**Module 15**

**Linux server - Understand and use essential tools**

**Assignment Level Basic**

1. **Full form of bash.**

* The name Bash is an acronym for “**Bourne Again Shell,”** developed in 1989 as a successor to the Bourne Shell. “What's a shell?” you ask? A shell is a computer program that allows you to directly control a computer's operating system (OS) with a graphical user interface (GUI) or command-line interface (CLI).

**2.What is bash shell**

* The **Bash shell**, also known as **Bourne-Again SHell**, is a **Unix shell** and **command language**. [It was created by Brian Fox for the GNU Project as a free software replacement for the Bourne shell](https://en.wikipedia.org/wiki/Bash_%28Unix_shell%29)

**. 3. What is the meaning of $ in terminal.**

* In a terminal, the **dollar sign** ($) is a **prompt symbol** that indicates the shell is ready to accept commands

**4. What is the meaning of # in terminal.**

* In the terminal, the **hash symbol** (#) has a couple of different meanings depending on the context:

**5. How many virtual console available in Linux 7.0 ?**

* Linux provides   six virtual consoles for interactive use; a seventh virtual console is associated with the graphical user interface. You can use special keystrokes to switch between virtual consoles. The keystroke Alt-F n , where n is the number of a virtual console (1-6), causes Linux to display virtual console n .

**6. What is file system hierarchy in linux?**

* The **file system hierarchy** in Linux, also known as the **Filesystem Hierarchy Standard (FHS)**, defines the structure and contents of directories in Unix-like operating systems. [It’s a set of standards maintained by the Linux Foundation](https://www.geeksforgeeks.org/linux-file-hierarchy-structure/)

**7. What is “ / “ in linux?**

* In Linux, the **slash** (/) is known as the **root directory**. [It is the very top level of the file system hierarchy](https://www.javatpoint.com/linux-file-system)

**8. What is the purpose of “ /etc “ ?**

* The primary function of the electron transport chain is to generate an electrochemical gradient. It drives the synthesis of ATP during cellular respiration and photosynthesis in mitochondria and chloroplasts, respectively. It is used in cellular respiration.

**9. What is the purpose of “ /home “ ?**

* A place to live with our families and pets and enjoy with friends. A place to build memories as well as a way to build future wealth. A place where we can truly just be ourselves. And whether our houses are big, small, fancy or modest, they are our shelters and our sanctuaries.”

**10. What is the Purpose of “ /boot “ ?**

* Boot, short for bootstrap, refers to the process of starting up a computer system. It involves initializing the hardware components, loading the operating system, and preparing the computer for use.

**11. What is the use of man command?**

* man command in Linux is used to display the user manual of any command that we can run on the terminal. It provides a detailed view of the command which includes NAME, SYNOPSIS, DESCRIPTION, OPTIONS, EXIT STATUS, RETURN VALUES, ERRORS, FILES, VERSIONS, EXAMPLES, AUTHORS and SEE ALSO. 1.

**12. What is the use of passwd command?**

* The passwd command sets and changes passwords for users. Use this command to change your own password or another user's password. You can also use the passwd command to change the full name (gecos) associated with your login name and the shell you use as an interface to the operating system.

**13. I want to search specific string in man, what should I do?**

* **Just hit / , and type your search pattern.**
* Patterns can be regular expressions, for example, you could search for the word "option" by typing: /[Oo]ption. ...
* To jump through the results, press N (forwards) and Shift + N (backwards).
* There is also a way to search across all manpages: man -K "Hello World"

**14. How to exit from man?**

* The use of SIGINT (Ctrl-C) exits the man command completely. On the other hand, man open close also displays several articles but the use of SIGINT (Ctrl-C) causes man to display the close command information instead of exiting. Using SIGINT (Ctrl-C) again exits the man command completely.

**15. What is the use of “ pinfo “ command ?**

* Pinfo is an info file viewer or a program for viewing info files. The man pages have a formal format useful as a command reference, but less useful as general documentation. For such documents, The GNU Project developed a different online documentation system, known as GNU info.

