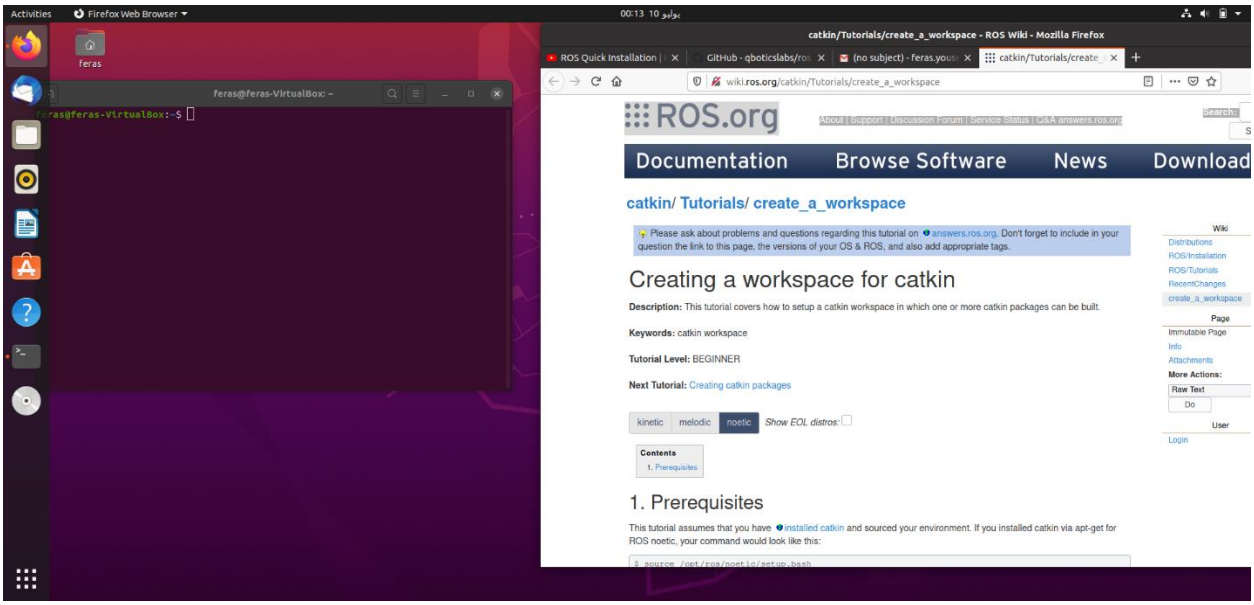
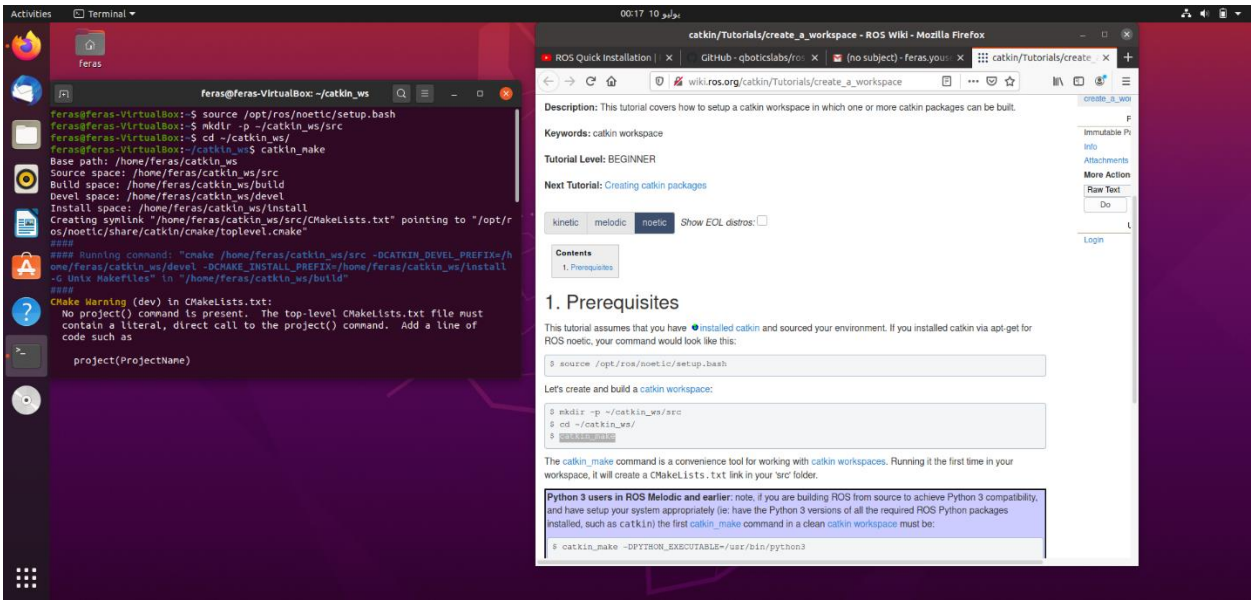
Result Task:

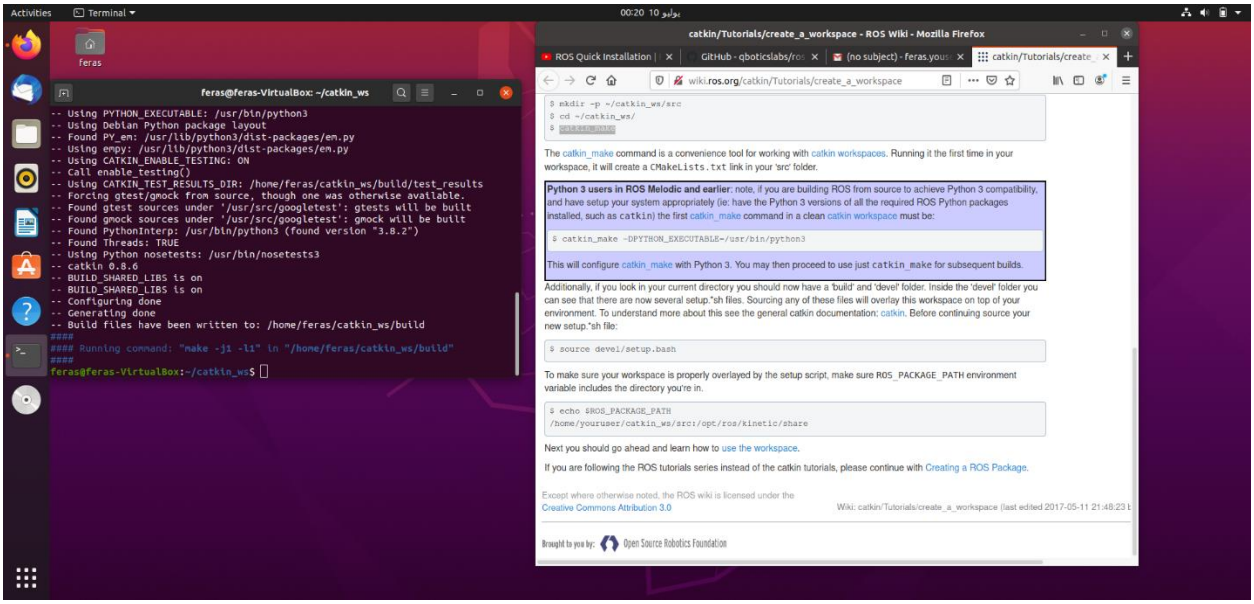
Create 2 nodes shared a string message in a custom package

All the following commands and steps founded in: http://wiki.ros.org/ as shown in the figures.

1- Creating ROS workspace and packages






Activities
Terminal
00:20 10 يوليو
feras
feras@feras-VirtualBox: ~/catkin_ws
-- Using PYTHON_EXECUTABLE: /usr/bin/python3
-- Using Debian Python package layout
-- Found PY_em: /usr/lib/python3/dist-packages/em.py
-- Using empy: /usr/lib/python3/dist-packages/em.py
-- Using CATKIN_ENABLE_TESTING: ON
-- Call enable_testing()
-- Using CATKIN_TEST_RESULTS_DIR: /home/feras/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")
-- Found Threads: TRUE
-- Using Python nosetests: /usr/bin/nosetests3
-- catkin 0.8.6
-- BUILD_SHARED_LIBS is on
-- BUILD_SHARED_LIBS is on
-- Configuring done
-- Generating done
-- Build files have been written to: /home/feras/catkin_ws/build
####
Running command: "make -j1 -l1" in "/home/feras/catkin_ws/build"
####
feras@feras-VirtualBox:~/catkin_ws$
catkin/Tutorials/create_a_workspace - ROS Wiki - Mozilla Firefox
ROS Quick Installation
GitHub - qboticslabs/ros
(no subject) - feras.yousr
catkin/Tutorials/create_
wiki.ros.org/catkin/Tutorials/create_a_workspace
$ mkdir -p ~/catkin_ws/src
$ cd ~/catkin_ws/
$ catkin_make
