Docker and Kubernetes: The Complete Guide

Installing Docker with WSL on Windows 10/11

This note will provide detailed steps and instructions to install Docker and signup for a DockerHub account on **Windows** with **WSL**. We will need a DockerHub account so that we can pull images and push the images we will build.

Windows 10 & 11 users will be able to install Docker Desktop if their computer supports the Windows Subsystem for Linux (WSL).

1. **Register for a DockerHub account**

   Visit the link below to register for a DockerHub account (this is free)

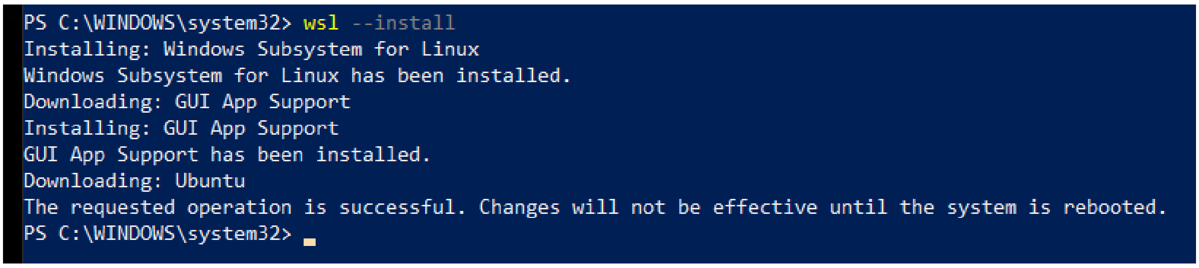
   https://hub.docker.com/signup

2. **Download and install all pending Windows OS updates**

3. **Run the WSL install script**

   *Note - If you have previously enabled WSL and installed a distribution you may skip to **step #7***

   Open PowerShell as Administrator and run: `wsl --install`
   This will enable and install all required features as well as install Ubuntu.



```
PS C:\WINDOWS\system32> wsl --install
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Downloading: GUI App Support
Installing: GUI App Support
GUI App Support has been installed.
Downloading: Ubuntu
The requested operation is successful. Changes will not be effective until the system is rebooted.
PS C:\WINDOWS\system32> _
```

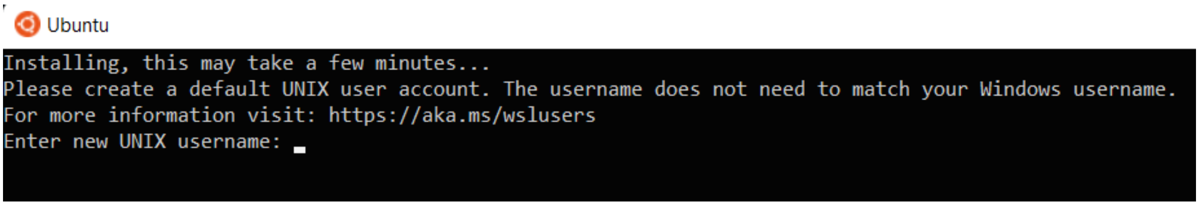
   Official documentation:

   https://docs.microsoft.com/en-us/windows/wsl/install#install-wsl-command

4. **Reboot your computer**

5. **Set a Username and Password in Ubuntu**

   After the reboot, Windows will auto-launch your new Ubuntu OS and prompt you to set a username and password.



