



Placement Empowerment Program

Cloud Computing and DevOps Centre

Create a Simple Backup Script:

Create a script that backs up your entire Git repository to a local folder daily.

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Introduction:

A backup script helps automate the process of saving copies of your Git repository, ensuring that your work is protected against accidental loss or corruption.

Why Is This Task Important?

- **Prevents Data Loss** – Protects your work from accidental deletions or system failures.
- **Automates Backups** – Eliminates the need for manual backups, reducing human errors.
- **Ensures Version Control** – Keeps a local copy of your repository for quick restoration.

Steps Followed

Step 1: Create a Git Repository to Backup

- Set up a folder for your project and initialize it as a Git repository.
- Add some files and commit them to track changes.

Step 2: Create a Backup Script

- Write a script that copies the Git repository to a backup folder.
- Save the script as a batch file (.bat).

Step 3: Run the Script Manually

- Execute the script to test whether the backup is created successfully.
- Check the backup folder for the saved repository copy.

Step 4: Automate the Backup Using Task Scheduler

- Open Task Scheduler and create a new scheduled task.
- Set the script to run daily at a specific time.
- Save and activate the task to automate the backup process.

Step 5: Verify the Backup

- Check the backup folder to confirm the repository is saved with the correct timestamp.
- Ensure the script runs automatically at the scheduled time.

Where Can This Be Applied?

- **Software Development** – Maintain historical backups of code repositories.
- **System Administration** – Automate backups of critical scripts and configuration files.
- **Cloud Computing** – Sync backups with cloud storage for additional security.
- **Data Recovery** – Restore older versions of projects when needed.

Step-by-Step Overview

Step1: Create a New Batch Script File

Instruction:

- Open **Notepad** (or any text editor).
- Copy and paste the following code into the editor:



```
@echo off
set LOG_FILE=C:\Users\Smile\OneDrive\Desktop\backup-log.txt
echo Backup started at %date% %time% > "%LOG_FILE%"

:: Set Paths
set REPO_PATH=C:\Users\Smile\OneDrive\Desktop\MyTestRepo
set BACKUP_PATH=C:\Users\Smile\OneDrive\Desktop\backup

if not exist "%BACKUP_PATH%" mkdir "%BACKUP_PATH%"

for /f "tokens=2 delims==" %%i in ('wmic os get localdatetime /value') do set datetime=%%i
set DATE=%datetime:~0,4%-%datetime:~4,2%-%datetime:~6,2%

set BACKUP_FOLDER=%BACKUP_PATH%\backup_%DATE%
if not exist "%BACKUP_FOLDER%" mkdir "%BACKUP_FOLDER%"

cd /d "%REPO_PATH%" || exit /b 1

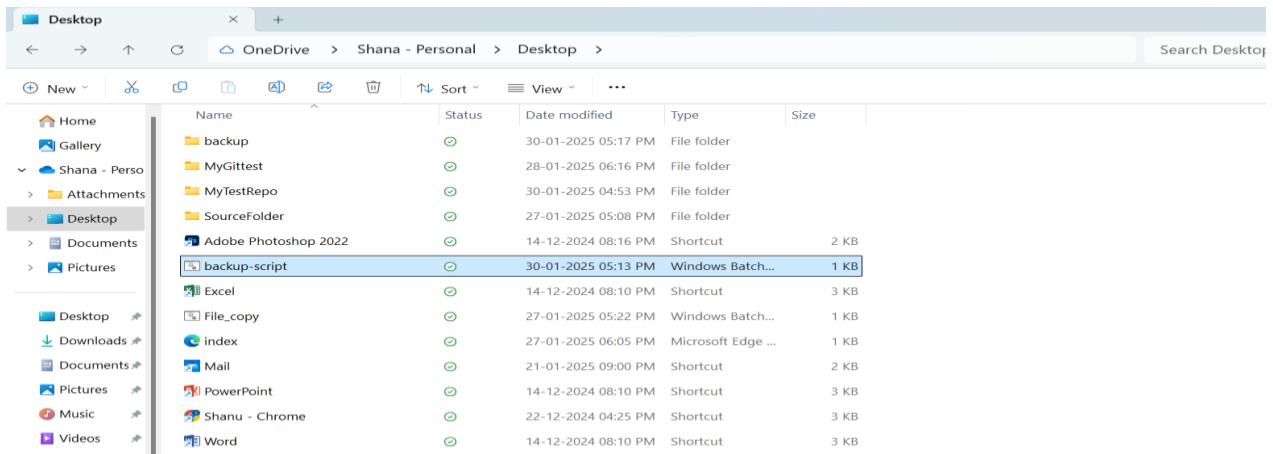
:: Backup repository using tar
tar -czf "%BACKUP_FOLDER%\repo-backup-%DATE%.tar.gz" .git >> "%LOG_FILE%" 2>&1
echo Backup successful: "%BACKUP_FOLDER%\repo-backup-%DATE%.tar.gz" >> "%LOG_FILE%"
```

