A quick summary of some handy ROS commands:

rosnode list After launching some ROS code, try typing "rosnode list" in a terminal window. You will see a display of currently active nodes.

rosnode info command_publisher Assuming you have "command_publisher" running as an active node, this command will display details about this node, including publications and subscriptions

rostopic h This will list the available options to the command "rostopic"

rostopic list (and rostopic list -v) will show the active "topics" (things being published)

rostopic hz /cmd_vel will show the rate at which the topic /cmd_vel is refreshed (should be 10Hz)

rostopic echo /cmd_vel watch the value of "linear:", element "x:". When the command publisher is changing its command, the updated values will show up here. If you use the example code, the x-velocity command will change from 0.0 to 1.0 for the first 3 seconds. (You can kill and re-start command_publisher without restarting any other nodes, and watch this action get repeated).

rostopic info /cmd_vel this command will show that /cmd_vel is published by the node "command_publisher" and that "stage" (/stageros) is a subscriber to the com_vel topic (assuming you have stage running).

rxconsole: this launches a console that shows messages from ROS nodes. E.g., the "ROS_INFO()" calls within "command_publisher.cpp" results in publishing informational messages, and the rxconsole subscribes to these and displays them. This allows a time-critical node to send out informational and debug info without slowing down the time-critical node. (It is not necessary to view this info, but viewing it is an option, which is sometimes helpful). Notice that "amcl" and "rviz" also post messages received by rxconsole. (e.g., try repositioning the robot in "stage" and watch the monitor postings).

rxgraph This command shows which nodes are running and publishing/subscribing data directions in a graphical form. Handy for checking that your desired nodes are running. Try killing the command_publisher node, then restarting it, and observe how the graph changes. Hover over a node to see details listed in the "info" box.

rostopic type /cmd_vel This command will show that the topic "cmd_vel" communicates messages of type "Twist" (a Twist is a speed/spin command)

rosmsg show geometry_msgs/Twist This command will show details of the data structure "Twist." This is useful, e.g., to find the names of variables that may be useful to plot.

rxplot /cmd_vel/linear/x /cmd_vel/angular/z Rxplot displays plots of desired values vs time. This command chooses the x-velocity and z-angular-rotation components of "Twist" published on topic /cmd_vel. Watch what happens when command_publisher is restarted.

rosbag record -h Use "rosbag" to record a robot experience—whether in simulation or on the actual robot. This will allow playback for diagnostics and code development. See the ROS wiki for more details. "-h" shows rosbag options for recording.

rosbag record -a -o fname This will start a recording. The options in this example do the following:

option " –a" means record everything. But be careful--don't use w/ cameras, or you'll fill choke on all the data (or quickly fill up your disk). You can use this for now (since we're not yet publishing camera data).

Option "-o fname" means the recording will be stored in a file by the name of "fname", with a suffix that will indicate the current date and time. Note that the resulting bag file will be located in the same directory from which you executed "rosbag record". On the robot, choose the directory /tmp. This directory will get cleared each time the robot's computer is shut down. You'll want to transfer any useful data to an external computer before shutting down the robot. Do not attempt to run "rosbag record" from a remote computer over WiFi, as the limited bandwidth cause problems.

You can halt "rosbag record" with a ctl-C, or you can specify a recording duration with the "—duration" option. If you do not set a duration (or size), don't forget to halt "rosbag record" before your file size becomes excessive.