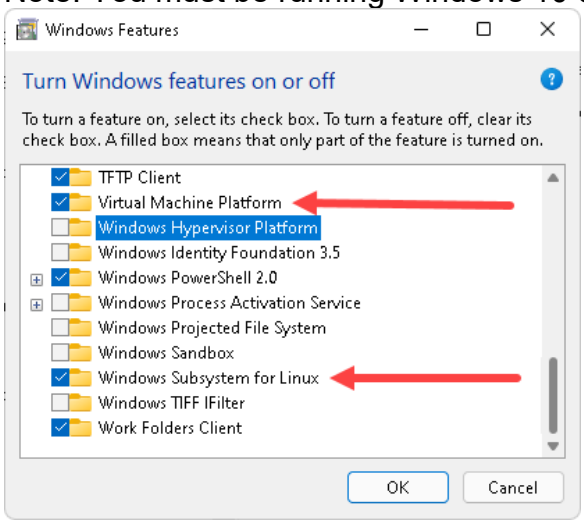
Lab Setup for Network Automation with Python

1. Activate the Windows Subsystem for Linux (WSL) from the Control Panel:

   `Control Panel\All Control Panel Items\Programs and Features > Turn Windows features on or off >`

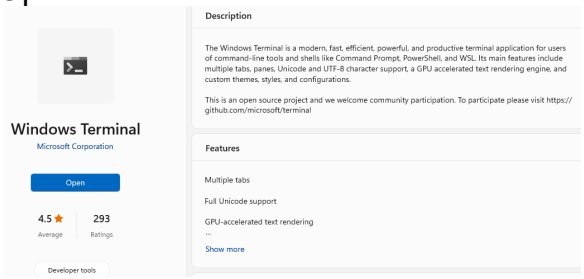
   Check the checkbox for **`Virtual Machine Platform`** and **`Windows Subsystem for Linux`**

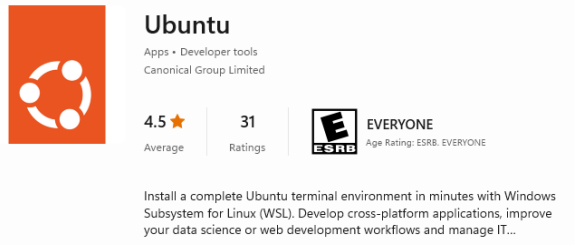
   Note: You must be running Windows 10 64-bit



   Restart as needed.

2. Open the Microsoft Store. Download and install the **Windows Terminal** app and **Ubuntu**.

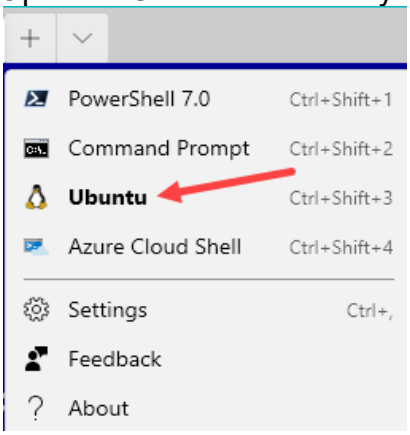




3. After Ubuntu is installed, launch it and configure the username as **cisco** and the password as **cisco**.
4. Close Ubuntu.
5. Open **Windows Terminal**.

   `Right-click Start > Windows Terminal` or **`run > wt`**

6. Open an Ubuntu console by clicking the dropdown and selecting **Ubuntu**.



   Note: It will take a few moments to install. You may have to restart the Terminal for changes to take effect.

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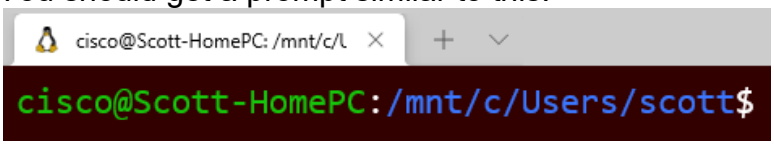
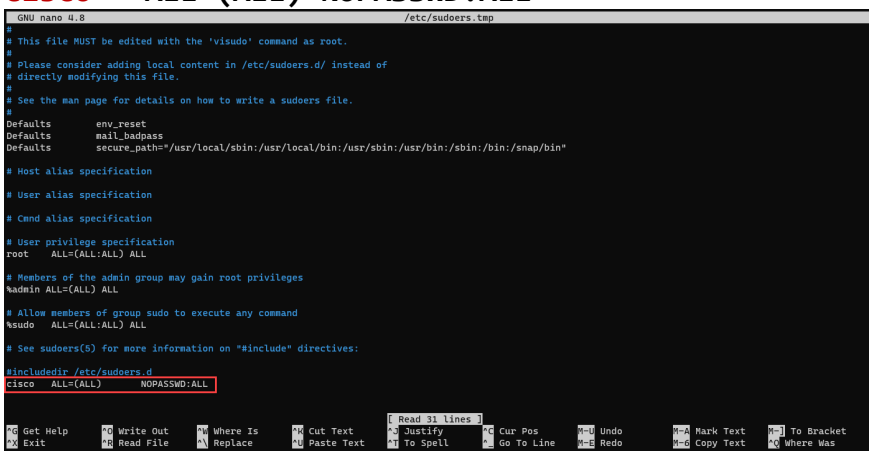
7. You should get a prompt similar to this:



8. Remove the requirement to enter a password for sudo. Open the **`/etc/sudoers`** file and at the end of the file add this line:
   Note: This file is hidden until you add your code.

   `sudo visudo`
   Type this at the bottom of the file:
   `cisco   ALL=(ALL) NOPASSWD:ALL`



9. Save, Close, and reopen Windows Terminal.
10. Add user to the sudo group:

    `sudo usermod -aG sudo cisco`

11. Check the user was added to the group:

    `grep '^sudo' /etc/group`
    `sudo:x:27:cisco`

12. Update Ubuntu:

    `sudo apt update && sudo apt upgrade -y`

13. Check Python and PIP versions:

    `python3 --version`
    `Python 3.8.10` (or later)

    `pip3 --version`
    `pip 22.0.4 from /usr/local/lib/python3.8/dist-packages/pip (python 3.8)` (or later)

14. If needed, install Python:

    `sudo apt install python3 -y` `(sudo apt reinstall python3)`

15. If needed, install PiP3:

    `sudo apt install python3-pip -y` `(python3 -m pip install --upgrade pip)`

16. Install Netmiko and Git:

    `sudo apt install python3-netmiko git-all -y`

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17. Install the GO programming language:

    `wget -c https://dl.google.com/go/go1.14.2.linux-amd64.tar.gz -O - | sudo tar -xz -C /usr/local`

18. Add the location of the Go directory to the **`$PATH`** environment variable so the system will know where to find the Go executable binaries. Add this to the bottom of the **`/home/.profile`** file:

    `sudo nano ~/.profile`

    ```
    export PATH=$PATH:/usr/local/go/bin
    ```

19. Save and exit.
20. Load the new PATH environment variable into the current shell session:

    `source ~/.profile`

21. Verify the installation:

    `go version`