Resource Monitoring (Stackdriver)

In this lab, you learn how to use Stackdriver Monitoring to gain insight into applications that run on Google Cloud Platform.

Objectives

In this lab, you learn how to perform the following tasks:

- Enable Stackdriver Monitoring
- Add charts to dashboards
- Create alerts with multiple conditions
- Create resource groups
- Create uptime checks

Before you click the Start Lab button

Read these instructions. Labs are timed and you cannot pause them. The timer, which starts when you click Start Lab, shows how long Cloud resources will be made available to you.

This Qwiklabs hands-on lab lets you do the lab activities yourself in a real cloud environment, not in a simulation or demo environment. It does so by giving you new, temporary credentials that you use to sign in and access the Google Cloud Platform for the duration of the lab.

What you need

To complete this lab, you need:

- Access to a standard internet browser (Chrome browser recommended).
- Time to complete the lab.
  Note: If you already have your own personal GCP account or project, do not use it for this lab.

Task 1: Create a Stackdriver account

Verify resources to monitor

Three VM instances have been created for you that you will monitor.

1. In the GCP Console, on the **Navigation menu** (≡), click **Compute Engine** > **VM instances**. Notice the **nginxstack-1**, **nginxstack-2** and **nginxstack-3** instances.

Launch Stackdriver Monitoring

To use Stackdriver Monitoring with your project, do the following:

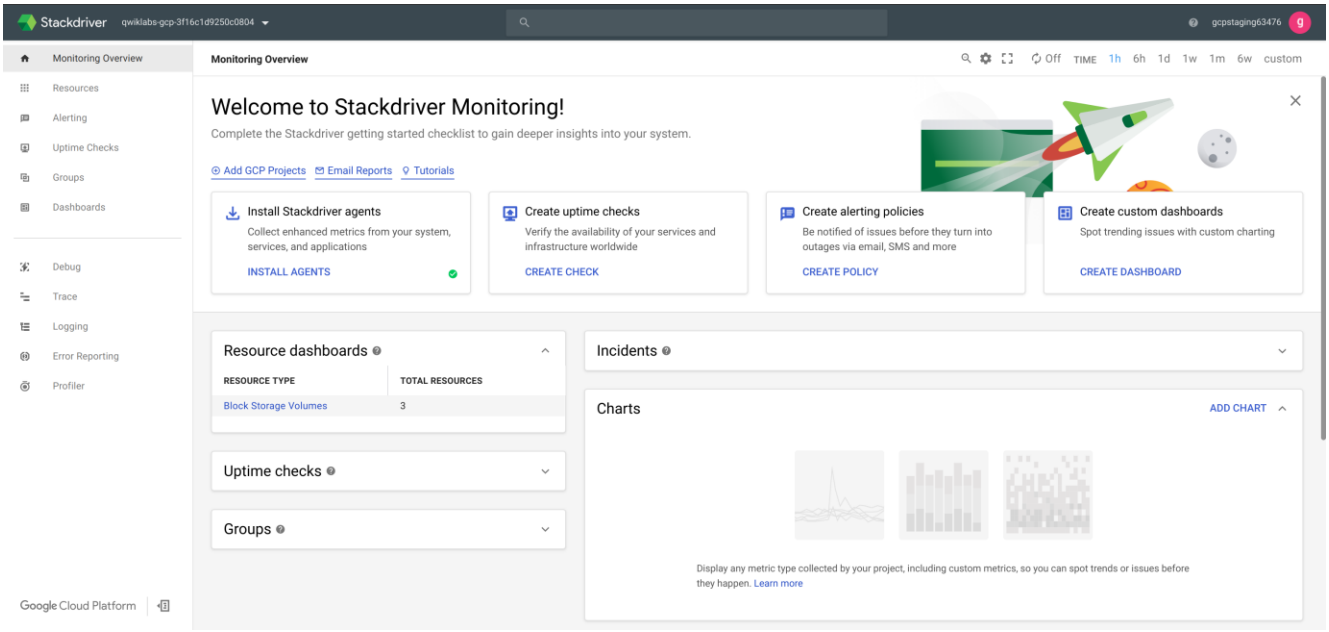
1. In the GCP Console, on the **Navigation menu** (), click **Monitoring**.
2. If prompted, click **Log in with Google** and select the qwiklabs-generated student account to log in.

Note: If you are prompted to **Create workspace**, follow these steps:

1. Click **Create workspace**
2. Click **Continue**
3. Click **Skip AWS Setup**
4. Click **Continue**.

5. Select **No reports**, and then click **Continue**
6. Click **Launch monitoring**
7. If prompted, click **Continue with the trial**

Stackdriver will create a new workspace for your project and will collect data for your workspace. You might have to wait for 2 to 3 minutes to see Stackdriver Monitoring welcome page. The information on this page depends on the resources that you are monitoring.



- [ ] ' is monitoring important to Google?

It is at the base of site reliability which incorporates aspects of software engineering and applies

- [ ] to operations whose goals are to create ultra-scalable and highly reliable software systems.

Monitoring is important to ensure that Google complies with regulatory requirements defined by

- [ ] government and industry security bodies.

Google uses monitoring to ensure they have all the important metrics for reporting purposes to customers and the other interested bodies. The number of reports requires the collection and reporting to be both broad and deep.

Submit

Task 2: Custom dashboards

Create a dashboard

1. In the left pane, click **Dashboards** > **Create Dashboard**.
2. Click **Untitled Dashboard**, type **My Dashboard**, and press **ENTER**.

Add a chart

1. Click **Add Chart**.
2. For **Title**, give your chart a name (you can revise this before you save based on the selections you make).
3. For **Find resource type and metric**, select **GCE VM Instance**.
4. For **Metrics**, select a metric to chart for the Instance resource, such as **CPU utilization** or **Network traffic**.

Note: If you are getting a 'loading failed' error message, you might have to refresh the page.

5. Click **Filter** and explore the various options.
6. Click **View Options** and explore adding a Threshold or changing the **Chart mode**.
7. Click **Save** to add the chart to your dashboard.

Metrics Explorer

The **Metrics Explorer** allows you to examine resources and metrics without having to create a chart on a dashboard. Try to recreate the chart you just created using the **Metrics Explorer**.

1. In the left pane, click **Resources** > **Metrics Explorer**.
2. For **Find resource type and metric**, type a metric or resource name.
3. Explore the various options and try to recreate the chart you created earlier.

Not all metrics are currently available on the Metrics Explorer, so you might not be able to find the exact metric you used on the previous step.

Task 3: Alerting policies

- ıt is not a recommended best practice for alerts?
- ort all noise to ensure all data points are presented.
- multiple notification channels so you avoid a single point of failure.
- figure alerting on symptoms and not necessarily causes.

Customize your alerts to the audience need.

Submit

Create an alert and add the first condition

1. In the left pane, click **Alerting** > **Create a Policy**.
2. Click **Add Condition**.
3. For **Find resource type and metric**, select **GCE VM Instance**.

If you cannot locate the **GCE VM Instance** resource type, you might have to refresh the page.

4. Select a metric you are interested in evaluating, such as **CPU usage** or **CPU Utilization**.
5. For **Condition**, select **is above**.
6. Specify the threshold value and for how long the metric must cross this set value before the alert is triggered. For example, for **THRESHOLD**, type **20** and set **FOR** to **1 minute**.
7. Click **Save**.

Add a second condition

1. Click **Add Condition**.
2. Repeat the steps above to specify the second condition for this policy. For example, repeat the condition for a different instance. Click **Save**.
3. In **Policy Triggers**, for **Trigger when**, click **All conditions are met**.

Configure notifications and finish the alerting policy

1. In **Notifications** section, select **Email** for **Notification Channel Type**.
2. Enter an email address.
3. Then click **Add Notification Channel**.
4. Skip the Documentation step.
5. For **Name this policy**, type a name for the policy.

Policy names are used as subjects in notification emails, so use that to your advantage.

6. Click **Save**.

Click **Check my progress** to verify the objective.

Create alerting policies

Check my progress

Task 4: Resource groups

1. In the left pane, click **Groups** > **Create Group**.
2. Enter a name for the group. For example: **VM instances**
3. Select **Name** in the dropdown populated with **Name**.
4. Type **nginx** in the filter field next to **Contains**.
5. Click **Save Group**.
6. Review the dashboard Stackdriver created for your group.

Task 5: Uptime monitoring

- ct all valid targets for Stackdriver uptime monitoring notifications.
- service

Pub/Sub

-
- party service
- il
- hook

SMS

Submit

1. In the Group Dashboard from the previous task, for **Uptime Checks**, click **Uptime Checks Overview** to navigate to the Uptime Checks page.
2. Click **Add Uptime Check**.
3. Specify the following, and leave the remaining settings as their defaults:

Property	Value (type value or select option as specified)
Title	*Enter a title*
Check Type	**HTTP**
Resource Type	**Instance**
Applies To	**Group**
Choose a group	*Select your group*
Check every	**1 minute**

4. Click **Save**.

If the **Save** button is grayed out, you might have to refresh the page.

5. Click **No thanks**.

Click **Check my progress** to verify the objective.

Create uptime monitoring

Check my progress

Task 6: Review

In this lab, you learned how to:

- Monitor your projects

- Create a Stackdriver Workspace
- Create alerts with multiple conditions
- Add charts to dashboards
- Create resource groups
- Create uptime checks for your services