The software installation is a prerequisite to Chapter 2.

About this document:

Welcome to the software installation guide for Apress book, "Introduction to Python Network Automation: The First Journey, 2nd Edition". This guide has been created by the authors as a complementary material to the book, but it is not part of the actual book. Its purpose is to provide a clear and concise set of instructions to help you install the necessary software to follow along with the book's examples and exercises.

By following the steps outlined in this guide, you will be able to set up the required software for Python network automation and start exploring the practical concepts covered in the book. Please note that this guide is not intended to be a comprehensive resource on network automation or Python, but rather a focused guide to help you get started quickly and easily.

If you have any questions or issues during the installation process, please don't hesitate to reach out to the authors or consult the resources listed in the guide. We hope this guide proves helpful in your journey towards mastering Python network automation.

Version:	1.0
Created:	21/Mar/2023
Last updated:	N/A

What's required?

| Host OS:	Windows 11
Desktop Hypervisor:	Microsoft Hyper-V Platform
WSL version:	Windows Subsystem for Linux 5.10.16
Internet connection:	Yes

Installation Steps: Install WSL on your Windows PC.

To install WSL on Windows 11, follow these steps:

1. Open the Start menu and search for "Turn Windows features on or off."
2. Click on "Turn Windows features on or off" in the search results to open the Windows Features dialog box.
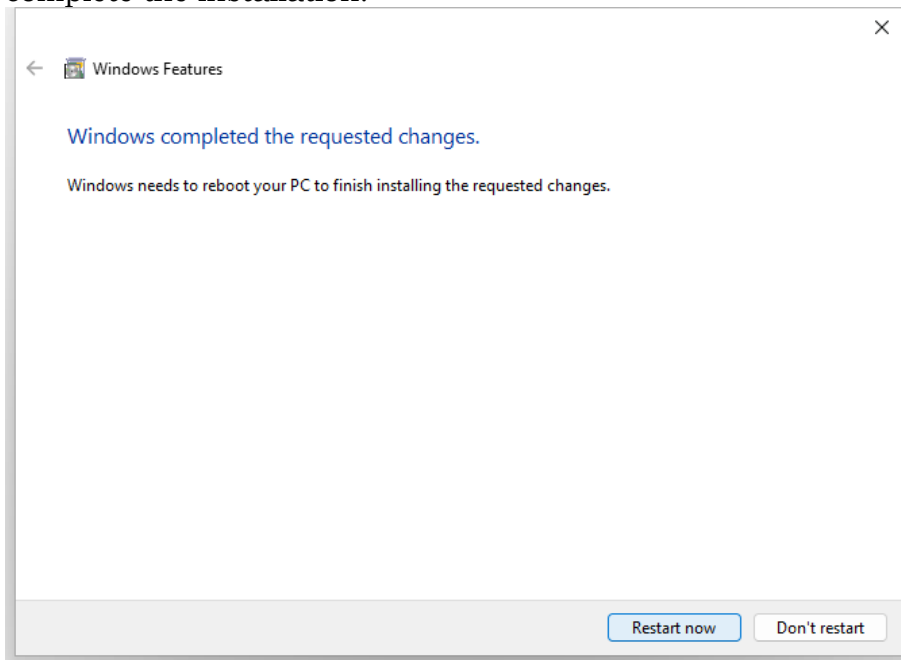3. Scroll down to the "Windows Subsystem for Linux" option and check the box next to it.
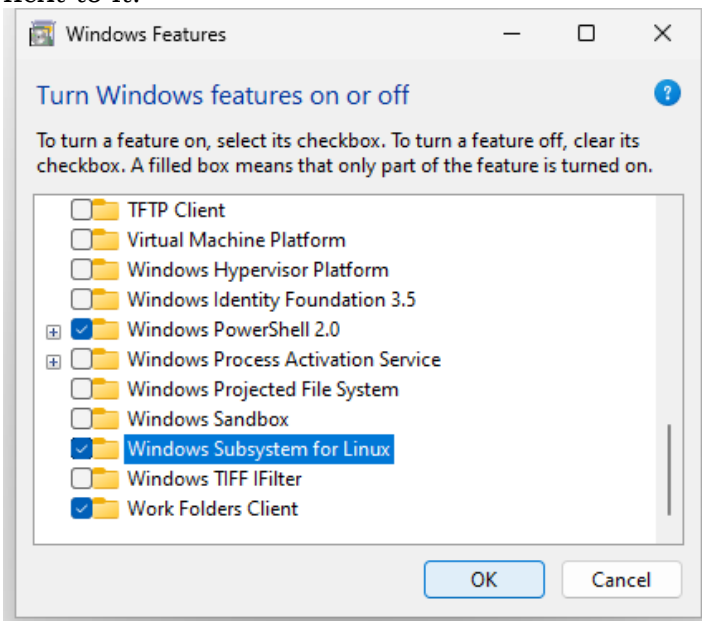
Select Windows Subsystem for Linux in Turn Windows features.
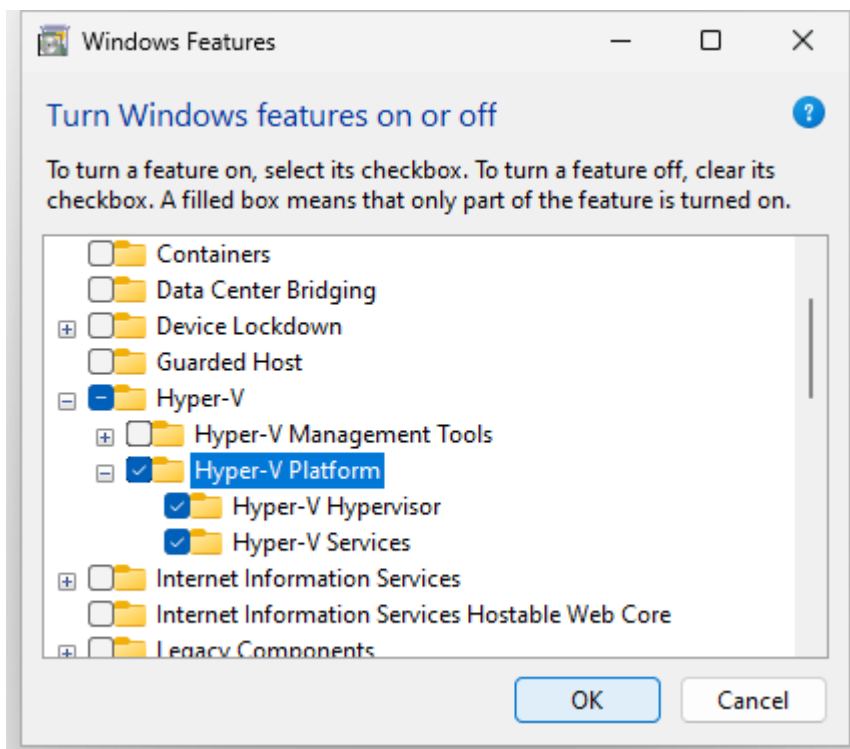
Also, select Hyper-V Platform feature if it is not turned on already.