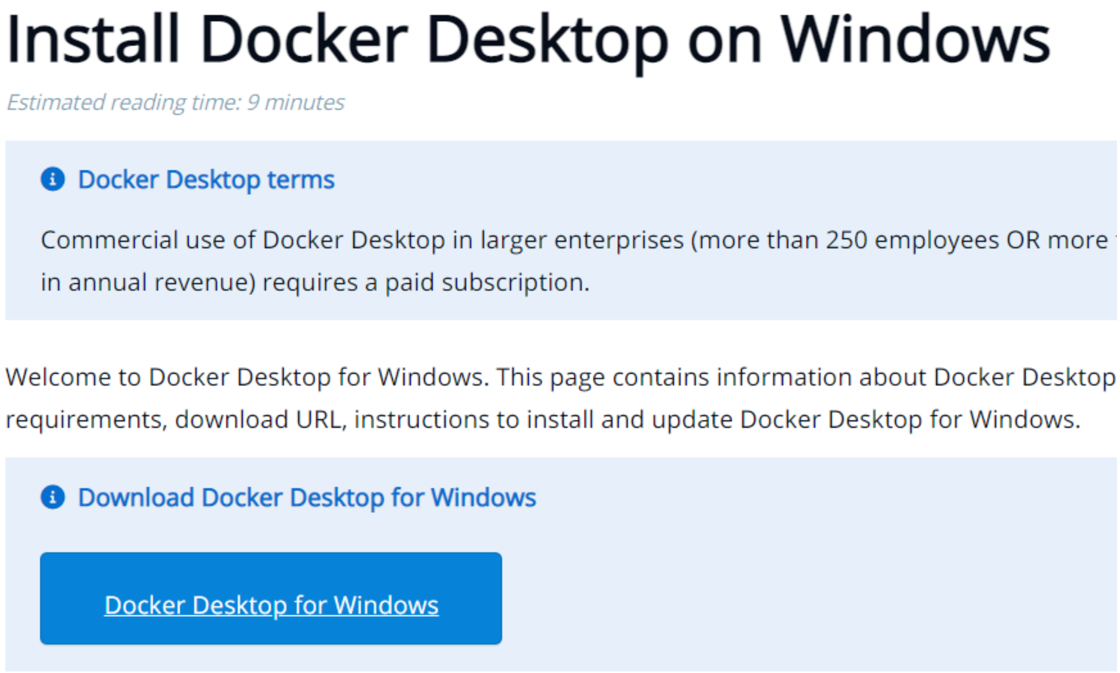
```
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: _
```

6. **Manually Installing a Distribution**
   If for some reason Windows did not prompt you to create a distribution or you simply would like to create a new one, you can do so by running the following command:
   `wsl --install -d Ubuntu`

7. **Install Docker Desktop**

   Navigate to the Docker Desktop installation page and click the Docker Desktop for Windows button:

   https://docs.docker.com/desktop/install/windows-install/



Install Docker Desktop on Windows

Estimated reading time: 9 minutes

Docker Desktop terms

Commercial use of Docker Desktop in larger enterprises (more than 250 employees OR more in annual revenue) requires a paid subscription.

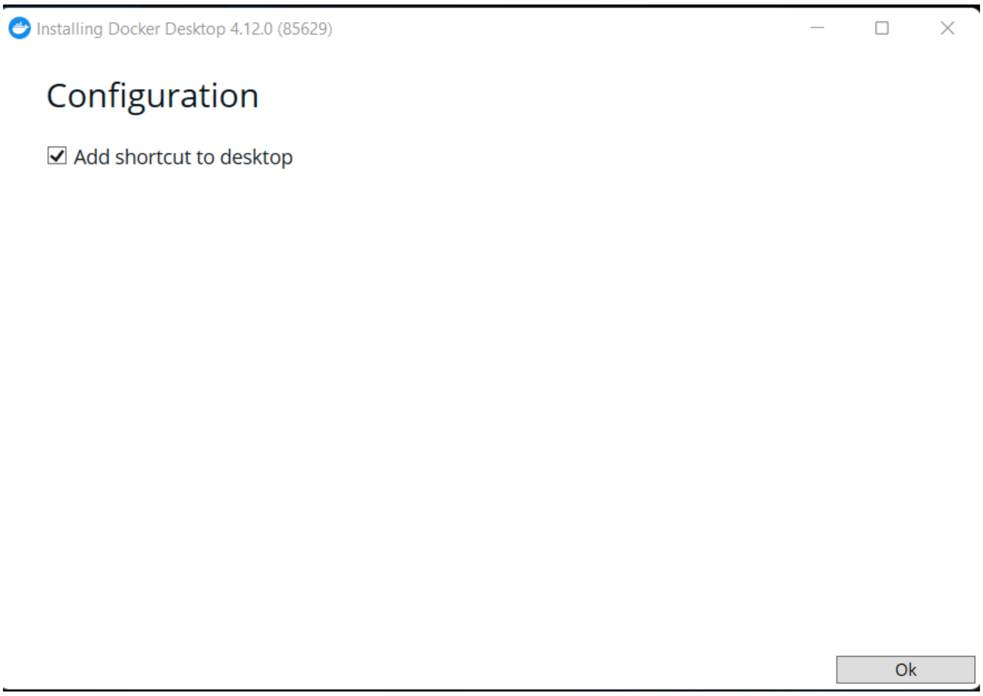
Welcome to Docker Desktop for Windows. This page contains information about Docker Desktop requirements, download URL, instructions to install and update Docker Desktop for Windows.

