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

Backing up your Git repositories is a crucial part of version control management. It ensures that your work remains safe and accessible even in the event of unforeseen data loss, such as accidental deletions, hardware failures, or repository corruption. Automating this process saves time, reduces manual intervention, and guarantees regular updates.

Key Components:

1. Batch Script: A .bat file is used to execute commands such as cloning the repository, pulling updates, and compressing the backup.

2. Task Scheduler: A built-in Windows tool is used to automate the script, ensuring it runs daily without manual intervention.

Objectives

1. Automate Backups.

2. Minimize Data Loss.

3. Ease of Management.

4. Hands-Free Automation

Step-by-Step Overview

Step 1:

Create a folder named GitHub Backup Folder to store your Backup files.

Step 2:

Open Notepad and type this script . Make sure that in set REPO_URL give the URL of the repository you want to backup and in set BACK_DIR give the file path of the folder which you created in first step . Then save it as .bat format


```
@echo off
: : Variables
set REPO_URL=https://github.com/dhamini-hue/POC-1-dhamini
set BACKUP_DIR="C:\Users\chenn\OneDrive\Desktop\github backup folder"
set CURRENT_DATE=date:~10,4%-%date:~4,2%date:~7,2%

:: Ensure backup directory exists
if not exist "BACKUP_DIR%" mkdir "%BACKUP_DIR%"

:: Navigate to the backup directory
cd /d "%BACKUP_DIR%"

::Check if the repository is already cloned
if not exist "repo"(
        echo Cloning repository for the first time...
        git clone "%REPO_URL%" "POC-1-dhamini"
) else (
        echo Repository already exists. Pulling latest changes...
        cd repo
        git pull
        cd ..
)
:: Create a timestamped backup
set BACKUP_ARCHIVE=repo-backup-%CURRENT_DATE%.zip
echo Creating a compressed backup: %BACKUP_ARCHIVE%

:: Ensure PowerShell runs correctly
powershell -Command "Compress-Archive -Path 'POC-1-dhamini' -DestinationPath '%BACKUP_ARCHIVE%' -Force"

echo Backup complete: %BACKUP_ARCHIVE%
```
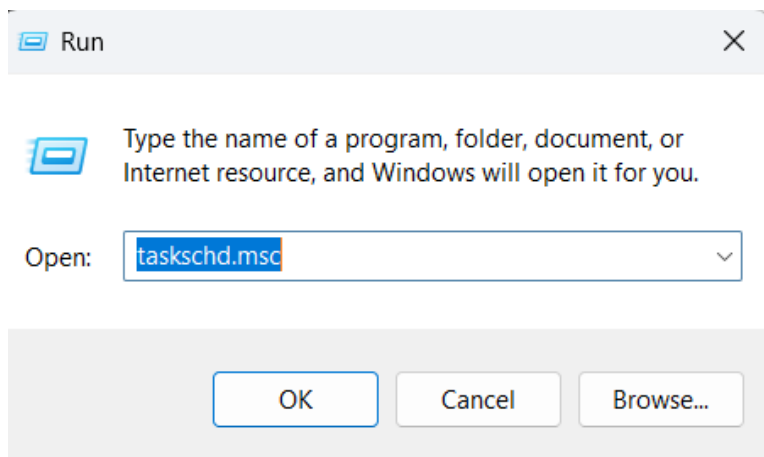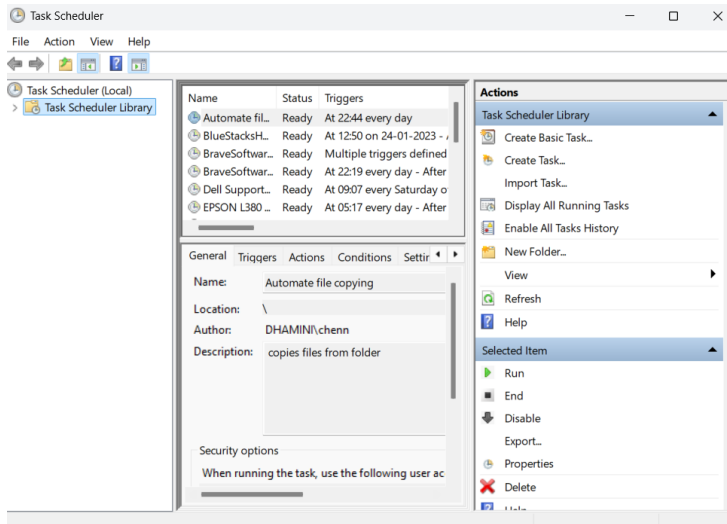
Step 3:

Press Win + R on your keyboard. A small "Run" dialog box will pop up. Type taskschd.msc

Press Enter or click OK.This will open the Task Scheduler window.


