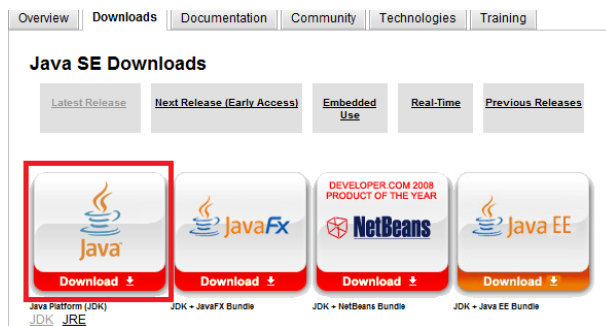# Working From Home on Windows

This handout is a simple guide for those students who want to work from home by using their own computer. The following documentation refers to machines which have Microsoft Windows installed as operating system. Note that this tutorial is based on Windows Vista, but could be applied to other versions such as Windows XP/Windows 7 with minimal modifications.

How to Set Up Java Environment

1. **Installing Java**

   To compile and run Java programs on your own machine, you would need to install Java Development Kit (JDK) instead of Java Runtime Environment (JRE). JDK can be downloaded via the following link (or search "jdk download" on Google to find the latest link): http://www.oracle.com/technetwork/java/javase/downloads/index.html

   As shown in the above figure, one can install the latest JDK by clicking the leftmost icon (highlighted in the red rectangle). Then click "download" and/or "continue" buttons on subsequent pages to complete the installation. While reaching the page (as shown in the figure below) that contains the platform option, select "Windows" as the platform.
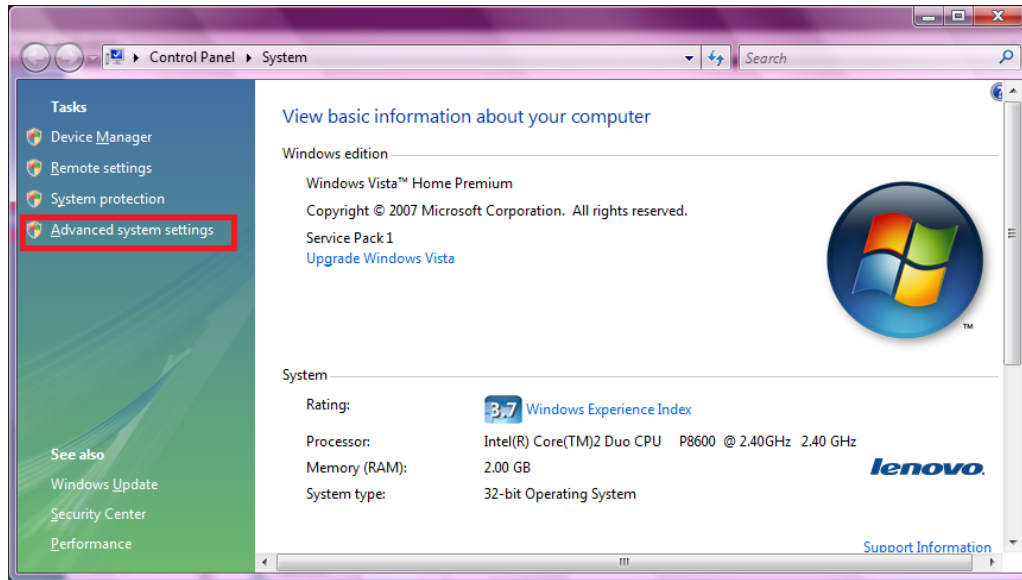

