

# Remote access to the UNIX network

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The UNIX network of the Computer Science Department of the University of Mary Washington can be accessed remotely from different computing platforms using standard *secure encrypted* communication protocol SSH (Secure SHell). Part of the SSH protocol is the SFTP service which is compatible to the file transfer protocol FTP.<sup>1</sup> To access the departmental server, *paprika.umw.edu*, your computer has to have an appropriate client software installed. Below are given instructions how to install, configure, and use these clients, for the computers running the major operating systems in use today: Microsoft Windows, Apple OS X, and UNIX.

## 1. Microsoft Windows

You will need to install a client software called PuTTY.

- Open a browser and visit the site <http://www.chiark.greenend.org.uk/~sgtatham/putty/>.
- Click on the *Download* link in the menu at the top of the page.



- On the Download page, scroll down and in the section *Binaries* find *exactly* this subsection: *A Windows-style installer (x86 only) for everything except PuTTYtel*. Download the file *putty-0.56-installer.exe* and save it to the desktop. Notice that 0.56 was the latest version number at the time of this writing. Replace appropriately.

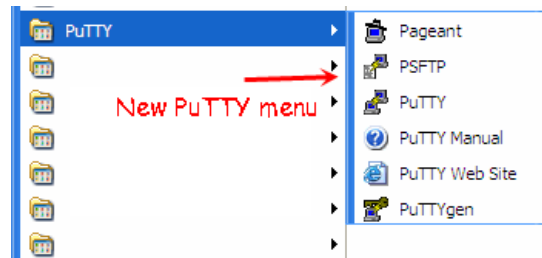
For Intel x86: [putty.zip](#) (or by FTP)  
For Alpha: [putty.zip](#) (or by FTP)  
**A Windows-style installer (x86 only) for everything except P**  
For Intel x86: [putty-0.56-installer.exe](#) (or by FTP)  
**MD5 checksums for all the above files**

- There will be an icon of the PuTTY installer on your desktop. Click (or double-click) on the icon and install PuTTY. Accept all the defaults.

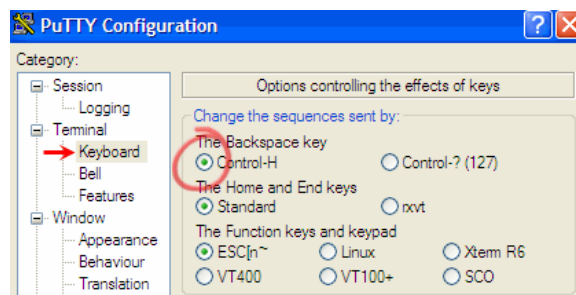
<sup>1</sup>The access through *telnet* and *ftp* protocols is *not allowed* because they transfer passwords in-clear, without any encryption.

## Remote access to the UNIX network

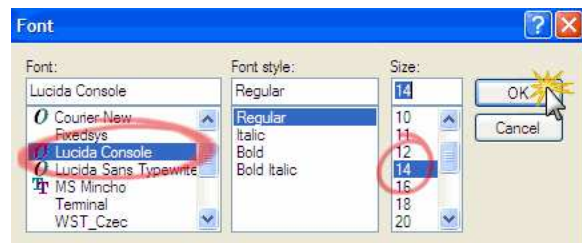
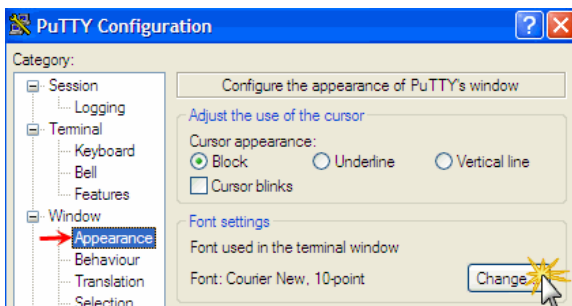
- After installation, there will be a new icon for PuTTY on your desktop, and a new entry in your *Programs* menu with several PuTTY applications added.



