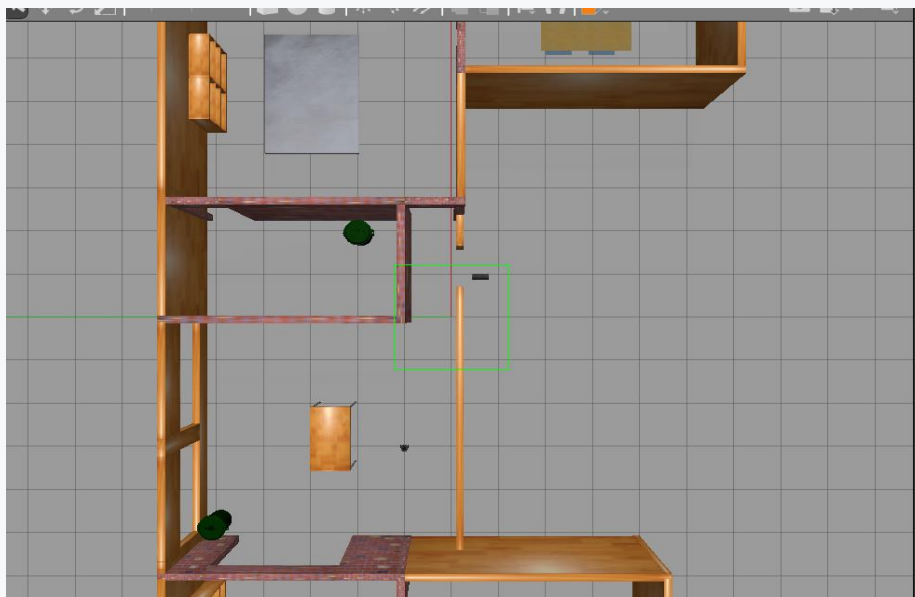
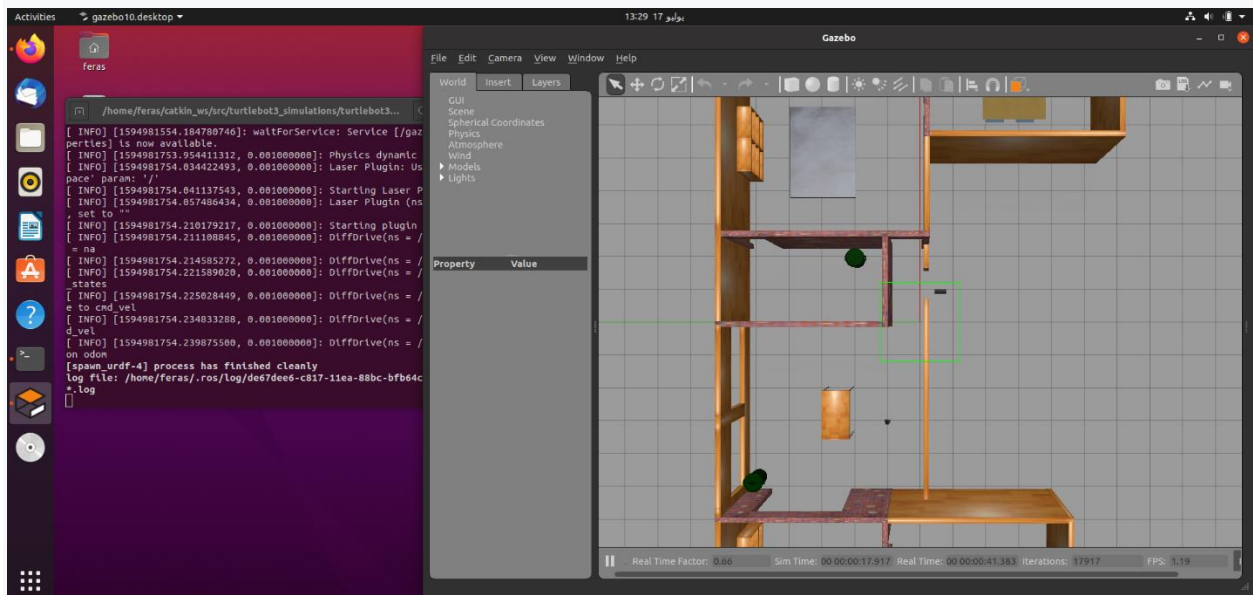


## TurtleBot3 SLAM task

In the beginning, we are gonna run Gazebo World in order to see the map

The used world is Turtlebot3 House and the used turtlebot model is burger.

```
export TURTLEBOT3_MODEL=burger  
roslaunch turtlebot3_gazebo turtlebot3_house.launch
```