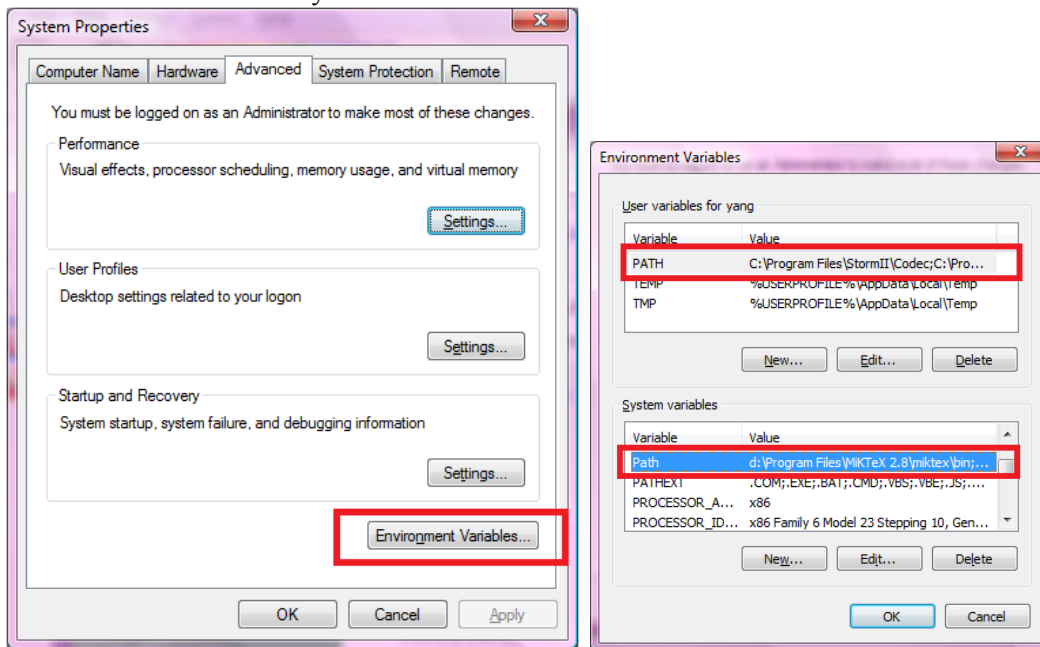
2. **Setting Up Java Path**

   One would need to set up the Java Paths in order to call the Java without specifying the full path (e.g., call "Java" instead of calling "D:\Program Files\Java\jdk1.6.0_21\bin\Java"). The setup could be achieved via the following steps:
   - Right click "My Computer" icon
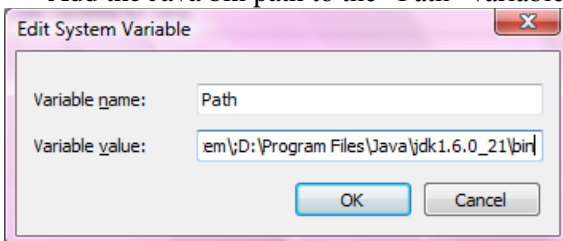   - Choose "Properties" from the pop-up menu

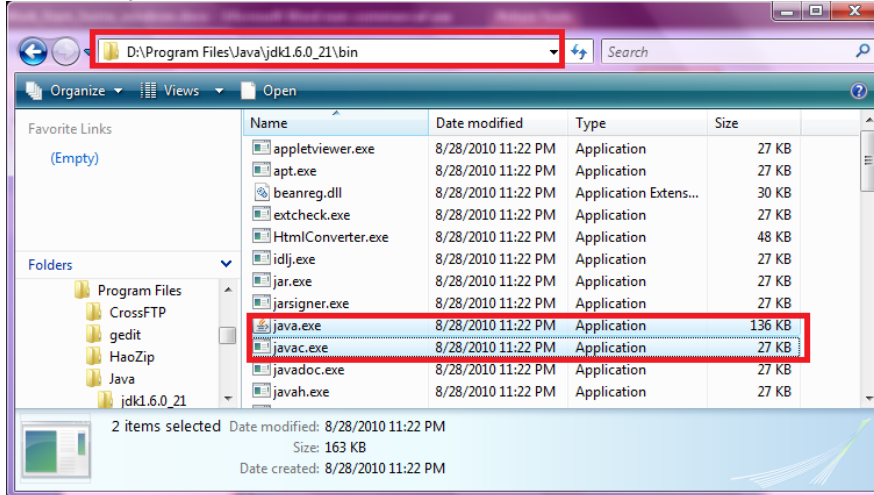- Click "Advanced system settings" link

- Click "Environment Variables" in "Advanced" tab, edit the "Path" variable in either "User variables" or "System variables".

