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# **AWS CloudTrail**

## **API Reference**

### **API Version 2013-11-01**



## AWS CloudTrail: API Reference

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# Welcome

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This is the CloudTrail API Reference. It provides descriptions of actions, data types, common parameters, and common errors for CloudTrail.

CloudTrail is a web service that records AWS API calls for your AWS account and delivers log files to an Amazon S3 bucket. The recorded information includes the identity of the user, the start time of the AWS API call, the source IP address, the request parameters, and the response elements returned by the service.

**Note**

As an alternative to using the API, you can use one of the AWS SDKs, which consist of libraries and sample code for various programming languages and platforms (Java, Ruby, .NET, iOS, Android, etc.). The SDKs provide a convenient way to create programmatic access to AWSCloudTrail. For example, the SDKs take care of cryptographically signing requests, managing errors, and retrying requests automatically. For information about the AWS SDKs, including how to download and install them, see the [Tools for Amazon Web Services page](#).

See the CloudTrail User Guide for information about the data that is included with each AWS API call listed in the log files.

This document was last updated on September 3, 2015.

# Actions

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The following actions are supported:

- [CreateTrail](#) (p. 3)
- [DeleteTrail](#) (p. 7)
- [DescribeTrails](#) (p. 8)
- [GetTrailStatus](#) (p. 10)
- [LookupEvents](#) (p. 12)
- [StartLogging](#) (p. 15)
- [StopLogging](#) (p. 16)
- [UpdateTrail](#) (p. 17)

# CreateTrail

From the command line, use `create-subscription`.

Creates a trail that specifies the settings for delivery of log data to an Amazon S3 bucket.

## Request Syntax

```
{
  "CloudWatchLogsLogGroupArn": "string",
  "CloudWatchLogsRoleArn": "string",
  "IncludeGlobalServiceEvents": boolean,
  "Name": "string",
  "S3BucketName": "string",
  "S3KeyPrefix": "string",
  "SnsTopicName": "string"
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### CloudWatchLogsLogGroupArn

Specifies a log group name using an Amazon Resource Name (ARN), a unique identifier that represents the log group to which CloudTrail logs will be delivered. Not required unless you specify `CloudWatchLogsRoleArn`.

Type: String

Required: No

### CloudWatchLogsRoleArn

Specifies the role for the CloudWatch Logs endpoint to assume to write to a user's log group.

Type: String

Required: No

### IncludeGlobalServiceEvents

Specifies whether the trail is publishing events from global services such as IAM to the log files.

Type: Boolean

Required: No

### Name

Specifies the name of the trail. The name must meet the following requirements:

- Contain only ASCII letters (a-z, A-Z), numbers (0-9), periods (.), underscores (\_), or dashes (-)
- Start with a letter or number, and end with a letter or number
- Be between 3 and 128 characters
- Have no adjacent periods, underscores or dashes. Names like `my-_namespace` and `my--namespace` are invalid.
- Not be in IP address format (for example, 192.168.5.4)

Type: String

Required: Yes

#### **S3BucketName**

Specifies the name of the Amazon S3 bucket designated for publishing log files. See [Amazon S3 Bucket Naming Requirements](#).

Type: String

Required: Yes

#### **S3KeyPrefix**

Specifies the Amazon S3 key prefix that comes after the name of the bucket you have designated for log file delivery. For more information, see [Finding Your CloudTrail Log Files](#). The maximum length is 200 characters.

Type: String

Required: No

#### **SnsTopicName**

Specifies the name of the Amazon SNS topic defined for notification of log file delivery. The maximum length is 256 characters.

Type: String

Required: No

## Response Syntax

```
{
  "CloudWatchLogsLogGroupArn": "string",
  "CloudWatchLogsRoleArn": "string",
  "IncludeGlobalServiceEvents": boolean,
  "Name": "string",
  "S3BucketName": "string",
  "S3KeyPrefix": "string",
  "SnsTopicName": "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.

#### **CloudWatchLogsLogGroupArn**

Specifies the Amazon Resource Name (ARN) of the log group to which CloudTrail logs will be delivered.

Type: String

#### **CloudWatchLogsRoleArn**

Specifies the role for the CloudWatch Logs endpoint to assume to write to a user's log group.

