

# Cloud Logging audit logging

This document describes audit logging for Cloud Logging. Google Cloud services generate audit logs that record administrative and access activities within your Google Cloud resources. For more information about Cloud Audit Logs, see the following:

- [Types of audit logs](/logging/docs/audit#types) (/logging/docs/audit#types)
- [Audit log entry structure](/logging/docs/audit#audit_log_entry_structure) (/logging/docs/audit#audit\_log\_entry\_structure)
- [Storing and routing audit logs](/logging/docs/audit#storing_and_routing_audit_logs) (/logging/docs/audit#storing\_and\_routing\_audit\_logs)
- [Cloud Logging pricing summary](/stackdriver/pricing#logs-pricing-summary) (/stackdriver/pricing#logs-pricing-summary)
- [Enable Data Access audit logs](/logging/docs/audit/configure-data-access) (/logging/docs/audit/configure-data-access)

## Service name

Cloud Logging audit logs use the service name `logging.googleapis.com`. Filter for this service:

```
protoPayload.serviceName="logging.googleapis.com"
```

## Methods by permission type

Each IAM permission has a `type` property, whose value is an enum that can be one of four values: `ADMIN_READ`, `ADMIN_WRITE`, `DATA_READ`, or `DATA_WRITE`. When you call a method, Cloud Logging generates an audit log whose category is dependent on the `type` property of the permission required to perform the method. Methods that require an IAM permission with the `type` property value of `DATA_READ`, `DATA_WRITE`, or `ADMIN_READ` generate [Data Access](/logging/docs/audit#data-access) (/logging/docs/audit#data-access) audit logs. Methods that require an IAM permission with the `type` property value of `ADMIN_WRITE` generate [Admin Activity](/logging/docs/audit#admin-activity) (/logging/docs/audit#admin-activity) audit logs.

Permission type	Methods
ADMIN_READ	google.cloud.location.Locations.GetLocation google.cloud.location.Locations.ListLocations google.iam.v1.IAMPolicy.GetIamPolicy google.logging.v2.ConfigServiceV2.GetBucket google.logging.v2.ConfigServiceV2.GetCmekSettings google.logging.v2.ConfigServiceV2.GetExclusion google.logging.v2.ConfigServiceV2.GetLink google.logging.v2.ConfigServiceV2.GetLogScope google.logging.v2.ConfigServiceV2.GetSettings google.logging.v2.ConfigServiceV2.GetSink google.logging.v2.ConfigServiceV2.GetView google.logging.v2.ConfigServiceV2.ListBuckets google.logging.v2.ConfigServiceV2.ListExclusions google.logging.v2.ConfigServiceV2.ListLinks google.logging.v2.ConfigServiceV2.ListLogScopes google.logging.v2.ConfigServiceV2.ListSinks google.logging.v2.ConfigServiceV2.ListViews google.logging.v2.LoggingServiceV2.ListLogs google.logging.v2.MetricsServiceV2.GetLogMetric google.logging.v2.MetricsServiceV2.ListLogMetrics google.longrunning.Operations.GetOperation google.longrunning.Operations.ListOperations
ADMIN_WRITE	google.iam.v1.IAMPolicy.SetIamPolicy google.logging.v2.ConfigServiceV2.CreateBucket google.logging.v2.ConfigServiceV2.CreateBucketAsync google.logging.v2.ConfigServiceV2.CreateExclusion google.logging.v2.ConfigServiceV2.CreateLink google.logging.v2.ConfigServiceV2.CreateLogScope google.logging.v2.ConfigServiceV2.CreateSink google.logging.v2.ConfigServiceV2.CreateView google.logging.v2.ConfigServiceV2.DeleteBucket google.logging.v2.ConfigServiceV2.DeleteExclusion google.logging.v2.ConfigServiceV2.DeleteLink google.logging.v2.ConfigServiceV2.DeleteLogScope google.logging.v2.ConfigServiceV2.DeleteSink google.logging.v2.ConfigServiceV2.DeleteView google.logging.v2.ConfigServiceV2.UndeleteBucket google.logging.v2.ConfigServiceV2.UpdateBucket google.logging.v2.ConfigServiceV2.UpdateBucketAsync google.logging.v2.ConfigServiceV2.UpdateCmekSettings google.logging.v2.ConfigServiceV2.UpdateExclusion

```

google.logging.v2.ConfigServiceV2.UpdateLogScope
google.logging.v2.ConfigServiceV2.UpdateSettings
google.logging.v2.ConfigServiceV2.UpdateSink
google.logging.v2.ConfigServiceV2.UpdateView
google.logging.v2.LoggingServiceV2.DeleteLog
google.logging.v2.MetricsServiceV2.CreateLogMetric
google.logging.v2.MetricsServiceV2.DeleteLogMetric
google.logging.v2.MetricsServiceV2.UpdateLogMetric
google.longrunning.Operations.CancelOperation

