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#Command pada terminal setiap prosedur

Cek Instalasi ROS 2 dan setup environment

- Open terminal

source /opt/ros/humble/setup.bash

echo "source /opt/ros/humble/setup.bash" >> ~/.bashrc

printenv | grep -i ROS

Ouput:

ROS_VERSION=2

ROS_PYTHON_VERSION=3

ROS_DISTRO=humble

export ROS_DOMAIN_ID=0

echo "export ROS_DOMAIN_ID=0" >> ~/.bashrc

export ROS_LOCALHOST_ONLY=1

echo "export ROS_LOCALHOST_ONLY=1" >> ~/.bashrc

sudo apt update

sudo apt install '~nros-humble-rqt*'

rqt

- Other terminal
  source /opt/ros/humble/setup.bash
  ros2 run demo_nodes_cpp talker
  (Ctrl + C) to stop
- Other terminal
  source /opt/ros/humble/setup.bash
  ros2 run demo_nodes_py listener
  (Ctrl + C) to stop

- Other terminal
  rqt_graph

Turtlesim

sudo apt update

sudo apt install ros-humble-turtlesim

ros2 pkg executables turtlesim

ros2 run turtlesim turtlesim_node

- Other terminal to control the turtle
  ros2 run turtlesim turtle_teleop_key
- Other terminal
  rqt_graph

Colcon Build Packages

sudo apt install python3-colcon-common-extensions

mkdir -p ~/ros2_ws/src

cd ~/ros2_ws

git clone https://github.com/ros2/examples src/examples -b humble

colcon build --symlink-install

colcon test

source install/setup.bash

ros2 run examples_rclcpp_minimal_subscriber subscriber_member_function

- Terminal lain
  cd ~/ros2_ws
  source install/setup.bash
  ros2 run examples_rclcpp_minimal_publisher publisher_member_function

echo "source /usr/share/colcon_cd/function/colcon_cd.sh" >> ~/.bashrc

echo "export _colcon_cd_root=/opt/ros/humble/" >> ~/.bashrc

colcon test --packages-select YOUR_PKG_NAME --ctest-args -R YOUR_TEST_IN_PKG

Membuat Sebuah Package

cd ~/ros2_ws/src

ros2 pkg create --build-type ament_python --license Apache-2.0 --node-name my_node my_package

cd ~/ros2_ws

colcon build

colcon build --packages-select my_package

source install/local_setup.bash

ros2 run my_package my_node

my_package package.xml resource setup.cfg setup.py test

// untuk mencoba package turtlesim saya menggunakan command berikut

ros2 pkg create --build-type ament_python my_robot_controller --dependencies rclpy turtlesim

Untuk mengkode ROS Node dengan Python

Karena directory my_robot_controller sudah dibuat di Langkah sebelumnya maka selanjutnya membuat file Bernama test_node.py di directory ros2_ws/src/my_robot_controller/my_robot_controller. Command yang dilakukan sebagai berikut:

touch ~/ros2_ws/src/my_robot_controller/my_robot_controller/test_node.py

chmod +x ~/ros2_ws/src/my_robot_controller/my_robot_controller/test_node.py

Selanjutnya buat code node di file test_node.py menggunakan code editor VSCode. Lalu mengubah isi dari file setup.py dengan menambahkan direktori test_node.py. Selanjutnya

cd ~/ros2_ws/

```
colcon build --packages-select my_robot_controller

source install/setup.bash

ros2 run my_robot_controller test_node
```

-- Sekian dan Terima Kasih --