

Creating ROS Publisher and Subscriber Nodes Communicating Through String Messages

Summary:

I created two nodes, publisher and subscriber that communicate with the topic “string_message”, where the publisher sends the message “hello there”, and the subscriber replies with “I heard”.

Publisher code:

```
#!/usr/bin/env python3

import rospy
from std_msgs.msg import String

def subscriber():
    pub = rospy.Publisher('string_message', String, queue_size=10) #topic name is string_message
    rospy.init_node('publisher', anonymous=True) #node name is publisher
    rate = rospy.Rate(10) #the rate is 10 messages/second
    while not rospy.is_shutdown():
        hello_str = "hello there %s" % rospy.get_time()
        rospy.loginfo(hello_str)
        pub.publish(hello_str)
        rate.sleep()

if __name__ == '__main__':
    try:
        publisher()
    except rospy.ROSInterruptException:
        pass
```

Subscriber code:

```
#!/usr/bin/env python3

import rospy
from std_msgs.msg import String
```

```
def callback(data):

    rospy.loginfo(rospy.get_caller_id() + " I heard %s", data.data)

def subscriber():

    rospy.init_node('subscriber', anonymous=True)

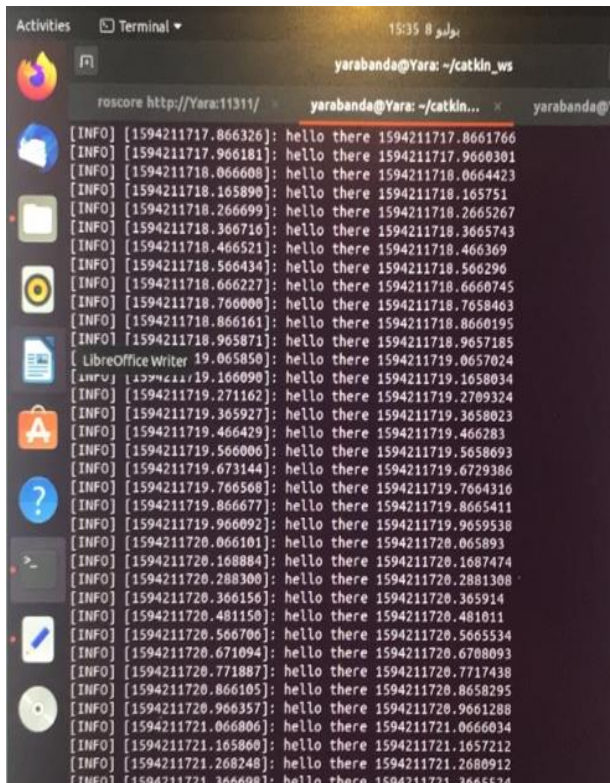
    rospy.Subscriber("string_message", String, callback)

    rospy.spin()

if __name__ == '__main__':

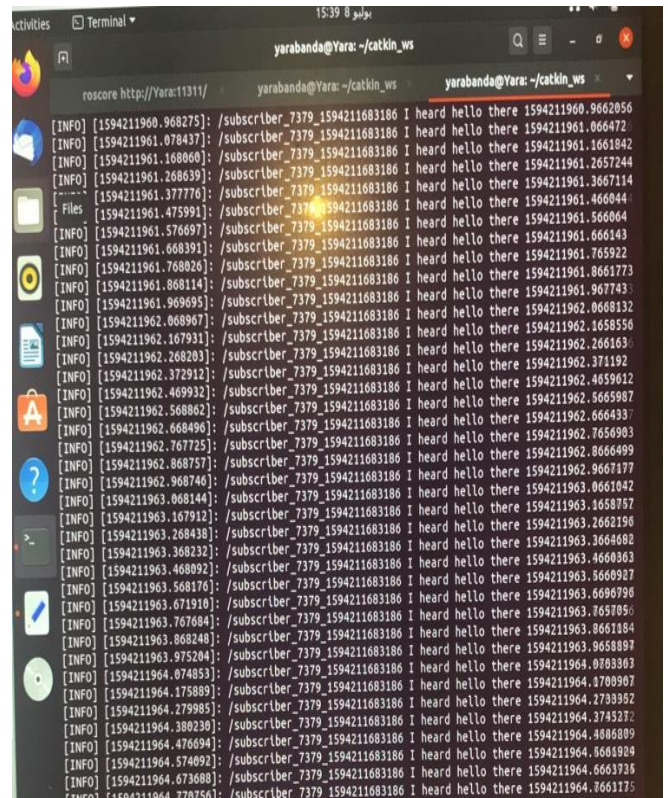
    subscriber()
```

