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  + [23.Explain a path in UNIX and different types of pathnames.](https://www.interviewbit.com/unix-interview-questions/#explain-a-path-in-unix-and-its-different-pathnames)
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  + [39.What are different classes of jobs?](https://www.interviewbit.com/unix-interview-questions/#different-types-of-job-classes-in-unix)
  + [40.What are the various IDs in UNIX processes?](https://www.interviewbit.com/unix-interview-questions/#various-ids-in-unix-processes)

**Q #3) What are the main features of UNIX?**

**Answer:**Main features of UNIX are as follows:

* Machine independent
* Portability
* Multi-user operations
* Unix Shells
* Hierarchical file system
* Pipes and filters
* Background processors
* Utilities
* Development tools.

**Q #4) What is called Shell?**

**Answer:** The interface between the user and the system is called the shell. Shell accepts commands and set them to execute for user operations.

**Q #5) What are the responsibilities of a shell?**

**Answer:**Responsibilities of a shell can be enlisted as:

* Program execution
* Input/output redirection
* Filename and variable substitution
* Pipeline hookup
* Environment control
* Integrated programming language

**Q #6) What is the general format of UNIX command syntax?**

**Answer:** In general consideration, **UNIX shell** commands follow the below pattern:

***Command (-argument) (-argument) (-argument) (filename)***

**Q #7) Describe the usage and functionality of the command “rm –r \*” in UNIX.**

**Answer:** The command “rm –r \*” is a single-line command to erase all files in a directory with its subdirectories.

* **“rm” –** command for deleting files.
* **“-r”   –** command to delete directories and subdirectories with files within.
* **“\*”     –** indicates all entries.

**Q #9) Specify the difference between the absolute path and the related path.**

**Answer:** Absolute path refers to the exact path as defined from the root directory. Related path refers to the path related to the current location.

**Q #10) What is the UNIX command to list files/folders in alphabetical order?**

**Answer:** The ‘ls –l’ command is used to list down files and folders in alphabetical order. When you use ‘ls –lt’ command, it lists down files /folders sorted with modified time.

**Q #13) Describe fork() system call?**

**Answer:** The command used to create a new process from an existing process is called fork(). The main process is called the parent process and the new process id is called the child process. The child process id is returned to the parent process and the child gets 0. The returned values are used to check the process and the code executed.

**Q #15) What is meant by Super User?**

**Answer:** The user having access to all files and commands within the system is called a superuser. Generally, the superuser login is to root and the login is secured with the root password.

**Q #17) What are the different file types available with UNIX?**

**Answer:**Different file types are:

* Regular files
* Directory files
* Character special files
* Block special files
* FIFO
* Symbolic links
* Socket

**Q #19) What are the duties of the following commands: chmod, chown, chgrp?**

**Answer:**

* **chmod –** Change the permission set of the file.
* **chown –** Change ownership of the file.
* **chgrp –**Change the group of the file.

**Q #23) Explain the method of changing file access permission.**

**Answer:** **There are three sections to be considered while creating/changing file access permission**.

* File owner’s user ID
* File owner’s group ID
* File access mode to define

**These three parts are arranged as follows:**

(User permission) – (Group permission) – (other permission)

**Three types of permission are**

* **r –** Reading permission
* **w –** Writing permission
* **x –** Execution permission

**Q #25) What are the various IDs in UNIX processes?**

**Answer:** Process ID is a unique integer that UNIX uses to identify each process. The process executes to initiate other processes is called the parent process and its ID is defined as PPID (Parent Process ID).

**getppid() –** This is a command to retrieve PPID

Every process is associated with a specific user and is called the owner of the process. The owner has all the privileges over the process. The owner is also the user who executes the process.

Identification for a user is the User ID. The process is also associated with Effective User ID which determines the access privileges for accessing resources like files.

* **getpid() –** Retrieve process id
* **getuid() –** Retrieve  user-id
* **geteuid() –** Retrieve effective user-id

**Q #26) How to Kill a process in UNIX?**

**Answer:** The kill command accepts process ID (PID) as a parameter. This is applicable only to the processes owned by the command executor.

**Syntax –***kill PID*

**Q #27) Explain the advantage of executing processes in the background.**

**Answer:** The general advantage of executing processes in the background is to get the possibility to execute some other process without waiting for the previous process to get completed. The symbol “&” at the end of the process tells the shell to execute a given command in the background.

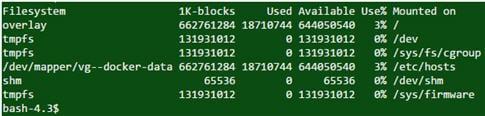
**Q #31) What is the command to find the remaining disk space in the UNIX server?**

**Answer:** The command “df -kl” is used to get a detailed description of disk space usage.

**Command:**

df -kl command

**Output:**



**Q #32) What is the UNIX command to make a new directory?**

**Answer:** “mkdir directory\_name” command is used to create a new directory.

**Command:**

mkdir directory_name

**Q #33) What is the UNIX command to confirm whether a remote host is alive or not?**

**Answer:** Either “ping” or “telnet” command can be used to confirm whether a remote host is alive or not.

**Q #34) What is the method to see command line history?**

**Answer:** The “history” command displays all the commands used previously within the session.

**Command:**

history command

**Q #40) What is the purpose of the “echo” command?**

**Answer:** “echo” command is similar to the “ls” command and it displays all the files in the current directory.

**Q #46) What is the process to count the number of characters and lines in a file?**

**Answer:** “wc – c filename” command is used to retrieve the number of characters in a file and the “wc –l filename” command is used to retrieve the number of lines in a file.

wc – c filename

The above command returns the number of characters in the README.txt file.

number of characters

The above command returns the number of characters in the README.txt file.

**23. Explain a path in UNIX and different types of pathnames.**

A Path is the unique location of a file/directory and a way to access it within the hierarchy of directories. There are basically two types of pathnames that are used in Unix.

* **Absolute Pathname:** The complete path specifying the location of a file/ directory from the very start of the actual file system(root directory).  
  Ex- /usr/local/Cellar/mysql/bin
* **Relative Pathname:** The path from the current working directory where the user is i.e. the present working directory (pwd).  
  Ex- If current directory is /usr/local/Cellar the the relative path for bin is ./mysql/bin

**25. Enlist some file manipulation commands in UNIX.**

These are few file manipulation commands:

* **cat filename** - Displays contents of the file.
* **cp source destination**- Copy the source file into the destination.
* **mv old\_name new\_name** - Move/rename.
* **rm filename** - Remove/delete filename.
* **touch filename**- creating/changing modification time.
* **In [-s] old\_name new\_name** - Creating a soft link on an old name.
* **Is –F** - Displays information about the file type.
* **ls -ltr** - This will display in long format sorted by modified time with oldest first

**32. Name the various commands that are used for the user information in UNIX.**

The various commands that are used for displaying the user information in Unix are:

* **id:** This displays the active user id with login and group.
* **last:** This displays the last login of the user in the system.
* **who:** This determines who is logged onto the system.
* **groupadd admin:** This is used to add group ‘admin’.
* **usermod –a:**This is used to add an existing user to the group.

**40. What are the various IDs in UNIX processes?**

There are 3 ids associated with the Unix process:

* **PID** - Process Id, which is unique in the range of 0 to 3000.
* **PPID** - Parent process id
* **PGID** - Process group id, which is used to group processes together.

getppid() retrieves the Parent Process ID, getpid() retrieves the Process ID and getpgrp() retrieves the process group ID. The process also has a real user ID (the UID), an effective user ID (the EUID), a real user group ID (the GID), and an effective user group ID (the EGID).