



API Reference

# Amazon Location Service



# Amazon Location Service: API Reference

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# Welcome to Amazon Location Service

Welcome to the *Amazon Location Service API Reference*.

Amazon Location Service is a location-based service that you can use to add geospatial data and location functionality to your applications. Amazon Location includes geolocation functionality across several broad categories: Maps, Places, Routes, Geofences, and Trackers. You can visualize and search for places on maps. Calculate fastest routes, and prepare for route planning. Track your fleet of devices and see when they enter or leave designated boundaries. To learn more about the Amazon Location Service, 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. You can find code examples in the [Developer Guide](#), and on the [AWS GitHub page for Amazon Location](#).

## Note

Location Data provided through Amazon Location should be evaluated for accuracy as appropriate for your use case. You are responsible for making your own assessment of whether your use of Amazon Location Service meets applicable legal and regulatory requirements. You and your End Users are solely responsible for all decisions made, advice given, actions taken, and failures to take action based on your use of Amazon Location Service.


When using Amazon Location, you choose the data provider that you want to use. Map, place, and route data is sourced from your chosen global location data provider, including:

- [Esri](#)
- [Grab](#)
- [HERE Technologies](#)
- [Open Data \(Maps only\)](#)

For additional information, see [Data providers](#) in the *Amazon Location Service Developer Guide*. For information on available features for each data provider, see [Features by data provider](#).

Amazon Location provides several sub-services to provide geolocation functionality in different categories:

- **Maps** — With Amazon Location Maps you can visualize geospatial information as the foundation of many location-based service capabilities. Amazon Location provides map tiles of different styles, from your chosen data provider. For more information about how to use Amazon Location Maps, see the [Using maps](#) topic in the *Amazon Location Service Developer Guide*.

 **Note**

When using Amazon Location Maps, make sure to provide the appropriate data attribution and follow the terms of use for each data provider you've selected to use. For additional information, read more about [Data Providers](#) from the *Amazon Location Service Developer guide*.

- **Places** — Amazon Location Places lets you integrate search functionality into your application. You can search for addresses, businesses by name or category, and other queries, finding geographic coordinates in longitude and latitude (also known as geocoding). You can convert geographic positions into addresses and place descriptions (also known as reverse geocoding). You can get suggestions that can be used for autocompletion.

For more information about how to use Amazon Location Places, see the [Places search](#) topic in the *Amazon Location Service Developer Guide*.

- **Routes** — With Amazon Location Routes you can calculate routes and estimate travel time based on up-to-date road network and live traffic information from your chosen data provider. Calculate routes to estimate travel time, distance, and directions. Calculate a route matrix to determine the travel time and travel distance of many routes in a single request.

For more information about how to use Amazon Location Routes, see the [Calculating routes](#) topic in the *Amazon Location Service Developer Guide*.

- **Geofences** — With Amazon Location Geofences your application can 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. EventBridge lets you trigger downstream actions such as sending a notification to a target.

For more information about how to use Amazon Location Geofences, see the [Geofencing and tracking](#) topic in the *Amazon Location Service Developer Guide*.



- **Trackers** — With Amazon Location Trackers you can send device location updates so that you can retrieve current and historical locations for devices running your tracking-enabled application. Filtering allows you to store just the location updates you need, saving you space and costs.

Using Amazon Location Trackers and Amazon Location Geofences together, you can automatically evaluate location updates from your devices against your geofences to generate geofence events.

For more information about how to use Amazon Location Trackers, see the [Geofencing and tracking](#) topic in the *Amazon Location Service Developer Guide*.

- **Tags** — Use resource tags in Amazon Location Service 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.

#### Note

By using Amazon Location, you agree that AWS may transmit your API queries to your chosen third-party data provider for processing, which may be outside the AWS Region you are currently using. For more information, see the [AWS Service Terms](#) for Amazon Location Service.

## More resources

For additional information on how to use Amazon Location resources, see the following topics in the *Amazon Location Service Developer Guide*. The developer guide provides definitions, tutorials, code examples, and instructions about how to integrate Amazon Location features into web or mobile apps.

- [Amazon Location Service concepts](#)
- [How to use Amazon Location Service](#)
- [Quick start with Amazon Location Service](#)
- [Code examples and tutorials for working with Amazon Location Service](#)
- [Amazon Location Regions and endpoints](#)

- [Using Amazon Location with an AWS SDK](#)

# Actions

The following actions are supported for Maps:

- [CreateMap](#)
- [DeleteMap](#)
- [DescribeMap](#)
- [GetMapGlyphs](#)
- [GetMapSprites](#)
- [GetMapStyleDescriptor](#)
- [GetMapTile](#)
- [ListMaps](#)
- [UpdateMap](#)

The following actions are supported for Places:

- [CreatePlaceIndex](#)
- [DeletePlaceIndex](#)
- [DescribePlaceIndex](#)
- [GetPlace](#)
- [ListPlaceIndexes](#)
- [SearchPlaceIndexForPosition](#)
- [SearchPlaceIndexForSuggestions](#)
- [SearchPlaceIndexForText](#)
- [UpdatePlaceIndex](#)

The following actions are supported for Routes:

- [CalculateRoute](#)
- [CalculateRouteMatrix](#)
- [CreateRouteCalculator](#)
- [DeleteRouteCalculator](#)

- [DescribeRouteCalculator](#)
- [ListRouteCalculators](#)
- [UpdateRouteCalculator](#)

The following actions are supported for Geofences:

- [BatchDeleteGeofence](#)
- [BatchEvaluateGeofences](#)
- [BatchPutGeofence](#)
- [CreateGeofenceCollection](#)
- [DeleteGeofenceCollection](#)
- [DescribeGeofenceCollection](#)
- [ForecastGeofenceEvents](#)
- [GetGeofence](#)
- [ListGeofenceCollections](#)
- [ListGeofences](#)
- [PutGeofence](#)
- [UpdateGeofenceCollection](#)

The following actions are supported for Trackers:

- [AssociateTrackerConsumer](#)
- [BatchDeleteDevicePositionHistory](#)
- [BatchGetDevicePosition](#)
- [BatchUpdateDevicePosition](#)
- [CreateTracker](#)
- [DeleteTracker](#)
- [DescribeTracker](#)
- [DisassociateTrackerConsumer](#)
- [GetDevicePosition](#)
- [GetDevicePositionHistory](#)
- [ListDevicePositions](#)

- [ListTrackerConsumers](#)
- [ListTrackers](#)
- [UpdateTracker](#)
- [VerifyDevicePosition](#)

The following actions are supported for API keys:

- [CreateKey](#)
- [DeleteKey](#)
- [DescribeKey](#)
- [ListKeys](#)
- [UpdateKey](#)

The following actions are supported for Tags:

- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)

## Maps actions

The following actions are supported for Maps:

- [CreateMap](#)
- [DeleteMap](#)
- [DescribeMap](#)
- [GetMapGlyphs](#)
- [GetMapSprites](#)
- [GetMapStyleDescriptor](#)
- [GetMapTile](#)
- [ListMaps](#)
- [UpdateMap](#)

## CreateMap

Creates a map resource in your AWS account, which provides map tiles of different styles sourced from global location data providers.

### Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the [AWS service terms](#) for more details.

## Request Syntax

```
POST /maps/v0/maps HTTP/1.1
Content-type: application/json
```

```
{
  "Configuration": {
    "PoliticalView": "string",
    "Style": "string"
  },
  "Description": "string",
  "MapName": "string",
  "PricingPlan": "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.

## Configuration

Specifies the `MapConfiguration`, including the map style, for the map resource that you create. The map style defines the look of maps and the data provider for your map resource.

Type: [MapConfiguration](#) object

Required: Yes

## Description

An optional description for the map resource.

Type: String

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

Required: No

## MapName

The name for the map resource.

Requirements:

- Must contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (\_).
- Must be a unique map resource name.
- No spaces allowed. For example, `ExampleMap`.

Type: String

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

Pattern: `[- ._\w]+`

Required: Yes

## 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

## Tags

Applies one or more tags to the map 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: [a-zA-Z+-. \_:/]+

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: .+ -/]\*

Required: No

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
```



```
"MapArn": "string",  
"MapName": "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 map resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

### MapArn

The Amazon Resource Name (ARN) for the map resource. Used to specify a resource across all AWS.

- Format example: arn:aws:geo:region:account-id:map/ExampleMap

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]+))

### MapName

The name of the map 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 Errors](#).

## AccessDeniedException

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

HTTP Status Code: 403

## ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteMap

Deletes a map resource from your AWS account.

## Note

This operation deletes the resource permanently. If the map is being used in an application, the map may not render.

## Request Syntax

```
DELETE /maps/v0/maps/MapName HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### MapName

The name of the map 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeMap

Retrieves the map resource details.

## Request Syntax

```
GET /maps/v0/maps/MapName HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### MapName

The name of the map 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
```

```
{  
  "Configuration": {  
    "PoliticalView": "string",  
    "Style": "string"  
  },  
  "CreateTime": "string",  
  "DataSource": "string",  
  "Description": "string",  
  "MapArn": "string",  
  "MapName": "string",  
  "PricingPlan": "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.

### Configuration

Specifies the map tile style selected from a partner data provider.

Type: [MapConfiguration](#) object

### CreateTime

The timestamp for when the map resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

### DataSource

Specifies the data provider for the associated map tiles.

Type: String

### Description

The optional description for the map resource.

Type: String

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

### MapArn

The Amazon Resource Name (ARN) for the map resource. Used to specify a resource across all AWS.

- Format example: arn:aws:geo:region:account-id:map/ExampleMap

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]+))`

### MapName

The map style selected from an available provider.

Type: String

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

Pattern: `[-._\w]+`

### PricingPlan

*This parameter has been deprecated.*

No longer used. Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

### Tags

Tags associated with the map 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: `[a-zA-Z+-. _:/]+`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `[A-Za-z0-9 _=@: .+ - /]*`

### UpdateTime

The timestamp for when the map resource was last update in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetMapGlyphs

Retrieves glyphs used to display labels on a map.

## Request Syntax

```
GET /maps/v0/maps/MapName/glyphs/FontStack/FontUnicodeRange?key=Key HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### FontStack

A comma-separated list of fonts to load glyphs from in order of preference. For example, Noto Sans Regular, Arial Unicode.

Valid font stacks for [Esri](#) styles:

- VectorEsriDarkGrayCanvas – Ubuntu Medium Italic | Ubuntu Medium | Ubuntu Italic | Ubuntu Regular | Ubuntu Bold
- VectorEsriLightGrayCanvas – Ubuntu Italic | Ubuntu Regular | Ubuntu Light | Ubuntu Bold
- VectorEsriTopographic – Noto Sans Italic | Noto Sans Regular | Noto Sans Bold | Noto Serif Regular | Roboto Condensed Light Italic
- VectorEsriStreets – Arial Regular | Arial Italic | Arial Bold
- VectorEsriNavigation – Arial Regular | Arial Italic | Arial Bold

Valid font stacks for [HERE Technologies](#) styles:

- VectorHereContrast – Fira GO Regular | Fira GO Bold
- VectorHereExplore, VectorHereExploreTruck, HybridHereExploreSatellite – Fira GO Italic | Fira GO Map | Fira GO Map Bold | Noto Sans CJK JP Bold | Noto Sans CJK JP Light | Noto Sans CJK JP Regular

Valid font stacks for [GrabMaps](#) styles:

- VectorGrabStandardLight, VectorGrabStandardDark – Noto Sans Regular | Noto Sans Medium | Noto Sans Bold

Valid font stacks for [Open Data](#) styles:

- VectorOpenDataStandardLight, VectorOpenDataStandardDark, VectorOpenDataVisualizationLight, VectorOpenDataVisualizationDark – Amazon Ember Regular, Noto Sans Regular | Amazon Ember Bold, Noto Sans Bold | Amazon Ember Medium, Noto Sans Medium | Amazon Ember Regular Italic, Noto Sans Italic | Amazon Ember Condensed RC Regular, Noto Sans Regular | Amazon Ember Condensed RC Bold, Noto Sans Bold | Amazon Ember Regular, Noto Sans Regular, Noto Sans Arabic Regular | Amazon Ember Condensed RC Bold, Noto Sans Bold, Noto Sans Arabic Condensed Bold | Amazon Ember Bold, Noto Sans Bold, Noto Sans Arabic Bold | Amazon Ember Regular Italic, Noto Sans Italic, Noto Sans Arabic Regular | Amazon Ember Condensed RC Regular, Noto Sans Regular, Noto Sans Arabic Condensed Regular | Amazon Ember Medium, Noto Sans Medium, Noto Sans Arabic Medium

 **Note**

The fonts used by the Open Data map styles are combined fonts that use Amazon Ember for most glyphs but Noto Sans for glyphs unsupported by Amazon Ember.

