

Stackdriver Monitoring in the Cloud Console is now Generally Available (GA) and the default option. For a limited period, you also have the option to use the classic Stackdriver Monitoring console. Choose the set of instructions that applies to your choice of console:

[Using the Google Cloud Console \(GA\)](#) (#gcp_console)

[Using the Stackdriver Monitoring console \(classic, GA\)](#) (#monitoring_console)

For more information, see [Monitoring in the Cloud Console](#) (/monitoring/docs/monitoring_in_console).

For information on creating and managing a Workspace using the Google Cloud Console, see [Creating and managing Workspaces](#) (/monitoring/workspaces/manage).

This guide explains how to create and manage [Workspaces](#) (/monitoring/workspaces/). Your Google Cloud projects and Amazon Web Service (AWS) accounts must be members of a Workspace before they can be monitored.

For an introduction to Workspaces and some best practices for using them, see [Workspaces](#) (/monitoring/workspaces/).

The current Workspace is displayed to the right of the Stackdriver logo at the top of the Stackdriver Monitoring console. If you don't have a current Workspace, **Select workspace** is displayed.

To change the current Workspace or to find out details about a Workspace, do the following:

1. In the Cloud Console, select **Monitoring**:

[Go to Monitoring](https://console.cloud.google.com/monitoring) (https://console.cloud.google.com/monitoring)

2. Click **Menu** ▼ in the menu bar, and select **Manage Workspaces**.

- To select a Workspace for use in Stackdriver Monitoring, click the Workspace name in the list.
- To go to the **Workspace settings** page for a Workspace, click **Edit** next to the Workspace name in the list.

This section describes how to create a Workspace for an existing Google Cloud project. If you don't have a Google Cloud project, you must create one prior to creating a Workspace. For instructions on creating a Google Cloud project, go to [Before you begin](/monitoring/quickstart-lamp#before-you-begin) (/monitoring/quickstart-lamp#before-you-begin).

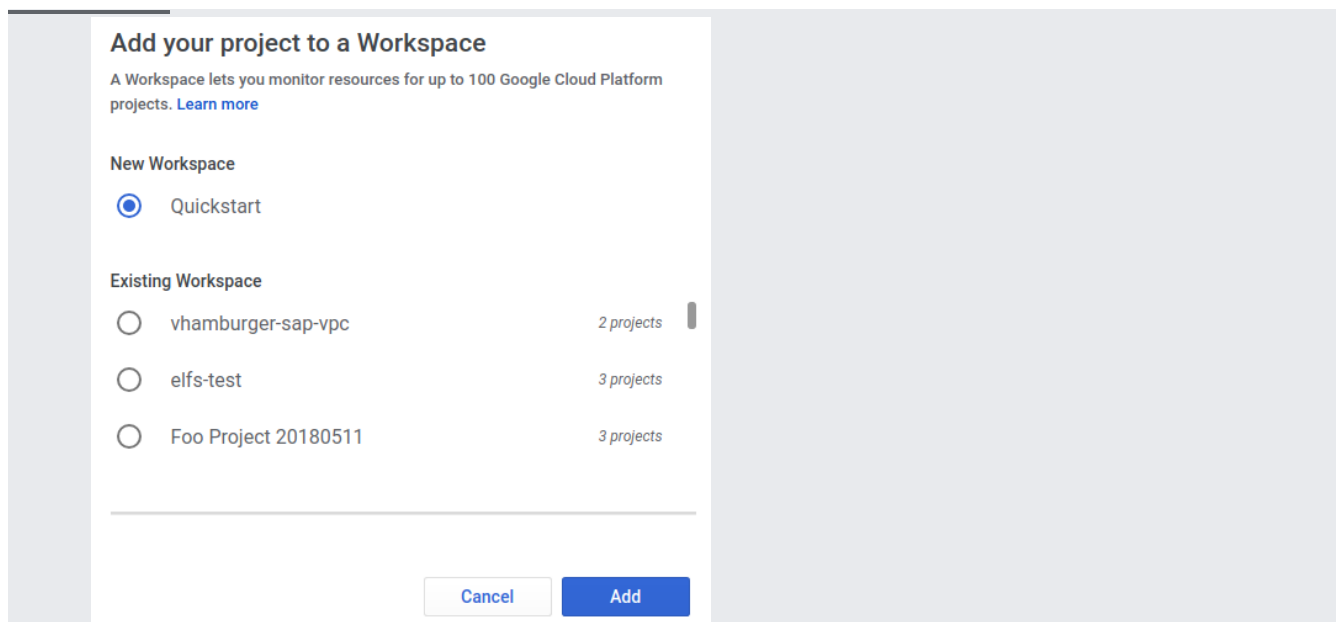
When you create a new Workspace for a Google Cloud project, the Workspace name is the same as the Google Cloud project name.

