Debugging Python Scripts

1 hour 30 minutes Free ★★★★☆

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Reproduce the error
Find the root cause of the issue
Debug the issue
Congratulations!
End your lab

Introduction

Imagine one of your colleagues has written a Python script that's failing to run correctly. They're asking for your help to debug it. In this lab, you'll look into why the script is crashing and apply the problem-solving mindset that we've already learned to get information, find the root cause, and remediate the problem.

You'll have 90 minutes to complete this lab.

Start the lab

You'll need to start the lab before you can access the materials in the virtual machine VM. To do this, click the green 'Start Lab' button at the top of the page.

Note: For this lab, you are going to access the **Linux VM** through your **local SSH Client**, and not use the **Google Console (Open SCP Console** button is not available for this lab).

Start Lab

After you click the 'Start Lab' button, you will see all the SSH connection details on the left-hand side of your screen. You should have a screen that looks like this:

Accessing the virtual machine

Please first one of the three relevant options below based on your device's operating system.

Note: Working with Qwiklabs may be similar to the work you'd perform as a Cloud Engineer. Qwiklabs provides a "Qwiklabs Cloud Environment" technology that requires multiple steps to access, and perhaps treating it shows of patience and persistence(!). You'll also be using **SSH** to enter the lab — a critical skill in IT Support that you'll be able to practice through the labs.

Option 1: Windows Users: Connecting to your VM

In this section, you will use the Qwiklabs Cloud Console (SSH) client and your VM's External IP address to connect.

Download your PPK key file:

You can download the VM's private key file in the PuTTY-compatible **PPK** format from the Qwiklabs Start Lab page. Click on **Download PPK**.

Download PPK

Download PPK

Connect to your VM using SSH and PuTTY:

1. You can download Putty from here

2. In the **Host Name (or IP address)** box, enter username@external_ip_address.

Note: Replace **username** and **external_ip_address** with values provided in the lab.

3. In the **Category** list, expand **SSH**.

4. Click **Auth** (don't expand it).

5. In the **Private-key file for authentication** box, browse to the PPK file that you downloaded and double-click it.

6. Click on the **Open** button.

Note: PPK file is be imported into PuTTY tool using the Browse option available in it. It should not be opened directly but only to be used in PuTTY.

7. Click **Yes** when prompted to allow a first connection to this remote SSH server because you are using a key pair for authentication, you will not be prompted for a password.

Common Issues:

If PuTTY fails to connect to your Linux VM, verify that:

- You entered **username@external ip address** in PuTTY.
- You downloaded the fresh new PPK file for this lab from Qwiklabs.
- You are using the downloaded PPK file in PuTTY.

Option 2: OSX and Linux users: Connecting to your VM via SSH

Download your VM's private key file:

You can download the private key file in PEM format from the Qwiklabs Start Lab page. Click on **Download PEM**.

Download PEM

Download PEM

Connect to the VM using the local terminal application:

A **terminal** is a program which provides a **text-based interface for typing commands**. Here you will use your terminal as an SSH client to connect with lab provided Linux VM.

1. Open the Terminal application.

   - To open the terminal in Linux use the shortcut key **Ctrl+Alt+t**.
   - To open terminal in **Mac** (OSX) enter **cmd + space** and search for **terminal**.

2. Enter the following commands.

Note: Substitute the **path/filename for the PEM** file you downloaded, **username** and **External IP address**.

You will most likely find the PEM file in **Downloads**. If you have not changed the download settings of your system, then the path of the PEM key will be **~/Downloads/qwiklabs-XXXXX.pem**

```
chmod 600 ~/Downloads/qwiklabs-XXXXX.pem
```

```
ssh -i ~/Downloads/qwiklabs-XXXXX.pem username@External
Ip Address
```

Option 3: Chrome OS users: Connecting to your VM via SSH

Note: Make sure you are not in **Incognito/Private mode** while launching the application.

Download your VM's private key file:

You can download the private key file in PEM format from the Qwiklabs Start Lab page. Click on **Download PEM**.

Download PEM

Download PEM

Connect to your VM:

1. Add Secure Shell from here to your Chrome browser

2. Open the Secure Shell app and click on **[New Connection]**.

Secure Shell
Connection Manager
Connection Name
Connection Name
Connection Name