itspriiyanshu@DESKTOP-8PNP5TK: ~/Ros_assign 83x26
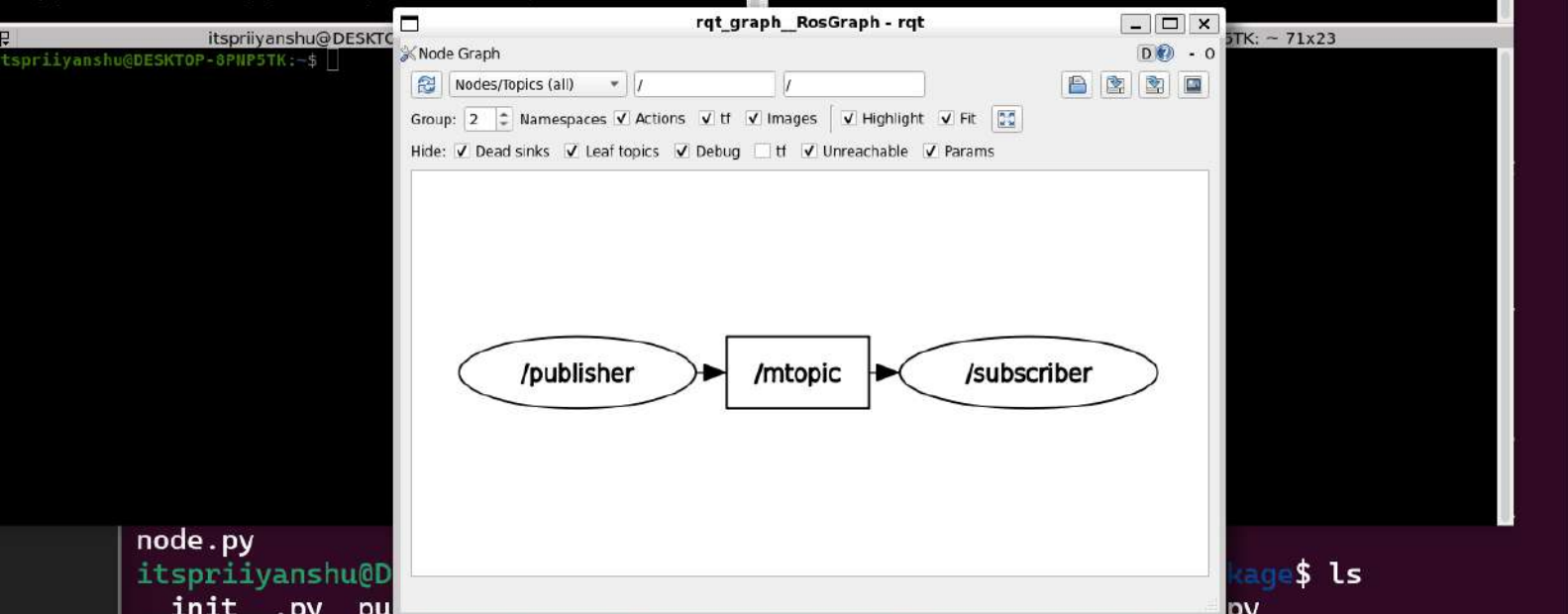
```
INFO] [1744466048.267219694] [subscriber]: I heard: "Hello, world! 93"
INFO] [1744466049.264686881] [publisher]: Publishing: "Hello, world! 94"
INFO] [1744466049.265209088] [subscriber]: I heard: "Hello, world! 94"
INFO] [1744466050.291024123] [publisher]: Publishing: "Hello, world! 95"
INFO] [1744466050.291748878] [subscriber]: I heard: "Hello, world! 95"
INFO] [1744466051.309426842] [subscriber]: I heard: "Hello, world! 96"
INFO] [1744466051.309967259] [publisher]: Publishing: "Hello, world! 96"
INFO] [1744466052.264376118] [subscriber]: I heard: "Hello, world! 97"
INFO] [1744466052.264865260] [publisher]: Publishing: "Hello, world! 97"
INFO] [1744466053.264063461] [subscriber]: I heard: "Hello, world! 98"
INFO] [1744466053.264522810] [publisher]: Publishing: "Hello, world! 98"
INFO] [1744466054.259578267] [subscriber]: I heard: "Hello, world! 99"
INFO] [1744466054.260302601] [publisher]: Publishing: "Hello, world! 99"
INFO] [1744466055.298014874] [publisher]: Publishing: "Hello, world! 100"
INFO] [1744466055.298592633] [subscriber]: I heard: "Hello, world! 100"
INFO] [1744466056.266200493] [publisher]: Publishing: "Hello, world! 101"
INFO] [1744466056.266820737] [subscriber]: I heard: "Hello, world! 101"
INFO] [1744466057.277845591] [publisher]: Publishing: "Hello, world! 102"
INFO] [1744466057.278134558] [subscriber]: I heard: "Hello, world! 102"
INFO] [1744466058.270174242] [publisher]: Publishing: "Hello, world! 103"
INFO] [1744466058.270680648] [subscriber]: I heard: "Hello, world! 103"
INFO] [1744466059.270114668] [publisher]: Publishing: "Hello, world! 104"
INFO] [1744466059.270576343] [subscriber]: I heard: "Hello, world! 104"
INFO] [1744466060.263542461] [publisher]: Publishing: "Hello, world! 105"
INFO] [1744466060.264430022] [subscriber]: I heard: "Hello, world! 105"
```

