AWS IoT Analytics: AWS IoT Analytics Documentation
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Welcome

AWS IoT Analytics allows you to collect large amounts of device data, process messages, and store them. You can then query the data and run sophisticated analytics on it. AWS IoT Analytics enables advanced data exploration through integration with Jupyter Notebooks and data visualization through integration with Amazon QuickSight.

Traditional analytics and business intelligence tools are designed to process structured data. IoT data often comes from devices that record noisy processes (such as temperature, motion, or sound). As a result the data from these devices can have significant gaps, corrupted messages, and false readings that must be cleaned up before analysis can occur. Also, IoT data is often only meaningful in the context of other data from external sources.

AWS IoT Analytics automates the steps required to analyze data from IoT devices. AWS IoT Analytics filters, transforms, and enriches IoT data before storing it in a time-series data store for analysis. You can set up the service to collect only the data you need from your devices, apply mathematical transforms to process the data, and enrich the data with device-specific metadata such as device type and location before storing it. Then, you can analyze your data by running queries using the built-in SQL query engine, or perform more complex analytics and machine learning inference. AWS IoT Analytics includes pre-built models for common IoT use cases so you can answer questions like which devices are about to fail or which customers are at risk of abandoning their wearable devices.

This document was last published on August 17, 2018.
Actions

The following actions are supported:

- BatchPutMessage (p. 3)
- CancelPipelineReprocessing (p. 6)
- CreateChannel (p. 8)
- CreateDataset (p. 11)
- CreateDatasetContent (p. 14)
- CreateDatastore (p. 16)
- CreatePipeline (p. 19)
- DeleteChannel (p. 23)
- DeleteDataset (p. 25)
- DeleteDatasetContent (p. 27)
- DeleteDatastore (p. 29)
- DeletePipeline (p. 31)
- DescribeChannel (p. 33)
- DescribeDataset (p. 36)
- DescribeDatastore (p. 39)
- DescribeLoggingOptions (p. 42)
- DescribePipeline (p. 44)
- GetDatasetContent (p. 47)
- ListChannels (p. 50)
- ListDatasets (p. 52)
- ListDatastores (p. 54)
- ListPipelines (p. 56)
- ListTagsForResource (p. 58)
- PutLoggingOptions (p. 60)
- RunPipelineActivity (p. 62)
- SampleChannelData (p. 65)
- StartPipelineReprocessing (p. 67)
- TagResource (p. 70)
- UntagResource (p. 72)
- UpdateChannel (p. 74)
- UpdateDataset (p. 76)
- UpdateDatastore (p. 79)
- UpdatePipeline (p. 81)
BatchPutMessage

Sends messages to a channel.

Request Syntax

POST /messages/batch HTTP/1.1
Content-type: application/json

{
    "channelName": "string",
    "messages": [
        {
            "messageId": "string",
            "payload": "string"
        }
    ]
}

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

channelName (p. 3)

The name of the channel where the messages are sent.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

Required: Yes

messages (p. 3)

The list of messages to be sent. Each message has format: '{ "messageId": "string", "payload": "string"}'.

Type: Array of Message (p. 115) objects

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "batchPutMessageErrorEntries": [
        {
        
}}
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.

batchPutMessageErrorEntries (p. 3)

A list of any errors encountered when sending the messages to the channel.

Type: Array of BatchPutMessageErrorEntry (p. 87) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
CancelPipelineReprocessing

Cancels the reprocessing of data through the pipeline.

Request Syntax

```
DELETE /pipelines/pipelineName/reprocessing/reprocessingId HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

pipelineName (p. 6)

The name of pipeline for which data reprocessing is canceled.

- Pattern: `^[a-zA-Z0-9_]+$`

reprocessingId (p. 6)

The ID of the reprocessing task (returned by "StartPipelineReprocessing").

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. 130).

InternalFailureException

There was an internal failure.

- HTTP Status Code: 500

InvalidRequestException

The request was not valid.

- HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.
HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

**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
CreateChannel

Creates a channel. A channel collects data from an MQTT topic and archives the raw, unprocessed messages before publishing the data to a pipeline.

Request Syntax

```json
POST /channels HTTP/1.1
Content-type: application/json
{
  "channelName": "string",
  "retentionPeriod": {
    "numberOfDays": number,
    "unlimited": boolean
  },
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ]
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**channelName (p. 8)**

The name of the channel.

Type: String


Pattern: ^[a-zA-Z0-9_.]+$

Required: Yes

**retentionPeriod (p. 8)**

How long, in days, message data is kept for the channel.

Type: RetentionPeriod (p. 123) object

Required: No

**tags (p. 8)**

Metadata which can be used to manage the channel.

Type: Array of Tag (p. 127) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.
Response Syntax

HTTP/1.1 201
Content-type: application/json

{
   "channelArn": "string",
   "channelName": "string",
   "retentionPeriod": {
      "numberOfDays": number,
      "unlimited": boolean
   }
}

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

**channelArn (p. 9)**

The ARN of the channel.

Type: String

**channelName (p. 9)**

The name of the channel.

Type: String


Pattern: ^[a-zA-Z0-9_]+$  

**retentionPeriod (p. 9)**

How long, in days, message data is kept for the channel.

Type: RetentionPeriod (p. 123) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400
LimitExceededException

The command caused an internal limit to be exceeded.

HTTP Status Code: 410

ResourceAlreadyExistsException

A resource with the same name already exists.

HTTP Status Code: 409

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
CreateDataset

Creates a data set. A data set stores data retrieved from a data store by applying an SQL action.

**Note**
This operation creates the skeleton of a data set. To populate the data set, call "CreateDatasetContent".

**Request Syntax**

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

{
  "actions": [
    {
      "actionName": "string",
      "queryAction": {
        "sqlQuery": "string"
      }
    }
  ],
  "datasetName": "string",
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ],
  "triggers": [
    {
      "schedule": {
        "expression": "string"
      }
    }
  ]
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

*actions (p. 11)*

A list of actions that create the data set. Only one action is supported at this time.

Type: Array of DatasetAction (p. 95) objects

Array Members: Fixed number of 1 item.