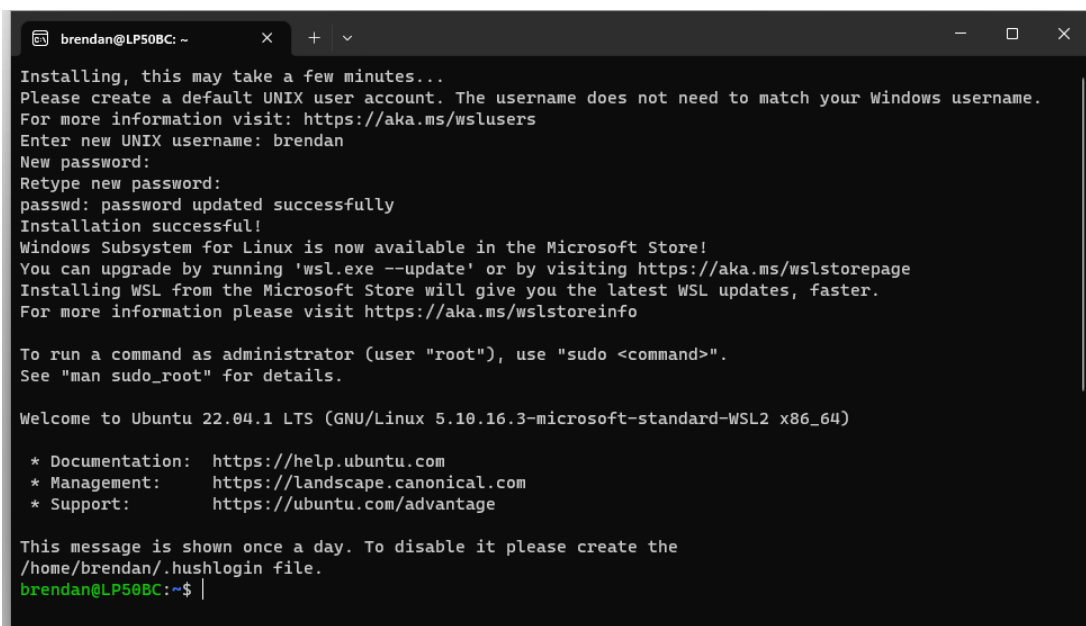4. Click OK to install the feature. You may need to restart your computer to complete the installation.