- Click "Environment Variables" in "Advanced" tab, edit the "Path" variable in either "User variables" or "System variables".
- Add the Java bin path to the "Path" variable (";" is used to delimit different paths)

- The path is the "bin" folder (which contains "java.exe" and "javac.exe") under the JDK folder you selected in installation
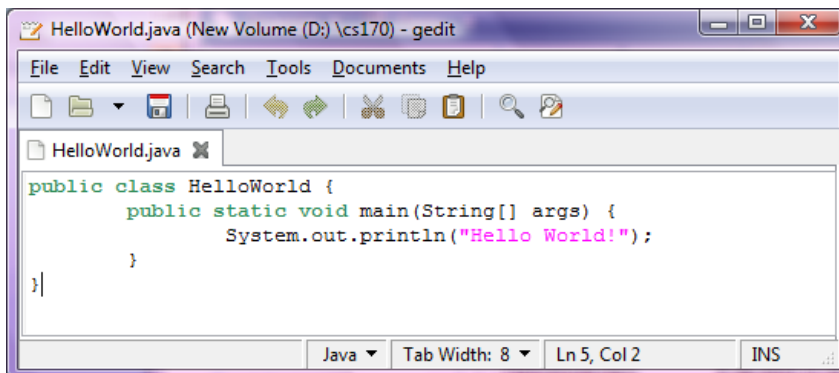

How to Edit, compile and run Java programs on your Home Machine

1. Edit Java source using GEdit

The recommended editor is "gedit", which can be downloaded from: http://projects.gnome.org/gedit/ (or Google "gedit" for the latest link). In particular, the installation file can be downloaded by clicking the link that is highlighted by the red rectangle in the figure below.
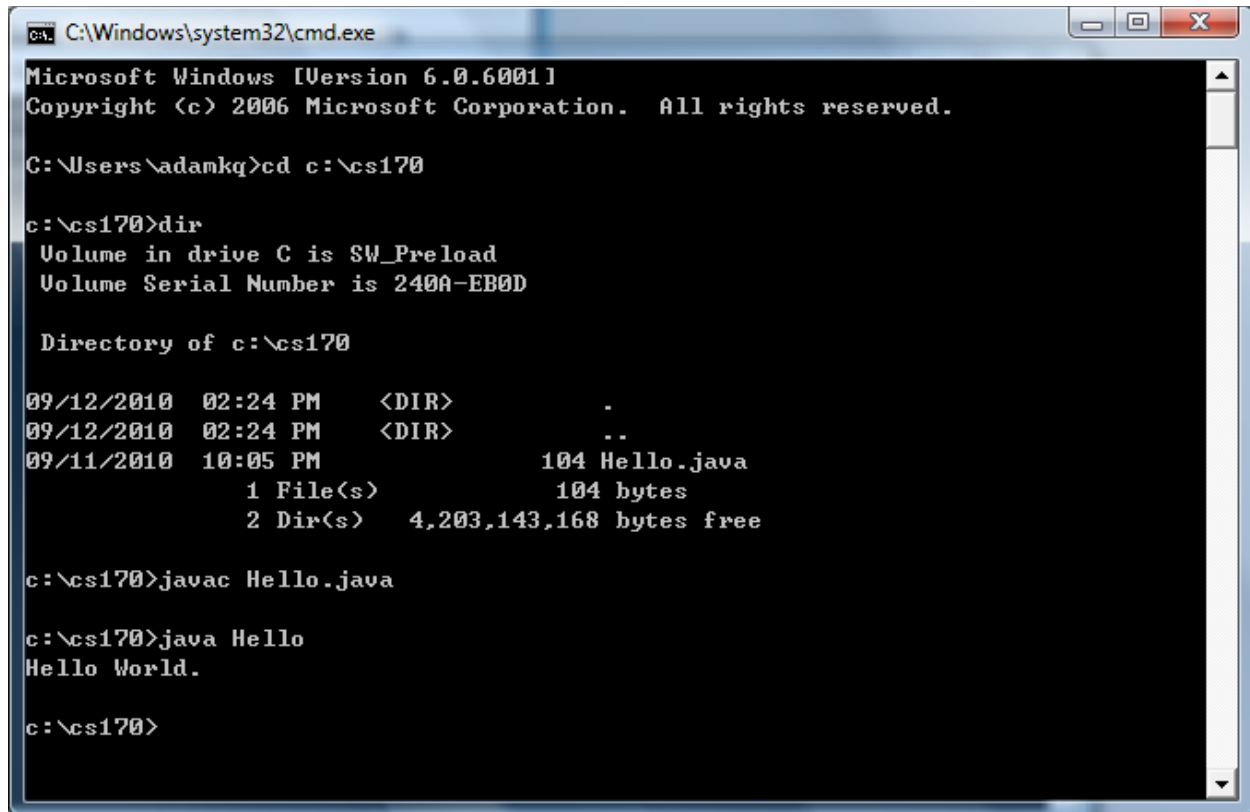

The java source code can be edited via GEdit as shown below.

