

ROS Gazebo Installation

Open terminal and run the following command:

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

Turtlebot3 Installation

PC Setup

Install dependent ROS Packages:

```
sudo apt-get install ros-melodic-joy ros-melodic-teleop-twist-joy
sudo apt-get install ros-melodic-teleop-twist-keyboard ros-melodic-laser-proc
sudo apt-get install ros-melodic-rgbd-launch ros-melodic-depthimage-to-laserscan
sudo apt-get install ros-melodic-rosserial-arduino ros-melodic-rosserial-python
sudo apt-get install ros-melodic-rosserial-server ros-melodic-rosserial-client
sudo apt-get install ros-melodic-rosserial-msgs ros-melodic-amcl ros-melodic-map-server
sudo apt-get install ros-melodic-move-base ros-melodic-urdf ros-melodic-xacro
sudo apt-get install ros-melodic-compressed-image-transport ros-melodic-rqt*
sudo apt-get install ros-melodic-gmapping ros-melodic-navigation ros-melodic-interactive-markers
```

Install TurtleBot3 Packages

Install TurtleBot3 via Debian Packages.

```
cd ~/catkin_ws/src/
git clone -b melodic-devel https://github.com/ROBOTIS-GIT/DynamixelSDK.git
git clone -b melodic-devel https://github.com/ROBOTIS-GIT/turtlebot3_msgs.git
git clone -b melodic-devel https://github.com/ROBOTIS-GIT/turtlebot3.git
cd ~/catkin_ws && catkin_make
echo "source ~/catkin_ws/devel/setup.bash" >> ~/.bashrc
```

Set TurtleBot3 Model Name

Set the default TURTLEBOT3_MODEL name to your model. Enter the below command to a terminal.

```
echo "export TURTLEBOT3_MODEL=burger" >> ~/.bashrc
```

```
echo "export TURTLEBOT3_MODEL=waffle_pi" >> ~/.bashrc
```

Install Simulation Package

The TurtleBot3 Simulation Package requires turtlebot3 and turtlebot3_msgs packages as prerequisites. Without these prerequisite packages, the Simulation cannot be launched.

Please follow the PC Setup instructions if you did not install required packages and dependent packages.

```
cd ~/catkin_ws/src/
```

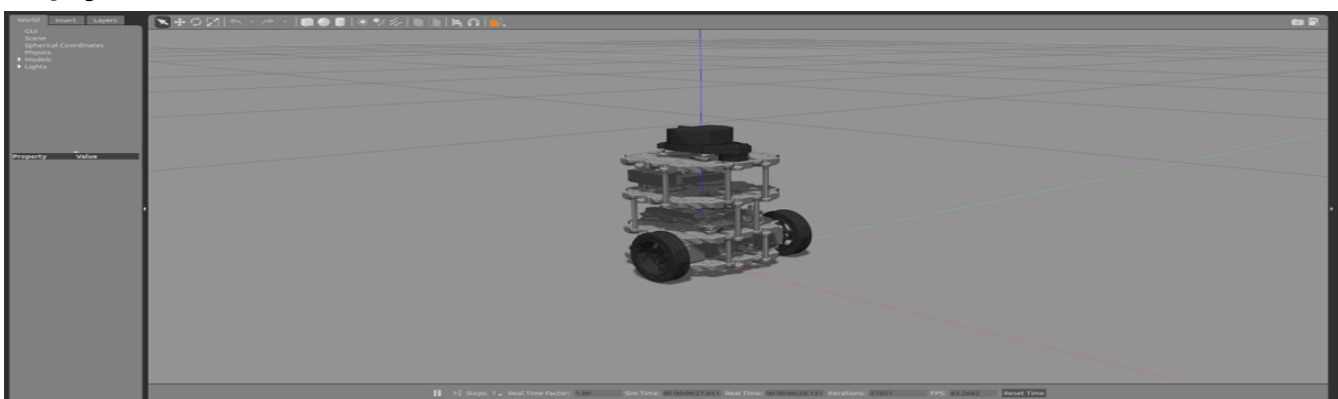
```
git clone -b melodic-devel https://github.com/ROBOTIS-GIT/turtlebot3\_simulations.git
```

```
cd ~/catkin_ws
```

```
catkin build
```

