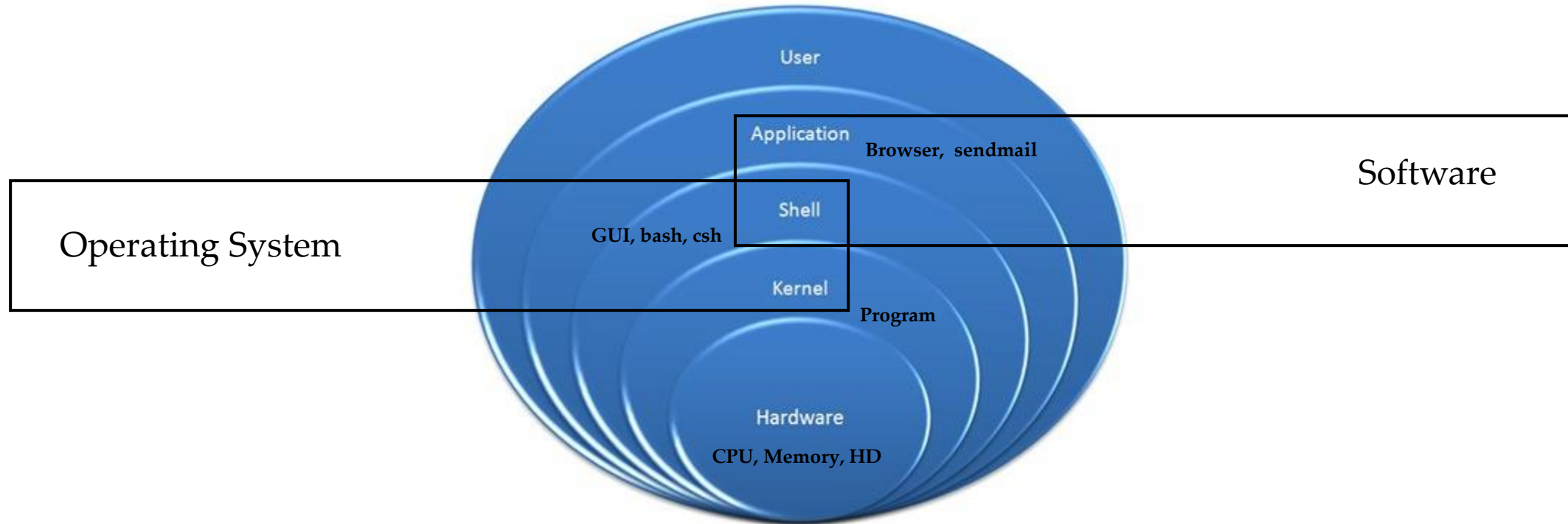


**WELCOME TO:
MODULE 6**

SHELL SCRIPTING

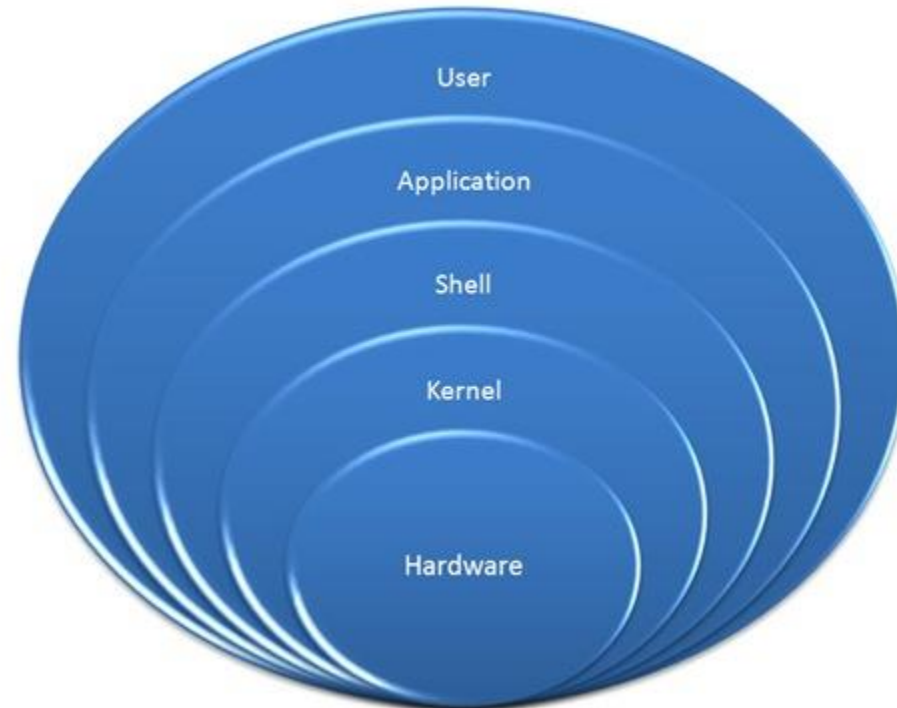
Linux Kernel

- What is a Kernel?
 - Interface between hardware and Software



Introduction to Shell

- What is a Shell?
 - Its like a container
 - Interface between users and Kernel/OS
 - CLI is a Shell
- Find your Shell
 - echo \$0
 - Available Shells “cat /etc/shells”
 - Your Shell? /etc/passwd
- Windows GUI is a shell
- Linux KDE GUI is a shell
- Linux sh, bash etc. is a shell



Types of Shell

- sh
- bash
- ksh
- csh

Starting a Shell

- Type shell name e.g. csh
- Type exit to exit out of shell

Shell Scripting

- What is a Shell Script?

A shell script is an executable file containing multiple shell commands that are executed sequentially. The file can contain:

- Shell (**#!/bin/bash**)
 - Comments (**# comments**)
 - Commands (**echo, cp, grep** etc.)
 - Statements (**if, while, for** etc.)
-
- Shell script should have executable permissions (e.g. **-rwx r-x r-x**)
 - Shell script has to be called from absolute path (e.g **/home/userdir/script.bash**)
 - If called from current location then **./script.bash**

Shell Script – Basic Scripts

- Output to screen using “echo”
- Creating tasks
 - Telling your id, current location, your files/directories, system info
 - Creating files or directories
 - Output to a file “>”
- Filters/Text processors through scripts (`cut`, `awk`, `grep`, `sort`, `uniq`, `wc`)