**In order to control a TurtleBot3 with a keyboard. Open new terminal.**

```
export TURTLEBOT3_MODEL=burger
```

```
roslaunch turtlebot3_teleop turtlebot3_teleop_key.launch
```

```
feras@feras-VirtualBox:~$ export TURTLEBOT3_MODEL=burger
feras@feras-VirtualBox:~$ roslaunch turtlebot3_teleop turtlebot3_teleop_key.launch
... logging to /home/feras/.ros/log/de67dee6-c817-11ea-88bc-bfb64cccf7fa/roslaunch-feras-Virtua
Box-3289.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://feras-VirtualBox:45739/

SUMMARY
=====
PARAMETERS
* /model: burger
* /rostdistro: noetic
* /rosversion: 1.15.7
NODES
/
  turtlebot3_teleop_keyboard (turtlebot3_teleop/turtlebot3_teleop_key)
ROS_MASTER_URI=http://localhost:11311
process[turtlebot3_teleop_keyboard-1]: started with pid [3306]

Control Your TurtleBot3!
-----
Moving around:
   w
 a   s   d
   x

w/x : increase/decrease linear velocity (Burger : ~ 0.22, Waffle and Waffle Pi : ~ 0.26)
a/d : increase/decrease angular velocity (Burger : ~ 2.84, Waffle and Waffle Pi : ~ 1.82)

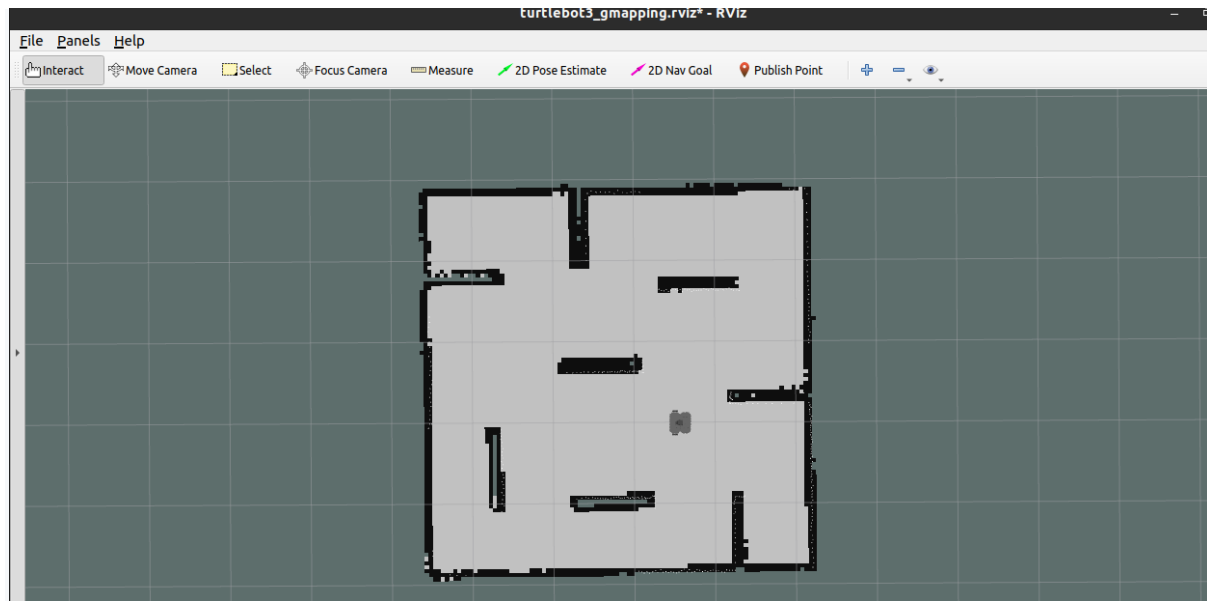
space key, s : force stop

CTRL-C to quit
□
```

**Thirdly, open new terminal and export the robot model and run the SLAM node in RViz.**

```
export TURTLEBOT3_MODEL=burger
```

```
roslaunch turtlebot3_slam turtlebot3_slam.launch slam_methods:=gmapping
```



Note: we got error in the last part we fixed it by:

Open work space

```
git clone https://github.com/ros-perception/openslam\_gmapping src/openslam_gmapping
```

```
git clone https://github.com/ros-perception/slam\_gmapping src/slam_gmapping
```

```
rosdep install --from-paths src/ -i
```

```
catkin_make  
-DCMAKE_BUILD_TYPE=RelWithDebInfo
```