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SYS-255-01
STR2026

1. List five common Linux directories and briefly state their purpose?
 - A) /home - contains personal user directories and files for each user
 - B) /etc - stores system wide config files
 - C) /var - Contains variable data that changes during system operation such as log files
 - D) /bin - contains essential user command binaries like "ls" and "cp", as well as installed programs.
 - E) /root - separate home folder for root user
2. Which command would you use to change directories to /etc/sysconfig/network-scripts/? Provide a screenshot of the command and a listing of the contents of that directory.

To change to that directory, use: "cd /etc/sysconfig/network-scripts/"

```
[connor@dhcp01-connor ~]$ cd /etc/sysconfig/network-scripts/
[connor@dhcp01-connor network-scripts]$ ls -la
total 8
drwxr-xr-x. 2 root root 33 May 30 2025 .
drwxr-xr-x. 3 root root 4096 Jun 11 2025 ..
-rw-r--r--. 1 root root 1244 Mar 18 2025 readme-ifcfg-rh.txt
[connor@dhcp01-connor network-scripts]$
```

3. Figure out how to create a directory called "assignment" within your /home/yourname/sys255 directory. What command would you use to copy the /etc/hosts file to your new directory? Provide a screenshot of the tree command executed from your home directory.

To copy the file, use: "sudo cp /etc/hosts /home/connor/sys255/assignments/"

```
[connor@dhcp01-connor ~]$ tree
.
├── sys255
│   └── assignments
│       └── hosts
└── 2 directories, 1 file
[connor@dhcp01-connor ~]$
```

4. What are the two major text editors used in Linux? Provide a screenshot of ~/sys255/assignment/hosts in each of these editors (two screenshots)

The two main editors are Vi/Vim and nano.

Vi/Vim:



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```
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.locald
::1         localhost localhost.localdomain localhost6 localhost6.locald

"hosts" [readonly] 2L, 158B
```

nano:



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```
GNU nano 5.6.1 hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6

[ File 'hosts' is unwritable ]
Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket Previous
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was Next
```

5. Which file contains a list of user accounts in Linux? Use the cat command to provide a screenshot of the contents of this file.

/etc/passwd contains all the users.

```
lconnor@dhcp01-connor assignments1$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
tss:x:59:59:Account used for TPM access:/usr/sbin/nologin
sssd:x:998:996:User for sssd:/:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/usr/share/empty.sshd:/usr/sbin/nologin
deployer:x:1000:1000:deployer:/home/deployer:/bin/bash
champuser:x:1001:1001:/home/champuser:/bin/bash
connor:x:1002:1002:/home/connor:/bin/bash
lconnor@dhcp01-connor assignments1$
```

6. Which command would you use to create a user account named *champlain* and set its password.

“sudo useradd champlain” and “sudo passwd champlain”



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7. Which command is used to search for words or files as a pipe ("|") after a command (example: *command* : _____ *search*). Provide a screenshot where you search the concatenated (*cat*) output of the file from #5 for your username.

“Grep” is used to filter outputs.

```
[connor@dhcp81-connor assignments]$ cat /etc/passwd | grep "connor"
connor:x:1882:1882::/home/connor:/bin/bash
[connor@dhcp81-connor assignments]$
```

8. In your own words, please list out the process for setting a static IP address on CentOS Linux (you did this in the lab and it is documented in the video and the wiki links) Provide a link to your tech journal article. (2 points)

1. Run “**sudo nmtui**”
2. Select “**edit a connection**”
3. Select your interface
4. Enter in an IP, gateway, DNS server, and search domain.
5. Select “**ok**”
6. Return to the start menu and select “**activate a connection**”
7. Deactivate and reactivate the interface you just edited.

9. What is a *shell* in Linux?

A shell is an interface between the user and the linux kernel.

10. What is the difference between *su* and *sudo -i*?

su:

- Requires the root password
- Switches you to root's account directly

sudo -i:

- Requires your own password (the one in your user account)
- Your account must be in the *sudoers* file (have *sudo* privileges)
- Creates an audit trail (logs who used *sudo* and when)

11. You know parts of the command you want to use to accomplish something, yet need to know more about the command and what options there are first. Where can you look in Linux to find additional information about a specific command?. Provide a screenshot where you find more information about the “*tree*” command.

You can use the “*man*” command (eg “*man tree*”) to find more information.



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```
TREE(1)                                     General Commands Manual                                TREE(1)

NAME
  tree - list contents of directories in a tree-like format.

SYNOPSIS
  tree [-acdfghilmpqrstuvwxnCDFQNSUX] [-L level] [-R] [-H baseHref] [-T title] [-o filename] [--nolinks] [-P pattern] [-I pattern] [--inodes] [--device]
  [--noreport] [--dirsfirst] [--version] [--help] [--filelimit #] [--sil] [--prune] [--du] [--timefmt format] [--matchdirs] [--fromfile] [--] [directory
  ...]

DESCRIPTION
  Tree is a recursive directory listing program that produces a depth indented listing of files, which is colorized ala dircolors if the LS_COLORS en-
  vironment variable is set and output is to tty. With no arguments, tree lists the files in the current directory. When directory arguments are
  given, tree lists all the files and/or directories found in the given directories each in turn. Upon completion of listing all files/directories
  found, tree returns the total number of files and/or directories listed.

  By default, when a symbolic link is encountered, the path that the symbolic link refers to is printed after the name of the link in the format:
  +
  name -> real-path

  If the '-l' option is given and the symbolic link refers to an actual directory, then tree will follow the path of the symbolic link as if it were a
  real directory.

OPTIONS
  Tree understands the following command line switches:

LISTING OPTIONS
  -a All files are printed. By default tree does not print hidden files (those beginning with a dot '.'). In no event does tree print the file
  system constructs '.' (current directory) and '..' (previous directory).

  -d List directories only.

  -l Follow symbolic links if they point to directories, as if they were directories. Symbolic links that will result in recursion are avoided
  when detected.

  -f Prints the full path prefix for each file.

  -x Stay on the current file-system only. Ala find -xdev.

  -L level
  Max display depth of the directory tree.

  -R Recursively cross down the tree each level directories (see -L option), and at each of them execute tree again adding '-o 00Tree.html' as a
  new option.

  -P pattern
  List only those files that match the wild-card pattern. Note: you must use the -a option to also consider those files beginning with a dot
  '.' for matching. Valid wildcard operators are '*' (any zero or more characters), '?' (any single character), '['...'']' (any single character
  listed between brackets optional - (dash) for character range may be used: ex: [a-Z]), and '['...'']' (any single character not listed in
  Manual page tree(1) line 1 (press h for help or q to quit)
```

12. What command would you use (be specific) to find out who is logged into the computer right now. Provide a screenshot.

Use the “who” command to see logged in sessions.

```
[connor@dhcp81-connor assignments]$ who
connor    tty1          2026-01-29 11:28
[connor@dhcp81-connor assignments]$
```