Step 4:

In the Task Scheduler window, look to the right-hand side for a button called "Create Basic Task". Click it. A wizard will open to guide you through the setup.

Step 5:

1. Enter a Name for the Task: For example: "GitRepoBackup".(This can be anything that helps you remember what the task does.) Optionally, you can add a description like "Backsup files daily".

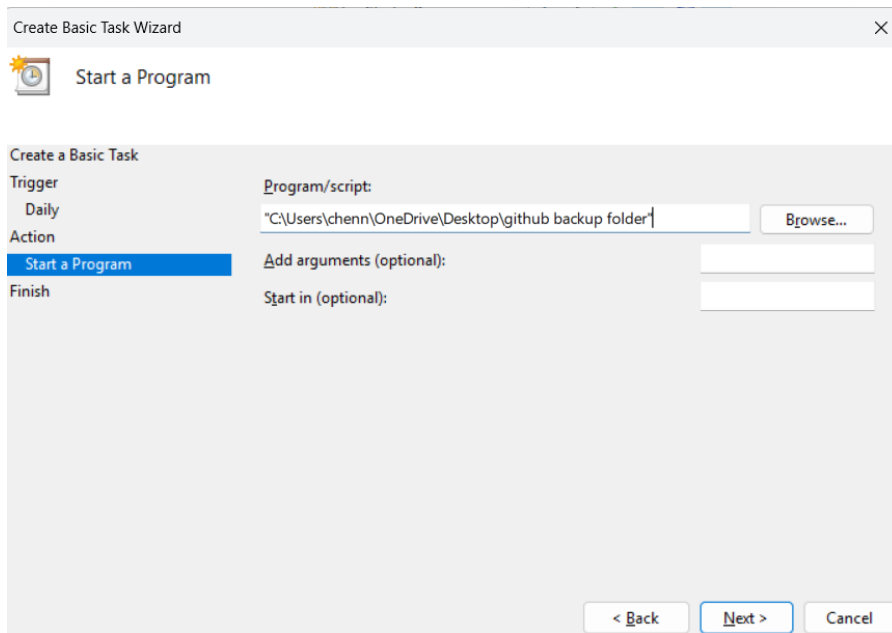**2. Click Next to continue.**
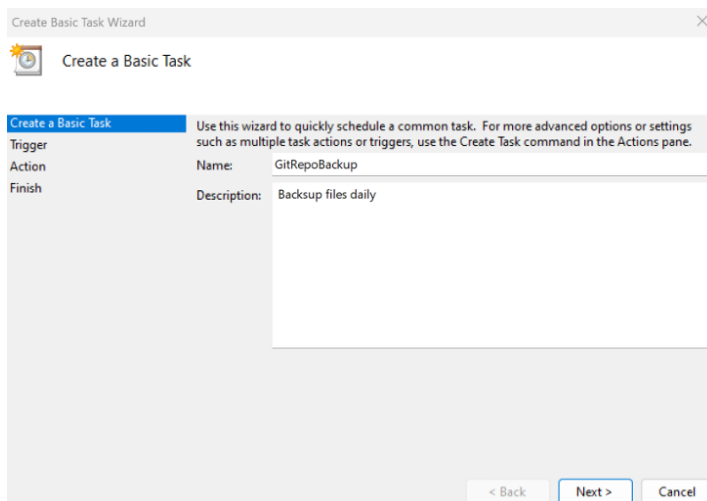
Step 8:

Set the Action Now, we tell Task Scheduler what to do when it runs. Select "Start a Program": On the "Action" screen, select the option "Start a Program" and click Next.
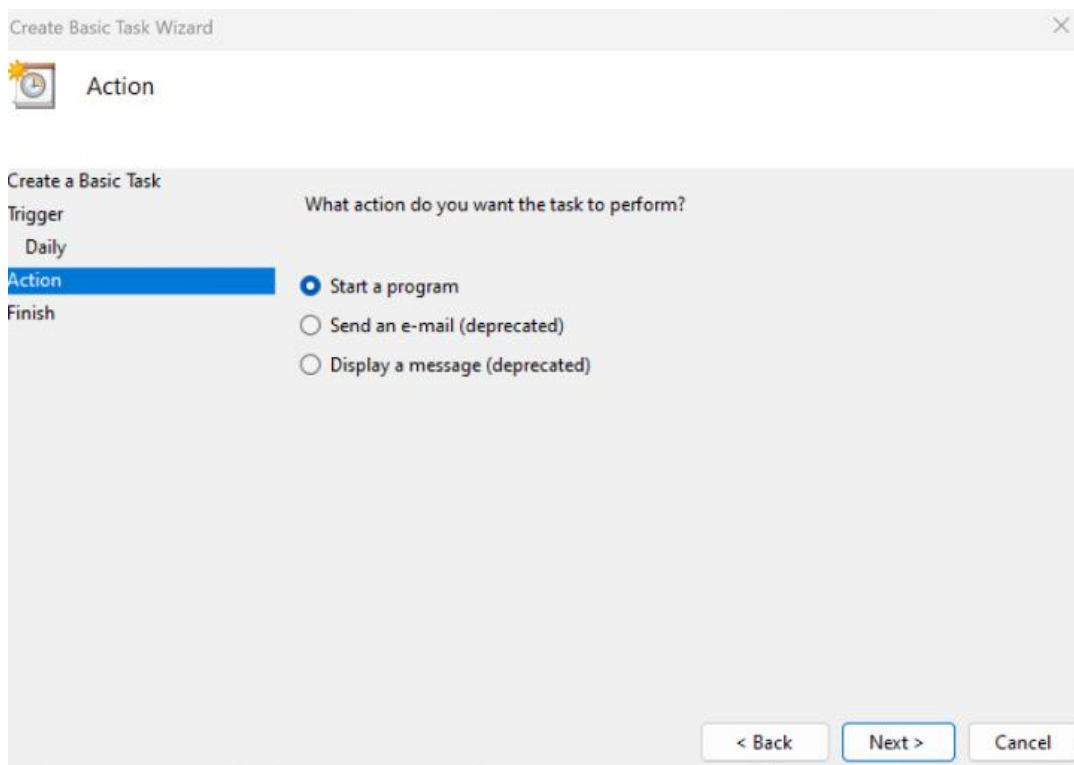
Step 9:

Point to the Program or Script: In the Program/script field, click Browse and navigate to the location of your .bat file.
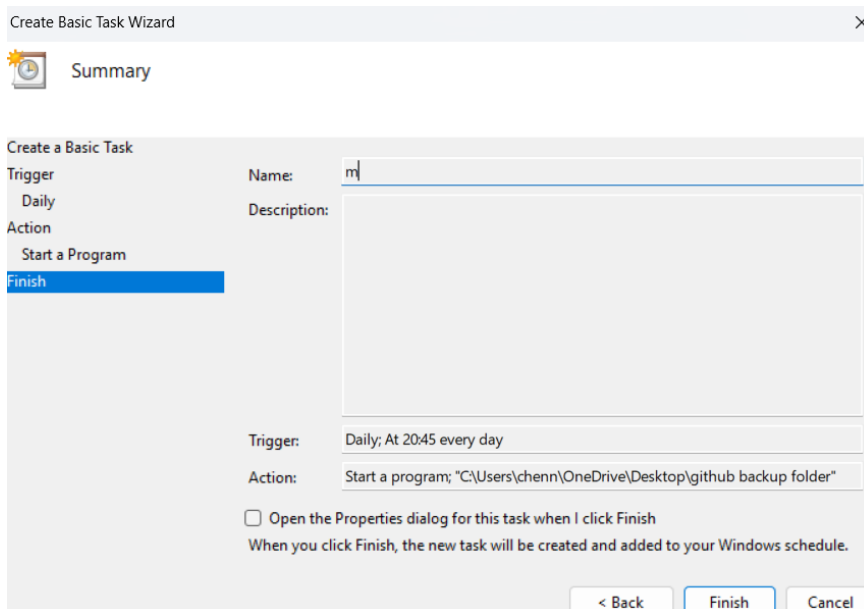
Click Next.

