

ros2 launch turtlesim_mimic_launch.py

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From “Creating a Launch file - foxy

<https://docs.ros.org/en/foxy/Tutorials/Intermediate/Launch/Creating-Launch-Files.html>

1. Create a Launch file in ~/launch directory

Alias foxy or noetic

```
harman@harman-VirtualBox:~$ foxy
```

```
harman@harman-VirtualBox:~$ mkdir launch
```

```
mkdir: cannot create directory 'launch': File exists (Already Made)
```

```
harman@harman-VirtualBox:~$ cd launch
```

```
harman@harman-VirtualBox:~/launch$ ls
```

```
__pycache__ turtlesim_mimic_launch.py
```

2. Launch the turtlesim_mimic_launch.py file

```
harman@harman-VirtualBox:~/launch$ ros2 launch turtlesim_mimic_launch.py
```

```
[INFO] [launch]: All log files can be found below /home/harman/.ros/log/2022-10-07-13-50-13-942100-harman-VirtualBox-4356
```

```
[INFO] [launch]: Default logging verbosity is set to INFO
```

```
[INFO] [turtlesim_node-1]: process started with pid [4358]
```

```
[INFO] [turtlesim_node-2]: process started with pid [4360]
```

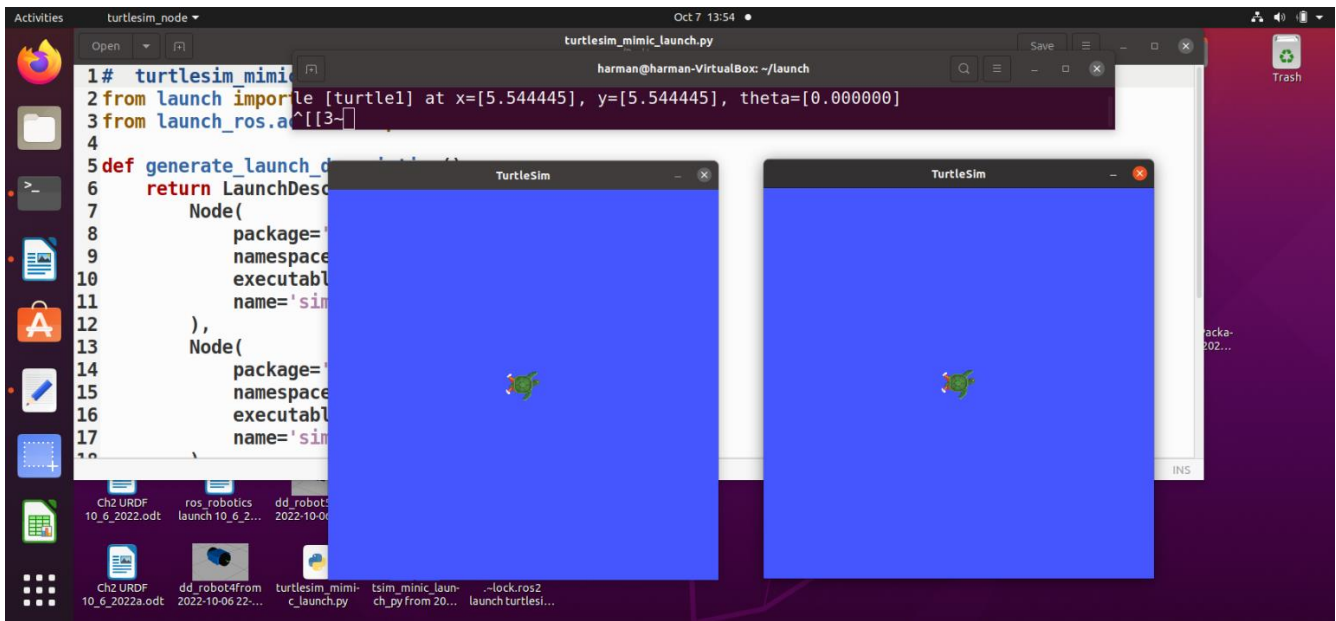
```
[INFO] [mimic-3]: process started with pid [4362]
```

```
[turtlesim_node-1] [INFO] [1665168614.480789967] [turtlesim1.sim]: Starting turtlesim with node name /turtlesim1/sim
```

```
[turtlesim_node-2] [INFO] [1665168614.483772316] [turtlesim2.sim]: Starting turtlesim with node name /turtlesim1/sim
```

```
[turtlesim_node-1] [INFO] [1665168614.490207515] [turtlesim1.sim]: Spawning turtle [turtle1] at x=[5.544445], y=[5.544445], theta=[0.000000]
```

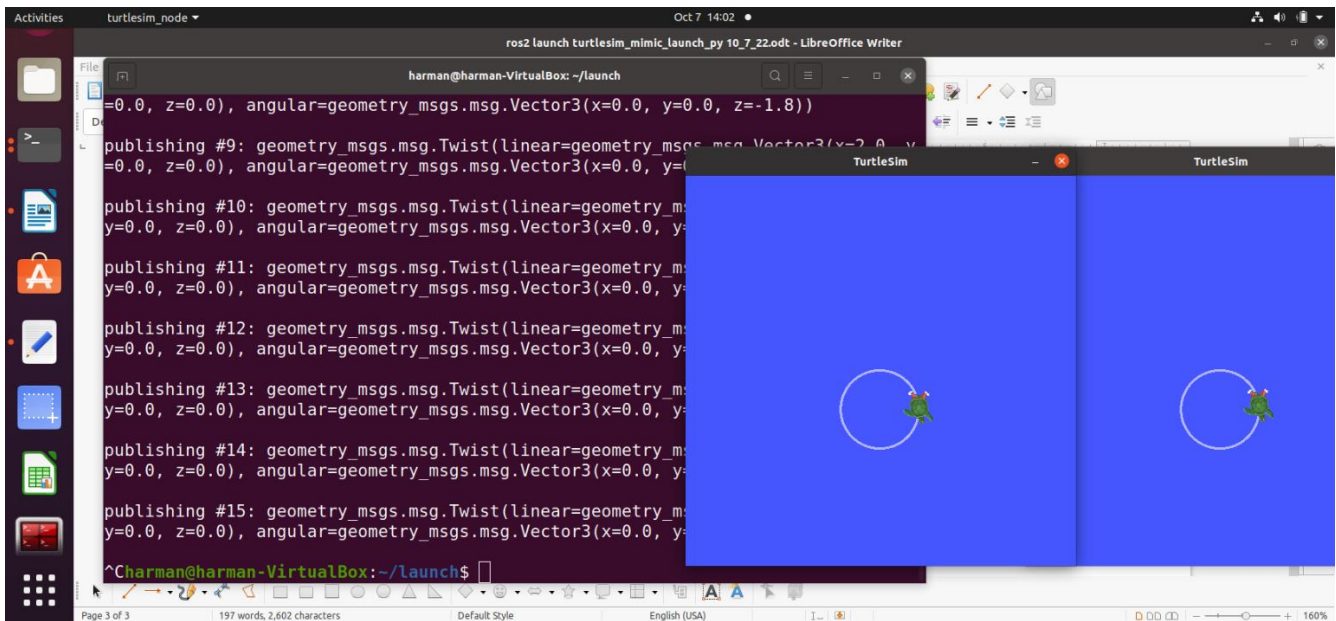
```
[turtlesim_node-2] [INFO] [1665168614.494106656] [turtlesim2.sim]: Spawning turtle [turtle1] at x=[5.544445], y=[5.544445], theta=[0.000000]
```



3. Move a turtle – the other will mimic

harman@harman-VirtualBox:~/launch\$ ros2 topic pub -r 1

/turtlesim1/turtle1/cmd_vel geometry_msgs/msg/Twist "{linear: {x: 2.0, y: 0.0, z: 0.0}, angular: {x: 0.0, y: 0.0, z: -1.8}}"

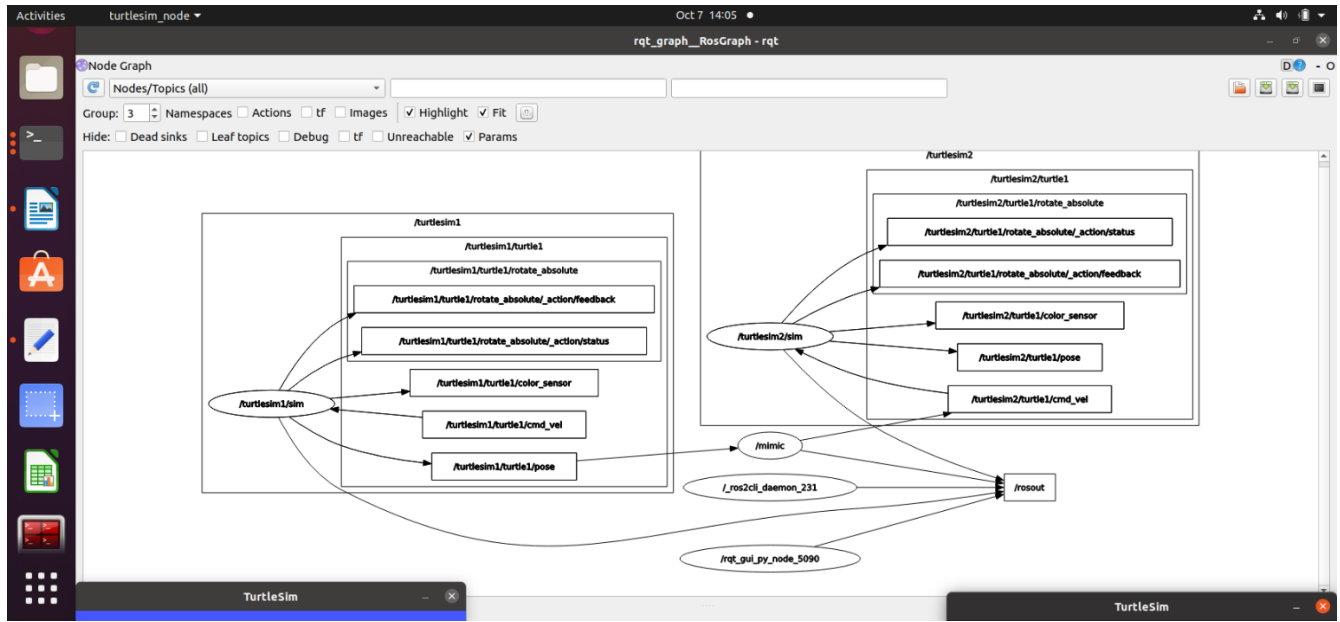


rqt_graph View Nodes and Topics

Alias foxy or noetic

harman@harman-VirtualBox:~\$ foxy

harman@harman-VirtualBox:~\$ rqt_graph



Data and websites for Setup

<https://docs.ros.org/en/foxy/Tutorials/Intermediate/Launch/Creating-Launch-Files.html>

Create a new directory to store your launch files:

```
$ mkdir launch
```

Alias foxy or noetic

```
harman@harman-VirtualBox:~$ foxy
```

```
harman@harman-VirtualBox:~$ cd launch
```

```
harman@harman-VirtualBox:~/launch$ ls
```

```
__pycache__  turtlesim_mimic_launch.py
```

```
-----  
# turtlesim_mimic_launch.py  
from launch import LaunchDescription  
from launch_ros.actions import Node  
  
def generate_launch_description():  
    return LaunchDescription([  
        Node(  
            package='turtlesim',  
            namespace='turtlesim1',  
            executable='turtlesim_node',  
            name='sim'  
        ),  
        Node(  
            package='turtlesim',  
            namespace='turtlesim2',  
            executable='turtlesim_node',  
            name='sim'  
        ),  
        Node(  
            package='turtlesim',  
            executable='mimic',  
            name='mimic',  
            remappings=[  
                ('/input/pose', 'turtlesim1/turtle1/pose'),  
                ('/output/cmd_vel', 'turtlesim2/turtle1/cmd_vel'),  
            ]  
        )  
    ])
```

ros2 rostopic and Node list

```
harman@harman-VirtualBox:~/launch$ ros2 topic list
```

```
/parameter_events
```

```
/rosout
```

```
/turtlesim1/turtle1/cmd_vel
/turtlesim1/turtle1/color_sensor
/turtlesim1/turtle1/pose
/turtlesim2/turtle1/cmd_vel
/turtlesim2/turtle1/color_sensor
/turtlesim2/turtle1/pose
```

Alias foxy or noetic

```
harman@harman-VirtualBox:~$ foxy
```

```
harman@harman-VirtualBox:~$ ros2 node list
```

```
/mimic
/rqt_gui_py_node_5090
/turtlesim1/sim
/turtlesim2/sim
```

```
harman@harman-VirtualBox:~$ ros2 node info /turtlesim1/sim
/turtlesim1/sim
```

Subscribers:

```
/parameter_events: rcl_interfaces/msg/ParameterEvent
/turtlesim1/turtle1/cmd_vel: geometry_msgs/msg/Twist
```

Publishers:

```
/parameter_events: rcl_interfaces/msg/ParameterEvent
/rosout: rcl_interfaces/msg/Log
/turtlesim1/turtle1/color_sensor: turtlesim/msg/Color
/turtlesim1/turtle1/pose: turtlesim/msg/Pose
```

Service Servers:

```
/turtlesim1/clear: std_srvs/srv/Empty
/turtlesim1/kill: turtlesim/srv/Kill
/turtlesim1/reset: std_srvs/srv/Empty
/turtlesim1/sim/describe_parameters: rcl_interfaces/srv/DescribeParameters
/turtlesim1/sim/get_parameter_types: rcl_interfaces/srv/GetParameterTypes
/turtlesim1/sim/get_parameters: rcl_interfaces/srv/GetParameters
/turtlesim1/sim/list_parameters: rcl_interfaces/srv/ListParameters
/turtlesim1/sim/set_parameters: rcl_interfaces/srv/SetParameters
/turtlesim1/sim/set_parameters_atomically: rcl_interfaces/srv/SetParametersAtomically
/turtlesim1/spawn: turtlesim/srv/Spawn
/turtlesim1/turtle1/set_pen: turtlesim/srv/SetPen
/turtlesim1/turtle1/teleport_absolute: turtlesim/srv/TeleportAbsolute
/turtlesim1/turtle1/teleport_relative: turtlesim/srv/TeleportRelative
```

Service Clients:

Action Servers:

```
/turtlesim1/turtle1/rotate_absolute: turtlesim/action/RotateAbsolute
```

Action Clients:

