

Terminal

This document describes the recommended mechanism for running a terminal on different operating systems.

OSX

On **OSX**, we recommend using the Terminal application.

To launch this application, double-click the “Terminal” Finder icon in the “Utilities” subfolder of the “Applications” directory (**Applications > Utilities > Terminal**).

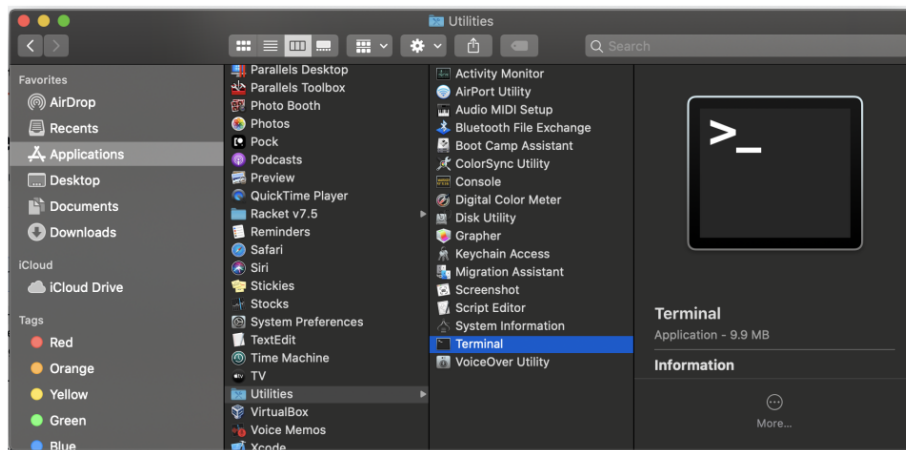


Figure 1: Open Terminal Application

Windows 10 (64-bit, version 1607 or later)

Disclaimer: Note that the following instructions are only applicable to Windows users running Windows 10 version 1607 or later. If this requirement is unsatisfied, please instead read the **Other Systems** section.

Windows has its own version of a terminal called the CMD Prompt or a more powerful one called PowerShell. However, many data scientists and programmers prefer the Linux or Unix versions, and most of the tools you will come across will run better on MacOS or Linux-based operating systems than on Windows.

To account for this limitation, recent versions of Windows (from Windows 10 1607), come with a feature called WSL, Windows Subsystem for Linux.

This feature allows you to run a Linux-compatible environment directly within Windows. Follow the instructions below to enable this feature.

If you're using Windows 8 or below, you won't have access to WSL. In this case, you should follow the separate [google-vm.pdf](#) document to set up a Linux VM (virtual machine) from which you will be able to execute commands remotely through your web browser.

Enabling WSL and installing Ubuntu on Windows 10

If you haven't used WSL before, you will first need to enable it from the "Turn Windows features on or off" program. You can search your start menu for "features" to find this option, and you should be presented with a screen like the one shown below. Make sure "Windows Sub-system for Linux" is checked and confirm by pressing the OK button.

