

Publisher / Subscriber

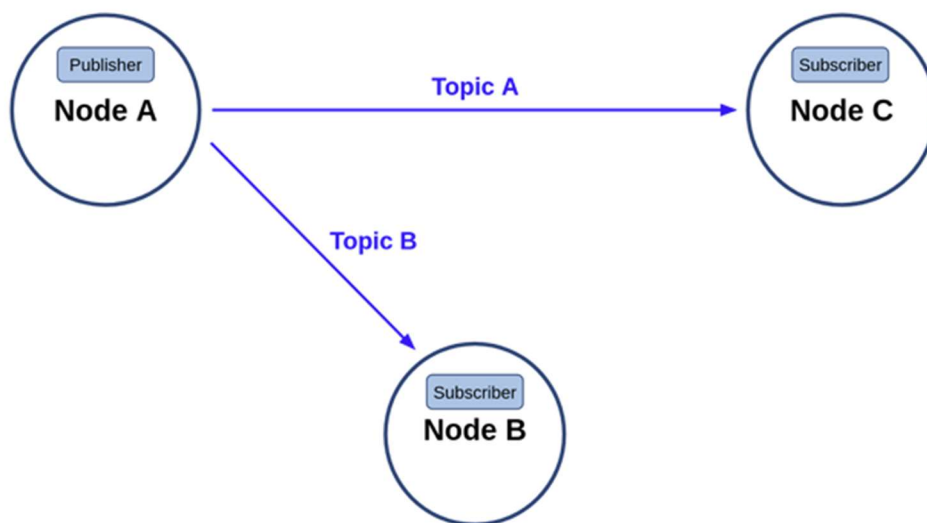
통신 방식 중에 가장 기본이 되며 가장 널리 쓰이는 방법

센서 값 전송 및 항시 정보를 주고 받아야 하는 부분에 주로 사용

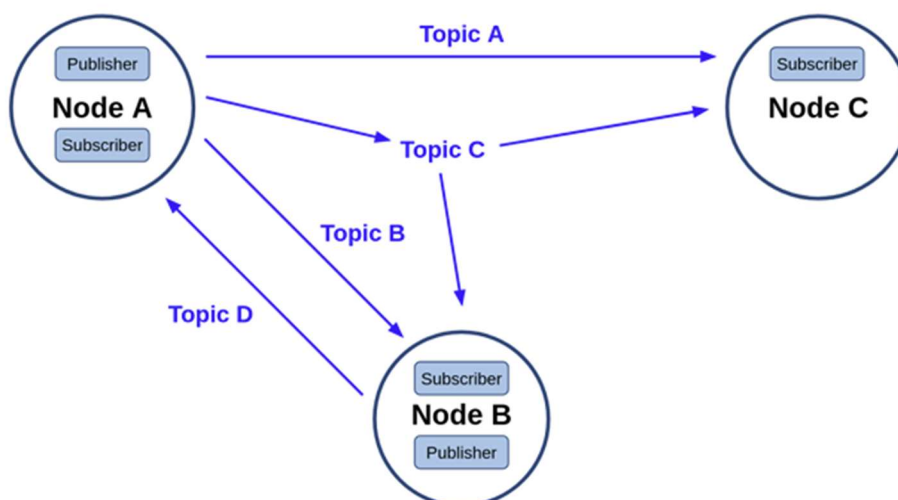
ROS 프로그래밍시에 70% 이상이 Topic으로 사용

Publisher : 특정 Topic으로 데이터를 보냄

Subscriber : 특정 Topic를 구독해서 데이터를 받아옴