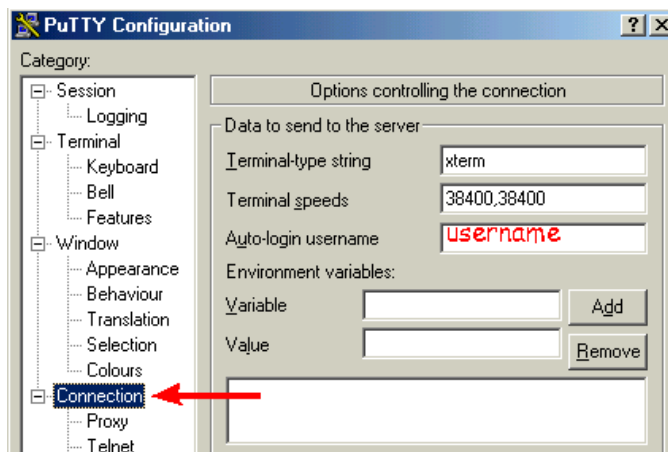
- Start PuTTY by clicking on the PuTTY icon.
- Select *Keyboard* in the left-side menu tree. Change the binding for Backspace key to *Control-H*.



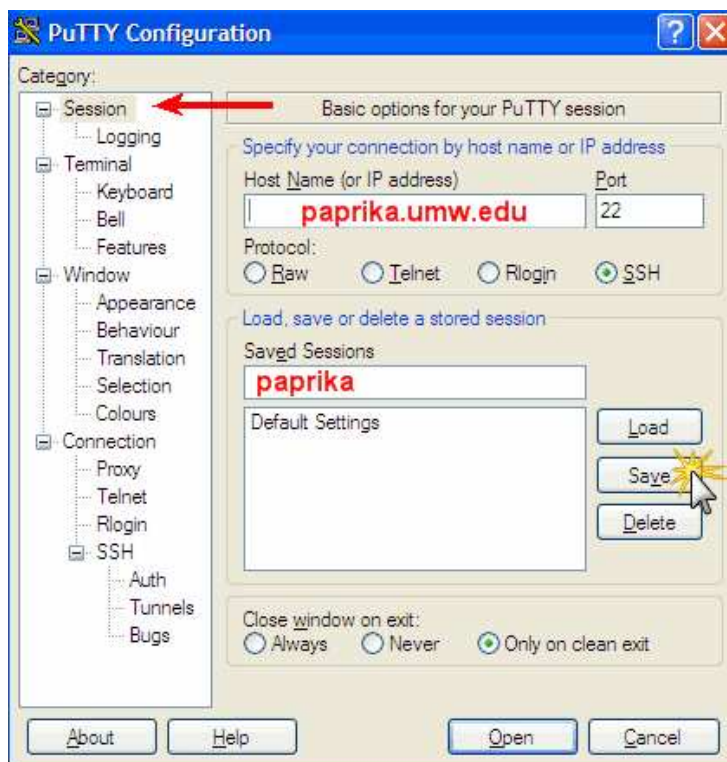
- Select *Appearance* in the left-side menu tree. Change *Font settings* to *Lucida Console* to get more readable font. Choose the preferred font size.



