

Notes on Linux operating system

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UNIX: operating system
Linux: free version of UNIX

Basic communication with a Linux computer is through a command line terminal (no graphics) or “shell”. That is, the commands are typed on the keyboard instead of clicking on things on the screen with a mouse.

Most modern UNIX/Linux platforms offer a graphical user interface similar to Windows but its use over the network can be problematic. We will use the shell.

One of the advantages of using Linux and Linux shell is that you can access the computer from anywhere through the Internet.

We will access our Linux server via secure shell (ssh) and secure file transfer protocol (sftp), which have to be installed on your computer (PC or Mac). If you want to use your home computer for access to our server download and install SSH 3.2.9 at <http://www.sitesof.rug.nl/> (SSH 3.2.9 includes both ssh and sftp, no need to install a separate sftp). For the purpose of this course you have been provided with accounts on our lab server willow.mib.bcu.ac.uk (type it in when SSH asks you for a host name).

ssh allows you to open a Linux shell window on your desktop. In the Linux shell, you can type in commands, run programs and manipulate files on the remote computer. ssh itself does not allow you to move files between your computer and the remote Linux computer. That's done by sftp.

Linux file system

Files in Linux are organized in directories (analogous to folders in Windows). The root directory is simply “/”. Users have their files in their home directories in “/home/”. For example, my home directory (user name “jan”) is “/home/jan/”.

Special directory names: “.” refers to the current directory; “..” refers to the directory one level above the current directory; “~/” refers to your home directory.

File names: unlike Windows, Linux differentiates upper case and lower case letters in file names. That is, the file names “MyFile”, “Myfile”, “myfile”, and “MYFILE” relate to four different files.

Hidden files: filenames that begin with “.” (period) are hidden files. These are usually system files that don't show up when you list directory content. Under normal situations you don't have to worry about the hidden files. Just remember not to use “.” at the start of a file name.

Files are assigned “permissions” that define who has access to them and what kinds of access. Basic types of access are read, write and execute. Read access allows you to read the content (e.g., make your own copy) of a file. Write access allows you to delete, modify or overwrite files.