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Welcome

AWS AppSync provides API actions for creating and interacting with data sources using GraphQL from your application.

This document was last published on May 9, 2018.
Actions

The following actions are supported:

- `CreateApiKey` (p. 3)
- `CreateDataSource` (p. 6)
- `CreateGraphqlApi` (p. 10)
- `CreateResolver` (p. 13)
- `CreateType` (p. 16)
- `DeleteApiKey` (p. 19)
- `DeleteDataSource` (p. 21)
- `DeleteGraphqlApi` (p. 23)
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- `GetDataSource` (p. 29)
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- `GetIntrospectionSchema` (p. 34)
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- `ListApiKeys` (p. 42)
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- `ListGraphqlApis` (p. 48)
- `ListResolvers` (p. 51)
- `ListTypes` (p. 54)
- `StartSchemaCreation` (p. 57)
- `UpdateApiKey` (p. 60)
- `UpdateDataSource` (p. 63)
- `UpdateGraphqlApi` (p. 67)
- `UpdateResolver` (p. 71)
- `UpdateType` (p. 74)
CreateApiKey

Creates a unique key that you can distribute to clients who are executing your API.

Request Syntax

```plaintext
POST /apis/<apiId>/apikeys HTTP/1.1
Content-type: application/json

{
  "description": "string",
  "expires": number
}
```

URI Request Parameters

The request requires the following URI parameters.

**apiId (p. 3)**

The ID for your GraphQL API.

Request Body

The request accepts the following data in JSON format.

**description (p. 3)**

A description of the purpose of the API key.

Type: String

Required: No

**expires (p. 3)**

The time from creation time after which the API key expires. The date is represented as seconds since the epoch, rounded down to the nearest hour. The default value for this parameter is 7 days from creation time. For more information, see ApiKey (p. 78).

Type: Long

Required: No

Response Syntax

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

{
  "apiKey": {
    "description": "string",
    "expires": number,
    "id": "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.

apiKey (p. 3)

The API key.

Type: ApiKey (p. 78) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

ApiKeyLimitExceededException

The API key exceeded a limit. Try your request again.

HTTP Status Code: 400

ApiKeyValidityOutOfBoundsException

The API key expiration must be set to a value between 1 and 365 days from creation (for CreateApiKey) or from update (for UpdateApiKey).

HTTP Status Code: 400

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

LimitExceededException

The request exceeded a limit. Try your request again.

HTTP Status Code: 429

LimitExceededException

The request exceeded a limit. Try your request again.

HTTP Status Code: 429

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404
UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateDataSource

Creates a DataSource object.

Request Syntax

```plaintext
POST /apis/\apiId\/datasources HTTP/1.1
Content-type: application/json

{
    "description": "string",
    "dynamodbConfig": {
        "awsRegion": "string",
        "tableName": "string",
        "useCallerCredentials": boolean
    },
    "elasticsearchConfig": {
        "awsRegion": "string",
        "endpoint": "string"
    },
    "lambdaConfig": {
        "lambdaFunctionArn": "string"
    },
    "name": "string",
    "serviceRoleArn": "string",
    "type": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

apId (p. 6)

The API ID for the GraphQL API for the DataSource.

Request Body

The request accepts the following data in JSON format.

description (p. 6)

A description of the DataSource.

Type: String

Required: No
dynamodbConfig (p. 6)

DynamoDB settings.

Type: DynamodbDataSourceConfig (p. 82) object

Required: No
elasticsearchConfig (p. 6)

Amazon Elasticsearch settings.
Type: `ElasticsearchDataSourceConfig (p. 83)` object

Required: No

**lambdaConfig (p. 6)**

AWS Lambda settings.

Type: `LambdaDataSourceConfig (p. 86)` object

Required: No

**name (p. 6)**

A user-supplied name for the `DataSource`.

Type: String

Pattern: `[_A-Za-z][_0-9A-Za-z]*`

Required: Yes

**serviceRoleArn (p. 6)**

The IAM service role ARN for the data source. The system assumes this role when accessing the data source.

Type: String

Required: No

**type (p. 6)**

The type of the `DataSource`.

Type: String

Valid Values: `AWS_LAMBDA` | `AMAZON_DYNAMODB` | `AMAZON_ELASTICSEARCH` | `NONE` | `HTTP`

Required: Yes

---

### Response Syntax

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

{
  "dataSource": {
    "dataSourceArn": "string",
    "description": "string",
    "dynamodbConfig": {
      "awsRegion": "string",
      "tableName": "string",
      "useCallerCredentials": boolean
    },
    "elasticsearchConfig": {
      "awsRegion": "string",
      "endpoint": "string"
    },
    "lambdaConfig": {
      "lambdaFunctionArn": "string"
    },
    "name": "string",
    "serviceRoleArn": "string"
  }
```

---

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7
"type": "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.

dataSource (p. 7)

The DataSource object.

Type: DataSource (p. 80) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
CreateGraphqlApi

Creates a GraphqlApi object.