Type: String



#### **IncludeGlobalServiceEvents**

Specifies whether the trail is publishing events from global services such as IAM to the log files.

Type: Boolean

#### **Name**

Specifies the name of the trail.

Type: String

#### **S3BucketName**

Specifies the name of the Amazon S3 bucket designated for publishing log files.

Type: String

#### **S3KeyPrefix**

Specifies the Amazon S3 key prefix that comes after the name of the bucket you have designated for log file delivery. For more information, see [Finding Your CloudTrail Log Files](#).

Type: String

#### **SnsTopicName**

Specifies the name of the Amazon SNS topic defined for notification of log file delivery.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 29\)](#).

#### **CloudWatchLogsDeliveryUnavailableException**

Cannot set a CloudWatch Logs delivery for this region.

HTTP Status Code: 400

#### **InsufficientS3BucketPolicyException**

This exception is thrown when the policy on the S3 bucket is not sufficient.

HTTP Status Code: 403

#### **InsufficientSnsTopicPolicyException**

This exception is thrown when the policy on the SNS topic is not sufficient.

HTTP Status Code: 403

#### **InvalidCloudWatchLogsLogGroupArnException**

This exception is thrown when the provided CloudWatch log group is not valid.

HTTP Status Code: 400

#### **InvalidCloudWatchLogsRoleArnException**

This exception is thrown when the provided role is not valid.

HTTP Status Code: 400

#### **InvalidS3BucketNameException**

This exception is thrown when the provided S3 bucket name is not valid.

HTTP Status Code: 400

#### **InvalidS3PrefixException**

This exception is thrown when the provided S3 prefix is not valid.

HTTP Status Code: 400

#### **InvalidSnsTopicNameException**

This exception is thrown when the provided SNS topic name is not valid.

HTTP Status Code: 400

**InvalidTrailNameException**

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

**MaximumNumberOfTrailsExceededException**

This exception is thrown when the maximum number of trails is reached.

HTTP Status Code: 403

**S3BucketDoesNotExistException**

This exception is thrown when the specified S3 bucket does not exist.

HTTP Status Code: 404

**TrailAlreadyExistsException**

This exception is thrown when the specified trail already exists.

HTTP Status Code: 400

# DeleteTrail

Deletes a trail.

## Request Syntax

```
{  
  "Name": "string"  
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### Name

The name of a trail to be deleted.

Type: String

Required: Yes

## 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 \(p. 29\)](#).

### InvalidTrailNameException

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

### TrailNotFoundException

This exception is thrown when the trail with the given name is not found.

HTTP Status Code: 404

# DescribeTrails

Retrieves settings for the trail associated with the current region for your account.

## Request Syntax

```
{
  "TrailNameList": [
    "string"
  ]
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### TrailNameList

The trail returned.

Type: array of Strings

Required: No

## Response Syntax

```
{
  "TrailList": [
    {
      "CloudWatchLogsLogGroupArn": "string",
      "CloudWatchLogsRoleArn": "string",
      "IncludeGlobalServiceEvents": boolean,
      "Name": "string",
      "S3BucketName": "string",
      "S3KeyPrefix": "string",
      "SnsTopicName": "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.

### TrailList

The list of trails.

Type: array of [Trail \(p. 23\)](#) objects

## Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 29\)](#).

# GetTrailStatus

Returns a JSON-formatted list of information about the specified trail. Fields include information on delivery errors, Amazon SNS and Amazon S3 errors, and start and stop logging times for each trail.

## Request Syntax

```
{  
  "Name": "string"  
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### Name

The name of the trail for which you are requesting the current status.