Restart windows after WSL installation

5. **After restarting your computer, launch the Microsoft Store and search for "Ubuntu" to download the latest Ubuntu 22 LTS version.** If you're interested in experimenting with different Linux distributions, you can also explore Fedora WSL, AlmaLinux 9 (which is equivalent to CentOS 9 Stream), Arch WSL, or Debian. Note that this book chapter relies on Ubuntu 22.0.4 LTS, so if you wish to follow the same configuration, choose Ubuntu 22.0.4 LTS from the available options.
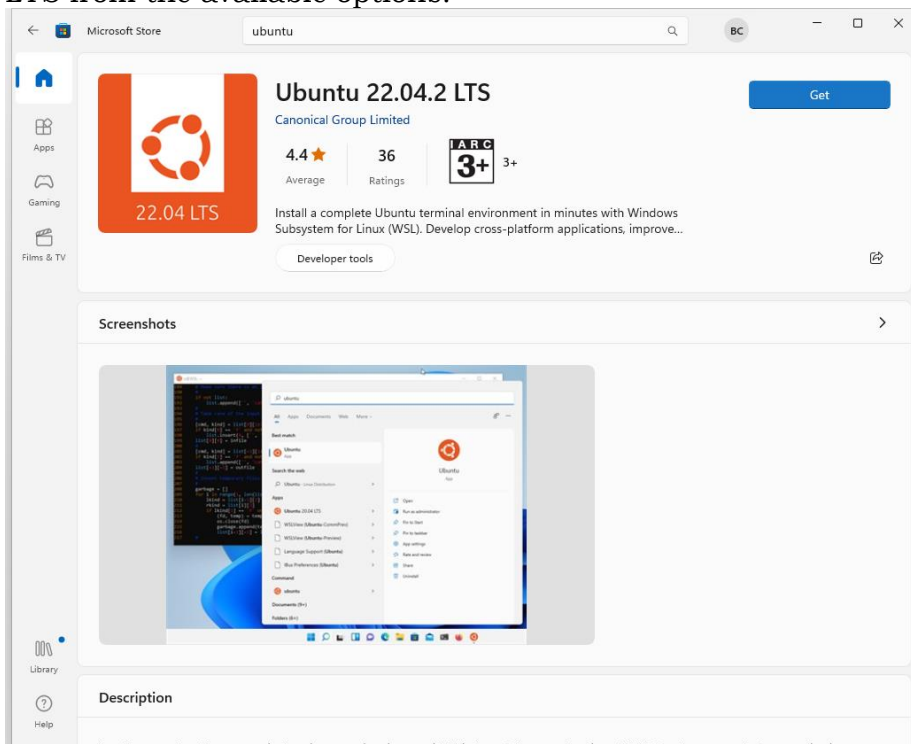
Get the lates Ubuntu 22 LTS from Microsoft Store

6. Click the "Get" or "Install" button to download and install the Linux distribution.
7. After the installation is complete, you can launch the Linux distribution from the Start menu or by typing "wsl" in the command prompt. OR Clicking on the "Open" button on Microsoft Store screen.
8. Follow the prompts to create a new user account and set a password for your Linux environment.
9. Click the "Get" or "Install" button to download and install the Linux distribution.
10. After the installation is complete, you can launch the Linux distribution from the Start menu or by typing "wsl" in the command prompt. OR Clicking on the "Open" button on Microsoft Store screen.
11. Follow the prompts to create a new user account and set a password for your Linux environment.

