Session - 14

Shell Scripting – Part 3: File Handling, User Input, and Script Projects

This part dives deeper into **practical scripting**, including file I/O, menus, and simple automation tasks.

- **1. Reading from a File**

```
#!/bin/bash

filename="myfile.txt"


while read line; do
  echo "Line: $line"
done < "$filename"
```

- This reads each line from a file and prints it.

- **2. Writing to a File**

```
#!/bin/bash

echo "Enter a message:"

read msg

echo "$msg" > output.txt   # Overwrites file
```

Append to a File

bash

CopyEdit

echo "$msg" >> output.txt # Appends to file

- **3. Check File Existence and Permissions**

#!/bin/bash

file="log.txt"

if [-e "$file"]; then

  echo "$file exists"

else

  echo "$file not found"

fi

Combine with -r, -w, -x for permission checks.

- **4. Interactive Menu Using select**

#!/bin/bash

echo "Choose an option:"

select option in "Date" "List Files" "Whoami" "Exit"

do

  case $option in

    "Date") date ;;

    "List Files") ls ;;

```
    "Whoami") whoami ;;
    "Exit") break ;;
    *) echo "Invalid option" ;;
  esac
done
```

Useful for building **command line interfaces** in shell.

🔹 5. Simple Shell Project: Backup Script

```
#!/bin/bash
echo "Starting backup..."
src="/home/user/documents"
dest="/home/user/backup"

timestamp=$(date +"%Y-%m-%d-%H-%M-%S")
backupfile="$dest/backup-$timestamp.tar.gz"

tar -czf "$backupfile" "$src"

echo "Backup saved to $backupfile"
```

🔒 Make sure directories exist or add mkdir -p before running.

- **6. Passing Arguments to Script**

```
#!/bin/bash

echo "Script name: $0"
echo "First arg: $1"
echo "Second arg: $2"
```

Run as:

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

- **7. Redirecting Output and Errors**

Operator	Description
>	Redirect stdout (overwrite)
>>	Redirect stdout (append)
2>	Redirect stderr
&>	Redirect both stdout and stderr

bash

```
ls /invalid/path > out.txt 2> err.txt
```

✅ Summary of Part 3

Task	Tool or Command
File reading	while read line
File writing	echo >, echo >>
Menus	select, case
Backup project	tar, date
Redirection	>, >>, 2>, &>