Setup for Windows

The Microsoft Windows operating system has a rich history, but one that is diiferent from the Unix-like operating systems of macOS and Linux. Because of the low-level differences in the systems, Microsoft has created a component called the *Windows Subsytem for Linux*, otherwise known as *WSL*. WSL provides those of us using Windows an integrated system with a full Linux command line environment. In this section, we will complete the following list:

1. Open the Windows Terminal application as an Administrator.
2. Install the Windows Subsystem for Linux component.
    - Install a distribution of Ubuntu Linux.
    - Restart the computer.
3. Enable the Windows Subsystem for Linux required features.
    - Restart the computer.
4. Set up Ubuntu Linux in Windows Terminal
    - Open the Windows Terminal application.
    - Open an Ubuntu Linux tab.
    - Create a Linux user and password.
5. Adjust the terminal font size as needed.

After the Windows Subsystem for Linux installation, the Windows Terminal application will have built-in support and integration for WSL, and will give you a full Linux environment to work with. So let's get started!

Open the Windows Terminal application

Windows Subsystem for Linux is considered a developer tool, and as such, the recommended way to install it is by issuing a command in the terminal application as an Administrator of the computer. To get started, click on the Windows Start menu icon in the Windows Taskbar, or press the `Super` key on your keyboard.

As mentioned before, the `Super` key may have the Windows logo on it, and is usually

next to the `Alt` key.

In the search bar, type "Terminal" (without the quotes). You should see a search result with the Windows Terminal icon. As shown in *Figure 7*, choose the *Run as Administrator* option in the details pane for the Terminal application.

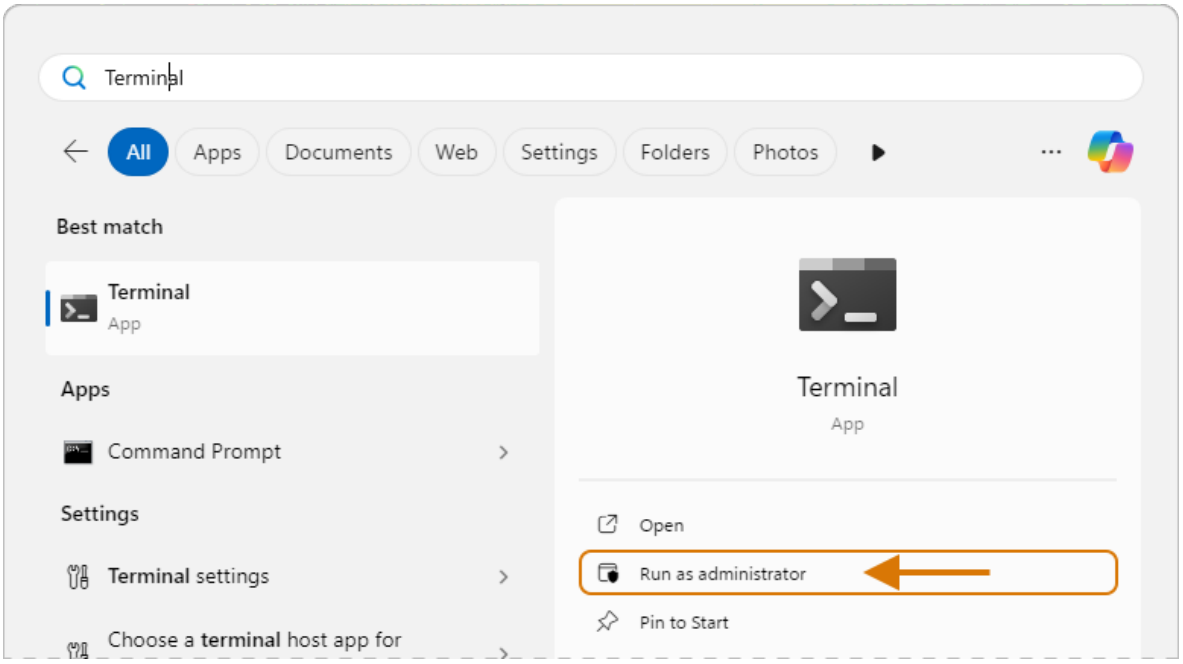

Figure 7. Search for Windows Terminal application and run it as an administrator.

When run as an Administrator, you will see a dialog asking you to make changes to your system, so be sure to choose "Yes" to continue. A terminal window should open and look similar to the window in Figure 8, although the colors may be different depending on your Appearance settings. The Terminal "Powershell" profile usually defaults to a dark background color. To keep this application readily available, *right-click* on the Windows Terminal icon you see in the taskbar, and choose the *Pin to taskbar* menu item.

