ROS learning

Saturday, December 21, 2024   8:04 PM

https://docs.ros.org/en/humble/Tutorials/Beginner-CLI-Tools/Configuring-ROS2-Environment.html

Official website

Create and Set Up a ROS2 Workspace - ROS2 Tutorial 3
Good Tutorial for ROS2 set up, and make some easy project

Secure Shell (SSH) Protocol is a cryptographic network protocol for operating network services securely over an unsecured network.[1] Its most notable applications are remote login and command-line execution.

Search turn windows feature on and off and turn on linux system on the bottom
Then go to microsoft store and search Ubuntu to download the latest verion of Ubuntu

Remember to check the version of it before you downloading ROS(lsb_release -a)
- sudo adduser [username] (add new users to Ubuntu)
- su - jack (go for the user)

In order to connect to the display, we need to download VcXsrv windows X Server

Then click Xlauch on your Desktop

Good command put it here:
Clear(clear the windows so it won't be messy)
ls (list)
cd(go back to home directory)
source ~/.bashrc(make sure everything restore)
sudo apt-key list(check each key defines okay)
ros2 node list(check which node you are running right now)
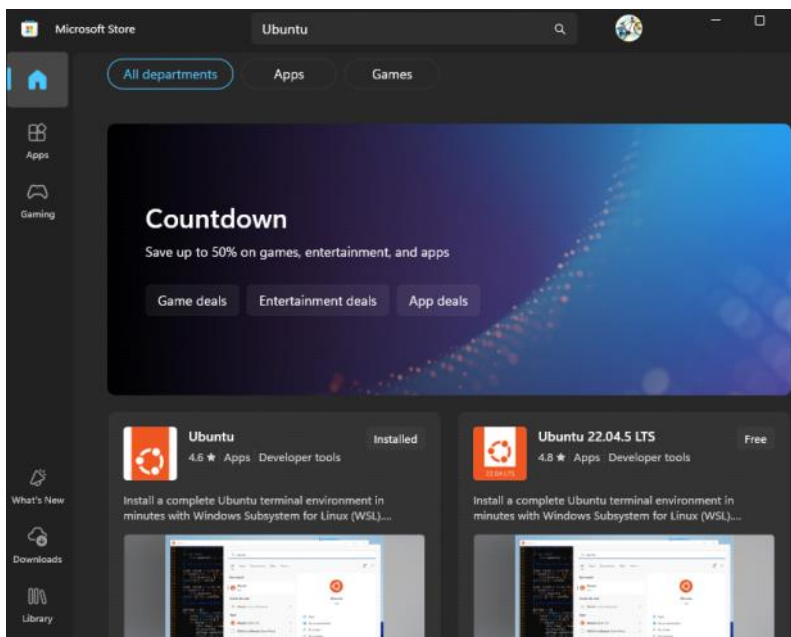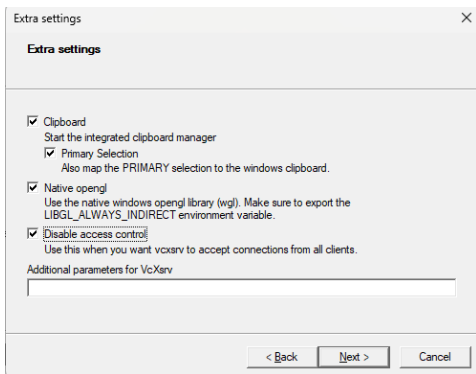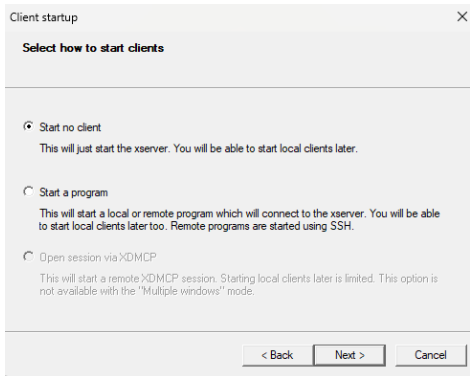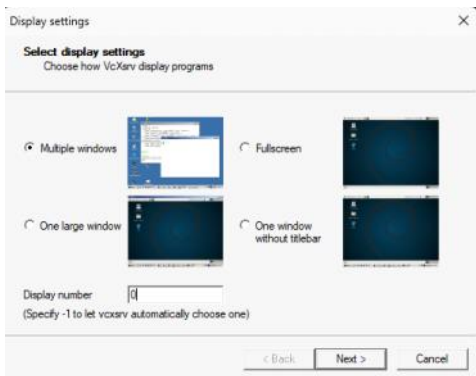ros2 node info /{your node's name}

How to make muitiple terminal in the same screen
Us Alt + Shift + D to make division of the cmd
Then we can use wsl to set Ubuntu to be default system by
(wsl --set-default Ubuntu-22.04)
Then we just have to type wsl to access to Ubuntu.

Then click finish
Remember to add the display to ur bashrc file

```
source /opt/ros/humble/setup.bash

# export QT_DEBUG_PLUGINS=1
# export ROS_DOMAIN_ID=0
# export ROS_LOCALHOST_ONLY=1
export DISPLAY=:0
```

As I Shown here 🔒
\\wsl.localhost\Ubuntu-22.04\home\jack files inside here

always remember to check the version of ur Ubuntu (jammy or nobel... etc) and whether u download for ROS or ROS2

For downloading Simulator, Gazebo
https://classic.gazebosim.org/tutorials?tut=install_ubuntu

Default installation: one-liner

1. Install

```
curl -sSL http://get.gazebosim.org | sh
```

2. Run

```
gazebo
```

You can use this to download latest model for gazebo

Colcon build, build needed source for each project in src
Cd to ros2_ws, same level as src, then use "colcon build", you will get

build	12/25/2024 10:21 AM	File folder
install	12/25/2024 10:21 AM	File folder
log	12/26/2024 12:11 AM	File folder
src	12/26/2024 12:14 AM	File folder

If you change the code, you can use " colcon build --symlink-install" to rebuild packages(build, install, log)

##Node,
Is like a function that can send and receive information, but note that nodes are not connect to each other directly, they us e topic to connecting them, such as chatter, then chatter send the info to the reciever(another node basically).