자신이 발행한 토픽을 셀프 구독할 수 있게 구성할 수도 있음



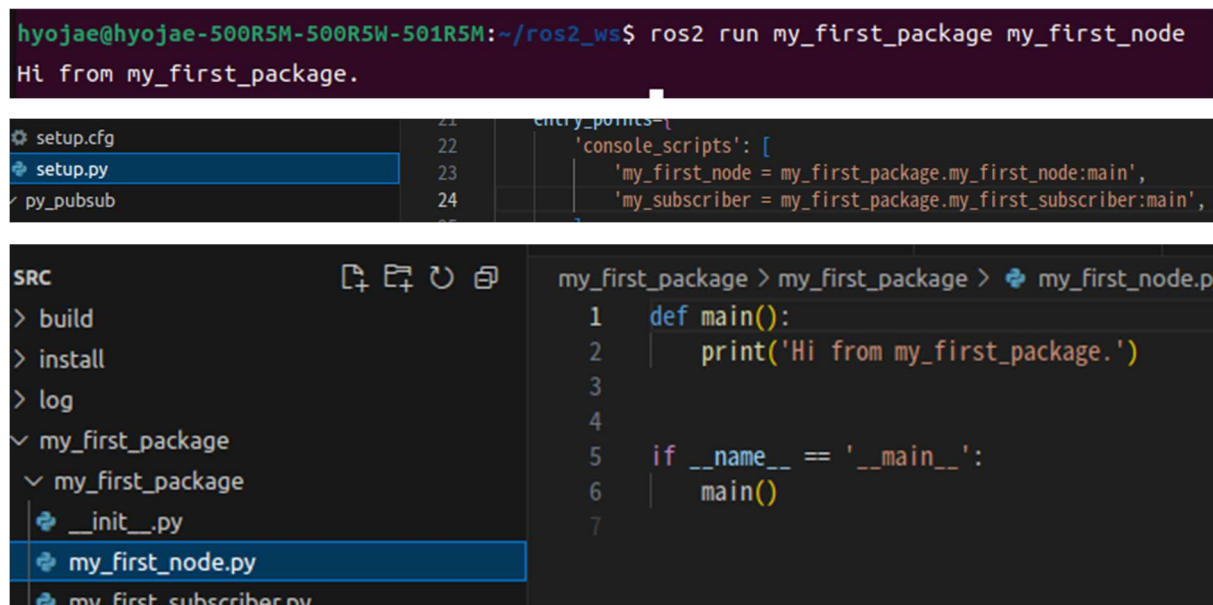
실습

강의자료(5주차)

colon build -packages-select my_first_package

source ./install/setup.bash (# 터미널 열 때마다 해줘야함)

ros2 run my_first_package my_first_node

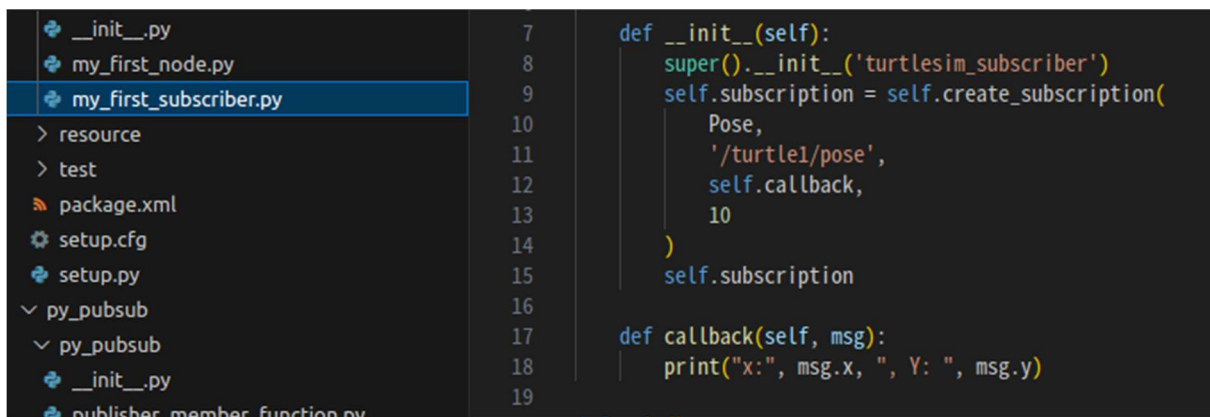
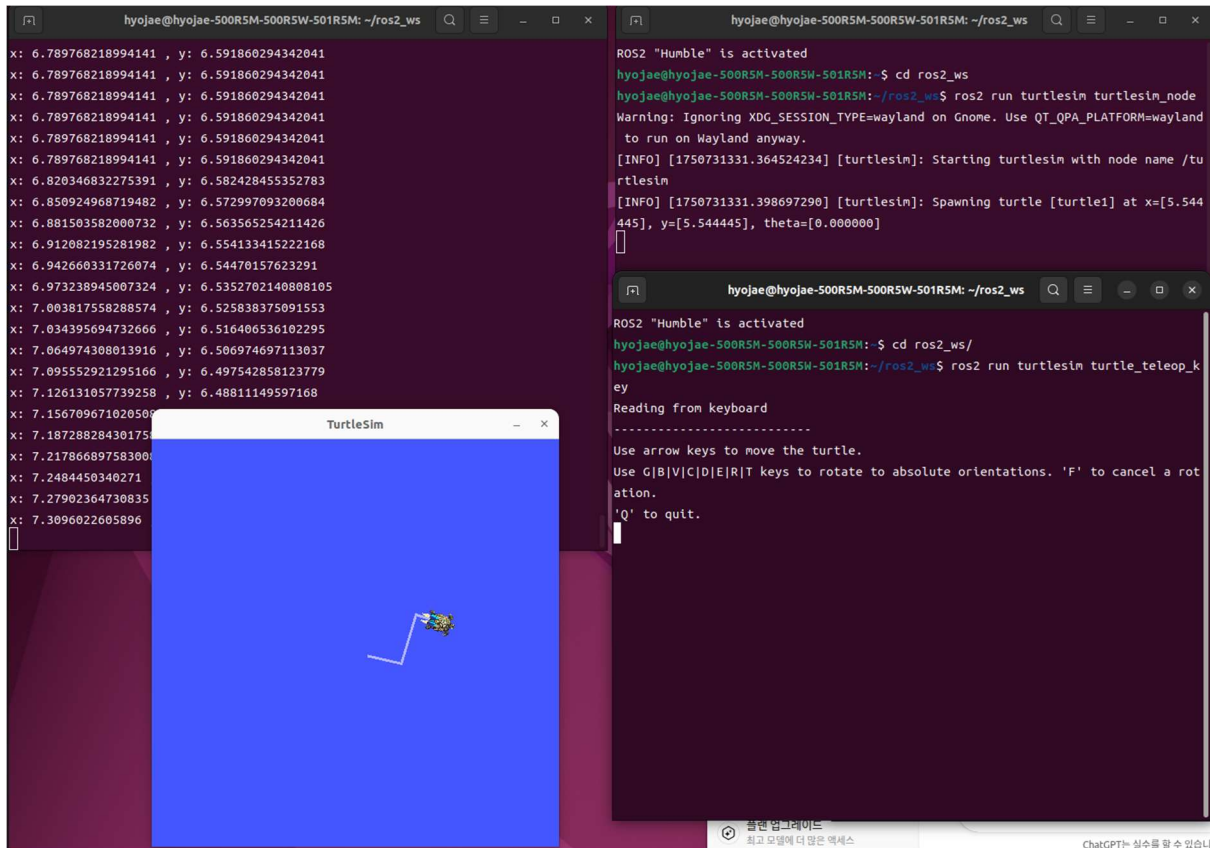