The catkin_make command is a convenience tool for working with catkin workspaces. Running it the first time in your workspace, it will create a CMakeLists.txt link in your 'src' folder.
Python 3 users in ROS Melodic and earlier: note, if you are building ROS from source to achieve Python 3 compatibility, and have setup your system appropriately (ie: have the Python 3 versions of all the required ROS Python packages installed, such as catkin) the first catkin_make command in a clean catkin workspace must be:
$ catkin_make -DPYTHON_EXECUTABLE=/usr/bin/python3
This will configure catkin_make with Python 3. You may then proceed to use just catkin_make for subsequent builds.
Additionally, if you look in your current directory you should now have a 'build' and 'devel' folder. Inside the 'devel' folder you can see that there are now several setup.*sh files. Sourcing any of these files will overlay this workspace on top of your environment. To understand more about this see the general catkin documentation: catkin. Before continuing source your new setup.*sh file:
$ source devel/setup.bash
To make sure your workspace is properly overlayed by the setup script, make sure ROS_PACKAGE_PATH environment variable includes the directory you're in.
$ echo $ROS_PACKAGE_PATH
/home/youruser/catkin_ws/src:/opt/ros/kinetic/share
Next you should go ahead and learn how to use the workspace.
If you are following the ROS tutorials series instead of the catkin tutorials, please continue with Creating a ROS Package.
