Challenge Lab: Python Scripting Exercise

Duration

This lab takes approximately **40 minutes** to complete.

Launch Your Lab Environment

1. At the top of these instructions, click Start Lab to launch this lab.

   A Start Lab panel opens displaying the lab status.

2. Wait until you see the message "**Lab status: ready**", then click the **X** to close the Start Lab panel.

   This lab launches an EC2 instance named **Linux Host**. You will use this server to develop Python scripts.

3. Click the Details drop down menu above these instructions, and then click Show.
   Copy the value of the **ips -- public** field to a text file and save the file as **Lab Details.txt**, using a text editor such as Atom, Sublime Text or Visual Studio Code. This value is the public IP address of the Linux Host.
   The information you have saved will be referred to as *Lab Details* in the lab.

Using SSH to Connect to the Linux Host

Windows Users: Using SSH to Connect

These instructions are specifically for Windows users. If you are using macOS or Linux, skip to the next section.

4. Click the Details drop down menu above the instructions you are currently reading, and then click Show. A Credentials window will be presented.
5. Click the **Download PPK** button and save the **labsuser.ppk** file.
   Typically your browser will save it to the Downloads directory.
6. Exit the Details panel by clicking the **X**.
7. Download **PuTTY** to SSH into the Amazon EC2 instance. If you do not have PuTTY installed on your computer, download it here.
8. Open **putty.exe**
9. Configure PuTTY timeout to keep the PuTTY session open for a longer period of time:
   - Click **Connection**.
   - Set **Seconds between keepalives** to `30`.
10. Configure your PuTTY session:
    - Click **Session**.
    - **Host Name (or IP address):** Paste the **IP address of the Linux Host instance** you saved in the *Lab Details* file earlier.
    - Back in PuTTY, in the **Connection** list, expand **SSH**
    - Click **Auth** *(don't expand it)*.
    - Click **Browse**.
    - Browse to and select the **labsuser.ppk** file that you downloaded.
    - Click **Open** to select it.
    - Click **Open** again.

11. Click **Yes**, to trust and connect to the host.
12. When prompted **login as**, enter: `ec2-user`.
    This will connect you to the EC2 instance.
13. Windows Users: Click here to skip ahead to the next task.

macOS and Linux Users

These instructions are specifically for Mac/Linux users. If you are a Windows user, skip ahead to the next task.

14. Click the Details drop down menu above the instructions you are currently reading, and then click Show. A Credentials window will be presented.
15. Click the **Download PEM** button and save the **labsuser.pem** file.
16. Exit the Details panel by clicking the **X**.
17. Open a terminal window, and change directory `cd` to the directory where the *labsuser.pem* file was downloaded.
    For example, if the *labsuser.pem* file was saved to your Downloads directory, run this command:

```
cd ~/Downloads
```

18. Change the permissions on the key to be read-only, by running this command:

```
chmod 400 labsuser.pem
```

19. Run the command below *(replace **<public-ip>** with the **Linux Host** IP address you saved in the Lab Details file earlier)*.

```
ssh -i labsuser.pem ec2-user@<public-ip>
```

20. Type `yes` when prompted to allow the first connection to this remote SSH server.
    Because you are using a key pair for authentication, you will not be prompted for a password.

Your Challenge

- Write a **Python script** to:
  - Display all the **prime numbers between 1 to 250**.
  - Store the results in a **results.txt** file.
- Test the script. Verify that it produced the expected results in the **results.txt** file.
- **Save the script** and **make a note of its location (absolute path)** for future reference.

Note: Both Python 2 and Python 3 are installed on the Linux Host. It is recommended to use Python 3. To run a Python script using version 3, run the following command by replacing *file.py* with your file name.

```
python3 file.py
```

Lab Complete

When you are finished with the lab:

21. Click End Lab at the top of this page and then click Yes to confirm that you want to end the lab. A panel will appear indicating that "Lab resources are stopping."

22. Click the **X** in the top right corner to close the panel. Your lab resources are persisted and accessible to you when you start the lab again.

Additional Resources

For more information about AWS Training and Certification, see https://aws.amazon.com/training/.

Your feedback is welcome and appreciated.
If you would like to share any suggestions or corrections, please provide the details in our AWS Training and Certification Contact Form.