**16. What is the use of “sosreport “ command ?**

* The sos report command is a tool that collects configuration details, system information and diagnostic information from a Red Hat Enterprise Linux system. For instance: the running kernel version, loaded modules, and system and service configuration files.

**17. By default location to store “ sosreprt “ is….**

* sosreport saves the report as an xz -compressed tar file in /tmp . Optionally, to obfuscate sensitive information, you can run the soscleaner command on the compressed archive generated from the sosreport command.

**18. What is the use of “>file “command?**

* The file command reads the files specified by the File parameter or the FileList variable, performs a series of tests on each file, and attempts to classify them by type.

**19. What is the use of “>>file “command?**

* In Linux, the >> operator is used to **append output** to a file. When you use >> followed by a filename, it takes the output of a command and adds it to the end of the file specified, without overwriting the existing content. If the file does not exist, it will be created.

**20. What is the use of “2>file “command?**

* In Linux, the 2>file command is used to **redirect standard error (stderr)** to a file. This means that any error messages that would normally be printed to the terminal will instead be sent to the specified file.

**21. What is the use of “2>>file “command?**

* In Linux, the 2>>file command is used to **append standard error (stderr)** to a file. This is similar to 2>file, which redirects stderr to a file, but with 2>>file, the stderr output is added to the end of the file, rather than overwriting it. If the file doesn’t exist, it will be created.

**22. What is the use of “whereis “command?**

* The whereis command locates the source, binary, and manuals sections for specified files. The supplied names are first stripped of leading path name components and any (single) trailing extension of the form .

**23. What is the use of “echo “command?**

* Echo is a Unix/Linux command tool used for displaying lines of text or string which are passed as arguments on the command line. This is one of the basic command in linux and most commonly used in shell scripts. In this tutorial, we will look at the different options of echo command.

**24. What is the use of “tty “command?**

* The tty command in Linux is a built-in utility that displays the file name of the terminal connected to the standard input. It is used with the syntax, tty . It's a quick and easy way to identify the terminal you're currently using. In this example, we simply run the tty command in the terminal.

**25. What is the use of “| “and “tee “command in terminal?**

* The tee command, used with a pipe, reads standard input, then writes the output of a program to standard output and simultaneously copies it into the specified file or files. Use the tee command to view your output immediately and at the same time, store it for future use.

**26. What is the use of “vim “?**

* What is Vim? Vim is a text editor for Unix that comes with Linux, BSD, and macOS. It is known to be fast and powerful, partly because it is a small program that can run in a terminal (although it has a graphical interface). It is mainly because it can be managed entirely without menus or a mouse with a keyboard.

**27. Give a list of “ vim modes “**

* Insert mode
* Visual mode
* Replace
* Undo Redo
* Visual
* Command mode
* Exit Vim
* Normal mode
* Searching

**28. What is “gedit “?**

* **gedit** is a text editor designed for the GNOME desktop environment. It was GNOME's default text editor and part of the GNOME Core Applications until GNOME ...

**29. What is “ tar “ ?**

* Petroleum derived pitch is also known as bitumen whereas plant derived pitch is known as resin. Pitch derived from plant resin however is known as rosin. Tar and pitch are often used interchangeably.

**30. I want to get backup of /etc directory, how do i wright down the command?**

* + create a backup of the /etc directory on a Linux system, you can use the tar command, which stands for **tape archive**. The tar command is versatile and can be used to bundle together many files into a single archive file, often referred to as a tarball.

**31. From which command, I extract .tar file ?**

* + **The Basics of the tar -xvf Command in Linux**
  + 'x': This option tells the tar command to extract the contents of a tar file.
  + 'v': The verbose option enables the command to display the progress in the terminal as it extracts files.
  + 'f': This option allows you to specify the name of the tar file.

**32. I want to see the content of .tar file, without extracting this, which command will help me**

* Using the lesspipe Command Indeed, lesspipe allows displaying the contents of various archive files without unarchiving them beforehand. Additionally, unlike the less command, lesspipe prints the entire output to stdout.