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Wiki: catkin/Tutorials/create_a_workspace (last edited 2017-05-11 21:48:23 b
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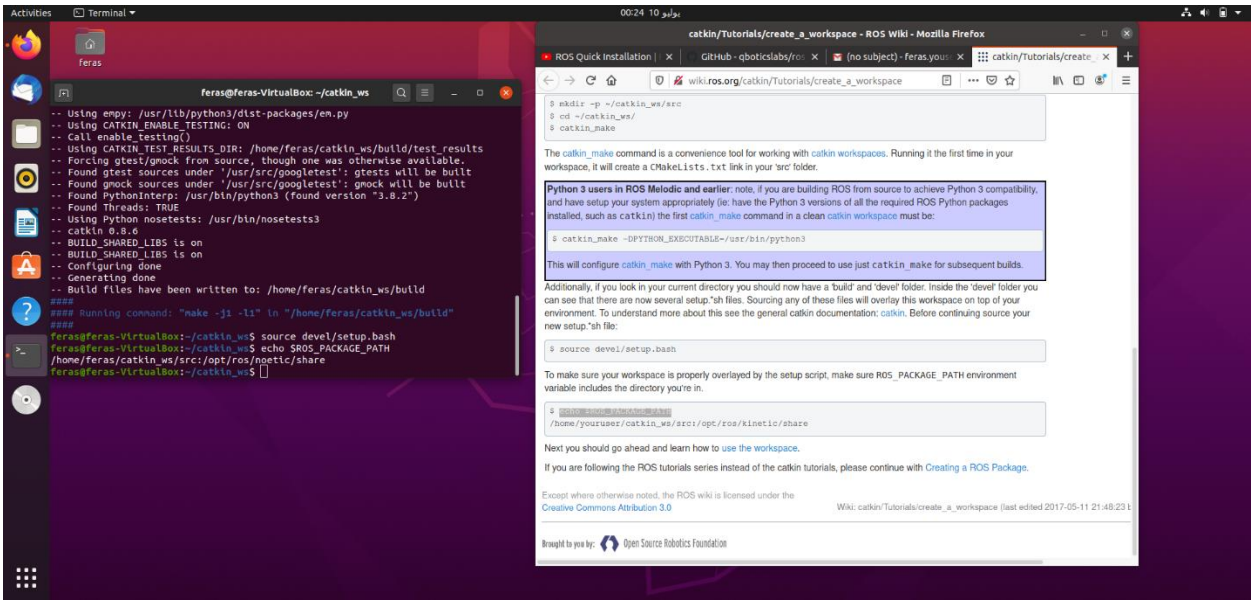
Activities
Terminal
00:24 10 يوليو
feras
feras@feras-VirtualBox: ~/catkin_ws
-- Using empy: /usr/lib/python3/dist-packages/em.py
-- Using CATKIN_ENABLE_TESTING: ON
-- Call enable_testing()
-- Using CATKIN_TEST_RESULTS_DIR: /home/feras/catkin_ws/build/test_results
-- Forcing gtest/gmock from source, though one was otherwise available.
-- Found gtest sources under '/usr/src/googletest': gtests will be built
-- Found gmock sources under '/usr/src/googletest': gmock will be built
-- Found PythonInterp: /usr/bin/python3 (found version "3.8.2")
-- Found Threads: TRUE
-- Using Python nosetests: /usr/bin/nosetests3
-- catkin 0.8.6
-- BUILD_SHARED_LIBS is on
-- BUILD_SHARED_LIBS is on
-- Configuring done
-- Generating done
-- Build files have been written to: /home/feras/catkin_ws/build
####
Running command: "make -j1 -l1" in "/home/feras/catkin_ws/build"
####
feras@feras-VirtualBox:~/catkin_ws$ source devel/setup.bash
feras@feras-VirtualBox:~/catkin_ws$ echo $ROS_PACKAGE_PATH
/home/feras/catkin_ws/src:/opt/ros/noetic/share
feras@feras-VirtualBox:~/catkin_ws$
catkin/Tutorials/create_a_workspace - ROS Wiki - Mozilla Firefox
ROS Quick Installation
GitHub - qboticslabs/ros
(no subject) - feras.yousr
catkin/Tutorials/create_
wiki.ros.org/catkin/Tutorials/create_a_workspace
$ mkdir -p ~/catkin_ws/src
$ cd ~/catkin_ws/
$ catkin_make
The catkin_make command is a convenience tool for working with catkin workspaces. Running it the first time in your workspace, it will create a CMakeLists.txt link in your 'src' folder.
