

# Linux Information (8/06)

This brief document is intended to provide basic information about using the Mathematics and Computer Science Department linux network in 219 running Red Hat Linux. The workstations, called SunRay devices, are networked to a single server, *radius*, that physically resides in ITS. The server does all the “computing” that you will be doing. The SunRay devices consist of a flat panel display and keyboard. The devices cannot be turned off or powered down.

If you should have problems with software or hardware please report them via e-mail to:

`helpdesk@holycross.edu`

or speak to Prof. Damiano, 341 Swords Hall, e-mail: `dbd@mathcs.holycross.edu`

Be as specific as possible when you report a problem. Specify that you are working on *radius* in 219 Swords, the software you were running at the time, and the action which appeared to cause the problem.

## Passwords

Your username and password are the same as your Novell username and password. If you forget the password or want to change it, you can do it through ITS webpage for that purpose. This can be found on the login page from the Holy Cross homepage. The URL is:

`http://www.holycross.edu/login/password.html`

## Exiting

To end a session, you must use the *Exit* button in the pop-up menu obtained by clicking on the Red Hat symbol in the lower left corner of the display. To exit a session:

- (i) Move the mouse to the *Exit* button in the Red Hat menu, click on the lefthand mouse button.
- (ii) Confirm your exit from the session in the box that appears in the middle of the screen.

## Files and Directories

The linux operating system uses the following conventions for naming files and directories (sometimes called folders):

*Names.* Names are case sensitive (Linux knows that “z” is not “Z”), can be of any length, and should contain no blank spaces.

*File types.* Filenames usually contain a suffix that identifies the type of the file. For example, linux knows that *myfile.ps* is a Postscript file, which is a printer ready format. When you create a file from within a piece of software, it will indicate the appropriate file type.

*Full file names.* The full name of a file or directory contains a list of the directories that contain it. The full name of all student files begin with */export/home/*. For example, */export/home/jdhall08/math241/worksheet1.mws* refers to the file *worksheet1* in student user *jdhall08*'s directory *math241*. Since it has type *mws*, it should be a Maple worksheet.

## Basic Linux Commands

The following basic linux system commands should all be executed from the command line of a terminal window. (These windows can be created by clicking on the right mouse button anywhere over the background, then clicking with the left mouse button on *New Terminal*.) The terminal window will contain the following line:

```
[yourusername@radius ~]$
```

The following commands can typed after the dollar sign in a command line. Hitting enter executes the command.

- *pwd* Displays the present working directory. (Until you create new directories this will return */export/home/username*.)
- *ls* Displays a list of all the files in the current directory.
- *rm filename.xyz* Removes or deletes the file *filename.xyz* from the current directory.
- *cp oldfilename.xyz newfilename.xyz* Makes a copy of the file named *oldfilename.xyz* and calls the copy *newfilename.xyz*.
- *mv oldfilename.xyz newfilename.xyz* Renames or moves the file *oldfilename.xyz* to *newfilename.xyz*.
- *mkdir directoryname* Creates a new directory with name *directoryname*.
- *cd directoryname* Changes directories from the current directory to the directory *directoryname*.

## Printing

Most software has its own print button, which should be used to print that software's files. For example, to print a Maple worksheet, print from within Maple.

The Print Manager can be called by clicking on the printer icon on the tool bar. It allows you to select a default printer, which should, in most cases, be *sw219\_lab*. To cancel a print job, use the *Search for Document* option in the pull-down menu under *Edit* in the Printer Manager window.

## Processes and Remote login

It is sometimes the case that a piece of software, a *process* in linux terminology, will freeze. You can kill a process using *kill* from a console or terminal on your current machine, but you may need to run *ps* first to find the process number. If your console itself is frozen it is possible to run *kill* from another console once you have logged in there.

- *ps -ef | grep jdhall08* Generates a list of processes or software that user *jdhall08* is running. For example,

```
radius% ps -ef | grep jdhall08
      UID          PID  PPID  C   STIME TTY          TIME CMD
      jdhall08    2112   2099  0  17:43:59 pts/2        0:01 xdvi linux
      jdhall08    2099   1861  0  17:00:50 pts/2        0:00 /bin/csh -i
```

This shows, for example, that user *jdhall08* was running *xdvi* and that the process number was 2112.

- *kill -9 2112* Kills the process numbered *2112*.