

Assignment 4 – File & Backup Automation

Objective

Automate file management by backing up `.txt` files with timestamps.

Tasks Overview

- Write a script `backup.sh` that:
 - Finds all `.txt` files in the current folder
 - Copies them into `backup/` with a timestamp in the filename
 - Test the script by creating some `.txt` files
 - Document how the script works and show an example run
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Script: `backup.sh`

Script Content

```
#!/bin/bash
# backup.sh

mkdir -p backup

timestamp=$(date +"%Y%m%d_%H%M%S")

for file in *.txt; do
    if [ -f "$file" ]; then
        cp "$file" "backup/${file%.txt}_${timestamp}.txt"
    fi
done

echo "Backup complete! All .txt files copied to backup/ with timestamp."
```

How the Script Works

1. **Creates a backup folder:**
Uses `mkdir -p backup` to ensure the `backup/` directory exists.
2. **Gets the current timestamp:**
Stores the date and time in `YYYYMMDD_HHMMSS` format for unique filenames.
3. **Loops through all `.txt` files:**
For each `.txt` file in the current directory, checks if it's a regular file.
4. **Copies each file:**
Copies the file to `backup/` and appends the timestamp to the filename.

5. Prints a completion message:

Lets the user know the backup is finished.

▶ Example Run

```
$ touch file1.txt meet.txt
$ bash backup.sh
Backup complete! All .txt files copied to backup/ with timestamp.
$ ls backup/
file1_20250910_180000.txt  meet_20250910_180000.txt
```

```
ujjwaltyagi@ujjwaltyagi:~$ mkdir project6s
ujjwaltyagi@ujjwaltyagi:~$ cd project6s
ujjwaltyagi@ujjwaltyagi:~/project6s$ touch backup.sh
ujjwaltyagi@ujjwaltyagi:~/project6s$ nano backup.sh
ujjwaltyagi@ujjwaltyagi:~/project6s$ chmod 777 backup.sh
ujjwaltyagi@ujjwaltyagi:~/project6s$ echo "hey everyone" > file1.txt
ujjwaltyagi@ujjwaltyagi:~/project6s$ echo "nice to meet you" > meet.txt
ujjwaltyagi@ujjwaltyagi:~/project6s$ ./backup.sh
Backed up: file1.txt-> backup/file1.txt.txt_20250910_180813.txt
Backed up: meet.txt-> backup/meet.txt.txt_20250910_180813.txt
ujjwaltyagi@ujjwaltyagi:~/project6s$ ls backup
file1.txt.txt_20250910_180813.txt  meet.txt.txt_20250910_180813.txt
```

? Extra Questions

1 What is the difference between **cp**, **mv**, and **rsync**?

- **cp**: Copies files or directories.
- **mv**: Moves or renames files or directories.
- **rsync**: Efficiently syncs files/directories, supports incremental copy and remote transfers.

2 How can you schedule scripts to run automatically?

Use **cron** jobs (Linux) to schedule scripts.

Example:

```
crontab -e
```

Then add a line like:

```
0 2 * * * /path/to/backup.sh
```

This runs the script every day at 2:00 AM.

✦ **End of Assignment 4 – File & Backup Automation**