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".

System Properties	
Computer Name Hardware Advanced System Protection Remote	
You must be logged on as an Administrator to make most of these changes.	
Visual effects, processor scheduling, memory usage, and virtual memory	Environment Variables
Settings	User variables for yang
	Variable Value
User Profiles	PATH C:\Program Files\StormII\Codec;C:\Pro
Desktop settings related to your logon	TMP %USER/ROFILE % AppData Local (Lemp TMP %USER/ROFILE % AppData Local (Temp
Settings	New Edit Delete
Startup and Recovery	System variables
System startup, system failure, and debugging information	Variabla Valua
	Path d:\Program Files\MiKTeX 2.8\miktex\bin;
Settings	PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;
	PROCESSOR_A x86 PROCESSOR_IDv86 Exmitu 6 Model 22 Steeping 10, ConT
Environment Variables	New Edit Delete
OK Cancel Apply	OK Cancel

- 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)

ſ	Edit System Variable	X
	Variable name:	Path
	Variable value:	em\;D:\Program Files\Java\jdk1.6.0_21\bin
		OK Cancel
		OK Cancer

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

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D:\Program Files	Java\jdk1.6.0_21\bin	•	*•		V
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Favorite Links	Name	Date modified	Туре	Size	*
(Empty)	appletviewer.exe	8/28/2010 11:22 PM	Application	27 KB	-
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	HtmlConverter.exe	8/28/2010 11:22 PM	Application	48 KB	
Folders 🗸	💷 idlj.exe	8/28/2010 11:22 PM	Application	27 KB	
Program Files	🔲 jar.exe	8/28/2010 11:22 PM	Application	27 KB	
CrossETP	💷 jarsigner.exe	8/28/2010 11:22 PM	Application	27 KB	
aedit	🋓 java.exe	8/28/2010 11:22 PM	Application	136 KB	
HaoZip	💷 javac.exe	8/28/2010 11:22 PM	Application	27 KB	
Java	🔜 javadoc.exe	8/28/2010 11:22 PM	Application	27 KB	-
jdk1.6.0_21 ▼	javah.exe	8/28/2010 11:22 PM	Application	27 KB	-
2 items selected [Date modified: 8/28/2010 11:2	2 PM			
	Size: 163 KB				
	Date created: 8/28/2010 11:2	2 PM			

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: <u>http://projects.gnome.org/gedit/</u> (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.

🕜 HelloWorld.java (New Volume (D:) \cs170) - gedit	_ D _ X
<u>File Edit View Search Tools Documents Help</u>	
🗅 🖻 🝷 🖬 🖶 🧄 🚸 🌾 💥 🗊 🗊 🔍 🖄	
🗋 HelloWorld.java 💥	
<pre>public class HelloWorld { public static void main(String[] args) { System.out.println("Hello World!"); } }</pre>	
Java ▼ Tab Width: 8 ▼ Ln 5, Col 2	INS

