

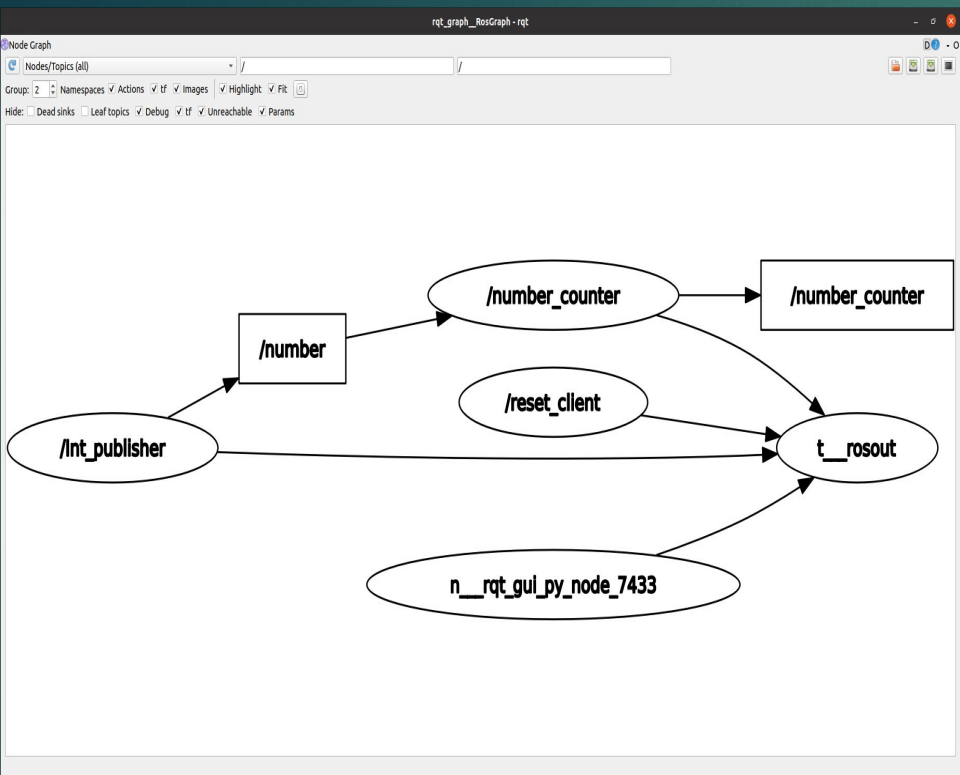
ROS2 LAB2

(Robot Operating System)



Make ros2 python package <iti_lab2> include 3 node (node1,node2,node3) as shown ,node1 publish Int64 msg with a fixed value (“5”) ,node2 receive Int64 msg and accumulate it, publish the accumulated counter and reset the accumulated counter using client node (node3) when it called. show your rqt_graph as shown save it as png image.

hint : use srv type : `example_interfaces/srv/SetBool`



```

graph LR
    Int_publisher([/Int_publisher]) --> number[/number/]
    number --> number_counter([/number_counter/])
    number_counter --> t_rosout([t_rosout])
    reset_client([/reset_client/]) --> t_rosout
    n_rqt_gui_py_node_7433([n_rqt_gui_py_node_7433]) --> t_rosout
  