Request Syntax

```json
POST /apis HTTP/1.1
Content-type: application/json

{
    "authenticationType": "string",
    "logConfig": {
        "cloudWatchLogsRoleArn": "string",
        "fieldLogLevel": "string"
    },
    "name": "string",
    "openIDConnectConfig": {
        "authTTL": number,
        "clientId": "string",
        "iatTTL": number,
        "issuer": "string"
    },
    "userPoolConfig": {
        "appIdClientRegex": "string",
        "awsRegion": "string",
        "defaultAction": "string",
        "userPoolId": "string"
    }
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**authenticationType (p. 10)**

The authentication type: API key, IAM, or Amazon Cognito User Pools.

Type: String

Valid Values: API_KEY | AWS_IAM | AMAZON_COGNITO_USER_POOLS | OPENID_CONNECT

Required: Yes

**logConfig (p. 10)**

The Amazon CloudWatch logs configuration.

Type: LogConfig (p. 87) object

Required: No

**name (p. 10)**

A user-supplied name for the GraphqlApi.
Response Syntax

HTTP/1.1 200
Content-type: application/json

```json
{
  "graphqlApi": {
    "apiId": "string",
    "arn": "string",
    "authenticationType": "string",
    "logConfig": {
      "cloudWatchLogsRoleArn": "string",
      "fieldLogLevel": "string"
    },
    "name": "string",
    "openIDConnectConfig": {
      "authTTL": number,
      "clientId": "string",
      "iatTTL": number,
      "issuer": "string"
    },
    "uris": {
      "string": "string"
    },
    "userPoolConfig": {
      "appIdClientRegex": "string",
      "awsRegion": "string",
      "defaultAction": "string",
      "userPoolId": "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.

**graphqlApi (p. 11)**

The GraphQL API.
Type: GraphqlApi (p. 84) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

ApiLimitExceededException

The GraphQL API exceeded a limit. Try your request again.

HTTP Status Code: 400

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

LimitExceededException

The request exceeded a limit. Try your request again.

HTTP Status Code: 429

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateResolver

Creates a Resolver object.

A resolver converts incoming requests into a format that a data source can understand and converts the data source's responses into GraphQL.

Request Syntax

```
POST /apis/apiId/types/typeName/resolvers HTTP/1.1
Content-type: application/json

{
  "dataSourceName": "string",
  "fieldName": "string",
  "requestMappingTemplate": "string",
  "responseMappingTemplate": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 13)

The ID for the GraphQL API for which the resolver is being created.

typeName (p. 13)

The name of the Type.

Pattern: [_A-Za-z][_0-9A-Za-z]*

Request Body

The request accepts the following data in JSON format.

dataSourceName (p. 13)

The name of the data source for which the resolver is being created.

Type: String

Pattern: [_A-Za-z][_0-9A-Za-z]*

Required: Yes

fieldName (p. 13)

The name of the field to attach the resolver to.

Type: String

Pattern: [_A-Za-z][_0-9A-Za-z]*

Required: Yes

requestMappingTemplate (p. 13)

The mapping template to be used for requests.
A resolver uses a request mapping template to convert a GraphQL expression into a format that a data source can understand. Mapping templates are written in Apache Velocity Template Language (VTL).

Type: String


Required: Yes

`responseMappingTemplate (p. 13)`

The mapping template to be used for responses from the data source.

Type: String


Required: No

**Response Syntax**

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

{
  "resolver": {
    "dataSourceName": "string",
    "fieldName": "string",
    "requestMappingTemplate": "string",
    "resolverArn": "string",
    "responseMappingTemplate": "string",
    "typeName": "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.

`resolver (p. 14)`

The Resolver object.

Type: `Resolver (p. 89)` object

**Errors**

For information about the errors that are common to all actions, see **Common Errors (p. 95).**

`ConcurrentModificationException`

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409
**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

**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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateType

Creates a Type object.

Request Syntax

POST /apis/apiId/types HTTP/1.1
Content-type: application/json

{
    "definition": "string",
    "format": "string"
}

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 16)

The API ID.

Request Body

The request accepts the following data in JSON format.

definition (p. 16)

The type definition, in GraphQL Schema Definition Language (SDL) format.

For more information, see the GraphQL SDL documentation.

Type: String

Required: Yes

format (p. 16)

The type format: SDL or JSON.

Type: String

Valid Values: SDL | JSON

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "type": {
        "arn": "string",
        "definition": "string",
    }
}

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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.

type (p. 16)

The Type object.

Type: Type (p. 91) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

See Also

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

• AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteApiKey

Deletes an API key.

Request Syntax

DELETE /apis/{apiId}/apikeys/{id} HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 19)
The API ID.
id (p. 19)
The ID for the API key.

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 (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

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UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteDataSource

Deletes a DataSource object.

Request Syntax

```
DELETE /apis/apiId/datasources/name HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

- **apiId (p. 21)**
  
  The API ID.

- **name (p. 21)**
  
  The name of the data source.

  Pattern: [ _A-Za-z] [ _0-9A-Za-z]*

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 (p. 95).

- **BadRequestException**

  The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

  HTTP Status Code: 400

- **ConcurrentModificationException**

  Another modification is being made. That modification must complete before you can make your change.

  HTTP Status Code: 409

- **InternalFailureException**

  An internal AWS AppSync error occurred. Try your request again.
HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

## 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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteGraphqlApi

Deletes a GraphqlApi object.

