

# 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.

# VMWare and Virtualization

- VMWare is virtualization software
- Virtualization software is software that simulates something else
- VMWare emulates a working computer with its
  - 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

# 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 Unix/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 `sudoers` 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*
  - *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`**