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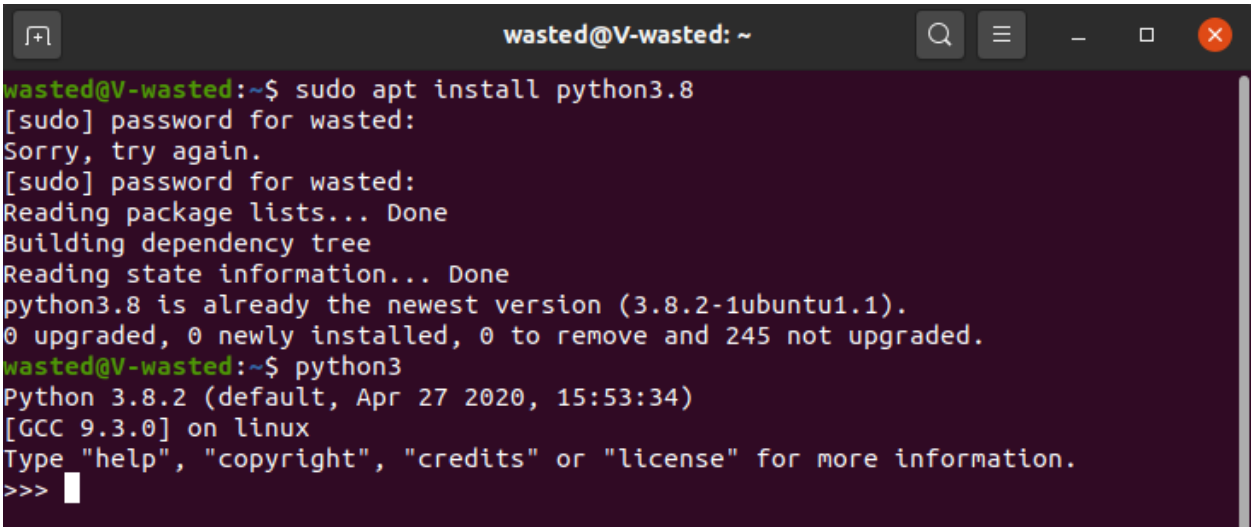
Using: Ubuntu20.04—ROS Noetic—python3.8.2