2. Run and Compile Java

The command line window can be reached via: Start->All Programs->Accessories->Command Prompt. The steps within the command line window are as follows:

- Change directory by typing "cd" followed by the target path (i.e., "c:\cs170" in the example here)
- List files in the directory by typing "dir" (which does the same as "ls" in unix systems)
- Compile the program by typing "javac" followed by the java file (with the ".java" suffix)
- Run the program by typing "java" followed by the class name (without the ".class" suffix)

```
C:\Windows\system32\cmd.exe                                          _  □  X

Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation.  All rights reserved.

C:\Users\adamkq>cd c:\cs170

c:\cs170>dir
 Volume in drive C is SW_Preload
 Volume Serial Number is 240A-EB0D

 Directory of c:\cs170

09/12/2010  02:24 PM    <DIR>          .
09/12/2010  02:24 PM    <DIR>          ..
09/11/2010  10:05 PM               104 Hello.java
               1 File(s)            104 bytes
               2 Dir(s)   4,203,143,168 bytes free

c:\cs170>javac Hello.java

c:\cs170>java Hello
Hello World.

c:\cs170>
```

How to Copy File(s) to Run/Compile on the Lab Machines
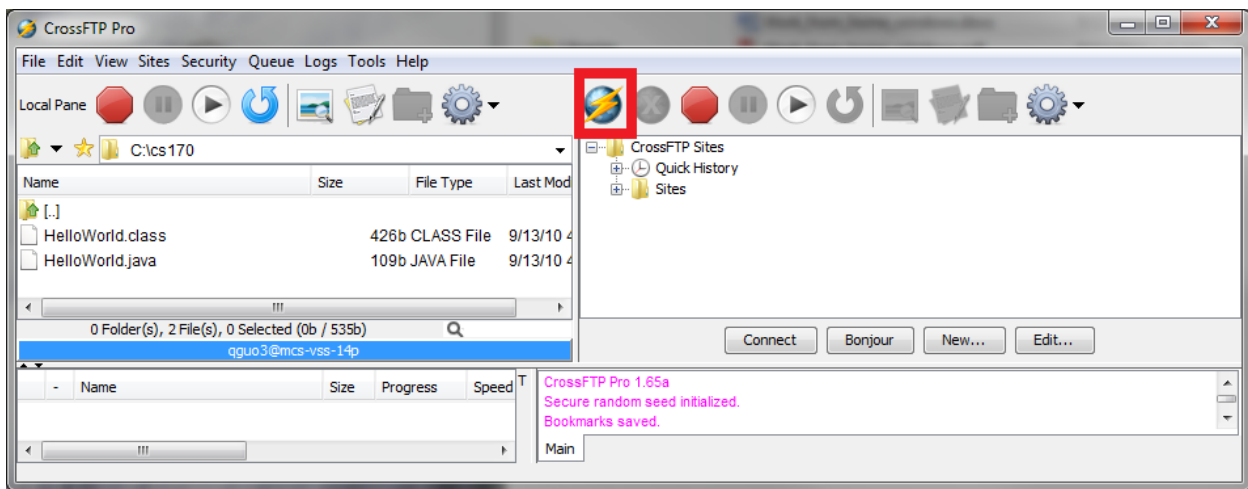
1. Copying Files using CrossFTP

