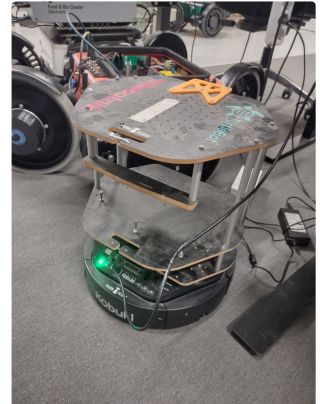


Turtlebot Setup

Quick overview of the basic setup for use of the turtlebot.

Requirements: [↗](#)

- 1 workstation with ROS2 installed.
- 1 Kobuki Turtlebot
- 1 USB cable: 2.0 Type-B to a compatible port on your workstation.
- (Optional) Docking station for robot.
- 1 Charging cable for power to robot, Output: 19V DC, 3.16A. (Can be used on either bot or docking station.)



Yujin Kobuki Turtlebot

Procedure: [↗](#)

1. Create workspace:

Open terminal and create directory for workspace

```
1 mkdir -p ~/ros2_turtle/src
2 cd ~/ros2_turtle/src
```

2. Install [ROS interfaces](#) and [velocity smoother](#):

```
1 sudo apt-get install ros-humble-kobuki-ros-interfaces ros-humble-kobuki-velocity-smoother
```

3. Clone packages:

- [kobuki_core](#)
- [kobuki_ros](#)
- [kobuki_ros_interfaces](#) (if not installed via apt)
- [cmd_vel_mux](#)
- [ecl_core](#)
- [ecl_lite](#)

```
1 git clone https://github.com/kobuki-base/kobuki_core.git -b devel
2 git clone https://github.com/kobuki-base/kobuki_ros.git -b devel
3 git clone https://github.com/kobuki-base/kobuki_ros_interfaces.git -b devel
4 git clone https://github.com/kobuki-base/cmd_vel_mux.git -b devel
5 git clone https://github.com/stonier/ecl_core.git -b devel
6 git clone https://github.com/stonier/ecl_lite.git -b devel
```

4. Install [sophus library](#) package:

```
1 cd ~/ros2_turtle
2 sudo apt-get install ros-humble-sophus
```

5. Install dependencies

```
1 rosdep install -i --from-path src --rosdistro humble -y
```

6. Build workspace

```
1 colcon build --symlink-install --executor sequential
```

7. Update udev rule for USB connection

```
1 wget https://raw.githubusercontent.com/kobuki-base/kobuki_ftdi/devel/60-kobuki.rules
2 sudo cp 60-kobuki.rules /etc/udev/rules.d
3 # different linux distros may use a different service manager (this is Ubuntu's)
4 # --> failing all else, a reboot will work
5 sudo service udev reload
6 sudo service udev restart
```

8. Connect and test

Connect to the turtle with a USB cable and turn it on.

Test connection in the terminal.

```
1 source ./install/setup.bash
2 kobuki-simple-keyop
```

Turtle should make a noise and be controllable via keyboard. End test with 'q'

9. Start ros2 node for turtle in a terminal

```
1 cd ~/ros2_turtle
2 source ./install/setup.bash
3 ros2 launch kobuki_node kobuki_node-launch.py
```

The turtle's ros2 nodes should now be available.

10. Test by starting a ros2 keyboard controller in a separate terminal

```
1 cd ~/ros2_turtle
2 source ./install/setup.bash
3 ros2 run teleop_twist_keyboard teleop_twist_keyboard --ros-args --remap cmd_vel:=commands/velocity
```

Sources:

 [Contents — kobuki 1.0.0 documentation](#)

 [ROS 2 on Kobuki TurtleBot](#)

 [Installing & Running the Software — kobuki 1.0.0 documentation](#)