Required: Yes

### FontUnicodeRange

A Unicode range of characters to download glyphs for. Each response will contain 256 characters. For example, 0–255 includes all characters from range U+0000 to 00FF. Must be aligned to multiples of 256.

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

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

### MapName

The map resource associated with the glyph file.

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: ContentType
Cache-Control: CacheControl
```

*Blob*

## Response Elements

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

The response returns the following HTTP headers.

### CacheControl

The HTTP Cache-Control directive for the value.

### ContentType

The map glyph content type. For example, `application/octet-stream`.

The response returns the following as the HTTP body.

### Blob

The glyph, as binary blob.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## AccessDeniedException

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

HTTP Status Code: 403

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



## GetMapSprites

Retrieves the sprite sheet corresponding to a map resource. The sprite sheet is a PNG image paired with a JSON document describing the offsets of individual icons that will be displayed on a rendered map.

### Request Syntax

```
GET /maps/v0/maps/MapName/sprites/FileName?key=Key HTTP/1.1
```

### URI Request Parameters

The request uses the following URI parameters.

#### FileName

The name of the sprite file. Use the following file names for the sprite sheet:

- `sprites.png`
- `sprites@2x.png` for high pixel density displays

For the JSON document containing image offsets. Use the following file names:

- `sprites.json`
- `sprites@2x.json` for high pixel density displays

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

Required: Yes

#### Key

The optional [API key](#) to authorize the request.

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

#### MapName

The map resource associated with the sprite file.

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: ContentType
Cache-Control: CacheControl
```

```
Blob
```

## Response Elements

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

The response returns the following HTTP headers.

### CacheControl

The HTTP Cache-Control directive for the value.

### ContentType

The content type of the sprite sheet and offsets. For example, the sprite sheet content type is `image/png`, and the sprite offset JSON document is `application/json`.

The response returns the following as the HTTP body.

### Blob

Contains the body of the sprite sheet or JSON offset file.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## GetMapStyleDescriptor

Retrieves the map style descriptor from a map resource.

The style descriptor contains specifications on how features render on a map. For example, what data to display, what order to display the data in, and the style for the data. Style descriptors follow the Mapbox Style Specification.

### Request Syntax

```
GET /maps/v0/maps/MapName/style-descriptor?key=Key HTTP/1.1
```

### URI Request Parameters

The request uses the following URI parameters.

#### Key

The optional [API key](#) to authorize the request.

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

#### MapName

The map resource to retrieve the style descriptor from.

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: ContentType  
Cache-Control: CacheControl
```

*Blob*

## Response Elements

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

The response returns the following HTTP headers.

### CacheControl

The HTTP Cache-Control directive for the value.

### ContentType

The style descriptor's content type. For example, `application/json`.

The response returns the following as the HTTP body.

### Blob

Contains the body of the style descriptor.

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerError**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetMapTile

Retrieves a vector data tile from the map resource. 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.

The origin (0, 0) is the top left of the map. Increasing the zoom level by 1 doubles both the X and Y dimensions, so a tile containing data for the entire world at (0/0/0) will be split into 4 tiles at zoom 1 (1/0/0, 1/0/1, 1/1/0, 1/1/1).

## Request Syntax

```
GET /maps/v0/maps/MapName/tiles/Z/X/Y?key=Key HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### Key

The optional [API key](#) to authorize the request.

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

### MapName

The map resource to retrieve the map tiles from.

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

Pattern: `[- . _ \w]+`

Required: Yes

### X

The X axis value for the map tile.

Pattern: `.*\d+.*`

Required: Yes

### Y

The Y axis value for the map tile.

Pattern: `.*\d+.*`

Required: Yes

## Z

The zoom value for the map tile.

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
```

*Blob*

## Response Elements

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

The response returns the following HTTP headers.

### CacheControl

The HTTP Cache-Control directive for the value.

### ContentType

The map tile's content type. For example, `application/vnd.mapbox-vector-tile`.

The response returns the following as the HTTP body.

### Blob

Contains Mapbox Vector Tile (MVT) data.



## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListMaps

Lists map resources in your AWS account.

## Request Syntax

```
POST /maps/v0/list-maps 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",
      "DataSource": "string",
      "Description": "string",
      "MapName": "string",
      "PricingPlan": "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 maps in your AWS account

Type: Array of [ListMapsResponseEntry](#) 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateMap

Updates the specified properties of a given map resource.

## Request Syntax

```
PATCH /maps/v0/maps/MapName HTTP/1.1
Content-type: application/json

{
  "ConfigurationUpdate": {
    "PoliticalView": "string"
  },
  "Description": "string",
  "PricingPlan": "string"
}
```

## URI Request Parameters

The request uses the following URI parameters.

### [MapName](#)

The name of the map 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.

### [ConfigurationUpdate](#)

Updates the parts of the map configuration that can be updated, including the political view.

Type: [MapConfigurationUpdate](#) object

Required: No

## Description

Updates the description for the map resource.

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

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "MapArn": "string",
  "MapName": "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.

### MapArn

The Amazon Resource Name (ARN) of the updated map resource. Used to specify a resource across AWS.



- Format example: `arn:aws:geo:region:account-id:map/ExampleMap`

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]+))`

### MapName

The name of the updated map resource.

Type: String

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

Pattern: `[-._\w]+`

### UpdateTime

The timestamp for when the map resource was last updated in [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sssZ`.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## **Places actions**

**The following actions are supported for Places:**

- [CreatePlaceIndex](#)
- [DeletePlaceIndex](#)
- [DescribePlaceIndex](#)
- [GetPlace](#)
- [ListPlaceIndexes](#)

- [SearchPlaceIndexForPosition](#)
- [SearchPlaceIndexForSuggestions](#)
- [SearchPlaceIndexForText](#)
- [UpdatePlaceIndex](#)

## CreatePlaceIndex

Creates a place index resource in your AWS account. Use a place index resource to geocode addresses and other text queries by using the `SearchPlaceIndexForText` operation, and reverse geocode coordinates by using the `SearchPlaceIndexForPosition` operation, and enable autosuggestions by using the `SearchPlaceIndexForSuggestions` operation.

### Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the [AWS service terms](#) for more details.

## Request Syntax

```
POST /places/v0/indexes HTTP/1.1
Content-type: application/json
```

```
{
  "DataSource": "string",
  "DataSourceConfiguration": {
    "IntendedUse": "string"
  },
  "Description": "string",
  "IndexName": "string",
  "PricingPlan": "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.

## DataSource

Specifies the geospatial data provider for the new place index.

### Note

This field is case-sensitive. Enter the valid values as shown. For example, entering HERE returns an error.

Valid values include:

- `Esri` – For additional information about [Esri's](#) coverage in your region of interest, see [Esri details on geocoding coverage](#).
- `Grab` – Grab provides place index functionality for Southeast Asia. For additional information about [GrabMaps'](#) coverage, see [GrabMaps countries and areas covered](#).
- `Here` – For additional information about [HERE Technologies'](#) coverage in your region of interest, see [HERE details on geocoding coverage](#).

### Important

If you specify HERE Technologies (`Here`) as the data provider, you may not [store results](#) for locations in Japan. For more information, see the [AWS Service Terms](#) for Amazon Location Service.

For additional information, see [Data providers](#) on the *Amazon Location Service Developer Guide*.

Type: String

Required: Yes

## DataSourceConfiguration

Specifies the data storage option requesting Places.

Type: [DataSourceConfiguration](#) object

Required: No

## Description

The optional description for the place index resource.

Type: String

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

Required: No

### IndexName

The name of the place index resource.

Requirements:

- Contain only alphanumeric characters (A–Z, a–z, 0–9), hyphens (-), periods (.), and underscores (\_).
- Must be a unique place index resource name.
- No spaces allowed. For example, ExamplePlaceIndex.

Type: String

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

Pattern: [-.\\_\\w]+

Required: Yes

### 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

### Tags

Applies one or more tags to the place index 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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: . + - / ] \*

Required: No

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CreateTime": "string",
  "IndexArn": "string",
  "IndexName": "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 place index resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## IndexArn

The Amazon Resource Name (ARN) for the place index resource. Used to specify a resource across AWS.

- Format example: arn:aws:geo:region:account-id:place-index/ExamplePlaceIndex

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]+))

## IndexName

The name for the place index 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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403



## ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeletePlaceIndex

Deletes a place index resource from your AWS account.

## Note

This operation deletes the resource permanently.

## Request Syntax

```
DELETE /places/v0/indexes/IndexName HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### IndexName

The name of the place index 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## DescribePlaceIndex

Retrieves the place index resource details.

### Request Syntax

```
GET /places/v0/indexes/IndexName HTTP/1.1
```

### URI Request Parameters

The request uses the following URI parameters.

#### IndexName

The name of the place index 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",
  "DataSource": "string",
  "DataSourceConfiguration": {
    "IntendedUse": "string"
  },
  "Description": "string",
  "IndexArn": "string",
  "IndexName": "string",
  "PricingPlan": "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 place index resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

### DataSource

The data provider of geospatial data. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

### DataSourceConfiguration

The specified data storage option for requesting Places.

Type: [DataSourceConfiguration](#) object

### Description

The optional description for the place index resource.

Type: String

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

## IndexArn

The Amazon Resource Name (ARN) for the place index resource. Used to specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:place-index/ExamplePlaceIndex`

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]+))`

## IndexName

The name of the place index resource being described.

Type: String

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

Pattern: `[-._\w]+`

## PricingPlan

*This parameter has been deprecated.*

No longer used. Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

## Tags

Tags associated with place index 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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: . + - / ] \*

## UpdateTime

The timestamp for when the place index resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetPlace

Finds a place by its unique ID. A `PlaceId` is returned by other search operations.

## Note

A `PlaceId` is valid only if all of the following are the same in the original search request and the call to `GetPlace`.

- Customer AWS account
- AWS Region
- Data provider specified in the place index resource

## Request Syntax

```
GET /places/v0/indexes/IndexName/places/PlaceId?key=Key&language=Language HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### IndexName

The name of the place index resource that you want to use for the search.

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

Pattern: `[- ._\w]+`

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

### Language

The preferred language used to return results. The value must be a valid [BCP 47](#) language tag, for example, en for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for a location around Athens, Greece, with the `language` parameter set to `en`. The `city` in the results will most likely be returned as Athens.

If you set the `language` parameter to `el`, for Greek, then the `city` in the results will more likely be returned as Αθήνα.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

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

## PlaceId

The identifier of the place to find.

Required: Yes

## Request Body

The request does not have a request body.

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Place": {
    "AddressNumber": "string",
    "Categories": [ "string" ],
    "Country": "string",
    "Geometry": {
      "Point": [ number ]
    },
    "Interpolated": boolean,
    "Label": "string",
    "Municipality": "string",
```

```
"Neighborhood": "string",
"PostalCode": "string",
"Region": "string",
"Street": "string",
"SubMunicipality": "string",
"SubRegion": "string",
"SupplementalCategories": [ "string" ],
"TimeZone": {
  "Name": "string",
  "Offset": number
},
"UnitNumber": "string",
"UnitType": "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.

### [Place](#)

Details about the result, such as its address and position.

Type: [Place](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerError**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListPlaceIndexes

Lists place index resources in your AWS account.

## Request Syntax

```
POST /places/v0/list-indexes 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 maximum number of results 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",
      "DataSource": "string",
      "Description": "string",
      "IndexName": "string",
      "PricingPlan": "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 place index resources that exist in your AWS account

Type: Array of [ListPlaceIndexesResponseEntry](#) objects

### NextToken

A pagination token indicating that there are additional pages available. You can use the token in a new request to fetch the next page 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## SearchPlaceIndexForPosition

Reverse geocodes a given coordinate and returns a legible address. Allows you to search for Places or points of interest near a given position.

### Request Syntax

```
POST /places/v0/indexes/IndexName/search/position?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "Language": "string",
  "MaxResults": number,
  "Position": [ number ]
}
```

### URI Request Parameters

The request uses the following URI parameters.

#### IndexName

The name of the place index resource you want to use for the search.

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

Pattern: [- .\_\w]+

Required: Yes

#### Key

The optional [API key](#) to authorize the request.

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

### Request Body

The request accepts the following data in JSON format.

## Language

The preferred language used to return results. The value must be a valid [BCP 47](#) language tag, for example, en for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for a location around Athens, Greece, with the `language` parameter set to en. The `city` in the results will most likely be returned as Athens.

If you set the `language` parameter to el, for Greek, then the `city` in the results will more likely be returned as Αθήνα.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

## MaxResults

An optional parameter. The maximum number of results returned per request.

Default value: 50

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

## Position

Specifies the longitude and latitude of the position to query.

This parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, `[-123.1174, 49.2847]` represents a position with longitude `-123.1174` and latitude `49.2847`.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Results": [
    {
      "Distance": number,
      "Place": {
        "AddressNumber": "string",
        "Categories": [ "string" ],
        "Country": "string",
        "Geometry": {
          "Point": [ number ]
        },
        "Interpolated": boolean,
        "Label": "string",
        "Municipality": "string",
        "Neighborhood": "string",
        "PostalCode": "string",
        "Region": "string",
        "Street": "string",
        "SubMunicipality": "string",
        "SubRegion": "string",
        "SupplementalCategories": [ "string" ],
        "TimeZone": {
          "Name": "string",
          "Offset": number
        },
        "UnitNumber": "string",
        "UnitType": "string"
      },
      "PlaceId": "string"
    }
  ]
}
```

```
    }
  ],
  "Summary": {
    "DataSource": "string",
    "Language": "string",
    "MaxResults": number,
    "Position": [ number ]
  }
}
```

## 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.

### Results

Returns a list of Places closest to the specified position. Each result contains additional information about the Places returned.

Type: Array of [SearchForPositionResult](#) objects

### Summary

Contains a summary of the request. Echoes the input values for Position, Language, MaxResults, and the DataSource of the place index.

Type: [SearchPlaceIndexForPositionSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## SearchPlaceIndexForSuggestions

Generates suggestions for addresses and points of interest based on partial or misspelled free-form text. This operation is also known as autocomplete, autosuggest, or fuzzy matching.

Optional parameters let you narrow your search results by bounding box or country, or bias your search toward a specific position on the globe.

### Note

You can search for suggested place names near a specified position by using `BiasPosition`, or filter results within a bounding box by using `FilterBBox`. These parameters are mutually exclusive; using both `BiasPosition` and `FilterBBox` in the same command returns an error.

## Request Syntax

```
POST /places/v0/indexes/IndexName/search/suggestions?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "BiasPosition": [ number ],
  "FilterBBox": [ number ],
  "FilterCategories": [ "string" ],
  "FilterCountries": [ "string" ],
  "Language": "string",
  "MaxResults": number,
  "Text": "string"
}
```

## URI Request Parameters

The request uses the following URI parameters.

### IndexName

The name of the place index resource you want to use for the search.

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



Pattern: [- . \_ \w ]+

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

## Request Body

The request accepts the following data in JSON format.

### BiasPosition

An optional parameter that indicates a preference for place suggestions that are closer to a specified position.

If provided, this parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, [-123.1174, 49.2847] represents the position with longitude -123.1174 and latitude 49.2847.

#### Note

BiasPosition and FilterBoundingBox are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 2 items.


Required: No

### FilterBoundingBox

An optional parameter that limits the search results by returning only suggestions within a specified bounding box.

If provided, this parameter must contain a total of four consecutive numbers in two pairs. The first pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the southwest corner of the bounding box; the second pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the northeast corner of the bounding box.

For example, `[-12.7935, -37.4835, -12.0684, -36.9542]` represents a bounding box where the southwest corner has longitude `-12.7935` and latitude `-37.4835`, and the northeast corner has longitude `-12.0684` and latitude `-36.9542`.

 **Note**

`FilterBoundingBox` and `BiasPosition` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

### [FilterCategories](#)

A list of one or more Amazon Location categories to filter the returned places. If you include more than one category, the results will include results that match *any* of the categories listed.

For more information about using categories, including a list of Amazon Location categories, see [Categories and filtering](#), in the *Amazon Location Service Developer Guide*.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

### [FilterCountries](#)

An optional parameter that limits the search results by returning only suggestions within the provided list of countries.

- Use the [ISO 3166](#) 3-digit country code. For example, Australia uses three upper-case characters: AUS.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

## Language

The preferred language used to return results. The value must be a valid [BCP 47](#) language tag, for example, en for English.

This setting affects the languages used in the results. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for Athens, `Gr` to get suggestions with the `language` parameter set to en. The results found will most likely be returned as Athens, Greece.

If you set the `language` parameter to `el`, for Greek, then the result found will more likely be returned as Αθήνα, Ελλάδα.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

## MaxResults

An optional parameter. The maximum number of results returned per request.

The default: 5

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 15.

Required: No

### Text

The free-form partial text to use to generate place suggestions. For example, eiffel tow.

Type: String

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

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Results": [
    {
      "Categories": [ "string" ],
      "PlaceId": "string",
      "SupplementalCategories": [ "string" ],
      "Text": "string"
    }
  ],
  "Summary": {
    "BiasPosition": [ number ],
    "DataSource": "string",
    "FilterBBox": [ number ],
    "FilterCategories": [ "string" ],
    "FilterCountries": [ "string" ],
    "Language": "string",
    "MaxResults": number,
    "Text": "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.

## Results

A list of place suggestions that best match the search text.

Type: Array of [SearchForSuggestionsResult](#) objects

## Summary

Contains a summary of the request. Echoes the input values for `BiasPosition`, `FilterBBBox`, `FilterCountries`, `Language`, `MaxResults`, and `Text`. Also includes the `DataSource` of the place index.

Type: [SearchPlaceIndexForSuggestionsSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## SearchPlaceIndexForText

Geocodes free-form text, such as an address, name, city, or region to allow you to search for Places or points of interest.

Optional parameters let you narrow your search results by bounding box or country, or bias your search toward a specific position on the globe.

### Note

You can search for places near a given position using `BiasPosition`, or filter results within a bounding box using `FilterBBox`. Providing both parameters simultaneously returns an error.

Search results are returned in order of highest to lowest relevance.

## Request Syntax

```
POST /places/v0/indexes/IndexName/search/text?key=Key HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "BiasPosition": [ number ],
  "FilterBBox": [ number ],
  "FilterCategories": [ "string" ],
  "FilterCountries": [ "string" ],
  "Language": "string",
  "MaxResults": number,
  "Text": "string"
}
```

## URI Request Parameters

The request uses the following URI parameters.

### IndexName

The name of the place index resource you want to use for the search.

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

Pattern: [- . \_ \w ]+

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

## Request Body

The request accepts the following data in JSON format.

### BiasPosition

An optional parameter that indicates a preference for places that are closer to a specified position.

If provided, this parameter must contain a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For example, [-123.1174, 49.2847] represents the position with longitude -123.1174 and latitude 49.2847.

#### Note

BiasPosition and FilterBoundingBox are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: No


### FilterBoundingBox

An optional parameter that limits the search results by returning only places that are within the provided bounding box.



If provided, this parameter must contain a total of four consecutive numbers in two pairs. The first pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the southwest corner of the bounding box; the second pair of numbers represents the X and Y coordinates (longitude and latitude, respectively) of the northeast corner of the bounding box.

For example, `[-12.7935, -37.4835, -12.0684, -36.9542]` represents a bounding box where the southwest corner has longitude `-12.7935` and latitude `-37.4835`, and the northeast corner has longitude `-12.0684` and latitude `-36.9542`.

 **Note**

`FilterBoundingBox` and `BiasPosition` are mutually exclusive. Specifying both options results in an error.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

### [FilterCategories](#)

A list of one or more Amazon Location categories to filter the returned places. If you include more than one category, the results will include results that match *any* of the categories listed.

For more information about using categories, including a list of Amazon Location categories, see [Categories and filtering](#), in the *Amazon Location Service Developer Guide*.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

### [FilterCountries](#)

An optional parameter that limits the search results by returning only places that are in a specified list of countries.

- Valid values include [ISO 3166](#) 3-digit country codes. For example, Australia uses three upper-case characters: AUS.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

## Language

The preferred language used to return results. The value must be a valid [BCP 47](#) language tag, for example, en for English.

This setting affects the languages used in the results, but not the results themselves. If no language is specified, or not supported for a particular result, the partner automatically chooses a language for the result.

For an example, we'll use the Greek language. You search for Athens, Greece, with the Language parameter set to en. The result found will most likely be returned as Athens.

If you set the Language parameter to el, for Greek, then the result found will more likely be returned as Αθήνα.

If the data provider does not have a value for Greek, the result will be in a language that the provider does support.

Type: String

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

Required: No

## MaxResults

An optional parameter. The maximum number of results returned per request.

The default: 50

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

## Text

The address, name, city, or region to be used in the search in free-form text format. For example, 123 Any Street.

Type: String

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

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Results": [
    {
      "Distance": number,
      "Place": {
        "AddressNumber": "string",
        "Categories": [ "string" ],
        "Country": "string",
        "Geometry": {
          "Point": [ number ]
        },
        "Interpolated": boolean,
        "Label": "string",
        "Municipality": "string",
        "Neighborhood": "string",
        "PostalCode": "string",
        "Region": "string",
        "Street": "string",
        "SubMunicipality": "string",
        "SubRegion": "string",
        "SupplementalCategories": [ "string" ],
        "TimeZone": {
          "Name": "string",
```

```

        "Offset": number
      },
      "UnitNumber": "string",
      "UnitType": "string"
    },
    "PlaceId": "string",
    "Relevance": number
  }
],
"Summary": {
  "BiasPosition": [ number ],
  "DataSource": "string",
  "FilterBBox": [ number ],
  "FilterCategories": [ "string" ],
  "FilterCountries": [ "string" ],
  "Language": "string",
  "MaxResults": number,
  "ResultBBox": [ number ],
  "Text": "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.

### Results

A list of Places matching the input text. Each result contains additional information about the specific point of interest.

Not all response properties are included with all responses. Some properties may only be returned by specific data partners.

Type: Array of [SearchForTextResult](#) objects

### Summary

Contains a summary of the request. Echoes the input values for BiasPosition, FilterBBox, FilterCountries, Language, MaxResults, and Text. Also includes the DataSource of the place index and the bounding box, ResultBBox, which surrounds the search results.

Type: [SearchPlaceIndexForTextSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdatePlaceIndex

Updates the specified properties of a given place index resource.

## Request Syntax

```
PATCH /places/v0/indexes/IndexName HTTP/1.1
Content-type: application/json

{
  "DataSourceConfiguration": {
    "IntendedUse": "string"
  },
  "Description": "string",
  "PricingPlan": "string"
}
```

## URI Request Parameters

The request uses the following URI parameters.

### [IndexName](#)

The name of the place index 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.

### [DataSourceConfiguration](#)

Updates the data storage option for the place index resource.

Type: [DataSourceConfiguration](#) object

Required: No

## Description

Updates the description for the place index resource.

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

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "IndexArn": "string",
  "IndexName": "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.

### IndexArn

The Amazon Resource Name (ARN) of the updated place index resource. Used to specify a resource across AWS.



- **Format example:** `arn:aws:geo:region:account-id:place-index/ExamplePlaceIndex`

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]+))`

### IndexName

The name of the updated place index resource.

Type: String

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

Pattern: `[-._\w]+`

### UpdateTime

The timestamp for when the place index resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## Routes actions

The following actions are supported for Routes:

- [CalculateRoute](#)
- [CalculateRouteMatrix](#)

- [CreateRouteCalculator](#)
- [DeleteRouteCalculator](#)
- [DescribeRouteCalculator](#)
- [ListRouteCalculators](#)
- [UpdateRouteCalculator](#)

## CalculateRoute

[Calculates a route](#) given the following required parameters: `DeparturePosition` and `DestinationPosition`. Requires that you first [create a route calculator resource](#).

By default, a request that doesn't specify a departure time uses the best time of day to travel with the best traffic conditions when calculating the route.

Additional options include:

- [Specifying a departure time](#) using either `DepartureTime` or `DepartNow`. This calculates a route based on predictive traffic data at the given time.

### Note

You can't specify both `DepartureTime` and `DepartNow` in a single request. Specifying both parameters returns a validation error.

- [Specifying a travel mode](#) using `TravelMode` sets the transportation mode used to calculate the routes. This also lets you specify additional route preferences in `CarModeOptions` if traveling by `Car`, or `TruckModeOptions` if traveling by `Truck`.

### Note

If you specify `walking` for the travel mode and your data provider is Esri, the start and destination must be within 40km.

## Request Syntax

