Lab Overview: Getting Started with Compute Engine

Overview

In this exercise, you use the Google Developer Console to create a Compute Engine instance and deploy a sample ‘Guestbook’ application written in Python. You also expose the server to the Internet by modifying the firewall, and then you test the connection. Finally, you learn how to delete instances and the associated disks.

Duration

The timing of this lab is as follows:

Component	Timing
Introduction	5 minutes
Lab	15 minutes
Total	**20 minutes**

What you need

To complete this lab, you need:

- The Google Cloud SDK installed and configured on your labs instance
- A Google Cloud project and project ID

What you will learn

In this lab, you will:

- Create a Google Compute Engine instance that hosts an application
- Log into a Compute Engine instance and deploy an application
- Add a firewall rule to allow HTTP traffic and verify application deployment

Python Lab: Getting Started with Compute Engine

Overview

In this lab, you:

- Create a Google Compute Engine instance that hosts the Guestbook application
- Log into the Compute Engine instance and deploy the Guestbook application
- Add a firewall rule to allow HTTP traffic and verify the Guestbook application is functional
- Clean up the resources used in the lab

Create an instance

To create a Compute Engine instance:

Step	Action
1	Access the Google Developer Console by typing the following URL in your browser: https://console.developers.google.com
2	If you have more than one project, click the **cp100** project. Otherwise proceed to the next step.
3	If necessary, in the navigator pane, click the **Gallery** icon (to the left of Google Developers Console at the top of the page).
4	Click **Compute Engine** and then click **VM instances**.
5	Click the **New instance** icon.
6	On the **Create a new instance** page, in the **Name** field, type: **cp100-gce**.
7	For **ZONE**, choose the same zone you used when configuring the Cloud SDK (for example: **us-central1-b** or **europe-west1-c**).
8	For **Boot disk**, click **Change**.
9	On the 'Boot disk' page, on the **Preconfigured image**

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	tab, choose the current version of the stable branch of CoreOS (for example, **CoreOS stable 766.4.0**) and then click **Select**.
10	At the bottom of the 'Create a new instance' page, you may click the links in the phrase 'Equivalent REST or command line'. The links open a dialog containing the syntax that used to automate the creation of your instance using the API message as a JSON body or the command line.
11	Accept the remaining default values and click **Create**.
12	Clicking Create opens the **Activities** pop-up window. This window shows the status of the instance you created. The creation process may take 60 seconds or more.

Login and deploy the app

To deploy the Guestbook application:

Step	Action
1	On the 'VM instances' page, in the **Name** column, click the **cp100-gce** link and review the instance details page.
2	Click **SSH**. A new browser window will open and connect to your instance. Be sure you are connecting to the cp100-gce instance, not the cp100-labs instance.
3	In the SSH window, type the following command to install and run a ready-made container that runs a Redis backend for the Guestbook application. `docker run -d --name redis_db redis`
4	Type the following command to clone a Git repository containing the frontend for the Guestbook application. The repository contains the source code for the container. `git clone \`

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	https://github.com/GoogleCloudPlatformTraining/cp100-compute-engine-python.git **Note**: The CoreOS image includes Git so there is no need for you to install it.
5	Type the following command against the Git clone in your home directory to build the container that you downloaded previously. **`docker build -t cp100/python-redis cp100-compute-engine-python`**
6	Type the following command to run the newly built container and to link it to the backend container 'redis_db' that you deployed earlier. This will allow the two containers to communicate within your single Compute Engine instance. **`docker run -p 80:80 --link redis_db:db cp100/python-redis`** The server is running when you see a message similar to: `Running on http://0.0.0.0:80/`

Verify the app

To modify the firewall rules and verify the Guestbook application:

Step	Action
1	Switch to the Google Developer Console window.
2	Click **VM instances**.
3	In the **External IP** column, click the IPv4 address value for the cp100-gce instance. You may also open a new browser window and type the IP address in the address bar.
4	You should find that the browser is unable to connect to your application. Close the window.
5	On the 'VM instances' page, in the **Name** column, click

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	the **cp100-gce** link.
6	Click **Edit** at the top of the page and scroll to the **Firewalls** section.
7	Check **Allow HTTP traffic** and then click **Save** at the bottom of the page. It will take a moment for the firewall rule to be applied. You can track the progress in the 'Activities' panel. **Note**: This firewall rule can also be applied when the instance is created.
8	Once the firewall rule is applied, click the back button to return to the 'VM instances' page.
9	In the **External IP** column, click the IP address link for the cp100-gce instance. This should open the deployed 'Guestbook' application in your browser.
10	Close the Guestbook tab in your browser.
11	Switch to the SSH window.
12	Press **Ctrl+C** to stop the server and then type **`exit`** to close the SSH window. **Note**: You may have to press **Ctrl+C** twice.

Clean up

To clean up the resources used in the lab:

Step	Action
1	Switch to the Google Developer Console window.
2	Expand **Compute Engine** and then click **VM instances**.
3	Click the check box to the left of the **cp100-gce** instance name. This will activate the Delete icon at the top of the page (the trash can). Be sure you have the cp100-gce instance selected, ***not*** the cp100-labs instance.
4	Click the **Delete** icon to remove the Compute Engine

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	instance.

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