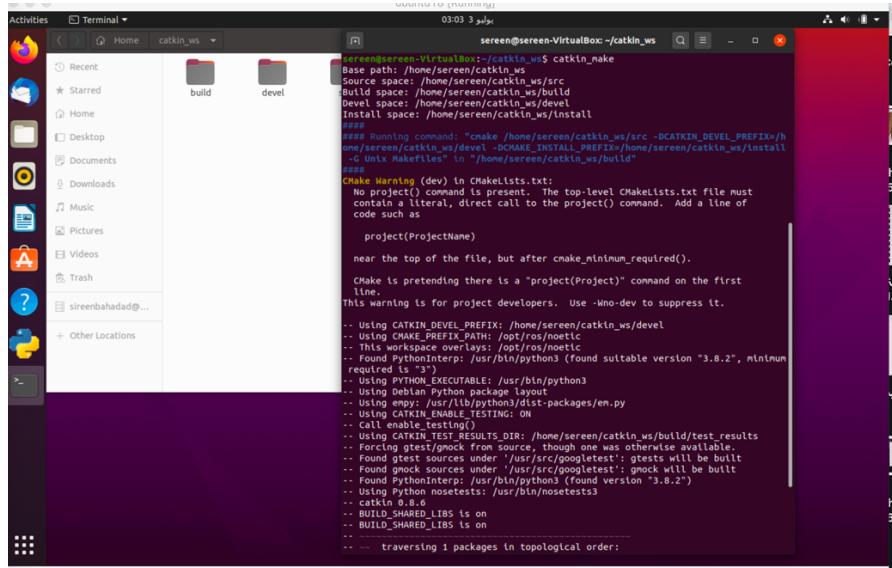
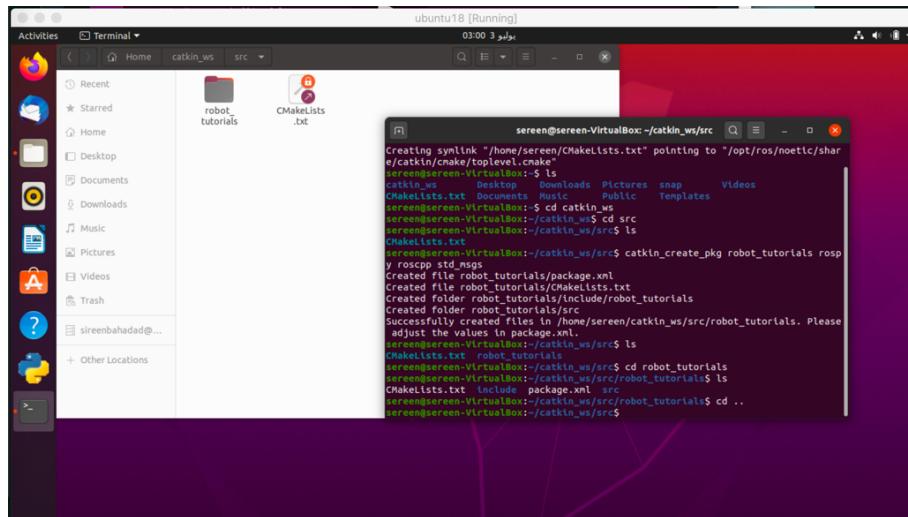


In this file, the outcomes of creating two nodes in ROS will attached bellow:

- First creating a ROS workspace and a new package:



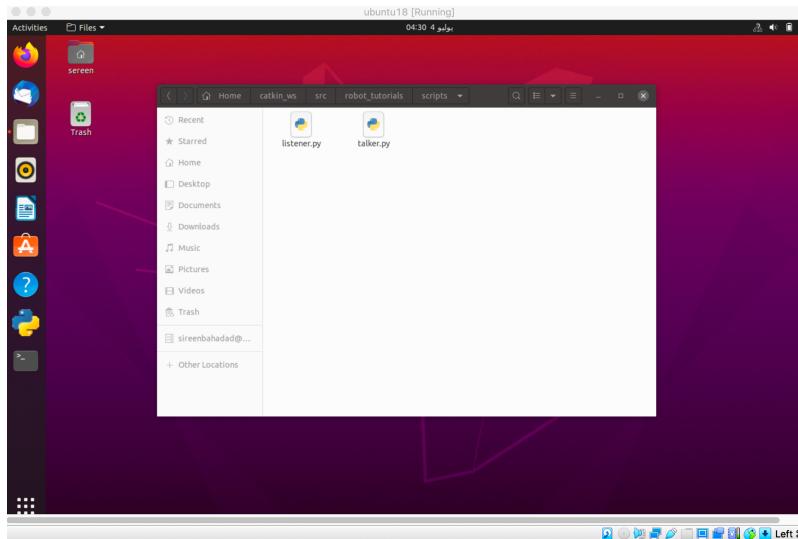
```
seren@seren-VirtualBox:~/catkin_ws$ catkin_make
Base path: /home/seren/catkin_ws
Source space: /home/seren/catkin_ws/src
Build space: /home/seren/catkin_ws/build
Devel space: /home/seren/catkin_ws/devel
Install space: /home/seren/catkin_ws/install
#### 
## Running command: "cmake /home/seren/catkin_ws/src -DCATKIN_DEVEL_PREFIX=/home/seren/catkin_ws/devel -DCMAKE_INSTALL_PREFIX=/home/seren/catkin_ws/install -G Unix Makefiles" in "/home/seren/catkin_ws/build"
#### 
CMake Warning (dev) in CMakeLists.txt:
  No project() command is present. The top-level CMakeLists.txt file must
  contain a literal, direct call to the project() command. Add a line of
  code such as
    project(ProjectName)
  near the top of the file, but after cmake_minimum_required().
  CMake is pretending there is a "project(Project)" command on the first
  line.
This warning is for project developers. Use -Wno-dev to suppress it.
-- Using CATKIN_DEVEL_PREFIX: /home/seren/catkin_ws/devel
-- Using CMAKE_PREFIX_PATH: /opt/ros/noetic
-- This workspace overlays: /opt/ros/noetic
-- Found PythonInterp: /usr/bin/python3 (found suitable version "3.8.2", minimum
  required is "3.6")
-- Using PYTHON_EXECUTABLE: /usr/bin/python3
-- Using Debian Python package layout
-- Using envpy: /usr/lib/python3/dist-packages/env.py
-- Using CATKIN_ENABLE_TESTING: ON
-- Using CATKIN_TEST_RESULTS_DIR: /home/seren/catkin_ws/build/test_results
-- Forcing gtest/gmock from source, though one was otherwise available.
-- Found gtest sources under '/usr/src/googletest': gtests will be built
-- Found gmock sources under '/usr/src/googletest': gmock will be built
-- Found PythonInterp: /usr/bin/python3 (found version "3.8.2")
-- Using Python noseTests: /usr/bin/nosetests
-- catkin 0.8.6
-- BUILD_SHARED_LIBS is on
-- BUILD_SHARED_LIBS is on
-- -- traversing 1 packages in topological order:
```



```
Creating symlink "/home/seren/CMakeLists.txt" pointing to "/opt/ros/noetic/share/catkin/cmake/toplevel.cmake"
seren@seren-VirtualBox:~$ ls
Downloads Pictures snap Videos
CMakeLists.txt Documents Music Public Templates
seren@seren-VirtualBox:~$ cd catkin_ws
seren@seren-VirtualBox:~/catkin_ws$ cd src
seren@seren-VirtualBox:~/catkin_ws/src$ ls
CMakeLists.txt
seren@seren-VirtualBox:~/catkin_ws/src$ catkin_create_pkg robot_tutorials rospy roscpp std_msgs
Created file robot_tutorials/package.xml
Created file robot_tutorials/CMakeLists.txt
Created folder robot_tutorials/include/robot_tutorials
Successfully created files in /home/seren/catkin_ws/src/robot_tutorials. Please
adjust the values in package.xml.
seren@seren-VirtualBox:~/catkin_ws/src$ ls
CMakeLists.txt robot_tutorials
seren@seren-VirtualBox:~/catkin_ws/src$ cd robot_tutorials
seren@seren-VirtualBox:~/catkin_ws/src/robot_tutorials$ ls
CMakeLists.txt include package.xml src
seren@seren-VirtualBox:~/catkin_ws/src/robot_tutorials$ cd ..
seren@seren-VirtualBox:~/catkin_ws/src$
```

Our package is “robot_tutorials”, which is created in the catkin workspace –src, and inside it a new file was created “scripts”.

- Scripts contains the publisher and the subscriber python files.



- Run the python files: open the terminal and write the command “rescore” to prepare the environment.
- In two new terminals run the python’s files separately.
- To display the nodes and topics graph use the command “rqt_graph”.

