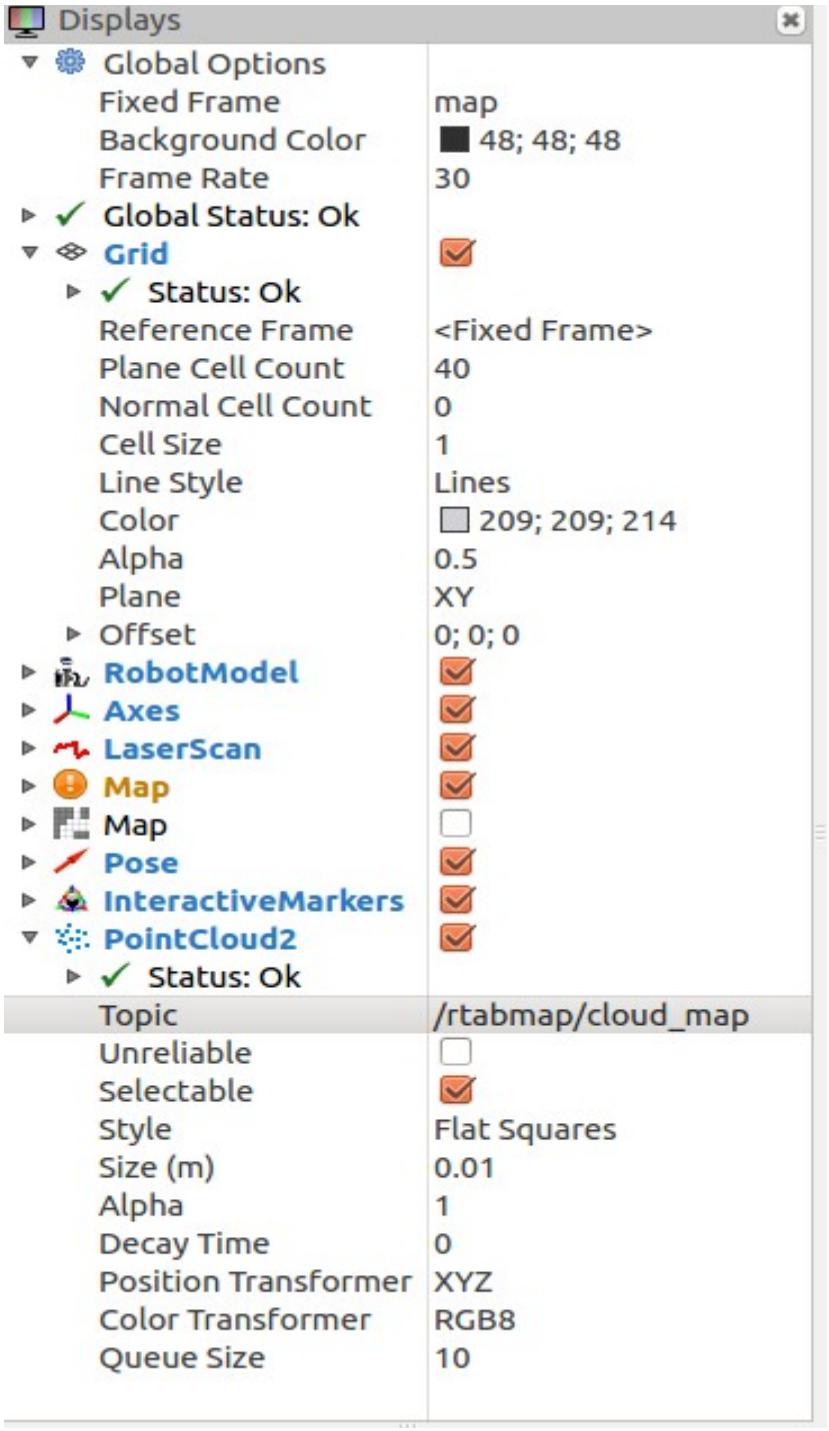
PROCEDURE TO START JACKAL MAPPING USING KINECT SENSOR

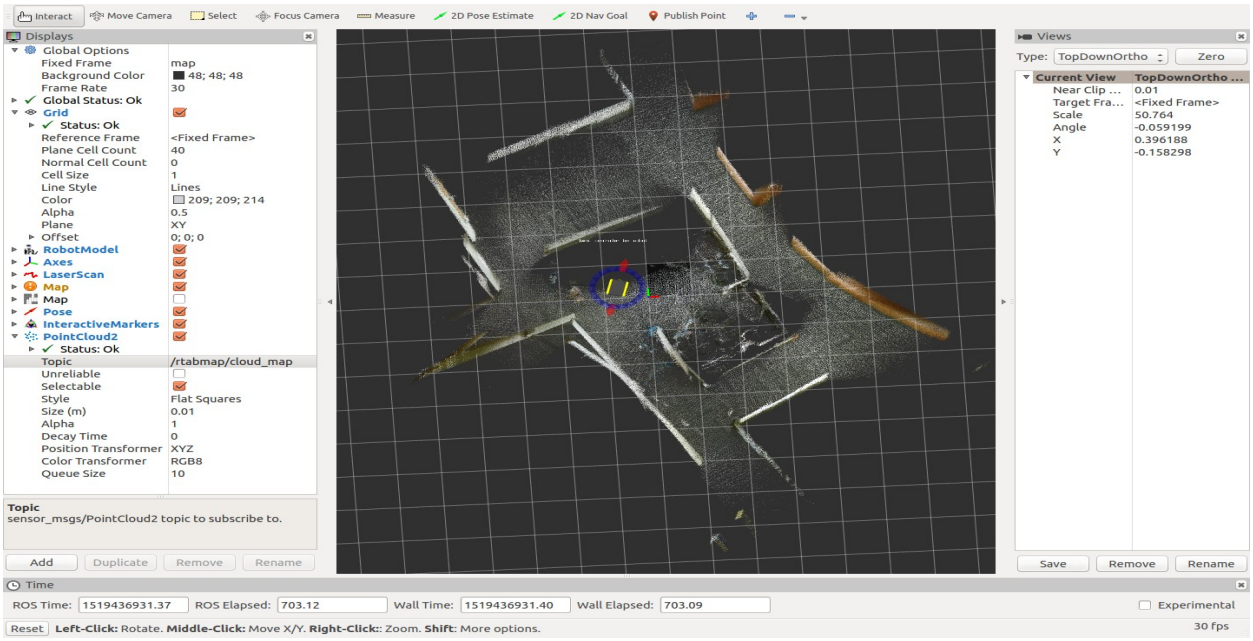
Steps to start mapping:

1. **Initiate ros using roscore.**
2. Export the ROS master URL with the following command: **export ROS_MASTER_URI=http://jackal.mobile.asu.edu:11311** #Jackal host name.
3. **Export ROS_IP=** #Laptop IP address
4. **Open 3 terminal tabs and ssh to robot on all the three tabs.**
5. **First tab: roslaunch jackal_navigation gmapping_demo.launch**
6. **Source catkin using: source catkin_ws/devel/setup.bash**
7. Second Tab: To start the Kinect bridge run the command: **roslaunch kinect2_bridge kinect2_bridge.launch publish_tf:=true**
8. Third tab: To start the g-mapping using Kinect: **roslaunch rtabmap_ros rgbd_mapping_kinect2.launch resolution:=qhd**
9. Start g-mapping using rviz in the normal way using: **roslaunch jackal_viz view_robot.launch config:=gmapping**
10. Add Pointcloud2 to topic.
11. Select Pointcloud2 and in that subscribe to cloud map topic.
12. Start the bot and run it around.

13.


Displays
Global Options
Fixed Frame
map
Background Color
48; 48; 48
Frame Rate
30
Global Status: Ok
Grid
Status: Ok
Reference Frame
<Fixed Frame>
Plane Cell Count
40
Normal Cell Count
0
Cell Size
1
Line Style
Lines
Color
209; 209; 214
Alpha
0.5
Plane
XY
Offset
0; 0; 0
RobotModel
Axes
LaserScan
Map
Map
Pose
InteractiveMarkers
PointCloud2
Status: Ok
Topic
/rtabmap/cloud_map
Unreliable
Selectable
Style
Flat Squares
Size (m)
0.01
Alpha
1
Decay Time
0
Position Transformer
XYZ
Color Transformer
RGB8
Queue Size
10

14. We get the map as follows:



15. Map is saved at: **~/.ros/rtabmap.db**