Request Syntax

```
DELETE /apis/apiId HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 23)

The API ID.

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 (p. 95).

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**ConcurrentModificationException**

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

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HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

### 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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteResolver

Deletes a Resolver object.

**Request Syntax**

```
DELETE /apis/apiId/types/typeName/resolvers/fieldName HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- **apiId (p. 25)**
  - The API ID.
- **fieldName (p. 25)**
  - The resolver field name.
  - Pattern: [_A-Za-z][0-9A-Za-z]*
- **typeName (p. 25)**
  - The name of the resolver type.
  - Pattern: [_A-Za-z][0-9A-Za-z]*

**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 (p. 95).

- **ConcurrentModificationException**
  - Another modification is being made. That modification must complete before you can make your change.
  - HTTP Status Code: 409
- **InternalFailureException**
  - An internal AWS AppSync error occurred. Try your request again.
HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

### 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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteType

Deletes a Type object.

Request Syntax

```
DELETE /apis/apiId/types/typeName HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

- `apiId` (p. 27)
  - The API ID.
- `typeName` (p. 27)
  - The type name.
  - Pattern: `[A-Za-z][0-9A-Za-z]*`

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 (p. 95).

- `BadRequestException`
  - The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.
  - HTTP Status Code: 400

- `ConcurrentModificationException`
  - Another modification is being made. That modification must complete before you can make your change.
  - HTTP Status Code: 409

- `InternalFailureException`
  - An internal AWS AppSync error occurred. Try your request again.
HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

**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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetDataSource

Retrieves a DataSource object.

Request Syntax

GET /apis/apiId/datasources/name HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 29)

The API ID.

name (p. 29)

The name of the data source.

Pattern: \[_A-Za-z\][\_0-9A-Za-z]*

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "dataSource": {
      "dataSourceArn": "string",
      "description": "string",
      "dynamodbConfig": {
         "awsRegion": "string",
         "tableName": "string",
         "useCallerCredentials": boolean
      },
      "elasticsearchConfig": {
         "awsRegion": "string",
         "endpoint": "string"
      },
      "lambdaConfig": {
         "lambdaFunctionArn": "string"
      },
      "name": "string",
      "serviceRoleArn": "string",
      "type": "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.

dataSource (p. 29)

The DataSource object.

Type: DataSource (p. 80) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetGraphQLApi

Retrieves a GraphQLApi object.

Request Syntax

GET /apis/{apiId} HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 32)

The API ID for the GraphQL API.

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "graphqlApi": {
    "apiId": "string",
    "arn": "string",
    "authenticationType": "string",
    "logConfig": {
      "cloudWatchLogsRoleArn": "string",
      "fieldLogLevel": "string"
    },
    "name": "string",
    "openIDConnectConfig": {
      "authTTL": number,
      "clientId": "string",
      "iatTTL": number,
      "issuer": "string"
    },
    "uris": {
      "string": "string"
    },
    "userPoolConfig": {
      "appIdClientRegex": "string",
      "awsRegion": "string",
      "defaultAction": "string",
      "userPoolId": "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.

**graphqlApi (p. 32)**

The `graphqlApi` object.

Type: `graphqlApi (p. 84)` object

## Errors

For information about the errors that are common to all actions, see [Common Errors (p. 95)].

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

## 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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetIntrospectionSchema

Retrieves the introspection schema for a GraphQL API.

**Request Syntax**

```
GET /apis/apiId/schema?format=format HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- **apiId** (p. 34)
  - The API ID.
- **format** (p. 34)
  - The schema format: SDL or JSON.
  - Valid Values: SDL | JSON

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
schema
```

**Response Elements**

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

The response returns the following as the HTTP body.

- **schema** (p. 34)
  - The schema, in GraphQL Schema Definition Language (SDL) format.
  - For more information, see the [GraphQL SDL documentation](https://docs.aws.amazon.com/appsync/latest/userguide/graphql-schema.html).

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 95)](https://docs.aws.amazon.com/appsync/latest/userguide/errors.html).

- **GraphQLSchemaException**
  - The GraphQL schema is not valid.
HTTP Status Code: 400

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetResolver

Retrieves a Resolver object.

Request Syntax

GET /apis/apiId/types/typeName/resolvers/fieldName HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 36)

The API ID.

fieldName (p. 36)

The resolver field name.

Pattern: [_A-Za-z]【_0-9A-Za-z]*

typeName (p. 36)

The resolver type name.

Pattern: [_A-Za-z]【_0-9A-Za-z]*

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "resolver": {
       "dataSourceName": "string",
       "fieldName": "string",
       "requestMappingTemplate": "string",
       "resolverArn": "string",
       "responseMappingTemplate": "string",
       "typeName": "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.
resolver (p. 36)

The Resolver object.

Type: Resolver (p. 89) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetSchemaCreationStatus

Retrieves the current status of a schema creation operation.

**Request Syntax**

```
GET /apis/apiId/schemacreation HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- `apiId` (p. 38)
  - The API ID.