```

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DATA_READ	google.logging.v2.ConfigServiceV2.CopyLogEntries google.logging.v2.LoggingServiceV2.ListLogEntries
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## API interface audit logs

For information about how and which permissions are evaluated for each method, see the Identity and Access Management documentation for Cloud Logging.

### google.cloud.location.Locations

The following audit logs are associated with methods belonging to `google.cloud.location.Locations`.

#### GetLocation

- **Method:** `google.cloud.location.Locations.GetLocation`
- **Audit log type:** [Data access](/logging/docs/audit#data-access) (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.locations.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**

```
protoPayload.methodName="google.cloud.location.Locations.GetLocation"
```

#### ListLocations

- **Method:** `google.cloud.location.Locations.ListLocations`
- **Audit log type:** [Data access](/logging/docs/audit#data-access) (/logging/docs/audit#data-access)
- **Permissions:**

- `logging.locations.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.cloud.location.Locations.ListLocations"`

## `google.iam.v1.IAMPolicy`

The following audit logs are associated with methods belonging to `google.iam.v1.IAMPolicy`.

### `GetIamPolicy`

- **Method:** `google.iam.v1.IAMPolicy.GetIamPolicy`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.views.getIamPolicy` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.iam.v1.IAMPolicy.GetIamPolicy"`

### `SetIamPolicy`

- **Method:** `google.iam.v1.IAMPolicy.SetIamPolicy`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.views.setIamPolicy` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.iam.v1.IAMPolicy.SetIamPolicy"`

## `google.logging.v2.ConfigServiceV2`

The following audit logs are associated with methods belonging to `google.logging.v2.ConfigServiceV2`.

### `CopyLogEntries`

- **Method:** `google.logging.v2.ConfigServiceV2.CopyLogEntries`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.buckets.copyLogEntries` - DATA\_READ
- **Method is a long-running or streaming operation:** Long-running operation (/logging/docs/audit/understanding-audit-logs#lro)
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CopyLogEntries"`

### CreateBucket

- **Method:** `google.logging.v2.ConfigServiceV2.CreateBucket`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateBucket"`

### CreateBucketAsync

- **Method:** `google.logging.v2.ConfigServiceV2.CreateBucketAsync`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** Long-running operation (/logging/docs/audit/understanding-audit-logs#lro)
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateBucketAsync"`

### CreateExclusion

- **Method:** `google.logging.v2.ConfigServiceV2.CreateExclusion`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.exclusions.create` - ADMIN\_WRITE

- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateExclusion"`

### CreateLink

- **Method:** `google.logging.v2.ConfigServiceV2.CreateLink`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.links.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** Long-running operation (/logging/docs/audit/understanding-audit-logs#lro)
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateLink"`

### CreateLogScope

- **Method:** `google.logging.v2.ConfigServiceV2.CreateLogScope`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logScopes.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateLogScope"`

### CreateSink

- **Method:** `google.logging.v2.ConfigServiceV2.CreateSink`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.sinks.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateSink"`

## CreateView

- **Method:** `google.logging.v2.ConfigServiceV2.CreateView`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.views.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.CreateView"`

## DeleteBucket

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteBucket`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteBucket"`

## DeleteExclusion

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteExclusion`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.exclusions.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteExclusion"`

## DeleteLink

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteLink`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.links.delete` - ADMIN\_WRITE

