Network Monitoring & Management

A few Linux basics

Our chosen platform

Ubuntu Linux 14.04 LTS 32-bit

- LTS = Long Term Support
- no GUI, we administer using ssh
- Ubuntu is Debian underneath

- In the real world choose 64-bit edition
- There are other platforms you could use:
  - CentOS / RedHat, FreeBSD, …
- This isn't a UNIX admin course
  - Worksheets are mostly step-by-step
  - Please help each other or ask us for help

You need to be able to….

Login to your virtual machine using ssh

- On Windows use putty.exe
- Connect to pcN as user *sysadm*
- ***We'll do that now...***

- Accept Public Key when prompted
- Windows users can download *putty* from http://noc.ws.nsrc.org and connect
- Instructors will now assist everyone to connect

You need to be able to….

- Be *root* when necessary: `sudo <cmd>`
- Install packages
  - `sudo apt-get install <pkg>`
- Edit files
  - `sudo joe /etc/mailname`
  - `sudo vi /etc/mailname`
- Check for the process “apache”
  - `ps auxwww | grep apache`
- Start/Stop services
  - `service <NAME> start | stop | restart`

joe editor

- Ctrl-C quit without saving
- Ctrl-K X to quit and save
- Cursors work as you expect
- We provide a PDF reference in the materials

vi editor

- The default editor for all UNIX and Linux distributions
- Can be difficult to use
- If you know it and prefer to use vi please do
- We provide a PDF reference in the materials

Other tools

- Terminate foreground program:
  - `ctrl-c`
- Browse the filesystem:
  - `cd /etc`
  - `ls`
  - `ls -l`
- Rename and delete files
  - `mv file file.bak`
  - `rm file.bak`

Viewing files

Sometimes files are viewed through a pager program (“more”, “less”, “cat”). Example:

- `man sudo`
- Space bar for next page
- “b” to go backwards
- “/” and a pattern (/text) to search
- “n” to find next match
- “N” to find previous match
- “q” to quit

Exercises

Please follow the instructions on the next three slides to practice a bit with Linux…

To get started

1. Login to your virtual server using ssh
2. Install the “joe” editor package
   - `sudo apt-get update`
   - `sudo apt-get install joe`
3. Install the postfix mailserver and some utilities:
   - `sudo apt-get install postfix mutt mailutils`
   1. Select “**Internet Site**” when prompted
   2. Accept the hostname presented.
   3. For both screens tab to <Ok> and press ENTER to continue
4. Restart the mailserver:
   - `sudo service postfix restart`

Troubleshooting: Your logs

- Log files are critical to solve problems. They reside (largely) in /var/log/
- Some popular log files include:
  - /var/log/syslog
  - /var/log/apache2/error.log
  - /var/log/mail.log
  - And, many, many more
- To view the last entry in a log file:
  - `tail /var/log/syslog`
- To view new entries as they happen:
  - `tail -f /var/log/syslog`

Press “ctrl-c” to exit from the `tail` command.

Using search tricks with help (man)

- At the prompt type:
  - `man ssh`
- Search for “ports” by typing “/ports” – press <ENTER>
- Press “n” to go to the next occurrence of “port” – do this several times.
- Press “N” to search *backwards*.
- Press “p” to go to the start.
- Search on “/-p” and see what you find.
- Press “h” for all the keyboard shortcuts.
- Press “q” to quit from the man page.