

Chapter Summaries and Reading

- Some new reading for near future, particularly in preparation for Project 2. If you have not finished any chapter summaries for last night, be sure you do so soon
- As a general rule, you are advised to complete them sooner, rather than later.
- That way, you will not end up, at the semester's end, with a large amount of unfinished chapter summaries to complete.
- Be aware also of Assignment 1, due on **February 1, 2018**

Project 1 Reflect

- Ask yourself some questions:
 - Is your VM in the correct location, with the right specs?
 - Is your OS installed in the specified manner?
 - How comfortable are you with the setup process? How quickly can you do it?
- Be sure you are logging diligently and keeping progress backed up:
 - Snapshots
 - Backups of VM files

VMWare and Virtualization

- VMWare is virtualization software
- Virtualization software is software that simulates or emulates something else
- VMWare emulates a working computer with
 - Hardware
 - Operating system
 - Software configuration
 - File system

VMWare and Virtualization

- A virtual machine is software configuration that, when run inside hardware, virtualization software acts as if it is a physical machine
- These virtual machines work just like real machines, even though they run inside VMWare
- VMWare allows one machine to pretend to be another

VMWare and Virtualization

- Since you can create many virtual machines for each VMWare installation, each virtual machine has a unique name
- Here, the virtual machine name **must** be the team name
- For example, **itvm23-2b**

Ubuntu Server

- We are installing **Ubuntu Server 16.04 LTS**
- Ubuntu is a very popular Linux distribution based on Debian Linux
- Development of Ubuntu is led by Canonical, a company based in the Isle of Man in Great Britain
<http://www.canonical.com>
- Check this company out. What do they do besides Ubuntu, if anything?

Ubuntu Server

- A new Ubuntu version is released every 6 months, and the number is composed of the year and month of its release
 - So when was version 16.04 released?
- LTS stands for "Long Term Support"
 - An LTS version will be supported for 5 years after its release
 - A new LTS version is released *every 2 years*

Ubuntu Server

- One of the reasons for Ubuntu's success is its package manager
- If you type in a command that is not installed, Ubuntu will suggest packages that would install the command
 - Why might this be useful?
 - What are some systems you have dealt with that lack such a feature?
 - Are there any drawbacks?

Hostnames

- The **hostname** is the name by which a computer is known on the network
- Every networked machine must have a hostname
- All the Windows machines in this lab have hostnames
- Your virtual machine will also be on the network, so it needs a hostname too
- The hostname must be the team name

Some Linux Commands

- sudo
 - The most important account on any Linux machine is root
 - The setup and configuration of any machine must be done using the root account
 - root is powerful and, therefore, dangerous
 - In Ubuntu, access to the root account is blocked, so to administer an Ubuntu server, you must use the sudo command
 - The first account created by the installer is on the sudo-ers list and can run sudo

Some Linux Commands

- When a file or command is restricted, use **sudo** rather than changing permissions!
- Here is the format for **sudo** :

sudo LINUX_COMMAND

- **ping**

- The utility **ping** is a network tool
- It is used to test whether a particular machine is reachable over the network
- **ping** does this by sending a series of test packets to an IP address or a domain name

Some Linux Commands

- apt-get
 - To obtain new software packages or to update existing ones, Ubuntu uses a technology called Advanced Packaging Tool (APT)
 - When administrating even your own OS, let alone an entire server, you will quickly make friends with this command!
 - You access this technology through the **apt-get** command
 - **apt-get** can only be run by **root**, so you must run **sudo** to use it

Some Linux Commands

- apt-get

- APT uses an online database of existing software packages and all the software those packages depend on
- apt-get uses a local copy of this database, which must be updated periodically using this command:

```
sudo apt-get update
```

- After updating, you may wish to upgrade existing packages:

```
sudo apt-get upgrade
```