Required: Yes

*datasetName (p. 11)*

The name of the data set.
Response Syntax

HTTP/1.1 201
Content-type: application/json

```
{
  "datasetArn": "string",
  "datasetName": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

**datasetArn (p. 12)**

The ARN of the data set.

Type: String

**datasetName (p. 12)**

The name of the data set.

Type: String


Pattern: ^[a-zA-Z0-9_]++$
Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

LimitExceededException

The command caused an internal limit to be exceeded.

HTTP Status Code: 410

ResourceAlreadyExistsException

A resource with the same name already exists.

HTTP Status Code: 409

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
CreateDatasetContent

Creates the content of a data set by applying an SQL action.

**Request Syntax**

```
POST /datasets/datasetName/content HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

`datasetName (p. 14)`

The name of the data set.


Pattern: `^[a-zA-Z0-9_]+$`

**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. 130).

`InternalFailureException`

There was an internal failure.

HTTP Status Code: 500

`InvalidRequestException`

The request was not valid.

HTTP Status Code: 400

`ResourceNotFoundException`

A resource with the specified name could not be found.

HTTP Status Code: 404
ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
CreateDatastore

Creates a data store, which is a repository for messages.

Request Syntax

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

{
  "datastoreName": "string",
  "retentionPeriod": {
    "numberOfDays": number,
    "unlimited": boolean
  },
  "tags": [
    {
      "key": "string",
      "value": "string"
    }
  ]
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

datastoreName (p. 16)

The name of the data store.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

Required: Yes

retentionPeriod (p. 16)

How long, in days, message data is kept for the data store.

Type: RetentionPeriod (p. 123) object

Required: No

tags (p. 16)

Metadata which can be used to manage the data store.

Type: Array of Tag (p. 127) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.
Required: No

Response Syntax

HTTP/1.1 201
Content-type: application/json
{
    "datastoreArn": "string",
    "datastoreName": "string",
    "retentionPeriod": {
        "numberOfDays": number,
        "unlimited": boolean
    }
}

Response Elements

If the action is successful, the service sends back an HTTP 201 response.

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

**datastoreArn (p. 17)**

The ARN of the data store.

Type: String

**datastoreName (p. 17)**

The name of the data store.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

**retentionPeriod (p. 17)**

How long, in days, message data is kept for the data store.

Type: RetentionPeriod (p. 123) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400
LimitExceededException

The command caused an internal limit to be exceeded.

HTTP Status Code: 410

ResourceAlreadyExistsException

A resource with the same name already exists.

HTTP Status Code: 409

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
CreatePipeline

Creates a pipeline. A pipeline consumes messages from one or more channels and allows you to process the messages before storing them in a data store.

Request Syntax

POST /pipelines HTTP/1.1
Content-type: application/json

{
  "pipelineActivities": [
    {
      "addAttributes": {
        "attributes": {
          "string": "string"
        },
        "name": "string",
        "next": "string"
      },
      "channel": {
        "channelName": "string",
        "name": "string",
        "next": "string"
      },
      "datastore": {
        "datastoreName": "string",
        "name": "string"
      },
      "deviceRegistryEnrich": {
        "attribute": "string",
        "name": "string",
        "next": "string",
        "roleArn": "string",
        "thingName": "string"
      },
      "deviceShadowEnrich": {
        "attribute": "string",
        "name": "string",
        "next": "string",
        "roleArn": "string",
        "thingName": "string"
      },
      "filter": {
        "filter": "string",
        "name": "string",
        "next": "string"
      },
      "lambda": {
        "batchSize": number,
        "lambdaName": "string",
        "name": "string",
        "next": "string"
      },
      "math": {
        "attribute": "string",
        "math": "string",
        "name": "string",
        "next": "string"
      },
      "removeAttributes": {
        "attributes": ["string"]
      }
    }
  ]
}

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URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**pipelineActivities (p. 19)**

A list of pipeline activities.

The list can be 1-25 PipelineActivity objects. Activities perform transformations on your messages, such as removing, renaming, or adding message attributes; filtering messages based on attribute values; invoking your Lambda functions on messages for advanced processing; or performing mathematical transformations to normalize device data.

Type: Array of PipelineActivity (p. 118) objects

Array Members: Minimum number of 1 item. Maximum number of 25 items.

Required: Yes

**pipelineName (p. 19)**

The name of the pipeline.

Type: String


Pattern: ^[a-zA-Z0-9_]{1,128}$

Required: Yes

**tags (p. 19)**

Metadata which can be used to manage the pipeline.

Type: Array of Tag (p. 127) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.
Required: No

**Response Syntax**

```plaintext
HTTP/1.1 201
Content-type: application/json

{
  "pipelineArn": "string",
  "pipelineName": "string"
}
```

**Response Elements**

If the action is successful, the service sends back an HTTP 201 response. The following data is returned in JSON format by the service.

- **pipelineArn** *(p. 21)*
  - The ARN of the pipeline.
  - Type: String

- **pipelineName** *(p. 21)*
  - The name of the pipeline.
  - Type: String
  - Pattern: `^[a-zA-Z0-9-_]+$`

**Errors**

For information about the errors that are common to all actions, see [*Common Errors (p. 130)*](#).

- **InternalFailureException**
  - There was an internal failure.
  - HTTP Status Code: 500

- **InvalidRequestException**
  - The request was not valid.
  - HTTP Status Code: 400

- **LimitExceededException**
  - The command caused an internal limit to be exceeded.
  - HTTP Status Code: 410

- **ResourceAlreadyExistsException**
  - A resource with the same name already exists.
HTTP Status Code: 409
**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503
**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

### 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
DeleteChannel

Deletes the specified channel.

Request Syntax

```
DELETE /channels/channelName HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

**channelName (p. 23)**

The name of the channel to delete.


Pattern: `^[a-zA-Z0-9_]+$`

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 204
```

Response Elements

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404
ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
DeleteDataset

Deletes the specified data set.

You do not have to delete the content of the data set before you perform this operation.

Request Syntax

DELETE /datasets/datasetName HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

datasetName (p. 25)

The name of the data set to delete.


Pattern: ^[a-zA-Z0-9_]+$

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 204

Response Elements

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.
HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
DeleteDatasetContent

Deletes the content of the specified data set.

**Request Syntax**

```
DELETE /datasets/datasetName/content?versionId=versionId HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

**datasetName (p. 27)**

The name of the data set whose content is deleted.


Pattern: ^[a-zA-Z0-9_]+$  

**versionId (p. 27)**

The version of the data set whose content is deleted. You can also use the strings "$LATEST" or "$LATEST_SUCCEEDED" to delete the latest or latest successfully completed data set. If not specified, "$LATEST_SUCCEEDED" is the default.

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 204
```

**Response Elements**

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

**Errors**

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

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400
ResourceNotFoundException
A resource with the specified name could not be found.
HTTP Status Code: 404

ServiceUnavailableException
The service is temporarily unavailable.
HTTP Status Code: 503

ThrottlingException
The request was denied due to request throttling.
HTTP Status Code: 429

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
DeleteDatastore

Deletes the specified data store.