The recommended software is "CrossFTP", which can be downloaded from: https://software.emory.edu/express/ (or Google "emory software express" to find the latest link). Note that your emory Network ID and password are requested before you can install the software.
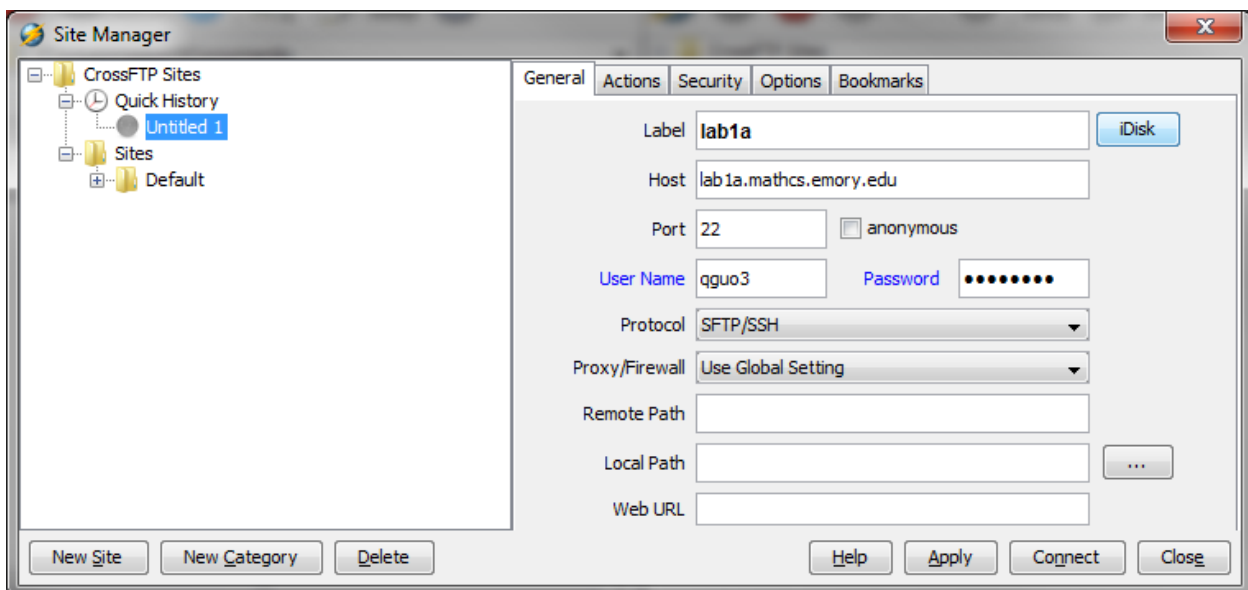
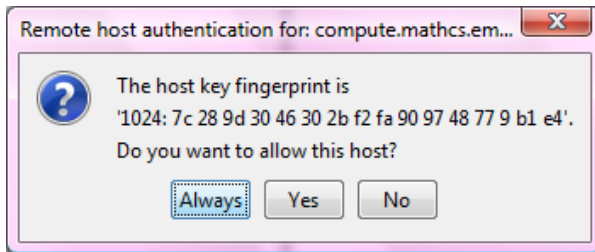Also, make sure the version you download is from the "Windows Software" section.

After installation, run CrossFTP. Then, specify the current local directory in the "Local Pane" (on the left by default) and click the "connect" icon (highlighted in red rectangle on the left in the figure below) and select "Connect" in the pop-up menu.
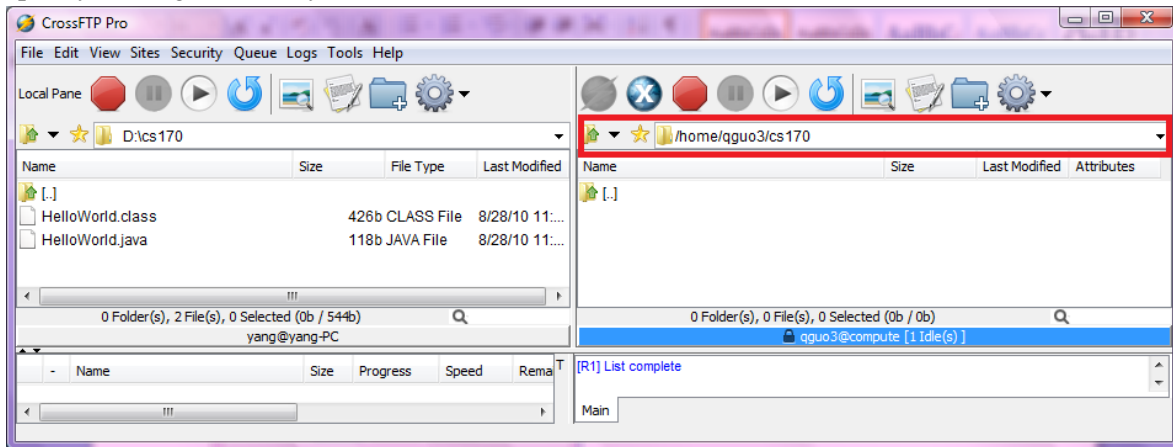