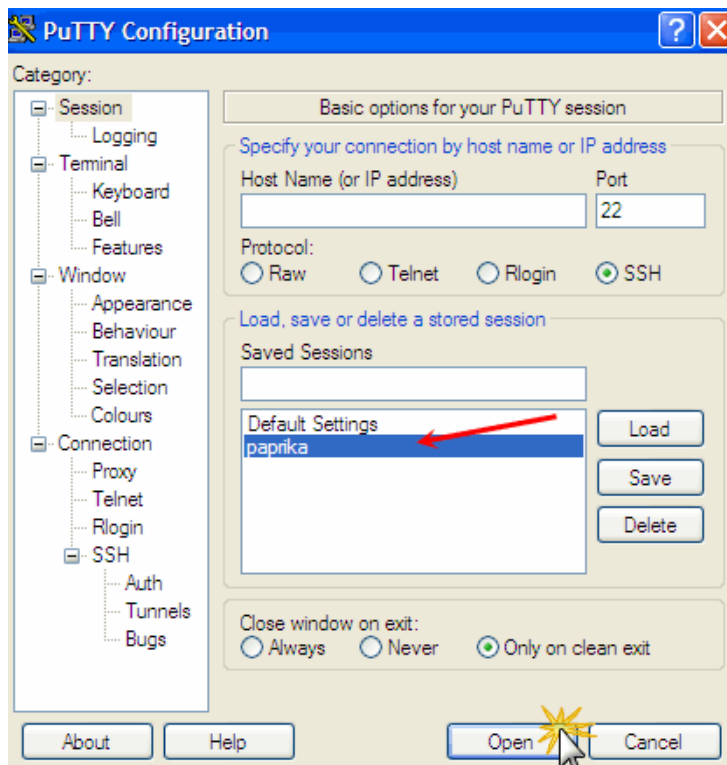
- Select *Connection* in the left-side menu tree. Enter your username on *paprika* in the entry field *Auto-login username*.



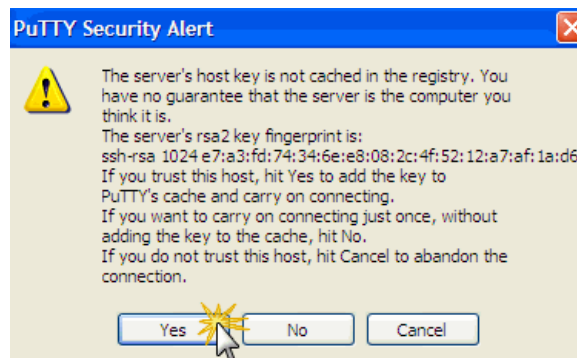
- Select *Session* at the top of the left-side menu tree. Enter the host name *paprika.umw.edu* and the session name *paprika*. Press the *Save* button to finish configuration of PuTTY.



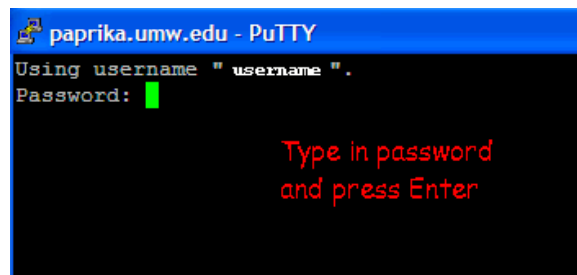
- From now on, when you start PuTTY, just select *paprika* from the session list and click *Open* button.



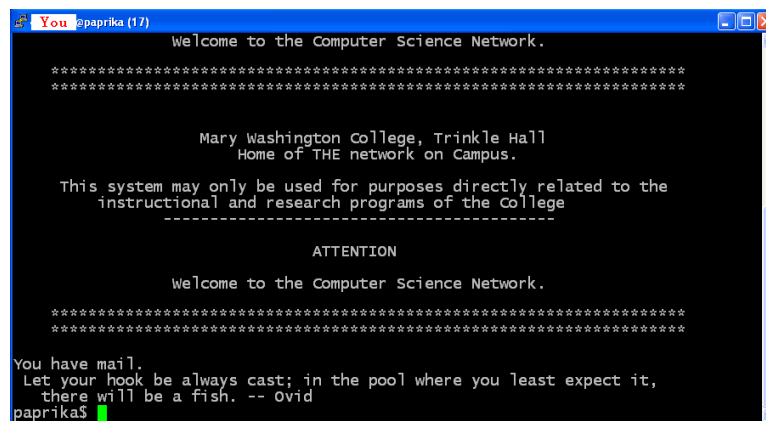
- On the first connection attempt, you may get a warning about the unknown host key. Accept the host key as shown.



- You will be connected to *paprika* using the configured username and asked for password.