Download Docker Desktop for Windows

8. **Double-click the Docker Desktop Installer from your Downloads folder**

9. **Click "Install anyway" if warned the app isn't Microsoft-verified**

10. **Click "OK" to Add a shortcut to the Desktop**

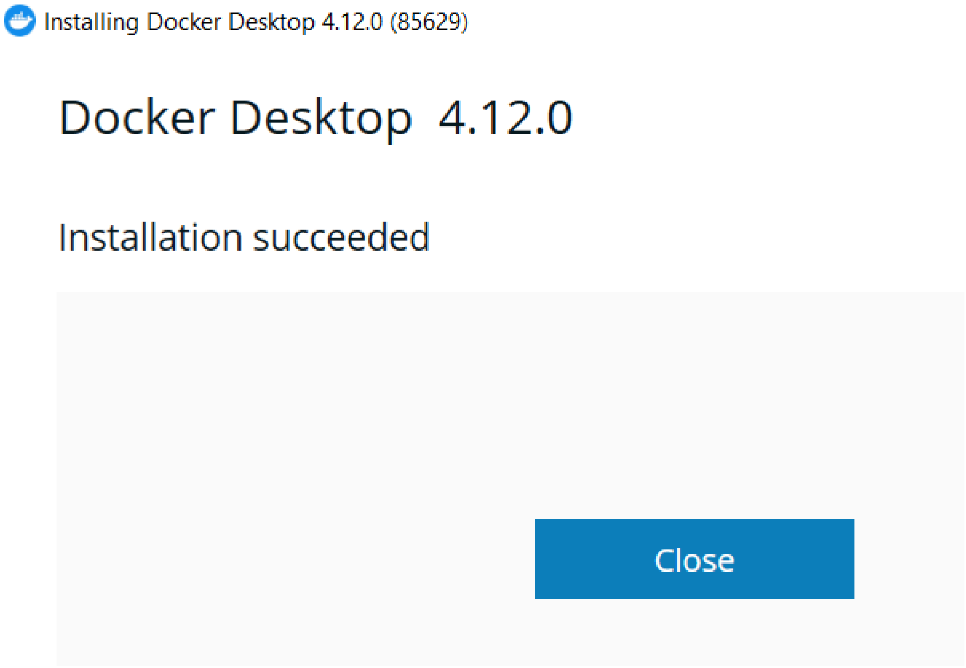


Installing Docker Desktop 4.12.0 (85629)

Configuration

☑ Add shortcut to desktop

11. **Click "Close" when you see Installation succeeded message**



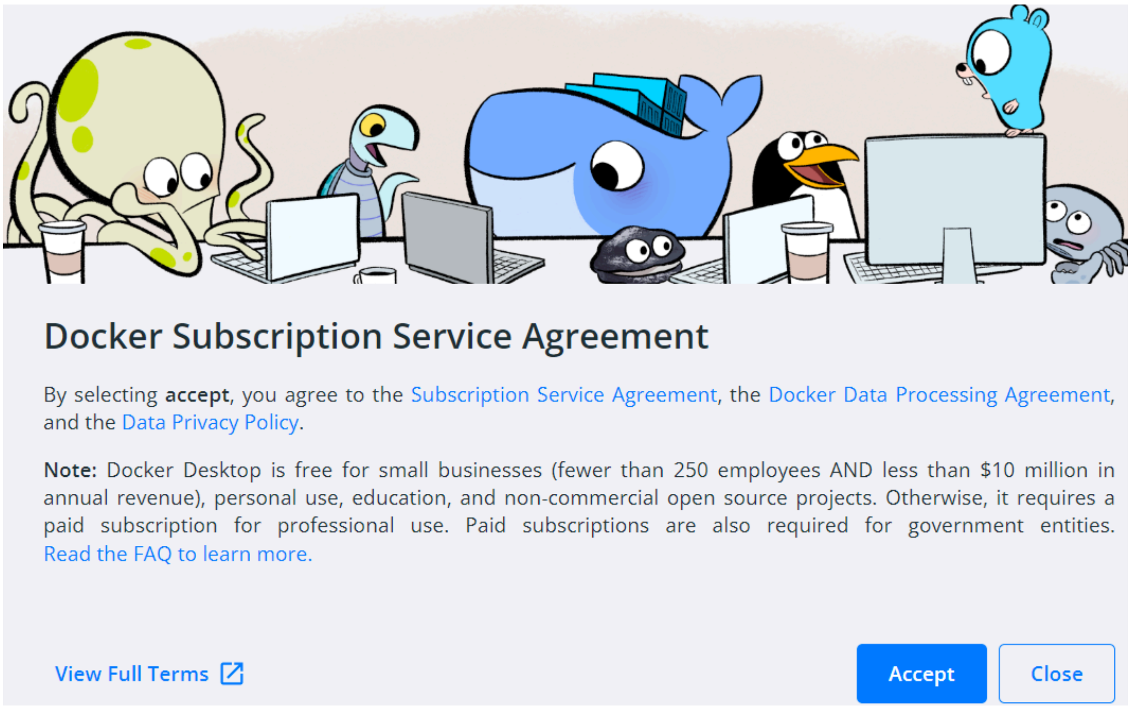
Installing Docker Desktop 4.12.0 (85629)