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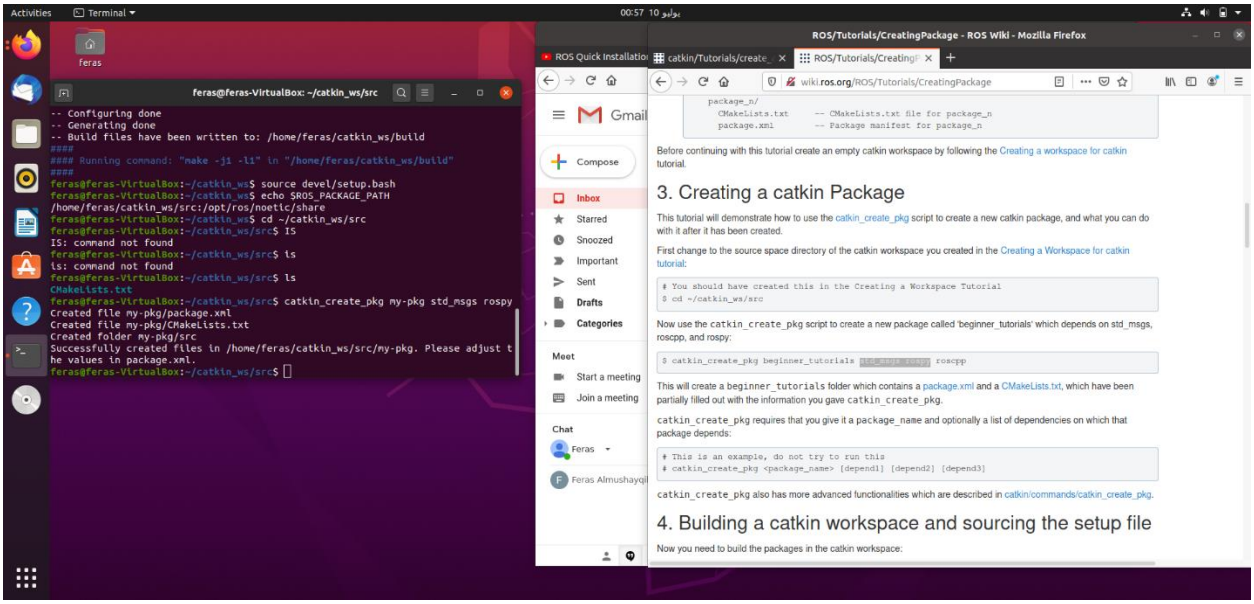
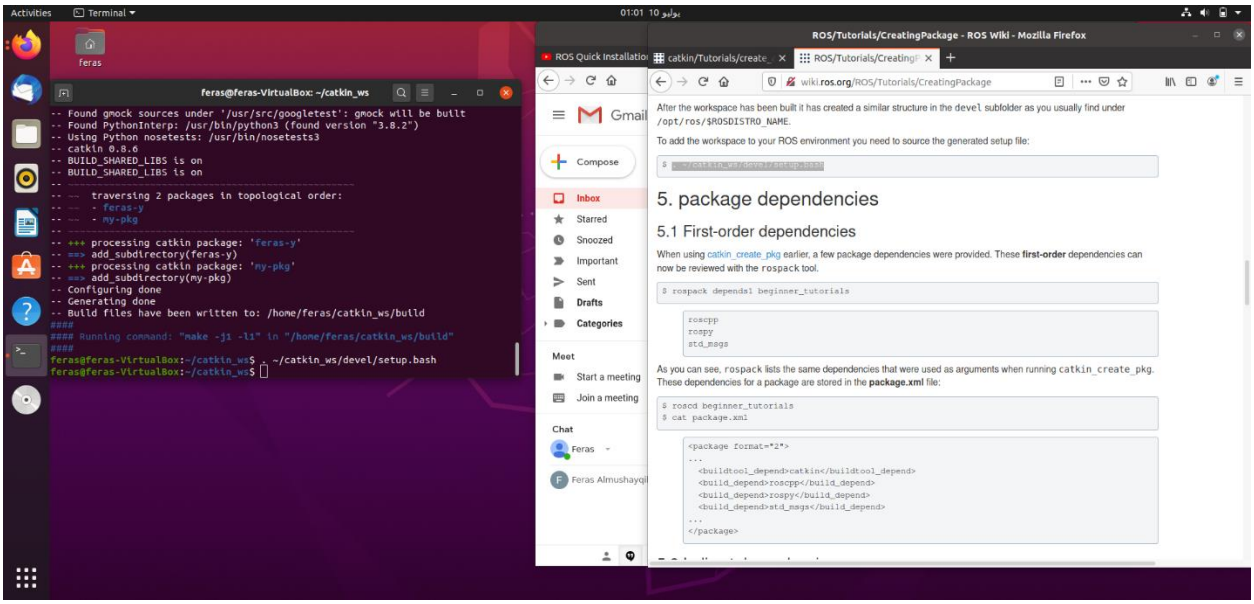
This will configure catkin_make with Python 3. You may then proceed to use just catkin_make for subsequent builds.
Additionally, if you look in your current directory you should now have a 'build' and 'devel' folder. Inside the 'devel' folder you can see that there are now several setup.*sh files. Sourcing any of these files will overlay this workspace on top of your environment. To understand more about this see the general catkin documentation: catkin. Before continuing source your new setup.*sh file:
$ source devel/setup.bash
To make sure your workspace is properly overlayed by the setup script, make sure ROS_PACKAGE_PATH environment variable includes the directory you're in.
$ echo $ROS_PACKAGE_PATH
/home/youruser/catkin_ws/src:/opt/ros/kinetic/share
Next you should go ahead and learn how to use the workspace.
If you are following the ROS tutorials series instead of the catkin tutorials, please continue with Creating a ROS Package.