- After successful authentication, you can edit and run your programs in the same way that you do in the lab. To logout type `exit` or simply press `Ctrl-D`.



Most of the users need only PuTTY. If you do not need to transfer files between your computer and *paprika* you can stop reading here.

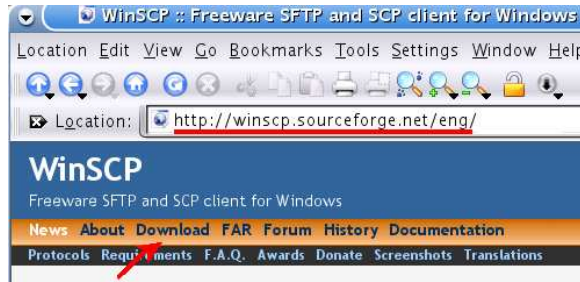
### 1.1. Microsoft Windows: File Transfer

Advanced users can transfer files using PuTTY's secure copy and secure FTP programs, *pscp* and *psftp* from MS-DOS window. The commands are described in the section for Apple OS X, under the more generic names, *scp* and *sftp*.

However, many users prefer programs with a graphical user interface. WinSCP is an excellent SFTP client and it is highly recommended.

- Open a browser and visit the site <http://winscp.sourceforge.net/eng/>

- Click on the *Download* link in the menu at the top of the page.



- Download the installation package for WinSCP.

### Downloads

After you select file to download, list of available download sites is displayed. For the fastest download, please select site that is close to you.

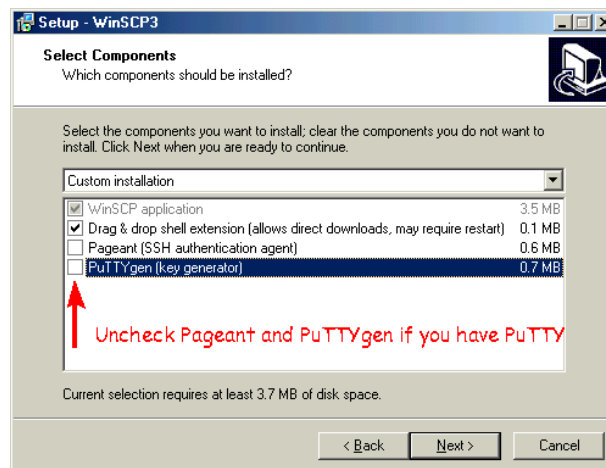
#### WinSCP 3.7.1

- [Installation package](#) (1,476,339 bytes, 275,131 downloads)
  - [Multilanguage installation package](#) (1,504,727 bytes, 71,452 downloads)
  - [Standalone application](#) (983,552 bytes, 69,479 downloads)
  - [Source code](#) (1,173,057 bytes, 2,675 downloads to date)
- [\[Download\]](#) [\[Release Notes\]](#) [\[What's new\]](#)

- You will be asked to choose the closest mirror for download. Save the package to the desktop.

