FreeBSD Introduction

Joel Jaeggli
rehashed for pacnog 2006

Account Information

- Account: root

- Password given in class

- To create an account for yourself you can use adduser or sysinstall.

- or:

- `pw useradd username -m -G wheel -s /bin/csh`

  - add a password by typing:
    - `passwd username`

Post-installation Configuration

- There is a menu-based system you can use for configuring the system - setting IP address, configuring hostname, adding further distribution sets and packages, adding users etc:

    - # sysinstall

- However, you may find that some of this is quicker to do from the command line, some of which is explained below.

SSH and SCP instead of telnet and FTP

- From now on, use SSH and SCP instead of Telnet and FTP.

- Telnet and FTP send your passwords and sessions out using clear text - no encryption. This is bad and a major security hole.

- We will, however, use FTP for anonynmous user sessions to get software. This is because with anonymous ftp your password is your email address.

- If supported, you can use SFTP as well.

pkg_add, adding packages and ports by hand

- Many third-party software is supplied in ready-to-use form, but is not in the base system. This is

  - (a) to keep the base system smaller, and

  - (b) because of different licensing terms. (The FreeBSD license is actually less restrictive than the GNU/GPL license under which a lot of open-source software is distributed)

- All this third-party software installs under /usr/local.

- You can use `sysinstall` to add packages, but it is quicker to use '`pkg_add`' from the command line.

pkg_add continued

- `pkg_add -r`
  `ftp://ftp.pacnog2.dnsdojo.net/freebsd/6.1/packag`
- You can also compile packages directly from the source code, if you have the "ports" distribution installed. The ports system automatically fetches the source file via FTP or anonCVS, applies any FreeBSD-specific patches, and compiles and installs the code.
- A "package" is really just a "port" which has been compiled.
- # cd /usr/ports/shells/bash
- # make
- # make install
- # make clean

pkg_add part 3

- You can query installed packages, or package .tbz files, using `pkg_info`.

- `pkg_info -aI` -- list all installed packages (one line per package)

- `pkg_info emacs-21.3_3` -- description of package

- `pkg_info -L emacs-21.3_3` -- list all files in package

- `man pkg_info` -- read this for more details

Network Information

- `ifconfig`

  - This is the command you use to interactively start and stop network interfaces and to define how they run.

- `rc.conf`

- The main system configuration file is /etc/rc.conf. It is in this file that you configure the hostname, IP address for each interface, and so on. Changes you make in here won't take effect until you reboot.

  - `defaultrouter="80.248.72.126"`

  - `hostname="host1.t1.ws.afnog.org"`

  - `ifconfig_ed0="inet 80.248.72.1 netmask 255.255.255.248"`

Stop and Start the Network

- `ifconfig`
  - This displays your network interface status. Notice that "sis0" (Fast Ethernet) has an IP address assigned. Not that lo0 as an address as well. This is your loopback device.
- To bring sis0 down type:
  - `ifconfig sis0 down`
- Now to bring it back up just type:
  - `ifconfig sis0 up`
- There is quite a bit more to ifconfig, you can type "man ifconfig" for more information.

A few differences from Linux

- Some key differences between Linux and FreeBSD center around the naming of devices and some of the configuration files:

- Linux: eth0 = first ethernet device (of any type)

- FreeBSD: sis0 = first SIS900 10/100 ethernet, ed0 = first NE2000 device, ep0 = first 3Com 3c509, etc.

- Linux: COM1 serial port = /dev/ttyS0

- FreeBSD: COM1 serial port = /dev/cuaa0 (call out) or /dev/ttyd0 (call in)

- Linux: /etc/inittab configures incoming serial connections

- FreeBSD: /etc/ttys configures incoming serial connections

A quick exercise

- Install bash from packages using a url:
- `pkg_add -r ftp://ftp.pacnog2.dnsdojo.net/freebsd/6.1/packages/All/bash-3.1.10_1.tbz`
- As root type:
- `chsh`
- Using the editor change the root shell from csh to bash
- Then, some changes we made to the profile will work properly...

Adding a service

- Now, how about a adding service
- `pkg_add -r apache-2.2.0_7.tbz`
- or if you haven't switched to bash
- `pkg_add -r ftp://ftp.pacnog2.dnsdojo.net/freebsd/6.1/packages/All/apache-2.2.0_7.tbz`
- follow the post install instructions.

Note, about the root user.

- note that root's environment in FreeBSD is substantially different than the default for most users so it's a good idea when suing up to do:

- `su -`

- rather than just:

- `su`