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
{
    "details": "string",
    "status": "string"
}
```

**Response Elements**

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

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

- `details` (p. 38)
  - Detailed information about the status of the schema creation operation.
    
    Type: String

- `status` (p. 38)
  - The current state of the schema (PROCESSING, ACTIVE, or DELETING). Once the schema is in the ACTIVE state, you can add data.
    
    Type: String
    
    Valid Values: PROCESSING | ACTIVE | DELETING

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 95).
**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

---

**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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetType

Retrieves a Type object.

Request Syntax

GET /apis/apiId/types/typeName?format=format HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 40)

The API ID.

format (p. 40)

The type format: SDL or JSON.

Valid Values: SDL | JSON

typeName (p. 40)

The type name.

Pattern: [_A-Za-z][_0-9A-Za-z]*

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "type": {
        "arn": "string",
        "definition": "string",
        "description": "string",
        "format": "string",
        "name": "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.

type (p. 40)

The Type object.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**ConcurrentModificationException**

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListApiKeys

Lists the API keys for a given API.

**Note**
API keys are deleted automatically sometime after they expire. However, they may still be included in the response until they have actually been deleted. You can safely call DeleteApikey to manually delete a key before it's automatically deleted.

**Request Syntax**

```
GET /apis/apiId/apikeys?maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- **apiId (p. 42)**
  The API ID.

- **maxResults (p. 42)**
  The maximum number of results you want the request to return.
  Valid Range: Minimum value of 0. Maximum value of 25.

- **nextToken (p. 42)**
  An identifier that was returned from the previous call to this operation, which can be used to return the next set of items in the list.
  Pattern: `[\S]+`

**Request Body**

The request does not have a request body.

**Response Syntax**

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

{
  "apiKeys": [
    {
      "description": "string",
      "expires": number,
      "id": "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.

apiKeys (p. 42)

The ApiKey objects.

Type: Array of ApiKey (p. 78) objects

nextToken (p. 42)

An identifier to be passed in the next request to this operation to return the next set of items in the list.

Type: String

Pattern: [\S]+

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
ListDataSources

Lists the data sources for a given API.

**Request Syntax**

```
GET /apis/apiId/datasources?maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- **apiId (p. 45)**
  The API ID.

- **maxResults (p. 45)**
  The maximum number of results you want the request to return.
  Valid Range: Minimum value of 0. Maximum value of 25.

- **nextToken (p. 45)**
  An identifier that was returned from the previous call to this operation, which can be used to return the next set of items in the list.
  Pattern: [\S]+

**Request Body**

The request does not have a request body.

**Response Syntax**

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

{
   "dataSources": [
      {
         "dataSourceArn": "string",
         "description": "string",
         "dynamodbConfig": {
            "awsRegion": "string",
            "tableName": "string",
            "useCallerCredentials": boolean
         },
         "elasticsearchConfig": {
            "awsRegion": "string",
            "endpoint": "string"
         },
         "lambdaConfig": {
            "lambdaFunctionArn": "string"
         },
         "name": "string",
         "serviceRoleArn": "string",
      }
   ]
```

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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.

**dataSources (p. 45)**

The DataSource objects.

Type: Array of DataSource (p. 80) objects

**nextToken (p. 45)**

An identifier to be passed in the next request to this operation to return the next set of items in the list.

Type: String

Pattern: `[\s\S]+`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

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
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
**ListGraphqlApis**

Lists your GraphQL APIs.

**Request Syntax**

```
GET /apis?maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

**maxResults (p. 48)**

The maximum number of results you want the request to return.

Valid Range: Minimum value of 0. Maximum value of 25.

**nextToken (p. 48)**

An identifier that was returned from the previous call to this operation, which can be used to return the next set of items in the list.

Pattern: `\S+`

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
{
  "graphqlApis": [ 
    {
      "apiId": "string",
      "arn": "string",
      "authenticationType": "string",
      "logConfig": {
        "cloudWatchLogsRoleArn": "string",
        "fieldLogLevel": "string"
      },
      "name": "string",
      "openIDConnectConfig": {
        "authTTL": number,
        "clientId": "string",
        "iatTTL": number,
        "issuer": "string"
      },
      "uris": {
        "string": "string"
      },
      "userPoolConfig": {
        "appIdClientRegex": "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.

**graphqlApis (p. 48)**

The GraphqlApi objects.

Type: Array of GraphqlApi (p. 84) objects

**nextToken (p. 48)**

An identifier to be passed in the next request to this operation to return the next set of items in the list.

Type: String

Pattern: [\S]+

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

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
· AWS SDK for Java
· AWS SDK for JavaScript
· AWS SDK for PHP V3
· AWS SDK for Python
· AWS SDK for Ruby V2
ListResolvers

Lists the resolvers for a given API and type.

Request Syntax

```
GET /apis/apiId/types/typeName/resolvers?maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

- **apiId (p. 51)**
  The API ID.

- **maxResults (p. 51)**
  The maximum number of results you want the request to return.
  Valid Range: Minimum value of 0. Maximum value of 25.

- **nextToken (p. 51)**
  An identifier that was returned from the previous call to this operation, which can be used to return the next set of items in the list.
  Pattern: \[\S\]+

- **typeName (p. 51)**
  The type name.

Request Body

The request does not have a request body.