**33. I want to copy “ file1 “ on remote desktop computer, which commandwill help?**

* You don't have to be logged in with SSH to copy files from your local machine to a remote computer. When you use scp on your local computer, the scp process will log you into the remote server, copy the file, then log you out again all in one go.

**34. Which command is used for remote synchronize?**

* rsync, short for remote sync, lets you transfer and synchronize files or folders between local devices and remote Linux-based servers. Whether you're a pro or just getting started, mastering the rsync command can streamline your Linux file management.

**35. What is ACL**

* The ACL is tissue that connects the thigh bone to the shinbone, at the knee. Most ACL injuries occur during certain sports such as basketball, football, skiing and tennis.
* Symptoms include knee swelling, instability and pain.
* Treatment may include surgery and physiotherapy.

**36. Which command is used to view the ACL?**

* Use the getfacl command to take a look at the resulting ACL.

**37. Ext3 and exe4 both file systems are supported the ACL, is true or false?**

* That statement is **true**. Both Ext3 and Ext4 file systems support Access Control Lists (ACLs).

**38. Which command is used to modify ACL**

* Modify ACL entries on a file by using the setfacl command. Modifies the existing ACL entry. Specifies the list of one or more ACL entries to modify on the file or directory. You can also modify default ACL entries on a directory.

**39. What is the use of “grep” command?**

* Grep, short for “global regular expression print”, is a command used for searching and matching text patterns in files contained in the regular expressions. Furthermore, the command comes pre-installed in every Linux distribution.

**40. What happened if i use < grep -i -v ‘cat’ > command?**

* The command grep -i -v 'cat' is used in Linux to search through text for lines that **do not** contain the pattern ‘cat’, ignoring case. [The -i option makes the search case-insensitive, and the -v option inverts the match, meaning it selects non-matching lines](https://www.geeksforgeeks.org/grep-command-in-unixlinux/)

**Assignment Level Intermediate**

1. **What happed if I press “ctrl + alt + f1”**

* Ctrl+Alt+F1 or Alt+Ctrl+F1 is a keyboard shortcut most commonly used to switch to the first virtual console or GUI in Linux. Below are other programs that use this keyboard shortcut and related information.

1. **What happened if I press “ctrl + alt + f2” ?**

* Ctrl+Alt+F2 or Alt+Ctrl+F2 is a keyboard shortcut most commonly used to open a document in Microsoft Word

1. **What happened if I press “ctrl+alt+f3” ?**

* Ctrl+Alt+F3 or Alt+Ctrl+F3 is a keyboard shortcut most commonly used to switch between open console windows in Linux. Below are other programs that use this keyboard shortcut and related information.

1. **Short cut key to finish session in terminal**

* You can always use the exit command to close a shell session and terminal. You can also use the Ctrl+D shortcut keys as well.

1. **What is gnome in linux 7.0?**

* GNOME (/ɡəˈnoʊm, ˈnoʊm/), originally an acronym for GNU Network Object Model Environment, is a free and open-source desktop environment for Linux and other Unix-like operating systems.

1. **How many workspace are available in linux 7.0?**

* The number of workspaces available in a Linux environment can vary depending on the desktop environment and its configuration. For example, GNOME, a common desktop environment used in many Linux distributions, has a feature called **dynamic workspaces** by default. This means that workspaces are created and removed as needed

1. **What is the purpose of “ /dev ” ?**

* The /dev directory contains device files (also sometimes known as device special files and device nodes) that provide access to peripheral devices such as hard disks, to resources on peripheral devices such as disk partitions, and pseudo devices such as a random number generator.

1. **What is absolute path ?**

* An absolute path is defined as the specifying the location of a file or directory from the root directory(/). In other words we can say absolute path is a complete path from start of actual filesystem from / directory.

1. **What is relative paths ?**

* A relative path refers to a location that is relative to a current directory. Relative paths make use of two special symbols, a dot (.) and a double dot (..), which translate into the current directory and the parent directory.

