Frontier Exploration

Step 1: Downloading and installing the frontier_exploration package for ROS KINETIC
'sudo apt-get install ros-kinetic-frontier-exploration'.

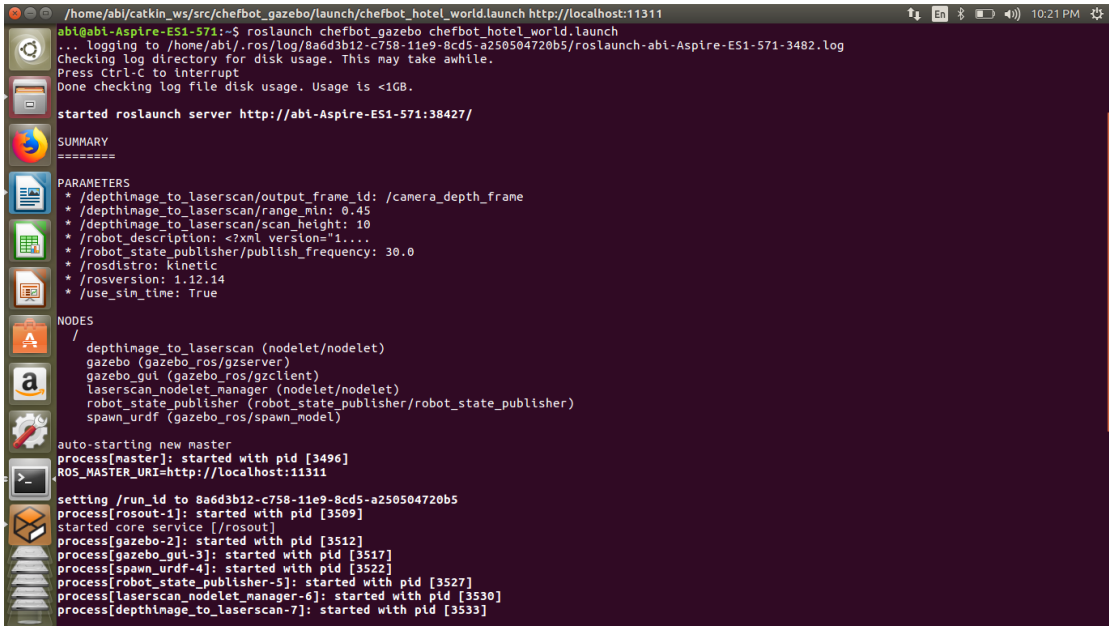
Step 2: Creating and configuring move_base.launch file for your robot