Type: String

Required: Yes

## Response Syntax

```
{  
  "IsLogging": boolean,  
  "LatestCloudWatchLogsDeliveryError": "string",  
  "LatestCloudWatchLogsDeliveryTime": number,  
  "LatestDeliveryError": "string",  
  "LatestDeliveryTime": number,  
  "LatestNotificationError": "string",  
  "LatestNotificationTime": number,  
  "StartLoggingTime": number,  
  "StopLoggingTime": 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.

### IsLogging

Whether the CloudTrail is currently logging AWS API calls.

Type: Boolean

#### **LatestCloudWatchLogsDeliveryError**

Displays any CloudWatch Logs error that CloudTrail encountered when attempting to deliver logs to CloudWatch Logs.

Type: String

#### **LatestCloudWatchLogsDeliveryTime**

Displays the most recent date and time when CloudTrail delivered logs to CloudWatch Logs.

Type: DateTime

#### **LatestDeliveryError**

Displays any Amazon S3 error that CloudTrail encountered when attempting to deliver log files to the designated bucket. For more information see the topic [Error Responses](#) in the Amazon S3 API Reference.

Type: String

#### **LatestDeliveryTime**

Specifies the date and time that CloudTrail last delivered log files to an account's Amazon S3 bucket.

Type: DateTime

#### **LatestNotificationError**

Displays any Amazon SNS error that CloudTrail encountered when attempting to send a notification. For more information about Amazon SNS errors, see the [Amazon SNS Developer Guide](#).

Type: String

#### **LatestNotificationTime**

Specifies the date and time of the most recent Amazon SNS notification that CloudTrail has written a new log file to an account's Amazon S3 bucket.

Type: DateTime

#### **StartLoggingTime**

Specifies the most recent date and time when CloudTrail started recording API calls for an AWS account.

Type: DateTime

#### **StopLoggingTime**

Specifies the most recent date and time when CloudTrail stopped recording API calls for an AWS account.

Type: DateTime

## **Errors**

For information about the errors that are common to all actions, see [Common Errors \(p. 29\)](#).

#### **InvalidTrailNameException**

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

#### **TrailNotFoundException**

This exception is thrown when the trail with the given name is not found.

HTTP Status Code: 404

# LookupEvents

Looks up API activity events captured by CloudTrail that create, update, or delete resources in your account. Events for a region can be looked up for the times in which you had CloudTrail turned on in that region during the last seven days. Lookup supports five different attributes: time range (defined by a start time and end time), user name, event name, resource type, and resource name. All attributes are optional. The maximum number of attributes that can be specified in any one lookup request are time range and one other attribute. The default number of results returned is 10, with a maximum of 50 possible. The response includes a token that you can use to get the next page of results.

## Important

The rate of lookup requests is limited to one per second per account. If this limit is exceeded, a throttling error occurs.

## Important

Events that occurred during the selected time range will not be available for lookup if CloudTrail logging was not enabled when the events occurred.

## Request Syntax

```
{
  "EndTime": number,
  "LookupAttributes": [
    {
      "AttributeKey": "string",
      "AttributeValue": "string"
    }
  ],
  "MaxResults": number,
  "NextToken": "string",
  "StartTime": number
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### EndTime

Specifies that only events that occur before or at the specified time are returned. If the specified end time is before the specified start time, an error is returned.

Type: DateTime

Required: No

### LookupAttributes

Contains a list of lookup attributes. Currently the list can contain only one item.

Type: array of [LookupAttribute \(p. 22\)](#) objects

Required: No

### MaxResults

The number of events to return. Possible values are 1 through 50. The default is 10.



Type: Number

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

Required: No

#### NextToken

The token to use to get the next page of results after a previous API call. This token must be passed in with the same parameters that were specified in the the original call. For example, if the original call specified an AttributeKey of 'Username' with a value of 'root', the call with NextToken should include those same parameters.

Type: String

Required: No

#### StartTime

Specifies that only events that occur after or at the specified time are returned. If the specified start time is after the specified end time, an error is returned.

Type: DateTime

Required: No

## Response Syntax

```
{
  "Events": [
    {
      "CloudTrailEvent": "string",
      "EventId": "string",
      "EventName": "string",
      "EventTime": number,
      "Resources": [
        {
          "ResourceName": "string",
          "ResourceType": "string"
        }
      ],
      "Username": "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.

#### Events

A list of events returned based on the lookup attributes specified and the CloudTrail event. The events list is sorted by time. The most recent event is listed first.

Type: array of [Event \(p. 21\)](#) objects

### NextToken

The token to use to get the next page of results after a previous API call. If the token does not appear, there are no more results to return. The token must be passed in with the same parameters as the previous call. For example, if the original call specified an AttributeKey of 'Username' with a value of 'root', the call with NextToken should include those same parameters.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 29\)](#).

### InvalidLookupAttributesException

Occurs when an invalid lookup attribute is specified.

HTTP Status Code: 400

### InvalidMaxResultsException

This exception is thrown if the limit specified is invalid.

HTTP Status Code: 400

### InvalidNextTokenException

Invalid token or token that was previously used in a request with different parameters. This exception is thrown if the token is invalid.

HTTP Status Code: 400

### InvalidTimeRangeException

Occurs if the timestamp values are invalid. Either the start time occurs after the end time or the time range is outside the range of possible values.

HTTP Status Code: 400

# StartLogging

Starts the recording of AWS API calls and log file delivery for a trail.

## Request Syntax

```
{  
  "Name": "string"  
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### Name

The name of the trail for which CloudTrail logs AWS API calls.