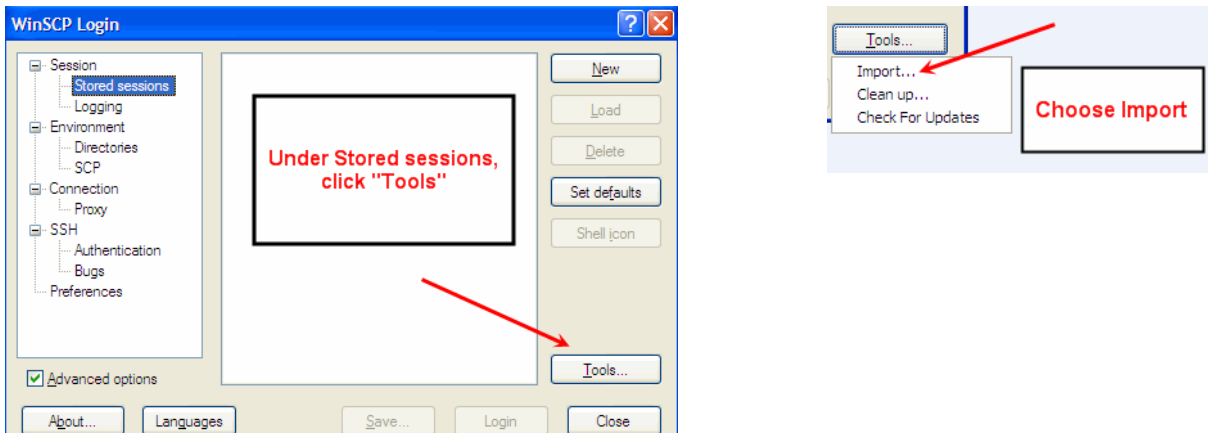
|  |                      |               |          |
|--|----------------------|---------------|----------|
|  | Dublin, Ireland      | Europe        | 1,442 kb |
|  | Sydney, Australia    | Australia     | 1,442 kb |
|  | Atlanta, GA          | North America | 1,442 kb |
|  | Duesseldorf, Germany | Europe        | 1,442 kb |
|  | New York, New York   | North America | 1,442 kb |

- There will be an icon of the WinSCP installer on your desktop. Click on the icon and install the program. Accept the license agreement and default settings everywhere. However, since you already have PuTTY installed, you may want to uncheck Pageant and PuTTYgen, on the *Select components* screen. There is no harm if you leave them checked either.