The image contains two screenshots. The top screenshot is a terminal window showing the command `ros2 run my_first_package my_first_node` being executed, resulting in the output `Hi from my_first_package.`. The bottom screenshot is an IDE window showing the file explorer on the left with `my_first_node.py` selected. The main editor area displays the Python code for `my_first_node.py`, which includes a `main()` function that prints `Hi from my_first_package.` and a standard `if __name__ == '__main__':` guard.

```
my_first_package > my_first_package > my_first_node.py
1 def main():
2     print('Hi from my_first_package.')
3
4
5 if __name__ == '__main__':
6     main()
7
```

(터틀봇, 키보드 조종 실행 후)

ros2 run my_first_package my_subscriber



실습(humble docs tutorial)

colcon build --packages-select py_pubsub

source install/setup.bash

ros2 run py_pubsub talker

```
hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws
line 620, in _wait_for_ready_callbacks
    wait_set.wait(timeout_nsec)
KeyboardInterrupt
[ros2run]: Interrupt
hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws$ ros2 run py_pubsub talker
[INFO] [1750734427.933966699] [minimal_publisher]: Publishing: "Hello World: 0"
[INFO] [1750734428.395307111] [minimal_publisher]: Publishing: "Hello World: 1"
[INFO] [1750734428.895751865] [minimal_publisher]: Publishing: "Hello World: 2"
[INFO] [1750734429.392508814] [minimal_publisher]: Publishing: "Hello World: 3"
[INFO] [1750734429.895466694] [minimal_publisher]: Publishing: "Hello World: 4"
[INFO] [1750734430.395638323] [minimal_publisher]: Publishing: "Hello World: 5"
[INFO] [1750734430.896058422] [minimal_publisher]: Publishing: "Hello World: 6"
[INFO] [1750734431.394949345] [minimal_publisher]: Publishing: "Hello World: 7"
[INFO] [1750734431.896913659] [minimal_publisher]: Publishing: "Hello World: 8"
[INFO] [1750734432.395086289] [minimal_publisher]: Publishing: "Hello World: 9"
[INFO] [1750734432.895701684] [minimal_publisher]: Publishing: "Hello World: 10"
[INFO] [1750734433.395820024] [minimal_publisher]: Publishing: "Hello World: 11"
[INFO] [1750734433.894004703] [minimal_publisher]: Publishing: "Hello World: 12"
[INFO] [1750734434.395609235] [minimal_publisher]: Publishing: "Hello World: 13"
[INFO] [1750734434.895485873] [minimal_publisher]: Publishing: "Hello World: 14"
[INFO] [1750734435.395524503] [minimal_publisher]: Publishing: "Hello World: 15"
[INFO] [1750734435.895814705] [minimal_publisher]: Publishing: "Hello World: 16"
[INFO] [1750734436.395424768] [minimal_publisher]: Publishing: "Hello World: 17"
```