```
POST /routes/v0/calculators/CalculatorName/calculate/route?key=Key HTTP/1.1
Content-type: application/json
```

```
{
  "ArrivalTime": "string",
  "CarModeOptions": {
    "AvoidFerries": boolean,
    "AvoidTolls": boolean
  },
  "DepartNow": boolean,
```

```
"DeparturePosition": [ number ],
"DepartureTime": "string",
"DestinationPosition": [ number ],
"DistanceUnit": "string",
"IncludeLegGeometry": boolean,
"OptimizeFor": "string",
"TravelMode": "string",
"TruckModeOptions": {
  "AvoidFerries": boolean,
  "AvoidTolls": boolean,
  "Dimensions": {
    "Height": number,
    "Length": number,
    "Unit": "string",
    "Width": number
  },
  "Weight": {
    "Total": number,
    "Unit": "string"
  }
},
"WaypointPositions": [
  [ number ]
]
}
```

## URI Request Parameters

The request uses the following URI parameters.

### CalculatorName

The name of the route calculator resource that you want to use to calculate the route.

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

Pattern: [-.\\_\\w]+

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

## Request Body

The request accepts the following data in JSON format.

### ArrivalTime

Specifies the desired time of arrival. Uses the given time to calculate the route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

#### Note

ArrivalTime is not supported Esri.

Type: Timestamp

Required: No

### CarModeOptions

Specifies route preferences when traveling by Car, such as avoiding routes that use ferries or tolls.

Requirements: TravelMode must be specified as Car.

Type: [CalculateRouteCarModeOptions](#) object

Required: No

### DepartNow

Sets the time of departure as the current time. Uses the current time to calculate a route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

Default Value: false

Valid Values: false | true

Type: Boolean

Required: No

## DeparturePosition

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

- For example, [-123.115, 49.285]

### Note

If you specify a departure that's not located on a road, Amazon Location [moves the position to the nearest road](#). If Esri is the provider for your route calculator, specifying a route that is longer than 400 km returns a 400 RoutesValidationException error.

Valid Values: [-180 to 180, -90 to 90]

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

## DepartureTime

Specifies the desired time of departure. Uses the given time to calculate the route. Otherwise, the best time of day to travel with the best traffic conditions is used to calculate the route.

- In [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ. For example, 2020-07-2T12:15:20.000Z+01:00

Type: Timestamp

Required: No

## DestinationPosition

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

- For example, [-122.339, 47.615]

### Note

If you specify a destination that's not located on a road, Amazon Location [moves the position to the nearest road](#).

Valid Values: [-180 to 180, -90 to 90]

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### DistanceUnit

Set the unit system to specify the distance.

Default Value: Kilometers

Type: String

Valid Values: Kilometers | Miles

Required: No

### IncludeLegGeometry

Set to include the geometry details in the result for each path between a pair of positions.

Default Value: false

Valid Values: false | true

Type: Boolean

Required: No

### OptimizeFor

Specifies the distance to optimize for when calculating a route.

Type: String

Valid Values: FastestRoute | ShortestRoute

Required: No

### TravelMode

Specifies the mode of transport when calculating a route. Used in estimating the speed of travel and road compatibility. You can choose Car, Truck, Walking, Bicycle or Motorcycle as options for the TravelMode.



**Note**

Bicycle and Motorcycle are only valid when using Grab as a data provider, and only within Southeast Asia.

Truck is not available for Grab.

For more details on the using Grab for routing, including areas of coverage, see [GrabMaps](#) in the *Amazon Location Service Developer Guide*.

The `TravelMode` you specify also determines how you specify route preferences:

- If traveling by `Car` use the `CarModeOptions` parameter.
- If traveling by `Truck` use the `TruckModeOptions` parameter.

Default Value: `Car`

Type: String

Valid Values: `Car` | `Truck` | `Walking` | `Bicycle` | `Motorcycle`

Required: No

### TruckModeOptions

Specifies route preferences when traveling by `Truck`, such as avoiding routes that use ferries or tolls, and truck specifications to consider when choosing an optimal road.

Requirements: `TravelMode` must be specified as `Truck`.

Type: [CalculateRouteTruckModeOptions](#) object

Required: No

### WaypointPositions

Specifies an ordered list of up to 23 intermediate positions to include along a route between the departure position and destination position.

- For example, from the `DeparturePosition` `[-123.115, 49.285]`, the route follows the order that the waypoint positions are given `[[-122.757, 49.0021], [-122.349, 47.620]]`

**Note**

If you specify a waypoint position that's not located on a road, Amazon Location [moves the position to the nearest road](#).

Specifying more than 23 waypoints returns a 400 `ValidationException` error.

If Esri is the provider for your route calculator, specifying a route that is longer than 400 km returns a 400 `RoutesValidationException` error.

Valid Values: [-180 to 180,-90 to 90]

Type: Array of arrays of doubles

Array Members: Minimum number of 0 items. Maximum number of 23 items.

Array Members: Fixed number of 2 items.

Required: No

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Legs": [
    {
      "Distance": number,
      "DurationSeconds": number,
      "EndPosition": [ number ],
      "Geometry": {
        "LineString": [
          [ number ]
        ]
      },
      "StartPosition": [ number ],
      "Steps": [
        {
          "Distance": number,
          "DurationSeconds": number,
          "EndPosition": [ number ],
```

```
        "GeometryOffset": number,
        "StartPosition": [ number ]
    }
]
},
"Summary": {
    "DataSource": "string",
    "Distance": number,
    "DistanceUnit": "string",
    "DurationSeconds": number,
    "RouteBBox": [ number ]
}
}
```

## 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.

### Legs

Contains details about each path between a pair of positions included along a route such as: StartPosition, EndPosition, Distance, DurationSeconds, Geometry, and Steps. The number of legs returned corresponds to one fewer than the total number of positions in the request.

For example, a route with a departure position and destination position returns one leg with the positions [snapped to a nearby road](#):

- The StartPosition is the departure position.
- The EndPosition is the destination position.

A route with a waypoint between the departure and destination position returns two legs with the positions snapped to a nearby road:

- Leg 1: The StartPosition is the departure position . The EndPosition is the waypoint position.
- Leg 2: The StartPosition is the waypoint position. The EndPosition is the destination position.

Type: Array of [Leg](#) objects

## Summary

Contains information about the whole route, such as: RouteBoundingBox, DataSource, Distance, DistanceUnit, and DurationSeconds.

Type: [CalculateRouteSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## CalculateRouteMatrix

[Calculates a route matrix](#) given the following required parameters: `DeparturePositions` and `DestinationPositions`. `CalculateRouteMatrix` calculates routes and returns the travel time and travel distance from each departure position to each destination position in the request. For example, given departure positions A and B, and destination positions X and Y, `CalculateRouteMatrix` will return time and distance for routes from A to X, A to Y, B to X, and B to Y (in that order). The number of results returned (and routes calculated) will be the number of `DeparturePositions` times the number of `DestinationPositions`.

### Note

Your account is charged for each route calculated, not the number of requests.

Requires that you first [create a route calculator resource](#).

By default, a request that doesn't specify a departure time uses the best time of day to travel with the best traffic conditions when calculating routes.

Additional options include:

- [Specifying a departure time](#) using either `DepartureTime` or `DepartNow`. This calculates routes based on predictive traffic data at the given time.

### Note

You can't specify both `DepartureTime` and `DepartNow` in a single request. Specifying both parameters returns a validation error.

- [Specifying a travel mode](#) using `TravelMode` sets the transportation mode used to calculate the routes. This also lets you specify additional route preferences in `CarModeOptions` if traveling by `Car`, or `TruckModeOptions` if traveling by `Truck`.

## Request Syntax

```
POST /routes/v0/calculators/CalculatorName/calculate/route-matrix?key=Key HTTP/1.1
Content-type: application/json
```

```

{
  "CarModeOptions": {
    "AvoidFerries": boolean,
    "AvoidTolls": boolean
  },
  "DepartNow": boolean,
  "DeparturePositions": [
    [ number ]
  ],
  "DepartureTime": "string",
  "DestinationPositions": [
    [ number ]
  ],
  "DistanceUnit": "string",
  "TravelMode": "string",
  "TruckModeOptions": {
    "AvoidFerries": boolean,
    "AvoidTolls": boolean,
    "Dimensions": {
      "Height": number,
      "Length": number,
      "Unit": "string",
      "Width": number
    },
    "Weight": {
      "Total": number,
      "Unit": "string"
    }
  }
}

```

## URI Request Parameters

The request uses the following URI parameters.

### CalculatorName

The name of the route calculator resource that you want to use to calculate the route matrix.

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

Pattern: `[- . _ \w ]+`

Required: Yes

### Key

The optional [API key](#) to authorize the request.

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

## Request Body

The request accepts the following data in JSON format.

### CarModeOptions

Specifies route preferences when traveling by `Car`, such as avoiding routes that use ferries or tolls.

Requirements: `TravelMode` must be specified as `Car`.

Type: [CalculateRouteCarModeOptions](#) object

Required: No

### DepartNow

Sets the time of departure as the current time. Uses the current time to calculate the route matrix. You can't set both `DepartureTime` and `DepartNow`. If neither is set, the best time of day to travel with the best traffic conditions is used to calculate the route matrix.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

### DeparturePositions

The list of departure (origin) positions for the route matrix. An array of points, each of which is itself a 2-value array defined in [WGS 84](#) format: [`longitude`, `latitude`]. For example, [`-123.115`, `49.285`].



**⚠ Important**

Depending on the data provider selected in the route calculator resource there may be additional restrictions on the inputs you can choose. See [Position restrictions](#) in the *Amazon Location Service Developer Guide*.

**ℹ Note**

For route calculators that use Esri as the data provider, if you specify a departure that's not located on a road, Amazon Location [moves the position to the nearest road](#). The snapped value is available in the result in `SnappedDeparturePositions`.

Valid Values: [-180 to 180, -90 to 90]

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

Required: Yes

**DepartureTime**

Specifies the desired time of departure. Uses the given time to calculate the route matrix. You can't set both `DepartureTime` and `DepartNow`. If neither is set, the best time of day to travel with the best traffic conditions is used to calculate the route matrix.

**ℹ Note**

Setting a departure time in the past returns a `400 ValidationException` error.

- In [ISO 8601](#) format: `YYYY-MM-DDThh:mm:ss.sssZ`. For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: No

## DestinationPositions

The list of destination positions for the route matrix. An array of points, each of which is itself a 2-value array defined in [WGS 84](#) format: [longitude, latitude]. For example, [-122.339, 47.615]

### Important

Depending on the data provider selected in the route calculator resource there may be additional restrictions on the inputs you can choose. See [Position restrictions](#) in the *Amazon Location Service Developer Guide*.

### Note

For route calculators that use Esri as the data provider, if you specify a destination that's not located on a road, Amazon Location [moves the position to the nearest road](#). The snapped value is available in the result in SnappedDestinationPositions.

Valid Values: [-180 to 180, -90 to 90]

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

Required: Yes

## DistanceUnit

Set the unit system to specify the distance.

Default Value: Kilometers

Type: String

Valid Values: Kilometers | Miles

Required: No

## TravelMode

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

The `TravelMode` you specify also determines how you specify route preferences:

- If traveling by `Car` use the `CarModeOptions` parameter.
- If traveling by `Truck` use the `TruckModeOptions` parameter.

### **Note**

`Bicycle` or `Motorcycle` are only valid when using `Grab` as a data provider, and only within Southeast Asia.

`Truck` is not available for `Grab`.

For more information about using `Grab` as a data provider, see [GrabMaps](#) in the *Amazon Location Service Developer Guide*.

Default Value: `Car`

Type: `String`

Valid Values: `Car` | `Truck` | `Walking` | `Bicycle` | `Motorcycle`

Required: `No`

## TruckModeOptions

Specifies route preferences when traveling by `Truck`, such as avoiding routes that use ferries or tolls, and truck specifications to consider when choosing an optimal road.

Requirements: `TravelMode` must be specified as `Truck`.