1. **What is the difference between “ls -l” and “ls -la” command ?**

* ls -l: Lists files and directories with detailed information, including permissions, number of links, owner, group, size, date, and filename. [However, it does not show hidden files (files starting with a dot .)1](https://www.linuxcommands.site/linux-file-and-directory-commands/ls-a-command/).
* ls -la: Lists all files and directories, including hidden ones (those starting with a dot .), with the same detailed information as ls -l. [The a in ls -la stands for “all”, which includes hidden files and directories](https://www.linuxcommands.site/linux-file-and-directory-commands/ls-a-command/)

1. **What is the use of “pwd” command?**

* The 'pwd' command, short for 'print working directory', is one of the most basic and commonly used commands in Linux. It's a simple yet powerful tool that displays the full pathname of the current directory you're in

1. **What is the use of man command?**

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1. **I want to search specific string in man, what should I do?**

* To search a specific man page section, use the -s option with the man command and the -k or -K option. Note - Keywords are contained within double quotation marks.

1. **How to exit from man?**

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**18. By default location to store “ sosreprt “ is….**

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**Assignment Level Advance**

1. **how do we switch workspace?**

* Press Super + Page Down or Ctrl + Alt + Down to move to the workspace shown below the current workspace in the workspace selector.

1. **use of "passwd" is...**

* The passwd command sets and changes passwords for users. Use this command to change your own password or another user's password. You can also use the passwd command to change the full name (gecos) associated with your login name and the shell you use as an interface to the operating system.

1. **use of "head" and "tail" command is....**

* As their names imply, the head command will output the first part of the file, while the tail command will print the last part of the file. Both commands write the result to standard output. In later sections, we'll take a closer look at each command and learn how to use them through examples.

1. **use of history command is....**

* The history command in Linux provides a chronological list of previously executed commands, along with corresponding command numbers. This feature allows users to recall, reuse, and modify commands without having to retype them. The command history is stored in a file, typically ~/. bash\_history for the Bash shell.

1. **which command is used to add new user**

* The useradd command creates a new user account.

1. **meaning of "tail -n 20" command is....**

* tail notes. To specify the number of lines to start reading from the end of the notes file, enter: tail -n 20 notes. To display the notes file a page at a time, beginning with the 200th byte, enter: tail -c +200 notes | pg.

1. **What is difference between “cd” and “cd ..” command?**

* To navigate to your home directory, use "cd" or "cd ~" To navigate up one directory level, use "cd .." To navigate to the previous directory (or back), use "cd -" To navigate through multiple levels of directory at once, specify the full directory path that you want to go to

1. **Explain the command “ cp file1 file2”**

* cp” command is used to copy files and directories. It requires at least two arguments. To copy file file1 to a new file file2, issue “cp file1 file2” command. file2 will have the same contents as file1, but it will have new date stamp.

1. **What the use of below command rm**

* The rm command is used to delete files.

**10 .rm -r mv mkdir**

* The mkdir cmd executes the Unix "mkdir" command to create one or more directories. The mv cmd executes the Unix "mv" command to rename a file and/or move it to a new directory. The rm cmd executes the Unix "rm" command to remove one or more files.

**11.Explain the command “ mkdir -p “**

* It will create parent directory first, if it doesn't exist. But if it already exists, then it will not print an error message and will move further to create sub-directories. This command is most helpful in the case when you don't know whether a directory alredy exists or not.

1. **What happened if i use this command “ ls ab\* “ ?**

* The command ls -ab will list all your files and show the non-printing characters in octal (base 8) notation. The command ls -aq will list all your files and show the non-printing characters as '?'s.

**Task: 1**

1. **Use Ctrl+Alt+f1 to Ctrl+Alt+f6**

* Ctrl+Alt+F1 - Ctrl+Alt+F6 should bring you to TTY1 - TTY6 and Ctrl+Alt+F7 should bring you back to TTY7 where the GUI session is running.

1. **Change the password forstudent user from “student” to 55TurnK3y**

* To change the password for the user student to 55TurnK3y on a Windows system, you can use the net user command in the Command Prompt with administrative privileges.

1. **Check only time in terminal**

* You can simply type date in the terminal and hit enter to display the current date and time. In this example, we've used the 'date' command without any options or arguments. The command returns the current system date and time in the default format.