To create a Workspace for an existing Google Cloud project, do the following:

1. Go to the Cloud Console:

[Go to Cloud Console](https://console.cloud.google.com/) (https://console.cloud.google.com/)

2. In the menu bar, click the drop-down list next to the **Google Cloud** and select your Google Cloud project.
3. Click **Monitoring**.
4. If the **Add your project to a Workspace** dialog is displayed, create a new Workspace by selecting your Google Cloud project under **New Workspace** and then clicking **Add**. In the following image, the Google Cloud project name is **Quickstart**:

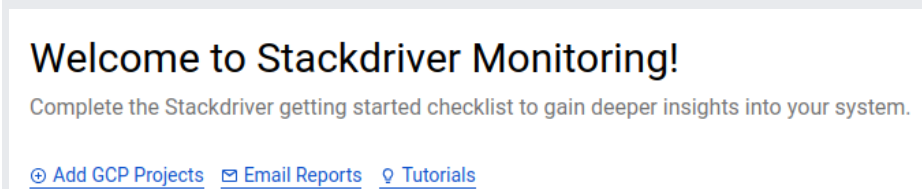


The **Add your project to a Workspace** dialog is displayed only when you have at least one existing Workspace available to you. The Workspaces listed under **Existing Workspace** are Workspaces you've created or Workspaces for Google Cloud projects where you have editorial permission. Using this dialog, you can choose between creating a new Workspace and adding your project to an existing Workspace.

Next, Monitoring creates a new Workspace and adds your Google Cloud project to the Workspace. During Workspace creation, Monitoring proceeds through the following phases:

1. Building your Workspace
2. Enabling Stackdriver APIs
3. We're still collecting data for your new Workspace

These phases might take several minutes to complete. When this process is complete, the Stackdriver Monitoring console displays the **Monitoring Overview** pane and a welcome message:



To create a Workspace for an existing Google Cloud project:

1. In the Cloud Console, select **Monitoring**:

[Go to Monitoring](https://console.cloud.google.com/monitoring) (<https://console.cloud.google.com/monitoring>)

2. Click **Menu** ▾ in the menu bar, and select **Manage Workspaces**
3. From this page, start the create Workspace process by doing one of the following:
 - Click **Add workspace**.
 - If **Select workspace** is displayed next to the **Stackdriver** logo, scroll to the bottom of the list, and then click **Create workspace**.
 - Click the drop-down list next to the **Stackdriver** logo, scroll to the bottom of the list, and then click **Create workspace**.
4. In the **Google Cloud project** box, do one of the following:
 - If your project is displayed, click **Create workspace**.
 - If **Select project** is displayed or if the wrong project is displayed, click the box, scroll to your project name, select it, and then click **Create workspace**.

If your project isn't listed, it might already have a Workspace. Click **Cancel** and then follow the instructions in [Selecting Workspaces](#) (#select-workspace).
5. In the **Add Google Cloud Platform projects to monitor** dialog, click **Continue**.
6. In the **Monitor AWS accounts** dialog, click **Skip AWS Setup**.
7. Click **Continue** to skip the instructions for installing the Monitoring agent and the Logging agent on a Linux system. These instructions are available from the **Agent** option in the **Workspace settings** page.
8. Select an email-reporting option:
 - **Daily Reports, including weekly summaries**
 - **Weekly reports**
 - **No Report**

Click **Continue**.

You can change this setting in the **Workspace settings** page in the Stackdriver Monitoring console after the Workspace is created.

9. It takes several minutes for Monitoring to create your Workspace.

When creation is complete, Monitoring displays **Finished initial collection!**

Click **Launch Monitoring**.

You see the Monitoring home page for your new Workspace.

You can convert a single-project Workspace into a multi-project Workspace by [merging](#) (#merge-account) the single project Workspace into a second, empty Workspace.

