

CS01-Bash Scripting

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Introduction to Bash Commands

Bash commands allow users to navigate through a system and effectively manage files, directories, and different data types. (**Bash = Bourne Again Shell**)

Some important bash commands are as follows:

Command	Purpose
<code>&</code>	Start a new process in the background
<code>cd</code>	Change Directory
<code>chmod</code>	Change the access permissions
<code>clear</code>	It clears the terminal screen
<code>cp</code>	Copy one or more files to another location
<code>cmp</code>	Compare two files
<code>dir</code>	Briefly list directory contents
<code>echo</code>	Display the message on the screen
<code>expr</code>	Evaluate expression
<code>exec</code>	Execute a command
<code>fgrep</code>	Search files for lines that match a fixed string
<code>grep</code>	Search files for lines that match a given pattern
<code>hostname</code>	Displays the system name
<code>head</code>	Display the first part of the files
<code>tail</code>	Display the last part of the files
<code>kill</code>	Kill a process by specifying its PID (Process Identifier)

<code>ls</code>	List information about files
<code>mkdir</code>	Make directory
<code>mkfile</code>	Make files
<code>pwd</code>	Print working directory
<code>rm</code>	Remove Files
<code>rmdir</code>	Remove Directory
<code>touch</code>	Creates empty files
<code>cat</code>	Concatenates the files and print

Writing Your First Script

Script Structure

```
#!/bin/bash
```

The bash script file starts with a header for `#!/bin/bash`, this is called shebang.

Shebang is a special line at the beginning of a script that tells the OS which interpreter to use when executing the script. It is also called the hashbang or "sharp exclamation"

Comments

```
# This is the single-line comment

<<COMMENTS
This is the first MULTI-LINE comment
This is the second MULTI-LINE comment
This is the third MULTI-LINE comment
COMMENTS
```

Running Scripts

Suppose we have made a file named `first_script.sh` , at first it will be the non-executable script. We have to change it to be executable then we can run this script at a certain level. So, when you make a script file in any directory do check it's permissions via `ls -l` . If the permission is only read and write make it executable too. By `chmod +x first_script.sh` we can change the file permission to the executable also.

In short,

```
chmod +x first_script.sh # change the file permission to executable
./first_script.sh # run the script
```