Request Syntax

```
DELETE /datastores/datastoreName HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

datastoreName (p. 29)

The name of the data store to delete.


Pattern: `^[a-zA-Z0-9_]+$`

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 204
```

Response Elements

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

- **InternalFailureException**
  
  There was an internal failure.
  
  HTTP Status Code: 500

- **InvalidRequestException**
  
  The request was not valid.
  
  HTTP Status Code: 400

- **ResourceNotFoundException**
  
  A resource with the specified name could not be found.
  
  HTTP Status Code: 404
ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
DeletePipeline

Deletes the specified pipeline.

**Request Syntax**

```plaintext
DELETE /pipelines/pipelineName HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

`pipelineName` *(p. 31)*

The name of the pipeline to delete.


Pattern: `^[a-zA-Z0-9_]+$`

**Request Body**

The request does not have a request body.

**Response Syntax**

```plaintext
HTTP/1.1 204
```

**Response Elements**

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

**Errors**

For information about the errors that are common to all actions, see [Common Errors](p. 130).

- **InternalFailureException**
  - There was an internal failure.
  - HTTP Status Code: 500

- **InvalidRequestException**
  - The request was not valid.
  - HTTP Status Code: 400

- **ResourceNotFoundException**
  - A resource with the specified name could not be found.
  - HTTP Status Code: 404
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
DescribeChannel

Retrieves information about a channel.

Request Syntax

```
GET /channels/channelName?includeStatistics=includeStatistics HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

- **channelName (p. 33)**
  - The name of the channel whose information is retrieved.
  - Pattern: `^[a-zA-Z0-9_]+$`

- **includeStatistics (p. 33)**
  - If true, include statistics about the channel in the response.

Request Body

The request does not have a request body.

Response Syntax

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

{
  "channel": {
    "arn": "string",
    "creationTime": number,
    "lastUpdateTime": number,
    "name": "string",
    "retentionPeriod": {
      "numberOfDays": number,
      "unlimited": boolean
    },
    "status": "string"
  },
  "statistics": {
    "size": {
      "estimatedOn": number,
      "estimatedSizeInBytes": 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.

**channel (p. 33)**

An object that contains information about the channel.
Type: Channel (p. 88) object

**statistics (p. 33)**

Statistics about the channel. Included if the 'includeStatistics' parameter is set to true in the request.
Type: ChannelStatistics (p. 91) object

---

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

---

**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
See Also

- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeDataset

Retrieves information about a data set.

Request Syntax

GET /datasets/datasetName HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

datasetName (p. 36)

The name of the data set whose information is retrieved.


Pattern: ^[a-zA-Z0-9_]+$

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
  "dataset": {  
    "actions": [  
      {  
        "actionName": "string",
        "queryAction": {  
          "sqlQuery": "string"
        }
      }
    ],
    "arn": "string",
    "creationTime": number,
    "lastUpdateTime": number,
    "name": "string",
    "status": "string",
    "triggers": [  
      {  
        "schedule": {  
          "expression": "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.

**dataset (p. 36)**

An object that contains information about the data set.

Type: Dataset (p. 93) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

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
DescribeDatastore

Retrieves information about a data store.

**Request Syntax**

```plaintext
GET /datastores/datastoreName?includeStatistics=includeStatistics HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

**datastoreName (p. 39)**

The name of the data store


Pattern: \^[a-zA-Z0-9_]\+$

**includeStatistics (p. 39)**

If true, include statistics about the data store in the response.

**Request Body**

The request does not have a request body.

**Response Syntax**

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

{
  "datastore": {
    "arn": "string",
    "creationTime": number,
    "lastUpdateTime": number,
    "name": "string",
    "retentionPeriod": {
      "numberOfDays": number,
      "unlimited": boolean
    },
    "status": "string"
  },
  "statistics": {
    "size": {
      "estimatedOn": number,
      "estimatedSizeInBytes": 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.

**datastore (p. 39)**
Information about the data store.
Type: Datastore (p. 100) object

**statistics (p. 39)**
Statistics about the data store. Included if the 'includeStatistics' parameter is set to true in the request.
Type: DatastoreStatistics (p. 103) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**
There was an internal failure.
HTTP Status Code: 500

**InvalidRequestException**
The request was not valid.
HTTP Status Code: 400

**ResourceNotFoundException**
A resource with the specified name could not be found.
HTTP Status Code: 404

**ServiceUnavailableException**
The service is temporarily unavailable.
HTTP Status Code: 503

**ThrottlingException**
The request was denied due to request throttling.
HTTP Status Code: 429

**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
See Also

- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeLoggingOptions

Retrieves the current settings of the AWS IoT Analytics logging options.

**Request Syntax**

```
GET /logging HTTP/1.1
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
{
  "loggingOptions": {
    "enabled": boolean,
    "level": "string",
    "roleArn": "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.

**loggingOptions (p. 42)**

The current settings of the AWS IoT Analytics logging options.

Type: `LoggingOptions (p. 113) object`

**Errors**

For information about the errors that are common to all actions, see `Common Errors (p. 130)`.

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.
HTTP Status Code: 400

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

**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
DescribePipeline

Retrieves information about a pipeline.

**Request Syntax**

```
GET /pipelines/pipelineName HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

pipelineName (p. 44)

The name of the pipeline whose information is retrieved.


Pattern: ^[a-zA-Z0-9_]++$

**Request Body**

The request does not have a request body.

**Response Syntax**

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

{
  "pipeline": {
    "activities": [
      {
        "addAttributes": {
          "attributes": {
            "string": "string"
          },
          "name": "string",
          "next": "string"
        },
        "channel": {
          "channelName": "string",
          "name": "string",
          "next": "string"
        },
        "datastore": {
          "datastoreName": "string",
          "name": "string"
        },
        "deviceRegistryEnrich": {
          "attribute": "string",
          "name": "string",
          "next": "string",
          "roleArn": "string",
          "thingName": "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.

pipeline (p. 44)

A "Pipeline" object that contains information about the pipeline.

Type: Pipeline (p. 116) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

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
GetDatasetContent

Retrieves the contents of a data set as pre-signed URIs.

**Request Syntax**

```
GET /datasets/datasetName/content?versionId=versionId HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

- **datasetName (p. 47)**
  - The name of the data set whose contents are retrieved.
  - Pattern: `^[a-zA-Z0-9_]+$`

- **versionId (p. 47)**
  - The version of the data set whose contents are retrieved. You can also use the strings "$LATEST" or "$LATEST_SUCCEEDED" to retrieve the contents of the latest or latest successfully completed data set. If not specified, "$LATEST_SUCCEEDED" is the default.

