Lab Overview: Create a Compute Engine Lab Machine

Overview

In this lab you set up a development environment on a Google Compute Engine virtual machine. The instance you create gives you access to the various command-line tools used in the labs.

Duration

The timing of this lab is as follows:

Component	Timing
Introduction	5 minutes
Lab	25 minutes
Total	**30 minutes**

What you need

To complete this lab, you need:

- A Google Cloud project and project ID

What you will learn

In this lab, you:

- Create a Linux-based Compute Engine VM instance
- Configure the Cloud SDK on the instance

Linux Lab: Create a Compute Engine Instance and Configure the Cloud SDK

Overview

In this lab you configure a development environment on a Compute Engine instance. You:

- Create a Linux-based Compute Engine instance
- Configure the Cloud SDK on the instance

Create a Compute Engine instance

You are using a separate instance in which you run Cloud SDK commands in a controlled training environment. There is no need to install or run commands from your own laptop. This configuration will simplify troubleshooting if you encounter any problems while working on the labs.

To create a Linux-based Compute Engine instance used to run the Google Cloud SDK:

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	In the navigator pane, click the **Products & services** 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 **Create instance** in the dialog box.
6	On the **Create a new instance** page, in the **Name** field, type: **cp100-labs**.
7	For **ZONE**, choose a zone near you (for example: **us-central1-c** or **europe-west1-c**). Make a note of the zone you choose. You need it later.

8	For **Machine type**, click the drop-down list and choose **small (1 shared vCPU)**.
9	For **Boot disk**, click **Change**.
10	On the 'Boot disk' page, on the Preconfigured image tab, choose the latest version of the Debian GNU/Linux image with with backports Kernel and SSH packages (for example, **Debian GNU/Linux 7.9 (wheezy)**), change the boot disk size to **20GB**, and then click **Select**. **Note**: You increase the size of the boot disk to accommodate the software downloads and temporary files used during the configuration of your labs instance.
11	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 using the command line.
12	Accept the remaining default values and click **Create**.
13	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.
14	When the instance is created, on the 'VM instances' page, in the **Connect** column, click **SSH**. This opens a new browser window and establishes a connection to the instance.
15	Type the following command to get updates. If you prefer not to type the commands, copy and paste using the command reference text file included with your lab materials. Copying and pasting commands from the PDF files is ***not*** recommended. `sudo apt-get -qq update` **Note**: This command produces no output.
16	To install Git, type the following command.

	`sudo apt-get install -y -qq make git` This command takes a few seconds to complete and you will see verbose output as the installation completes. The final message in the installation is: `Setting up make ...`
17	Type the following command to clone the Git repository that contains the file used to automatically update the Cloud SDK. **`git clone https://github.com/GoogleCloudPlatformTraining/sdk-makefile setup && cd setup`**
18	Type the following command to run the makefile to update the Cloud SDK. **`make && cd ..`**
19	Type the following command to modify the value for PATH in your current shell. **`source /etc/profile.d/env_vars.sh`** **Note**: This command produces no output.
20	Leave the SSH connection open.

Configure the Cloud SDK

After installing the Cloud SDK, you must configure it to use the project you created earlier. You may also configure a default Compute Engine region and zone.

To configure the Cloud SDK:

Step	Action
1	Type the following command to see the current configuration of the Cloud SDK. **`gcloud config list`**
2	If the account property does not display your email

	address, type the following command to authenticate the account. **`gcloud auth login --no-launch-browser`** The following output is displayed. `You are running on a GCE VM. It is recommended that you use service accounts for authentication.` `You can run:` ` $ gcloud config set account ``ACCOUNT''`  `to switch accounts if necessary.`  `Your credentials may be visible to others with access to this virtual machine. Are you sure you want to authenticate with your personal account?`  `Do you want to continue (Y/n)?` **IMPORTANT**: Carefully read the warning you are presented. You are authorizing this copy of the Cloud SDK, and it should be used by you only. You should not share this project with anyone else. You are using the cp100-training project as a controlled virtual environment to complete the labs. If you share the project with others they may be able to view your credentials. Type **y** and press **Enter**.
3	Copy the URL returned by the command and paste it in the address bar of your browser.
4	Follow the instructions to choose your account and allow the access request.
5	Copy the code returned, paste it onto the command line, and press **Enter**.
6	Type the following command to verify the SDK configuration.

	gcloud config list The output should show the correct account and project ID. If the account is not correct, type the following command to set it. **gcloud config set account <your_email_address>**
7	Type the following command to list the available regions for Compute Engine. **gcloud compute regions list**
8	To change the Compute Engine region configuration for the Cloud SDK, type the following command. Replace <region> with the region that corresponds to the zone you chose when creating your lab VM. For example, if you choose us-central1-f as the zone for your instance, set your region to us-central1. **gcloud config set compute/region <region>** You may also view a complete list of regions and zones at: https://cloud.google.com/compute/docs/zones.
9	To change the Compute Engine zone configuration for the Cloud SDK, type the following command. Replace <zone> with the zone you used when you created your Compute Engine labs instance. **gcloud config set compute/zone <zone>**
10	Type **exit** to close the SSH window.