ros2 run py_pubsub listener

```
hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws
line 620, in _wait_for_ready_callbacks
    wait_set.wait(timeout_nsec)
KeyboardInterrupt
[ros2run]: Interrupt
hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws$ ros2 run py_pubsub talker
[INFO] [1750734427.933966699] [minimal_publisher]: Publishing: "Hello World: 0"
[INFO] [1750734428.395307111] [minimal_publisher]: Publishing: "Hello World: 1"
[INFO] [1750734428.895751865] [minimal_publisher]: Publishing: "Hello World: 2"
[INFO] [1750734429.392508814] [minimal_publisher]: Publishing: "Hello World: 3"
[INFO] [1750734429.895466694] [minimal_publisher]: Publishing: "Hello World: 4"
[INFO] [1750734430.395638323] [minimal_publisher]: Publishing: "Hello World: 5"
[INFO] [1750734430.896058422] [minimal_publisher]: Publishing: "Hello World: 6"
[INFO] [1750734431.394949345] [minimal_publisher]: Publishing: "Hello World: 7"
[INFO] [1750734431.896913659] [minimal_publisher]: Publishing: "Hello World: 8"
[INFO] [1750734432.395086289] [minimal_publisher]: Publishing: "Hello World: 9"
[INFO] [1750734432.895701684] [minimal_publisher]: Publishing: "Hello World: 10"
[INFO] [1750734433.395820024] [minimal_publisher]: Publishing: "Hello World: 11"
[INFO] [1750734433.894004703] [minimal_publisher]: Publishing: "Hello World: 12"
[INFO] [1750734434.395609235] [minimal_publisher]: Publishing: "Hello World: 13"
[INFO] [1750734434.895485873] [minimal_publisher]: Publishing: "Hello World: 14"
[INFO] [1750734435.395524503] [minimal_publisher]: Publishing: "Hello World: 15"
[INFO] [1750734435.895814705] [minimal_publisher]: Publishing: "Hello World: 16"
[INFO] [1750734436.395424768] [minimal_publisher]: Publishing: "Hello World: 17"

hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws
File "/opt/ros/humble/local/lib/python3.10/dist-packages/rclpy/executors.py",
line 723, in wait_for_ready_callbacks
    return next(self._cb_iter)
File "/opt/ros/humble/local/lib/python3.10/dist-packages/rclpy/executors.py",
line 620, in _wait_for_ready_callbacks
    wait_set.wait(timeout_nsec)
KeyboardInterrupt
[ros2run]: Interrupt
hyojae@hyojae-500R5M-500R5W-501R5M: ~/ros2_ws$ ros2 run py_pubsub listener
[INFO] [1750734429.943362547] [minimal_subscriber]: I heard: "Hello World: 4"
[INFO] [1750734430.396776626] [minimal_subscriber]: I heard: "Hello World: 5"
[INFO] [1750734430.896738371] [minimal_subscriber]: I heard: "Hello World: 6"
[INFO] [1750734431.395995727] [minimal_subscriber]: I heard: "Hello World: 7"
[INFO] [1750734431.898219276] [minimal_subscriber]: I heard: "Hello World: 8"
[INFO] [1750734432.395856117] [minimal_subscriber]: I heard: "Hello World: 9"
[INFO] [1750734432.896632771] [minimal_subscriber]: I heard: "Hello World: 10"
[INFO] [1750734433.396758152] [minimal_subscriber]: I heard: "Hello World: 11"
[INFO] [1750734433.894512932] [minimal_subscriber]: I heard: "Hello World: 12"
[INFO] [1750734434.395770808] [minimal_subscriber]: I heard: "Hello World: 13"
[INFO] [1750734434.895622778] [minimal_subscriber]: I heard: "Hello World: 14"
[INFO] [1750734435.396302421] [minimal_subscriber]: I heard: "Hello World: 15"
[INFO] [1750734435.896613002] [minimal_subscriber]: I heard: "Hello World: 16"
[INFO] [1750734436.395576359] [minimal_subscriber]: I heard: "Hello World: 17"
```