



Placement Empowerment Program

Cloud Computing and DevOps Centre

Automate Static Website Deployment Locally

Create a script that updates your server whenever changes are pushed.

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Department : CSE



INTRODUCTION

In modern web development, manually updating a static website can be time-consuming and error-prone. Automating the

deployment process ensures that changes pushed to a repository are immediately reflected on a local server. This is particularly useful for **developers, testers, and DevOps engineers** who want an efficient workflow.

By using **Git hooks** or scheduled scripts, we can **automate deployment** on Windows, eliminating the need for manual file transfers and server restarts.

OVERVIEW

This explains how to set up an **automated deployment system** for a static website on Windows. We will:

1. **Set up a local web server** (XAMPP, IIS, or Python HTTP Server).
2. **Create a batch script (`deploy.bat`)** to pull the latest code and restart the server.
3. **Use Git hooks (`post-merge` or `post-receive`)** to trigger the script automatically when changes are pushed.
4. **(Optional) Use Windows Task Scheduler** to automate periodic updates

OBJECTIVES

Set up a local web server (XAMPP, IIS, or Python).

Write a deployment script that pulls the latest code and restarts the server.

Use Git hooks to trigger automatic updates when pushing changes.

(Optional) Schedule automatic updates using Windows Task Scheduler.

Streamline the development workflow by reducing manual updates.

IMPORTANCE OF AUTOMATED DEPLOYMENT

Saves Time – No need to manually copy files or restart servers.

Reduces Errors – Ensures all changes are consistently deployed.

Improves Collaboration – Multiple developers can push updates seamlessly.

Enhances Workflow – Keeps the development environment synchronized with the latest version.

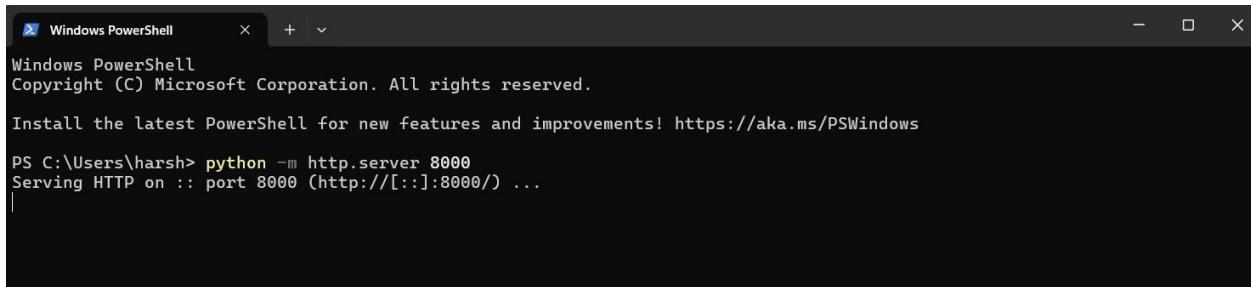
Prepares for Production – Simulates a CI/CD pipeline used in real-world deployments.

STEP-BY-STEP OVERVIEW

Step 1: Set up a Local Web Server

If you don't have a web server installed, use one of the following:

- **XAMPP (Apache-based)**
- **IIS (Internet Information Services) (Built into Windows)**
- **Python HTTP Server (Quick test)**