1. **Check only date in terminal**

* To check only the date in a terminal on a Linux system, you can use the date command with a format option to display the date in the desired format.

1. **Check last three line of “passwd” file**

* To look at the last few lines of a file, use the tail command. tail works the same way as head: type tail and the filename to see the last 10 lines of that file, or type tail -number filename to see the last number lines of the file.

1. **Check word count, line count, character count in “passwd” file**

* To check the word count, line count, and character count in the passwd file on a Linux system, you can use the wc (word count) command

1. **Check hidden files in “/” directory**

* Open File Explorer from the taskbar.
* Select View > Options > Change folder and search options.
* Select the View tab and, in Advanced settings, select Show hidden files, folders, and drives and OK.

1. **Use “history “commands**

* The history command in Linux is used to display the list of commands that have been previously entered by the user in the current shell session. It’s a helpful tool for recalling and reusing commands without having to retype them

1. **Use < !command > and < !number > from history**

* To run a command multiple times from your Bash history, use the exclamation mark followed by the command number, followed by a colon, and the number of times you want to execute it. For example, if you want to execute the command number 1 five times, type ! 1:5.

**Task: 2**

1. **Your present working directory is “ /home/student/Desktop “ and with the help of relative path create “boss” directory in “ /tmp/hello/dir1“**

* To create a directory named boss in /tmp/hello/dir1 using a relative path from your current working directory /home/student/Desktop, you would use the mkdir command along with the relative path to the target location.

1. **Find your present working directory**

To know your current directory, you can use the pwd command which stands for Print Working Directory. The name of the current working directory is the last directory in the absolute path. For example, in the above example, dir2 is the current working directory.

1. **Create three directory [ dir1, dir2. Dir3 ]**

* To create three directories named dir1, dir2, and dir3, you can use the mkdir command in the terminal.

1. **Remove this three directory [ dir1, dir2, dir3**

* To remove directories named dir1, dir2, and dir3 on a Windows system, you can use the Command Prompt. Here’s how you can do it:
* Press Win + R to open the Run dialog.
* Type cmd and press Enter to open the Command Prompt.
* Use the cd command to navigate to the parent directory containing dir1, dir2, and dir3.

1. **Create blank file in terminal**

* Certainly! To create a blank file in the terminal on a Windows system, you can use the Command Prompt or PowerShell. Here’s how you can do it using both methods:
* **Command Prompt:**
* Press Win + R, type cmd, and press Enter to open the Command Prompt.
* Navigate to the directory where you want to create the file using the cd command.
* Type the following command and press Enter:

1. **Use “cp” command**

* Use the cp command to create a copy of the contents of the file or directory specified by the SourceFile or SourceDirectory parameters into the file or directory specified by the TargetFile or TargetDirectory parameters.

1. **Use “mv” command**

* Use the mv command to move files and directories from one directory to another or to rename a file or directory. If you move a file or directory to a new directory without specifying a new name, it retains its original name. Attention: The mv command can overwrite many existing files unless you specify the -i flag.

1. **Use “rm” command**

* Use the rm command to remove files you no longer need. The rm command removes the entries for a specified file, group of files, or certain select files from a list within a directory. User confirmation, read permission, and write permission are not required before a file is removed when you use the rm command.

1. **Use “rm –r” command**

* rm -r will recursively delete a directory and all its contents (normally rm will not delete directories, while rmdir will only delete empty directories).

**Task: 3**

1. **View the “gedit” man page**

* To view the gedit man page, you can use the man command in the terminal on a Linux system

1. **Use “pinfo” command**

* pinfo is a command line tool to provide information about the contents of a Plaso storage file. The Plaso storage file contains information about: When and how the tool was run.

1. **Reading documentation in /usr/share/doc**

* From a graphical desktop (here GNOME) the easiest way to read docs from /usr/share/doc is to (double-)click open the zipped files with your standard archive manager (here File Roller) from where you can (double-)click open and read them in your standard editor (here Gedit).

