



Faculty of Engineering
Cairo University



Department of Mechanical Engineering
Credit Hours System
Mechatronics Program
Advanced Robotics & Artificial Intelligence

Differential Drive Robot

Midterm Task – Setup Documentation

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1 – Initializing ROS Master

```
roscore http://172.20.10.4:11311/

hamzawi@hamzawi-Legion-5-15ITH6H:~$ roscore
... logging to /home/hamzawi/.ros/log/d5a30718-02f1-11ef-9536-81ff8fc5c421/ros-launch-hamzawi-Legion-5-15ITH6H-2640.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://172.20.10.4:36219/
ros_comm version 1.16.0

SUMMARY
=====

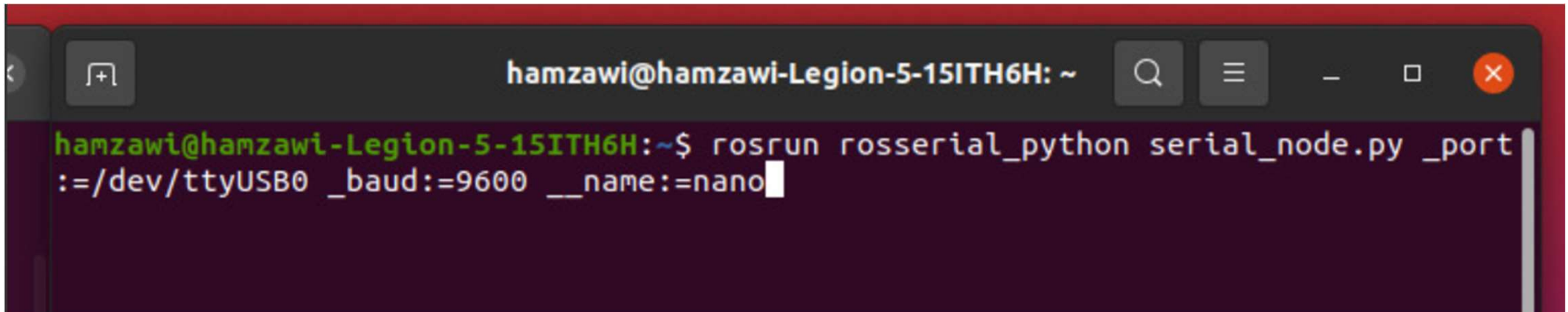
PARAMETERS
* /roscdistro: noetic
* /rosversion: 1.16.0

NODES

auto-starting new master
process[master]: started with pid [2651]
ROS_MASTER_URI=http://172.20.10.4:11311/
```



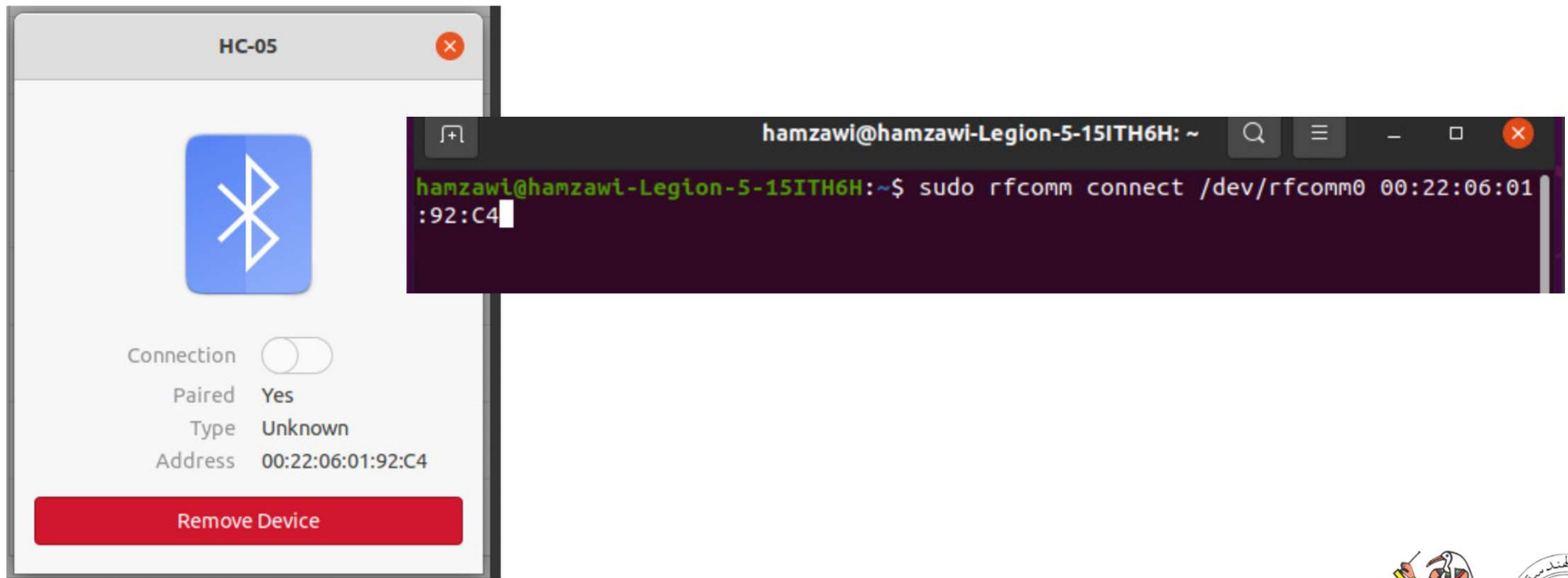
2 – Running roserial for Joystick Arduino Node via USB Port



