Unix Systems Administration

Introduction to systems Administration

To r00t or not to r00t

- Unix security is (in most cases) binary. Either you are root or you are not.
  - Effects on permissions
- Windows comparison with no users (win 3.x) to “kinds of users” i.e administrator(s) etc.
- Group permissions in UNIX also available using /etc/group

Safety Regulations

- Have a non root user for non privileged operations. (use pw useradd to add a user)
- Use su when you need root.
- Do NOT leave a root user logged in
- Chose root password (as with any other password) particularly carefully.
- (Other security considerations covered elsewhere)

Worksheet 1:

- pw useradd <USERNAME> -m
- passwd <USERNAME>
- <ALT>+F<N> to switch terminals
- Login with username and password created
- su
  - Doesn't work – why?
- Switch back to first terminal
- Run pw usermod <USERNAME> -G wheel

- Switch back to user terminal (ALT+F2)
- Try su – still doesn't work.. why?
- Type “id” to see what the system thinks of us
- Log out and log in again
- Type “id” again
- Now try su
- After you have done that, you can log out with “exit”

Filesystem

- Recap: no drives on system – only one huge filesystem (set of directories and files).
- Physical (or otherwise) devices are attached to the system with the “mount” command (read the man page)
- To detach devices from the filesystem we use the “umount” command. (read the man page)
- mount with no options lists the mounted systems.
- Check UNIX handout for other filesystem commands.

Worsheet2

- ls /cdrom (should be empty)
- mount -r -t cd9660 /dev/acd0 /cdrom
- ls /cdrom (should have contents of CD drive)
- less /cdrom/README.TXT (case sensitive)
- 'q' to quit
- umount /cdrom to unmount (always do this before ejecting any removable media)

Package Management

- Easy way to install, programes are precompiled – quick to manage.
- Has a few problems:
    - Compiler optimisations absent
    - Optional features may not exist e.g. Database support.
- FreeBSD is to pkg_* as RedHAT is to rpm ... almost.
- pkg_info, pkg_add, pkg_delete etc (read man pages)

worksheet3

- Mount your FreeBSD CD1 in your CDROM drive.
- pkg_add /cdrom/packages/All/bash-2.05b.007_4.tbz
- pkg_info -L bash* (note the backslash is to escape the *)
  - All files under /usr/local
- Type bash
- Doesn't work? Why?
- Rehash and try again.

Editors

- Most common is vi only that it has lots of modes that are interesting.
  - [ESC] key to go to command mode from any mode
  - 'i' key from command mode to start editing text
  - Refer to UNIX command reference
- ee is also another common UNIX editor – not always avaiable on some systems (e.g in single user mode to be discussed later)
  - Commands are executed using the [CTRL]+<somekey>
  - Help screen displayed in editor

Editor worksheet

- ifconfig -l (to list your network cards)
- vi /etc/rc.conf
- Scroll down to bottom line.
- Type i
- ifconfig_rl0="196.200.218.N/24" (replace rl0 with correct card)
- default_router="196.200.218.254"
- Hit [ESC]
- Type :wq!

Editor worksheet continued

- vi /etc/resolv.conf
- Add the lines...

  search e0.ws.afnog.org

  nameserver 196.200.218.100

  nameserver 196.200.222.1
- Type :wq (to write and quit)

Enabling SSH

- vi /etc/rc.conf
- Add the line...

  sshd_enable=”YES”
- vi /etc/ssh/sshd_config

Look for the line that says “#PermitRootLogin no” and change it to “PermitRootLogin without-password” (do not include the quotes and remember to remove the #)

*use the “x” key to delete the characters you do not need **including** the initial “#” then use the i key to enter “insert mode” to add the characters you need. When done save the file with [ESC] then “:wq”*