1. **Access customer portal using** [**https://access.redhat.com/help**](https://access.redhat.com/help)

* To access the Red Hat Customer Portal, you can simply go to the main page at https://access.redhat.com and from there, navigate to the help section or any other resources you need. [The portal provides **24x7 support and knowledge**, product support, developer tutorials, software downloads, and more](https://access.redhat.com/)

1. **Create “sosreport”**

* Creating an sosreport is a common procedure for gathering system information and diagnostic data on Red Hat Enterprise Linux (RHEL) systems.

**Task: 4**

1. **Redirect the output of “date” command to “/tmp/SavEd-timestamp**

* To redirect the output of the date command to a file named /tmp/SavEd-timestamp, you can use the following command in a Unix-like operating system’s terminal:
* date > /tmp/SavEd-timestamp

1. **Delete Saved-timestamp file**

* To delete the SavEd-timestamp file in a Unix-like operating system, you can use the rm command.

1. **Send command output to file, and errors to different file.**

* **The syntax is as follows to redirect output (stdout) as follows:**
* command-name > output.txt command-name > stdout.txt.
* command-name 2> errors.txt command-name 2> stderr.txt.
* command1 > out.txt 2> err.txt command2 -f -z -y > out.txt 2> err.txt.
* command1 > everything.txt 2>&1 command1 -arg > everything.txt 2>&1.

1. **Send output and errors to the same new, empty file**

* To send both the output and errors of a command to the same new, empty file in a Unix-like operating system, you can use the > operator to redirect standard output and the 2>&1 to redirect standard error

1. **Run command, save output in a file, discard error messages.**

* To run a command, save its output in a file, and discard any error messages, you can use the following command structure in a Unix-like operating system:

1. **Open and learn “ vimtutor “**

* **yes**

1. **Edit any file with “gedit “**

* Run the gedit application.
* Create a new file.
* Insert text into the file.
* Delete text from the file.
* Goto a certain line in the file.
* Search for a pattern in the file.
* Search and replace for a pattern with another pattern in the file.
* Undo a change.

1. **Redirect a long listing of all content in student’s home directory,including hidden directories and files, into a file named “**

* To redirect a long listing of all content in a student’s home directory, including hidden directories and files, into a file, you can use the ls command with the -la option. The -l option provides a long listing format, and the -a option includes all files, even those that are hidden (files starting with a dot).

1. **editing\_final\_lab.txt “**

* To redirect a long listing of all content in a student’s home directory, including hidden directories and files, into a file named editing\_final\_lab.txt, you would use the following command in a Unix-like operating system:

1. **Remove the time column, but leave the month and day on all line (block selection visual mode)**

* To remove the time column while preserving the month and day on all lines using block selection visual mode in Vim, you can follow these steps:
* Open the file in Vim:
* vim editing\_final\_lab.txt

**Task: 5**

1. **Get backup of /etc**

* To create a backup of the /etc directory on a Unix-like operating system, you can use the tar command to create an archive.

1. **Create new directory “FoLDER”**

* You can quickly do this with the keyboard shortcut Windows key + D . Right-click any blank portion of the desktop. In the menu (like that shown in the picture), click New and then Folder. Once the new folder appears, type a name for it and press Enter .

1. **Extract this new backup in FoLDER directory**

* To extract the backup of the /etc directory that you’ve created into a directory named FoLDER

1. **Check the content of this new backup without extracting**

* Certainly! To check the contents of the etc\_backup.tar.gz backup file without extracting it, you can use the tar command with the -tzf option.

1. **Compress/etc**

* To compress the /etc directory on a Unix-like operating system, you can use the tar command with gzip compression. Here’s the command you would use:
* sudo tar -czvf etc\_backup.tar.gz /etc
* This command will create a compressed archive named etc\_backup.tar.gz of the /etc directory. The options used are:
* c: Create a new archive.
* z: Compress the archive using gzip.
* v: Verbosely list files processed (optional).
* f: Filename of the created archive.

1. **Check the size after compression**

* To view the size of the compressed file, you can use the "ls" command with the "-lh" option, which will display the file sizes in human-readable format.

1. **Graphically manage extract and compression**

* For managing file compression and extraction graphically on Unix-like systems, there are several user-friendly graphical user interface (GUI) tools available.

