

◆ Basics of Shell Scripting in Linux

A **shell script** is a text file containing a series of commands that the shell (Bash, Zsh, etc.) executes.

1 Creating and Running a Shell Script

Step 1: Create a Script File

Use any text editor (`nano`, `vim`, or `touch`):

```
bash
```

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```
nano myscript.sh
```

(or)

```
bash
```

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```
touch myscript.sh
```

Step 2: Write a Basic Script

```
bash
```

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```
#!/bin/bash  
echo "Hello, World! This is my first shell script."
```

- `#!/bin/bash` → **Shebang**, tells the system to use the Bash shell.
- `echo` → Prints text to the terminal.

Step 3: Make the Script Executable

```
bash
```

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```
chmod +x myscript.sh
```



Step 4: Run the Script

bash

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```
./myscript.sh
```

or

bash

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```
bash myscript.sh
```

2 Variables in Shell Script

Define variables **without spaces** around `=`:

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```
#!/bin/bash
name="John"
age=25
echo "My name is $name and I am $age years old."
```

3 Taking User Input

bash

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```
#!/bin/bash
echo "Enter your name:"
read username
echo "Hello, $username!"
```



4 Conditional Statements (if - else)

bash

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```
#!/bin/bash
echo "Enter a number:"
read num
if [ $num -gt 10 ]; then
    echo "Number is greater than 10"
else
    echo "Number is 10 or less"
fi
```

5 Loops

For Loop

bash

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```
#!/bin/bash
for i in {1..5}; do
    echo "Iteration $i"
done
```

While Loop

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```
#!/bin/bash
count=1
while [ $count -le 5 ]; do
    echo "Count: $count"
    ((count++))
done
```



6 Functions in Shell Scripting

bash

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```
#!/bin/bash
greet() {
    echo "Hello, $1!"
}
greet "Alice"
greet "Bob"
```

7 File Handling

1. Create and Write to a File

bash

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```
echo "This is a test file" > file.txt
```

2. Append to a File

bash

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```
echo "Adding another line" >> file.txt
```

3. Read a File Line by Line

bash

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```
#!/bin/bash
while read line; do
    echo "$line"
done < file.txt
```



8 Shell Script with Arguments

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```
#!/bin/bash
echo "Script Name: $0"
echo "First Argument: $1"
echo "Second Argument: $2"
```

Run it with:

bash

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```
./myscript.sh arg1 arg2
```