Useful Commands for Getting Around I

In the Computer Lab all computers on the right hand side from the isle run SUSE Linux. Essentially all your work should be done on one of those. If you use your private computer you need to make sure that all your codes execute properly on one of the SUSE Linux workstations in the Computer Lab.

From the computers in the Lab you can connect the Department's main server, *helios*. You all have an account there, and can login remotely as well as copy files.

ssh - secure remote login program

ssh is used for logging into a remote machine and for executing commands on remote machines. It provides secure encrypted communication between local and remote machines using an SSH protocol. The remote machine must be running an SSH server for such connections to be possible. For example

ssh yourname@helios.phy.ohiou.edu
will start a login connection to the Physics Department computer named helios.

ssh -X -Y yourname@helios.phy.ohiou.edu
will start a login connection to helios and allows to run X-applications on helios which will be displayed on your local machine.

helios may be substituted by the name of any other machine you want to connect to and where you have an account on. The computers you will be using during this class are:

helios.phy.ohiou.edu
plato.phy.ohiou.edu
pluto0.phy.ohiou.edu, pluto2.phy.ohiou.edu, pluto4.phy.ohiou.edu,
pluto6.phy.ohiou.edu, pluto9.phy.ohiou.edu, moon.phy.ohiou.edu,
pegasus.phy.ohiou.edu, turvey.phy.ohiou.edu, topsy.phy.ohiou.edu

scp filename yourname@helios.phy.ohiou.edu:/home/yourname/yourdirectory/.
will remote copy a file called filename to a directory in your account on helios.

logout - logoff the system

To leave the system entirely, use
logoff ... and you're done!

nispasswd - change your password

Use **nispasswd** when you wish to change your password. You will be prompted once for your current password and twice for your new password. Neither password will be displayed on the screen.

CYGWIN Xserver on Win box

ssh client from technology.ohio.edu/software/software.html Steps to connect to phys Intel Solaris from a Windows machine

1. Start cygwinX (see www.cygwin.com) and issue command *startx*
2. Once running, enter *xhost +HOST-NAME*
3. On Win, open SSH client and point to HOST-NAME and log on
type *who* and get your IP/name from screen *(dhcp-xxx-yyy.cns.ohio.edu*
4. On host-name type *xterm -display your-ip-number:0*
5. If all is well, you should get an xterm from HOST-NAME on your local screen.

Hint- from above, if ON CAMPUS, IP # translates to 132.235.XXX.YYY
HOST-NAME may be: pluto0.phy.ohiou.edu, pluto2.phy.ohiou.edu ...
see hosts above

Basic Unix Commands

Look at the Class page for downloading a list of basic unix commands. Over the course of the quarter you may want to take the course on basic unix offered online by the Ohio Supercomputer Center. A link is on the main course page.

Editing files

Major tools to editing files are the **vi** and **emacs** editors. Those editors are command driven and a summary of commands is part of the handouts of the first class. Choose one of the editors and stick with it over the course of the class.

The editor **vi** is invoked by the command **vi** or **vim**. The editor **emacs** is invoked by the command **xemacs**.

man - display information about command

man gives access to information about builtin commands. one of these commands will

give information about that command. **man history**, for example will give details about the shell history listings.

kill - kill a process

To kill processes using **kill** requires the process id (PID). This can be found by using the command **ps**. Suppose the PID is 3429, then

kill 3429
will probably kill the process. If not,
kill -9 3429
will do it!

f95 - compile a Fortran 90 program

Before a program can be executed, it must be translated into machine instructions. This is being done by a compiler, which in our case is **f95**.

f95 -o myexec myprogram.f90
will compile the the file with myprogram.f90 and create an executable *myexec*

./myexec
will run this executable and display output on the screen. if you have a file to read from
./myexec < input.dat
will read from the file input.dat.
./myexec > output.out
will write the output from myexec into the file output.out.

Handing in your Homework:

All your homework **must** be handed in electronically. The steps for doing so are outlined below

Before you start, create a directory *Homework* in your home directory on **helios** (*mkdir Homework*). You will copy all your homework during the course in the specified format to be picked up by me. I will run a shell-script on the specified due date for your homework at 8:15 am and pick up your file. If your homework file does not have the specified format, the script will not be able to pick it up, and your homework will not be delivered to me on time. **All** homework assignments **must** be called *assignX.tar*, where X is the number of the assignment. Please remember, my script is case sensitive.

As example let us create your first homework assignment.

1. First, collect all the files you intend to hand in e.g. file1, file2, and file3 in a temporary directory temp.

2. Create a tar-archive from those files with
   tar -cvf assign1.tar file1 file2 file3

3. Do **not** include executables in this list. Executable files which run in the computer lab will **not** run on my laptops or my work machine, since they have different processors.

4. **Include** in the list your codes, your graphs, your write-up, and output files, which **must** be commented, so that I understand what you print out, and input files, if you choose to use them.

5. The file assign1.tar contains now the three specified files. You can check this by *tar -tvf assign1.tar*

6. Copy the file assign1.tar into your directory Homework latest by 8:10 am of the due date for pick-up. This is a Monday unless otherwise indicated.

For all following homework proceed in a similar fashion and create assign2.tar etc.