**COSC 2670/2732 Practical Data Science with Python**

Windows WSL Tutorial

Quick Howto

For those of you who are using Windows 10, there can be a number of configuration issues that you will encounter. After some time expoloring options, the most consistent way I have found to ensure the environment is correct, is to use Windows Susbsystem Linux (WSL). This might sound a little frightening, but it is something worth learning now. A video will be provided that will give you a walkthrough on get it up and running in about 20 minutes. For those who do not want to watch the video, here are the written instructions:

1. Install WSL2.

2. Find the application called Windows Powershell in the main menu.
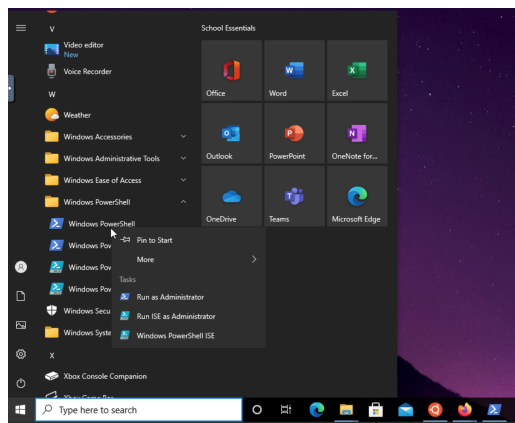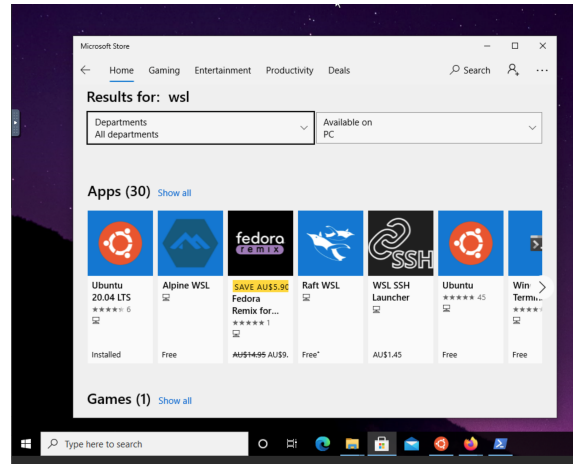

3. Right click on the binary and run as administrator.
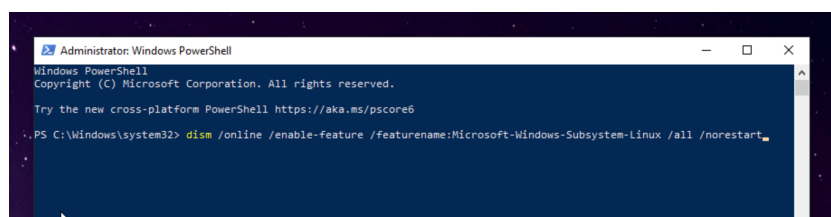
4. On the command line run the command:

```
dism.exe /online /enable-feature
        /featurename:Microsoft-Windows-Subsystem-Linux
        /all /norestart
```
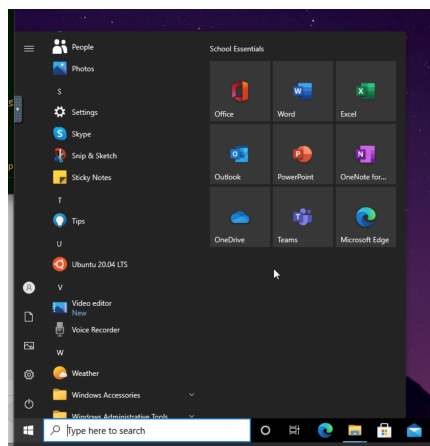
5. Install Linux into WSL2

6. Open Windows Store

7. Search for WSL

8. You will see a bunch of UNIX system options.

9. Choose Ubuntu

10. Once it has been downloaded, from the Windows start menu, choose Ubuntu 20.04 LTS

11. If WSL is not properly installed you will see an error message with a link to a Microsoft page that explains how to install it. Otherwise, it will install the package.

12. When it finishes, you can run it and if it worked, a bash shell will start that looks a lot like the powershell one we saw earlier – but it will be running in a "chroot" environment.

13. This may be a little confusing at first, but it is essentially a fully featured version of Ubuntu running on your machine. So you can check the Ubuntu documentation on how to do various things and it will work exactly the same here. For example you can type the following command to install zsh, which is an alternative shell: `sudo apt-get install zsh`.

14. Your Windows home directory is mounted as well so you can get files from there or move things there too. It will be in "/mnt/c/Users/¡your user name¿".

15. Now download Anaconda with this command:

```
wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
```

16. Install it by typing:

```
sh Miniconda-latest-Linux-x86_64.sh
```

17. Follow the prompts and complete the installation.

18. When it finishes, you may need to refresh your environment to pick up the path changes. So either restart the shell or type something like "`source ˜/.bashrc`" if you are in a bash shell.

19. Now to test your environment is right, type:

```
conda update --all
```

20. If you get an error message, your environment, is not right. So run the command:

```
~/miniconda3/bin/conda init bash
source ~/.bashrc
```

21. You can run this command to show your current path config:

    ```
    echo $PATH
    ```

22. You should see that the miniconda3/bin directory is in your path.

23. Now create your environment for the assignment.

24. Create the main environment by running:

    ```
    conda create -n PDSA1 python=3.8 b.
    ```

25. Activate the environment with:

    ```
    conda activate PDSA1
    ```

26. Now grab a copy of the assignment by running:

    ```
    wget http://wight.seg.rmit.edu.au/jsc/A1-2021S2-v1.0.zip
    ```

27. Uncompress it with:

    ```
    unzip A1-2021S2-v1.0.zip
    ```

28. Now we will finish the environment.

29. Make sure your environment is active:

    ```
    conda activate PDSA1
    cd A1
    pip install -r requirements.txt
    ```

30. Hopefully, you did not get any errors. If not, you're all set.

31. Now the last step is to start jupyter notebooks.

32. Run this command:

    ```
    jupyter notebook A1.ipynb
    ```

33. You will see a lot of logging information as it starts in the console. At the end you should see several lines that tell you how to open the page in your windows web browser. Use one of them that start with https and not file. For example "`https://localhost:8888/?token=blahblahblah`".

34. If you cut and paste that into your web browser of choice, you should be in the jupyter notebook!

Getting Help

Come talk to us. Email us. Use the discussion board. Ask a question in a lectorial or a practical. There is help available if you need it.