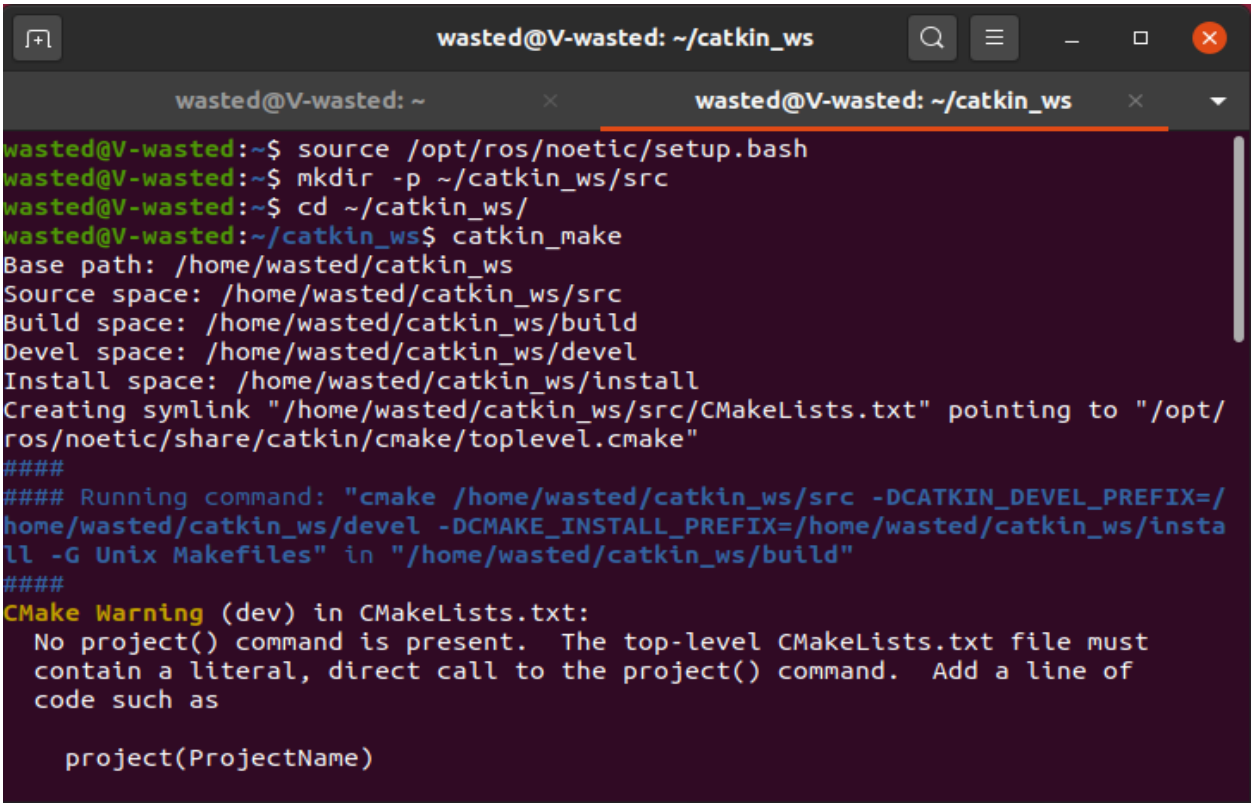
Tutorial about

2 nodes sharing a string message in a custom package

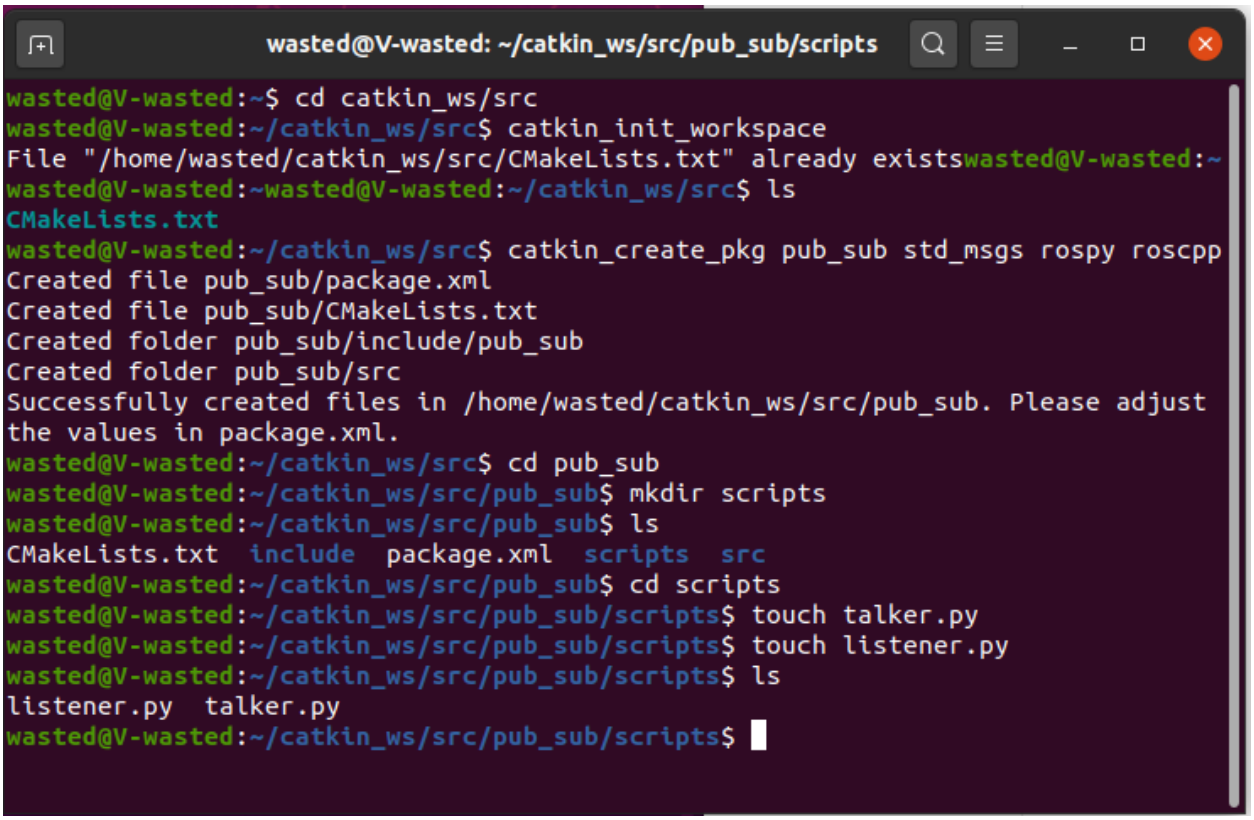
(Explanation below pictures)