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)

```
- O X
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
                                                                                  .
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\adamkg>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
                        <DIR>
           02:24 PM
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: <u>https://software.emory.edu/express/</u> (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.

Windows Software BitKinex 3.1.1	BitKinex WebDAV client version 3.1.1	<u>Download</u>
Crossftp-setup-1.65a	supports WebDay.	<u>Download</u>
EmoryUnplugged	This tool (v1.03) configures your Windows XP computer and WPA-compliant wireless connection for Emory Unplugged. To connect Microsoft Vista to EmoryUnplugged see <u>http://www.it.emory.edu/MEDIA</u> /WinWirelessVistaFA071.pdf.	<u>Download</u>

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.

🧭 CrossFTP Pro	-			
File Edit View Sites Security Queue I	Logs Tools H	lelp		
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🎼 🔻 📌 🕕 C:\cs170			-	CrossFTP Sites
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qguo3@mcs-	-vss-14p			Connect Donjour Ivew Edit
- Name	Size Pro	gress Spee	ed T Cros Secu Book Main	sFTP Pro 1.65a

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".

🤣 Site Manager		Logist and	×
	General Actions Se	ecurity Options Bookmarks	
Untitled 1	Label	lab1a	iDisk
Default	Host	lab 1a.mathcs.emory.edu	
	Port	22 anonymous	
	User Name	qguo3 Password ••••••	
	Protocol	SFTP/SSH 👻	
	Proxy/Firewall	Use Global Setting 👻	
	Remote Path		
	Local Path		
	Web URL		
New Site New Category Delete		Help Apply Connec	t Clos <u>e</u>

Select "Always" or "Yes" to proceed.



Specify the target directory on the lab machine.

CrossFTP Pro			5.00	M 11 4	NAMES AND ADDRESS	
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🍺 🔻 📌 鷆 D:\cs170			•	旝 🔻 🚖 🎩/h	ome/qguo3/cs170	-
Name	Size	File Type	Last Modified	Name	Size	Last Modified Attributes
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HelloWorld.class	426b	CLASS File	8/28/10 11:			
HelloWorld.java	118b	JAVA File	8/28/10 11:			
•			•			
0 Folder(s), 2 File(s), 0 Selected	d (0b / 544b)	Q			0 Folder(s), 0 File(s), 0 Selected (0b / 0b)	Q
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- Name	Size Pro	gress Spe	ed Rema	[R1] List complete		* *
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Right click the file (e.g., HelloWorld.java) to be copied over in "local pane", and click "Transfer/Copy".

🧭 CrossFTP Pro	5 N M			DE LE VI MARIA NA	with Authors		
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Name	Size	File Type	Last Modified	Name	Size	Last Modified Attrib	outes
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yang@y	yang-PC			eguc	o3@compute [2 Idle(s)]		
- Name	Size Prog	ress Speed	Rema ^T	[R1] List complete			*
· ·			۲	Main [Thread 1] Thread 1			

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)

🕘 PuTTY Download	Page - Mozilla Firef	ox	10. C			
<u>File E</u> dit <u>V</u> iew H	li <u>s</u> tory <u>B</u> ookmarks	<u>T</u> ools <u>H</u> elp				
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🔊 Most Visited 🌮	Getting Started 🔜	Latest Headlines 📙 New Folder 🧔	Blackboard Learning S.			
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For Windows of	n Intel x80					
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PuTTYtel:	puttytel.exe	(or by FTP)	(RSA sig)	(DSA sig)	-	
PSCP:	pscp.exe	(or by FTP)	(RSA sig)	(DSA sig)		
PSFTP:	psftp.exe	(or by FTP)	(RSA sig)	(DSA sig)		-
Done						

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".

🕵 PuTTY Configuration	
Category:	
Session	Basic options for your PuTTY session
	Specify the destination you want to connect to
Keyboard	Host <u>N</u> ame (or IP address) <u>P</u> ort
Bell	lab1a.mathcs.emory.edu 22
Features □ Window	Connection type: ◎ <u>R</u> aw ◎ <u>T</u> elnet ◎ Rlogin ◎ <u>S</u> SH ◎ Serial
Appearance Behaviour Translation Selection	Load, save or delete a stored session Sav <u>e</u> d Sessions
Colours Connection Data Proxy Telnet Rlogin Data	Default Settings WinSCP temporary session
Serial	Close <u>w</u> indow on exit:
About	Open <u>C</u> ancel

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

PuTTY Secu	urity Alert
	The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is. The server's rsa2 key fingerprint is: ssh-rsa 1024 3b:35:c1:4c:fa:cf:64:05:e8:9a:10:28:58:4d:6d:49 If you trust this host, hit Yes to add the key to PuTTY's cache and carry on connecting. If you want to carry on connecting just once, without adding the key to the cache, hit No. If you do not trust this host, hit Cancel to abandon the connection.
	Yes No Cancel

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

