Shell Script

#Open the network configuration file with the command below

sudo nano /writable/etc/netplan/50-cloud-init.yaml

#write the command to edit automatic setiing file

sudo nano /etc/apt/apt.conf.d/20auto-upgrades

#To set mask for the "systemd" process, execute the following command.

systemctl mask systemd-networkd-wait-online.service

#Turn off hibernation and suspension

sudo systemctl mask [sleep.target](https://sleep.target/) [suspend.target](https://suspend.target/) [hibernate.target](https://hibernate.target/) [hybrid-sleep.target](https://hybrid-sleep.target/)

#Reboot the Raspberry Pi

reboot

#Use the following command from the remote PC terminal if you want to work from the remote PC over SSH. Use the password that you established in Step 1.

ssh ubuntu@{IP Address of Raspberry PI}

#install python3 dependencies and build-essential for additional system support

sudo apt install python3-argcomplete python3-colcon-common-extensions libboost-system-dev build-essential

#install ROS packages

sudo apt install ros-humble-hls-lfcd-lds-driver

sudo apt install ros-humble-turtlebot3-msgs

sudo apt install ros-humble-dynamixel-sdk

sudo apt install libudev-dev

#create a workspace directory for TurtleBot3

mkdir -p ~/turtlebot3\_ws/src && cd ~/turtlebot3\_ws/src

#clone TurtleBot3 repository and LD-08 repository

git clone -b humble-devel<https://github.com/ROBOTIS-GIT/turtlebot3.git>

git clone -b ros2-devel<https://github.com/ROBOTIS-GIT/ld08_driver.git>

#Navigate to the TurtleBot3 source folder

cd ~/turtlebot3\_ws/src/turtlebot3

#Remove unnecessary packages from TurtleBot3 source

rm -r turtlebot3\_cartographer turtlebot3\_navigation2

#Navigate back to the TurtleBot3 workspace

cd ~/turtlebot3\_ws/

#Add ROS setup.bash to the bashrc file

echo 'source /opt/ros/humble/setup.bash' >> ~/.bashrc

source ~/.bashrc

#Build the TurtleBot3 workspace using symlink installation

colcon build --symlink-install --parallel-workers 1

#Add TurtleBot3 workspace setup.bash

echo 'source ~/turtlebot3\_ws/install/setup.bash' >> ~/.bashrc

source ~/.bashrc

#USB Port settings for Open-source control Module for ROS

sudo cp `ros2 pkg prefix turtlebot3\_bringup`/share/turtlebot3\_bringup/script/99-turtlebot3-cdc.rules /etc/udev/rules.d/

sudo udevadm control --reload-rules

sudo udevadm trigger

#Commands below show how to assign a ROS\_DOMAIN\_ID to SBS.

echo 'export ROS\_DOMAIN\_ID=30 #TURTLEBOT3' >> ~/.bashrc

source ~/.bashrc

#Depending on your model,use LDS-01 or LDS-02.

echo 'export LDS\_MODEL=LDS-02' >> ~/.bashrc

#Implement modifications with the comment below

source ~/.bashrc