Ubuntu on WSL - Create your username and password, & complete installation

Great job! You have successfully set up the Linux terminal on your Windows 11 machine using the Windows Subsystem for Linux. This opens up a whole new world of possibilities for you to explore with Python in Linux. It's like embarking on an adventure where you get to learn new things and discover exciting possibilities.

To help you get started, we recommend that you start with the exercises in this chapter and the next one. They're designed to be fun challenges that will help you become familiar with Python and the Linux terminal.

But the best part is, you can do whatever you like and explore as much as you want! The more you use the terminal, the more comfortable you'll become with it. And who knows, you might even discover some cool tricks along the way!

With Linux, you can do some amazing things like building cool apps or creating your own website! Or you could just play around with it and see what you come up with!
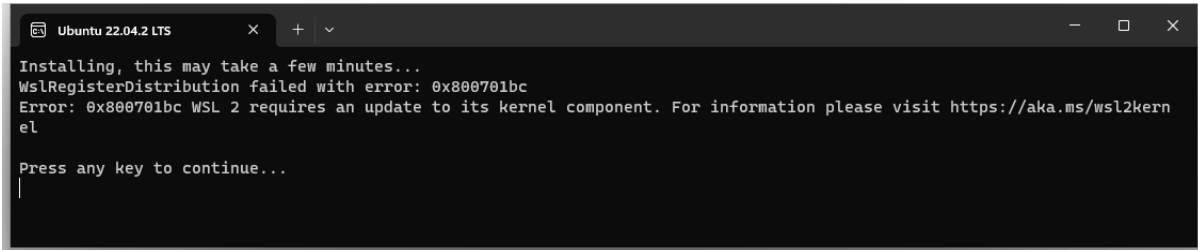
So, let's embark on this exciting journey together! Don't be afraid to try new things and have fun! Who knows, you might become a Linux expert in no time! Best of luck and enjoy the journey! Enjoy the WSL experience on Windows!

If you are encountering 0x800701bc error, perform the extra steps detailed below.

Troubleshooting 0x800701bc error:

Error message "WslRegisterDistribution failed with error: 0x800701bc

Error: 0x800701bc WSL 2 requires an update to its kernel component. For information please visit https://aka.ms/wsl2kernel"

Step 1: To troubleshoot the WSL starting issue on Windows 11, you'll need to download and install the "wsl_update_x64.exe" file. You can find the download link at the following website: https://learn.microsoft.com/en-us/windows/wsl/install-manual#step-4---download-the-linux-kernel-update-package. Once you've downloaded the file, simply run the installer to complete the installation process. With WSL up and running, you'll have access to a powerful and flexible environment for running Linux applications on your Windows 11 system.
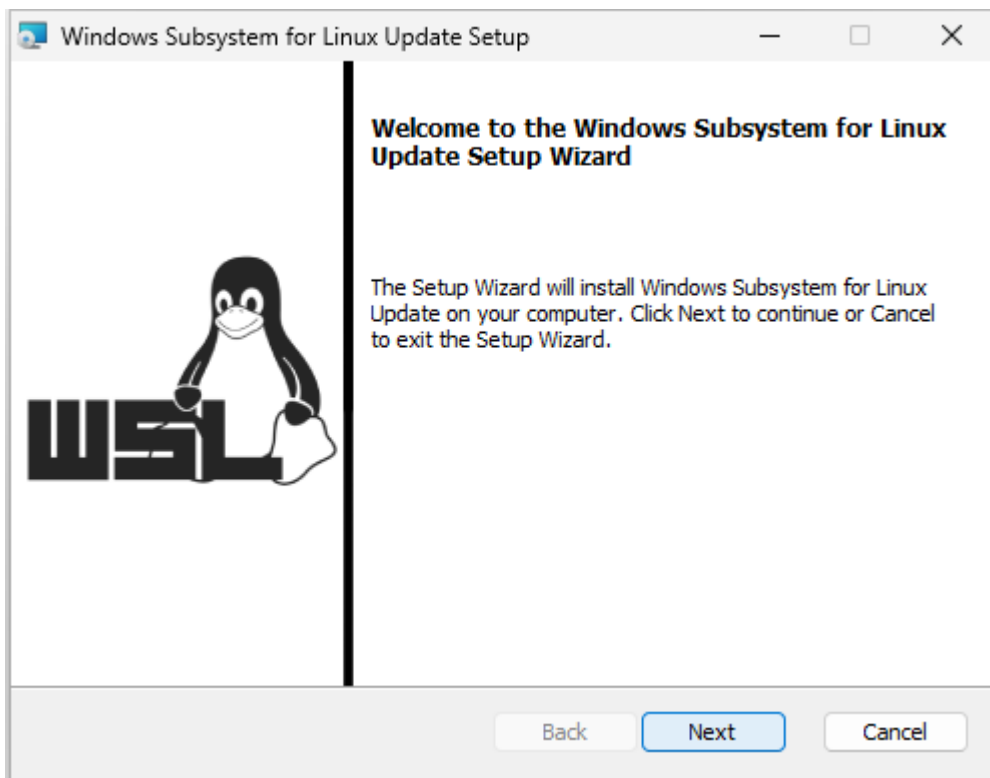
Step 2: After completing the update, launch Windows PowerShell and enter the command "wsl --set-default-version 2" to set the default version of Windows Subsystem for Linux (WSL) to 2. Once you see the confirmation message, you can