A screenshot of a Windows PowerShell window titled "Windows PowerShell". The window shows the following text output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\harsh> python -m http.server 8000
Serving HTTP on :: port 8000 (http://[::]:8000) ...
```

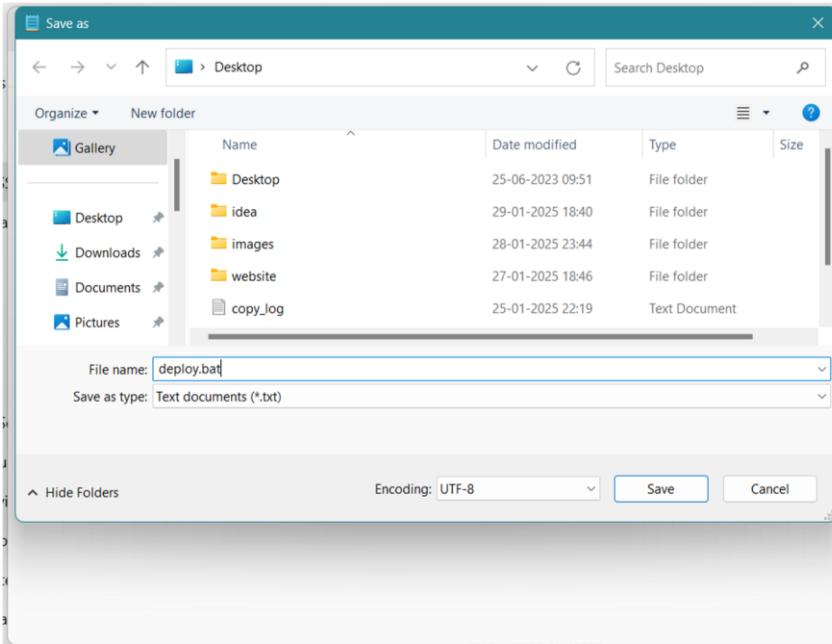
Step 2: Create a Deployment Script (deploy.bat)

This script will:

Pull the latest changes from GitHub

Copy files to the web server directory

Restart the Apache server



The screenshot shows a 'Save as' dialog box from a Windows file explorer. The 'File name:' field contains 'deploy.bat'. The 'Save as type:' dropdown is set to 'Text documents (*.txt)'. The 'Encoding:' dropdown is set to 'UTF-8'. Below the dialog is a text editor window titled 'deploy.bat' containing the following script:

```
@echo off
cd /d "C:\Users\YourUser\Documents\my-static-site"

echo Pulling latest changes from GitHub...
git pull origin main

echo Copying files to the web server directory...
xcopy /s /y /e "C:\Users\YourUser\Documents\my-static-site\*" "C:\xampp\htdocs\my-static-site"

echo Restarting Apache server...
net stop "Apache2.4"
net start "Apache2.4"

echo Deployment complete!
C:\Users\YourUser\Documents\my-static-site\deploy.bat
```

Save this script as `deploy.bat` in your project folder.

Ensure your web server (XAMPP Apache) is set up correctly.

Step 3 : Automate Deployment Using Git Hooks

Git hooks allow the script to run automatically when changes are pushed or pulled.

Steps to Configure Git Hook

1. Navigate to the **Git Hooks directory** in your project:

```
cd C:\Users\YourUser\Documents\my-static site\.git\hooks
```

Create a new hook file called **post-merge** (for local) or **post-receive** (for remote).

2. Open **post-merge** in Notepad and add this line:



```
@echo off
cd /d "C:\Users\YourUser\Documents\my-static-site"

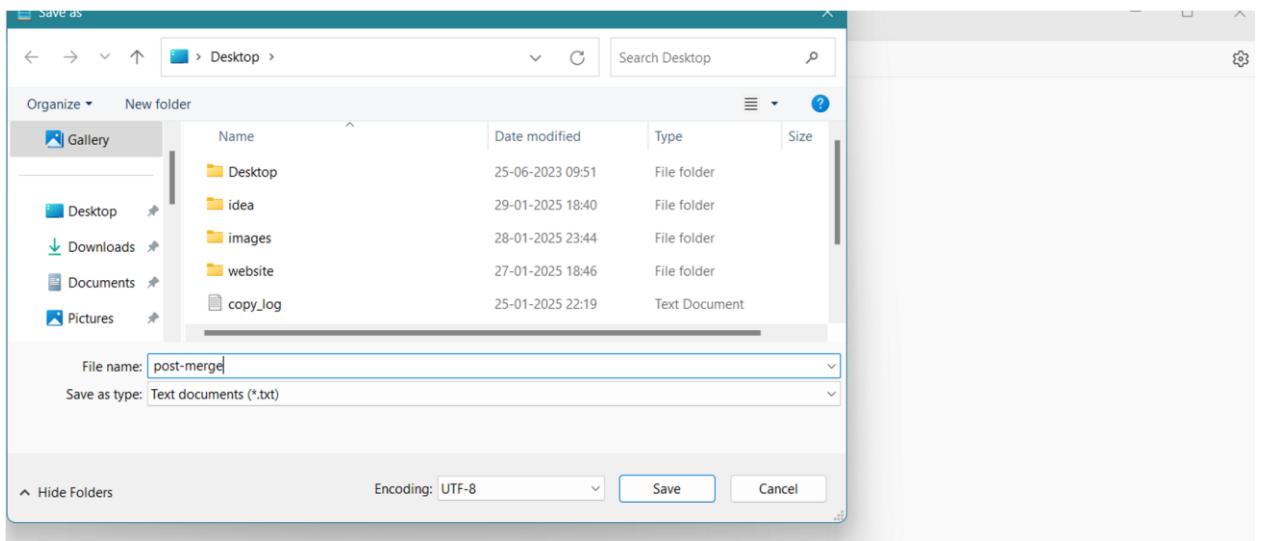
echo Pulling latest changes from GitHub...
git pull origin main

echo Copying files to the web server directory...
xcopy /s /y /e "C:\Users\YourUser\Documents\my-static-site\*" "C:\xampp\htdocs\my-static-site"

echo Restarting Apache server...
net stop "Apache2.4"
net start "Apache2.4"

