been deprecated.

No longer used. Always returns an empty string.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LteCellDetails

Service: Amazon Location Service Trackers

Details about the Long-Term Evolution (LTE) network.

Contents

CellId

The E-UTRAN Cell Identifier (ECI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 268435455.

Required: Yes

Mcc

The Mobile Country Code (MCC).

Type: Integer

Valid Range: Minimum value of 200. Maximum value of 999.

Required: Yes

Mnc

The Mobile Network Code (MNC)

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 999.

Required: Yes

LocalId

The LTE local identification information (local ID).

Type: LteLocalId object

Required: No

NetworkMeasurements

The network measurements.

Type: Array of LteNetworkMeasurements objects

Array Members: Minimum number of 1 item. Maximum number of 32 items.

Required: No

NrCapable

Indicates whether the LTE object is capable of supporting NR (new radio).

Type: Boolean

Required: No

Rsrp

Signal power of the reference signal received, measured in decibel-milliwatts (dBm).

Type: Integer

Valid Range: Minimum value of -140. Maximum value of -44.

Required: No

Rsrq

Signal quality of the reference Signal received, measured in decibels (dB).

Type: Float

Valid Range: Minimum value of -19.5. Maximum value of -3.

Required: No

Tac

LTE Tracking Area Code (TAC).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

TimingAdvance

Timing Advance (TA).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 1282.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LteLocalId

Service: Amazon Location Service Trackers

LTE local identification information (local ID).

Contents

Earfcn

E-UTRA (Evolved Universal Terrestrial Radio Access) absolute radio frequency channel number (EARFCN).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 262143.

Required: Yes

Pci

Physical Cell ID (PCI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 503.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LteNetworkMeasurements

Service: Amazon Location Service Trackers

LTE network measurements.

Contents

CellId

E-UTRAN Cell Identifier (ECI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 268435455.

Required: Yes

Earfcn

E-UTRA (Evolved Universal Terrestrial Radio Access) absolute radio frequency channel number (EARFCN).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 262143.

Required: Yes

Pci

Physical Cell ID (PCI).

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 503.

Required: Yes

Rsrp

Signal power of the reference signal received, measured in dBm (decibel-milliwatts).

Type: Integer

Valid Range: Minimum value of -140. Maximum value of -44.

Required: No

Rsrq

Signal quality of the reference Signal received, measured in decibels (dB).

Type: Float

Valid Range: Minimum value of -19.5. Maximum value of -3.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

PositionalAccuracy

Service: Amazon Location Service Trackers

Contents

Horizontal

Type: Double

Valid Range: Minimum value of 0. Maximum value of 10000000.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TrackingFilterGeometry

Service: Amazon Location Service Trackers

The geometry used to filter device positions.

Contents

Polygon

The set of arrays which define the polygon. A polygon can have between 4 and 1000 vertices.

Type: Array of arrays of arrays of doubles

Array Members: Minimum number of 1 item.

Array Members: Minimum number of 4 items.

Array Members: Fixed number of 2 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ValidationExceptionField

Service: Amazon Location Service Trackers

Contents

message

Type: String

Required: Yes

name

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

WiFiAccessPoint

Service: Amazon Location Service Trackers

Wi-Fi access point.

Contents

MacAddress

Medium access control address (Mac).

Type: String

Length Constraints: Minimum length of 12. Maximum length of 17.

Pattern: `([0-9A-Fa-f]{2}[:-]){5}([0-9A-Fa-f]{2})`

Required: Yes

Rss

Received signal strength (dBm) of the WLAN measurement data.

Type: Integer

Valid Range: Minimum value of -128. Maximum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signing AWS API requests in the *IAM User Guide*.

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.

For more information, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Elements of an AWS API request signature in the *IAM User Guide*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see AWS services that work with IAM in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Error Types

This section lists common error types that this AWS service may return. Not all services return all error types listed here. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You don't have permission to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 403

ExpiredTokenException

The security token included in the request has expired. Request a new security token and try again.

HTTP Status Code: 403

IncompleteSignature

The request signature doesn't conform to AWS standards. Verify that you're using valid AWS credentials and that your request is properly formatted. If you're using an SDK, ensure it's up to date.

HTTP Status Code: 403

InternalFailure

The request can't be processed right now because of an internal server issue. Try again later. If the problem persists, contact AWS Support.

HTTP Status Code: 500

MalformedHttpRequestException

The request body can't be processed. This typically happens when the request body can't be decompressed using the specified content encoding algorithm. Verify that the content encoding header matches the compression format used.

HTTP Status Code: 400

NotAuthorized

You don't have permissions to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 401

OptInRequired

Your AWS account needs a subscription for this service. Verify that you've enabled the service in your account.

HTTP Status Code: 403

RequestAbortedException

The request was aborted before a response could be returned. This typically happens when the client closes the connection.

HTTP Status Code: 400

RequestEntityTooLargeException

The request entity is too large. Reduce the size of the request body and try again.

HTTP Status Code: 413

RequestTimeoutException

The request timed out. The server didn't receive the complete request within the expected time frame. Try again.

HTTP Status Code: 408

ServiceUnavailable

The service is temporarily unavailable. Try again later.

HTTP Status Code: 503

ThrottlingException

Your request rate is too high. The AWS SDKs automatically retry requests that receive this exception. Reduce the frequency of requests.

HTTP Status Code: 400

UnknownOperationException

The action or operation isn't recognized. Verify that the action name is spelled correctly and that it's supported by the API version you're using.

HTTP Status Code: 404

UnrecognizedClientException

The X.509 certificate or AWS access key ID you provided doesn't exist in our records. Verify that you're using valid credentials and that they haven't expired.

HTTP Status Code: 403

ValidationError

The input doesn't meet the required format or constraints. Check that all required parameters are included and that values are valid.

HTTP Status Code: 400