hostname

Display: cs2

Explanation: Displays the name of the host.

hostname –d

Display: sfcc.edu

Explanation: Displays the domain name.

hostname – f

Display: cs2.sfcc.edu

Explanation: Displays the Fully Qualified Domain Name, or the FQDN.

hostname – i

Display: 10.9.0.4

Explanation: Displays the IP address.

host google.com

Display: 216.58.217.46

Explanation: Displays the IP address associated with google.com.

host *SOME-IP-ADDRESS-HERE*

Display: N/A

Explanation: Displays the name associated with the provided IP address.

host -t ns www.nmsu.edu

Display: www.nmsu.edu is an alias for maddiemae.nmsu.edu.

Explanation: maddiemae.nmsu.edu is the name of the server that gets accessed when someone looks for www.nmsu.edu in a browser.

host -t ns sfcc.edu

Display: sfcc.edu name server ohm.

Explanation: A server named ohm. performs the DNS service for sfcc.edu.

uname

Display: Linux

Explanation: Prints the kernel name

netstat

Display: Too long to put here.

Explanation: Prints information on the network and current connections.

netstat –t

Display: Proto Recv-Q Send-Q Local Address Foreign Address State

tcp 0 0 cs2.sfcc.edu:ssh 10.11.0.231:49288 ESTABLISHED
tcp 0 0 cs2.sfcc.edu:ssh 10.11.0.223:49284 ESTABLISHED

Explanation: Prints information all current tcp connections.

netstat –pt

Display: Same as netstat -t except it also had a “PID/Program name” column which was blank.

Explanation: Prints information all current tcp connections including the PID.

finger

Display: tkarmesin pts/6 2018-11-16 10:15 (66.99.2.124)

twise pts/8 2018-11-16 09:03 (174.28.104.175)

...

Explanation: Displays information about logged in users.

ifconfig

Display: Too long to put here.

Explanation: displays the status of the currently active interfaces.

ps –e

Display: PID TTY TIME CMD

1 ? 00:00:31 systemd
2 ? 00:00:00 kthreadd
...

Explanation: Displays every process running on the system.

dig

Display: Too long to show here.

Explanation: Queries DNS servers for information.

test this command: who am i|awk '{ print $5}'

Display: (66.99.2.124)

Explanation: Displays your current IP address.

What is the purpose of the Host file? Where is it located?

The Host file was created to act like a local DNS, storing IP addresses and host names.

It is located in /etc/hosts

Research and explain the following:

Client-server model or Client-server architecture

The client-server model is a set-up in which client machines connect to the server via the internet.

TCP/IP Basics

TCP is a protocol that dictates how computers send packets to each other.

A computer's IP address can be thought of as its name, the way other computers refer to it and contact it.

Packet-switching

Packet-switching is a technique for sending data in which the information is sent in small blocks called packets along many different paths and then reassembled at the destination.

Browser

A browser is a program that connects to servers across the internet.

http (What port number?)

When a client connects to a server using http it uses port 80.

URL

A URL is like a website's name, it is what you type in a browser when you want to access that website.

HTML

HTML is a programming language used to control the design and content of webpages.

WWW vs Internet

The internet is a giant network that connects computers everywhere on earth. It contains protocols for transferring and managing data.

The World Wide Web is a specific way of accessing and displaying information on the internet. There are others.

ftp (What port number?)

FTP uses port 21.

telnet (What port number?)

telnet uses port 23.

ssh (What port number?)

SSH uses port 22.

What is DNS?

DNS is a system that finds IP addresses given domain names.

How do networked applications communicate?

Networked applications communicate by setting up a socket between them and communicating through that.

What is ping and what is its purpose?

Ping is a program that basically just pokes the target machine and times the response.

What is ftp? Why is it not used?

FTP (File Transfer Protocol) is, shockingly, a protocol for transferring files. It is no longer used because it is quite insecure.

How does Linux authentication work?

Linux user authentication works by getting a username and password and comparing it to /etc/passwd.

What is the hosts.deny and host.allow?

hosts.deny and host.allow are files that determine whether or not a client will be allowed to use the service.