CS33
Setting up your environment for new Linux/Unix users
Author: Kanit Therdsteerasukdi (therdste@cs.ucla.edu)

Overview

There are two main types of environment for developing your code in this class. There's actually more than two, but we'll just cover the two most common. This document will give a high level overview of how to setup the environments **on your personal machine**. You can choose which type of environment you want to setup. You only need one of the environments. Optionally, you could also just use the SEASnet machines, as most of this stuff is already setup on there.

- Environment 1: Code and debug on local machine, then upload to lnxsrv0x.seas.ucla.edu (where "x" is 1, 2, or 3)
  - Code and debug on locally. For most people, this will be using Microsoft Visual Studio Express.
  - Upload code to SEAS machine lnxsrv0x.seas.ucla.edu
  - Log into SEAS machine, compile code on SEAS machine, and test it to make sure it works.
- Environment 2: Code and debug on lnxsrv0x.seas.ucla.edu (where "x" is 1, 2, or 3).
  - Log into SEAS machine
  - Code and debug using your favorite text editor e.g. emacs, vim, pico, etc.

Environment 1: Code and debug on local machine, then upload to lnxsrv0x.seas.ucla.edu (where "x" is 1, 2, or 3)

1. Download and install your favorite code/text editor if not already installed. For example, Microsoft Visual Studio Express.
2. Download and install software to transfer files between your computer and the lnxsrv0x.seas.ucla.edu.
   a. WinSCP
      i. Homepage: http://winscp.net/eng/index.php
      ii. Download: http://winscp.net/download/winscp427setup.exe
      iii. Host name = lnxsrv0x.seas.ucla.edu
         1. where "x" is 1, 2, or 3
      iv. Username = your SEASnet user name
3. Download and install SSH Client software for accessing lnxsrv0x.seas.ucla.edu remotely with a terminal window. Choose **only 1** from below.
   a. Putty
      i. Very small program that will give you the bare minimum to do everything.
      ii. Text only
      iii. Homepage: http://www.chiark.greenend.org.uk/~sgtatham/putty/
      iv. Download: http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe
      v. Host name = lnxsrv0x.seas.ucla.edu
         1. where "x" is 1, 2, or 3
      vi. Username = your SEASnet user name
   b. Cygwin
      i. Very large program
      ii. Text and graphics.
      iii. For installation instructions, see the cygwin_and_gdb.pdf handout.
      iv. Homepage: http://www.cygwin.com/
      v. Download: http://www.cygwin.com/setup.exe
      vi. For how to use cygwin to log into the linux machines, see the cygwin_and_gdb.pdf handout.
4. Linux basics
   a. You'll need to know this stuff just to change directories, list files, etc.
   b. http://www.ee.surrey.ac.uk/Teaching/Unix/unixintro.html
5. Compiling on Linux

a. At the Linux command prompt type(without quotes) “make”
b. To re-compile type(without quotes) “make clean” followed by “make”
c. For Lab 1, look at the README file for more instructions

Environment 2: Code and debug on lnxsrv0x.seas.ucla.edu (where “x” is 1, 2, or 3)

1. Download and install SSH Client software for accessing lnxsrv0x.seas.ucla.edu remotely with a terminal window. Choose **only 1** from below.
    a. Putty
        i. Very small program that will give you the bare minimum to do everything.
        ii. Text only
        iii. Homepage: http://www.chiark.greenend.org.uk/~sgtatham/putty/
        iv. Download: http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe
        v. Host name = lnxsrv0x.seas.ucla.edu
            1. where “x” is 1, 2, or 3
        vi. Username = your SEASnet user name
    b. Cygwin
        vii. Very large program
        viii. Text and graphics.
        ix. For installation instructions, see cygwin_and_gdb.pdf handout.
        x. Homepage: http://www.cygwin.com/
        xi. Download: http://www.cygwin.com/setup.exe
        xii. For how to use cygwin to log into the linux machines, see the cygwin_and_gdb.pdf handout.
2. Linux basics
    a. You’ll need to know this stuff just to change directories, list files, etc.
    b. http://www.ee.surrey.ac.uk/Teaching/Unix/unixintro.html
3. Text editors in Linux (they should already be installed)
    a. emacs
        i. Graphical text editor (recommended)
        ii. More intuitive than vim
        iii. To run type(without quotes) “emacs”
        iv. Here’s a list of key commands. It’s not required to know them to use emacs, but it sure does help.
            1. http://www.linuxhelp.net/guides/emacs/
    b. vim
        i. text only text editor
        ii. those who use it say it’s very efficient
        iii. commands are not as intuitive as emacs
        iv. to run type(without quotes) “vim”
        v. vim tutorial
            1. http://www.linuxconfig.org/Vim_Tutorial
4. Compiling on Linux
    a. At the Linux command prompt type(without quotes) “make”
    b. To re-compile type(without quotes) “make clean” followed by “make”
    c. For Lab 1, look at the README file for more instructions