A single Workspace can monitor any number of Google Cloud projects or AWS accounts. The best-practice recommendation to create a multi-project Workspace is as follows:

1. Create a new Google Cloud project. For instructions on creating a new Google Cloud project, go to [Before you begin](#) (/monitoring/quickstart-lamp#before-you-begin).
2. Create a new Workspace for that project. For detailed steps, go to [Creating a single-project Workspace](#) (#single-project-ws).
3. Add Google Cloud projects or AWS accounts to the Workspace. For details, go to [Adding monitored projects](#) (#add-aws-account).

You can share your Workspace with other users by adding them as members to your Workspace project. You must have **Project > Owner** permission for the project to add more users.

To add users to your Workspace, do the following:

1. In the Google Cloud Console, go to the **IAM & admin** page:

[Go to the IAM page](https://console.cloud.google.com/iam-admin/iam/project) (https://console.cloud.google.com/iam-admin/iam/project)

2. From the list of projects, select your Workspace's host project.
3. At the top of the page, click **Add**.
4. In the **New members** box, enter a user, group, service account, or domain.
5. Assign a **Project** role to the new member: **Owner**, **Editor**, **Viewer**, or **Browser**. Click **Save**.

This procedure covers adding a Google Cloud project or an AWS account to an existing Workspace. To create a Workspace to which you can add projects and accounts, see [Creating a multi-project Workspace](#) (#setup-account).

To determine if you have sufficient privileges to add a Google Cloud project or an AWS account to a Workspace, go to [Workspace permissions](#) (/monitoring/workspaces/#workspace-permissions).

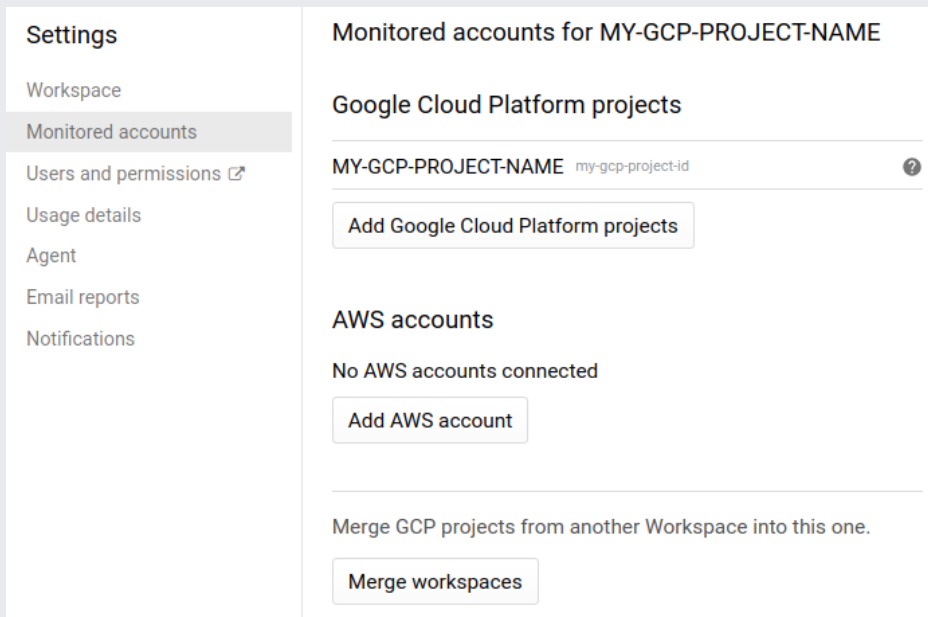
To add a Google Cloud project or an AWS account, do the following:

1. In the Cloud Console, select **Monitoring**:

[Go to Monitoring](https://console.cloud.google.com/monitoring) (https://console.cloud.google.com/monitoring)

2. Click **Menu** ▼ in the menu bar, and select **Manage Workspaces**:

- a. This page lists all the Workspaces to which you have access. Next to your Workspace, click **Edit**.
- b. On the **Workspace settings** page for the Workspace, click **Monitored accounts**. You see your project information in a page similar to the following:



3. To add a Google Cloud project, click **Add Google Cloud Platform projects**. Select the checkboxes for the names of any Google Cloud projects you want to add to this Workspace. You don't have to select any projects.

4. To add an AWS account, click **Add AWS account**:

- a. Follow the instructions for connecting your AWS account.

