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# How can I subscribers multiple topics to get data at the same time (python)?



Hi, Am new to ROS and I need a little help. There are 4 topics (robot0/sonar1, robot0/sonar2, ...) of same type (sensor\_msgs/Range). I need to process these 4 values together.



# asked Oct 18 '15

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**Subscriber topic field** 

#!/usr/bin/env python	
import rospy	
from sensor_msgs.msg import Range	
def callback0(data):	
<pre>rospy.loginfo(rospy.get_caller_id() + "I heard %s"</pre>	,
data.range)	
<pre>sonar0 = int(data.range)</pre>	
def callback1(data):	
<pre>rospy.loginfo(rospy.get_caller_id() + "I heard %s"</pre>	,
data.range)	
sonar1 = data.range	
def callback2(data):	
<pre>rospy.loginfo(rospy.get_caller_id() + "I heard %s"</pre>	,
data.range)	
sonar2 = data.range	
def callback3(data):	
<pre>rospy.loginfo(rospy.get_caller_id() + "I heard %s"</pre>	,
data.range)	
sonar3 = data.range	
<pre>def listener():</pre>	
# In ROS, nodes are uniquely named. If two nodes w	it
n the same	
# node are launched, the previous one is kicked of	f.
Γhe	
# anonymous=True flag means that rospy will choose	а
unique	
# name for our 'listener' node so that multiple li	st
eners can	

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```
# run simultaneously.
    rospy.init_node('listener', anonymous=True)
    rospy.Subscriber("robot0/sonar_0", Range, callback0)
    rospy.Subscriber("robot0/sonar_1", Range, callback1)
    rospy.Subscriber("robot0/sonar_2", Range, callback2)
    rospy.Subscriber("robot0/sonar_3", Range, callback3)
    rospy.loginfo(rospy.get_caller_id() + "I heard %s %s
%s %s", sonar0, sonar1, sonar2, sonar3)
   # spin() simply keeps python from exiting until this
node is stopped
    rospy.spin()
if __name__ == '__main__':
    sonar0=0
    sonar1=0
    sonar2=0
    sonar3=0
    listener()
```

#### The line

```
rospy.loginfo(rospy.get_caller_id() + "I heard %s %s %s
%s", sonar0, sonar1, sonar2, sonar3)
```

is not even executing. But I was able to see the result of individual callback. What is the best way to do this? I need an another function that has to process these 4 values.

### Update:

Just like you said I am only getting the

```
rospy.loginfo(rospy.get_caller_id() + "I heard %s %s %s
%s", sonar0, sonar1, sonar2, sonar3)
```

line executed once. What is the best way to do this? I want to store all the values in an array and process once all the four values are received. Then repeat this process again.

# **Comments**

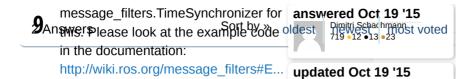
do you get anything displayed - one set of values (probably all zeros) then nothing else, or nothing at all ?

```
yes. one set of values... All zero
Ananthakrishnan (Oct 19 '15)
```

add a comment

You need to use

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Please note that there is also the ApproximateTime synchronization, which is often what you want if the sensor time stamps are not exactly in sync.

link

## Comments

Thanks... That worked. I was able to use ApproximateTime synchronization. That solved my issue. But I am not able to use message\_filter with cmd\_vel bcz it doesn't have any header. Is there any workaround 4 tat? Now am chckng t value of cmd\_vel inside the call back function using wait\_for\_message



a solution would be to make the data source publish messages with a header.

Dimitri Schachmann (Oct 19 '15)

a workaround could be to use <a href="http://wiki.ros.org">http://wiki.ros.org</a>
/topic\_tools/trans... to subscribe to your sensor data and output a new message type with a header. Than your node subscibes to that. You probably have to define that new message type yourself, unless it already exists.

Dimitri Schachmann (Oct 19 '15)

I think its easy to use wait\_for\_message inside the callback function rather than going for republishing the topic. It solved my issue. But thanks for the reply...



add a comment

I just ran your code, don't have a bunch of nodes publishing to the topics, but I get one line of 4 zeros as I would expect.



updated Oct 20 '15

The line you say never runs does run, but onlyruns once at the beginning, on the next line it reaches ros.spin(). It stays at that point. The only activity you will then see are from the callbacks being called when messages come in on a topic, so you would see individual values being printed out as they come in on each of the topics.

link

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