**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
{
    "entries": [
    {
        "dataURI": "string",
        "entryName": "string"
    }
    ],
    "status": {
        "reason": "string",
        "state": "string"
    },
    "timestamp": 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.
entries (p. 47)
A list of "DatasetEntry" objects.
Type: Array of DatasetEntry (p. 97) objects

status (p. 47)
The status of the data set content.
Type: DatasetContentStatus (p. 96) object

timestamp (p. 47)
The time when the request was made.
Type: Timestamp

Errors
For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException
There was an internal failure.
HTTP Status Code: 500

InvalidRequestException
The request was not valid.
HTTP Status Code: 400

ResourceNotFoundException
A resource with the specified name could not be found.
HTTP Status Code: 404

ServiceUnavailableException
The service is temporarily unavailable.
HTTP Status Code: 503

ThrottlingException
The request was denied due to request throttling.
HTTP Status Code: 429

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 IoT Analytics Documentation

See Also

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

Retrieves a list of channels.

Request Syntax

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

URI Request Parameters

The request requires the following URI parameters.

**maxResults (p. 50)**

The maximum number of results to return in this request.

The default value is 100.


**nextToken (p. 50)**

The token for the next set of results.

Request Body

The request does not have a request body.

Response Syntax

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

{
  "channelSummaries": [
    {
      "channelName": "string",
      "creationTime": number,
      "lastUpdateTime": number,
      "status": "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.

**channelSummaries (p. 50)**

A list of "ChannelSummary" objects.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

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
ListDatasets

Retrieves information about data sets.

Request Syntax

```
GET /datasets?maxResults=[maxResults]&nextToken=[nextToken] HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

maxResults (p. 52)

The maximum number of results to return in this request.

- The default value is 100.

nextToken (p. 52)

The token for the next set of results.

Request Body

The request does not have a request body.

Response Syntax

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

{
   "datasetSummaries": [
      {
         "creationTime": number,
         "datasetName": string,
         "lastUpdateTime": number,
         "status": 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.

datasetSummaries (p. 52)

A list of "DatasetSummary" objects.
Type: Array of DatasetSummary (p. 98) objects

nextToken (p. 52)

The token to retrieve the next set of results, or null if there are no more results.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
ListDatastores

Retrieves a list of data stores.

Request Syntax

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

URI Request Parameters

The request requires the following URI parameters.

**maxResults (p. 54)**

The maximum number of results to return in this request.

The default value is 100.


**nextToken (p. 54)**

The token for the next set of results.

Request Body

The request does not have a request body.

Response Syntax

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

{
    "datastoreSummaries": [
        {
            "creationTime": number,
            "datastoreName": "string",
            "lastUpdateTime": number,
            "status": "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.

**datastoreSummaries (p. 54)**

A list of "DatastoreSummary" objects.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**
There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**
The request was not valid.

HTTP Status Code: 400

**ServiceUnavailableException**
The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**
The request was denied due to request throttling.

HTTP Status Code: 429

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
ListPipelines

Retrieves a list of pipelines.

Request Syntax

GET /pipelines?maxResults=maxResults&nextToken=nextToken HTTP/1.1

URI Request Parameters

The request requires the following URI parameters.

maxResults (p. 56)

The maximum number of results to return in this request.

The default value is 100.


nextToken (p. 56)

The token for the next set of results.

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
  "nextToken": "string",
  "pipelineSummaries": [  
    {  
      "creationTime": number,
      "lastUpdateTime": number,
      "pipelineName": "string",
      "reprocessingSummaries": [  
        {  
          "creationTime": number,
          "id": "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.

**nextToken (p. 56)**

The token to retrieve the next set of results, or null if there are no more results.

Type: String

**pipelineSummaries (p. 56)**

A list of "PipelineSummary" objects.

Type: Array of PipelineSummary (p. 120) objects

---

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

---

**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
**ListTagsForResource**

Lists the tags (metadata) which you have assigned to the resource.

**Request Syntax**

```
GET /tags?resourceArn=resourceArn HTTP/1.1
```

**URI Request Parameters**

The request requires the following URI parameters.

**resourceArn (p. 58)**

The ARN of the resource whose tags you want to list.


**Request Body**

The request does not have a request body.

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
{
    "tags": [  
        {
            "key": "string",
            "value": "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 (p. 58)**

The tags (metadata) which you have assigned to the resource.

Type: Array of Tag (p. 127) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 130).
InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

LimitExceededException

The command caused an internal limit to be exceeded.

HTTP Status Code: 410

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
PutLoggingOptions

Sets or updates the AWS IoT Analytics logging options.

Note that if you update the value of any `loggingOptions` field, it takes up to one minute for the change to take effect. Also, if you change the policy attached to the role you specified in the `roleArn` field (for example, to correct an invalid policy) it takes up to 5 minutes for that change to take effect.

**Request Syntax**

```
PUT /logging HTTP/1.1
Content-type: application/json

{
    "loggingOptions": {
        "enabled": boolean,
        "level": "string",
        "roleArn": "string"
    }
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

**loggingOptions** (p. 60)

The new values of the AWS IoT Analytics logging options.

Type: `LoggingOptions` (p. 113) object

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 (p. 130).

**InternalFailureException**

There was an internal failure.
HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

---

**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
RunPipelineActivity

Simulates the results of running a pipeline activity on a message payload.