Docker Desktop 4.12.0

Installation succeeded

12. **Double-click the Docker Desktop icon on your Desktop**

13. **Accept the Docker Service Agreement**



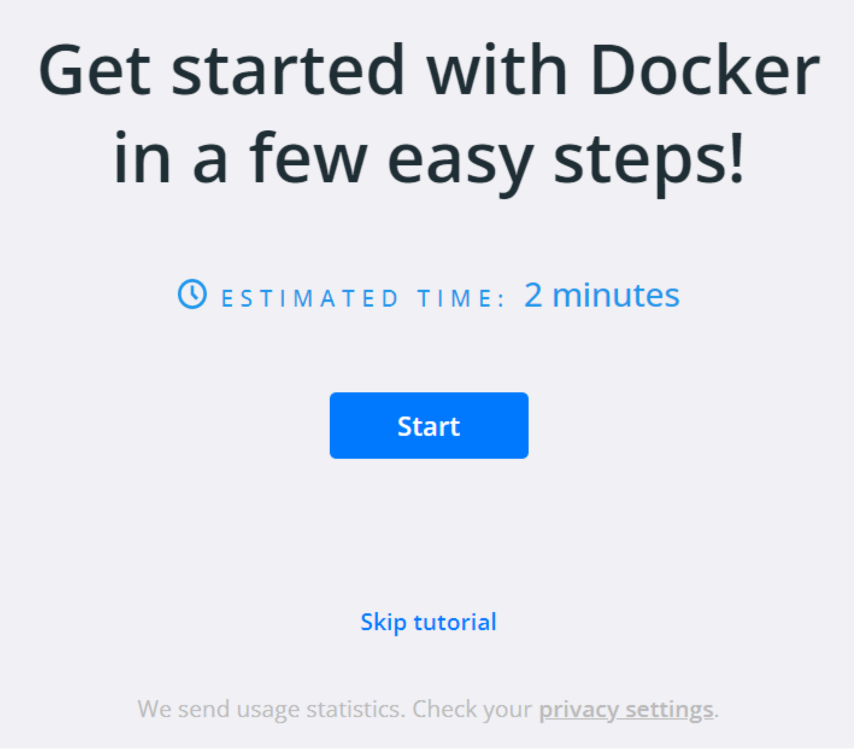
Docker Subscription Service Agreement

By selecting **accept**, you agree to the Subscription Service Agreement, the Docker Data Processing Agreement, and the Data Privacy Policy.

Note: Docker Desktop is free for small businesses (fewer than 250 employees AND less than $10 million in annual revenue), personal use, education, and non-commercial open source projects. Otherwise, it requires a paid subscription for professional use. Paid subscriptions are also required for government entities. Read the FAQ to learn more.

14. **Docker Desktop will launch for the first time**

Docker Desktop will launch and present you with a tutorial. You are free to skip this.