AWS accounts

No AWS accounts connected

Authorize AWS for Stackdriver

1. [Log in to your Amazon IAM console and click Roles.](#)
2. Click "Create New Role"
3. Enter **Stackdriver** as the "Role Name" and click "Next Step."
4. Select "Role for Cross-Account Access"
5. Select "Allows IAM users from a 3rd party AWS account to access this account."
6. Enter the following:
 - Account ID
 - External ID
 - Require MFA **unchecked**
7. Select "ReadOnlyAccess" from the policy template list and click "Next Step."
8. Copy the "Role ARN" value and paste it in the AWS Role ARN field below.
9. Click "Create Role" in the Amazon IAM console before clicking "Add AWS account" below.

Add AWS account

Role ARN

Description of account

When you add an AWS account, a Google Cloud Platform project will be created to store your AWS monitoring and logging data.

★ **Note:** The Stackdriver Monitoring information that you enter into your AWS IAM Role (**Account ID** and **External ID**) are unique to your Workspace.

b. Click **Add AWS account**. Monitoring connects to your AWS account.

During the connection, Stackdriver Monitoring creates an [AWS connector projector project](/monitoring/workspaces/index#connector-project) (/monitoring/workspaces/index#connector-project).

Repeat these steps to add another AWS account.

Before taking action, consider if removing a project or account is the right action for your situation:

- You cannot remove the [host project](/monitoring/workspaces/index#account-project) (/monitoring/workspaces/index#account-project) from the Workspace by using the following procedure. Instead, use [merge](#) (#merge-account) to change your host project to be a regular monitored project, and then use the following procedure to remove the project from the merged Workspace.

- If you remove a Google Cloud project from a Workspace, then you can add that project to another Workspace. However, if changing a project's Workspace is what you want to do, follow these instructions but select **Move project** instead of **Remove from workspace**. For more information on the impact of moving a project to a different Workspace, see [Moving a project](#) (#move-project).
- If you remove an AWS account from a Workspace, you are removing the AWS connector project, which represents the AWS account. You cannot use the AWS connector project with another Workspace. You must delete the connector project. You can then add your AWS account to another Workspace, letting Monitoring create a new connector project. See [Adding an AWS account](#) (#add-aws-account).
- If you want to disable Monitoring for a Google Cloud project, you can either disable the Stackdriver Monitoring API for your Google Cloud project or modify your application to stop sending metric data to Stackdriver. For information on how to disable the Stackdriver Monitoring API for your Google Cloud project, go to [Disabling Monitoring](#) (#disabling-monitoring).

When you remove a Google Cloud project or account from its Workspace, Stackdriver Monitoring no longer receives monitoring data from the Google Cloud project or the account. However, removal from a Workspace doesn't prevent the Google Cloud project or the account from receiving monitoring data from Stackdriver agents or other software modules. If you use Stackdriver Logging, then you can continue to access logs in the removed project. For AWS, the logs are in the removed AWS connector project.

Removing a project or account from a Workspace doesn't stop billing for logs and metrics data. See [Workspace billing](#) (log) on this page.

To remove a Google Cloud project or an AWS account from a Workspace, do the following:

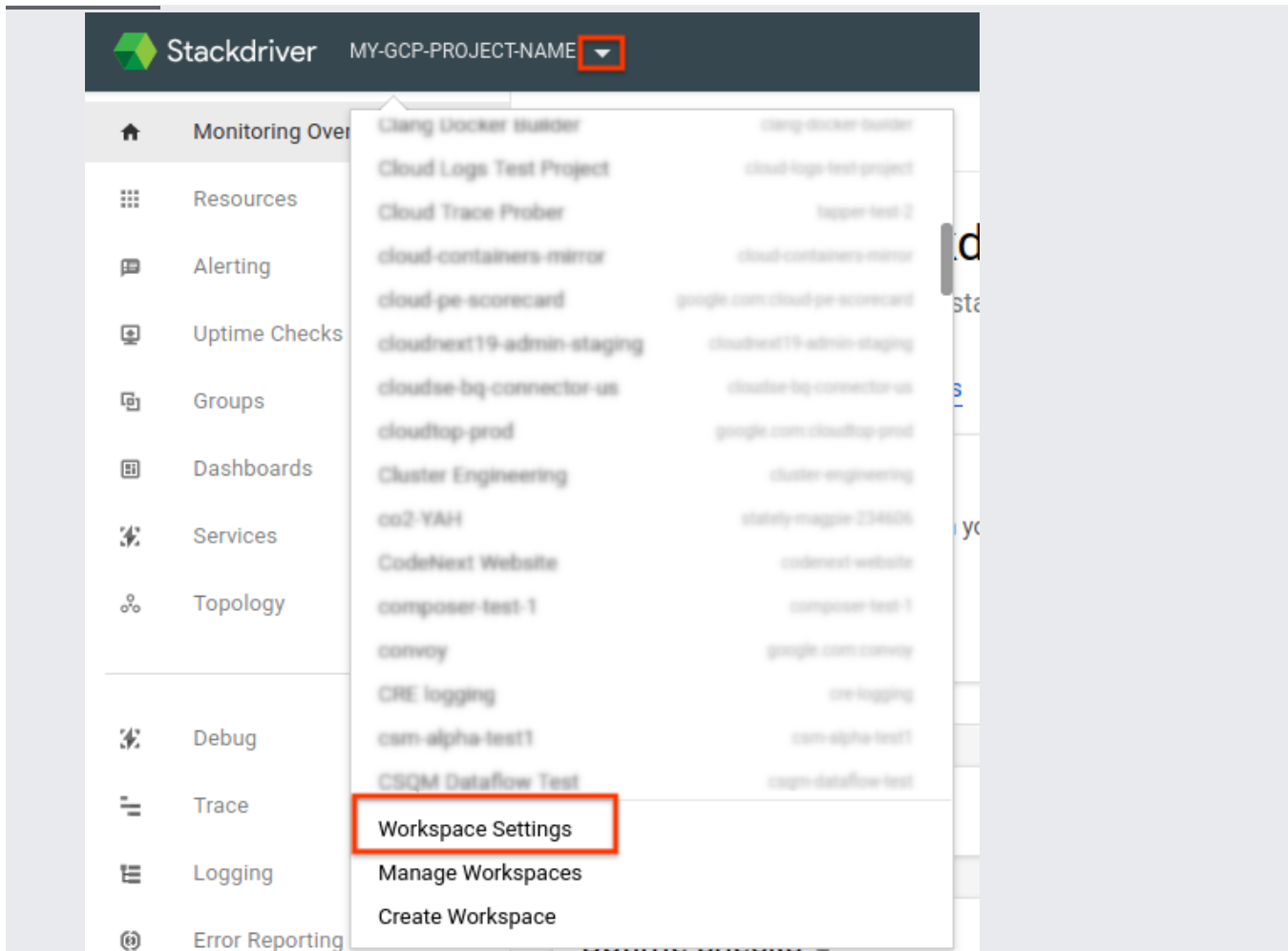
1. In the Cloud Console, select **Monitoring**:

[Go to Monitoring](https://console.cloud.google.com/monitoring) (https://console.cloud.google.com/monitoring)

2. In the menu bar, click the drop-down list next to Stackdriver logo, and select the Workspace that contains the Google Cloud project or the AWS account you want to remove.


After you complete this step, your Workspace is displayed next to the Stackdriver logo.

3. To go to your Workspace settings, click the drop-down list next to your Workspace name, and select **Workspace settings**.



4. On the **Workspace settings** pane, click **Monitored accounts**:

 Monitored accounts

5. On the **Monitored accounts** page, locate the Google Cloud project or AWS account you want to remove, click **More**  and then select **Remove from workspace**.

In the previous image, there are two projects associated with the Workspace. The host project, **MY-GCP-PROJECT-NAME**, can't be removed from the Workspace. However, **ANOTHER-PROJECT** can be removed from the Workspace.

When you move a Google Cloud project to a different Workspace, you move the project and its metrics:

- Alerting policies and uptime checks aren't moved.

- Group definitions aren't moved but group membership might decrease in the Workspace losing the project and increase in the Workspace gaining the project.
- Dashboards and charts aren't moved. However, the content of the dashboards and charts might change in both Workspaces due to the movement of metrics.

To move a non-host Google Cloud project from one Workspace to another, follow the instructions for [Removing a project](#) (#remove-project) and choose the **Move project** action instead of the **Remove from workspace** action.

To move the host project from a Workspace, follow the instructions in [Merging Workspaces](#) (#merge-account).

