e-yantra

Robotics
Competition
2021-22

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eYRC 2021-22: Agri Bot (AB)

Command: rosnode

`rosnode` contains the rosnode command-line tool for displaying debug information about ROS Nodes.

Note: For quick information about any command, be that outside of ROS, simply type the command along with suffix `--h` or `-help` . This is a widely used concept among other Linux commands for quick references. Here's an example for `rosnode --h` command

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```
                              :~/catkin_ws$ rosnode -h
rosnode is a command-line tool for printing information about ROS Nodes.

Commands:
        rosnode ping     test connectivity to node
        rosnode list     list active nodes
        rosnode info     print information about node
        rosnode machine list nodes running on a particular machine or list machi
nes
        rosnode kill     kill a running node
        rosnode cleanup purge registration information of unreachable nodes

Type rosnode <command> -h for more detailed usage, e.g. 'rosnode ping -h'

                              :~/catkin_ws$ ▯
```

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list

`rosnode list` displays a list of all current nodes.

Let's figure out what argument the `list` sub-command needs. In a new terminal run start the rosmaster:

```
roscore
```

And in another terminal, run:

```
rosrun rospy_tutorials talker
```

And in another terminal, run:

```
rosnode list
```

Now the node named `talker` (node with word talker in it) will be printed on the terminal.

```
                                    :~/catkin_ws$ rosrun rospy_tutorials talker
[INFO] [1600702229.975765]: hello world 1600702229.98
[INFO] [1600702230.077239]: hello world 1600702230.08
[INFO] [1600702230.177317]: hello world 1600702230.18
[INFO] [1600702230.276957]: hello world 1600702230.28
[INFO] [1600702230.376631]: hello world 1600702230.38
[INFO] [1600702230.478004]: hello world 1600702230.48
[INFO] [1600702230.577736]: hello world 1600702230.58
[INFO] [1600702230.677610]: hello world 1600702230.68
[INFO] [1600702230.777133]: hello world 1600702230.78
[INFO] [1600702230.876321]: hello world 1600702230.88
[INFO] [1600702230.977411]: hello world 1600702230.98
[INFO] [1600702231.078330]: hello world 1600702231.08
[INFO] [1600702231.177122]: hello world 1600702231.18
[INFO] [1600702231.277555]: hello world 1600702231.28
[INFO] [1600702231.376558]: hello world 1600702231.38
[INFO] [1600702231.477350]: hello world 1600702231.48
[INFO] [1600702231.576739]: hello world 1600702231.58
[INFO] [1600702231.677061]: hello world 1600702231.68
[INFO] [1600702231.776822]: hello world 1600702231.78
[INFO] [1600702231.876188]: hello world 1600702231.88
[INFO] [1600702231.976443]: hello world 1600702231.98
[INFO] [1600702232.076280]: hello world 1600702232.08
[INFO] [1600702232.176045]: hello world 1600702232.18
```

info

`rosnode info /node_name` displays information about a node, including publications and subscriptions.

Let's figure out what argument the `info` sub-command needs. In a new terminal run start the rosmaster:

```
roscore
```

And in another terminal, run:

```
rosrun rospy_tutorials talker
```

And in another terminal, run:

```
rosnode info <talker_node>
```

This should give details related to the particular node as shown below:

```
                                    :~/catkin_ws$ rosnode info /talker_3232_1600701
565502
--------------------------------------------------------------------------------
Node [/talker_3232_1600701565502]
Publications:
 * /chatter [std_msgs/String]
 * /rosout [rosgraph_msgs/Log]

Subscriptions: None

Services:
 * /talker_3232_1600701565502/get_loggers
 * /talker_3232_1600701565502/set_logger_level


contacting node http://soofiyan-virtual-machine:41947/ ...
Pid: 3232
Connections:
 * topic: /rosout
    * to: /rosout
    * direction: outbound (37937 - 127.0.0.1:44666) [10]
    * transport: TCPROS
```

kill

IMPORTANT: rosnode kill is not guaranteed to succeed. Let's figure out what argument the `kill` sub-command needs. In a new terminal run start the rosmaster:

```
roscore
```

And in another terminal, run:

```
rosrun rospy_tutorials talker
```

And in another terminal, run:

```
rosnode kill rosout <talker_node>
```

```
:~/catkin_ws$ rosnode kill /talker_32117_160070
7682634
killing /talker_32117_1600707682634
killed
:~/catkin_ws$ 
```

Interactive mode. This enables you to select which node to kill from a numbered list, which is useful for killing anonymous nodes.

```
rosnode kill
1. /rosout

Please enter the number of the node you wish to kill.
```