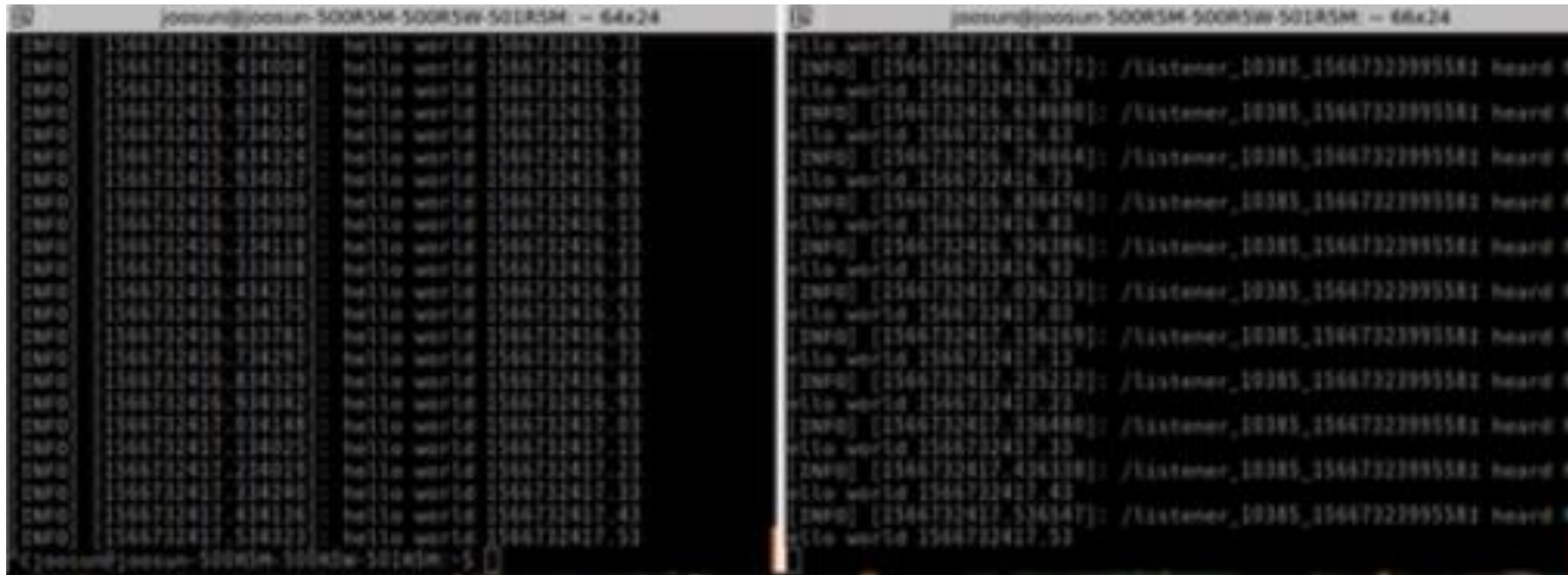


# Writing a Simple Publisher and Subscriber (python)



The image shows two terminal windows side-by-side. The left window, titled 'joosun@joosun-SOORSM-SOORSW-SOIRSM: ~ 64x24', displays the output of a ROS publisher. It shows a series of 'INFO' messages where the string 'hello world' is published at regular intervals, with timestamps ranging from 1546732415.334160 to 1546732417.534223. The right window, titled 'joosun@joosun-SOORSM-SOORSW-SOIRSM: ~ 64x24', displays the output of a ROS subscriber. It shows a series of 'INFO' messages where the subscriber receives the 'hello world' message, with timestamps ranging from 1546732416.334271 to 1546732417.534347. Each subscriber message includes a unique identifier: '/listener\_10385\_15467323995581'.

Msg 파일을 이용한 메시지 (전송)

# 1. 패키지 파일 생성

Catkin\_ws/src

```
Catkin_create_pkg beginner_tutorials std_msgs rospy roscpp
```

선택적으로 해당 패키지에 종속된 종속성 목록 생성

## 2. Node 작성

Mkdir scripts

Cd scripts

<code>

Chmod +x talker.py

# 메시지 파일 생성

Roscd <패키지 이름>

Mkdir msg

Msg = string ()

Msg.data = str

&

String(data=str)

Packge.xml 주석만 해체

## 2. Node 작성

Mkdir scripts

Cd scripts

Chmod +x talker.py

```
#!/usr/bin/env python
```

```
import rospy
```

```
from std_msgs.msg import String
```

```
def talker():
```

```
    pub = rospy.Publisher('chatter',String,queue_size=10)
```

```
    rospy.init_node('talker', anonymous = True)
```

```
    rate = rospy.Rate(10) #10hz
```

```
    while not rospy.is_shutdown():
```

```
        hello_str = "hello world %s" % rospy.get_time()
```

```
        rospy.loginfo(hello_str)
```

```
        pub.publish(hello_str)
```

```
        rate.sleep()
```

```
if __name__=='__main__':
```

```
    try:
```

```
        talker()
```

```
    except rospy.ROSInterruptException:
```

```
        pass
```

## 2. Node 작성

1. Python ros node에 파일 선언

2. 노드를 작성하는 경우 rospy 호출

3. std\_msg 다시 재사용

```
#!/usr/bin/env python
```

```
import rospy
```

```
from std_msgs.msg import String
```

```
def talker():
```

```
    pub = rospy.Publisher('chatter',String,queue_size=10)
```

```
    rospy.init_node('talker', anonymous = True)
```

```
    rate = rospy.Rate(10) #10hz
```

```
    while not rospy.is_shutdown():
```

```
        hello_str = "hello world %s" % rospy.get_time()
```

```
        rospy.loginfo(hello_str)
```

```
        pub.publish(hello_str)
```

```
        rate.sleep()
```

```
if __name__=='__main__':
```

```
    try:
```

```
        talker()
```

```
    except rospy.ROSInterruptException:
```

```
        pass
```

# 3. Node (subscriber)작성

Roscd beginner\_tutorials/scripts/

Chmod +x listener.py

```
#!/usr/bin/env python

import rospy
from std_msgs.msg import String

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

def listener():
    rospy.init_node('listener',anonymous=True)

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

    rospy.spin()

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

## 4. Node 구축

`cd ~/catkin_ws`  
작업자의 공간이동

`Catkin_make`  
생성된 패키지를 make를 실행



# 5. 패키지 실행

Roscore

Rosrun beginner\_tutorials talker.py

Rosrun beginner\_tutorials listener.py

# 5. 패키지 실행

Roscore

Rosrun beginner\_tutorials talker.py

Rosrun beginner\_tutorials listener.py