To move an AWS account from one Workspace to another Workspace, do the following:

1. Remove the AWS connector project from its Workspace. For details, see [Removing a project](#) (#remove-project).
2. Delete the AWS connector project.
3. Add your AWS account to the desired Workspace and let Monitoring create a new connector project.

Merging Workspace A into Workspace B moves all the Google Cloud projects except AWS connector projects from Workspace A to Workspace B. Specifically, here is the effect of merging A into B:

- All Google Cloud projects that were [added](#) (#add-project) to Workspace A are moved into Workspace B. Metrics for the projects are also moved into Workspace B. However, dashboards, resource groups, uptime checks, notification channels, and alerting policies aren't moved into Workspace B.
- In Workspace B, existing dashboards and charts might have more data, and groups might have more members. These changes are due to the inclusion of additional metrics and are dependent on your configuration choices. In addition, uptime checks and alerting policies might be impacted.
- The project that hosts Workspace A is [added](#) (#add-project) to Workspace B, even if the project is empty.

The host project is the project you use to create the Workspace. This project typically has resources in the case of a [single-project Workspace](#) (/monitoring/workspaces/index#ws-for-one) but

is empty for a [multi-project Workspace](/monitoring/workspaces/index#ws-for-many) (/monitoring/workspaces/index#ws-for-many). Merging is the only way to separate this project from its Workspace.

- After the merge completes, Workspace A isn't accessible.

Merging Workspace A into Workspace B fails when Workspace A is managing one or more AWS accounts. You must delete these accounts prior to merging the workspaces. It's recommended that you delete the AWS connector accounts so they cannot be used to connect an AWS account to a different Workspace.

To merge Workspaces, do the following:

1. In the Cloud Console, select **Monitoring**:

[Go to Monitoring](https://console.cloud.google.com/monitoring) (https://console.cloud.google.com/monitoring)

2. Select the Workspace that you want to keep ("B" in this scenario) from the drop-down list at the top-right of the Monitoring console.
3. Click the drop-down list next to your Workspace and select **Workspace settings**.
4. Click **Monitored accounts** from the left-side menu.
5. Click **Merge another workspace into this one**.
6. Select the Workspace that you want merged ("A" in this scenario).
7. Review the information that is lost during the merge, and if you agree to that information loss, select the checkbox. Click **Merge**.

Before deleting a Workspace, check if the project you used to create the Workspace has resources you want to preserve, or if the Workspace is still linked to additional Google Cloud projects or AWS accounts. If so, see [Merging Workspaces](#) (#merge-account) for a way to move resources to another place before deleting the Workspace.

If your Workspace project has no resources you want to preserve, then delete the Workspace by deleting the Workspace's project in the Cloud Console:

1. Go to the **IAM & admin** console:

[Go to the IAM console](https://console.cloud.google.com/iam-admin/iam/project) (https://console.cloud.google.com/iam-admin/iam/project)

2. Click **Settings**.

3. Click **Shut Down**.

To limit the AWS account permissions you give to Monitoring, see [Minimal AWS permissions](/monitoring/support/minimal-aws-permissions) (/monitoring/support/minimal-aws-permissions).

To revoke Monitoring's access to your AWS account, remove the **Stackdriver** IAM role from your AWS account.

Workspaces don't have any costs associated with them. All chargeable activity is recorded in Google Cloud projects containing your resources—that is, in the billing accounts associated with those projects. Some details of Google Cloud and AWS billing are described in the following sections.

Removing a project from its Workspace doesn't necessarily stop all Stackdriver charges for logs and metrics usage. If any Stackdriver agents or other software modules continue to send metrics or logs to Stackdriver, then charges continue to accrue. For information on how to disable the Stackdriver Monitoring API for your Google Cloud project, go to [Disabling Monitoring](#) (#disabling-monitoring).

When you create a resource in a Google Cloud project, Google Cloud begins to receive metrics and log entries from Google Cloud services regarding that resource. Charges begin to accrue to your project's billing account right away, but much of the data isn't chargeable or has such low volume that it doesn't trigger any charges.

Stackdriver Logging has access to all your Google Cloud project's logs even without creating a Workspace. Adding your project to a Workspace gives Stackdriver Monitoring access to the monitoring data already being received, but the Workspace doesn't itself trigger any additional charges. Similarly, removing a project from a Workspace doesn't stop charges.