echo Deployment complete!
C:\Users\YourUser\Documents\my-static-site\deploy.bat
```

4. Save the file as **post-merge** (without any extension).



5. Make the hook executable by running in Git Bash:

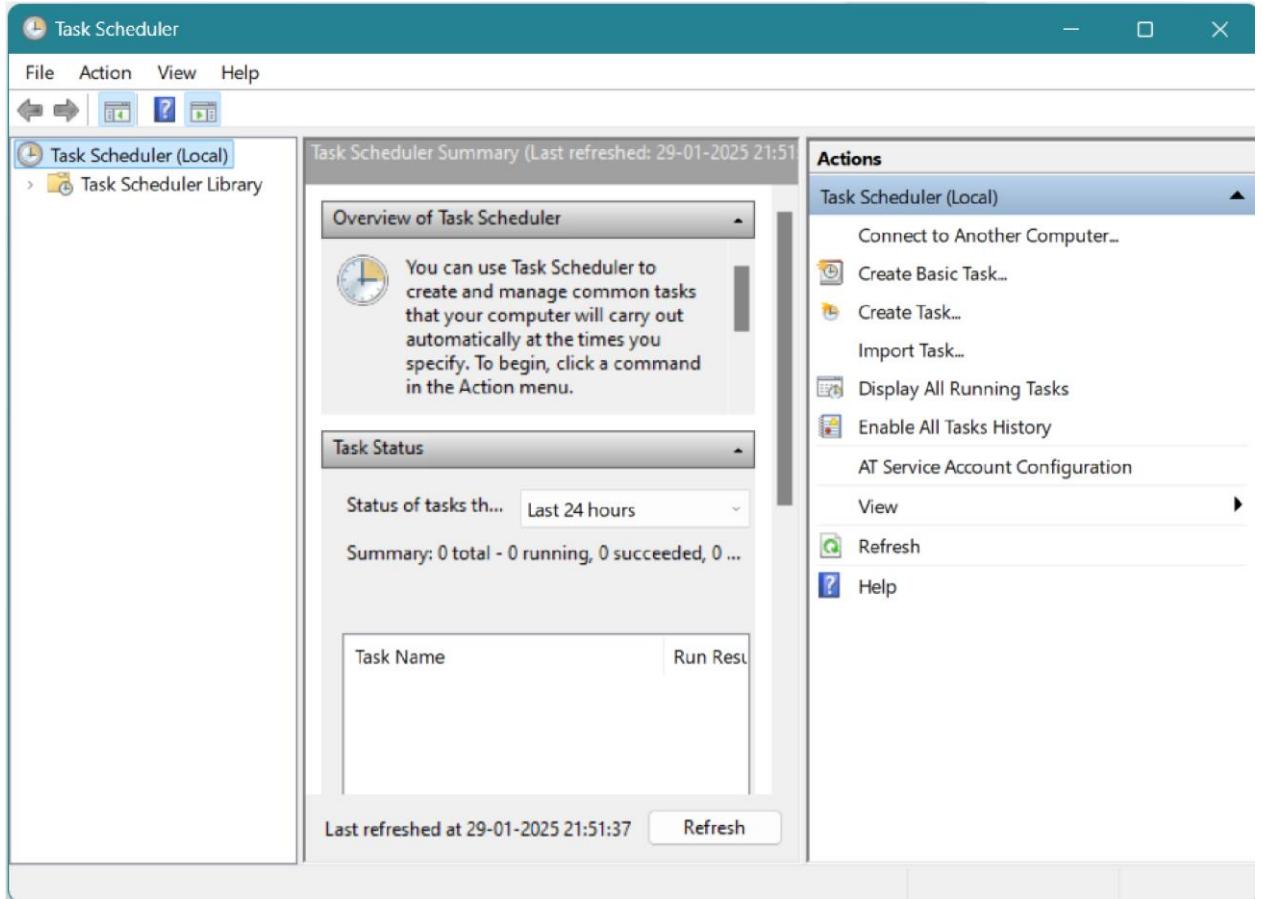
```
chmod +x .git/hooks/post-merge
```

Now, whenever you pull changes (`git pull`), the script will deploy the website automatically!