**Request Syntax**

```json
POST /pipelineactivities/run HTTP/1.1
Content-type: application/json

{
    "payloads": [ blob ],
    "pipelineActivity": {
        "addAttributes": {
            "attributes": {
                "string": "string"
            },
            "name": "string",
            "next": "string"
        },
        "channel": {
            "channelName": "string",
            "name": "string",
            "next": "string"
        },
        "datastore": {
            "datastoreName": "string",
            "name": "string"
        },
        "deviceRegistryEnrich": {
            "attribute": "string",
            "name": "string",
            "next": "string",
            "roleArn": "string",
            "thingName": "string"
        },
        "deviceShadowEnrich": {
            "attribute": "string",
            "name": "string",
            "next": "string",
            "roleArn": "string",
            "thingName": "string"
        },
        "filter": {
            "filter": "string",
            "name": "string",
            "next": "string"
        },
        "lambda": {
            "batchSize": number,
            "lambdaName": "string",
            "name": "string",
            "next": "string"
        },
        "math": {
            "attribute": "string",
            "math": "string",
            "name": "string",
            "next": "string"
        },
        "removeAttributes": {
            "attributes": [ "string" ],
            "name": "string",
            "next": "string"
        }
    }
}
```

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URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

payloads (p. 62)

The sample message payloads on which the pipeline activity is run.

Type: Array of Base64-encoded binary data objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: Yes

pipelineActivity (p. 62)

The pipeline activity that is run. This must not be a 'channel' activity or a 'datastore' activity because these activities are used in a pipeline only to load the original message and to store the (possibly) transformed message. If a 'lambda' activity is specified, only short-running Lambda functions (those with a timeout of less than 30 seconds or less) can be used.

Type: PipelineActivity (p. 118) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "logResult": "string",
   "payloads": [ blob ]
}

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.

logResult (p. 63)

In case the pipeline activity fails, the log message that is generated.
Type: String

**payloads (p. 63)**

The enriched or transformed sample message payloads as base64-encoded strings. (The results of running the pipeline activity on each input sample message payload, encoded in base64.)

Type: Array of Base64-encoded binary data objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

### Errors

For information about the errors that are common to all actions, see [Common Errors (p. 130)](#).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

### 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](#)
SampleChannelData

Retrieves a sample of messages from the specified channel ingested during the specified timeframe. Up to 10 messages can be retrieved.

Request Syntax

```
GET /channels/channelName/sample?
endTime=endTime&maxMessages=maxMessages&startTime=startTime HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

**channelName (p. 65)**

The name of the channel whose message samples are retrieved.


Pattern: `^[a-zA-Z0-9_]+$`

**endTime (p. 65)**

The end of the time window from which sample messages are retrieved.

**maxMessages (p. 65)**

The number of sample messages to be retrieved. The limit is 10, the default is also 10.


**startTime (p. 65)**

The start of the time window from which sample messages are retrieved.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
{
  "payloads": [ blob ]
}
```

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.
payloads (p. 65)

The list of message samples. Each sample message is returned as a base64-encoded string.

Type: Array of Base64-encoded binary data objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
StartPipelineReprocessing

Starts the reprocessing of raw message data through the pipeline.

Request Syntax

POST /pipelines/pipelineName/reprocessing HTTP/1.1
Content-type: application/json

{  "endTime": number,
   "startTime": number
}

URI Request Parameters

The request requires the following URI parameters.

pipelineName (p. 67)
   The name of the pipeline on which to start reprocessing.
   Pattern: ^[a-zA-Z0-9_]+$

Request Body

The request accepts the following data in JSON format.

endTime (p. 67)
   The end time (exclusive) of raw message data that is reprocessed.
   Type: Timestamp
   Required: No

startTime (p. 67)
   The start time (inclusive) of raw message data that is reprocessed.
   Type: Timestamp
   Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  "reprocessingId": "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.

`reprocessingId` (p. 67)

The ID of the pipeline reprocessing activity that was started.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400

**ResourceAlreadyExistsException**

A resource with the same name already exists.

HTTP Status Code: 409

**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404

**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

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
TagResource

Adds to or modifies the tags of the given resource. Tags are metadata which can be used to manage a resource.

Request Syntax

```text
POST /tags?resourceArn=resourceArn HTTP/1.1
Content-type: application/json

{
   "tags": [
      {
         "key": "string",
         "value": "string"
      }
   ]
}
```

URI Request Parameters

The request requires the following URI parameters.

resourceArn (p. 70)

The ARN of the resource whose tags will be modified.


Request Body

The request accepts the following data in JSON format.

tags (p. 70)

The new or modified tags for the resource.

Type: Array of Tag (p. 127) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: Yes

Response Syntax

```
HTTP/1.1 204
```

Response Elements

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).
InternalFailureException
There was an internal failure.
HTTP Status Code: 500

InvalidRequestException
The request was not valid.
HTTP Status Code: 400

LimitExceededException
The command caused an internal limit to be exceeded.
HTTP Status Code: 410

ResourceNotFoundException
A resource with the specified name could not be found.
HTTP Status Code: 404

ServiceUnavailableException
The service is temporarily unavailable.
HTTP Status Code: 503

ThrottlingException
The request was denied due to request throttling.
HTTP Status Code: 429

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
UntagResource

Removes the given tags (metadata) from the resource.

Request Syntax

```
DELETE /tags?resourceArn=resourceArn&tagKeys=tagKeys HTTP/1.1
```

URI Request Parameters

The request requires the following URI parameters.

**resourceArn (p. 72)**

The ARN of the resource whose tags will be removed.


**tagKeys (p. 72)**

The keys of those tags which will be removed.

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Length Constraints: Minimum length of 1. Maximum length of 256.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 204
```

Response Elements

If the action is successful, the service sends back an HTTP 204 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 130).

**InternalFailureException**

There was an internal failure.

HTTP Status Code: 500

**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400
LimitExceededException

The command caused an internal limit to be exceeded.

HTTP Status Code: 410

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
UpdateChannel

Updates the settings of a channel.

Request Syntax

PUT /channels/{channelName} HTTP/1.1
Content-type: application/json

```
{
    "retentionPeriod": {
        "numberOfDays": number,
        "unlimited": boolean
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

**channelName (p. 74)**

The name of the channel to be updated.


Pattern: ^[a-zA-Z0-9_]+$

Request Body

The request accepts the following data in JSON format.

**retentionPeriod (p. 74)**

How long, in days, message data is kept for the channel.

Type: RetentionPeriod (p. 123) object

Required: No

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. 130).
InternalFailureException
There was an internal failure.
HTTP Status Code: 500

InvalidRequestException
The request was not valid.
HTTP Status Code: 400

ResourceNotFoundException
A resource with the specified name could not be found.
HTTP Status Code: 404

ServiceUnavailableException
The service is temporarily unavailable.
HTTP Status Code: 503

ThrottlingException
The request was denied due to request throttling.
HTTP Status Code: 429

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
UpdateDataset

Updates the settings of a data set.