Response Syntax

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

{
   "nextToken": "string",
   "resolvers": [
   {
      "dataSourceName": "string",
      "fieldName": "string",
      "requestMappingTemplate": "string",
      "resolverArn": "string",
      "responseMappingTemplate": "string",
      "typeName": "string"
   }
   ]
}
```

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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.

`nextToken` (p. 51)

An identifier to be passed in the next request to this operation to return the next set of items in the list.

Type: String

Pattern: `[^\s]+`

`resolvers` (p. 51)

The `Resolver` objects.

Type: Array of `Resolver` (p. 89) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

`BadRequestException`

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

`InternalFailureException`

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

`NotFoundException`

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

`UnauthorizedException`

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListTypes

Lists the types for a given API.

**Request Syntax**

```plaintext
GET /apis/apiId/types?format=format&maxResults=maxResults&nextToken=nextToken HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

apiId (p. 54)
- The API ID.

format (p. 54)
- The type format: SDL or JSON.
  - Valid Values: SDL | JSON

maxResults (p. 54)
- The maximum number of results you want the request to return.
  - Valid Range: Minimum value of 0. Maximum value of 25.

nextToken (p. 54)
- An identifier that was returned from the previous call to this operation, which can be used to return the next set of items in the list.
  - Pattern: [\S]+

**Request Body**

The request does not have a request body.

**Response Syntax**

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

{
    "nextToken": "string",
    "types": [
        {
            "arn": "string",
            "definition": "string",
            "description": "string",
            "format": "string",
            "name": "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.

nextToken (p. 54)

An identifier to be passed in the next request to this operation to return the next set of items in the list.

Type: String

Pattern: \S+

types (p. 54)

The Type objects.

Type: Array of Type (p. 91) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
AWS SDK for Java
AWS SDK for JavaScript
AWS SDK for PHP V3
AWS SDK for Python
AWS SDK for Ruby V2
StartSchemaCreation

StartSchemaCreation adds a new schema to your GraphQL API. This operation is asynchronous. Use GetSchemaCreationStatus (p. 38) to determine when it has completed.

Request Syntax

```
POST /apis/<apiId>/schemacreation HTTP/1.1
Content-type: application/json

{
  "definition": blob
}
```

URI Request Parameters

The request requires the following URI parameters.

- **apiId (p. 57)**
  - The API ID.

Request Body

The request accepts the following data in JSON format.

- **definition (p. 57)**
  - The schema definition, in GraphQL schema language format.
  - Type: Base64-encoded binary data object
  - Required: Yes

Response Syntax

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

{
  "status": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response. The following data is returned in JSON format by the service.
status (p. 57)

The current state of the schema (PROCESSING, ACTIVE, or DELETING). Once the schema is in the ACTIVE state, you can add data.

Type: String

Valid Values: PROCESSING | ACTIVE | DELETING

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateApiKey

Updates an API key.

Request Syntax

POST /apis/{apiId}/apikeys/{id} HTTP/1.1
Content-type: application/json

{
  "description": "string",
  "expires": number
}

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 60)
  The ID for the GraphQL API

id (p. 60)
  The API key ID.

Request Body

The request accepts the following data in JSON format.

description (p. 60)
  A description of the purpose of the API key.
  Type: String
  Required: No

expires (p. 60)
  The time from update time after which the API key expires. The date is represented as seconds since the epoch. For more information, see ApiKey (p. 78).
  Type: Long
  Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "apiKey": {
    "description": "string",
    "expires": number,
  }
"id": "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.

apiKey (p. 60)

The API key.

Type: ApiKey (p. 78) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

ApiKeyValidityOutOfBoundsException

The API key expiration must be set to a value between 1 and 365 days from creation (for CreateApiKey) or from update (for UpdateApiKey).

HTTP Status Code: 400

BadRequestException

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

LimitExceededException

The request exceeded a limit. Try your request again.

HTTP Status Code: 429

NotFoundException

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateDataSource

Updates a DataSource object.

**Request Syntax**

```plaintext
POST /apis/apiId/datasources/name HTTP/1.1
Content-type: application/json

{
    "description": "string",
    "dynamodbConfig": {
        "awsRegion": "string",
        "tableName": "string",
        "useCallerCredentials": boolean
    },
    "elasticsearchConfig": {
        "awsRegion": "string",
        "endpoint": "string"
    },
    "lambdaConfig": {
        "lambdaFunctionArn": "string"
    },
    "serviceRoleArn": "string",
    "type": "string"
}
```

**URI Request Parameters**

The request requires the following URI parameters.

- **apild (p. 63)**
  - The API ID.
- **name (p. 63)**
  - The new name for the data source.
  - Pattern: \[\_A-Za-z\][\_0-9A-Za-z]*

**Request Body**

The request accepts the following data in JSON format.

- **description (p. 63)**
  - The new description for the data source.
  - Type: String
  - Required: No
- **dynamodbConfig (p. 63)**
  - The new DynamoDB configuration.
  - Type: DynamodbDataSourceConfig (p. 82) object
Response Syntax

HTTP/1.1 200
Content-type: application/json

```
{
    "dataSource": {
        "dataSourceArn": "string",
        "description": "string",
        "dynamodbConfig": {
            "awsRegion": "string",
            "tableName": "string",
            "useCallerCredentials": boolean
        },
        "elasticsearchConfig": {
            "awsRegion": "string",
            "endpoint": "string"
        },
        "lambdaConfig": {
            "lambdaFunctionArn": "string"
        },
        "type": "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.

dataSource (p. 64)
   The updated DataSource object.
   Type: DataSource (p. 80) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException
   The request is not well formed. For example, a value is invalid or a required field is missing. Check
   the field values, and try again.
   HTTP Status Code: 400

ConcurrentModificationException
   Another modification is being made. That modification must complete before you can make your
   change.
   HTTP Status Code: 409

InternalFailureException
   An internal AWS AppSync error occurred. Try your request again.
   HTTP Status Code: 500

NotFoundException
   The resource specified in the request was not found. Check the resource and try again.
   HTTP Status Code: 404

UnauthorizedException
   You are not authorized to perform this operation.
   HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateGraphqlApi

Updates a GraphqlApi object.

Request Syntax

POST /apis/{apiId} HTTP/1.1
Content-type: application/json

{
    "authenticationType": "string",
    "logConfig": {
        "cloudWatchLogsRoleArn": "string",
        "fieldLogLevel": "string"
    },
    "name": "string",
    "openIDConnectConfig": {
        "authTTL": number,
        "clientId": "string",
        "iatTTL": number,
        "issuer": "string"
    },
    "userPoolConfig": {
        "appIdClientRegex": "string",
        "awsRegion": "string",
        "defaultAction": "string",
        "userPoolId": "string"
    }
}

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 67)

The API ID.

Request Body

The request accepts the following data in JSON format.

authenticationType (p. 67)

The new authentication type for the GraphqlApi object.

Type: String

Valid Values: API_KEY | AWS_IAM | AMAZON_COGNITO_USER_POOLS | OPENID_CONNECT

Required: No

logConfig (p. 67)

The Amazon CloudWatch logs configuration for the GraphqlApi object.

Type: LogConfig (p. 87) object
Required: No

**name (p. 67)**

The new name for the GraphQLApi object.

Type: String

Required: Yes

**openIDConnectConfig (p. 67)**

The Open Id Connect configuration configuration for the GraphQLApi object.

Type: OpenIDConnectConfig (p. 88) object

Required: No

**userPoolConfig (p. 67)**

The new Amazon Cognito User Pool configuration for the GraphQLApi object.

Type: UserPoolConfig (p. 92) object

Required: No

---

**Response Syntax**

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

{
  "graphqlApi": {
    "apiId": "string",
    "arn": "string",
    "authenticationType": "string",
    "logConfig": {
      "cloudWatchLogsRoleArn": "string",
      "fieldLogLevel": "string"
    },
    "name": "string",
    "openIDConnectConfig": {
      "authTTL": number,
      "clientId": "string",
      "iatTTL": number,
      "issuer": "string"
    },
    "uris": {
      "string" : "string"
    },
    "userPoolConfig": {
      "appIdClientRegex": "string",
      "awsRegion": "string",
      "defaultAction": "string",
      "userPoolId": "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.

**graphqlApi (p. 68)**

The updated `GraphqlApi` object.

Type: `GraphqlApi (p. 84)` object

---

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 95)](#).

**BadRequestException**

The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

HTTP Status Code: 400

**ConcurrentModificationException**

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

**InternalFailureException**

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

**NotFoundException**

The resource specified in the request was not found. Check the resource and try again.

HTTP Status Code: 404

**UnauthorizedException**

You are not authorized to perform this operation.

HTTP Status Code: 401

---

**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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateResolver

Updates a Resolver object.

Request Syntax

```
POST /apis/{apiId}/types/{typeName}/resolvers/{fieldName} HTTP/1.1
Content-type: application/json
{
  "dataSourceName": "string",
  "requestMappingTemplate": "string",
  "responseMappingTemplate": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

- **apiId (p. 71)**
  - The API ID.
- **fieldName (p. 71)**
  - The new field name.
  - Pattern: [\_A-Za-z][\_0-9A-Za-z]*
- **typeName (p. 71)**
  - The new type name.
  - Pattern: [\_A-Za-z][\_0-9A-Za-z]*

Request Body

The request accepts the following data in JSON format.

- **dataSourceName (p. 71)**
  - The new data source name.
  - Type: String
  - Pattern: [\_A-Za-z][\_0-9A-Za-z]*
  - Required: Yes
- **requestMappingTemplate (p. 71)**
  - The new request mapping template.
  - Type: String
  - Required: Yes
responseMappingTemplate (p. 71)

The new response mapping template.

Type: String


Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "resolver": {
      "dataSourceName": "string",
      "fieldName": "string",
      "requestMappingTemplate": "string",
      "resolverArn": "string",
      "responseMappingTemplate": "string",
      "typeName": "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.

resolver (p. 72)

The updated Resolver object.

Type: Resolver (p. 89) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

ConcurrentModificationException

Another modification is being made. That modification must complete before you can make your change.

HTTP Status Code: 409

InternalFailureException

An internal AWS AppSync error occurred. Try your request again.

HTTP Status Code: 500

NotFoundException

The resource specified in the request was not found. Check the resource and try again.
HTTP Status Code: 404

UnauthorizedException

You are not authorized to perform this operation.

HTTP Status Code: 401

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
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateType

Updates a Type object.