- **Method is a long-running or streaming operation:** Long-running operation  
(/logging/docs/audit/understanding-audit-logs#lro)
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteLink"`

### DeleteLogScope

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteLogScope`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logScopes.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteLogScope"`

### DeleteSink

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteSink`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.sinks.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteSink"`

### DeleteView

- **Method:** `google.logging.v2.ConfigServiceV2.DeleteView`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.views.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.DeleteView"`

### GetBucket



- **Method:** `google.logging.v2.ConfigServiceV2.GetBucket`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.buckets.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetBucket"`

### GetCmekSettings

- **Method:** `google.logging.v2.ConfigServiceV2.GetCmekSettings`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.settings.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetCmekSettings"`

### GetExclusion

- **Method:** `google.logging.v2.ConfigServiceV2.GetExclusion`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.exclusions.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetExclusion"`

### GetLink

- **Method:** `google.logging.v2.ConfigServiceV2.GetLink`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.links.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetLink"`

## GetLogScope

- **Method:** `google.logging.v2.ConfigServiceV2.GetLogScope`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.logScopes.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetLogScope"`

## GetSettings

- **Method:** `google.logging.v2.ConfigServiceV2.GetSettings`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.settings.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetSettings"`

## GetSink

- **Method:** `google.logging.v2.ConfigServiceV2.GetSink`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.sinks.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetSink"`

## GetView

- **Method:** `google.logging.v2.ConfigServiceV2.GetView`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.views.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.

- **Filter for this method:**

`protoPayload.methodName="google.logging.v2.ConfigServiceV2.GetView"`

### ListBuckets

- **Method:** `google.logging.v2.ConfigServiceV2.ListBuckets`

- **Audit log type:** Data access (/logging/docs/audit#data-access)

- **Permissions:**

- `logging.buckets.list` - ADMIN\_READ

- **Method is a long-running or streaming operation:** No.

- **Filter for this method:**

`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListBuckets"`

### ListExclusions

- **Method:** `google.logging.v2.ConfigServiceV2.ListExclusions`

- **Audit log type:** Data access (/logging/docs/audit#data-access)

- **Permissions:**

- `logging.exclusions.list` - ADMIN\_READ

- **Method is a long-running or streaming operation:** No.

- **Filter for this method:**

`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListExclusions"`

### ListLinks

- **Method:** `google.logging.v2.ConfigServiceV2.ListLinks`

- **Audit log type:** Data access (/logging/docs/audit#data-access)

- **Permissions:**

- `logging.links.list` - ADMIN\_READ

- **Method is a long-running or streaming operation:** No.

- **Filter for this method:**

`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListLinks"`

### ListLogScopes

- **Method:** `google.logging.v2.ConfigServiceV2.ListLogScopes`

- **Audit log type:** Data access (/logging/docs/audit#data-access)

- **Permissions:**
  - `logging.logScopes.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListLogScopes"`

## ListSinks

- **Method:** `google.logging.v2.ConfigServiceV2.ListSinks`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.sinks.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListSinks"`

## ListViews

- **Method:** `google.logging.v2.ConfigServiceV2.ListViews`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.views.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.ListViews"`

## UndeleteBucket

- **Method:** `google.logging.v2.ConfigServiceV2.UndeleteBucket`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UndeleteBucket"`

## UpdateBucket

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateBucket`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateBucket"`

## UpdateBucketAsync

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateBucketAsync`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.buckets.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** Long-running operation  
(/logging/docs/audit/understanding-audit-logs#lro)
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateBucketAsync"`

## UpdateCmekSettings

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateCmekSettings`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.settings.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateCmekSettings"`

## UpdateExclusion

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateExclusion`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**

- `logging.exclusions.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateExclusion"`

#### UpdateLogScope

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateLogScope`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logScopes.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateLogScope"`

#### UpdateSettings

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateSettings`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.settings.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateSettings"`

#### UpdateSink

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateSink`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.sinks.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateSink"`

## UpdateView

- **Method:** `google.logging.v2.ConfigServiceV2.UpdateView`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.views.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.ConfigServiceV2.UpdateView"`

## google.logging.v2.LoggingServiceV2

The following audit logs are associated with methods belonging to `google.logging.v2.LoggingServiceV2`.