Type: String

Required: Yes

## 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 \(p. 29\)](#).

### InvalidTrailNameException

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

### TrailNotFoundException

This exception is thrown when the trail with the given name is not found.

HTTP Status Code: 404

## StopLogging

Suspends the recording of AWS API calls and log file delivery for the specified trail. Under most circumstances, there is no need to use this action. You can update a trail without stopping it first. This action is the only way to stop recording.

### Request Syntax

```
{  
  "Name": "string"  
}
```

### Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

#### Name

Communicates to CloudTrail the name of the trail for which to stop logging AWS API calls.

Type: String

Required: Yes

### 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 \(p. 29\)](#).

#### InvalidTrailNameException

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

#### TrailNotFoundException

This exception is thrown when the trail with the given name is not found.

HTTP Status Code: 404

# UpdateTrail

From the command line, use `update-subscription`.

Updates the settings that specify delivery of log files. Changes to a trail do not require stopping the CloudTrail service. Use this action to designate an existing bucket for log delivery. If the existing bucket has previously been a target for CloudTrail log files, an IAM policy exists for the bucket.

## Request Syntax

```
{
  "CloudWatchLogsLogGroupArn": "string",
  "CloudWatchLogsRoleArn": "string",
  "IncludeGlobalServiceEvents": boolean,
  "Name": "string",
  "S3BucketName": "string",
  "S3KeyPrefix": "string",
  "SnsTopicName": "string"
}
```

## Request Parameters

For information about the common parameters that all actions use, see [Common Parameters \(p. 25\)](#).

The request requires the following data in JSON format.

### CloudWatchLogsLogGroupArn

Specifies a log group name using an Amazon Resource Name (ARN), a unique identifier that represents the log group to which CloudTrail logs will be delivered. Not required unless you specify `CloudWatchLogsRoleArn`.

Type: String

Required: No

### CloudWatchLogsRoleArn

Specifies the role for the CloudWatch Logs endpoint to assume to write to a user's log group.

Type: String

Required: No

### IncludeGlobalServiceEvents

Specifies whether the trail is publishing events from global services such as IAM to the log files.

Type: Boolean

Required: No

### Name

Specifies the name of the trail. The name must meet the following requirements:

- Contain only ASCII letters (a-z, A-Z), numbers (0-9), periods (.), underscores (\_), or dashes (-)
- Start with a letter or number, and end with a letter or number
- Be between 3 and 128 characters
- Have no adjacent periods, underscores or dashes. Names like `my-_namespace` and `my--namespace` are invalid.

- Not be in IP address format (for example, 192.168.5.4)

Type: String

Required: Yes

#### **S3BucketName**

Specifies the name of the Amazon S3 bucket designated for publishing log files. See [Amazon S3 Bucket Naming Requirements](#).

Type: String

Required: No

#### **S3KeyPrefix**

Specifies the Amazon S3 key prefix that comes after the name of the bucket you have designated for log file delivery. For more information, see [Finding Your CloudTrail Log Files](#). The maximum length is 200 characters.

Type: String

Required: No

#### **SnsTopicName**

Specifies the name of the Amazon SNS topic defined for notification of log file delivery. The maximum length is 256 characters.