Install Windows Subsystem for Linux

To install WSL using Windows Terminal, click inside the terminal window and type `wsl --install`, where there is a single space between the `wsl` and the `--install` parts, and press the `Return` key, as shown in *Figure 8*. By running this command, Windows will first download the latest version of the Windows Subsystem for Linux component, and will install the component. It will also install files that are part of the Virtual Machine Platform component that WSL needs for integrating

with the operating system. Once finished, it will prompt you to restart your machine, so do that now.

Figure 8. Run the `wsl --install` *command in the Windows Terminal application.*

Enable the Windows Subsystem for Linux required features

Once rebooted, you will need to ensure that the WSL components are enabled. To do so, click on the Windows Start menu icon in the Windows Taskbar, or press the `Super` key on your keyboard. In the search bar, type "Turn Windows features" (without the quotes). As shown in *Figure 9*, you should see a search result with a Control Panel option for "Turn Windows features on or off". Click on this option to open the features dialog, and scroll down in the dialog toward the bottom.

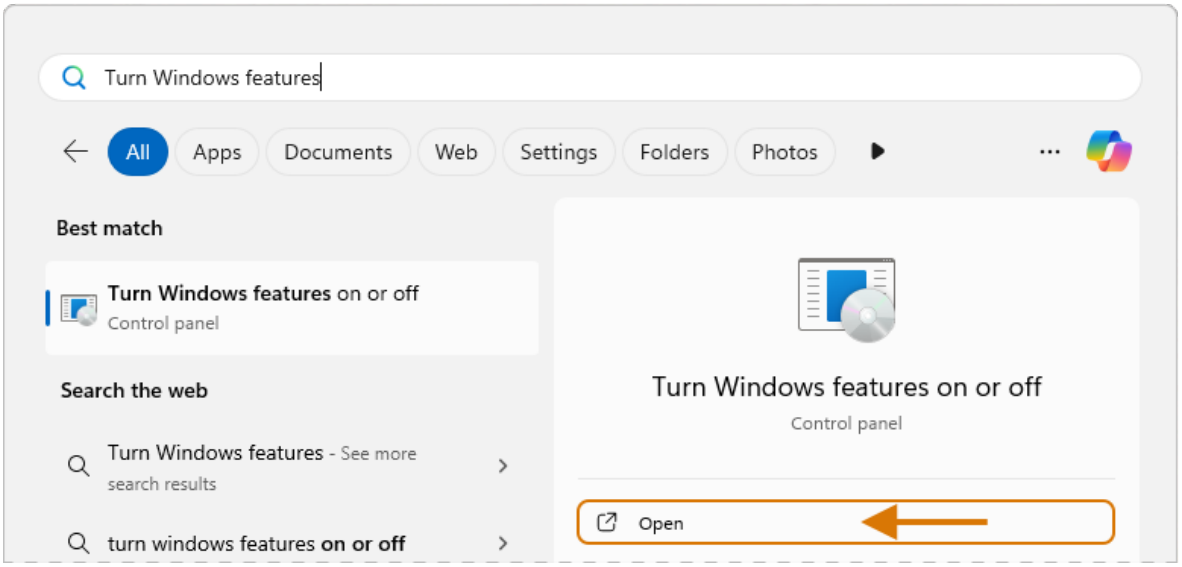

Figure 9. Use Windows Search to open the 'Turn Windows Features on or off' Control Panel.

As shown in *Figure 10*, ensure that the "Virtual Machine Platform" and the "Windows Subsystem for Linux" items are checked. After closing this dialog box, Windows will enable these components, and will prompt you to restart your machine.

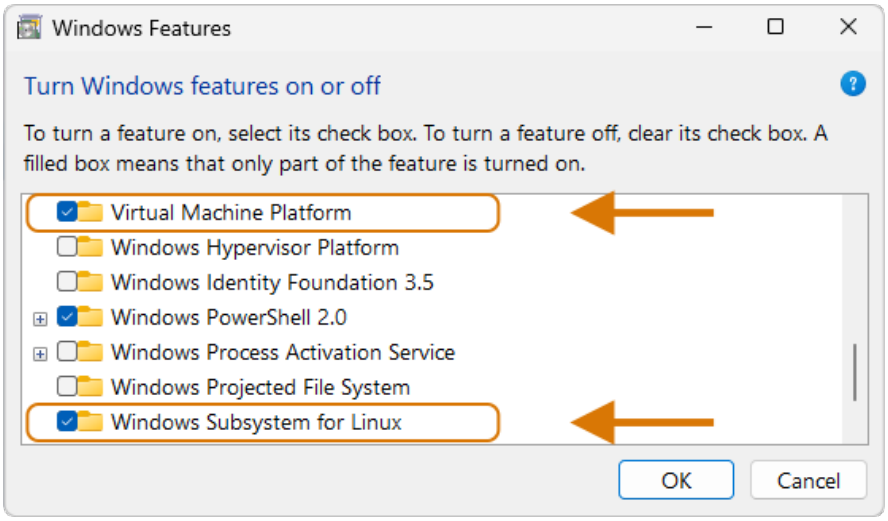

Figure 10. Enable the Virtual Machine Platform and Windows Subsystem for Linux components in the Control Panel.