### DeleteLog

- **Method:** `google.logging.v2.LoggingServiceV2.DeleteLog`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logs.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.LoggingServiceV2.DeleteLog"`

### ListLogEntries

- **Method:** `google.logging.v2.LoggingServiceV2.ListLogEntries`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.logEntries.list` - DATA\_READ
  - `logging.privateLogEntries.list` - DATA\_READ
  - `logging.views.access` - DATA\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.LoggingServiceV2.ListLogEntries"`

## ListLogs

- **Method:** `google.logging.v2.LoggingServiceV2.ListLogs`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.logs.list` - ADMIN\_READ
  - `logging.views.listLogs` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.LoggingServiceV2.ListLogs"`

## google.logging.v2.MetricsServiceV2

The following audit logs are associated with methods belonging to `google.logging.v2.MetricsServiceV2`.

### CreateLogMetric

- **Method:** `google.logging.v2.MetricsServiceV2.CreateLogMetric`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logMetrics.create` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.MetricsServiceV2.CreateLogMetric"`

### DeleteLogMetric

- **Method:** `google.logging.v2.MetricsServiceV2.DeleteLogMetric`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logMetrics.delete` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.MetricsServiceV2.DeleteLogMetric"`



## GetLogMetric

- **Method:** `google.logging.v2.MetricsServiceV2.GetLogMetric`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.logMetrics.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.MetricsServiceV2.GetLogMetric"`

## ListLogMetrics

- **Method:** `google.logging.v2.MetricsServiceV2.ListLogMetrics`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.logMetrics.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.MetricsServiceV2.ListLogMetrics"`

## UpdateLogMetric

- **Method:** `google.logging.v2.MetricsServiceV2.UpdateLogMetric`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.logMetrics.update` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.logging.v2.MetricsServiceV2.UpdateLogMetric"`

## google.longrunning.Operations

The following audit logs are associated with methods belonging to `google.longrunning.Operations`.

## CancelOperation

- **Method:** `google.longrunning.Operations.CancelOperation`
- **Audit log type:** Admin activity (/logging/docs/audit#admin-activity)
- **Permissions:**
  - `logging.operations.cancel` - ADMIN\_WRITE
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.longrunning.Operations.CancelOperation"`

## GetOperation

- **Method:** `google.longrunning.Operations.GetOperation`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.operations.get` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.longrunning.Operations.GetOperation"`

## ListOperations

- **Method:** `google.longrunning.Operations.ListOperations`
- **Audit log type:** Data access (/logging/docs/audit#data-access)
- **Permissions:**
  - `logging.operations.list` - ADMIN\_READ
- **Method is a long-running or streaming operation:** No.
- **Filter for this method:**  
`protoPayload.methodName="google.longrunning.Operations.ListOperations"`

## Methods that don't produce audit logs

A method might not produce audit logs for one or more of the following reasons:

- It is a high volume method involving significant log generation and storage costs.
- It has low auditing value.
- Another audit or platform log already provides method coverage.

The following methods don't produce audit logs:

- `google.logging.v1.LoggingService.WriteLogEntries`
- `google.logging.v2.ConfigServiceV2.CreateSavedQuery`
- `google.logging.v2.ConfigServiceV2.DeleteSavedQuery`
- `google.logging.v2.ConfigServiceV2.GetSavedQuery`
- `google.logging.v2.ConfigServiceV2.ListRecentQueries`
- `google.logging.v2.ConfigServiceV2.ListSavedQueries`
- `google.logging.v2.ConfigServiceV2.UpdateSavedQuery`
- `google.logging.v2.LoggingServiceV2.ListMonitoredResourceDescriptors`
- `google.logging.v2.LoggingServiceV2.TailLogEntries`
- `google.logging.v2.LoggingServiceV2.WriteLogEntries`
- `google.longrunning.Operations.DeleteOperation`
- `google.longrunning.Operations.WaitOperation`

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