

How to Pair Turtlebot with Workstation

**The University of Texas at San Antonio
Department of Mechanical Engineering**

**By
Geoffrey Chiou**



ROBOTICS AND MOTION LABORATORY

- 1) Make sure ROS is installed on the Turtlebot laptop and the workstation. Both machines should also be on the same network.

```
$ rosversion ros
```

- 2) Determine the IP address for both machines.

```
$ ifconfig
```

- 3) Check ROS_MASTER_URI and ROS_HOSTNAME on both machines to ensure ROS communication channels can find each other using:

```
$ echo $ROS_MASTER_URI  
$ echo $ROS_HOSTNAME
```

When typed into the workstation, it should return:

```
$ echo $ROS_MASTER_URI  
http://<IP_OF_TURTLEBOT>:11311  
$ echo $ROS_HOSTNAME  
<IP_OF_WORKSTATION>
```

When typed into the Turtlebot, it should return:

```
$ echo $ROS_MASTER_URI  
http://localhost:11311  
$ echo $ROS_HOSTNAME  
<IP_OF_TURTLEBOT>
```

If the IP addresses do not match the ones found in step 2, proceed to step 4. If they do match, the Turtlebot and workstation should be paired.

4) Using the IP address determined in step 2, input the following commands.

Workstation (IP addresses without <>):

```
$ echo export ROS_MASTER_URI=http://<IP_OF_TURTLEBOT>:11311 >>
~/.bashrc
$ echo export ROS_HOSTNAME=<IP_OF_WORKSTATION> >> ~/.bashrc
$ source ~/.bashrc
```

Turtlebot (IP addresses without <>):

```
$ echo export ROS_MASTER_URI=http://localhost:11311 >> ~/.bashrc
$ echo export ROS_HOSTNAME=<IP_OF_TURTLEBOT> >> ~/.bashrc
$ source ~/.bashrc
```

Repeat step 3 to make sure the IP addresses match.

You have successfully paired the workstation with the Turtlebot.