rest assured that WSL has been successfully installed on your Windows 11 system. You're now ready to start exploring the exciting world of WSL.
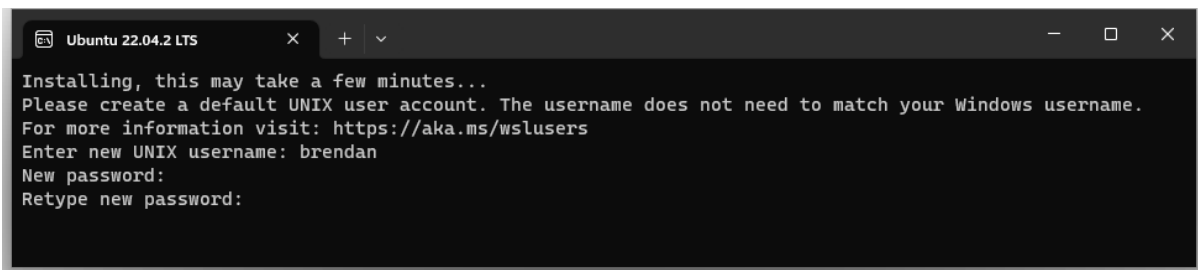
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\brend> wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
PS C:\Users\brend>
```
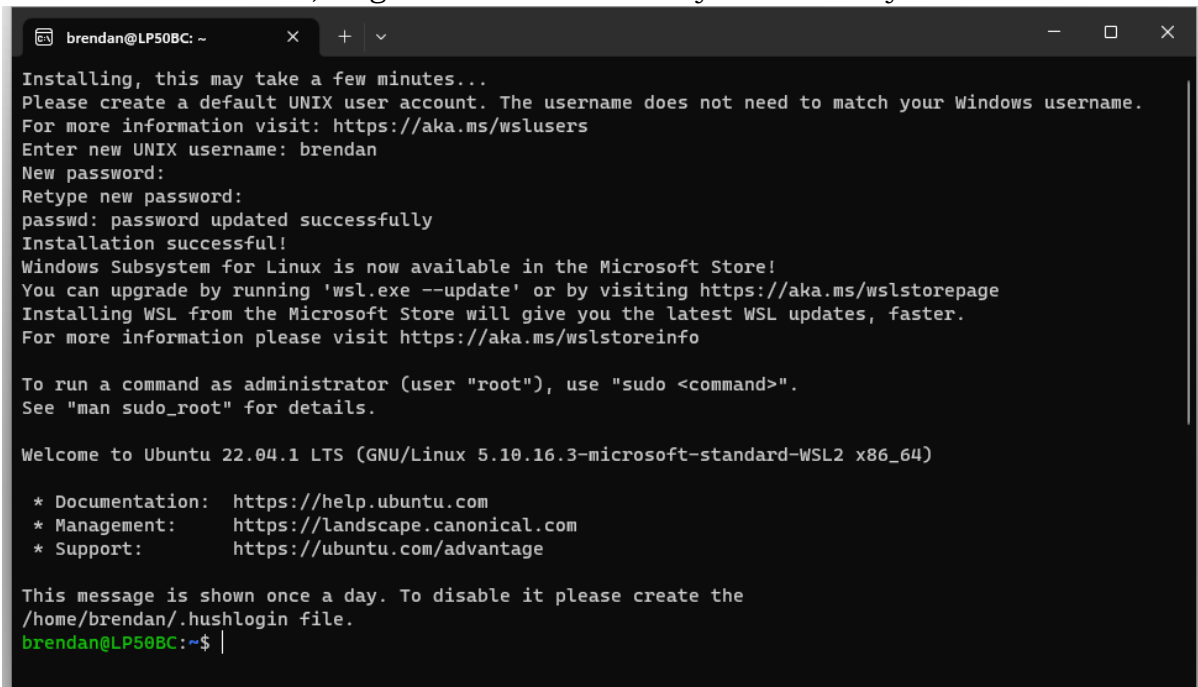
Step 3: From Windows icon, open Ubuntu 22.04 from recently added programs. Enter your username and password to complete the troubleshooting & setup.