If you have VM instances in your Google Cloud project that contain software that sends monitoring data or logs to Stackdriver APIs, then you will be charged for that data as long as the software is running. This includes the [Monitoring agents](/monitoring/agent) (/monitoring/agent), [Logging agents](/logging/docs/agent) (/logging/docs/agent), and third party libraries like [Prometheus](/monitoring/kubernetes-engine/prometheus) (/monitoring/kubernetes-engine/prometheus) that you might install. To stop charges, you must stop any software sending data to Stackdriver.

When you add an AWS account to a Workspace, monitoring and logging data is sent by Stackdriver agents or other software to the AWS connector project, whose billing account receives any charges.

Much of the data sent from an AWS account comes from software agents running on VM instances and sending data to the AWS connector project created when you added your account to a Workspace. You are charged for that data as long as the software is sending data and the connector project still exists, regardless whether it remains connected to a Workspace.

If you want to disable Monitoring for a Google Cloud project, you can either disable the Stackdriver Monitoring API for your Google Cloud project or modify your application to stop sending metric data to Stackdriver. Removing a project from its Workspace doesn't prevent the ingestion of metric data into the Google Cloud project. Instead, it removes your ability to view and manage the metric data using the Stackdriver Monitoring console.

To disable the collection of Monitoring data in your Google Cloud project:

1. From the Cloud Console, go to **APIs & Services**.

[Go to APIs & Services \(https://console.cloud.google.com/apis\)](https://console.cloud.google.com/apis)

2. Select **Stackdriver Monitoring API**.
3. Click **Disable API**.

Stackdriver Monitoring relies on cookies from various Google sites to manage Workspaces. If these cookies are blocked, you may find that you:

- Cannot get past the **Log in with Google** dialog, and you see a message saying “Cookies aren't enabled in current environment”.
- Get stuck in an endless authentication loop.

Cookies can be blocked accidentally, or by automatic updates pushed out as part of changes in security policy at your location.

You must have third-party cookies enabled for the following:

- google.com
- accounts.google.com
- apis.google.com

For information on enabling cookies, see your browser's documentation:

- [Chrome](https://support.google.com/accounts/answer/61416) (<https://support.google.com/accounts/answer/61416>)
- [Safari](https://support.apple.com/guide/safari/manage-cookies-and-website-data-sfri11471/12.0/mac/10.14) (<https://support.apple.com/guide/safari/manage-cookies-and-website-data-sfri11471/12.0/mac/10.14>)
- [Firefox](https://support.mozilla.org/kb/enable-and-disable-cookies-website-preferences) (<https://support.mozilla.org/kb/enable-and-disable-cookies-website-preferences>)
- [Internet Explorer](https://support.microsoft.com/help/17442/windows-internet-explorer-delete-manage-cookies) (<https://support.microsoft.com/help/17442/windows-internet-explorer-delete-manage-cookies>)
- [Microsoft Edge](https://support.qualityunit.com/022932-How-to-enable-cookies-in-Edge) (<https://support.qualityunit.com/022932-How-to-enable-cookies-in-Edge>)

Monitoring doesn't accept email addresses containing an apostrophe, although Google Cloud does. Users with such email addresses are unrecognized when they attempt to use Monitoring.

Projects can be associated with only one Workspace at a time:

- You can [move monitored projects to another Workspace](#) (#move-project).
- You can move a Workspace's host project by [merging Workspaces](#) (#merge-account).
- You cannot move AWS accounts. You must remove the AWS account from its current Workspace and add it to a new Workspace, going through the AWS authorization process again. For more information, go to [Removing a project from a Workspace](#) (#remove-project).

It can take ten minutes or so before Monitoring notices new or removed resources, such as VM instances, in your projects.

If you start a service such as Compute Engine in a project that is associated with a Workspace, it can take a hour or more for Monitoring to notice the new service. Until that time, the service's resource

types don't appear in any Monitoring menus.

Stackdriver Logging doesn't use Workspaces. By using [advanced log filters](#) (/logging/docs/view/advanced-filters), you can view or manage log entries from multiple Google Cloud projects or AWS accounts.

In the case of AWS accounts, you access logs through the AWS connector project that Monitoring creates when you add the account to a Workspace. Therefore, you do have to add your account to a Workspace and install the Stackdriver Logging agent on your VM instances in order to receive your logs.