Contents

Chapter 1

WSL Install

This applies only if you are making use of windows 10 or 11. You can decide to skip this chapter a s a docker alternative for running ROS is being prepared but you might have compatibility issues, thus I adice you go through this painfully.

1.1 powershell install

- Search for powershell
- Right click on it and click run as administrator
- Enter 'wsl –list -online'
- In the results, check for latest version having LTS attached whichmeans long time support
- Enter 'wsl –install -d <DISTRO-NAME>'. In this case <DISTRO-NAME> is ubuntu-20.04.
- Restart your computer to finish the installation
- Search for ubuntu and you can drag it to taskbar icon for easy startup.

1.2 microsoft store install

- Open start
- Search for 'Turn windows features on or off'
- On the resulting window, scroll down and search for 'Virtual Machine Platform'
- Ensure the 'Virtual Machine Platform' is ticked then click 'OK'
- Retart your system
- After system restart, open the microsoft store app
- search for ubuntu
- selct the latest version with LTS support

- Then install.
- After install, search for ubuntu on system and you can drag it to taskbar icon for easy startup.

Chapter 2

Docker Install

2.1 On Windows

I would advice you go through 1 now and install WSL appropriately. This will ensusre you ease of setup of otherpackages in the future.

- Go to Docker download page
- Click on 'Download Desktop for Windows'
- Run the downloaded installer
- Select WSL2 backend if you went through with the first chapter, else select hyper-V backend option.
- Follow the remaining instructions to install and click close when installation is complete.
- If your user accoount is not the admin account,search for 'Computer Management' and right click to run as administrator.
- Go to 'Local Users and Groups'
- Under 'Local Users and 'Groups' go to 'Groups'
- Under 'Groups', select 'docker-users'
- Right click to add the user to the group.
- Log out and log back in so chnages can be applied

2.2 On Ubuntu, other linux distros

- Open a new terminal using Ctrl+Alt+T
- Enter 'sudo apt-get remove docker docker-engine docker.io containerd runc'
- It is okay if you get a result that none of the packages are installed.

- Then enter 'sudo apt-get update'
- Then Enter 'sudo apt-get install ca-certificates curl gnupg lsb-release'
- Enter 'sudo mkdir -m 0755 -p /etc/apt/keyrings'
- Enter 'curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg –dearmor -o /etc/apt/keyrings/docker.gpg'
- Enter 'echo "deb [arch=$(dpkg –print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null'
- Enter 'sudo chmod a+r /etc/apt/keyrings/docker.gpg'
- Enter 'sudo apt-get update'
- Enter 'sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin'
- Enter 'sudo docker run hello-world'

The last command should print a message and then exit.

Chapter 3

Setup ROS on Docker

This part will be updated soon

Chapter 4

Useful Resources

4.1 Installations

- IEEE-OAUSB-RAS ROS classes setups

4.2 Linux

- 60 linux commands
- nano editor cheatsheet

4.3 ROS

- petron's ROS github
- micro-ROS github