```
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: brendan
New password:
Retype new password:
```

Step 4: With WSL installed, you can start exploring the world of Linux by running Linux applications, learning Linux commands and shell scripting, or even diving into Python programming. Additionally, you can download other WSL-compatible products from the Microsoft Store to try out and experiment with. The possibilities are endless with WSL, so go ahead and unleash your creativity!

```
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: brendan
New password:
Retype new password:
passwd: password updated successfully
Installation successful!
Windows Subsystem for Linux is now available in the Microsoft Store!
You can upgrade by running 'wsl.exe --update' or by visiting https://aka.ms/wslstorepage
Installing WSL from the Microsoft Store will give you the latest WSL updates, faster.
For more information please visit https://aka.ms/wslstoreinfo

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.10.16.3-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

This message is shown once a day. To disable it please create the
/home/brendan/.hushlogin file.
brendan@LP50BC:~$
```

Step 5: Optionally, perform the following minor Ubuntu Linux housekeeping to make python command to work without typing 3 after python on Ubuntu.

First check the OS and shell type for our knowledge.

```
brendan@LP50BC:~$ lsb_release -d # Check your OS version, use 'hostnamectl' for
more information
Description:   Ubuntu 22.04.1 LTS
brendan@LP50BC:~$ echo $SHELL # Check your shell type
/bin/bash
brendan@LP50BC:~$ bash –version # Check your shell version
GNU bash, version 5.1.16(1)-release (x86_64-pc-linux-gnu)
Copyright (C) 2020 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>

This is free software; you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
```

Now run the commands below to make our life less cumbersome with python.

```
brendan@LP50BC:~$ python –version # Ubuntu does not recognize python as a
command.
Command 'python' not found, did you mean:
  command 'python3' from deb python3
  command 'python' from deb python-is-python3
brendan@LP50BC:~$ python3 –version # We know that python3 is there.
Python 3.10.6

brendan@LP50BC:~$ whereis python3
python3: /usr/bin/python3 /usr/lib/python3 /etc/python3 /usr/share/python3
/usr/share/man/man1/python3.1.gz
brendan@LP50BC:~$ nano ~/.bashrc # "bash shell run control", executed for an
interactive non-login shell
brendan@LP50BC:~$ source ~/.bashrc
brendan@LP50BC:~$ python –version # You can also use python -V
Python 3.10.6
brendan@LP50BC:~$ python
Python 3.10.6 (main, Nov 14 2022, 16:10:14) [GCC 11.3.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Hello, World!")
Hello, World!
>>> quit() # You can also use exit() or 'Ctrl+D' keys to quit.
brendan@LP50BC:~$
```

Awesome job! It's fantastic to see your progress in our Linux and Python journey so far. Let's keep up the momentum and dive even deeper into these powerful tools. Together, we'll explore all the ins and outs of Linux and Python and unlock even more possibilities for our projects.