Set up Ubuntu Linux in Windows Terminal

Great, the underlying components are now installed! It's now time to set up Ubuntu Linux using the Windows Terminal application. So, open the Windows Terminal application again, either from your taskbar or the Windows Start menu. By default, it will open with a Windows PowerShell profile tab. As shown in *Figure 11*, click on the down-arrow icon next to the '+' icon at the top of the window to open a new tab, and select the Ubuntu profile item.

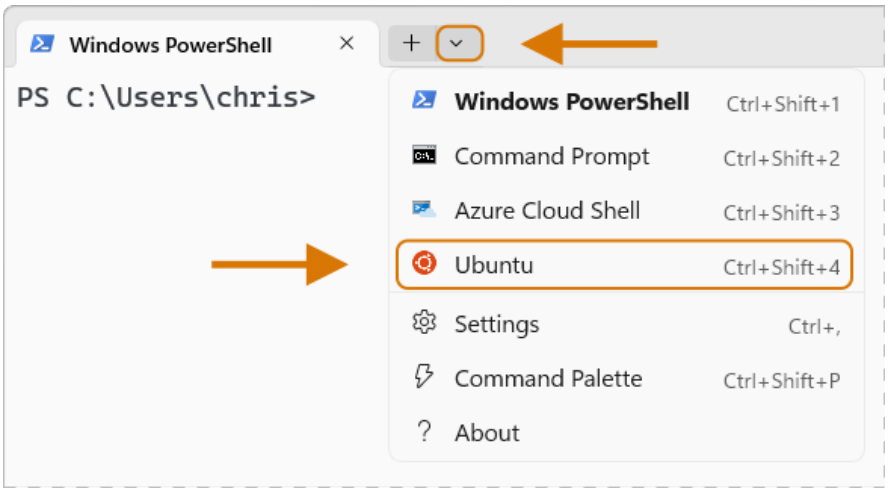

Figure 11. Open an Ubuntu Linux profile using the drop-down icon in the Windows Terminal tab bar (next to the + sign.)

This will initiate the Windows Subsystem for Linux, and will start Ubuntu Linux. It will take a few minutes to initialize, but will then prompt you to create a UNIX username (i.e. Linux username). You can use the same name as your Windows user name, or a different one. After entering your name, and pressing the `Return` key, it will then prompt you for a password. Type in a password of your choosing, and also write it down.

As you type in the password field, your typing will not be visible, which is typical behavior for command line password entry.

Confirm your password a second time when prompted, and your Linux environment will be set up for you! Once the text has stopped scrolling in the window, you will have a fully-functional Linux command line, similar to what is shown in *Figure 12*.

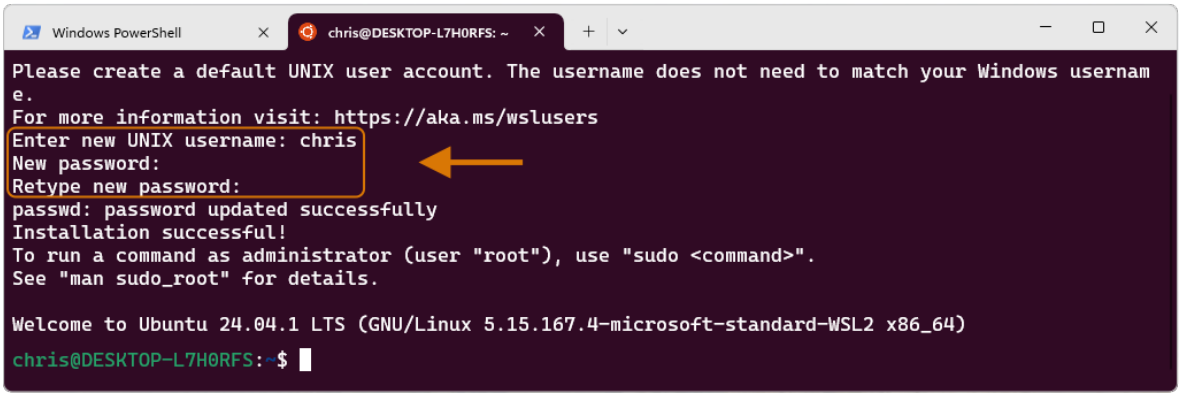

Figure 12. A complete Linux command line running within Windows.

