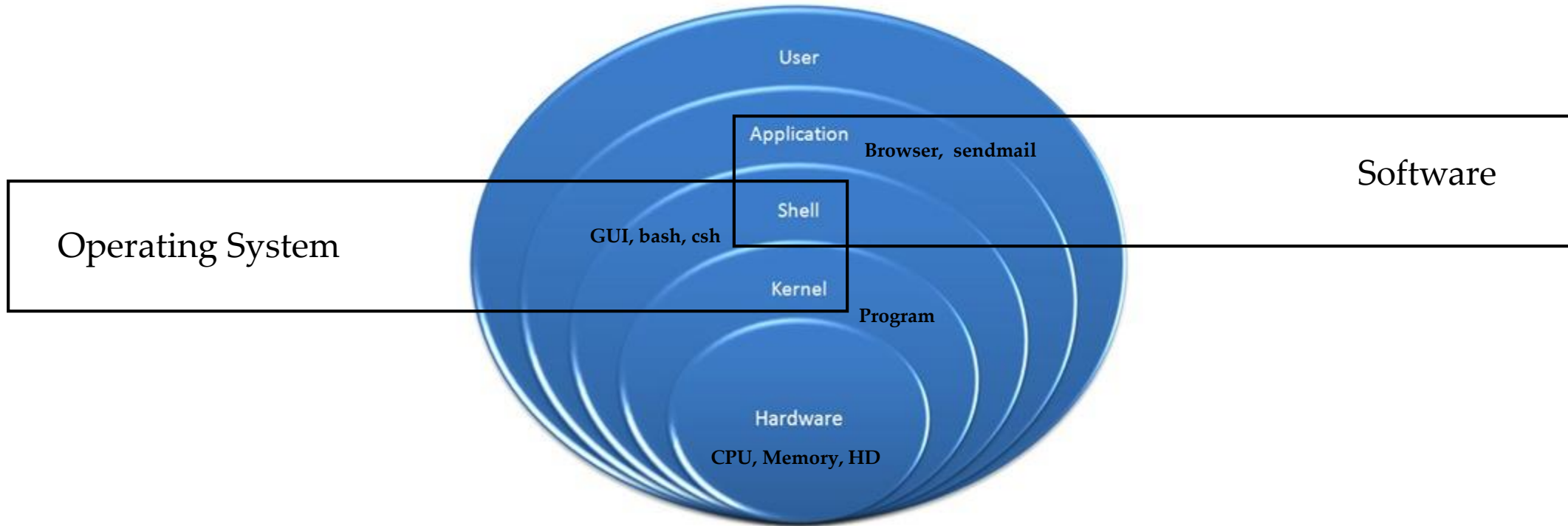


# **WELCOME TO: MODULE 6**

## **SHELL SCRIPTING**

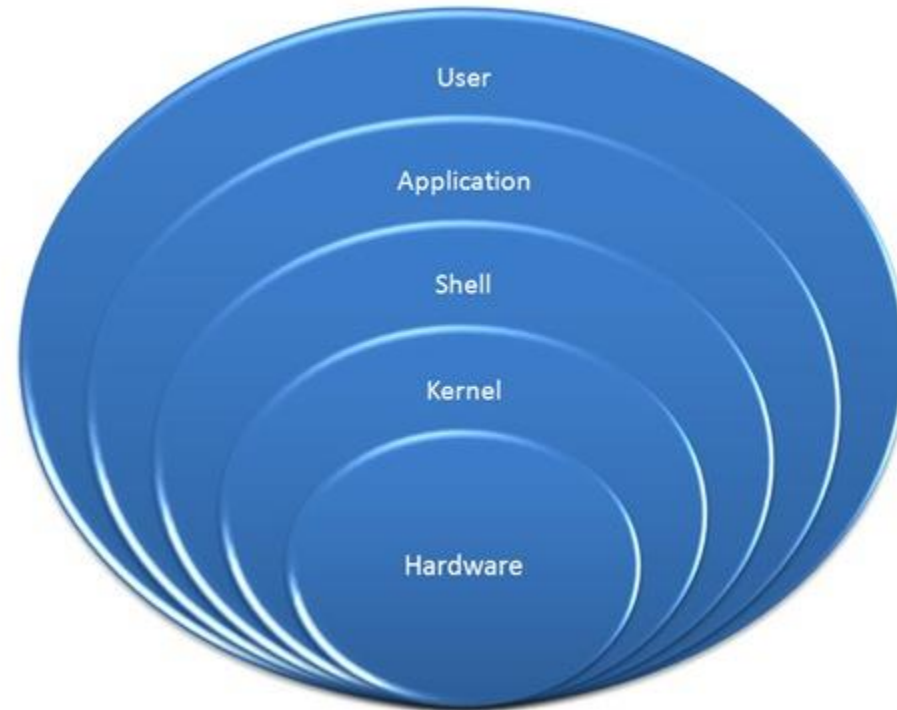
# Linux Kernel

- 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**)

# 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.

# 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"
```

# Shell History

- Command `"history"`