In the terminal window we start with installing python 3, enter the password (if exists), then check the installed python version as shown in the picture above:

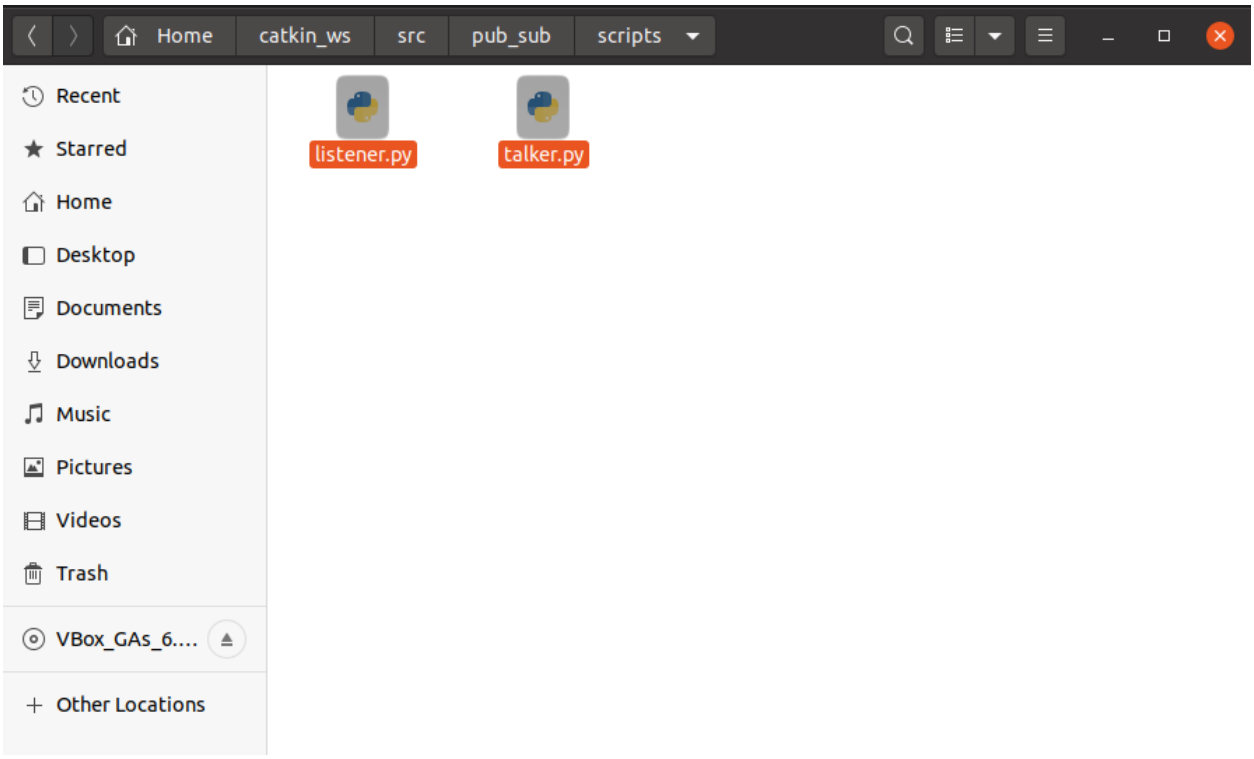


Here we create a catkin workspace by entering the 4 codes shown in the picture above in a new terminal window.