Request Syntax

POST /apis/{apiId}/types/{typeName} HTTP/1.1
Content-type: application/json

```
{
  "definition": "string",
  "format": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

apiId (p. 74)

The API ID.

typeName (p. 74)

The new type name.

Pattern: [\_A-Za-z][\_0-9A-Za-z]*

Request Body

The request accepts the following data in JSON format.

definition (p. 74)

The new definition.

Type: String

Required: No

format (p. 74)

The new type format: SDL or JSON.

Type: String

Valid Values: SDL | JSON

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

```
"type": {
  "arn": "string",
  "definition": "string",
  "description": "string",
  "format": "string",
  "name": "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.

type (p. 74)

  The updated Type object.

  Type: Type (p. 91) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 95).

BadRequestException

  The request is not well formed. For example, a value is invalid or a required field is missing. Check the field values, and try again.

  HTTP Status Code: 400

ConcurrentModificationException

  Another modification is being made. That modification must complete before you can make your change.

  HTTP Status Code: 409

InternalFailureException

  An internal AWS AppSync error occurred. Try your request again.

  HTTP Status Code: 500

NotFoundException

  The resource specified in the request was not found. Check the resource and try again.

  HTTP Status Code: 404

UnauthorizedException

  You are not authorized to perform this operation.

  HTTP Status Code: 401

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
Data Types

The AWS AppSync 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:

- ApiKey (p. 78)
- DataSource (p. 80)
- DynamodbDataSourceConfig (p. 82)
- ElasticsearchDataSourceConfig (p. 83)
- GraphqlApi (p. 84)
- LambdaDataSourceConfig (p. 86)
- LogConfig (p. 87)
- OpenIConnectConfig (p. 88)
- Resolver (p. 89)
- Type (p. 91)
- UserPoolConfig (p. 92)
ApiKey

Describes an API key.

Customers invoke AWS AppSync GraphQL APIs with API keys as an identity mechanism. There are two key versions:

**da1**: This version was introduced at launch in November 2017. These keys always expire after 7 days. Key expiration is managed by DynamoDB TTL. The keys will cease to be valid after Feb 21, 2018 and should not be used after that date.

- `ListApiKeys` returns the expiration time in milliseconds.
- `CreateApiKey` returns the expiration time in milliseconds.
- `UpdateApiKey` is not available for this key version.
- `DeleteApiKey` deletes the item from the table.
- Expiration is stored in DynamoDB as milliseconds. This results in a bug where keys are not automatically deleted because DynamoDB expects the TTL to be stored in seconds. As a one-time action, we will delete these keys from the table after Feb 21, 2018.

**da2**: This version was introduced in February 2018 when AppSync added support to extend key expiration.

- `ListApiKeys` returns the expiration time in seconds.
- `CreateApiKey` returns the expiration time in seconds and accepts a user-provided expiration time in seconds.
- `UpdateApiKey` returns the expiration time in seconds and accepts a user-provided expiration time in seconds. Key expiration can only be updated while the key has not expired.
- `DeleteApiKey` deletes the item from the table.
- Expiration is stored in DynamoDB as seconds.

**Contents**

- **description**
  
  A description of the purpose of the API key.
  
  Type: String
  
  Required: No

- **expires**
  
  The time after which the API key expires. The date is represented as seconds since the epoch, rounded down to the nearest hour.
  
  Type: Long
  
  Required: No

- **id**
  
  The API key ID.
  
  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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
# DataSource

Describes a data source.

## Contents

- **dataSourceArn**
  - The data source ARN.
  - Type: String
  - Required: No

- **description**
  - The description of the data source.
  - Type: String
  - Required: No

- **dynamodbConfig**
  - DynamoDB settings.
  - Type: `DynamodbDataSourceConfig (p. 82)` object
  - Required: No

- **elasticsearchConfig**
  - Amazon Elasticsearch settings.
  - Type: `ElasticsearchDataSourceConfig (p. 83)` object
  - Required: No

- **lambdaConfig**
  - Lambda settings.
  - Type: `LambdaDataSourceConfig (p. 86)` object
  - Required: No

- **name**
  - The name of the data source.
  - Type: String
  - Pattern: `[_A-Za-z][0-9A-Za-z]*`
  - Required: No

- **serviceRoleArn**
  - The IAM service role ARN for the data source. The system assumes this role when accessing the data source.
  - Type: String
  - Required: No
**type**

The type of the data source.

- **AMAZON_DYNAMODB**: The data source is an Amazon DynamoDB table.
- **AMAZON_ELASTICSEARCH**: The data source is an Amazon Elasticsearch Service domain.
- **AWS_LAMBDA**: The data source is an AWS Lambda function.
- **NONE**: There is no data source. This type is used when you wish to invoke a GraphQL operation without connecting to a data source, such as performing data transformation with resolvers or triggering a subscription to be invoked from a mutation.

Type: String

Valid Values: AWS_LAMBDA | AMAZON_DYNAMODB | AMAZON_ELASTICSEARCH | NONE | HTTP

Required: No

**See Also**

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
DynamodbDataSourceConfig

Describes a DynamoDB data source configuration.

Contents

awsRegion

The AWS region.

Type: String

Required: Yes

tableName

The table name.

Type: String

Required: Yes

useCallerCredentials

Set to TRUE to use Amazon Cognito credentials with this data source.

