

KBSW210712 ROS - teleop_twist_keyboard - EN

The page introduces the usage of teleop_twist_keyboard, including how to control the motion of a robot using the keyboard.

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Environment Setup

software platform

- Ubuntu 20.04 X86
- ROS Noetic

hardware platform

Choose any one below

- Slamware Kit (User Robot System based on Slamware Solution)
 - robot base systems like Apollo/Ares/Athena
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Sample Code Download

[ROS-Sample Download Link](#)

Compile and Run

1. Download the Slamware ROS SDK along with ROS examples.
2. Place the 'src' folder from the ROS SDK into an empty working directory, such as 'catkin_ws'. Also, put the 'slamware_ros_sample' folder from the ROS examples into the 'src' folder.

```
mkdir -p catkin_ws/src
cd catkin_ws/src
```

3. Initialize the workspace using the Catkin tool.

```
catkin_init_workspace
```

4. Compile.

```
cd ..
catkin_make
```

5. Set up workspace environment.

```
source devel/setup.bash
```

6. Launch the slamware_ros_sdk_server_node node. Select the corresponding IP according to the mode.

```
roslaunch slamware_ros_sdk slamware_ros_sdk_server_node.launch ip_address:=10.6.128.141 // Station
mode
// If in AP mode, the IP address is 192.168.11.1
```

7. Open another terminal, repeat step 5, and start the teleop_twist_keyboard_node node. Follow the prompts and use the W/S/A/D keys to control the robot to move forward/backward/left/right accordingly.

```
roslaunch slamware_ros_sample teleop_twist_keyboard.launch
```

```
slamtec@slamtec:~/catkin_ws$ roslaunch slamware_ros_sample teleop_twist_keyboard.
launch
... logging to /home/slamtec/.ros/log/a1dadf34-d220-11ee-978c-b1e6731bb046/roslau
nch-slamtec-29410.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://slamtec:36473/

SUMMARY
=====

PARAMETERS
* /rostdistro: noetic
* /rosversion: 1.16.0

NODES
/
  slamware_ros_sample (slamware_ros_sample/teleop_twist_keyboard.py)

ROS_MASTER_URI=http://localhost:11311

process[slamware_ros_sample-1]: started with pid [29424]
the rosdep view is empty: call 'sudo rosdep init' and 'rosdep update'

Reading from the keyboard and Publishing to Twist!
-----
Moving around:
      w
  a    s    d

CTRL-C to quit
```

Code Description

Define keyboard buttons

```
moveBindings = {
    'w':(1.0, 0.0),
    's':(-1.0, 0.0),
    'a':(0.0, 1.0),
    'd':(0.0, -1.0)
}
```

Define a publisher, specify the topic name and type

```
pub = rospy.Publisher('/cmd_vel', Twist, queue_size = 1)
```

Initialize node

```
rospy.init_node('teleop_twist_keyboard_node')
```

When pressing keys, assign the velocity to linearX and angularZ

```
key = getKey()
print(key)
if key in moveBindings.keys():
    linearX = moveBindings[key][0]
    angularZ = moveBindings[key][1]
else:
    linearX = 0.0
    angularZ = 0.0
    if (key == '\x03'):
        break
```

Publish messages according to the required type of topic

```
twist = Twist()
twist.linear.x = linearX
twist.angular.z = angularZ
pub.publish(twist)
```