



## Bash Programming Training Certification Course Outline

### Module 1: Linux and Terminal Basics

- First, open the terminal and understand the command line interface clearly.
- Next, learn basic commands like ls, cd, pwd, and mkdir.
- Then, navigate folders and manage files daily with practice.
- Finally, build confidence by repeating simple commands regularly.

### Module 2: Files and Directories

- First, create files and folders using touch and mkdir commands.
- Next, copy and move items using cp and mv commands.
- Then, delete unwanted files using rm carefully.
- Finally, organize directories to keep your workspace clean.

### Module 3: Viewing File Content

- First, read files using cat and less commands.
- Next, search content quickly using grep command.
- Then, count lines and words using wc tool.
- Finally, combine commands to analyze text efficiently.

### Module 4: Permissions and Ownership

- First, check permissions using ls -l command.
- Next, change permissions using chmod easily.
- Then, modify ownership using chown command.
- Finally, protect important files with secure settings.

### Module 5: Bash Script Basics

- First, create a script file using .sh extension.
- Next, write commands inside the script sequentially.
- Then, make the script executable using chmod +x.
- Finally, run the script directly from terminal.

## **Module 6: Variables and Input**

- First, define variables to store values in scripts.
- Next, use echo to display variable outputs.
- Then, take user input using read command.
- Finally, process inputs to control script behavior.

## **Module 7: Conditions and Decisions**

- First, use if statements to check conditions.
- Next, compare values using operators carefully.
- Then, add else blocks for alternative actions.
- Finally, control program flow logically every time.

## **Module 8: Loops and Repetition**

- First, use for loops to repeat tasks easily.
- Next, apply while loops for continuous checks.
- Then, automate repetitive jobs with loops.
- Finally, save time by reducing manual work.

## **Module 9: Functions in Bash**

- First, define functions to group related commands.
- Next, call functions whenever needed inside scripts.
- Then, pass arguments to functions clearly.
- Finally, reuse code to simplify large scripts.

## **Module 10: Working with Processes**

- First, view running processes using ps command.
- Next, manage background jobs using & symbol.
- Then, stop tasks using kill command safely.
- Finally, monitor system performance regularly.

## **Module 11: Automation and Scheduling**

- First, automate daily tasks using shell scripts.
- Next, schedule jobs using cron and crontab tool.
- Then, run backups and reports automatically.
- Finally, maintain systems with minimal manual effort.

## **Module 12: Certification and Final Assessment**

- First, review all commands and scripting concepts thoroughly.
- Next, complete a real automation project independently.
- Then, submit scripts for evaluation and feedback.
- Finally, receive your Bash Programming Certification successfully.

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