**CSc 332 - Operating Systems**

Lab – Fall 2017

Instructor: Prajwal Khatiwada, email: prajwal.ccny@gmail.com

# Setting up Linux Environment in Windows/Mac Operating Systems

There are two ways with which you can set up a Linux environment in a Windows/Mac Operating System. 1. **(STRONGLY RECOMMENDED)** Installing Ubuntu[[1]](#footnote-1) Virtual Machine using VirtualBox[[2]](#footnote-2)

* Please follow the step-by-step instructions from the following link: [http://www.wikihow.com/ Install-Ubuntu-on-VirtualBox.](http://www.wikihow.com/Install-Ubuntu-on-VirtualBox) I guess the installation procedure would pretty much be the same with Mac OS.
* The above link is self-contained. Should you run into any problems, feel free to drop an email to me.

2. Installing Cygwin

• **Mac Users:**

I surfed Web and found this the following link:

[http://www.mkyong.com/mac/how-to-install-gcc-compiler-on-mac-os-x/.](http://www.mkyong.com/mac/how-to-install-gcc-compiler-on-mac-os-x/) Hopefully, the steps described would work. Give it a try!

• **Windows Users:** (Reserve a good amount of time as it takes quite a while to get it installed!)

* + 1. Start your browser and go to [http://cygwin.com/install.html.](http://cygwin.com/install.html) Click on the link setup.exe (that appears in the first line of instructions). Save the setup.exe file at your desired location.
    2. Double-click the downloaded exe file to start the setup. Proceed with the default settings (or checked in options) by clicking Next until you’re prompted to choose a download site. You can select any one of the download sites and click Next.
    3. NOTE: This step is very important

In the *Select Packages* dialog, move the mouse on the **Devel** entry and click the selector to make sure that it reads **Install**. Do the same with the **Net** package. Then, click Next.

* + 1. You will see a long succession of dialogs with title *Cygwin Setup*. After quite a long time (took around 25 minutes in my machine), you will get a dialog titled *Create Icons*. Leave both the boxes checked and click Finish. And, you’re done!
    2. Please be aware of the following instructions

1. CAUTION: I strongly suggest you to use **Cygwin Terminal** instead of Command Prompt to compile and execute your program.

This is mainly because, after successful installation of the compiler in order to make it work from command prompt you need to send something called ’Environment Variables’. If not done with proper care, some other programs/softwares that already work

1

in your computer will get affected and may stop working. (However, if you are interested to work from only command prompt, drop me an email; I’ll send you the instructions for setting up the environment variables). You don’t need to be afraid as the Cygwin Terminal looks much like Command Prompt and the commands to compile and execute your code remain same.

1. You’ve just successfully installed the GCC compiler in your Windows operating system at the following (default) location, C:. You will get to see a *new* directory named as Cygwin. Your Cygwin directory contains a bunch of sub-directories of which home and bin are very crucial.
2. Run the Cygwin Terminal. By default the terminal points to a directory with your computer name. The actual location of this directory is the following: (*C* : \*Cygwin*\*home*\*your*\_*computer*\_*name*)

Note: You won’t, however, get to see the absolute path as above.

I suggest you to create a new directory (say, CSc3322Lab) at the above location and save all your programs in that directory.

1. Before you compile and execute your programs, navigate to the CSc332Lab directory by typing cd CSc332Lab in your Cygwin Terminal.
2. Use the commands mentioned in the class to compile and execute your program.

\*\*\*

2

1. Read why Ubuntu: <http://en.wikipedia.org/wiki/Ubuntu_%28operating_system%29> [↑](#footnote-ref-1)
2. VirtualBox is a virtualization tool that allows you to create virtual machines for Mac OS X, Linux, or Windows running on any operating system. It is OK if you don’t understand the technicalities of this software. [↑](#footnote-ref-2)