the content of the launch file:
'<launch>

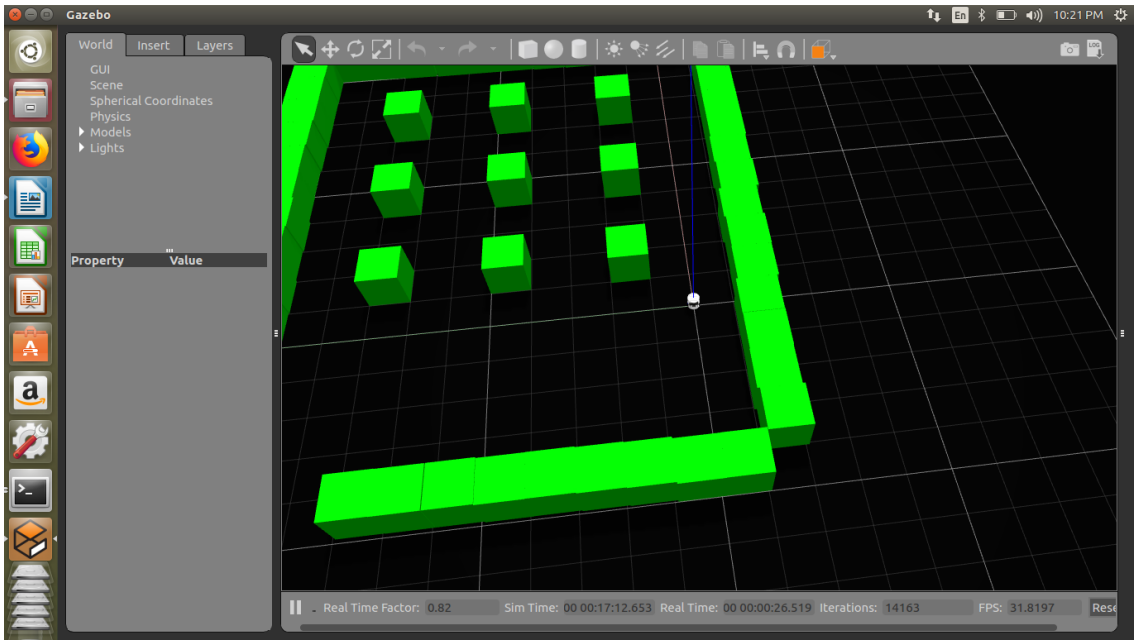
```
  <arg name="odom_topic" default="odom" />

  <node pkg="move_base" type="move_base" respawn="false" name="move_base"
output="screen">
    <rosparam file="$(find chefbot_gazebo)/param/costmap_common_params.yaml"
command="load" ns="global_costmap" />
    <rosparam file="$(find chefbot_gazebo)/param/costmap_common_params.yaml"
command="load" ns="local_costmap" />
    <rosparam file="$(find chefbot_gazebo)/param/local_costmap_params.yaml"
command="load" />
    <rosparam file="$(find chefbot_gazebo)/param/global_costmap_params.yaml"
command="load" />
    <rosparam file="$(find chefbot_gazebo)/param/base_local_planner_params.yaml"
command="load" />
    <rosparam file="$(find chefbot_gazebo)/param/dwa_local_planner_params.yaml"
command="load" />
    <rosparam file="$(find chefbot_gazebo)/param/move_base_params.yaml"
command="load" />

    <remap from="cmd_vel" to="/mobile_base/commands/velocity"/>
    <remap from="odom" to="$(arg odom_topic)"/>
  </node>
</launch>'
```

Step 3: configuring the global planner to the move base parameter file
move_base_params.yaml
'base_global_planner: "global_planner/GlobalPlanner"' add this to the end of the line.

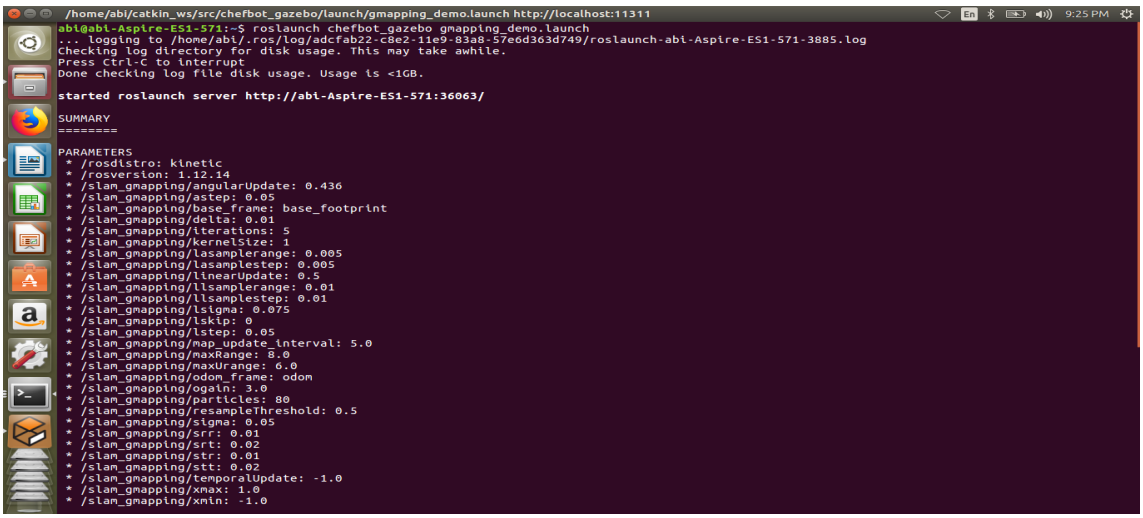
Step 4: Starting the roscore gazebo slam and rviz respectively