Launch TurtleBot3 in the following worlds to ensure the installation is proper

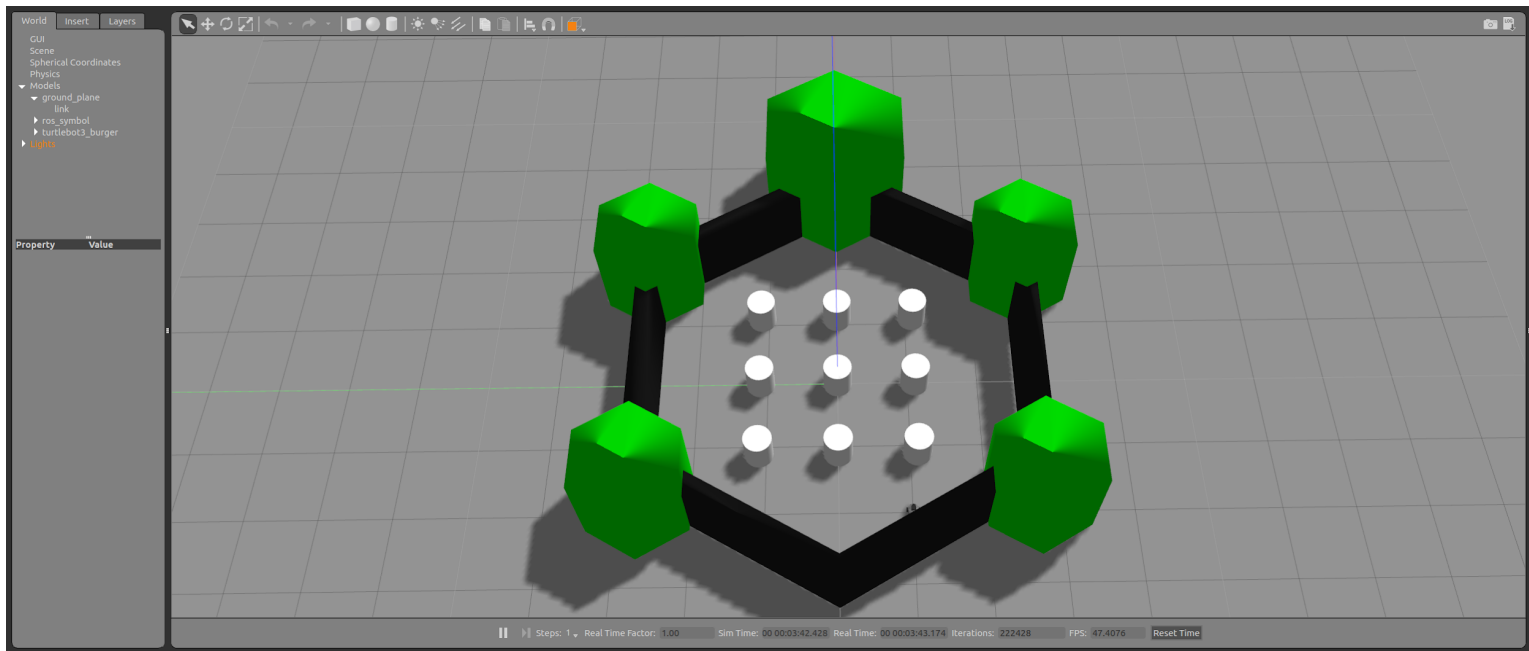
Empty World



```
export TURTLEBOT3_MODEL=burger
```

```
roslaunch turtlebot3_gazebo turtlebot3_empty_world.launch
```

TurtleBot3 World



```
export TURTLEBOT3_MODEL=waffle
```

```
roslaunch turtlebot3_gazebo turtlebot3_world.launch
```