Type: String

Required: No

## Response Syntax

```
{
  "CloudWatchLogsLogGroupArn": "string",
  "CloudWatchLogsRoleArn": "string",
  "IncludeGlobalServiceEvents": boolean,
  "Name": "string",
  "S3BucketName": "string",
  "S3KeyPrefix": "string",
  "SnsTopicName": "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.

#### **CloudWatchLogsLogGroupArn**

Specifies the Amazon Resource Name (ARN) of the log group to which CloudTrail logs will be delivered.

Type: String

#### **CloudWatchLogsRoleArn**

Specifies the role for the CloudWatch Logs endpoint to assume to write to a user's log group.

Type: String

#### **IncludeGlobalServiceEvents**

Specifies whether the trail is publishing events from global services such as IAM to the log files.

Type: Boolean

#### **Name**

Specifies the name of the trail.

Type: String

#### **S3BucketName**

Specifies the name of the Amazon S3 bucket designated for publishing log files.

Type: String

#### **S3KeyPrefix**

Specifies the Amazon S3 key prefix that comes after the name of the bucket you have designated for log file delivery. For more information, see [Finding Your CloudTrail Log Files](#).

Type: String

#### **SnsTopicName**

Specifies the name of the Amazon SNS topic defined for notification of log file delivery.

Type: String

## Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 29\)](#).

#### **CloudWatchLogsDeliveryUnavailableException**

Cannot set a CloudWatch Logs delivery for this region.

HTTP Status Code: 400

#### **InsufficientS3BucketPolicyException**

This exception is thrown when the policy on the S3 bucket is not sufficient.

HTTP Status Code: 403

#### **InsufficientSnsTopicPolicyException**

This exception is thrown when the policy on the SNS topic is not sufficient.

HTTP Status Code: 403

#### **InvalidCloudWatchLogsLogGroupArnException**

This exception is thrown when the provided CloudWatch log group is not valid.

HTTP Status Code: 400

#### **InvalidCloudWatchLogsRoleArnException**

This exception is thrown when the provided role is not valid.

HTTP Status Code: 400

#### **InvalidS3BucketNameException**

This exception is thrown when the provided S3 bucket name is not valid.

HTTP Status Code: 400

#### **InvalidS3PrefixException**

This exception is thrown when the provided S3 prefix is not valid.

HTTP Status Code: 400

#### **InvalidSnsTopicNameException**

This exception is thrown when the provided SNS topic name is not valid.

HTTP Status Code: 400

**InvalidTrailNameException**

This exception is thrown when the provided trail name is not valid.

HTTP Status Code: 400

**S3BucketDoesNotExistException**

This exception is thrown when the specified S3 bucket does not exist.

HTTP Status Code: 404

**TrailNotFoundException**

This exception is thrown when the trail with the given name is not found.

HTTP Status Code: 404



# Data Types

---

The AWS CloudTrail API contains several data types that various actions use. This section describes each data type in detail.

**Note**

The order of each element in the response is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- [Event](#) (p. 21)
- [LookupAttribute](#) (p. 22)
- [Resource](#) (p. 23)
- [Trail](#) (p. 23)

## Event

### Description

Contains information about an event that was returned by a lookup request. The result includes a representation of a CloudTrail event.

### Contents

**CloudTrailEvent**

A JSON string that contains a representation of the event returned.

Type: String

Required: No

**EventId**

The CloudTrail ID of the event returned.

Type: String

Required: No

**EventName**

The name of the event returned.

Type: String

Required: No

**EventTime**

The date and time of the event returned.

Type: DateTime

Required: No

**Resources**

A list of resources referenced by the event returned.

Type: array of [Resource \(p. 23\)](#) objects

Required: No

**Username**

A user name or role name of the requester that called the API in the event returned.

Type: String

Required: No

## LookupAttribute

### Description

Specifies an attribute and value that filter the events returned.

### Contents

**AttributeKey**

Specifies an attribute on which to filter the events returned.

Type: String

Valid Values: `EventId` | `EventName` | `Username` | `ResourceType` | `ResourceName`

Required: Yes

**AttributeValue**

Specifies a value for the specified AttributeKey.

Type: String

Required: Yes

## Resource

### Description

Specifies the type and name of a resource referenced by an event.

### Contents

#### ResourceName

The name of the resource referenced by the event returned. These are user-created names whose values will depend on the environment. For example, the resource name might be "auto-scaling-test-group" for an Auto Scaling Group or "i-1234567" for an EC2 Instance.

Type: String

Required: No

#### ResourceType

The type of a resource referenced by the event returned. When the resource type cannot be determined, null is returned. Some examples of resource types are: **Instance** for EC2, **Trail** for CloudTrail, **DBInstance** for RDS, and **AccessKey** for IAM. For a list of resource types supported for event lookup, see [Resource Types Supported for Event Lookup](#).