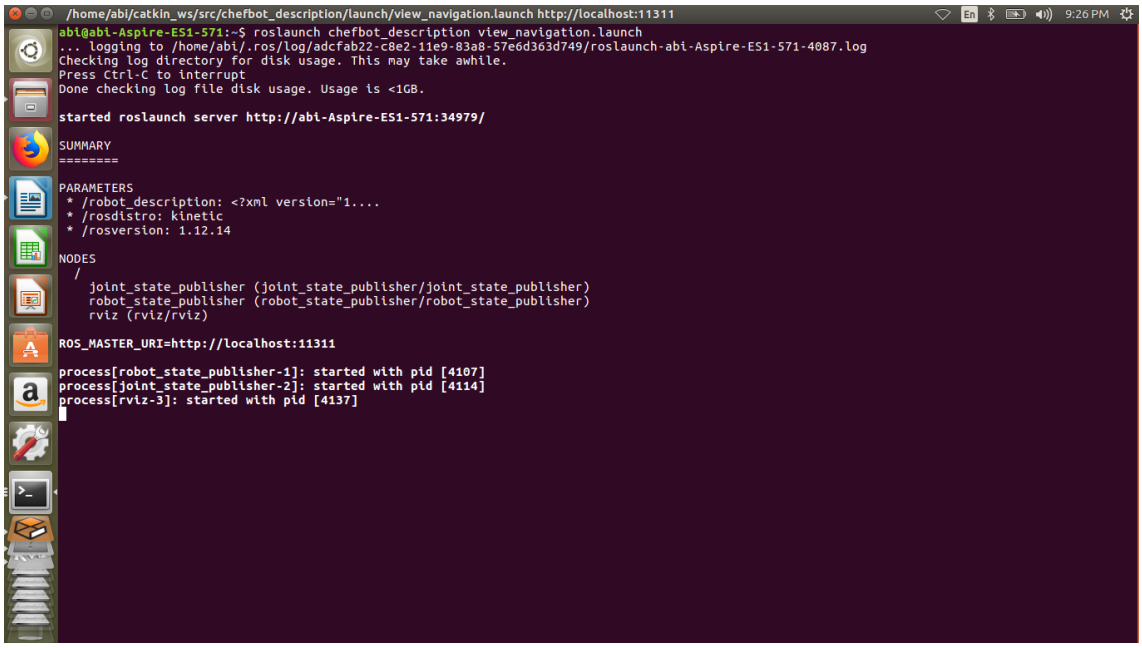
this will open gazebo with it's hotel enviornment loaded