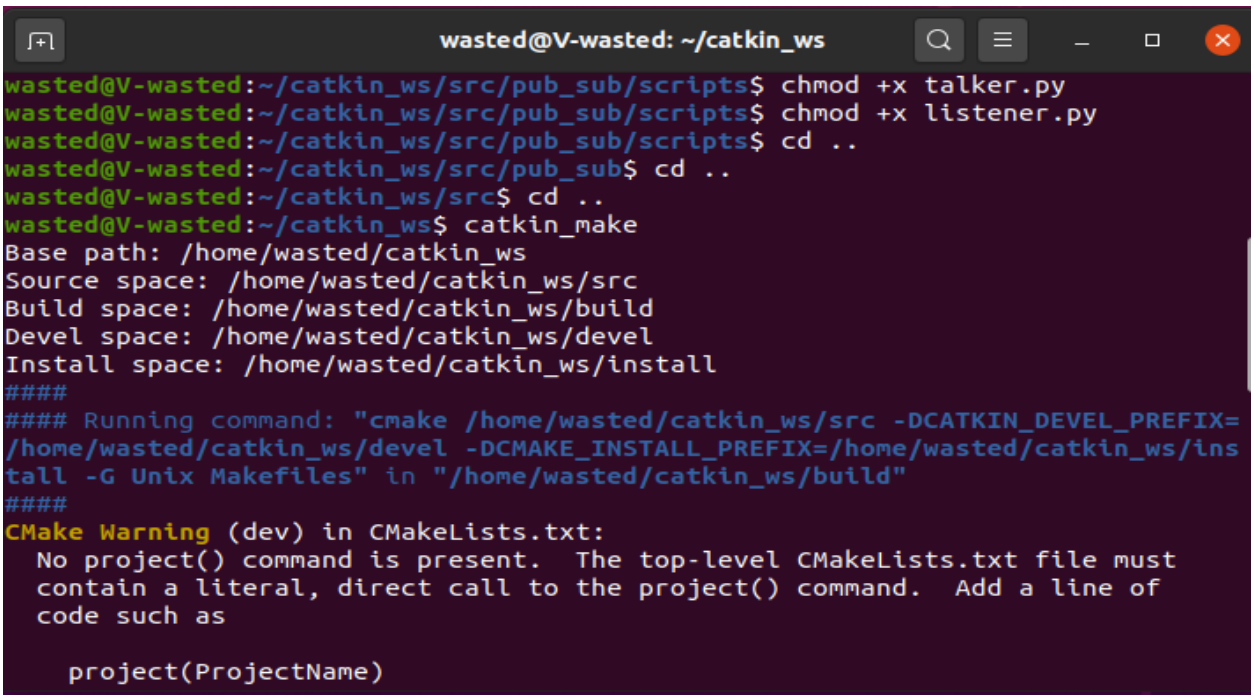


The codes above in order are for:

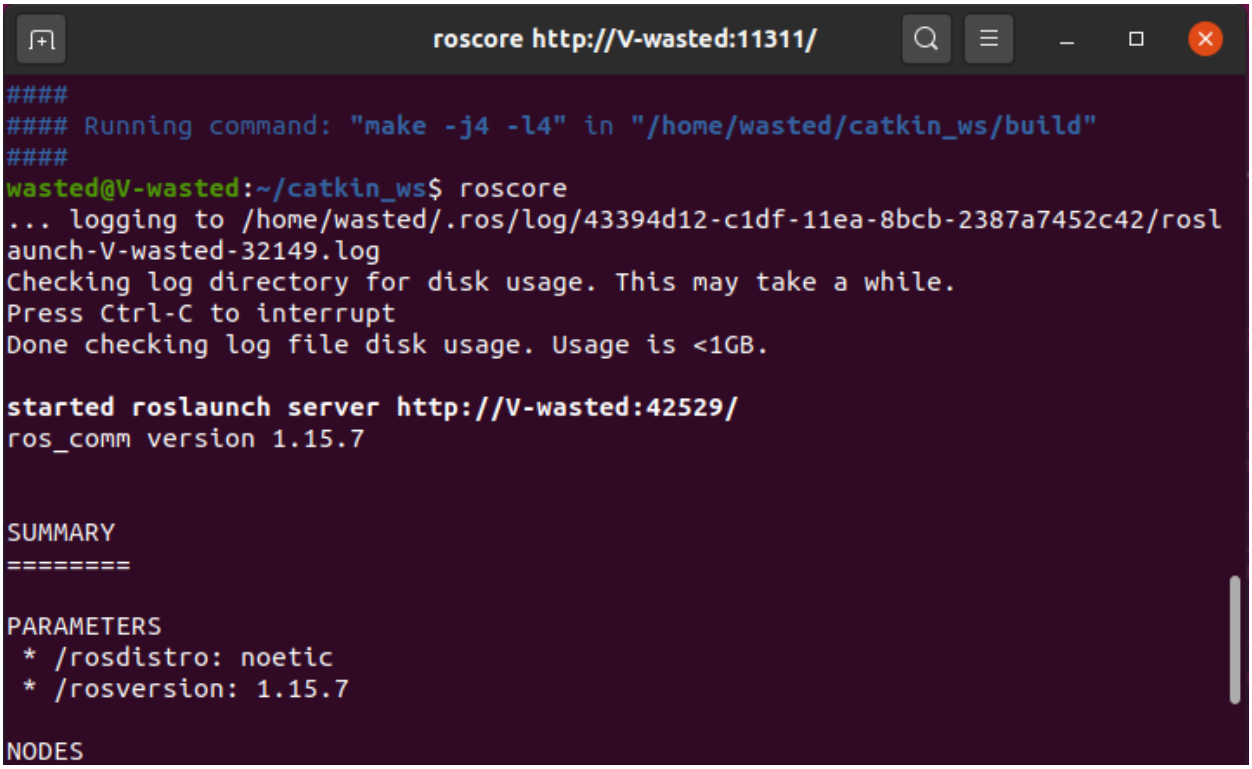
- Moving to catkin_ws/src folder directory (you can preview those folders by browsing your Home files).
- Initializing the workspace.
- Ls: for listing the folder's contents (just for checking, not necessary).
- Then we create a new package in our workspace folder, I named it: pub_sub (stands for: publisher_subscriber).
- We use "cd pub_sub" to move to the directory of the package we just created.
- We make a folder inside named scripts.
- We move to scripts using "cd scripts".
- We create 2 new files called: talker.py & listener.py (will be our python files).



Here we can see the files we just created using the terminal window codes. We open them and start writing our codes (they will be attached in my github link).



We used the codes above to make both talker.py & listener.py executable files. Then we go back to our catkin_ws folder directory by using the code "cd .." three times. After that we execute the "catkin_make" command as changes has ben made in the cmakelist file.



We run roscore as we will use it in the next few steps in a new terminal window.