Step 10:

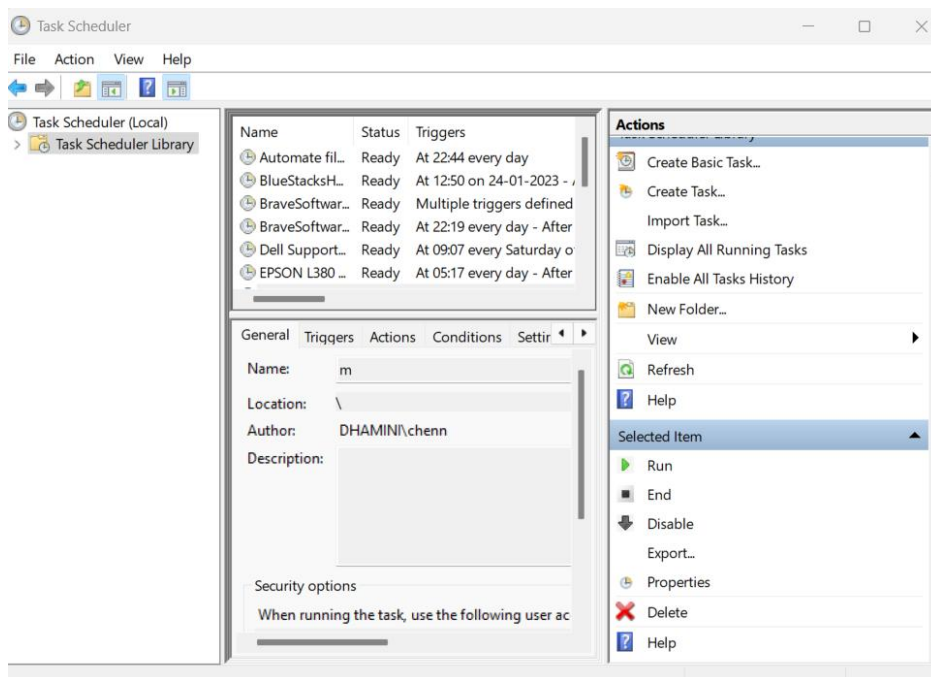## Review and Finish

Click Finish to save and schedule the task.

Step 11:

In Task Scheduler, go to the Task Scheduler Library (on the left hand side).

Find your task (it should have the name you gave it .

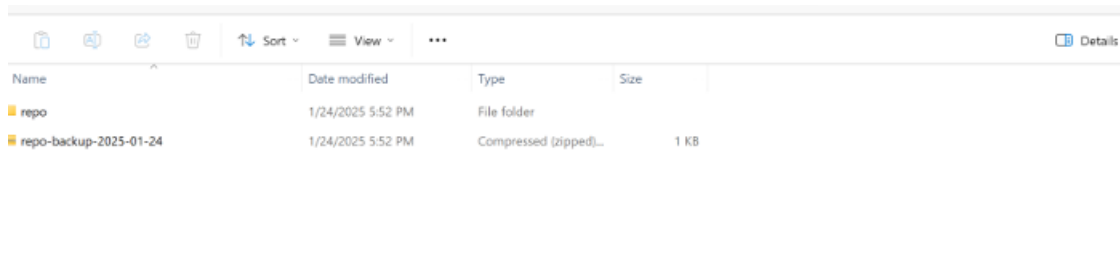**Right-click the task and select Run. This will manually trigger the task immediately**

__Step 12:__

Now u can see the folder which you created (GitHub Backup Folder) in the first step will now contains the files which is in your repository.

Name	Date modified	Type	Size
repo	1/24/2025 5:52 PM	File folder	
repo-backup-2025-01-24	1/24/2025 5:52 PM	Compressed (zipped)...	1 KB

Outcomes

 By completing this Proof of Concept (PoC) of automating Git repository backups, you will:

Successfully implement a backup system for Git repositories:

Automate the process of creating daily backups for your Git repositories, ensuring that all updates and changes are securely stored in a local folder.

Master the use of batch scripting for task automation:

Learn to create and execute a .bat script that clones, pulls updates, and compresses a Git repository into timestamped backup archives.

Understand Task Scheduler's automation capabilities:

Gain practical experience with Task Scheduler, learning how to set triggers, define actions, and configure conditions to automate repetitive tasks seamlessly on a Windows system.