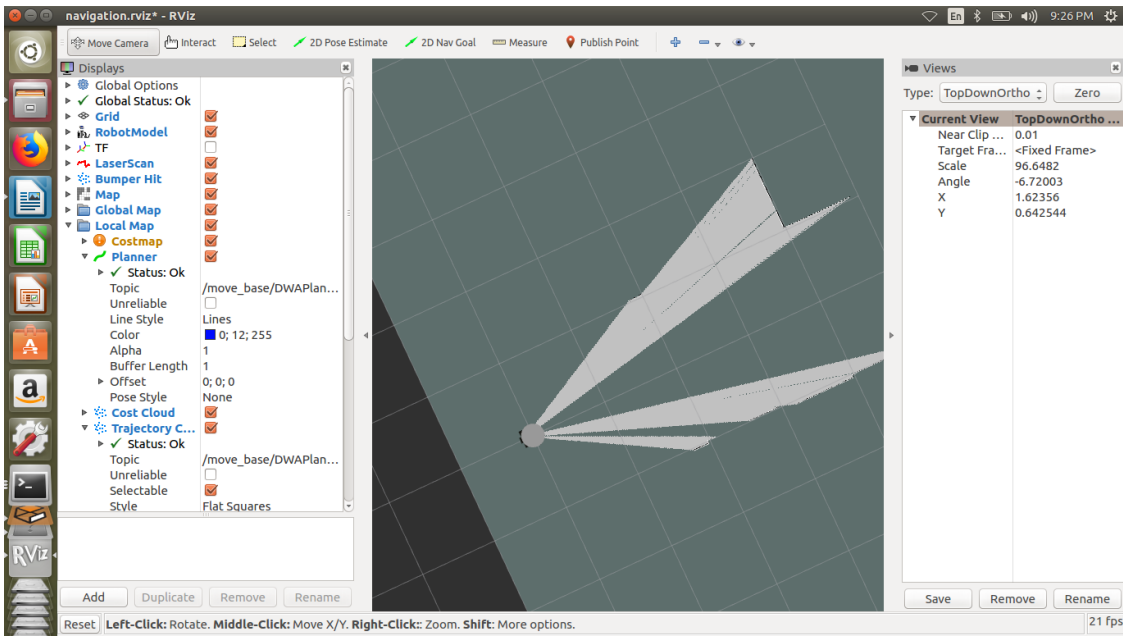


-Next start the slam

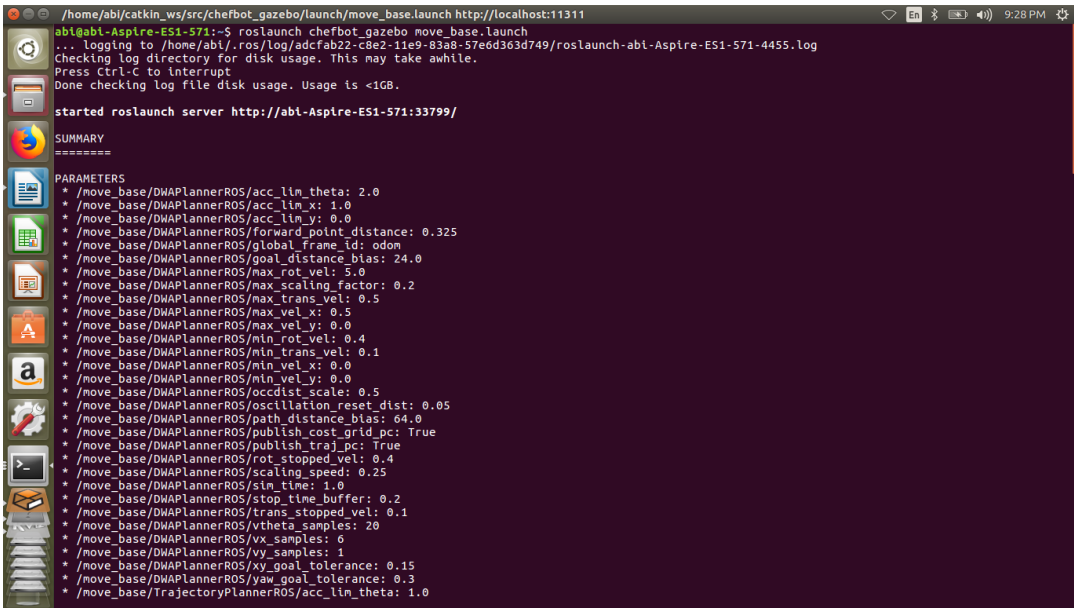


-starting Rviz

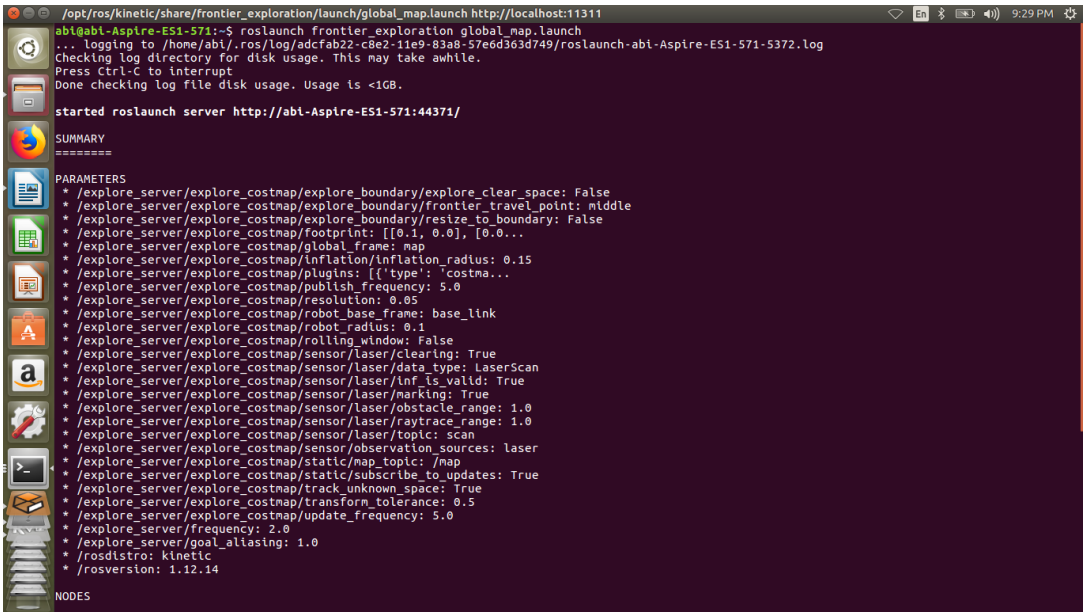