Type: [CalculateRouteTruckModeOptions](#) object

Required: `No`

## Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
  "RouteMatrix": [
    [
      {
        "Distance": number,
        "DurationSeconds": number,
        "Error": {
          "Code": "string",
          "Message": "string"
        }
      }
    ]
  ],
  "SnappedDeparturePositions": [
    [ number ]
  ],
  "SnappedDestinationPositions": [
    [ number ]
  ],
  "Summary": {
    "DataSource": "string",
    "DistanceUnit": "string",
    "ErrorCount": number,
    "RouteCount": number
  }
}
```

## 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.

### [RouteMatrix](#)

The calculated route matrix containing the results for all pairs of `DeparturePositions` to `DestinationPositions`. Each row corresponds to one entry in `DeparturePositions`. Each entry in the row corresponds to the route from that entry in `DeparturePositions` to an entry in `DestinationPositions`.

Type: Array of arrays of [RouteMatrixEntry](#) objects

## SnappedDeparturePositions

For routes calculated using an Esri route calculator resource, departure positions are snapped to the closest road. For Esri route calculator resources, this returns the list of departure/origin positions used for calculation of the `RouteMatrix`.

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

## SnappedDestinationPositions

The list of destination positions for the route matrix used for calculation of the `RouteMatrix`.

Type: Array of arrays of doubles

Array Members: Minimum number of 1 item. Maximum number of 350 items.

Array Members: Fixed number of 2 items.

## Summary

Contains information about the route matrix, `DataSource`, `DistanceUnit`, `RouteCount` and `ErrorCount`.

Type: [CalculateRouteMatrixSummary](#) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateRouteCalculator

Creates a route calculator resource in your AWS account.

You can send requests to a route calculator resource to estimate travel time, distance, and get directions. A route calculator sources traffic and road network data from your chosen data provider.

## Note

If your application is tracking or routing assets you use in your business, such as delivery vehicles or employees, you must not use Esri as your geolocation provider. See section 82 of the [AWS service terms](#) for more details.

## Request Syntax

```
POST /routes/v0/calculators HTTP/1.1
Content-type: application/json
```

```
{
  "CalculatorName": "string",
  "DataSource": "string",
  "Description": "string",
  "PricingPlan": "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.

### CalculatorName

The name of the route calculator resource.

Requirements:

- Can use alphanumeric characters (A–Z, a–z, 0–9) , hyphens (-), periods (.), and underscores (\_).
- Must be a unique Route calculator resource name.
- No spaces allowed. For example, ExampleRouteCalculator.

Type: String

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

Pattern: [- . \_ \w ]+

Required: Yes

### DataSource

Specifies the data provider of traffic and road network data.

#### Note

This field is case-sensitive. Enter the valid values as shown. For example, entering HERE returns an error.

Valid values include:

- **Esri** – For additional information about [Esri's coverage](#) in your region of interest, see [Esri details on street networks and traffic coverage](#).

Route calculators that use Esri as a data source only calculate routes that are shorter than 400 km.

- **Grab** – Grab provides routing functionality for Southeast Asia. For additional information about [GrabMaps'](#) coverage, see [GrabMaps countries and areas covered](#).
- **Here** – For additional information about [HERE Technologies'](#) coverage in your region of interest, see [HERE car routing coverage](#) and [HERE truck routing coverage](#).

For additional information , see [Data providers](#) on the *Amazon Location Service Developer Guide*.

Type: String

Required: Yes

### Description

The optional description for the route calculator resource.



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

### Tags

Applies one or more tags to the route calculator resource. A tag is a key-value pair helps manage, identify, search, and filter your resources by labelling them.

- For example: { "tag1" : "value1", "tag2" : "value2" }

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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `[A-Za-z0-9 _=@: .+~/]*`

Required: No

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CalculatorArn": "string",
  "CalculatorName": "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.

### [CalculatorArn](#)

The Amazon Resource Name (ARN) for the route calculator resource. Use the ARN when you specify a resource across all AWS.

- Format example: `arn:aws:geo:region:account-id:route-calculator/ExampleCalculator`

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]+))`

### [CalculatorName](#)

The name of the route calculator resource.

- For example, `ExampleRouteCalculator`.

Type: String

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

Pattern: `[- ._\w]+`

### CreateTime

The timestamp when the route calculator resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **ConflictException**

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ServiceQuotaExceededException**

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteRouteCalculator

Deletes a route calculator resource from your AWS account.

## Note

This operation deletes the resource permanently.

## Request Syntax

```
DELETE /routes/v0/calculators/CalculatorName HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### CalculatorName

The name of the route calculator 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeRouteCalculator

Retrieves the route calculator resource details.

## Request Syntax

```
GET /routes/v0/calculators/CalculatorName HTTP/1.1
```

## URI Request Parameters

The request uses the following URI parameters.

### CalculatorName

The name of the route calculator 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
```

```
{  
  "CalculatorArn": "string",  
  "CalculatorName": "string",  
  "CreateTime": "string",  
  "DataSource": "string",  
  "Description": "string",  
  "PricingPlan": "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.

### CalculatorArn

The Amazon Resource Name (ARN) for the Route calculator resource. Use the ARN when you specify a resource across AWS.

- Format example: `arn:aws:geo:region:account-id:route-calculator/ExampleCalculator`

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]+))`

### CalculatorName

The name of the route calculator resource being described.

Type: String

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

Pattern: `[-.\_\w]+`

### CreateTime

The timestamp when the route calculator resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

### DataSource

The data provider of traffic and road network data. Indicates one of the available providers:

- `Esri`

- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

### Description

The optional description of the route calculator resource.

Type: String

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

### PricingPlan

*This parameter has been deprecated.*

Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

### Tags

Tags associated with route calculator 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: [a-zA-Z+-. \_:/]+

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: .+ -/]\*

### UpdateTime

The timestamp when the route calculator resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## ListRouteCalculators

Lists route calculator resources in your AWS account.

### Request Syntax

```
POST /routes/v0/list-calculators 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 maximum number of results 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": [
    {
      "CalculatorName": "string",
      "CreateTime": "string",
      "DataSource": "string",
      "Description": "string",
      "PricingPlan": "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 route calculator resources that exist in your AWS account

Type: Array of [ListRouteCalculatorsResponseEntry](#) objects

### NextToken

A pagination token indicating there are additional pages available. You can use the token in a subsequent 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# UpdateRouteCalculator

Updates the specified properties for a given route calculator resource.

## Request Syntax

```
PATCH /routes/v0/calculators/CalculatorName HTTP/1.1
Content-type: application/json

{
  "Description": "string",
  "PricingPlan": "string"
}
```

## URI Request Parameters

The request uses the following URI parameters.

### CalculatorName

The name of the route calculator 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 route calculator resource.

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

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "CalculatorArn": "string",
  "CalculatorName": "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.

### CalculatorArn

The Amazon Resource Name (ARN) of the updated route calculator resource. Used to specify a resource across AWS.

- Format example: arn:aws:geo:region:account-id:route- calculator/  
ExampleCalculator

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]+))`

### **CalculatorName**

The name of the updated route calculator resource.

Type: String

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

Pattern: `[-._\w]+`

### **UpdateTime**

The timestamp for when the route calculator was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## **Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## Geofences actions

The following actions are supported for Geofences:

- [BatchDeleteGeofence](#)
- [BatchEvaluateGeofences](#)
- [BatchPutGeofence](#)
- [CreateGeofenceCollection](#)
- [DeleteGeofenceCollection](#)
- [DescribeGeofenceCollection](#)
- [ForecastGeofenceEvents](#)
- [GetGeofence](#)

- [ListGeofenceCollections](#)
- [ListGeofences](#)
- [PutGeofence](#)
- [UpdateGeofenceCollection](#)

## BatchDeleteGeofence

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 Errors](#).

## AccessDeniedException

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

HTTP Status Code: 403

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)



- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## BatchEvaluateGeofences

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerError**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## BatchPutGeofence

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,
        "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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.



HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateGeofenceCollection

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: [a-zA-Z+-. \_:/]+

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: .+ -/]\*

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}:([^\s/].*)?`

### 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.sssZ`

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## AccessDeniedException

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

HTTP Status Code: 403

## ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## DeleteGeofenceCollection

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeGeofenceCollection

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.sssZ`

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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: . + - / ] \*

## UpdateTime

The timestamp for when the geofence collection was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## ForecastGeofenceEvents

Evaluates device positions against geofence geometries from a given geofence collection. The event forecasts 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.

### 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

The device's state, including current position and speed.

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

Specifies the time horizon in minutes for the forecasted 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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetGeofence

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,
    "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.sssZ

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.sssZ`

Type: Timestamp



## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListGeofenceCollections

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)

- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListGeofences

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,
        "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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## PutGeofence

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,
    "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 or 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 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

## 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.sssZ

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.sssZ

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **ConflictException**

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateGeofenceCollection

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.sssZ`

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## Trackers actions

The following actions are supported for Trackers:

- [AssociateTrackerConsumer](#)
- [BatchDeleteDevicePositionHistory](#)

- [BatchGetDevicePosition](#)
- [BatchUpdateDevicePosition](#)
- [CreateTracker](#)
- [DeleteTracker](#)
- [DescribeTracker](#)
- [DisassociateTrackerConsumer](#)
- [GetDevicePosition](#)
- [GetDevicePositionHistory](#)
- [ListDevicePositions](#)
- [ListTrackerConsumers](#)
- [ListTrackers](#)
- [UpdateTracker](#)
- [VerifyDevicePosition](#)

## AssociateTrackerConsumer

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **ConflictException**

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



## BatchDeleteDevicePositionHistory

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# BatchGetDevicePosition

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## BatchUpdateDevicePosition

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerError**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateTracker

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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_ = @ : . + - / ] \*

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.sssZ.

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **ConflictException**

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ServiceQuotaExceededException**

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteTracker

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeTracker

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.sssZ.

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: `[a-zA-Z+-. _:/]+`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `[A-Za-z0-9 _=@: .+ -/]*`

## 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.sssZ`.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DisassociateTrackerConsumer

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetDevicePosition

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 3 items.

Key Length Constraints: Minimum length of 1. Maximum length of 20.

Value Length Constraints: Minimum length of 1. Maximum length of 40.

### ReceivedTime

The timestamp for when the tracker resource received the device position. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

### SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## GetDevicePositionHistory

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.sssZ. 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.sssZ. 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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListDevicePositions

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## ListTrackerConsumers

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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTrackers

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)

- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateTracker

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.sssZ`.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

## AccessDeniedException

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

HTTP Status Code: 403

## InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

## ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

## ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

## ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)



- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## VerifyDevicePosition

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.sssZ.

Type: Timestamp

### SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# API keys actions

The following actions are supported for API keys:

- [CreateKey](#)
- [DeleteKey](#)
- [DescribeKey](#)
- [ListKeys](#)
- [UpdateKey](#)

## CreateKey

Creates an API key resource in your AWS account, which lets you grant actions for Amazon Location resources to the API key bearer.

### Note

For more information, see [Using API keys](#).