Next, specify the machine in the "host" field you would like to connect (in this case "lab1a.mathcs.emory.edu"), as well as the user name (in this case "qguo3") and the password. Also, make sure that the value of "Protocol" is "SFTP/SSH".
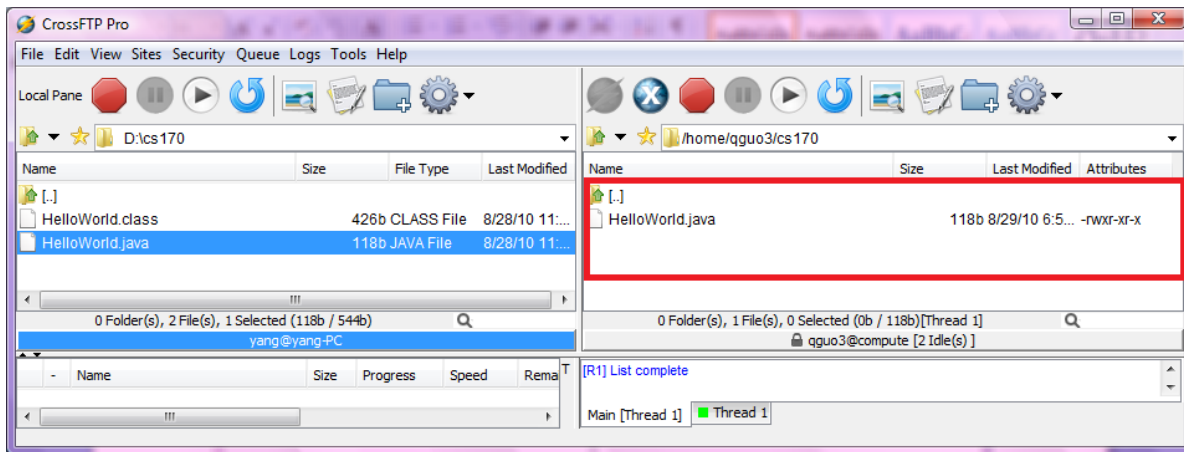
Select "Always" or "Yes" to proceed.

Specify the target directory on the lab machine.

Right click the file (e.g., HelloWorld.java) to be copied over in "local pane", and click "Transfer/Copy".
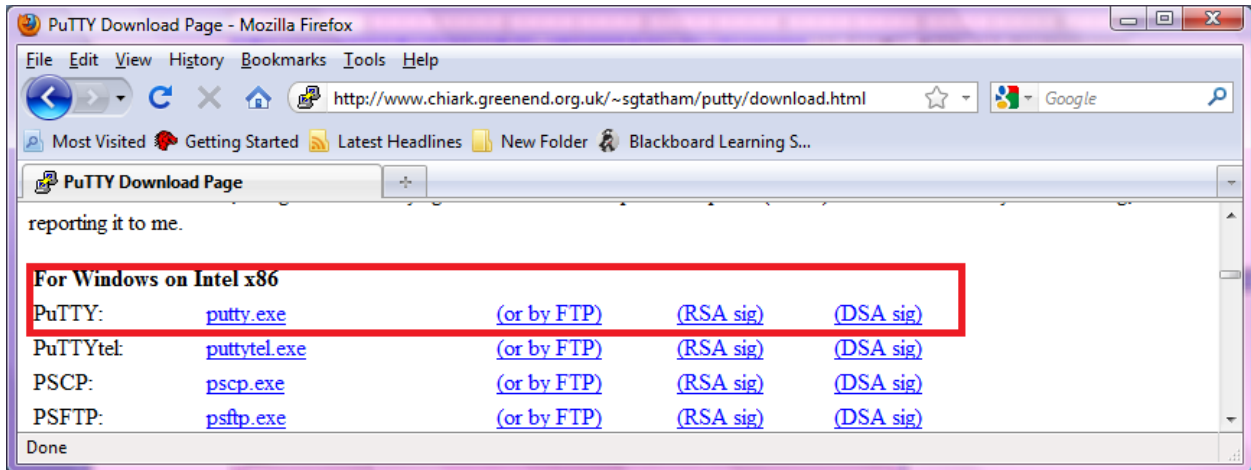