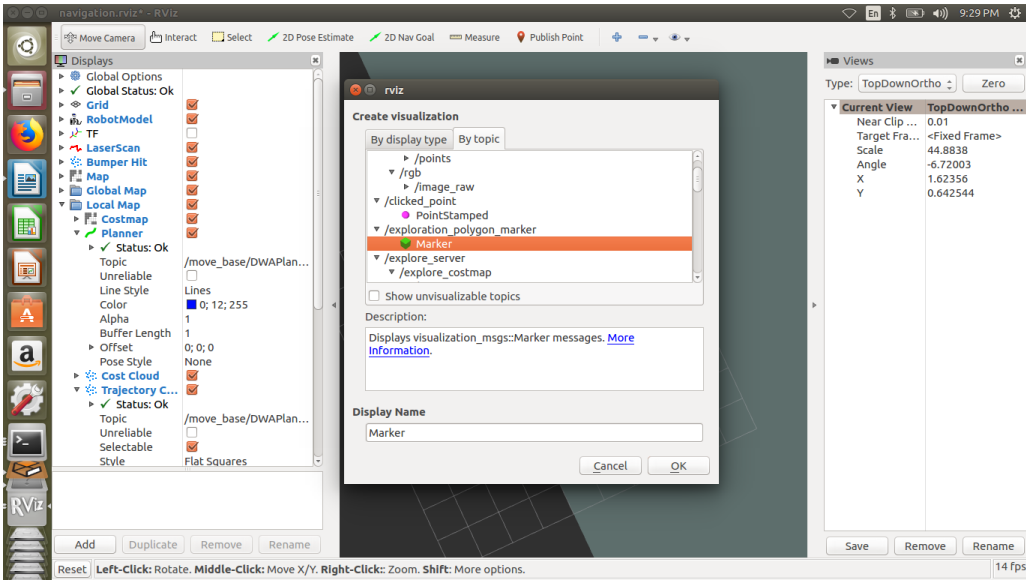
-Launching the move_base file



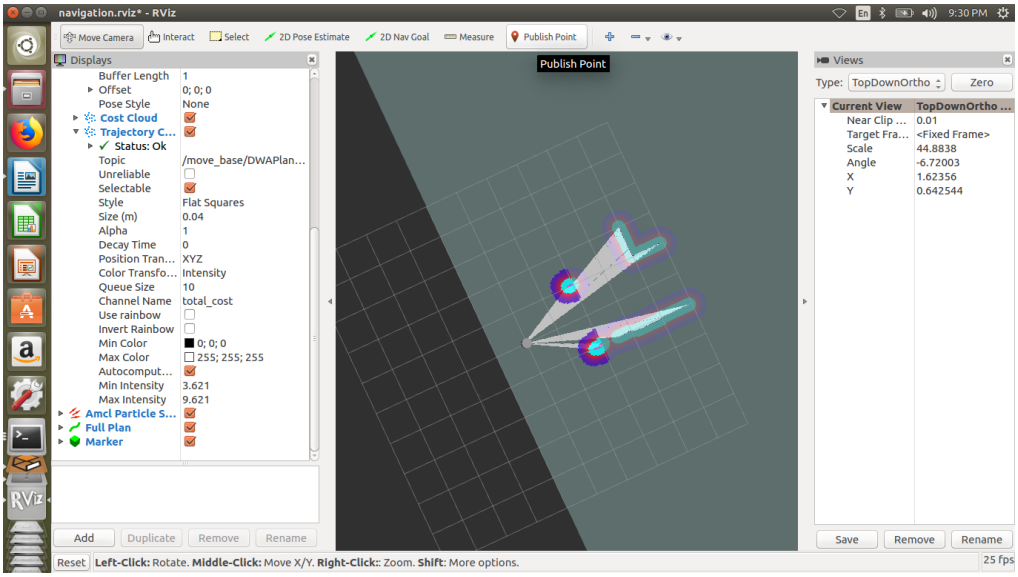
-launching the frontier_exploration package