## Request Syntax

```
POST /metadata/v0/keys HTTP/1.1
Content-type: application/json

{
  "Description": "string",
  "ExpireTime": "string",
  "KeyName": "string",
  "NoExpiry": boolean,
  "Restrictions": {
    "AllowActions": [ "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.sssZ. 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

The API key restrictions for the API key resource.

Type: [ApiKeyRestrictions](#) object

Required: Yes

## Tags

Applies one or more tags to the map 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: [a-zA-Z+ -= . \_ : / ] +

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: . + - / ] \*

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.sssZ.

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 [GetMapGlyphs](#).

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### ConflictException

The request was unsuccessful because of a conflict.

HTTP Status Code: 409

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ServiceQuotaExceededException

The operation was denied because the request would exceed the maximum [quota](#) set for Amazon Location Service.

HTTP Status Code: 402

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## DeleteKey

Deletes the specified API key. The API key must have been deactivated more than 90 days previously.

### 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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerError**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# DescribeKey

Retrieves the API key resource details.

## 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" ],
    "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.sssZ.

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.sssZ.

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, and referers 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: `[a-zA-Z+-. _:/]+`

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: `[A-Za-z0-9 _=@: .+ -/]*`

### UpdateTime

The timestamp for when the API key resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListKeys

Lists API key resources in your AWS account.

## 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" ],
        "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 Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UpdateKey

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" ],
    "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.sssZ.

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.sssZ`.

Type: Timestamp

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerErrorException

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## Tags actions

The following actions are supported for Tags:

- [ListTagsForResource](#)
- [TagResource](#)
- [UntagResource](#)

## ListTagsForResource

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: [a-zA-Z+-. \_:/]+

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: .+ -/]\*

## Errors

For information about the errors that are common to all actions, see [Common Errors](#).

### **AccessDeniedException**

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

HTTP Status Code: 403

### **InternalServerErrorException**

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### **ResourceNotFoundException**

The resource that you've entered was not found in your AWS account.



HTTP Status Code: 404

### **ThrottlingException**

The request was denied because of request throttling.

HTTP Status Code: 429

### **ValidationException**

The input failed to meet the constraints specified by the 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](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

## TagResource

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: [a-zA-Z+-. \_:/]+

Value Length Constraints: Minimum length of 0. Maximum length of 256.

Value Pattern: [A-Za-z0-9 \_=@: .+ -/]\*

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)

- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UntagResource

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 Errors](#).

### AccessDeniedException

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

HTTP Status Code: 403

### InternalServerError

The request has failed to process because of an unknown server error, exception, or failure.

HTTP Status Code: 500

### ResourceNotFoundException

The resource that you've entered was not found in your AWS account.

HTTP Status Code: 404

### ThrottlingException

The request was denied because of request throttling.

HTTP Status Code: 429

### ValidationException

The input failed to meet the constraints specified by the 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](#)

- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)



# Data Types

The Amazon Location Service API contains several data types that various actions use. This section describes each data type in detail.

## Note

The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported by Maps:

- [ListMapsResponseEntry](#)
- [MapConfiguration](#)
- [MapConfigurationUpdate](#)

The following data types are supported by Places:

- [DataSourceConfiguration](#)
- [ListPlaceIndexesResponseEntry](#)
- [Place](#)
- [PlaceGeometry](#)
- [SearchForPositionResult](#)
- [SearchForSuggestionsResult](#)
- [SearchForTextResult](#)
- [SearchPlaceIndexForPositionSummary](#)
- [SearchPlaceIndexForSuggestionsSummary](#)
- [SearchPlaceIndexForTextSummary](#)
- [TimeZone](#)

The following data types are supported by Routes:

- [CalculateRouteCarModeOptions](#)

- [CalculateRouteMatrixSummary](#)
- [CalculateRouteSummary](#)
- [CalculateRouteTruckModeOptions](#)
- [Leg](#)
- [LegGeometry](#)
- [ListRouteCalculatorsResponseEntry](#)
- [RouteMatrixEntry](#)
- [RouteMatrixEntryError](#)
- [Step](#)
- [TrackingFilterGeometry](#)
- [TruckDimensions](#)
- [TruckWeight](#)

The following data types are supported by Geofences:

- [BatchDeleteGeofenceError](#)
- [BatchEvaluateGeofencesError](#)
- [BatchItemError](#)
- [BatchPutGeofenceError](#)
- [BatchPutGeofenceRequestEntry](#)
- [BatchPutGeofenceSuccess](#)
- [DevicePositionUpdate](#)
- [ForecastedEvent](#)
- [ForecastGeofenceEventsDeviceState](#)
- [GeofenceGeometry](#)
- [ListGeofenceCollectionsResponseEntry](#)
- [ListGeofenceResponseEntry](#)
- [PositionalAccuracy](#)

The following data types are supported by Trackers:

- [BatchDeleteDevicePositionHistoryError](#)
- [BatchGetDevicePositionError](#)
- [BatchItemError](#)
- [BatchUpdateDevicePositionError](#)
- [CellSignals](#)
- [DevicePosition](#)
- [DevicePositionUpdate](#)
- [DeviceState](#)
- [InferredState](#)
- [ListDevicePositionsResponseEntry](#)
- [ListTrackersResponseEntry](#)
- [LteCellDetails](#)
- [LteLocalId](#)
- [LteNetworkMeasurements](#)
- [PositionalAccuracy](#)
- [WiFiAccessPoint](#)

The following data types are supported by API keys:

- [ApiKeyFilter](#)
- [ApiKeyRestrictions](#)
- [ListKeysResponseEntry](#)
- [ListKeysResponseEntry](#)

The following data types are common across Amazon Location Service:

- [BatchItemError](#)
- [DevicePositionUpdate](#)
- [PositionalAccuracy](#)
- [ValidationExceptionField](#)

# Maps data types

The following data types are supported by Maps:

- [ListMapsResponseEntry](#)
- [MapConfiguration](#)
- [MapConfigurationUpdate](#)

# ListMapsResponseEntry

Contains details of an existing map resource in your AWS account.

## Contents

### CreateTime

The timestamp for when the map resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

Required: Yes

### DataSource

Specifies the data provider for the associated map tiles.

Type: String

Required: Yes

### Description

The description for the map resource.

Type: String

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

Required: Yes

### MapName

The name of the associated map resource.

Type: String

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

Pattern: [- .\_\w]+

Required: Yes

## UpdateTime

The timestamp for when the map resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

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

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# MapConfiguration

Specifies the map tile style selected from an available provider.

## Contents

### Style

Specifies the map style selected from an available data provider.

Valid [Esri map styles](#):

- `VectorEsriDarkGrayCanvas` – The Esri Dark Gray Canvas map style. A vector basemap with a dark gray, neutral background with minimal colors, labels, and features that's designed to draw attention to your thematic content.
- `RasterEsriImagery` – The Esri Imagery map style. A raster basemap that provides one meter or better satellite and aerial imagery in many parts of the world and lower resolution satellite imagery worldwide.
- `VectorEsriLightGrayCanvas` – The Esri Light Gray Canvas map style, which provides a detailed vector basemap with a light gray, neutral background style with minimal colors, labels, and features that's designed to draw attention to your thematic content.
- `VectorEsriTopographic` – The Esri Light map style, which provides a detailed vector basemap with a classic Esri map style.
- `VectorEsriStreets` – The Esri Street Map style, which provides a detailed vector basemap for the world symbolized with a classic Esri street map style. The vector tile layer is similar in content and style to the World Street Map raster map.
- `VectorEsriNavigation` – The Esri Navigation map style, which provides a detailed basemap for the world symbolized with a custom navigation map style that's designed for use during the day in mobile devices.

Valid [HERE Technologies map styles](#):

- `VectorHereContrast` – The HERE Contrast (Berlin) map style is a high contrast detailed base map of the world that blends 3D and 2D rendering.

**Note**

The `VectorHereContrast` style has been renamed from `VectorHereBerlin`. `VectorHereBerlin` has been deprecated, but will continue to work in applications that use it.

- `VectorHereExplore` – A default HERE map style containing a neutral, global map and its features including roads, buildings, landmarks, and water features. It also now includes a fully designed map of Japan.
- `VectorHereExploreTruck` – A global map containing truck restrictions and attributes (e.g. width / height / HAZMAT) symbolized with highlighted segments and icons on top of HERE Explore to support use cases within transport and logistics.
- `RasterHereExploreSatellite` – A global map containing high resolution satellite imagery.
- `HybridHereExploreSatellite` – A global map displaying the road network, street names, and city labels over satellite imagery. This style will automatically retrieve both raster and vector tiles, and your charges will be based on total tiles retrieved.

**Note**

Hybrid styles use both vector and raster tiles when rendering the map that you see. This means that more tiles are retrieved than when using either vector or raster tiles alone. Your charges will include all tiles retrieved.

Valid [GrabMaps map styles](#):

- `VectorGrabStandardLight` – The Grab Standard Light map style provides a basemap with detailed land use coloring, area names, roads, landmarks, and points of interest covering Southeast Asia.
- `VectorGrabStandardDark` – The Grab Standard Dark map style provides a dark variation of the standard basemap covering Southeast Asia.



**Note**

Grab provides maps only for countries in Southeast Asia, and is only available in the Asia Pacific (Singapore) Region (ap-southeast-1). For more information, see [GrabMaps countries and area covered](#).

Valid [Open Data map styles](#):

- `VectorOpenDataStandardLight` – The Open Data Standard Light map style provides a detailed basemap for the world suitable for website and mobile application use. The map includes highways major roads, minor roads, railways, water features, cities, parks, landmarks, building footprints, and administrative boundaries.
- `VectorOpenDataStandardDark` – Open Data Standard Dark is a dark-themed map style that provides a detailed basemap for the world suitable for website and mobile application use. The map includes highways major roads, minor roads, railways, water features, cities, parks, landmarks, building footprints, and administrative boundaries.
- `VectorOpenDataVisualizationLight` – The Open Data Visualization Light map style is a light-themed style with muted colors and fewer features that aids in understanding overlaid data.
- `VectorOpenDataVisualizationDark` – The Open Data Visualization Dark map style is a dark-themed style with muted colors and fewer features that aids in understanding overlaid data.

Type: String

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

Pattern: `[- ._\w]+`

Required: Yes

**PoliticalView**

Specifies the political view for the style. Leave unset to not use a political view, or, for styles that support specific political views, you can choose a view, such as IND for the Indian view.

Default is unset.

**Note**

Not all map resources or styles support political view styles. See [Political views](#) for more information.

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](#)

# MapConfigurationUpdate

Specifies the political view for the style.

## Contents

### PoliticalView

Specifies the political view for the style. Set to an empty string to not use a political view, or, for styles that support specific political views, you can choose a view, such as IND for the Indian view.

#### Note

Not all map resources or styles support political view styles. See [Political views](#) for more information.

Type: String

Length Constraints: Minimum length of 0. Maximum 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](#)

## Places data types

**The following data types are supported by Places:**

- [DataSourceConfiguration](#)
- [ListPlaceIndexesResponseEntry](#)
- [Place](#)
- [PlaceGeometry](#)
- [SearchForPositionResult](#)
- [SearchForSuggestionsResult](#)
- [SearchForTextResult](#)
- [SearchPlaceIndexForPositionSummary](#)
- [SearchPlaceIndexForSuggestionsSummary](#)
- [SearchPlaceIndexForTextSummary](#)
- [TimeZone](#)

# DataSourceConfiguration

Specifies the data storage option chosen for requesting Places.

## Important

When using Amazon Location Places:

- If using HERE Technologies as a data provider, you can't store results for locations in Japan by setting `IntendedUse` to `Storage`. parameter.
- Under the `MobileAssetTracking` or `MobilAssetManagement` pricing plan, you can't store results from your place index resources by setting `IntendedUse` to `Storage`. This returns a validation exception error.

For more information, see the [AWS Service Terms](#) for Amazon Location Service.

## Contents

### IntendedUse

Specifies how the results of an operation will be stored by the caller.

Valid values include:

- `SingleUse` specifies that the results won't be stored.
- `Storage` specifies that the result can be cached or stored in a database.

Default value: `SingleUse`

Type: String

Valid Values: `SingleUse` | `Storage`

Required: No

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# ListPlaceIndexesResponseEntry

A place index resource listed in your AWS account.

## Contents

### CreateTime

The timestamp for when the place index resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

Type: Timestamp

Required: Yes

### DataSource

The data provider of geospatial data. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Description

The optional description for the place index resource.

Type: String

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

Required: Yes

### IndexName

The name of the place index resource.

Type: String

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

Pattern: `[- ._\w]+`

Required: Yes

## UpdateTime

The timestamp for when the place index resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

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

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)



## Place

Contains details about addresses or points of interest that match the search criteria.

Not all details are included with all responses. Some details may only be returned by specific data partners.

### Contents

#### Geometry

Places uses a point geometry to specify a location or a Place.

Type: [PlaceGeometry](#) object

Required: Yes

#### AddressNumber

The numerical portion of an address, such as a building number.

Type: String

Required: No

#### Categories

The Amazon Location categories that describe this Place.

For more information about using categories, including a list of Amazon Location categories, see [Categories and filtering](#), in the *Amazon Location Service Developer Guide*.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

#### Country

A country/region specified using [ISO 3166](#) 3-digit country/region code. For example, CAN.

Type: String

Required: No

### **Interpolated**

`True` if the result is interpolated from other known places.

`False` if the Place is a known place.

Not returned when the partner does not provide the information.

For example, returns `False` for an address location that is found in the partner data, but returns `True` if an address does not exist in the partner data and its location is calculated by interpolating between other known addresses.

Type: Boolean

Required: No