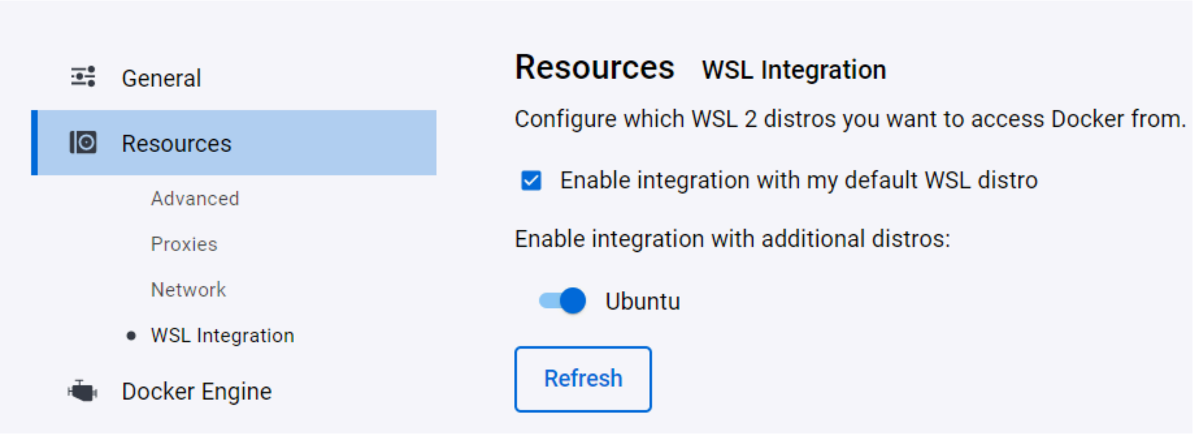
Get started with Docker in a few easy steps!

ESTIMATED TIME: 2 minutes

We send usage statistics. Check your privacy settings.

15. **Ensure that WSL Integration is Enabled**

In Docker Desktop, click the Settings **Gear** icon. Then choose **Resources,** and finally **WSL Integration**. Make sure that the **Enable Integration with my default WSL distro** is checked. Also, if you are using multiple distributions, make sure that these additional distros are toggled on:



Resources WSL Integration

Configure which WSL 2 distros you want to access Docker from.

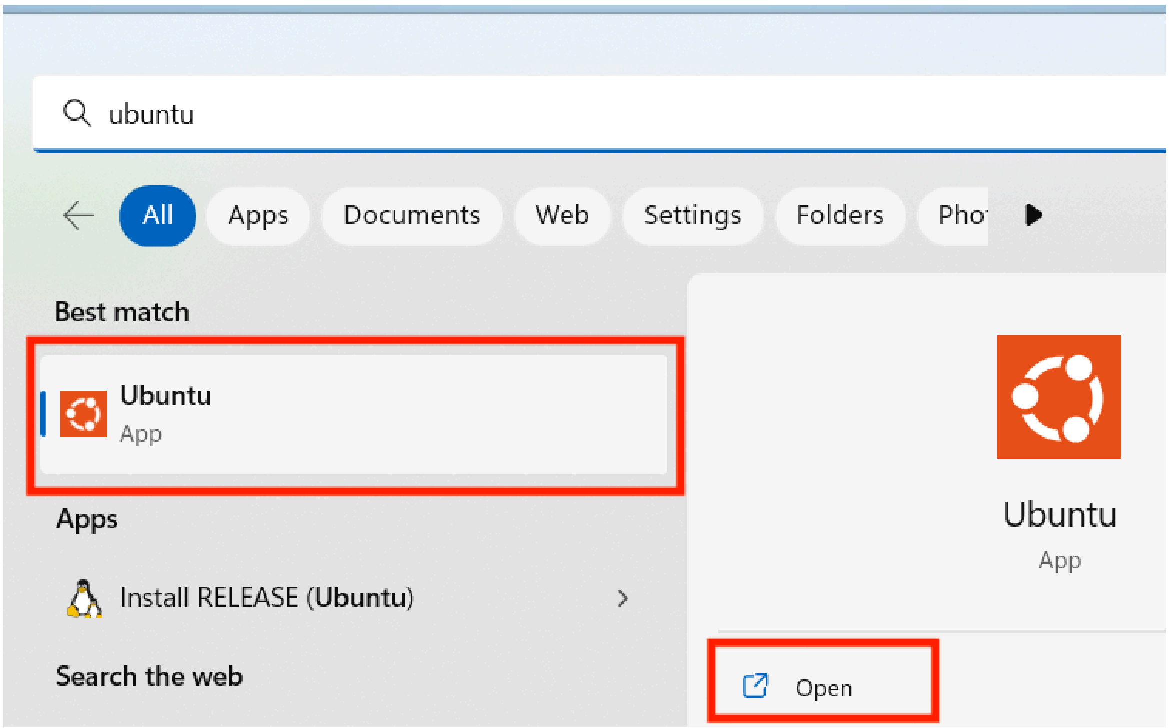
☑ Enable integration with my default WSL distro