Publisher node terminal:



```
roscore http://Yara:11311/
yarabanda@Yara: ~/catkin_ws
[INFO] [1594211717.866326]: hello there 1594211717.8661766
[INFO] [1594211717.966181]: hello there 1594211717.9660301
[INFO] [1594211718.066608]: hello there 1594211718.0664423
[INFO] [1594211718.165890]: hello there 1594211718.165751
[INFO] [1594211718.266699]: hello there 1594211718.2665267
[INFO] [1594211718.366716]: hello there 1594211718.3665743
[INFO] [1594211718.466521]: hello there 1594211718.466369
[INFO] [1594211718.566434]: hello there 1594211718.566296
[INFO] [1594211718.666227]: hello there 1594211718.6660745
[INFO] [1594211718.766000]: hello there 1594211718.7658403
[INFO] [1594211718.866161]: hello there 1594211718.8660195
[INFO] [1594211718.965871]: hello there 1594211718.9657185
[INFO] [1594211719.065850]: hello there 1594211719.0657024
[INFO] [1594211719.166090]: hello there 1594211719.1658034
[INFO] [1594211719.271162]: hello there 1594211719.2709324
[INFO] [1594211719.365927]: hello there 1594211719.3658023
[INFO] [1594211719.466429]: hello there 1594211719.466283
[INFO] [1594211719.566000]: hello there 1594211719.5658693
[INFO] [1594211719.673144]: hello there 1594211719.6729386
[INFO] [1594211719.766560]: hello there 1594211719.7664316
[INFO] [1594211719.866677]: hello there 1594211719.8665411
[INFO] [1594211719.966092]: hello there 1594211719.9659538
[INFO] [1594211720.066101]: hello there 1594211720.065893
[INFO] [1594211720.168884]: hello there 1594211720.1687474
[INFO] [1594211720.288300]: hello there 1594211720.2881308
[INFO] [1594211720.366156]: hello there 1594211720.365914
[INFO] [1594211720.481150]: hello there 1594211720.481011
[INFO] [1594211720.566700]: hello there 1594211720.5665534
[INFO] [1594211720.671094]: hello there 1594211720.6708093
[INFO] [1594211720.771887]: hello there 1594211720.7717438
[INFO] [1594211720.866105]: hello there 1594211720.8658295
[INFO] [1594211720.966357]: hello there 1594211720.9661288
[INFO] [1594211721.066806]: hello there 1594211721.0666034
[INFO] [1594211721.165860]: hello there 1594211721.1657212
[INFO] [1594211721.268248]: hello there 1594211721.2680912
[INFO] [1594211721.3666981]: hello there 1594211721.3665524
```