Request Syntax

PUT /datasets/datasetName HTTP/1.1
Content-type: application/json

{
   "actions": [
      {
         "actionName": "string",
         "queryAction": {
            "sqlQuery": "string"
         }
      }
   ],
   "triggers": [
      {
         "schedule": {
            "expression": "string"
         }
      }
   ]
}

URI Request Parameters

The request requires the following URI parameters.

datasetName (p. 76)

The name of the data set to update.


Pattern: ^[a-zA-Z0-9_:]+$

Request Body

The request accepts the following data in JSON format.

actions (p. 76)

A list of "DatasetAction" objects. Only one action is supported at this time.

Type: Array of DatasetAction (p. 95) objects

Array Members: Fixed number of 1 item.

Required: Yes

triggers (p. 76)

A list of "DatasetTrigger" objects. The list can be empty or can contain up to five DatasetTrigger objects.
Type: Array of DatasetTrigger (p. 99) objects

Array Members: Minimum number of 0 items. Maximum number of 5 items.

Required: No

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. 130).

InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
UpdateDatastore

Updates the settings of a data store.

**Request Syntax**

```plaintext
PUT /datastores/datastoreName HTTP/1.1
Content-type: application/json

{
    "retentionPeriod": {
        "numberOfDays": number,
        "unlimited": boolean
    }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

- **datastoreName** (p. 79)
  - The name of the data store to be updated.
  - Pattern: ^[a-zA-Z0-9_]+$

**Request Body**

The request accepts the following data in JSON format.

- **retentionPeriod** (p. 79)
  - How long, in days, message data is kept for the data store.
  - Type: RetentionPeriod (p. 123) object
  - Required: No

**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. 130).
InternalFailureException

There was an internal failure.

HTTP Status Code: 500

InvalidRequestException

The request was not valid.

HTTP Status Code: 400

ResourceNotFoundException

A resource with the specified name could not be found.

HTTP Status Code: 404

ServiceUnavailableException

The service is temporarily unavailable.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 429

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
UpdatePipeline

Updates the settings of a pipeline.

Request Syntax