How to Compile/Run Java Program on Lab Machine
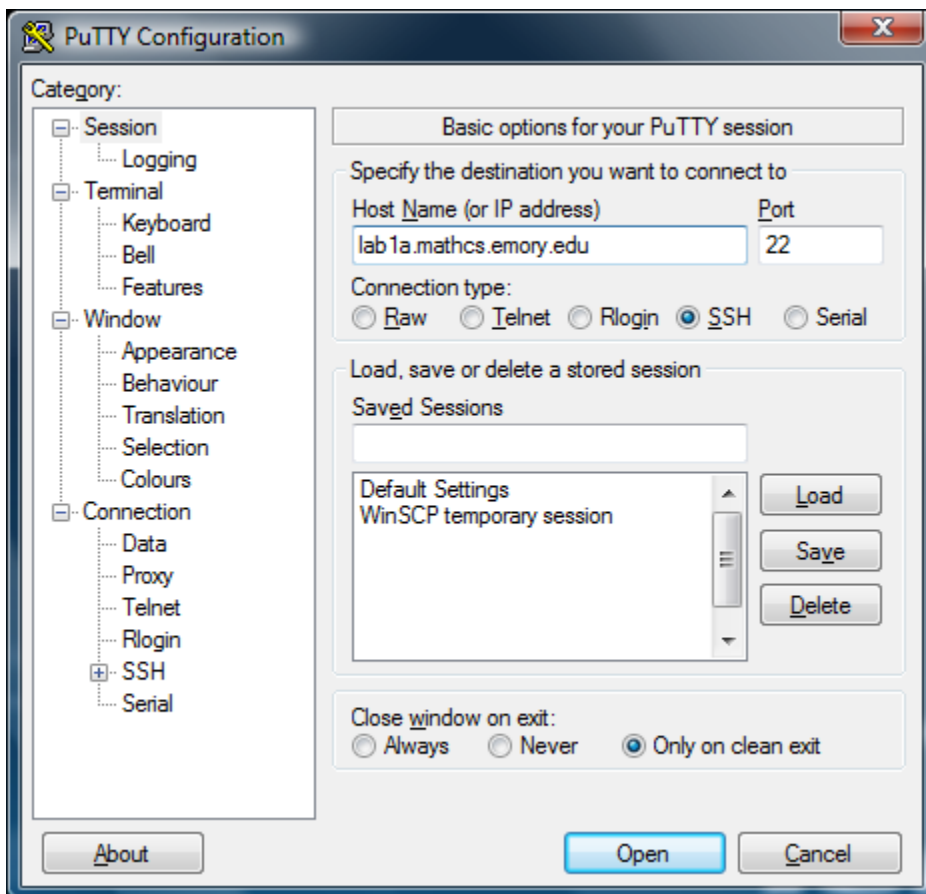
1. Installing Putty

Putty is a standalone .exe file, no need to install. The file could be obtained via:
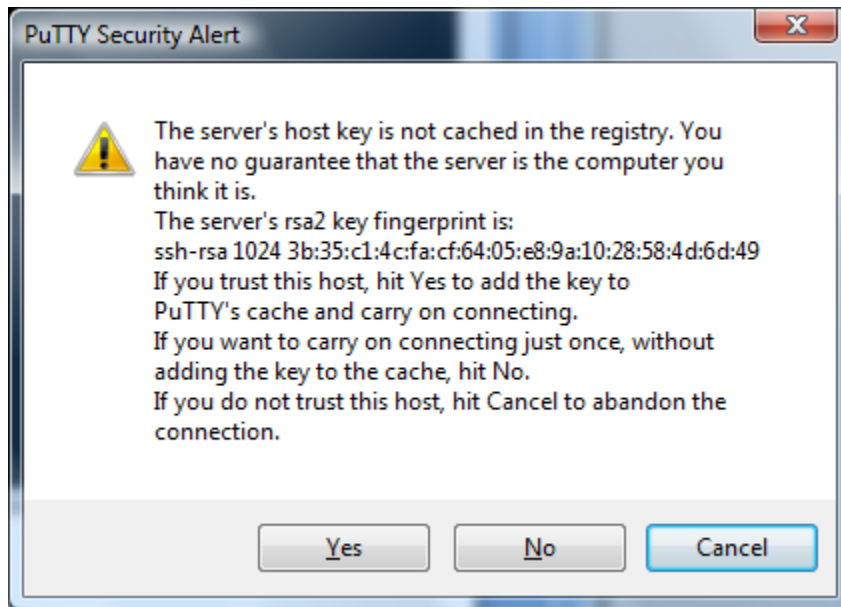http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html (or Google "putty" for the latest link)

2. **Running/Compiling Java on Lab Machine via Putty**

Similarly, after running the putty application, specify the machine you would like to connect (in this case "lab1a"), and click "Open".

Select 'Yes', if the following dialog window is shown.

As shown in the following figure: first, specify the login name and password; and then change directory, compile and run.