1. **Create new file with vim . name “f1”**

* To create a new file named f1 using Vim, you can follow these steps:
* Open the terminal.
* Type the following command and press Enter:
* vim f1
* Vim will start and open a new file named f1. If f1 already exists, it will open the existing file.
* To start inserting text into the file, press i, which will switch you to insert mode.
* Type your text.
* To save the file and exit, press Esc to return to normal mode, then type :wq and press Enter.

1. **Copy this “f1” on remote desktops’s “/” directory**

* To copy a file named f1 to the root directory / on a remote desktop, you would typically use a secure copy protocol like SCP. However, copying directly to the root directory requires administrative privileges and is generally not recommended due to security concerns. If you have the necessary permissions and want to proceed, here’s how you can do it using the command line:
* Open your terminal.
* Use the SCP command:
* scp /path/to/local/f1 username@remotehost:/

**`**

1. **Create new file name 123 on “/”directory of desktop machine**

* Creating a new file named 123 in the root directory / of a desktop machine can be done using the command line. However, it’s important to note that creating files directly in the root directory is typically restricted to the root user due to security and system integrity reasons. If you have the necessary permissions and still wish to proceed

**11. Startserver machine**

* Starting a server machine can involve different steps depending on the context and the type of server. If you’re referring to physically powering on a server, this is usually done by pressing the power button on the machine. However, if the server is located remotely, you might need to use remote management tools or technologies like Wake-on-LAN (WoL).

1. **Copy above /123 file on current system location**

* To copy a file named 123 from the root directory / to the current working directory on a Unix-like system, you can use the cp command.

1. **Use sftp command**

* The command sftp username@ip\_address is used to establish a connection to a remote server using SSH. Change “username” to the username you use on the remote server, and the IP address or hostname of the server. To make the connection, you will need to enter your password.

**Task: 6**

1. **Assign Read, write, executable permission on directory “dir1” for user “u1”**

* To assign read, write, and executable permissions on a directory named dir1 for a user named u1, you can use the chmod command if you have the necessary permissions to modify the directory’s access rights.

1. **Add user “u3” in group “red”**

* To add a user named u3 to a group named red on a Unix-like system, you can use the usermod command.

1. **Assign Read, write, executable permission on directory “dir1” for group“red”**

* To assign read, write, and executable permissions on a directory named dir1 for a group named red, you can use the chmod command along with the chgrp command in Unix-like operating systems.

1. **Create a new directory name “dir2”**

* To create a new directory named dir2, you can use the mkdir command in a Unix-like operating system.

1. **Copy the permission of “dir1” to the new directory “dir2”**

* To copy the permissions from one directory to another in a Unix-like operating system, you can use the chmod command with the --reference option. This option allows you to use the permissions of one file or directory (the reference) to set the permissions of another file or directory.

1. **Remove only user’s ACL on “dir”1**

* To remove only a specific user’s Access Control List (ACL) entry from a directory named dir1 in a Unix-like operating system, you can use the setfacl command with the -x option followed by the user entry

1. **Remove all ACL on “dir2”**

* To remove all Access Control Lists (ACLs) on a directory named dir2, you can use the setfacl command with the -b option.

**Task : 7**

1. **Create any file with the help of VIM**

* Log into your server via SSH.
* Navigate to the directory location you wish to create the file in or edit an existing file.
* Type in vim followed by the name of the file. ...
* Press the letter i on your keyboard to enter INSERT mode in vim. ...
* Start typing into the file.

1. **Replacing text in VIM**

* You can use visual selection in Vim for search and replace by first entering visual mode, selecting the text to modify, and then executing the substitution command with :s followed by the replacement string. Q.

1. **Copy and Paste any contents in VIM**

* Move your cursor to the end of where you want to copy or cut. Press y to copy. Press d to cut. Move the cursor to where you want to paste your selection**.**

1. **Search any content in VIM**

* Press the "/" key to enter search mode. Type the character string you want to search for and press "Enter". For example, to search for the word "example," type "/example". VIM will highlight the first occurrence of the character string.