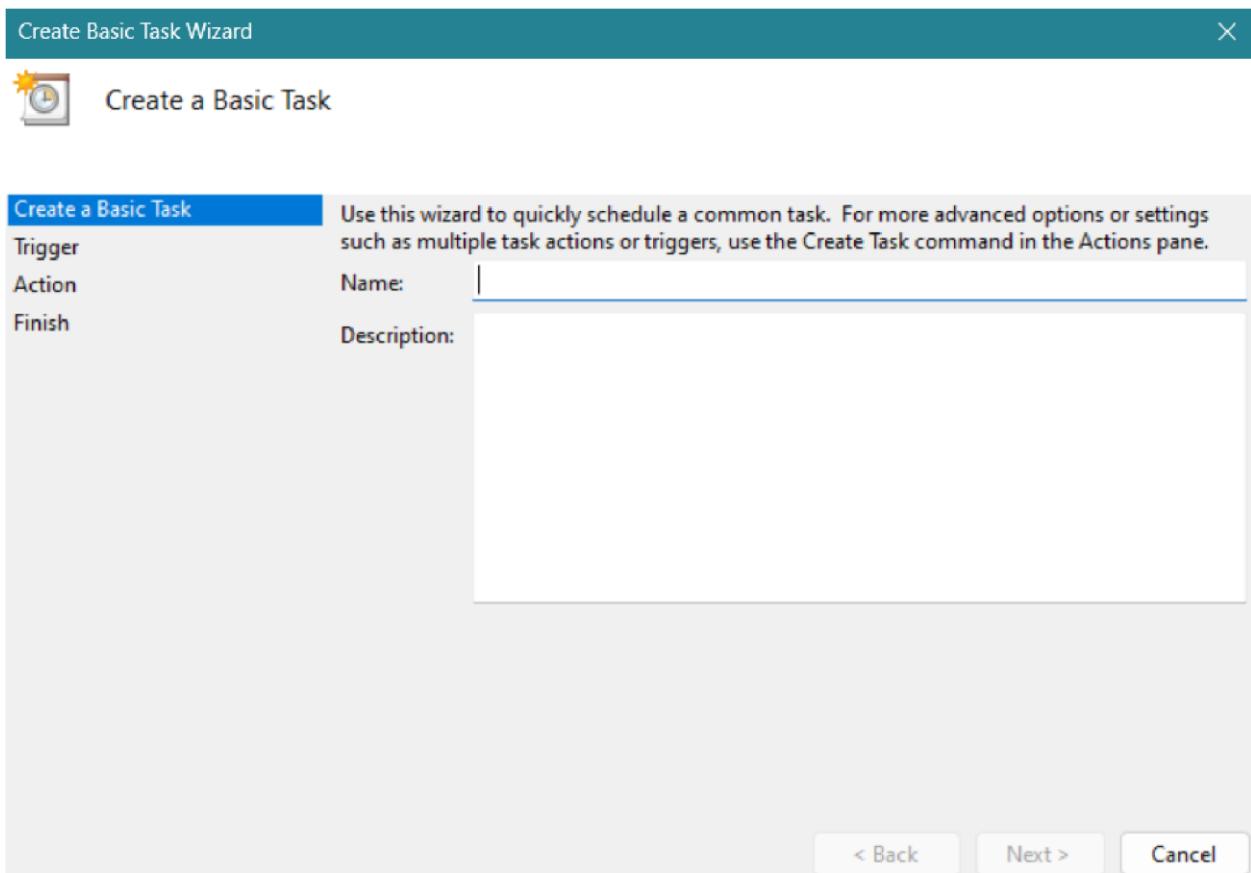
Step 4 : Automate Deployment with Windows Task Scheduler

For periodic updates:

1. Open **Task Scheduler** (Win + R → `taskschd.msc`).



2. Click **Create Basic Task**.



3. Name it **AutoDeployStaticSite**.

Create Basic Task Wizard

X



Create a Basic Task

Create a Basic Task