Adjust the font size

To finalize your setup, adjust the font size in your terminal so that you can comfortably see the text. You can also change the font family, but be sure to use a fixed width font since the terminal expects it for layout purposes. In order to change the font size, click on the drop-down icon in the tab bar again, and choose the *Settings* item in the menu. This opens a new tab in the Windows Terminal with the settings for the application, and the settings for each profile, including the Ubuntu profile. In the sidebar on the left, scroll down and click on the Ubuntu profile, as shown in *Figure 13*. The Ubuntu profile settings will appear in the right window pane. Scroll down in this pane, and choose the *Appearance* section.

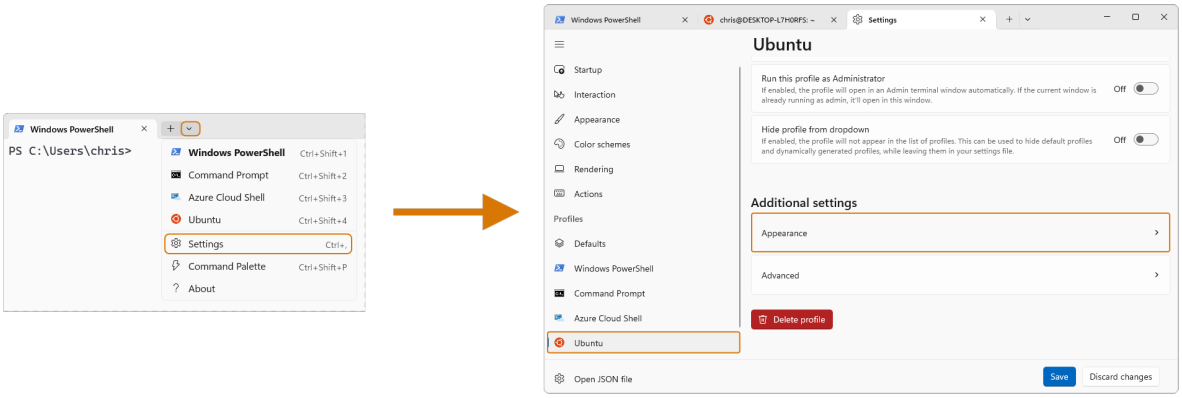

Figure 13. To change the font size, first open the Terminal Settings and choose the Ubuntu profile's Appearance section.

This opens a dialog that allows you to change the font size as needed. See the example in *Figure 14* for changing the font size. Once finished, close the Appearance dialog and click the *Save* button at the bottom of the Settings tab, as shown in *Figure 14*, and then close the Settings tab.

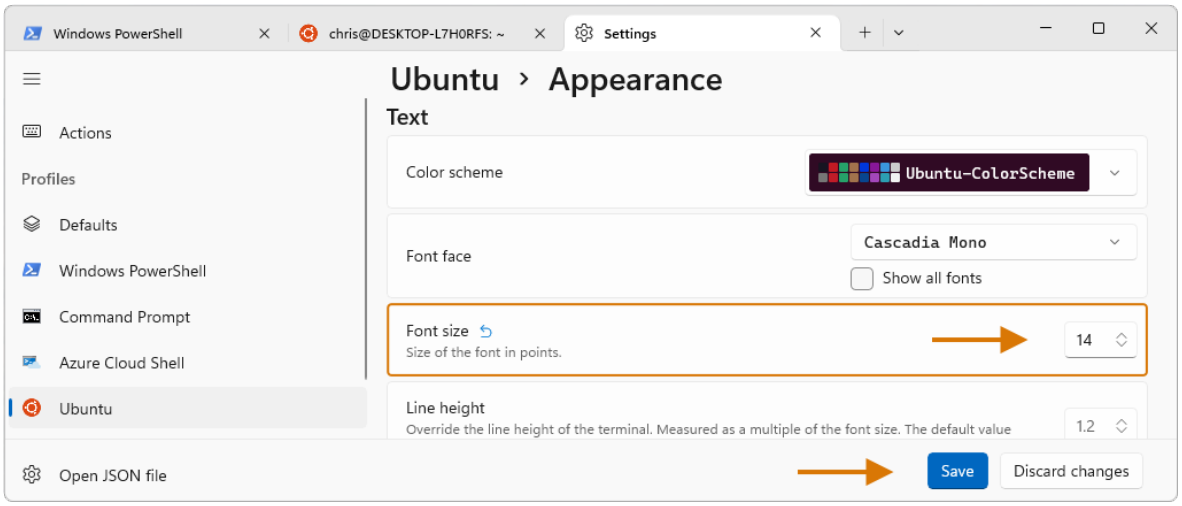

Figure 14. Adjust the font size as needed, and click on the Save button to save the profile changes.

Congratulations! You are ready to continue with your command line journey in the next section to learn about the concept of *The Shell*! Thank you for building your magic command line skills!