Enable integration with additional distros:

● Ubuntu

16. **Open your Distro**

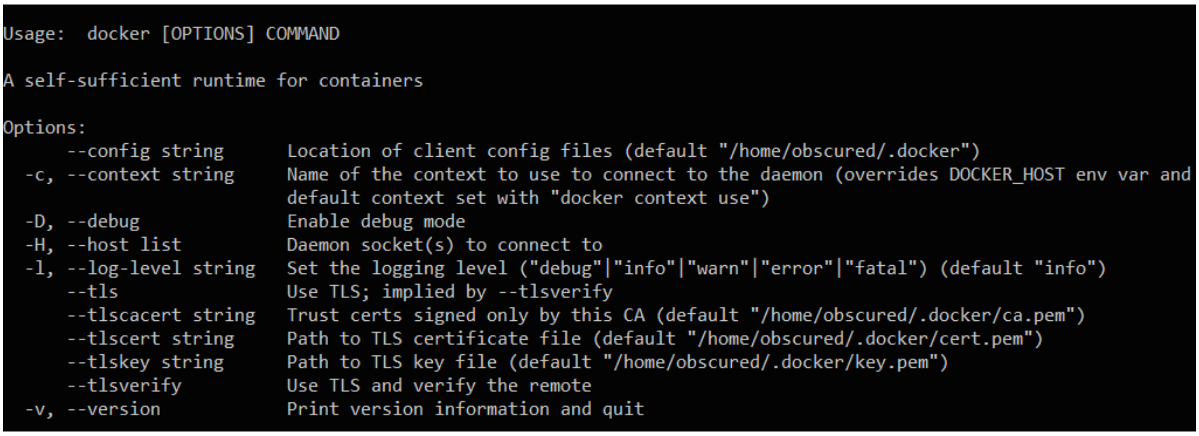
Using the Windows Search feature in the toolbar, type the name of your distribution (by default it is Ubuntu) and click **Open:**



ubuntu

17. **Check that Docker is working**

    Using the terminal for your distro, run the `docker` command. If all is well you should see some helpful instructions in the output similar to below:



```
Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Options:
      --config string      Location of client config files (default "/home/obscured/.docker")
  -c, --context string     Name of the context to use to connect to the daemon (overrides DOCKER_HOST env var and
                           default context set with "docker context use")
  -D, --debug              Enable debug mode
  -H, --host list          Daemon socket(s) to connect to
  -l, --log-level string   Set the logging level ("debug"|"info"|"warn"|"error"|"fatal") (default "info")
      --tls                Use TLS; implied by --tlsverify
      --tlscacert string   Trust certs signed only by this CA (default "/home/obscured/.docker/ca.pem")
      --tlscert string     Path to TLS certificate file (default "/home/obscured/.docker/cert.pem")
      --tlskey string      Path to TLS key file (default "/home/obscured/.docker/key.pem")
      --tlsverify          Use TLS and verify the remote
  -v, --version            Print version information and quit
```

18. **Log in to Docker**

    Using the terminal for your distro, run the `docker login` command. You will be prompted to enter the username and password (or your Personal Access Token) you created earlier when registering for a DockerHub account. Once you see **Login Succeeded**, the setup is complete and you are free to continue to the next lecture.

Appendix

A significant difference when using WSL is that you will need to create and run your project files from within the Linux filesystem, not the Windows filesystem. This will be very important in later lectures when we cover volumes.

You can access your Linux system by using the Windows Search feature in the toolbar and typing the name of your distribution (by default it is Ubuntu) and clicking open (see step #16 above). This terminal should automatically open to the home directory on the Linux filesystem

Going forward, all Docker commands should be run within **WSL** and not on the Windows file system
Resources for this lecture