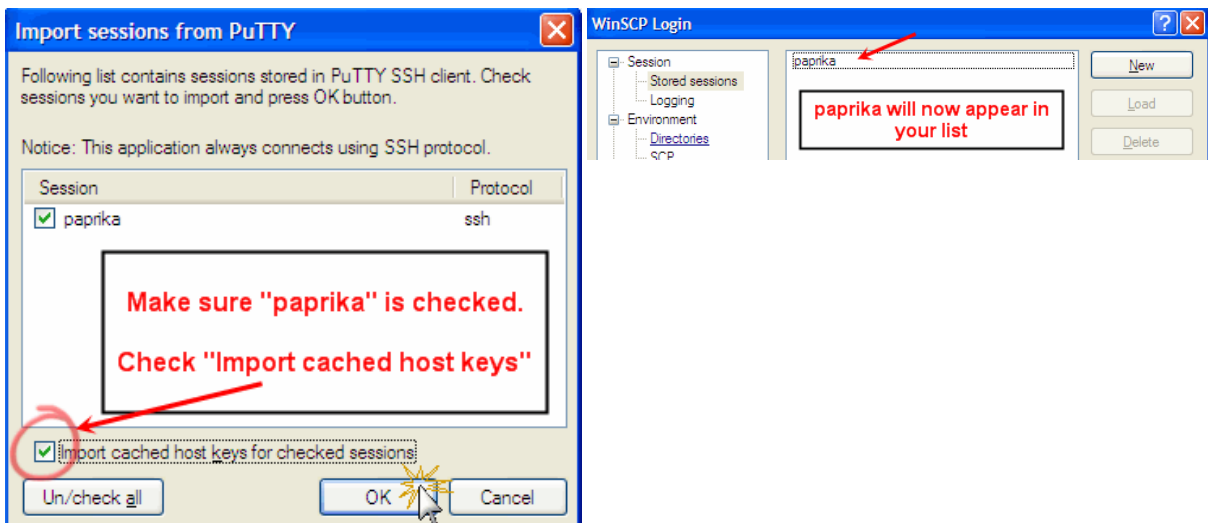


Remote access to the UNIX network

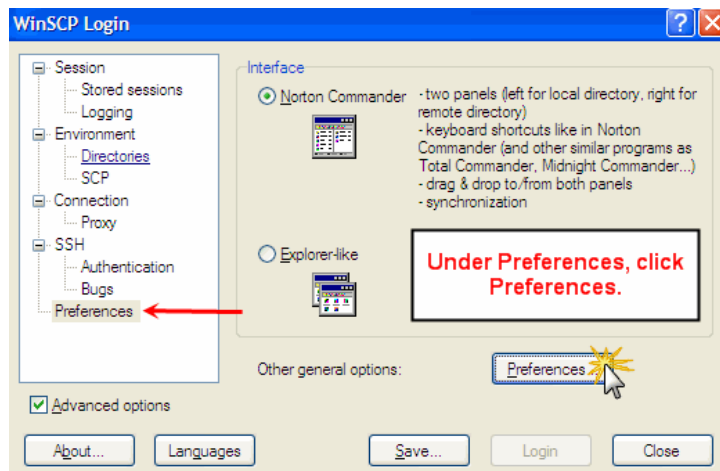
- The program will launch after the installation. Select *Stored sessions*, in the left-side menu tree and press *Tools* button. In the menu that appears, choose *Import* to import your configuration from PuTTY.



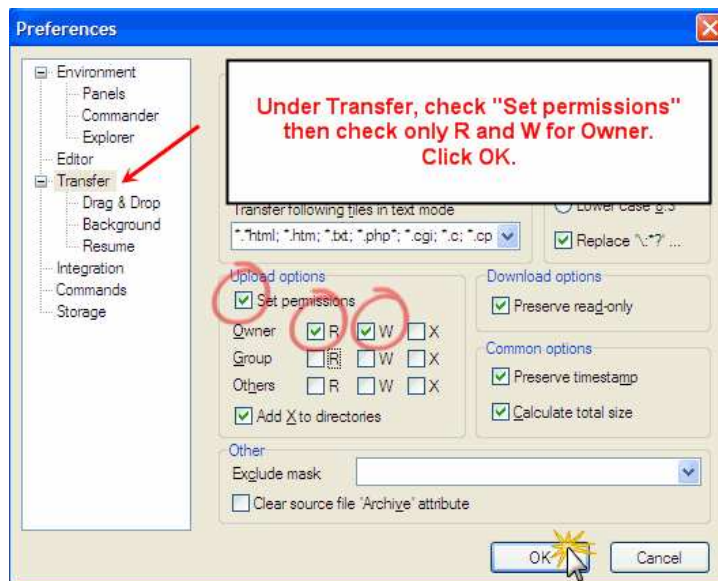
- Ensure that *paprika*, is checked, check *Import cached host keys*, and press *OK*. *Paprika* will now appear in your list of stored sessions.



- Select *Preferences*, in the left-side menu tree and press the button *Preferences...*

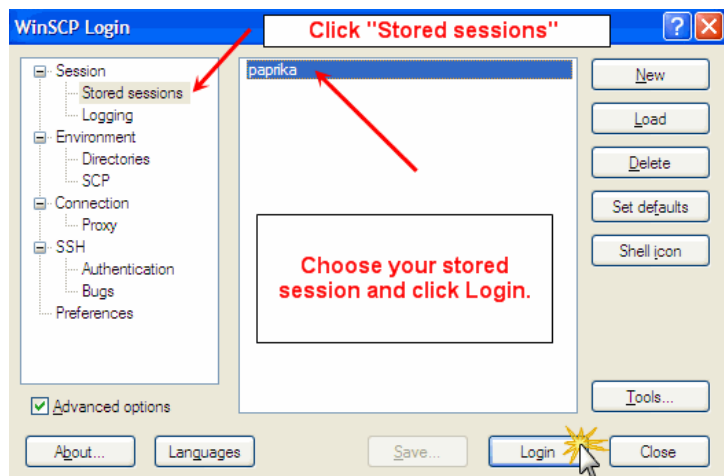


- Select *Transfer*, in the left-side menu tree and check the *Set permissions* box. Uncheck everything but *R* and *W* for *Owner*. Press *OK*.