This code defines the paths for your Git repository and backup folder, creates a backup folder with the current date, and then backs up your Git repository to a **.tar.gz** file.

Step 2 : Save the Script File

Instruction:

- In **Notepad**, go to **File → Save As**.
- Name the file as **backup-script.bat** and select **All Files** from the **Save as type** dropdown.
- Save it to your desired location (e.g., **C:\path\to\backup\folder**).



The **.bat** extension makes it a **batch script** that can be executed in Windows.

Step 3 : Test the Backup Script Manually

Instruction:

- Open **Command Prompt (CMD)** as **Administrator**.
- Navigate to the folder where you saved the **backup-script.bat** file.
- Run the script by typing:

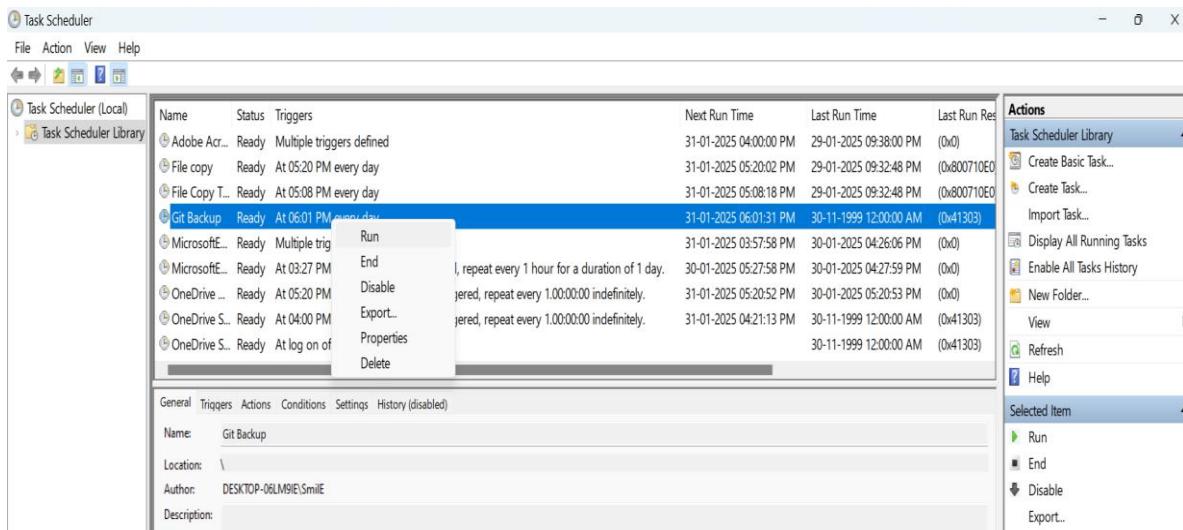
```
C:\Users\Smile\OneDrive\Desktop>cd MyTestRepo
C:\Users\Smile\OneDrive\Desktop\MyTestRepo>git init
Initialized empty Git repository in C:/Users/Smile/OneDrive/Desktop/MyTestRepo/.git/
C:\Users\Smile\OneDrive\Desktop\MyTestRepo>echo "This is a test file" > test.txt
C:\Users\Smile\OneDrive\Desktop\MyTestRepo>git add test.txt
C:\Users\Smile\OneDrive\Desktop\MyTestRepo>git commit -m "Initial commit"
[master (root-commit) ace704a] Initial commit
 1 file changed, 1 insertion(+)
 create mode 100644 test.txt

C:\Users\Smile\OneDrive\Desktop\MyTestRepo>C:\Users\Smile\OneDrive\Desktop\backup-script.bat
Backup successful: "C:\Users\Smile\OneDrive\Desktop\backup\backup-2025-01-30\repo-backup-2025-01-30.tar.gz"
C:\Users\Smile\OneDrive\Desktop\MyTestRepo>
```