### **Label**

The full name and address of the point of interest such as a city, region, or country. For example, `123 Any Street, Any Town, USA`.

Type: String

Required: No

### **Municipality**

A name for a local area, such as a city or town name. For example, `Toronto`.

Type: String

Required: No

### **Neighborhood**

The name of a community district. For example, `Downtown`.

Type: String

Required: No

## PostalCode

A group of numbers and letters in a country-specific format, which accompanies the address for the purpose of identifying a location.

Type: String

Required: No

## Region

A name for an area or geographical division, such as a province or state name. For example, British Columbia.

Type: String

Required: No

## Street

The name for a street or a road to identify a location. For example, Main Street.

Type: String

Required: No

## SubMunicipality

An area that's part of a larger municipality. For example, Blissville is a submunicipality in the Queen County in New York.

### Note

This property supported by Esri and OpenData. The Esri property is `district`, and the OpenData property is `borough`.

Type: String

Required: No

## SubRegion

A county, or an area that's part of a larger region. For example, Metro Vancouver.

Type: String

Required: No

### SupplementalCategories

Categories from the data provider that describe the Place that are not mapped to any Amazon Location categories.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

### TimeZone

The time zone in which the Place is located. Returned only when using HERE or Grab as the selected partner.

Type: [TimeZone](#) object

Required: No

### UnitNumber

For addresses with multiple units, the unit identifier. Can include numbers and letters, for example 3B or Unit 123.

#### Note

Returned only for a place index that uses Esri or Grab as a data provider. Is not returned for `SearchPlaceIndexForPosition`.

Type: String

Required: No

### UnitType

For addresses with a `UnitNumber`, the type of unit. For example, Apartment.

**Note**

Returned only for a place index that uses Esri as a data provider.

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](#)

# PlaceGeometry

Places uses a point geometry to specify a location or a Place.

## Contents

### Point

A single point geometry specifies a location for a Place using [WGS 84](#) coordinates:

- *x* — Specifies the x coordinate or longitude.
- *y* — Specifies the y coordinate or 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](#)

## SearchForPositionResult

Contains a search result from a position search query that is run on a place index resource.

### Contents

#### Distance

The distance in meters of a great-circle arc between the query position and the result.

##### Note

A great-circle arc is the shortest path on a sphere, in this case the Earth. This returns the shortest distance between two locations.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

#### Place

Details about the search result, such as its address and position.

Type: [Place](#) object

Required: Yes

#### PlaceId

The unique identifier of the place. You can use this with the `GetPlace` operation to find the place again later.

##### Note

For `SearchPlaceIndexForPosition` operations, the `PlaceId` is returned only by place indexes that use HERE or Grab as a data provider.

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](#)



## SearchForSuggestionsResult

Contains a place suggestion resulting from a place suggestion query that is run on a place index resource.

### Contents

#### Text

The text of the place suggestion, typically formatted as an address string.

Type: String

Required: Yes

#### Categories

The Amazon Location categories that describe the Place.

For more information about using categories, including a list of Amazon Location categories, see [Categories and filtering](#), in the *Amazon Location Service Developer Guide*.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

#### PlaceId

The unique identifier of the Place. You can use this with the `GetPlace` operation to find the place again later, or to get full information for the Place.

The `GetPlace` request must use the same `PlaceIndex` resource as the `SearchPlaceIndexForSuggestions` that generated the Place ID.

#### Note

For `SearchPlaceIndexForSuggestions` operations, the `PlaceId` is returned by place indexes that use Esri, Grab, or HERE as data providers.

Type: String

Required: No

### SupplementalCategories

Categories from the data provider that describe the Place that are not mapped to any Amazon Location categories.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Length Constraints: Minimum length of 0. 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](#)

# SearchForTextResult

Contains a search result from a text search query that is run on a place index resource.

## Contents

### Place

Details about the search result, such as its address and position.

Type: [Place](#) object

Required: Yes

### Distance

The distance in meters of a great-circle arc between the bias position specified and the result. Distance will be returned only if a bias position was specified in the query.

#### Note

A great-circle arc is the shortest path on a sphere, in this case the Earth. This returns the shortest distance between two locations.

Type: Double

Valid Range: Minimum value of 0.

Required: No

### PlaceId

The unique identifier of the place. You can use this with the `GetPlace` operation to find the place again later.

#### Note

For `SearchPlaceIndexForText` operations, the `PlaceId` is returned only by place indexes that use `HERE` or `Grab` as a data provider.

Type: String

Required: No

## Relevance

The relative confidence in the match for a result among the results returned. For example, if more fields for an address match (including house number, street, city, country/region, and postal code), the relevance score is closer to 1.

Returned only when the partner selected is Esri or Grab.

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](#)

# SearchPlaceIndexForPositionSummary

A summary of the request sent by using `SearchPlaceIndexForPosition`.

## Contents

### DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Position

The position specified in the request.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### Language

The preferred language used to return results. Matches the language in the request. The value is a valid [BCP 47](#) language tag, for example, en for English.

Type: String

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

Required: No

### MaxResults

Contains the optional result count limit that is specified in the request.

Default value: 50

Type: Integer

Valid Range: Minimum value of 1. Maximum value 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](#)

# SearchPlaceIndexForSuggestionsSummary

A summary of the request sent by using `SearchPlaceIndexForSuggestions`.

## Contents

### DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Text

The free-form partial text input specified in the request.

Type: String

Required: Yes

### BiasPosition

Contains the coordinates for the optional bias position specified in the request.

This parameter contains a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For 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: No

## FilterBoundingBox

Contains the coordinates for the optional bounding box specified in the request.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

## FilterCategories

The optional category filter specified in the request.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

## FilterCountries

Contains the optional country filter specified in the request.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

## Language

The preferred language used to return results. Matches the language in the request. The value is a valid [BCP 47](#) language tag, for example, en for English.

Type: String

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

Required: No



## MaxResults

Contains the optional result count limit specified in the request.

Type: Integer

Required: No

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# SearchPlaceIndexForTextSummary

A summary of the request sent by using SearchPlaceIndexForText.

## Contents

### DataSource

The geospatial data provider attached to the place index resource specified in the request. Values can be one of the following:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Text

The search text specified in the request.

Type: String

Required: Yes

### BiasPosition

Contains the coordinates for the optional bias position specified in the request.

This parameter contains a pair of numbers. The first number represents the X coordinate, or longitude; the second number represents the Y coordinate, or latitude.

For 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: No

## FilterBoundingBox

Contains the coordinates for the optional bounding box specified in the request.

Type: Array of doubles

Array Members: Fixed number of 4 items.

Required: No

## FilterCategories

The optional category filter specified in the request.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 35.

Required: No

## FilterCountries

Contains the optional country filter specified in the request.

Type: Array of strings

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

Length Constraints: Fixed length of 3.

Pattern: [A-Z]{3}

Required: No

## Language

The preferred language used to return results. Matches the language in the request. The value is a valid [BCP 47](#) language tag, for example, en for English.

Type: String

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

Required: No

## MaxResults

Contains the optional result count limit specified in the request.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

## ResultBoundingBox

The bounding box that fully contains all search results.

### Note

If you specified the optional `FilterBoundingBox` parameter in the request, `ResultBoundingBox` is contained within `FilterBoundingBox`.

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](#)

## TimeZone

Information about a time zone. Includes the name of the time zone and the offset from UTC in seconds.

### Contents

#### Name

The name of the time zone, following the [IANA time zone standard](#). For example, America/Los\_Angeles.

Type: String

Required: Yes

#### Offset

The time zone's offset, in seconds, from UTC.

Type: Integer

Required: No

### See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

## Routes data types

The following data types are supported by Routes:

- [CalculateRouteCarModeOptions](#)
- [CalculateRouteMatrixSummary](#)
- [CalculateRouteSummary](#)

- [CalculateRouteTruckModeOptions](#)
- [Leg](#)
- [LegGeometry](#)
- [ListRouteCalculatorsResponseEntry](#)
- [RouteMatrixEntry](#)
- [RouteMatrixEntryError](#)
- [Step](#)
- [TruckDimensions](#)
- [TruckWeight](#)

# CalculateRouteCarModeOptions

Contains details about additional route preferences for requests that specify `TravelMode` as `Car`.

## Contents

### AvoidFerries

Avoids ferries when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

### AvoidTolls

Avoids tolls when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

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](#)

# CalculateRouteMatrixSummary

A summary of the calculated route matrix.

## Contents

### DataSource

The data provider of traffic and road network data used to calculate the routes. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### DistanceUnit

The unit of measurement for route distances.

Type: String

Valid Values: `Kilometers` | `Miles`

Required: Yes

### 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 1. Maximum value of 160000.

Required: Yes

### RouteCount

The count of cells in the route matrix. Equal to the number of `DeparturePositions` multiplied by the number of `DestinationPositions`.



Type: Integer

Valid Range: Minimum value of 1. Maximum value of 160000.

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](#)

# CalculateRouteSummary

A summary of the calculated route.

## Contents

### DataSource

The data provider of traffic and road network data used to calculate the route. Indicates one of the available providers:

- `Esri`
- `Grab`
- `Here`

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Distance

The total distance covered by the route. The sum of the distance travelled between every stop on the route.

#### Note

If `Esri` is the data source for the route calculator, the route distance can't be greater than 400 km. If the route exceeds 400 km, the response is a `400 RoutesValidationException` error.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

### DistanceUnit

The unit of measurement for route distances.

Type: String

Valid Values: Kilometers | Miles

Required: Yes

### **DurationSeconds**

The total travel time for the route measured in seconds. The sum of the travel time between every stop on the route.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

### **RouteBBox**

Specifies a geographical box surrounding a route. Used to zoom into a route when displaying it in a map. For example, [min x, min y, max x, max y].

The first 2 bbox parameters describe the lower southwest corner:

- The first bbox position is the X coordinate or longitude of the lower southwest corner.
- The second bbox position is the Y coordinate or latitude of the lower southwest corner.

The next 2 bbox parameters describe the upper northeast corner:

- The third bbox position is the X coordinate, or longitude of the upper northeast corner.
- The fourth bbox position is the Y coordinate, or latitude of the upper northeast corner.

Type: Array of doubles

Array Members: Fixed number of 4 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](#)

# CalculateRouteTruckModeOptions

Contains details about additional route preferences for requests that specify `TravelMode` as `Truck`.

## Contents

### AvoidFerries

Avoids ferries when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

### AvoidTolls

Avoids tolls when calculating routes.

Default Value: `false`

Valid Values: `false` | `true`

Type: Boolean

Required: No

### Dimensions

Specifies the truck's dimension specifications including length, height, width, and unit of measurement. Used to avoid roads that can't support the truck's dimensions.

Type: [TruckDimensions](#) object

Required: No

### Weight

Specifies the truck's weight specifications including total weight and unit of measurement. Used to avoid roads that can't support the truck's weight.

Type: [TruckWeight](#) 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](#)

## Leg

Contains the calculated route's details for each path between a pair of positions. The number of legs returned corresponds to one fewer than the total number of positions in the request.

For example, a route with a departure position and destination position returns one leg with the positions [snapped to a nearby road](#):

- The `StartPosition` is the departure position.
- The `EndPosition` is the destination position.

A route with a waypoint between the departure and destination position returns two legs with the positions snapped to a nearby road:

- Leg 1: The `StartPosition` is the departure position . The `EndPosition` is the waypoint position.
- Leg 2: The `StartPosition` is the waypoint position. The `EndPosition` is the destination position.

## Contents

### Distance

The distance between the leg's `StartPosition` and `EndPosition` along a calculated route.

- The default measurement is `Kilometers` unless the request specifies a `DistanceUnit` of `Miles`.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

### DurationSeconds

The estimated travel time between the leg's `StartPosition` and `EndPosition`. The travel mode and departure time that you specify in the request determines the calculated time.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

### EndPosition

The terminating position of the leg. Follows the format [longitude, latitude].

#### Note

If the EndPosition isn't located on a road, it's [snapped to a nearby road](#).

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### StartPosition

The starting position of the leg. Follows the format [longitude, latitude].

#### Note

If the StartPosition isn't located on a road, it's [snapped to a nearby road](#).

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### Steps

Contains a list of steps, which represent subsections of a leg. Each step provides instructions for how to move to the next step in the leg such as the step's start position, end position, travel distance, travel duration, and geometry offset.

Type: Array of [Step](#) objects

Required: Yes



## Geometry

Contains the calculated route's path as a linestring geometry.

Type: [LegGeometry](#) 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](#)

# LegGeometry

Contains the geometry details for each path between a pair of positions. Used in plotting a route leg on a map.

## Contents

### LineString

An ordered list of positions used to plot a route on a map.

The first position is closest to the start position for the leg, and the last position is the closest to the end position for the leg.

- For example, `[[-123.117, 49.284], [-123.115, 49.285], [-123.115, 49.285]]`