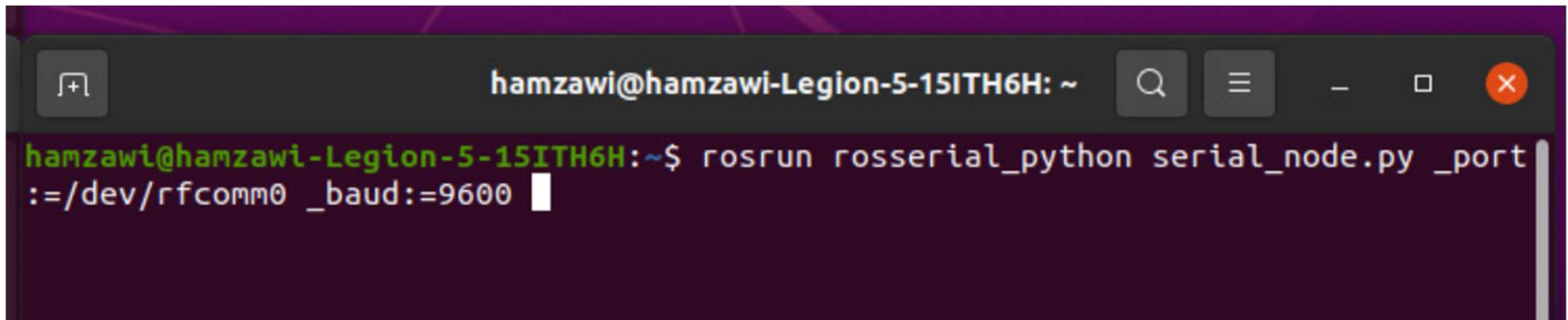
```
hamzawi@hamzawi-Legion-5-15ITH6H: ~  
hamzawi@hamzawi-Legion-5-15ITH6H:~$ rosrn rosserial_python serial_node.py _port  
:=/dev/ttyUSB0 _baud:=9600 __name:=nano
```