Step 4 : Automate the Backup Using Task Scheduler

Instruction:

- Open **Task Scheduler** by typing it in the Windows search bar and selecting **Task Scheduler**.
- In the right panel, click on **Create Basic Task**.
- Follow the prompts:
- **Name** the task (e.g., "Git Backup Script").
- Choose **Daily** and set the desired time for the backup to run.
- Select **Start a Program** and browse to your **backup-script.bat** file.
- Click **Finish**.

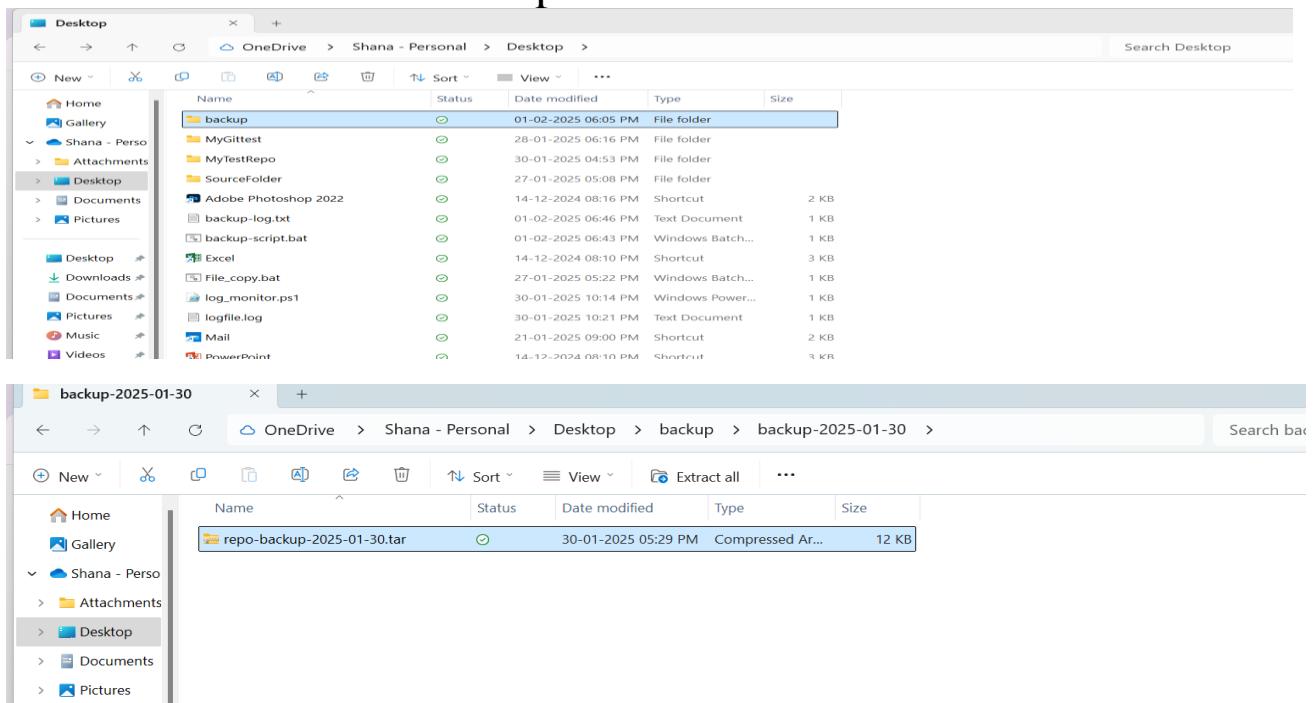


Using **Task Scheduler** ensures that the backup is created automatically at the set time every day without any manual intervention.

Step 5 : Check for Successful Backup

Instruction:

- Wait for the scheduled backup time.
- Navigate to your backup folder (**C:\path\to\backup\folder**) to confirm that the backup file was created.



Outcome

By completing this POC, you will:

- Set up an automated Git repository backup system.
- Schedule and automate the process using Task Scheduler.
- Ensure your repository is protected and recoverable at any time.