

Shell Scripting

Normally, the shells are interactive, they take input from users in the form of commands and execute them. Sometimes we want to execute a lot of commands, hence all the commands would have to be typed every time in the terminal.

As a shell can also take commands as input from file, we can write these commands in a file and can execute them in shell to avoid this repetitive work. These files are called Shell Scripts or Shell Programs. Each shell script is saved with `.sh` file extension e.g., `myscript.sh`. A shell script also has syntax just like any other programming language.

A shell script comprises the following elements

- Shell Keywords – if, else, break etc.
- Shell commands – cd, ls, echo, pwd, touch etc.
- Functions
- Control flow – if..then..else, case and shell loops etc.

Why do we need Shell scripts

There are many reasons to write shell scripts such as to avoid repetitive work and automation. System admins use shell scripting for routine backups, System monitoring, Adding new functionality to the shell etc.

Some Advantages of shell scripts

- The command and syntax are exactly the same as those directly entered in the command line, so programmers do not need to switch to entirely different syntax
- Writing shell scripts are much quicker
- Quick start
- Interactive debugging etc.

Some Disadvantages of shell scripts

- Prone to costly errors, a single mistake can change the command which might be harmful.
- Slow execution speed

- Design flaws within the language syntax or implementation
- Not well suited for large and complex task
- Provide minimal data structure unlike other scripting languages. etc.