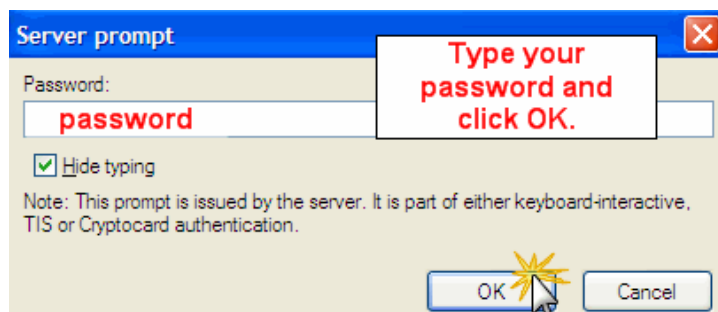


Close WinSCP window to finish the configuration.

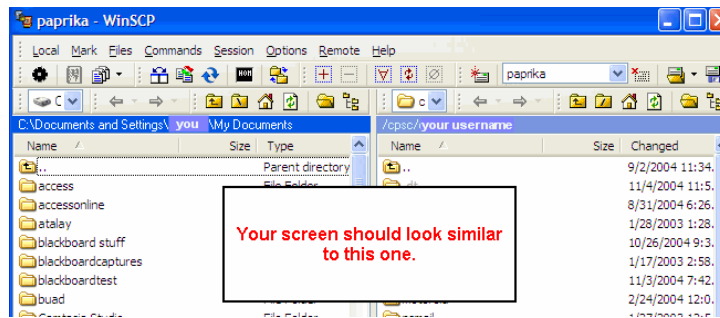
- Find WinSCP icon on your desktop and click on it to start the program. Select *Stored Sessions* in the left-side menu tree, choose *paprika* and press *Login* button.



- Type in your password and press *OK*.



- The connection with *paprika* is established. From this screen you can manage your files and transfer them to or from *paprika* easily.



## 2. Apple OS X

You do not need to install anything. SSH is a part of Apple OS X.

- To connect to *paprika*, simply open a Terminal application and type

```
ssh username@paprika.umw.edu
```

You will be asked for username and password. On the first connection attempt, you may get a warning about the unknown host key. Accept the host key.

- After successful authentication you can edit and run your programs in the same way that you do in the lab. To logout type *exit* or simply press *Ctrl-D*.

If the *Backspace* key does not work properly in your SSH session, type in after login

```
stty erase ^?
```

The *^?* will appear when you press *Backspace*. If you forget to do that, you can always erase a character by pressing *Ctrl-H*.

- If you want to transfer your files to *paprika*, you can start an SFTP session

```
sftp username@paprika.umw.edu
```

Use the usual FTP commands *get*, *mget*, *put* and *mput* to transfer files.

- You can also use an *scp* command. For example,

```
scp file.cpp username@paprika.umw.edu:  
scp file.txt username@paprika.umw.edu:othername.txt  
scp *.c username@paprika.umw.edu:path/to/your/C/programs/
```

Do not omit the colon (:). If you do, a file will be simply copied into a file named *username@paprika.umw.edu* on *your* computer!

- If using *sftp* or *scp* is too difficult for you, a graphical FTP client can help. You can download and install *Fugu* from the University of Michigan (<http://rsug.itd.umich.edu/software/fugu/>). *Fugu* won Apple Design Award in 2003.

## 3. UNIX

If your computer is running a variant of the UNIX operating system (e.g. HP-UX or Solaris) or a UNIX-compatible operating system, such as Linux, FreeBSD, OpenBSD, or NetBSD, you do not need to install anything. SSH is a part of your operating system.

- To connect to *paprika*, simply open a terminal (e.g. *xterm*) and follow the instructions for Apple OS X for *ssh*, *scp*, and *sftp* commands.
- If you need a graphical FTP client, and your computer is running Linux or one of the BSD variants, you can start a Konqueror web browser and type in the URL:

```
sftp://username@paprika.umw.edu/
```

Your files will appear in Konqueror. Split Konqueror window in two panes (choose in the menu *Window->Split View Top/Bottom*), and open your home directory in the second pane (type in URL *file:~* or click on the house icon). Drag and drop the files between the panes.