Type: Array of arrays of doubles

Array Members: Minimum number of 2 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](#)

# ListRouteCalculatorsResponseEntry

A route calculator resource listed in your AWS account.

## Contents

### CalculatorName

The name of the route calculator resource.

Type: String

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

Pattern: `[- ._\w]+`

Required: Yes

### CreateTime

The timestamp when the route calculator resource was created in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, `2020-07-2T12:15:20.000Z+01:00`

Type: Timestamp

Required: Yes

### DataSource

The data provider of traffic and road network data. Indicates one of the available providers:

- Esri
- Grab
- Here

For more information about data providers, see [Amazon Location Service data providers](#).

Type: String

Required: Yes

### Description

The optional description of the route calculator resource.

Type: String

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

Required: Yes

### UpdateTime

The timestamp when the route calculator resource was last updated in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

- For example, 2020-07-2T12:15:20.000Z+01:00

Type: Timestamp

Required: Yes

### PricingPlan

*This member has been deprecated.*

Always returns RequestBasedUsage.

Type: String

Valid Values: RequestBasedUsage | MobileAssetTracking | MobileAssetManagement

Required: No

### See Also

For more information about using this API in 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

The result for the calculated route of one `DeparturePosition` `DestinationPosition` pair.

## Contents

### Distance

The total distance of travel for the route.

Type: Double

Valid Range: Minimum value of 0.

Required: No

### DurationSeconds

The expected duration of travel for the route.

Type: Double

Valid Range: Minimum value of 0.

Required: No

### Error

An error corresponding to the calculation of a route between the `DeparturePosition` and `DestinationPosition`.

Type: [RouteMatrixEntryError](#) 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](#)



## RouteMatrixEntryError

An error corresponding to the calculation of a route between the `DeparturePosition` and `DestinationPosition`.

The error code can be one of the following:

- `RouteNotFound` - Unable to find a valid route with the given parameters.
- `RouteTooLong` - Route calculation went beyond the maximum size of a route and was terminated before completion.
- `PositionsNotFound` - One or more of the input positions were not found on the route network.
- `DestinationPositionNotFound` - The destination position was not found on the route network.
- `DeparturePositionNotFound` - The departure position was not found on the route network.
- `OtherValidationError` - The given inputs were not valid or a route was not found. More information is given in the error Message

### Contents

#### Code

The type of error which occurred for the route calculation.

Type: String

Valid Values: `RouteNotFound` | `RouteTooLong` | `PositionsNotFound`  
| `DestinationPositionNotFound` | `DeparturePositionNotFound` |  
`OtherValidationError`

Required: Yes

## Message

A message about the error that occurred for the route calculation.

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](#)



## Step

Represents an element of a leg within a route. A step contains instructions for how to move to the next step in the leg.

### Contents

#### Distance

The travel distance between the step's `StartPosition` and `EndPosition`.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

#### DurationSeconds

The estimated travel time, in seconds, from the step's `StartPosition` to the `EndPosition`. . The travel mode and departure time that you specify in the request determines the calculated time.

Type: Double

Valid Range: Minimum value of 0.

Required: Yes

#### EndPosition

The end position of a step. If the position the last step in the leg, this position is the same as the end position of the leg.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

#### StartPosition

The starting position of a step. If the position is the first step in the leg, this position is the same as the start position of the leg.

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### **GeometryOffset**

Represents the start position, or index, in a sequence of steps within the leg's line string geometry. For example, the index of the first step in a leg geometry is 0.

Included in the response for queries that set `IncludeLegGeometry` to `True`.

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](#)

# TruckDimensions

Contains details about the truck dimensions in the unit of measurement that you specify. Used to filter out roads that can't support or allow the specified dimensions for requests that specify `TravelMode` as `Truck`.

## Contents

### Height

The height of the truck.

- For example, 4.5.

#### Note

For routes calculated with a HERE resource, this value must be between 0 and 50 meters.

Type: Double

Valid Range: Minimum value of 0.

Required: No

### Length

The length of the truck.

- For example, 15.5.

#### Note

For routes calculated with a HERE resource, this value must be between 0 and 300 meters.

Type: Double

Valid Range: Minimum value of 0.

Required: No

## Unit

Specifies the unit of measurement for the truck dimensions.

Default Value: `Meters`

Type: String

Valid Values: `Meters` | `Feet`

Required: No

## Width

The width of the truck.

- For example, 4.5.

### Note

For routes calculated with a HERE resource, this value must be between 0 and 50 meters.

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](#)

# TruckWeight

Contains details about the truck's weight specifications. Used to avoid roads that can't support or allow the total weight for requests that specify `TravelMode` as `Truck`.

## Contents

### Total

The total weight of the truck.

- For example, 3500.

Type: Double

Valid Range: Minimum value of 0.

Required: No

### Unit

The unit of measurement to use for the truck weight.

Default Value: Kilograms

Type: String

Valid Values: Kilograms | Pounds

Required: No

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Geofences data types

The following data types are supported by Geofences:

- [BatchDeleteGeofenceError](#)
- [BatchEvaluateGeofencesError](#)
- [BatchPutGeofenceError](#)
- [BatchPutGeofenceRequestEntry](#)
- [BatchPutGeofenceSuccess](#)
- [ForecastedEvent](#)
- [ForecastGeofenceEventsDeviceState](#)
- [GeofenceGeometry](#)
- [ListGeofenceCollectionsResponseEntry](#)
- [ListGeofenceResponseEntry](#)

## BatchDeleteGeofenceError

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

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.sssZ

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](#)

# BatchPutGeofenceError

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

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 or 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

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.sssZ

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.sssZ

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](#)

## ForecastedEvent

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.sssZ`

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

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

Contains the geofence geometry details.

A geofence geometry is made up of either a polygon or a circle. Can be a polygon, a circle or a polygon encoded in Geobuf format. Including multiple selections will return a validation error.

## Note

Amazon Location doesn't currently support polygons with holes, multipolygons, polygons that are wound clockwise, or 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.

A polygon in Geobuf format can have up to 100,000 vertices.

Type: Base64-encoded binary data object

Length Constraints: Minimum length of 0. Maximum length of 600000.

Required: No

### Polygon

A polygon is a list of linear rings which are each made up of a list of vertices.

Each vertex is a 2-dimensional point of the form: `[longitude, latitude]`. This is represented as an array of doubles of length 2 (so `[double, double]`).

An array of 4 or more vertices, where the first and last vertex are the same (to form a closed boundary), is called a linear ring. The linear ring vertices must be listed in counter-clockwise order around the ring's interior. The linear ring is represented as an array of vertices, or an array of arrays of doubles (`[[double, double], ...]`).

A geofence consists of a single linear ring. To allow for future expansion, the Polygon parameter takes an array of linear rings, which is represented as an array of arrays of arrays of doubles (`[[[double, double], ...], ...]`).

A linear ring for use in geofences can consist of between 4 and 1,000 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](#)

# ListGeofenceCollectionsResponseEntry

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.sssZ

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.sssZ

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

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.sssZ

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.sssZ

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](#)

## Trackers data types

The following data types are supported by Trackers:

- [BatchDeleteDevicePositionHistoryError](#)
- [BatchGetDevicePositionError](#)
- [BatchUpdateDevicePositionError](#)
- [DevicePosition](#)
- [DeviceState](#)
- [InferredState](#)
- [ListDevicePositionsResponseEntry](#)
- [ListTrackersResponseEntry](#)
- [TrackingFilterGeometry](#)
- [LteCellDetails](#)
- [CellSignals](#)
- [LteLocalId](#)
- [LteNetworkMeasurements](#)
- [WiFiAccessPoint](#)

# BatchDeleteDevicePositionHistoryError

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

Contains the batch request error details associated with the request.

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

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](#)

# BatchUpdateDevicePositionError

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.sssZ`.

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](#)



# DevicePosition

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.sssZ.

Type: Timestamp

Required: Yes

### SampleTime

The timestamp at which the device's position was determined. Uses [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

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 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](#)

## DeviceState

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.sssZ.

Type: Timestamp

Required: Yes

#### Accuracy

Defines the level of certainty of the position.

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

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

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.sssZ.

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 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](#)

## ListTrackersResponseEntry

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.sssZ.

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.sssZ.

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](#)

# TrackingFilterGeometry

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](#)



# LteCellDetails

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](#)

# CellSignals

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](#)

# LteLocalId

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

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](#)

# WiFiAccessPoint

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](#)

## API key data types

The following data types are supported by API keys:



- [ApiKeyFilter](#)
- [ApiKeyRestrictions](#)
- [ListKeysResponseEntry](#)

# ApiKeyFilter

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

API Restrictions on the allowed actions, resources, and referers 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.
- **Place actions**
  - `geo:SearchPlaceIndexForText` - Allows geocoding.
  - `geo:SearchPlaceIndexForPosition` - Allows reverse geocoding.
  - `geo:SearchPlaceIndexForSuggestions` - Allows generating suggestions from text.
  - `GetPlace` - Allows finding a place by place ID.
- **Route actions**
  - `geo:CalculateRoute` - Allows point to point routing.
  - `geo:CalculateRouteMatrix` - Allows calculating a matrix of routes.

#### 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 7 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 a 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 5 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

### 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. For example, `https://example.com`.

Type: Array of strings

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

Length Constraints: Minimum length of 0. Maximum length of 253.

Pattern: (`[$\-. _+!* \x{60}() , ; / ? : @ = & \w] | % ([0-9a-fA-F?]{2} | [0-9a-fA-F?]? [*])`)<sup>+</sup>

Required: No

## See Also

For more information about using this API in 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

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.sssZ.

Type: Timestamp

Required: Yes

### ExpireTime

The timestamp for when the API key resource will expire, in [ISO 8601](#) format: YYYY-MM-DDThh:mm:ss.sssZ.

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, and referers 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.sssZ.

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](#)

## Common data types

The following data types are common across Amazon Location Service:

- [BatchItemError](#)
- [Circle](#)
- [DevicePositionUpdate](#)
- [PositionalAccuracy](#)
- [ValidationExceptionField](#)

# BatchItemError

Contains the batch request error details associated with the request.

## Contents

### Code

The error code associated with the batch request error.

Type: String

Valid Values: `AccessDeniedError` | `ConflictError` | `InternalServerError` | `ResourceNotFoundError` | `ThrottlingError` | `ValidationError`

Required: No

### Message

A message with the reason for the batch request error.

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](#)



# Circle

A circle on the earth, as defined by a center point and a radius.

## Contents

### Center

A single point geometry, specifying the center of the circle, using [WGS 84](#) coordinates, in the form [longitude, latitude].

Type: Array of doubles

Array Members: Fixed number of 2 items.

Required: Yes

### Radius

The radius of the circle in meters. Must be greater than zero and no larger than 100,000 (100 kilometers).

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

Contains the position update details for a device.

## Contents

### DeviceId

The device associated to the position update.

Type: String

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

Pattern: `[- . _ \p{L} \p{N} ]+`

Required: Yes

### Position

The latest device position defined in [WGS 84](#) format: `[X or longitude, Y or latitude]`.

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.sssZ`

Type: Timestamp

Required: Yes

### Accuracy

The accuracy of the device position.

Type: [PositionalAccuracy](#) object

Required: No

## PositionProperties

Associates one or more properties with the position update. A property is a key-value pair stored with the position update and added to any geofence event the update may trigger.

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

Defines the level of certainty of the position.

## Contents

### Horizontal

Estimated maximum distance, in meters, between the measured position and the true position of a device, along the Earth's surface.

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

The input failed to meet the constraints specified by the AWS service in a specified field.

## Contents

### message

A message with the reason for the validation exception error.

Type: String

Required: Yes

### name

The field name where the invalid entry was detected.

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](#)

# 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*.

## Action

The action to be performed.

Type: string

Required: Yes

## Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

## 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 Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

## **AccessDeniedException**

You do not have sufficient access to perform this action.

HTTP Status Code: 400

## **IncompleteSignature**

The request signature does not conform to AWS standards.

HTTP Status Code: 400

## **InternalFailure**

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

HTTP Status Code: 500

## **InvalidAction**

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

## **InvalidClientTokenId**

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

## **NotAuthorized**

You do not have permission to perform this action.

HTTP Status Code: 400

## **OptInRequired**

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

**RequestExpired**

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

**ServiceUnavailable**

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

**ValidationError**

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

HTTP Status Code: 400