Except where otherwise noted, the ROS wiki is licensed under the Creative Commons Attribution 3.0
Wiki: catkin/Tutorials/create_a_workspace (last edited 2017-05-11 21:48:23 b
Brought to you by: Open Source Robotics Foundation

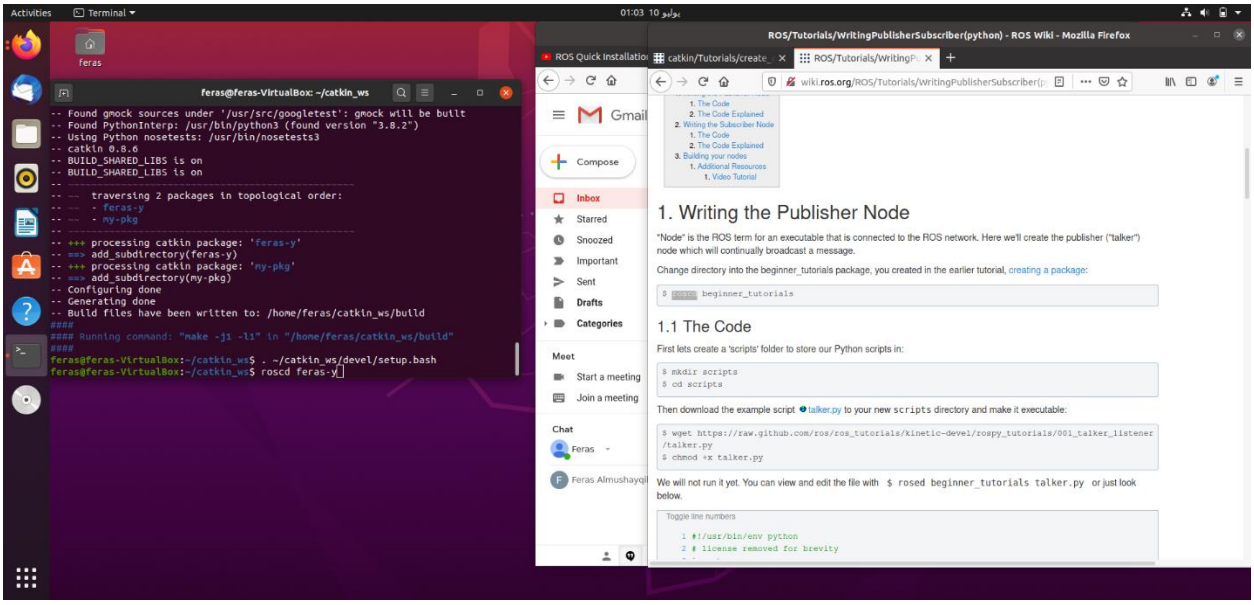


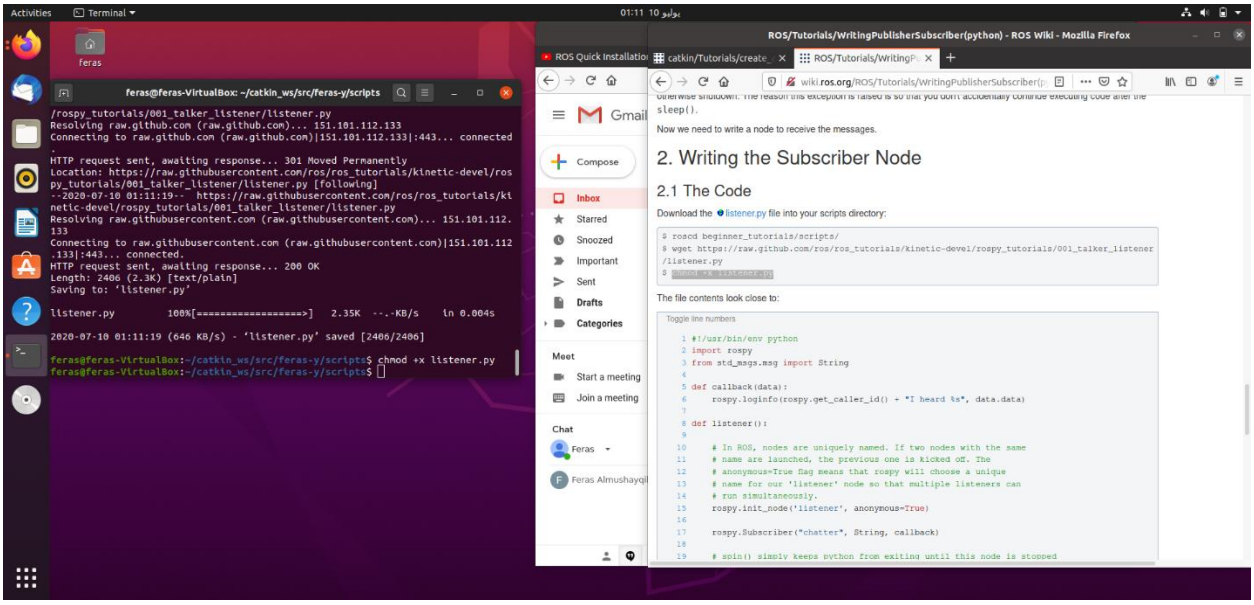


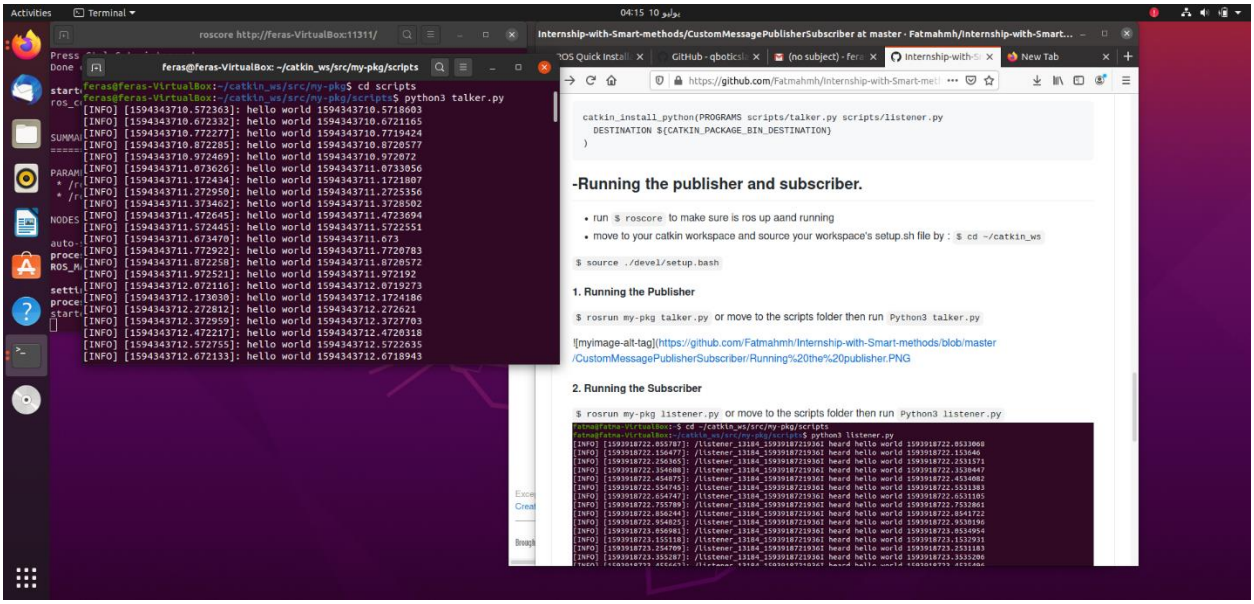
I have created two packages feras-y and my-pkg

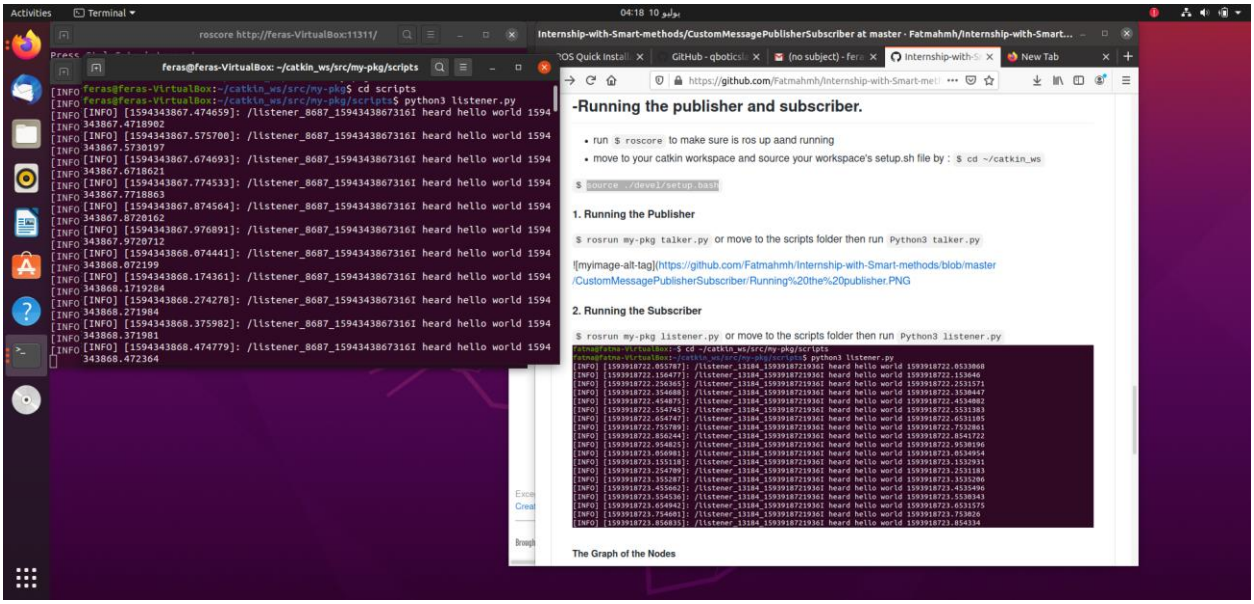
And I'm just going to use one.