Subscriber node Terminal:



```
roscore http://Yara:11311/
yarabanda@Yara: ~/catkin_ws
[INFO] [1594211960.968275]: /subscriber_7379_1594211683186 I heard hello there 1594211960.9662056
[INFO] [1594211961.078437]: /subscriber_7379_1594211683186 I heard hello there 1594211961.066472
[INFO] [1594211961.168600]: /subscriber_7379_1594211683186 I heard hello there 1594211961.1661842
[INFO] [1594211961.268639]: /subscriber_7379_1594211683186 I heard hello there 1594211961.2657244
[INFO] [1594211961.377776]: /subscriber_7379_1594211683186 I heard hello there 1594211961.3667114
[INFO] [1594211961.475991]: /subscriber_7379_1594211683186 I heard hello there 1594211961.466044
[INFO] [1594211961.576697]: /subscriber_7379_1594211683186 I heard hello there 1594211961.566064
[INFO] [1594211961.668391]: /subscriber_7379_1594211683186 I heard hello there 1594211961.666143
[INFO] [1594211961.768026]: /subscriber_7379_1594211683186 I heard hello there 1594211961.765922
[INFO] [1594211961.868114]: /subscriber_7379_1594211683186 I heard hello there 1594211961.8667773
[INFO] [1594211961.969695]: /subscriber_7379_1594211683186 I heard hello there 1594211961.9668132
[INFO] [1594211962.069697]: /subscriber_7379_1594211683186 I heard hello there 1594211962.0658556
[INFO] [1594211962.167931]: /subscriber_7379_1594211683186 I heard hello there 1594211962.166163
[INFO] [1594211962.268203]: /subscriber_7379_1594211683186 I heard hello there 1594211962.271192
[INFO] [1594211962.372912]: /subscriber_7379_1594211683186 I heard hello there 1594211962.371192
[INFO] [1594211962.469932]: /subscriber_7379_1594211683186 I heard hello there 1594211962.4659612
[INFO] [1594211962.568082]: /subscriber_7379_1594211683186 I heard hello there 1594211962.5665987
[INFO] [1594211962.668496]: /subscriber_7379_1594211683186 I heard hello there 1594211962.666433
[INFO] [1594211962.767725]: /subscriber_7379_1594211683186 I heard hello there 1594211962.7656903
[INFO] [1594211962.868757]: /subscriber_7379_1594211683186 I heard hello there 1594211962.8666499
[INFO] [1594211962.968746]: /subscriber_7379_1594211683186 I heard hello there 1594211962.9667177
[INFO] [1594211963.068144]: /subscriber_7379_1594211683186 I heard hello there 1594211963.0661042
[INFO] [1594211963.167912]: /subscriber_7379_1594211683186 I heard hello there 1594211963.1668757
[INFO] [1594211963.268438]: /subscriber_7379_1594211683186 I heard hello there 1594211963.2662196
[INFO] [1594211963.368232]: /subscriber_7379_1594211683186 I heard hello there 1594211963.3664682
[INFO] [1594211963.468092]: /subscriber_7379_1594211683186 I heard hello there 1594211963.4660363
[INFO] [1594211963.568176]: /subscriber_7379_1594211683186 I heard hello there 1594211963.5669927
[INFO] [1594211963.671910]: /subscriber_7379_1594211683186 I heard hello there 1594211963.6750956
[INFO] [1594211963.767684]: /subscriber_7379_1594211683186 I heard hello there 1594211963.7661884
[INFO] [1594211963.868248]: /subscriber_7379_1594211683186 I heard hello there 1594211963.8668087
[INFO] [1594211963.975204]: /subscriber_7379_1594211683186 I heard hello there 1594211964.0780363
[INFO] [1594211964.074853]: /subscriber_7379_1594211683186 I heard hello there 1594211964.0780907
[INFO] [1594211964.175889]: /subscriber_7379_1594211683186 I heard hello there 1594211964.1739352
[INFO] [1594211964.279985]: /subscriber_7379_1594211683186 I heard hello there 1594211964.2745272
[INFO] [1594211964.380230]: /subscriber_7379_1594211683186 I heard hello there 1594211964.3808609
[INFO] [1594211964.476694]: /subscriber_7379_1594211683186 I heard hello there 1594211964.4766924
[INFO] [1594211964.574092]: /subscriber_7379_1594211683186 I heard hello there 1594211964.5740924
[INFO] [1594211964.673688]: /subscriber_7379_1594211683186 I heard hello there 1594211964.6663738
[INFO] [1594211964.770756]: /subscriber_7379_1594211683186 I heard hello there 1594211964.7661175
```

Rqt_graph:

