Tema 1. Teleoperation - Robótica Móvil

```
source /opt/ros/humble/setup.bash
export ROS_LOCALHOST_ONLY=1
export TURTLEOT3_MODEL=burger
export ROS_DOMAIN_ID=144
export LDS_MODEL=LDS-01 (físico)
```

```
ros2 launch turtlebot3_gazebo \
    turtlebot3_house.launch.py
```

```
ros2 launch turtlebot3_gazebo empty_world.launch.py
```

```
ros2 run turtlebot3_teleop teleop_keyboard
```

```
rviz2 -d config.rviz
```

```
rqt
```

Conexión desde PC

- 3 terminales a la vez en el PC
- Conectarse al turtlebot en el primer terminal con ssh
  - Terminal 1 (TurtleBot): Activar motores
  - Terminal 2 (PC): Activar teleop
  - Terminal 3 (PC): Activar ros bag record

IMPORTANTE: Tener el mismo ROS_DOMAIN_ID en cada terminal.

```
ssh ubuntu@192.168.0.xxx (password: turtlebot)
```

```
ros2 launch turtlebot3_bringup robot.launch.py
```

```
ros2 bag record /clock /odom /tf /tf_static /scan
```

Conexión desde portátil

```
ssh ubuntu@192.168.0.xxx (password: turtlebot)
```

```
ip addr
```

Nos dará una ip del estilo `169.254.XXX.YYY`. *Tenemos que tener el cable de Ethernet conectado del portátil al Turtlebot*

```
ssh ubuntu@169.254.XXX.YYY (password: turtlebot)
```

```
# Task 1
ros2 bag record /clock /map /odom /scan /tf /tf_static
# Task 2
ros2 bag record /map /odom /scan /tf /tf_static
```

Webots

```
sudo apt install ros-humble-webots-ros2
```

```
export WEBOTS_HOME=$HOME/webots-R2023b
ros2 launch webots_ros2_turtlebot robot_launch.py
```