Input and Output of Script

- Create script to take input from the user

read

echo

if-then Scripts

- If then statement

If this happens	= do this
Otherwise	= do that

For Loop Scripts

- For loops

Keep running until specified number of variable

e.g: variable = 10 then run the script 10 times

OR

variable = green, blue, red (then run the script 3 times for each color.

do-while Scripts

- do while

The while statement continually executes a block of statements while a particular condition is true or met

e.g: Run a script until 2pm

```
while [ condition ]  
do  
    command1  
    command2  
    commandN  
done
```

Case Statement Scripts

- Case

If option a is selected = do this

If option b is selected = do this

If option c is selected = do this.

Check Other Servers Connectivity

- A script to check the status of remote hosts

Aliases

- Aliases is a very popular command that is used to cut down on lengthy and repetitive commands

```
alias ls="ls -al"
```

```
alias pl="pwd; ls"
```

```
alias tell="whoami; hostname; pwd"
```

```
alias dir="ls -l | grep ^d"
```

```
alias lmar="ls -l | grep Mar"
```

```
alias wpa= "chmod a+w"
```

```
alias d="df -h | awk '{print \$6}' | cut -c1-4"
```

Creating User or Global Aliases

- User = Applies only to a specific user profile
- Global = Applies to everyone who has account on the system

- User = `/home/user/.bashrc`
- Global = `/etc/bashrc`

```
alias hh="hostname"
```

Shell History

- Command "history"