```
PUT /pipelines/pipelineName HTTP/1.1
Content-type: application/json

{
   "pipelineActivities": [
      {
         "addAttributes": {
            "attributes": {
               "string": "string"
            },
            "name": "string",
            "next": "string"
         },
         "channel": {
            "channelName": "string",
            "name": "string",
            "next": "string"
         },
         "datastore": {
            "datastoreName": "string",
            "name": "string"
         },
         "deviceRegistryEnrich": {
            "attribute": "string",
            "name": "string",
            "next": "string",
            "roleArn": "string",
            "thingName": "string"
         },
         "deviceShadowEnrich": {
            "attribute": "string",
            "name": "string",
            "next": "string",
            "roleArn": "string",
            "thingName": "string"
         },
         "filter": {
            "filter": "string",
            "name": "string",
            "next": "string"
         },
         "lambda": {
            "batchSize": number,
            "lambdaName": "string",
            "name": "string",
            "next": "string"
         },
         "math": {
            "attribute": "string",
            "math": "string",
            "name": "string",
            "next": "string"
         },
         "removeAttributes": {
            "attributes": [ "string" ],
            "name": "string",
            "next": "string"
         }
      }
   ]
}
```

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URI Request Parameters

The request requires the following URI parameters.

**pipelineName (p. 81)**

The name of the pipeline to update.


Pattern: ^[a-zA-Z0-9_]+$  

Request Body

The request accepts the following data in JSON format.

**pipelineActivities (p. 81)**

A list of "PipelineActivity" objects.

The list can be 1-25 **PipelineActivity** objects. Activities perform transformations on your messages, such as removing, renaming or adding message attributes; filtering messages based on attribute values; invoking your Lambda functions on messages for advanced processing; or performing mathematical transformations to normalize device data.

Type: Array of **PipelineActivity** (p. 118) objects

Array Members: Minimum number of 1 item. Maximum number of 25 items.

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 (p. 130)**.

**InternalFailureException**

There was an internal failure.
HTTP Status Code: 500
**InvalidRequestException**

The request was not valid.

HTTP Status Code: 400
**LimitExceededException**

The command caused an internal limit to be exceeded.

HTTP Status Code: 410
**ResourceNotFoundException**

A resource with the specified name could not be found.

HTTP Status Code: 404
**ServiceUnavailableException**

The service is temporarily unavailable.

HTTP Status Code: 503
**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 429

---

**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
Data Types

The AWS IoT Analytics 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:

- AddAttributesActivity (p. 86)
- BatchPutMessageErrorEntry (p. 87)
- Channel (p. 88)
- ChannelActivity (p. 90)
- ChannelStatistics (p. 91)
- ChannelSummary (p. 92)
- Dataset (p. 93)
- DatasetAction (p. 95)
- DatasetContentStatus (p. 96)
- DatasetEntry (p. 97)
- DatasetSummary (p. 98)
- DatasetTrigger (p. 99)
- Datastore (p. 100)
- DatastoreActivity (p. 102)
- DatastoreStatistics (p. 103)
- DatastoreSummary (p. 104)
- DeviceRegistryEnrichActivity (p. 105)
- DeviceShadowEnrichActivity (p. 107)
- EstimatedResourceSize (p. 109)
- FilterActivity (p. 110)
- LambdaActivity (p. 111)
- LoggingOptions (p. 113)
- MathActivity (p. 114)
- Message (p. 115)
- Pipeline (p. 116)
- PipelineActivity (p. 118)
- PipelineSummary (p. 120)
- RemoveAttributesActivity (p. 121)
- ReprocessingSummary (p. 122)
- RetentionPeriod (p. 123)
- Schedule (p. 124)
- SelectAttributesActivity (p. 125)
- SqlQueryDatasetAction (p. 126)
- Tag (p. 127)
AddAttributesActivity

An activity that adds other attributes based on existing attributes in the message.

Contents

attributes

A list of 1-50 "AttributeNameMapping" objects that map an existing attribute to a new attribute.

Note
The existing attributes remain in the message, so if you want to remove the originals, use "RemoveAttributeActivity".

Type: String to string map
Key Length Constraints: Minimum length of 1. Maximum length of 256.
Value Length Constraints: Minimum length of 1. Maximum length of 256.
Required: Yes

name

The name of the 'addAttributes' activity.

Type: String
Required: Yes

next

The next activity in the pipeline.

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
BatchPutMessageErrorEntry

Contains informations about errors.

Contents

errorCode

The code associated with the error.

Type: String

Required: No

errorMessage

The message associated with the error.

Type: String

Required: No

messageId

The ID of the message that caused the error. (See the value corresponding to the "messageId" key in the message object.)

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
Channel

A collection of data from an MQTT topic. Channels archive the raw, unprocessed messages before publishing the data to a pipeline.

Contents

arn

The ARN of the channel.
Type: String
Required: No

creationTime

When the channel was created.
Type: Timestamp
Required: No

lastUpdateTime

When the channel was last updated.
Type: Timestamp
Required: No

name

The name of the channel.
Type: String
Pattern: ^[a-zA-Z0-9_]+$
Required: No

retentionPeriod

How long, in days, message data is kept for the channel.
Type: RetentionPeriod (p. 123) object
Required: No

status

The status of the channel.
Type: String
Valid Values: CREATING | ACTIVE | DELETING
Required: No
See Also

For 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
### ChannelActivity

The activity that determines the source of the messages to be processed.

**Contents**

**channelName**

The name of the channel from which the messages are processed.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

Required: Yes

**name**

The name of the 'channel' activity.

Type: String


Required: Yes

**next**

The next activity in the pipeline.

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
ChannelStatistics

Statistics information about the channel.

Contents

size

The estimated size of the channel.

Type: EstimatedResourceSize (p. 109) 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
ChannelSummary

A summary of information about a channel.

Contents

channelName

The name of the channel.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

Required: No

creationTime

When the channel was created.

Type: Timestamp

Required: No

lastUpdateTime

The last time the channel was updated.

Type: Timestamp

Required: No

status

The status of the channel.

Type: String

Valid Values: CREATING | ACTIVE | DELETING

Required: No

See Also

For 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
Dataset

Information about a data set.

Contents

actions
The "DatasetAction" objects that create the data set.
Type: Array of DatasetAction (p. 95) objects
Array Members: Fixed number of 1 item.
Required: No

arn
The ARN of the data set.
Type: String
Required: No

creationTime
When the data set was created.
Type: Timestamp
Required: No

lastUpdateTime
The last time the data set was updated.
Type: Timestamp
Required: No

name
The name of the data set.
Type: String
Pattern: ^[a-zA-Z0-9_]+$
Required: No

status
The status of the data set.
Type: String
Valid Values: CREATING | ACTIVE | DELETING
Required: No

triggers
The "DatasetTrigger" objects that specify when the data set is automatically updated.
Type: Array of DatasetTrigger (p. 99) objects

Array Members: Minimum number of 0 items. Maximum number of 5 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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
DatasetAction

A "DatasetAction" object specifying the query that creates the data set content.

Contents

actionName

The name of the data set action.

Type: String


Pattern: `^[a-zA-Z0-9_]+$`

Required: No

queryAction

An "SqlQueryDatasetAction" object that contains the SQL query to modify the message.

Type: SqlQueryDatasetAction (p. 126) 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
DatasetContentStatus

The state of the data set and the reason it is in this state.

Contents

reason

  The reason the data set is in this state.

  Type: String
  Required: No

state

  The state of the data set. Can be one of "CREATING", "SUCCEEDED" or "FAILED".

  Type: String

  Valid Values: CREATING | SUCCEEDED | FAILED

  Required: No

See Also

For 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
DatasetEntry

The reference to a data set entry.

Contents

dataURI

The pre-signed URI of the data set item.

Type: String
Required: No

entryName

The name of the data set item.

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
DatasetSummary

A summary of information about a data set.

Contents

creationTime

The time the data set was created.
Type: Timestamp
Required: No
datasetName

The name of the data set.
Type: String
Pattern: ^[a-zA-Z0-9_]+$
Required: No
lastUpdateTime

The last time the data set was updated.
Type: Timestamp
Required: No
status

The status of the data set.
Type: String
Valid Values: CREATING | ACTIVE | DELETING
Required: No

See Also

For 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
DatasetTrigger

The "DatasetTrigger" that specifies when the data set is automatically updated.

Contents

schedule

The "Schedule" when the trigger is initiated.

Type: Schedule (p. 124) 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
Datastore

Information about a data store.

Contents

arn

The ARN of the data store.
Type: String
Required: No

creationTime

When the data store was created.
Type: Timestamp
Required: No

lastUpdateTime

The last time the data store was updated.
Type: Timestamp
Required: No

name

The name of the data store.
Type: String
Pattern: ^[a-zA-Z0-9_]+$
Required: No

retentionPeriod

How long, in days, message data is kept for the data store.
Type: RetentionPeriod (p. 123) object
Required: No

status

The status of a data store:
CREATING
The data store is being created.
ACTIVE
The data store has been created and can be used.
DELETING
The data store is being deleted.
Type: String

Valid Values: CREATING | ACTIVE | DELETING

Required: No

See Also

For 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
DatastoreActivity

The 'datastore' activity that specifies where to store the processed data.

Contents