3 – Connecting Bluetooth module with ROS by configuring it as serial port



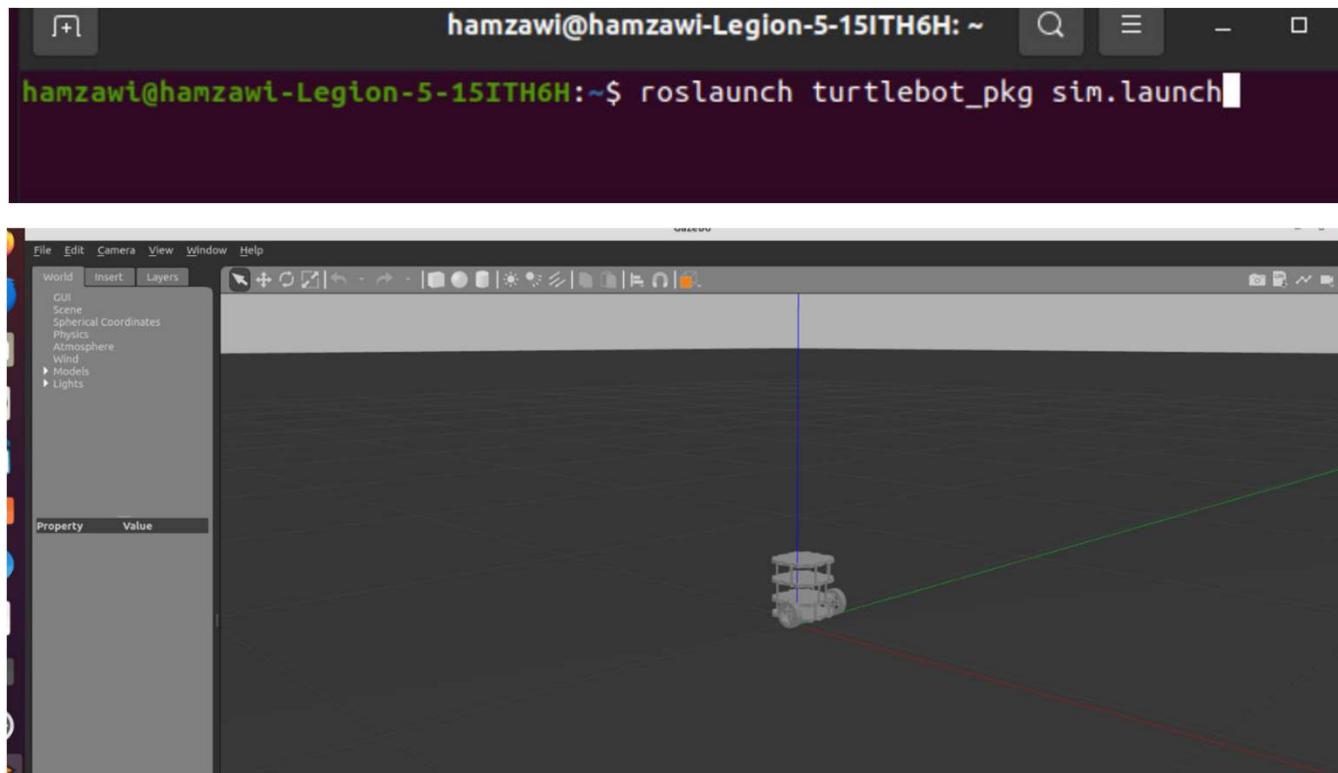
4 – Running roserial for Robot Arduino Node using serial port (Bluetooth configured)



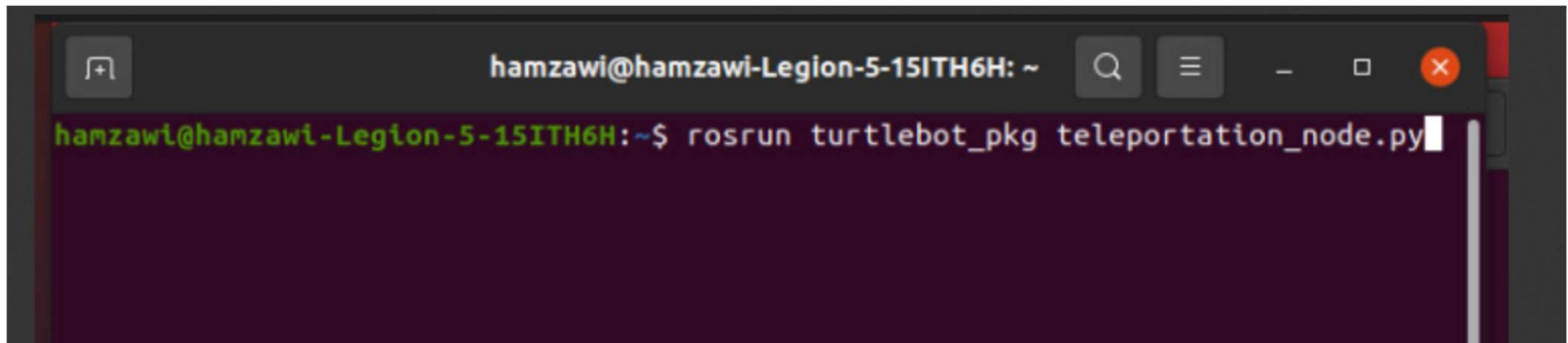
```
hamzawi@hamzawi-Legion-5-15ITH6H: ~  
hamzawi@hamzawi-Legion-5-15ITH6H:~$ rosrn rosserial_python serial_node.py _port  
:=/dev/rfcomm0 _baud:=9600
```



5 – Running the Gazebo file using the launch file



6 – Running rosrun for the main node “teleportation_node.py”



```
hamzawi@hamzawi-Legion-5-15ITH6H: ~  
hamzawi@hamzawi-Legion-5-15ITH6H:~$ rosrun turtlebot_pkg teleportation_node.py
```