Problem scenario:

```
/usr/bin/env: 'python': No such file or directory
```

Possible Solution #1

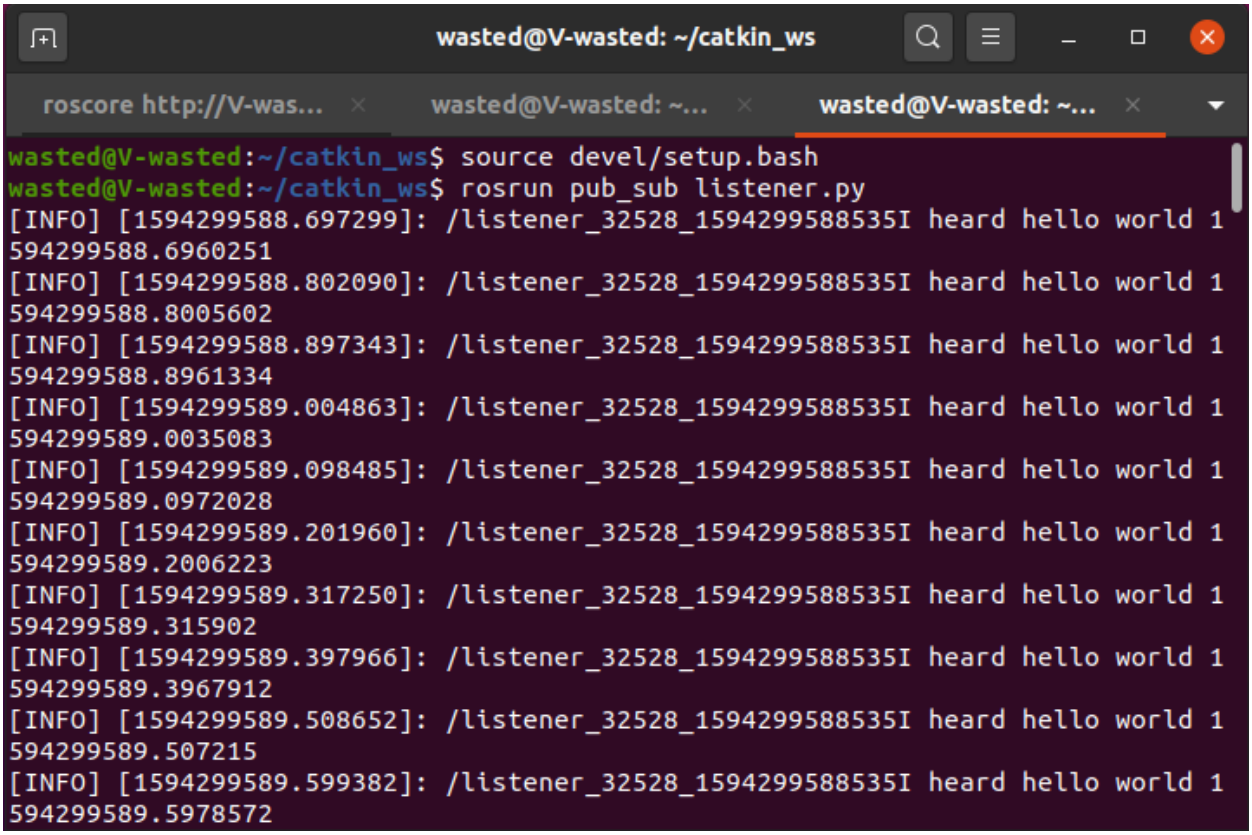
If Python 3 is not installed, install it: `apt-get install python3`

Possible Solution #2

If Python 3 has been installed, run these commands: `whereis python3`

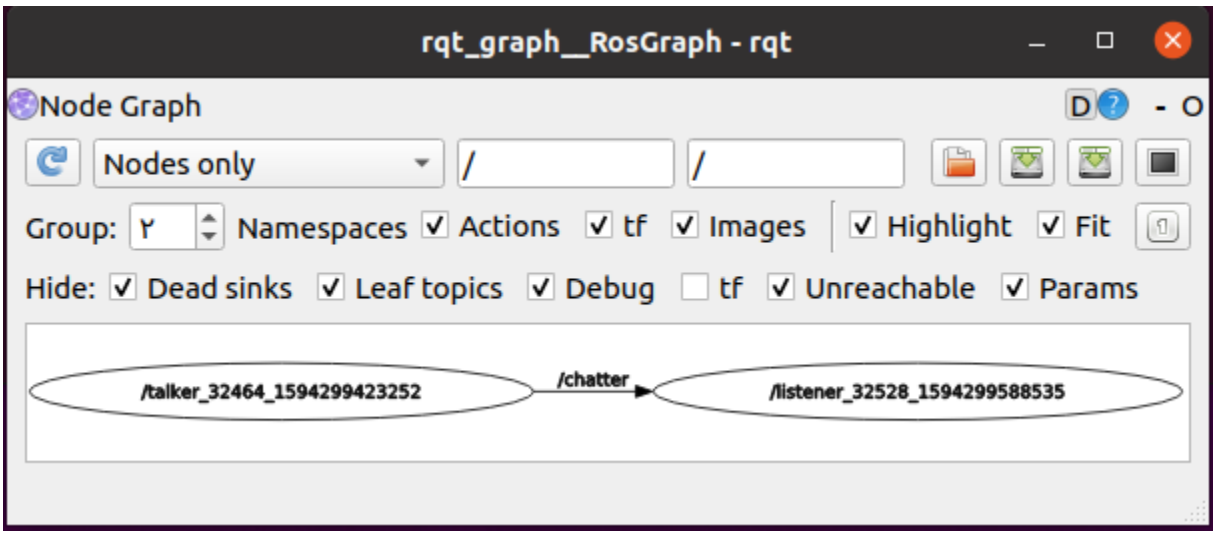
Then we create a symlink to it: `sudo ln -s /usr/bin/python3 /usr/bin/python`