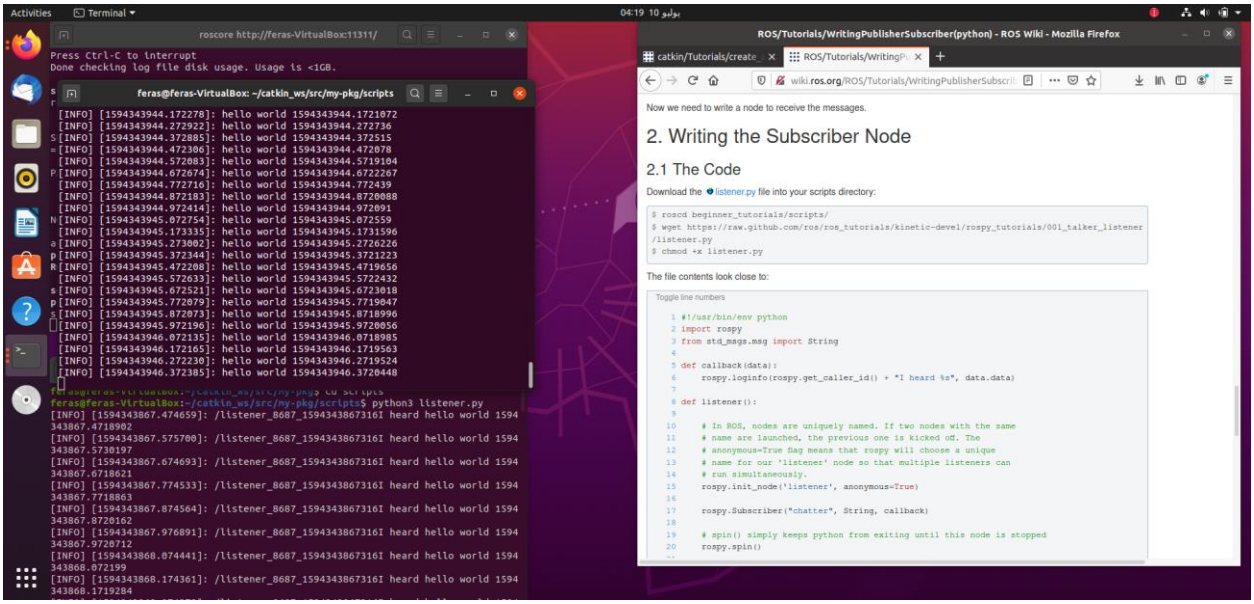
2-Creating and Running publisher & subscriber nodes using Python

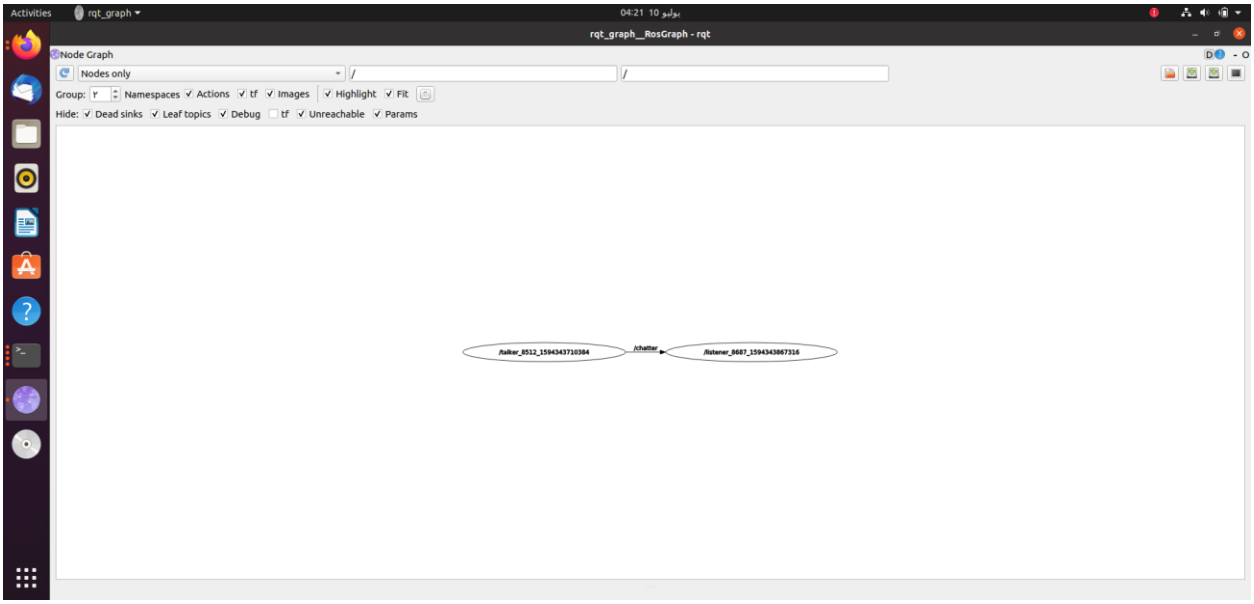





Activities
Terminal
04:15 10 يوليو
roscore http://feras-VirtualBox:11311/
feras@feras-VirtualBox: ~/catkin_ws/src/my-pkg/scripts
feras@feras-VirtualBox:~/catkin_ws/src/my-pkg$ cd scripts
feras@feras-VirtualBox:~/catkin_ws/src/my-pkg/scripts$ python3 talker.py
[INFO] [1594343710.572363]: hello world 1594343710.5718603
[INFO] [1594343710.672332]: hello world 1594343710.6721165
[INFO] [1594343710.772277]: hello world 1594343710.7719424
[INFO] [1594343710.872285]: hello world 1594343710.8720577
[INFO] [1594343710.972469]: hello world 1594343710.972072
[INFO] [1594343711.073626]: hello world 1594343711.0733056
[INFO] [1594343711.172434]: hello world 1594343711.1721807
[INFO] [1594343711.272950]: hello world 1594343711.2725356
[INFO] [1594343711.373462]: hello world 1594343711.3728502
[INFO] [1594343711.472645]: hello world 1594343711.4723694
[INFO] [1594343711.572445]: hello world 1594343711.5722551
[INFO] [1594343711.673470]: hello world 1594343711.673
[INFO] [1594343711.772922]: hello world 1594343711.7720783
[INFO] [1594343711.872258]: hello world 1594343711.8720572
[INFO] [1594343711.972521]: hello world 1594343711.972192
[INFO] [1594343712.072116]: hello world 1594343712.0719273
[INFO] [1594343712.173030]: hello world 1594343712.1724186
[INFO] [1594343712.272812]: hello world 1594343712.272621
[INFO] [1594343712.372959]: hello world 1594343712.3727703
[INFO] [1594343712.472217]: hello world 1594343712.4720318
[INFO] [1594343712.572755]: hello world 1594343712.5722635
[INFO] [1594343712.672133]: hello world 1594343712.6718943
Internship-with-Smart-methods/CustomMessagePublisherSubscriber at master · Fatmahmh/Internship-with-Smart...
New Tab
https://github.com/Fatmahmh/Internship-with-Smart-methods
catkin_install_python(PROGRAMS scripts/talker.py scripts/listener.py
DESTINATION ${CATKIN_PACKAGE_BIN_DESTINATION}
)
-Running the publisher and subscriber.
run $ roscore to make sure is ros up aand running
move to your catkin workspace and source your workspace's setup.sh file by : $ cd ~/catkin_ws
$ source ./devel/setup.bash
1. Running the Publisher
$ rosrun my-pkg talker.py or move to the scripts folder then run Python3 talker.py
![myimage-alt-tag](https://github.com/Fatmahmh/Internship-with-Smart-methods/blob/master/CustomMessagePublisherSubscriber/Running%20the%20publisher.PNG
2. Running the Subscriber
$ rosrun my-pkg listener.py or move to the scripts folder then run Python3 listener.py


Activities
Terminal
04:18 10 يوليو
roscore http://feras-VirtualBox:11311/
feras@feras-VirtualBox: ~/catkin_ws/src/my-pkg/scripts
feras@feras-VirtualBox:~/catkin_ws/src/my-pkg$ cd scripts
feras@feras-VirtualBox:~/catkin_ws/src/my-pkg/scripts$ python3 listener.py
[INFO] [1594343867.474659]: /listener_8687_15943438673161 heard hello world 1594343867.4718902
[INFO] [1594343867.575700]: /listener_8687_15943438673161 heard hello world 1594343867.5701197
[INFO] [1594343867.674693]: /listener_8687_15943438673161 heard hello world 1594343867.6718621
[INFO] [1594343867.774533]: /listener_8687_15943438673161 heard hello world 1594343867.7718863
[INFO] [1594343867.874564]: /listener_8687_15943438673161 heard hello world 1594343867.8720162
[INFO] [1594343867.976891]: /listener_8687_15943438673161 heard hello world 1594343867.9720712
[INFO] [1594343868.074441]: /listener_8687_15943438673161 heard hello world 1594343868.072199
[INFO] [1594343868.174361]: /listener_8687_15943438673161 heard hello world 1594343868.1719284
[INFO] [1594343868.274278]: /listener_8687_15943438673161 heard hello world 1594343868.271984
[INFO] [1594343868.375982]: /listener_8687_15943438673161 heard hello world 1594343868.371981
[INFO] [1594343868.474779]: /listener_8687_15943438673161 heard hello world 1594343868.472364
Internship-with-Smart-methods/CustomMessagePublisherSubscriber at master · Fatmahmh/Internship-with-Smart...
New Tab
https://github.com/Fatmahmh/Internship-with-Smart-methods
-Running the publisher and subscriber.
run $ roscore to make sure is ros up aand running
move to your catkin workspace and source your workspace's setup.sh file by : $ cd ~/catkin_ws
$ source ./devel/setup.bash
1. Running the Publisher
$ rosrun my-pkg talker.py or move to the scripts folder then run Python3 talker.py
![myimage-alt-tag](https://github.com/Fatmahmh/Internship-with-Smart-methods/blob/master/CustomMessagePublisherSubscriber/Running%20the%20publisher.PNG
2. Running the Subscriber
$ rosrun my-pkg listener.py or move to the scripts folder then run Python3 listener.py
The Graph of the Nodes





You can see the results and the graphs