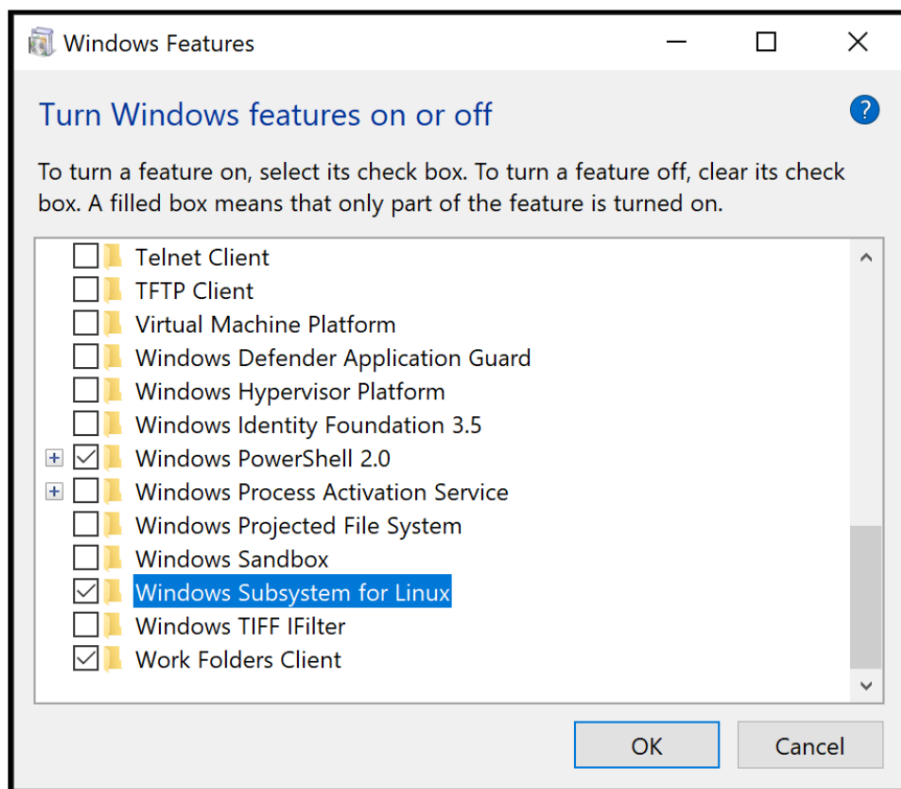


Figure 2: Windows Features

Once the feature is enabled, you need to install a Linux distribution to use it with.

First, open the “Microsoft Store”.

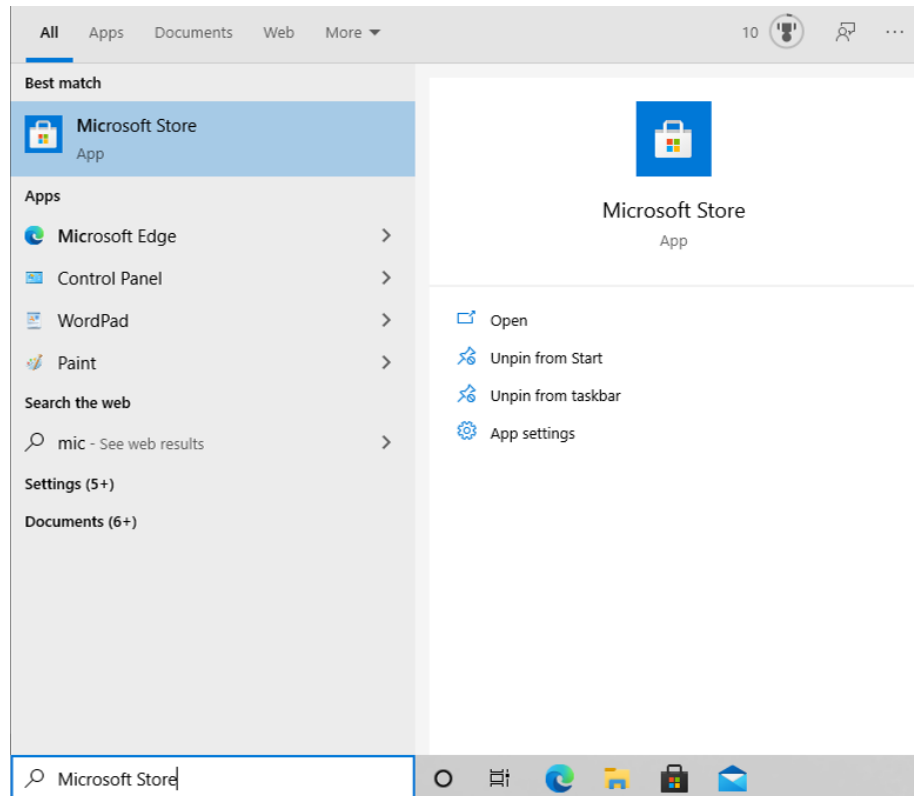


Figure 3: Microsoft Store

Then, select “Ubuntu” and click “get” to install it.

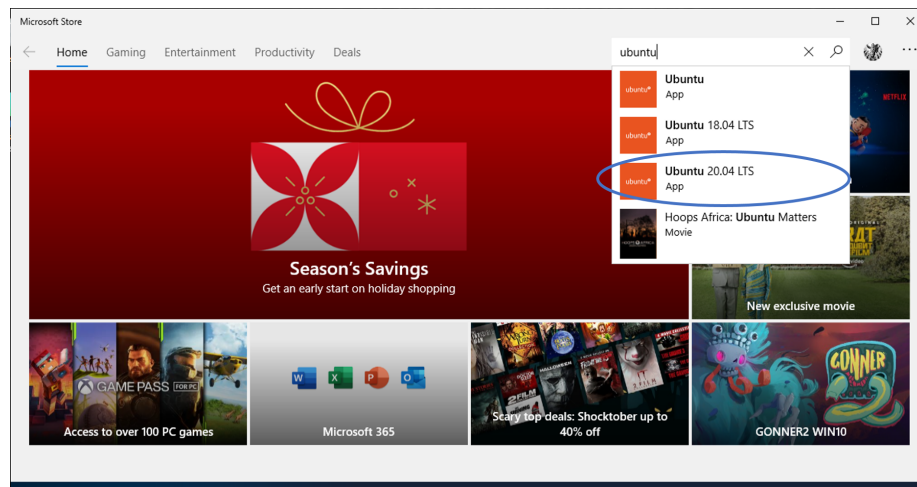


Figure 4: Select Ubuntu

Finally, run the Ubuntu App that you just installed.

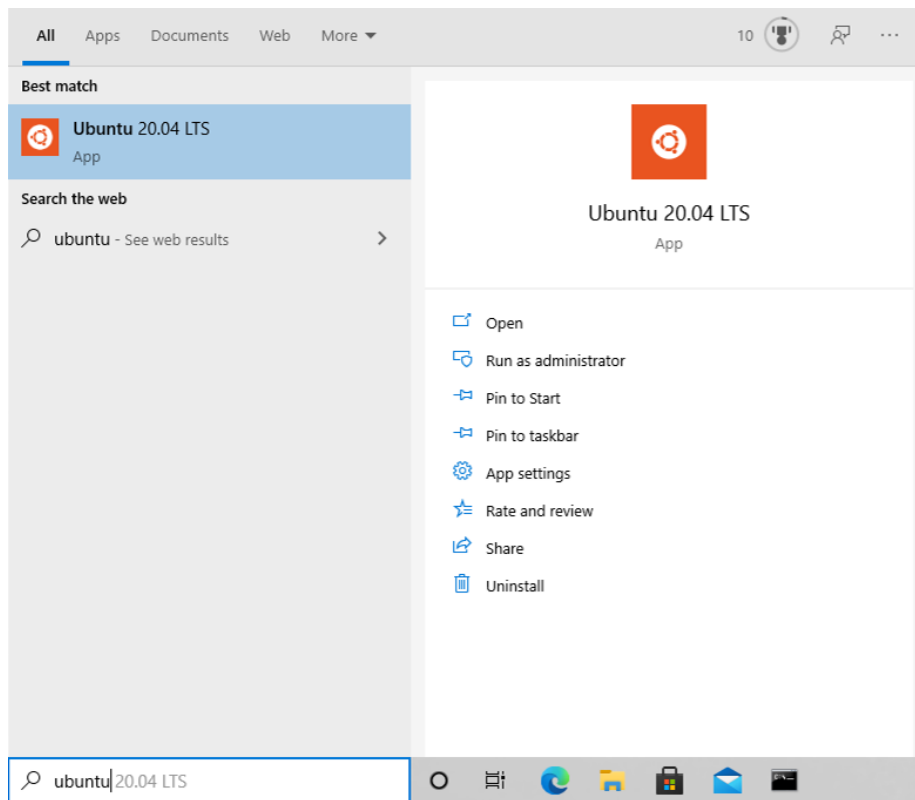
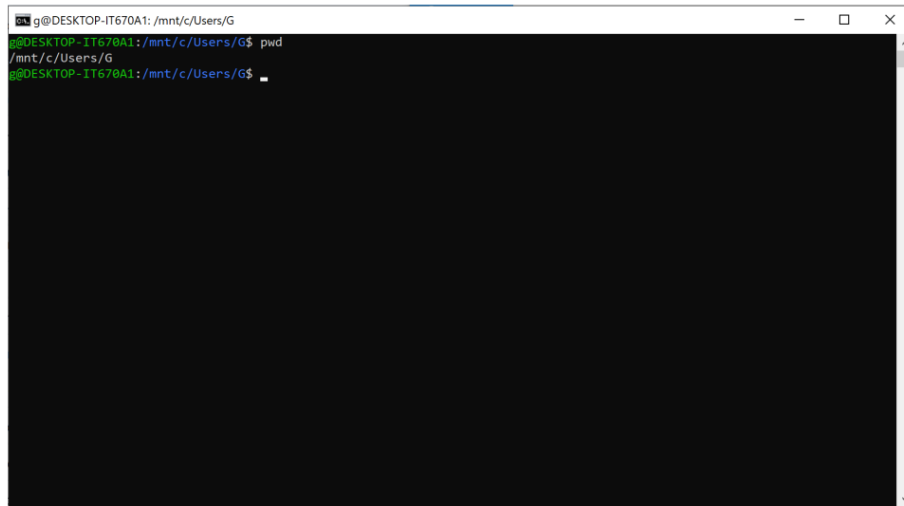


Figure 5: Run Ubuntu

When you run Ubuntu, you will be prompted to enter a username and a password. Now search your start menu for “command prompt” and open it. You should see a black screen with white text. Type `ws1` to activate the Linux environment.



```
g@DESKTOP-IT670A1: /mnt/c/Users/G$ pwd
/mnt/c/Users/G
g@DESKTOP-IT670A1: /mnt/c/Users/G$
```

Figure 6: wsl prompt

Other Systems

Some systems do not support `bash`, the language we use to communicate with the computer in the terminal. In such cases, we recommend using a remote virtual machine; this process is described in a separate document called `google-vm.pdf`.