Type: String

Required: No

## Trail

### Description

The settings for a trail.

### Contents

#### CloudWatchLogsLogGroupArn

Specifies an Amazon Resource Name (ARN), a unique identifier that represents the log group to which CloudTrail logs will be delivered.

Type: String

Required: No

#### CloudWatchLogsRoleArn

Specifies the role for the CloudWatch Logs endpoint to assume to write to a user's log group.

Type: String

Required: No

#### IncludeGlobalServiceEvents

Set to **True** to include AWS API calls from AWS global services such as IAM. Otherwise, **False**.

Type: Boolean

Required: No

**Name**

Name of the trail set by calling [CreateTrail \(p. 3\)](#). The maximum length is 128 characters.

Type: String

Required: No

**S3BucketName**

Name of the Amazon S3 bucket into which CloudTrail delivers your trail files. See [Amazon S3 Bucket Naming Requirements](#).

Type: String

Required: No

**S3KeyPrefix**

Specifies the Amazon S3 key prefix that comes after the name of the bucket you have designated for log file delivery. For more information, see [Finding Your CloudTrail Log Files](#). The maximum length is 200 characters.

Type: String

Required: No

**SnsTopicName**

Name of the existing Amazon SNS topic that CloudTrail uses to notify the account owner when new CloudTrail log files have been delivered. The maximum length is 256 characters.

Type: String

Required: No

# Common Parameters

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This section lists the request parameters that all actions use. Any action-specific parameters are listed in the topic for the action.

**Action**

The action to be performed.

Default: None

Type: string

Required: Yes

**AuthParams**

The parameters that are required to authenticate a Conditional request. Contains:

- `AWSSessionToken`
- `SignatureVersion`
- `Timestamp`
- `Signature`

Default: None

Required: Conditional

**AWSSessionToken**

The access key ID that corresponds to the secret access key that you used to sign the request.

Default: None

Type: string

Required: Yes

**Expires**

The date and time when the request signature expires, expressed in the format `YYYY-MM-DDThh:mm:ssZ`, as specified in the ISO 8601 standard.

Condition: Requests must include either *Timestamp* or *Expires*, but not both.

Default: None

Type: string

Required: Conditional

**SecurityToken**

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to [Using Temporary Security Credentials to Access AWS](#) in **Using Temporary Security Credentials**.

Default: None

Type: string

Required: No

**Signature**

The digital signature that you created for the request. For information about generating a signature, go to the service's developer documentation.

Default: None

Type: string

Required: Yes

**SignatureMethod**

The hash algorithm that you used to create the request signature.

Default: None

Type: string

Valid Values: HmacSHA256 | HmacSHA1

Required: Yes

**SignatureVersion**

The signature version you use to sign the request. Set this to the value that is recommended for your service.

Default: None

Type: string

Required: Yes

**Timestamp**

The date and time when the request was signed, expressed in the format YYYY-MM-DDThh:mm:ssZ, as specified in the ISO 8601 standard.

Condition: Requests must include either *Timestamp* or *Expires*, but not both.

Default: None

Type: string

Required: Conditional

**Version**

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Default: None

Type: string

Required: Yes

# Common Parameters for Signature V4 Signing

---

The following table lists the parameters that all actions use for signing Signature Version 4 requests. Any action-specific parameters are listed in the topic for that action. To view sample requests, see [Examples of Signed Signature Version 4 Requests](#) or [Signature Version 4 Test Suite](#) in the *Amazon Web Services General Reference*.

**Action**

The action to be performed.

Type: string

Required: Yes

**Version**

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

**X-Amz-Algorithm**

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

**X-Amz-Credential**

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4\_request"). The value is expressed in the following format: `access_key/YYYYMMDD/region/service/aws4_request`.

For more information, see [Task 2: Create a String to Sign for Signature Version 4](#) in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

#### **X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Handling Dates in Signature Version 4](#) in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

#### **X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to [Using Temporary Security Credentials to Access AWS](#) in *Using Temporary Security Credentials*.

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

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This section lists the common errors that all actions return. Any action-specific errors are listed in the topic for the action.

**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

**Throttling**

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