datastoreName

The name of the data store where processed messages are stored.

Type: String


Pattern: ^[a-zA-Z0-9_]+$

Required: Yes

name

The name of the 'datastore' activity.

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
DatastoreStatistics

Statistics information about the data store.

Contents

size

The estimated size of the data store.

Type: EstimatedResourceSize (p. 109) 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
DatastoreSummary

A summary of information about a data store.

Contents

creationTime

When the data store was created.

Type: Timestamp

Required: No

datastoreName

The name of the data store.

Type: String


Pattern: ^[a-zA-Z0-9-_]+$

Required: No

lastUpdateTime

The last time the data store was updated.

Type: Timestamp

Required: No

status

The status of the data store.

Type: String

Valid Values: CREATING | ACTIVE | DELETING

Required: No

See Also

For 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
DeviceRegistryEnrichActivity

An activity that adds data from the AWS IoT device registry to your message.

**Contents**

**attribute**

The name of the attribute that is added to the message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

**name**

The name of the 'deviceRegistryEnrich' activity.

Type: String


Required: Yes

**next**

The next activity in the pipeline.

Type: String


Required: No

**roleArn**

The ARN of the role that allows access to the device's registry information.

Type: String


Required: Yes

**thingName**

The name of the IoT device whose registry information is added to the message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

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++
See Also

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

An activity that adds information from the AWS IoT Device Shadows service to a message.

Contents

attribute

The name of the attribute that is added to the message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

name

The name of the 'deviceShadowEnrich' activity.

Type: String


Required: Yes

next

The next activity in the pipeline.

Type: String


Required: No

roleArn

The ARN of the role that allows access to the device's shadow.

Type: String


Required: Yes

thingName

The name of the IoT device whose shadow information is added to the message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

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
EstimatedResourceSize

The estimated size of the resource.

Contents

estimatedOn

The time when the estimate of the size of the resource was made.

Type: Timestamp
Required: No

estimatedSizeInBytes

The estimated size of the resource in bytes.

Type: Double
Required: No

See Also

For 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
FilterActivity

An activity that filters a message based on its attributes.

Contents

filter

An expression that looks like an SQL WHERE clause that must return a Boolean value.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 256.
Required: Yes

name

The name of the 'filter' activity.
Type: String
Required: Yes

next

The next activity in the pipeline.
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
LambdaActivity

An activity that runs a Lambda function to modify the message.

Contents

batchSize

The number of messages passed to the Lambda function for processing.

The AWS Lambda function must be able to process all of these messages within five minutes, which is the maximum timeout duration for Lambda functions.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: Yes

lambdaName

The name of the Lambda function that is run on the message.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9-_]+$

Required: Yes

name

The name of the 'lambda' activity.

Type: String


Required: Yes

next

The next activity in the pipeline.

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
LoggingOptions

Information about logging options.

Contents

**enabled**

If true, logging is enabled for AWS IoT Analytics.

Type: Boolean

Required: Yes

**level**

The logging level. Currently, only "ERROR" is supported.

Type: String

Valid Values: ERROR

Required: Yes

**roleArn**

The ARN of the role that grants permission to AWS IoT Analytics to perform logging.

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
MathActivity

An activity that computes an arithmetic expression using the message's attributes.

Contents

attribute

The name of the attribute that will contain the result of the math operation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

math

An expression that uses one or more existing attributes and must return an integer value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

name

The name of the 'math' activity.

Type: String


Required: Yes

next

The next activity in the pipeline.

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
Message

Information about a message.

Contents

messageId

The ID you wish to assign to the message. Each "messageId" must be unique within each batch sent.

Type: String


Required: Yes

payload

The payload of the message. This may be a JSON string or a Base64-encoded string representing binary data (in which case you must decode it by means of a pipeline activity).

Type: Base64-encoded binary data 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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Pipeline

Contains information about a pipeline.

Contents

activities

The activities that perform transformations on the messages.

Type: Array of PipelineActivity (p. 118) objects

Array Members: Minimum number of 1 item. Maximum number of 25 items.

Required: No

arn

The ARN of the pipeline.

Type: String

Required: No

creationTime

When the pipeline was created.

Type: Timestamp

Required: No

lastUpdateTime

The last time the pipeline was updated.

Type: Timestamp

Required: No

name

The name of the pipeline.

Type: String


Pattern: ^[a-zA-Z0-9\-_]+$ 

Required: No

reprocessingSummaries

A summary of information about the pipeline reprocessing.

Type: Array of ReprocessingSummary (p. 122) objects

Required: No

See Also

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

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

An activity that performs a transformation on a message.

Contents

**addAttributes**

Adds other attributes based on existing attributes in the message.

Type: AddAttributesActivity (p. 86) object

Required: No

**channel**

Determines the source of the messages to be processed.

Type: ChannelActivity (p. 90) object

Required: No

**datastore**

Specifies where to store the processed message data.

Type: DatastoreActivity (p. 102) object

Required: No

**deviceRegistryEnrich**

Adds data from the AWS IoT device registry to your message.

Type: DeviceRegistryEnrichActivity (p. 105) object

Required: No

**deviceShadowEnrich**

Adds information from the AWS IoT Device Shadows service to a message.

Type: DeviceShadowEnrichActivity (p. 107) object

Required: No

**filter**

Filters a message based on its attributes.

Type: FilterActivity (p. 110) object

Required: No

**lambda**

Runs a Lambda function to modify the message.

Type: LambdaActivity (p. 111) object

Required: No

**math**

Computes an arithmetic expression using the message's attributes and adds it to the message.
Type: MathActivity (p. 114) object

Required: No

**removeAttributes**

Removes attributes from a message.

Type: RemoveAttributesActivity (p. 121) object

Required: No

**selectAttributes**

Creates a new message using only the specified attributes from the original message.

Type: SelectAttributesActivity (p. 125) 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
PipelineSummary

A summary of information about a pipeline.

Contents

creationTime

When the pipeline was created.
Type: Timestamp
Required: No

lastUpdateTime

When the pipeline was last updated.
Type: Timestamp
Required: No

pipelineName

The name of the pipeline.
Type: String
Pattern: ^[a-zA-Z0-9-_]+$
Required: No

reprocessingSummaries

A summary of information about the pipeline reprocessing.
Type: Array of ReprocessingSummary (p. 122) 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 Go
- AWS SDK for Java
- AWS SDK for Ruby V2
RemoveAttributesActivity

An activity that removes attributes from a message.

Contents

attributes

A list of 1-50 attributes to remove from the message.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

name

The name of the 'removeAttributes' activity.

Type: String


Required: Yes

next

The next activity in the pipeline.

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
ReprocessingSummary

Information about pipeline reprocessing.

Contents

creationTime

The time the pipeline reprocessing was created.

Type: Timestamp

Required: No

id

The 'reprocessingId' returned by "StartPipelineReprocessing".

Type: String

Required: No

status

The status of the pipeline reprocessing.

Type: String

Valid Values: RUNNING | SUCCEEDED | CANCELLED | FAILED

Required: No

See Also

For 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
RetentionPeriod

How long, in days, message data is kept.

Contents

numberOfDays

The number of days that message data is kept. The "unlimited" parameter must be false.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

unlimited

If true, message data is kept indefinitely.

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
Schedule

The schedule for when to trigger an update.

Contents

expression

The expression that defines when to trigger an update. For more information, see Schedule Expressions for Rules in the Amazon CloudWatch documentation.

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
SelectAttributesActivity

Creates a new message using only the specified attributes from the original message.

Contents

attributes

A list of the attributes to select from the message.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

name

The name of the 'selectAttributes' activity.

Type: String


Required: Yes

next

The next activity in the pipeline.

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
SqlQueryDatasetAction

The SQL query to modify the message.

Contents

sqlQuery

An SQL query string.

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
Tag

A set of key/value pairs which are used to manage the resource.

Contents

key

The tag's key.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 256.
Required: Yes

value

The tag's value.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 256.
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’THHMMSSZ’). 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