

-실행 준비 작업 pdf 참고 후 (IP설정을 위해 Nat에서 bridge로 바꿔줘야 가능)

1. Student.py

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

import rospy

from msg_send.msg import my_msg

from std_msgs.msg import String

done = False

def call_back(data):

    msg = data.data

    if ('I am ~ Soo-Rim' in msg):

        print(msg)

    else:

        print("waiting")

    done = True

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

pub=rospy.Publisher('msg_to_xycar', my_msg, queue_size=1)

rospy.Subscriber('msg_from_xycar', String, call_back)

rate = rospy.Rate(0.5)

msg = my_msg()

msg.first_name = "Soo-Rim"

msg.last_name = ""
```

```
msg.age = 15
```

```
msg.score = 100
```

```
msg.id_number = 12345678
```

```
msg.phone_number = "010-0000-0000"
```

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

```
    pub.publish(msg)
```

```
    print("sending message...")
```

```
    rate.sleep()
```

```
chmod +x *.py
```

```
roslaunch msg_send remote_student.py
```



```
remote_student.py (~/xycar_ws/src/msg_send/src) - gedit
열기(O) [icon]
#!/usr/bin/env python

import rospy
from msg_send.msg import my_msg
from std_msgs.msg import String

done = False
def call_back(data):
    msg = data.data
    if ('Soo-Rim' in msg):
        print(msg)
    else:
        print("waiting")
    done = True

rospy.init_node('remote_student', anonymous=True)
pub=rospy.Publisher('msg_to_xycar', my_msg, queue_size=1)

rospy.Subscriber('msg_from_xycar', String, call_back)

rate = rospy.Rate(0.5)

msg = my_msg()
msg.first_name = "Soo-Rim"
msg.last_name = ""
msg.age = 15
msg.score = 100
msg.id_number = 12345678
msg.phone_number = "010-0000-0000"
while not rospy.is_shutdown() and not done:
    pub.publish(msg)
    print("sending message...")
    rate.sleep()
```

2. Teacher.py

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

import rospy

from msg_send.msg import my_msg

from std_msgs.msg import String

import time

def call_back(data):

    st_name=data.last_name+' '+ data.first_name

    curr_time=time.strftime('%Y-%m-%d %H:%M%S', time.localtime())

    st_name2='Good morning. '+st_name+' '+curr_time

    pub.publish(st_name2)

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

pub=rospy.Publisher('msg_from_xycar', String, queue_size=1)

sub=rospy.Subscriber('msg_to_xycar', my_msg, callback)

rospy.spin()
```

3. 통신 결과

```
soorim@soorim-virtual-machine:~$ rosrund msg_send remote_student.py
sending message...
waiting
waiting
sending message...
Good morning,      Soo-Rim 2020-12-24 16:25:57
waiting
waiting
sending message...
Good morning,      Soo-Rim 2020-12-24 16:25:59
waiting
waiting
sending message...
Good morning,      Soo-Rim 2020-12-24 16:26:01
waiting
waiting
```