itspriiyanshu@DESKTOP-8PNP5TK: ~ 71x24

```
itspriiyanshu@DESKTOP-8PNP5TK:~$ source ~/Ros_assign/install/setup.bash

rqt_graph
QStandardPaths: wrong permissions on runtime directory /run/user/1000/,
 0755 instead of 0700
```

itspriiyanshu@DESKTO

itspriiyanshu@DESKTOP-8PNP5TK:~$

rqt_graph__RosGraph - rqt

Node Graph

Nodes/Topics (all) ▾   /   /

Group: 2 ⬍ Namespaces ✓ Actions ✓ tf ✓ Images   ✓ Highlight ✓ Fit
Hide: ✓ Dead sinks ✓ Leaf topics ✓ Debug ☐ tf ✓ Unreachable ✓ Params

5TK: ~ 71x23


```
node.py
itspriiyanshu@D                                    kage$ ls
__init__.py  pu                                    py
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package/my_package$ cs ..
Command 'cs' not found, but can be installed with:
sudo apt install csound
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package/my_package$ cd ..
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package$ ls
my_package  package.xml  resource  setup.cfg  setup.py  test
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package$ vim setup.py
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package$ vim runner_node.py
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package$ ls
my_package  package.xml  resource  setup.cfg  setup.py  test
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package$ cd my_package/
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package/my_package$ ls
__init__.py  publisher_node.py  runner_node.py  subscriber_node.py
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package/my_package$ vim runner_
node.py
```

```python
import rclpy
from rclpy.node import Node
from std_msgs.msg import String

class PublisherNode(Node):
    def __init__(self):
        super().__init__('publisher')
        self.publisher_ = self.create_publisher(String, 'mtopic', 10)
        timer_period = 1.0  # seconds
        self.timer = self.create_timer(timer_period, self.timer_callback)
        self.count = 0

    def timer_callback(self):
        msg = String()
        msg.data = f'Hello, world! {self.count}'
        self.publisher_.publish(msg)
        self.get_logger().info(f'Publishing: "{msg.data}"')
        self.count += 1

def main(args=None):
    rclpy.init(args=args)
    node = PublisherNode()
    rclpy.spin(node)
    node.destroy_node()
    rclpy.shutdown()

if __name__ == '__main__':
    main()
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```

"publisher_node.py" 28L, 772B

```python
import rclpy
from rclpy.node import Node
from std_msgs.msg import String

class SubscriberNode(Node):
    def __init__(self):
        super().__init__('subscriber')
        self.subscription = self.create_subscription(
            String,
            'mtopic',
            self.listener_callback,
            10)

    def listener_callback(self, msg):
        self.get_logger().info(f'I heard: "{msg.data}"')

def main(args=None):
    rclpy.init(args=args)
    node = SubscriberNode()
    rclpy.spin(node)
    node.destroy_node()
    rclpy.shutdown()

~
~
```

```python
import rclpy
from rclpy.executors import MultiThreadedExecutor
from my_package.publisher_node import PublisherNode
from my_package.subscriber_node import SubscriberNode

def main(args=None):
    rclpy.init(args=args)

    publisher = PublisherNode()
    subscriber = SubscriberNode()

    executor = MultiThreadedExecutor()
    executor.add_node(publisher)
    executor.add_node(subscriber)

    try:
        executor.spin()
    finally:
        publisher.destroy_node()
        subscriber.destroy_node()
        rclpy.shutdown()
~
~
~
~
```

```
itspriiyanshu@DESKTOP-8PNP5TK:~/Ros_assign/src/my_package/my_package$ tree
.
├── __init__.py
├── publisher_node.py
├── runner_node.py
└── subscriber_node.py

0 directories, 4 files
```