
CSCE574 – Robotics

Spring 2012 – Notes on the Linux command line

The ROS platform that we will use for the projects in this class in a Linux-based system. ROS requires fairly frequent use of the command line (that is, the “terminal”). This document lists a few Linux skills that will make your time with ROS much more pleasant. With each topic, you’ll find links to some related material on the web, in case you need to fill in some gaps in your knowledge. With a good PDF reader, you should be able to click on these links directly.

1. Basic commands

<http://code.google.com/edu/tools101/linux/basics.html>

This tutorial should be a nice refresher (or introduction) to some of the most commonly used Linux commands.

2. Creating shell scripts

<http://gd.tuwien.ac.at/linuxcommand.org/wss0010.html>

Shell scripts are a great way to automate repetitive tasks. Even the very simple kinds of scripts described in this tutorial may be very helpful.

3. Environment variables

http://tldp.org/LDP/Bash-Beginners-Guide/html/sect_03_02.html

Configuring ROS sometimes requires a couple of environment variables to be set correctly. Section 3.2.2 in the linked page has the information you’ll need.

4. .bashrc

<http://manuals.its.virginia.edu/unixtut/unix8.html>

The bashrc script is run automatically when you open a new terminal. It’s an excellent place to put configuration commands that you find yourself running (or, even worse, forgetting to run) in each new terminal.

5. Secure shell (SSH)

http://support.suso.com/supki/SSH_Tutorial_for_Linux

SSH allows you to use the command line of a computer remotely, without physically sitting at its keyboard. This will be important, for example, when the computer in question is located on a moving robot. The “Getting Started” section of the linked page should be plenty.

6. Job control

<http://gd.tuwien.ac.at/linuxcommand.org/lts0080.html>

Job control allows you to start, stop, suspend, and resume the processes you initiate from the command line.

I don’t plan to spend class time on these things—I’m assuming that you’ve seen many or all of them before (CSCE215, CSCE240, other courses) or can pick them up on your own.