```


```

dell@dell-G5-5590: ~/course_ws_final/src/my_py_pkg_2/my_py_pkg_2/Topic_2/lab2$ ./Task_pub_node.py
[INFO] [1619597572.093770314] [str_publisher]: Pub_Node_Started_ok
[INFO] [1619597573.094584569] [str_publisher]: 3
[INFO] [1619597574.094928416] [str_publisher]: 3
[INFO] [1619597575.094464668] [str_publisher]: 3
[INFO] [1619597576.094446385] [str_publisher]: 3
[INFO] [1619597577.094732684] [str_publisher]: 3
[INFO] [1619597578.094689818] [str_publisher]: 3
[INFO] [1619597579.094320094] [str_publisher]: 3
[INFO] [1619597580.094365334] [str_publisher]: 3
[INFO] [1619597581.094858748] [str_publisher]: 3
[INFO] [1619597582.094397638] [str_publisher]: 3
[INFO] [1619597583.094733636] [str_publisher]: 3

dell@dell-G5-5590: ~/course_ws_final/src/my_py_pkg_2/my_py_pkg_2/Topic_2/lab2$ ./Task_sub_node.py
[INFO] [1619597570.406942652] [number_counter]: sub_Node Started
[INFO] [1619597573.094842746] [number_counter]: iget data and counter is 0
[INFO] [1619597574.094944565] [number_counter]: iget data and counter is 3
[INFO] [1619597575.094624416] [number_counter]: iget data and counter is 6
[INFO] [1619597576.094671829] [number_counter]: iget data and counter is 9
[INFO] [1619597577.094629427] [number_counter]: iget data and counter is 12
[INFO] [1619597578.094925743] [number_counter]: iget data and counter is 15
[INFO] [1619597579.094575666] [number_counter]: iget data and counter is 18
[INFO] [1619597579.115282338] [number_counter]: Done REset counter is 0
[INFO] [1619597580.094648272] [number_counter]: iget data and counter is 0
[INFO] [1619597581.095182069] [number_counter]: iget data and counter is 3
[INFO] [1619597582.094791399] [number_counter]: iget data and counter is 6
[INFO] [1619597583.094691278] [number_counter]: iget data and counter is 9

dell@dell-G5-5590: ~/course_ws_final/src/my_py_pkg_2/my_py_pkg_2/Topic_2/lab2$ ./Task_client.py
[WARN] [1619597579.114702641] [client_OOP_Node]: Server OK make Rquest
[WARN] [1619597579.115846344] [client_OOP_Node]: OK_CALL
[INFO] [1619597579.116080110] [client_OOP_Node]: Counter_Done Reset Here_RSpond True

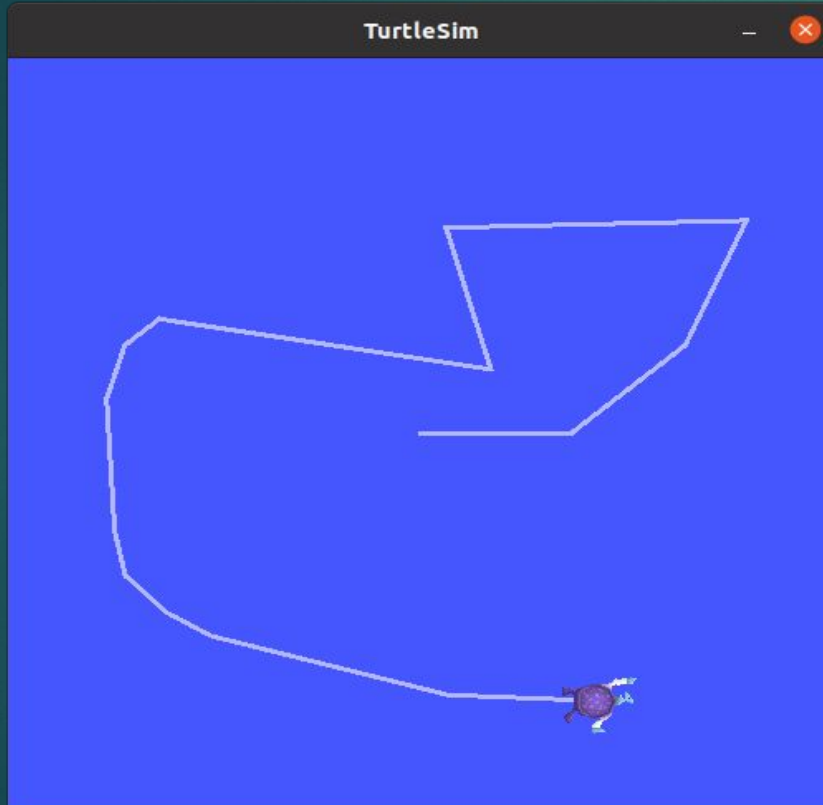
dell@dell-G5-5590: ~/course_ws_final/src/my_py_pkg_2/my_py_pkg_2/Topic_2/lab2$ ros2 topic echo /number_counter
data: 6
---
data: 9
---
data: 12
---
data: 15
---
data: 18
---
data: 0
---
data: 3
---
data: 6
---
data: 9
---
  
```



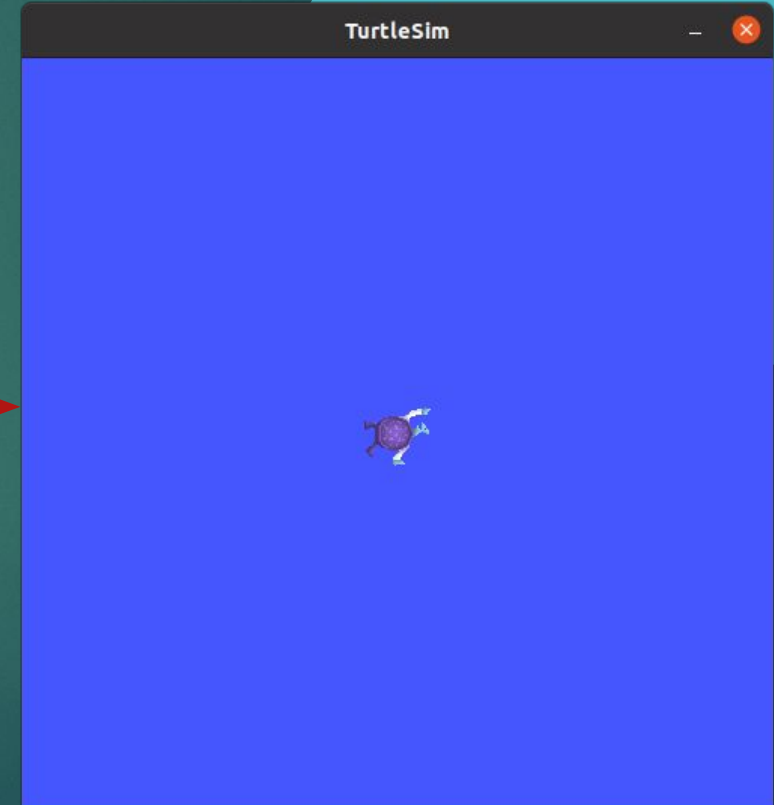
Low Speed Self-driving Vehicles- ITI

- In iti_lab2 package

- 1- make client Node to reset the turtle in turtlesim package
- 2- run turtlesim node
- 3- run turtlesim telop_key node to move the turtle
- 4- call reset service using (client_node you made)

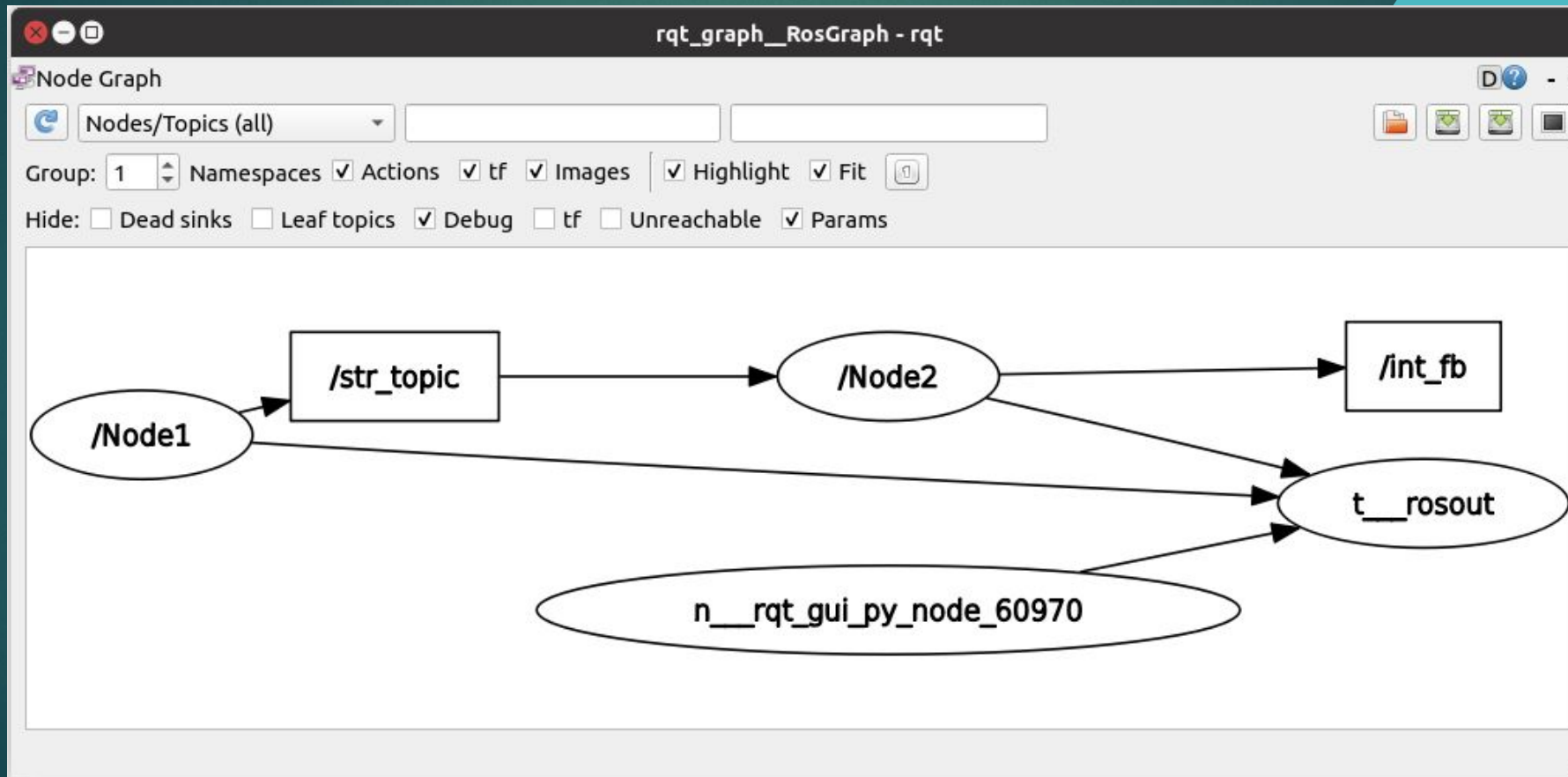


after call reset service



Task 3 : Deadline Friday 30/4 11:59 pm

Make a ROS2 c++ package <cpp_lab2> that includes 2 nodes (Node1,Node2) as shown ,node1 should publish a string msg (“ <your name> is publishing: <counter>”) counter should start with 0 and increment once every 1 second, node2 should receive the string msg, and publish the counter in a separate message. Show your rqt_graph as shown, save it as a png image.



Instructors repo Link:

- 1- <https://github.com/ahmedgharieb1>
- 2- <https://github.com/M-abdeen>

Material repo :

https://github.com/ahmedgharieb1/ITI_LSV_ROS2