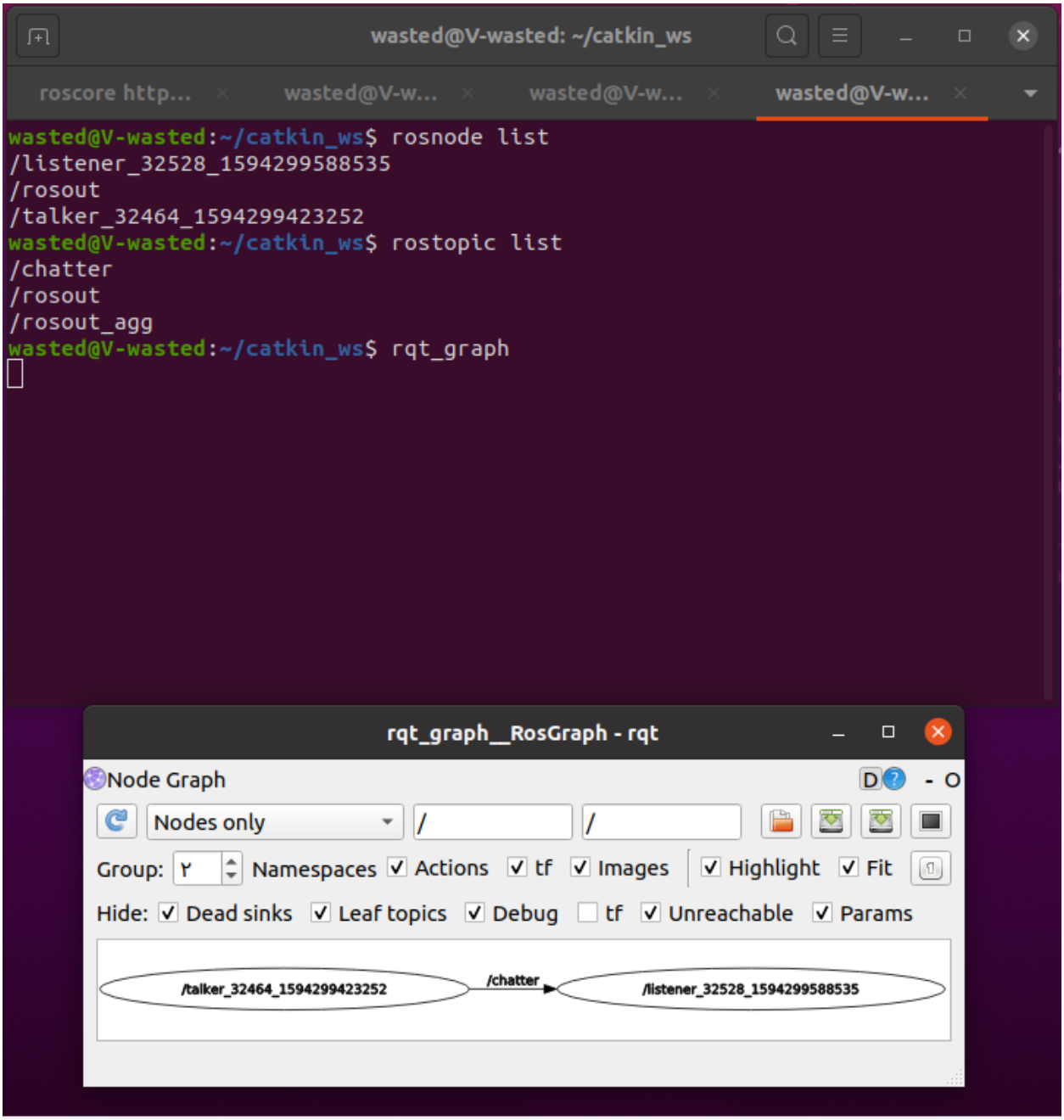
This is a potential error you may run by during the next step, and that's how to deal with it (if not, please ignore this).



Make sure you enter the first code whenever you open a new terminal window: "source devel/setup.bash". Then start running the talker.py & listener.py nodes using: "rosrun pub_sub talker.py" and "rosrun pub_sub listener.py" (of course the package name will change according to the one you made).

Results:





To show the current active nodes, topics and request the graph, enter the three commands above.