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ElasticsearchDataSourceConfig

Describes an Elasticsearch data source configuration.

Contents

awsRegion

The AWS region.

Type: String

Required: Yes

endpoint

The endpoint.

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
GraphqlApi

Describes a GraphQL API.

Contents

apiId

The API ID.

Type: String

Required: No

arn

The ARN.

Type: String

Required: No

authenticationType

The authentication type.

Type: String

Valid Values: API_KEY | AWS_IAM | AMAZON_COGNITO_USER_POOLS | OPENID_CONNECT

Required: No

logConfig

The Amazon CloudWatch Logs configuration.

Type: LogConfig (p. 87) object

Required: No

name

The API name.

Type: String

Pattern: [ _A-Za-z][ _0-9A-Za-z]*

Required: No

openIDConnectConfig

The Open Id Connect configuration.

Type: OpenIDConnectConfig (p. 88) object

Required: No

uris

The URLs.

Type: String to string map
Required: No

**userPoolConfig**

The Amazon Cognito User Pool configuration.

Type: *[UserPoolConfig](#)* 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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LambdaDataSourceConfig

Describes a Lambda data source configuration.

Contents

lambdaFunctionArn

The ARN for the Lambda function.

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LogConfig

The CloudWatch Logs configuration.

Contents

cloudWatchLogsRoleArn

The service role that AWS AppSync will assume to publish to Amazon CloudWatch logs in your account.

Type: String

Required: Yes

fieldLogLevel

The field logging level. Values can be NONE, ERROR, ALL.

- **NONE**: No field-level logs are captured.
- **ERROR**: Logs the following information only for the fields that are in error:
  - The error section in the server response.
  - Field-level errors.
  - The generated request/response functions that got resolved for error fields.
- **ALL**: The following information is logged for all fields in the query:
  - Field-level tracing information.
  - The generated request/response functions that got resolved for each field.

Type: String

Valid Values: NONE | ERROR | ALL

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
OpenIDConnectConfig

Describes an Open Id Connect configuration.

Contents

**authTTL**

The number of milliseconds a token is valid after being authenticated.

Type: Long

Required: No

**clientId**

The client identifier of the Relying party at the OpenID Provider. This identifier is typically obtained when the Relying party is registered with the OpenID Provider. You can specify a regular expression so the AWS AppSync can validate against multiple client identifiers at a time.

Type: String

Required: No

**iatTTL**

The number of milliseconds a token is valid after being issued to a user.

Type: Long

Required: No

**issuer**

The issuer for the open id connect configuration. The issuer returned by discovery MUST exactly match the value of iss in the ID Token.

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Resolver

Describes a resolver.

Contents

dataSourceName

The resolver data source name.

Type: String

Pattern: [_A-Za-z][_0-9A-Za-z]*

Required: No

fieldName

The resolver field name.

Type: String

Pattern: [_A-Za-z][_0-9A-Za-z]*

Required: No

requestMappingTemplate

The request mapping template.

Type: String


Required: No

resolverArn

The resolver ARN.

Type: String

Required: No

responseMappingTemplate

The response mapping template.

Type: String


Required: No

typeName

The resolver type name.

Type: String

Pattern: [_A-Za-z][_0-9A-Za-z]*

Required: No
See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Type

Describes a type.

Contents

arn

The type ARN.

Type: String

Required: No

definition

The type definition.

Type: String

Required: No

description

The type description.

Type: String

Required: No

format

The type format: SDL or JSON.

Type: String

Valid Values: SDL | JSON

Required: No

name

The type name.

Type: String

Pattern: [A-Za-z][0-9A-Za-z]*

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
UserPoolConfig

Describes an Amazon Cognito User Pool configuration.

Contents

appIdClientRegex

A regular expression for validating the incoming Amazon Cognito User Pool app client ID.

Type: String
Required: No

awsRegion

The AWS region in which the user pool was created.

Type: String
Required: Yes

defaultAction

The action that you want your GraphQL API to take when a request that uses Amazon Cognito User Pool authentication doesn't match the Amazon Cognito User Pool configuration.

Type: String
Valid Values: ALLOW | DENY
Required: Yes

userPoolId

The user pool ID.

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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 Signature Version 4 Signing Process in the Amazon Web Services General Reference.

**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 Task 2: Create a String to Sign for Signature Version 4 in the Amazon Web Services General Reference.

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 Handling Dates in Signature Version 4 in the Amazon Web Services General Reference.

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 Security Token Service, go to AWS Services That Work with IAM in the IAM User Guide.

Condition: If you're using temporary security credentials from the AWS Security Token Service, 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 Task 1: Create a Canonical Request For Signature Version 4 in the Amazon Web Services General Reference.

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

InvalidParameterCombination
Parameters that must not be used together were used together.
HTTP Status Code: 400

InvalidParameterValue
An invalid or out-of-range value was supplied for the input parameter.
HTTP Status Code: 400

InvalidQueryParameter
The AWS query string is malformed or does not adhere to AWS standards.
HTTP Status Code: 400

MalformedQueryString
The query string contains a syntax error.
HTTP Status Code: 404

MissingAction
The request is missing an action or a required parameter.
HTTP Status Code: 400
**MissingAuthenticationToken**

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

**MissingParameter**

A required parameter for the specified action is not supplied.

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