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SHELL SCRIPTING

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Agenda

1. What is Shell
2. Shell Cripting
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5. Operators
6. Conditional Statements
3. Advantages and Disadvantages
4. Conclusion

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What is Shell ?

- A shell provide a environment to the user to execute the command and interact with kernal.
  For example: Linux Shell

- **Kernal:** The full form of KERNAL is Keyboard Entry Read, Network, And Link.
  It is a program and the core of the OS which handles all the communicating process and memory allocation of any task. Basically Kernal are two types of kernal:
  - Monolithic and Micro Kernal

Basically a shell provides an interface to the user so that they can execute the commands in it. You can say shell is a terminal and it helps us interact with the kernal. Linux work on Monolithic kernal.

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Shell Scripting

- Shell script consist of set of commands to perform a task.
- All the commands execute sequentially.
- Some task file manipulation,program execution,user interation aitomation of task etc can be done.

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Shell Scripting Basics

Some examples of tasks that can be automated with shell scripting include:

- Backing up data
- Updating software
- Managing users and groups
- Cleaning up temporary files
- Monitoring system resources
- Automating repetitive tasks

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Files and Permissions

There are mainly three types of permissions to the user to access it. We can access all these things with the help of shell terminal.

Read

user can read the files only they don’t do modification in it.

Write

user can write and edit the files and can do modifications in it.

Execution

user will give permisson to the file to execute it.

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Basic Shell Script

An example of an creating any script file.
I am doing all these things with the help of Git Bash.

To create any script using:

- vim file.sh

Inside the file you can write:

- #!/bin/sh
- echo“Hello World!“

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Running a Script

Basic things that we should know how we can run the script.

Make sure script has execute permission rwx.To check that use :

- ls -l file.sh

You can run the script using:

- ./script.sh
- /path/script.sh
- sh script.sh

Press ctrl+C to terminate the script.

Press Ctrl+Z to Stop the script.

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Comments

- # This is a comment
- Multi-line comment:

  << hello

  ---your text---

  hello

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Variables

- VAR_NAME=value
- VAR_NAME=$(hostname)
- echo $VAR_NAME

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Constant Variables

- **Once you defined a variable and don’t wanna change it until end of the script.**
- readonly var_name=“Hi”

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Taking Input From User

- read <var_name>
- read -p “Your Name” NAME

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Operators

- Equal : -eq/==
- Greater than or equal to: -ge
- Less than or equal to: -le
- Not equal: -ne/!=
- Greator Than: -gt
- Less than: -lt

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If-else Statements

```
age = 30
if [$age -eq  20]
then
        echo“You will go”
else
        echo“You will not go”
 fi
```

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Elif Statements

```
read -p "Enter your Country" Country
if [$Country = "India" ]
then
        echo"You are Indian"
elif[$Country="United Kingdom"]
echo"You are Britisher"

else
echo"You are different"
 fi
```

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Operators

```
read -p "Enter n1: " n1
read -p "Enter n2: " n2

echo "Addition: " $((n1+n2))

echo "Substraction: " $((n1-n2))

echo "Multiplcation: " $((n1*n2)

echo "Divison: " $((n1/n2))

echo "Modulus: " $((n1%n2))

echo "Increment: " $((n1++))

echo "Decrement: " $((--n2))
```