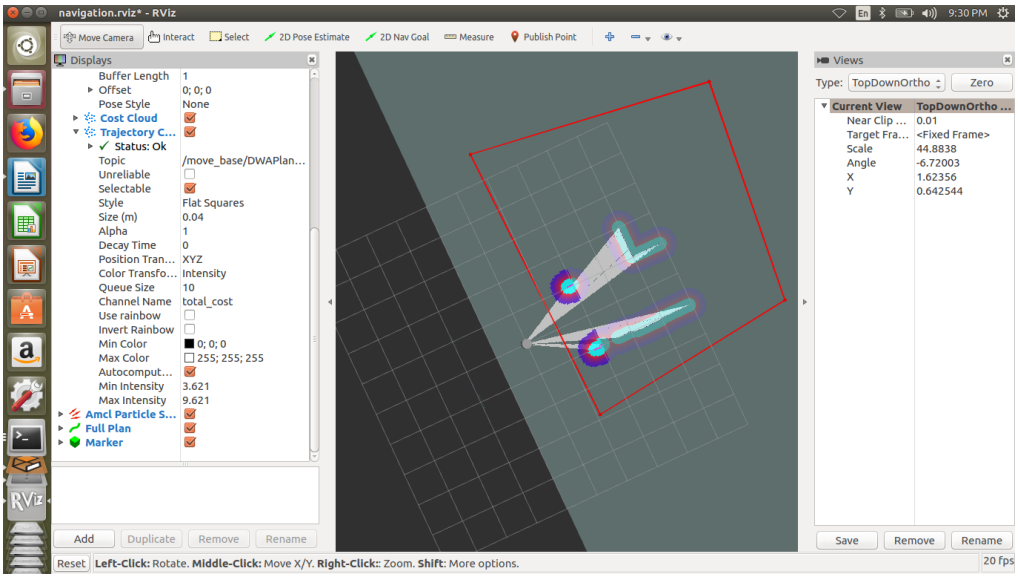
-Add the exploration polygon marker by simply clicking ADD on bottom left corner



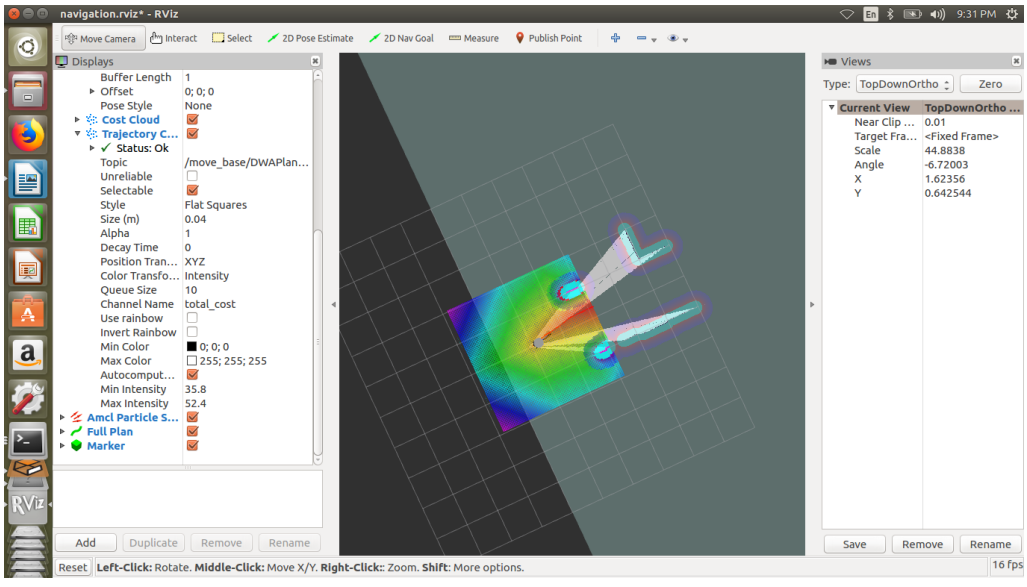
-set the initial boundary point by clicking on publish and then clicking on screen



-repeat this step to from a closed polygon



-once again click on publish and click anywhere inside the polygon and the mapping of that area will begin



TO USE THE EXPLORE_LITE PKG

installation: sudo apt-get install ros-kinetic explore_lite

steps are same as above except for using the explore_lite instead of frontier_exploration.

Roslaunch explore_lite explore.launch

THANK YOU