Trigger

Action

Finish

Use this wizard to quickly schedule a common task. For more advanced options or settings such as multiple task actions or triggers, use the Create Task command in the Actions pane.

Name: AutoDeployStaticSite

Description:

< Back

Next >

Cancel

4. Choose **Trigger: Daily** → Set the time interval.

Create Basic Task Wizard

X



Task Trigger

Create a Basic Task

Trigger

Action

Finish

When do you want the task to start?

Daily

Weekly

Monthly

One time

When the computer starts

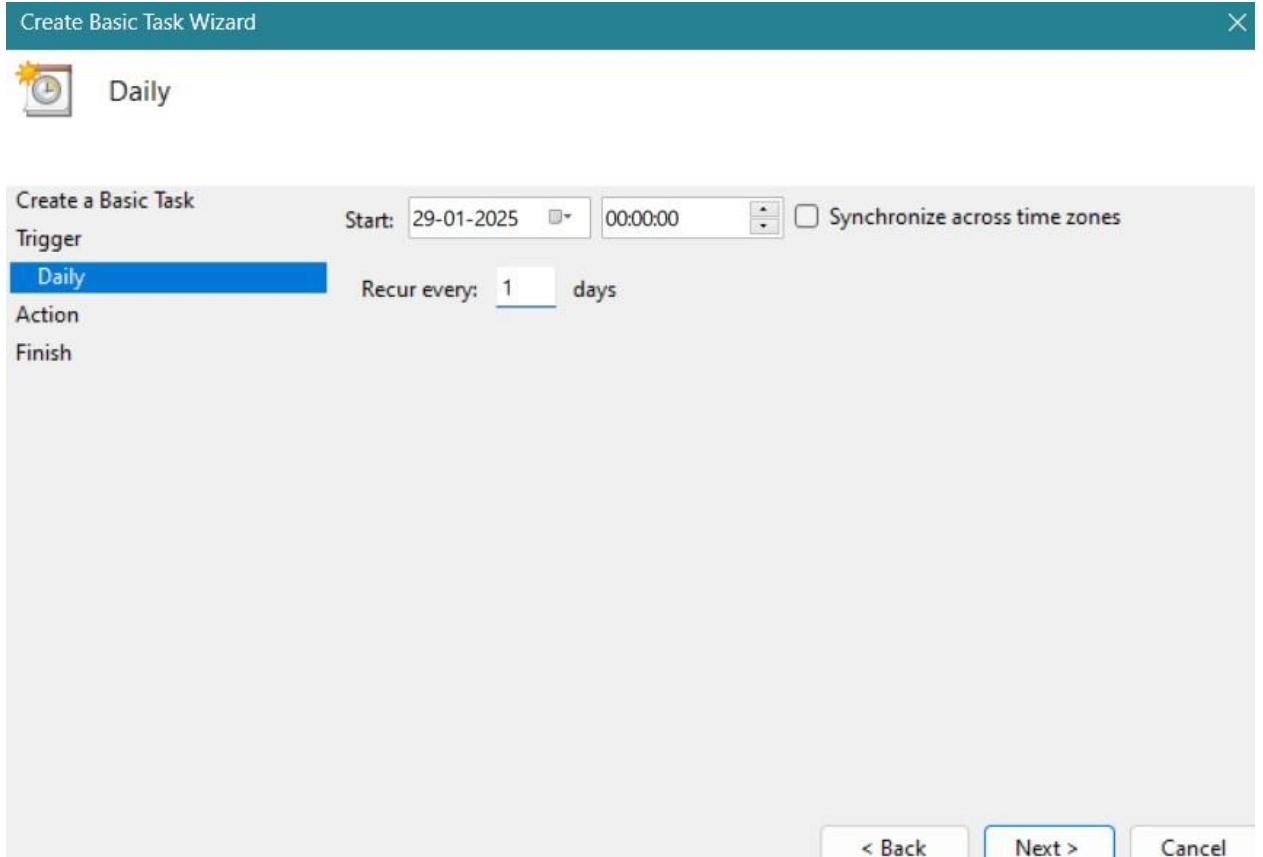
When I log on

When a specific event is logged

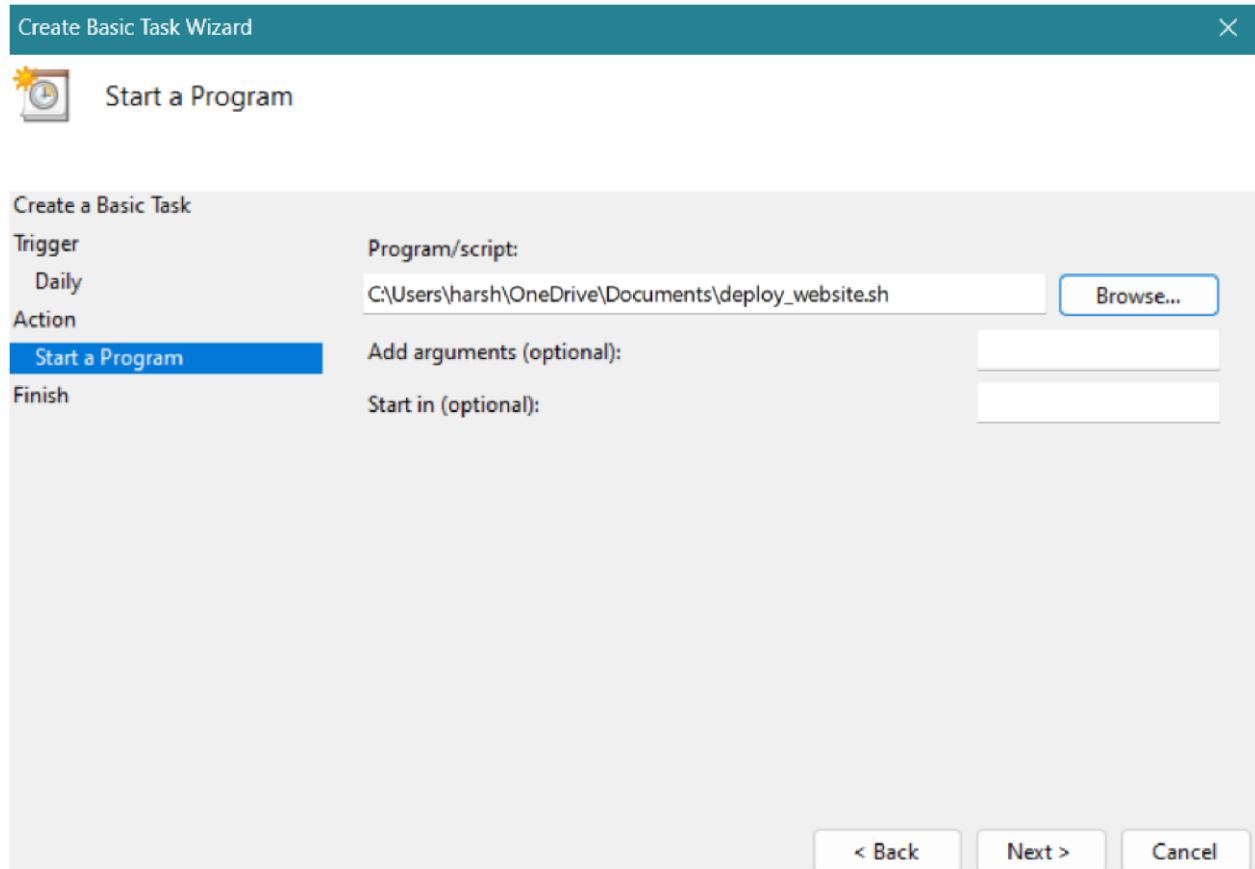
< Back

Next >

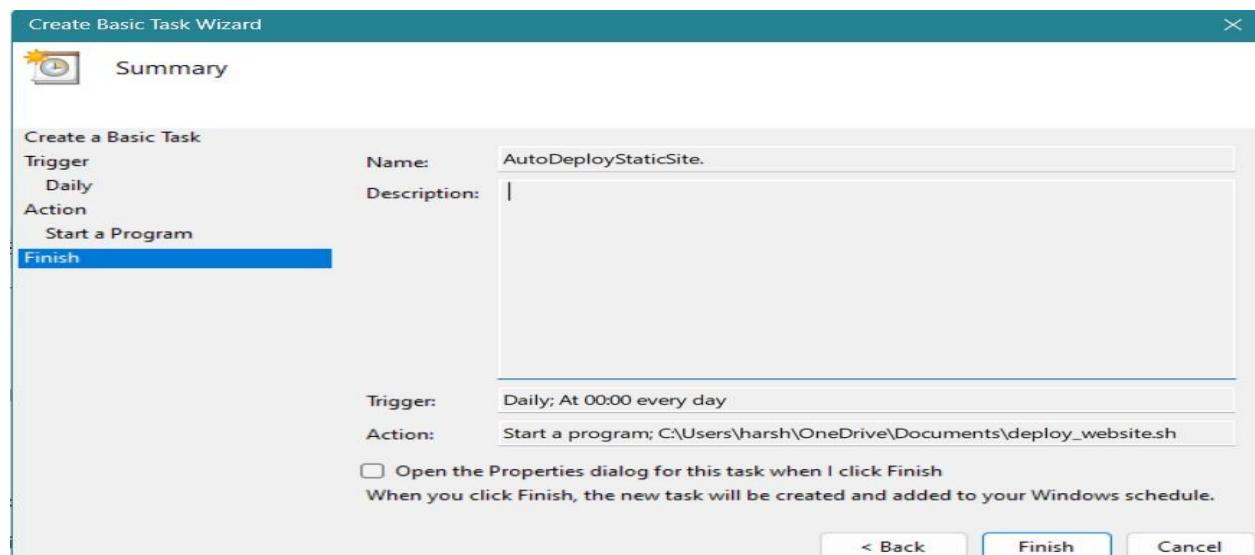
Cancel

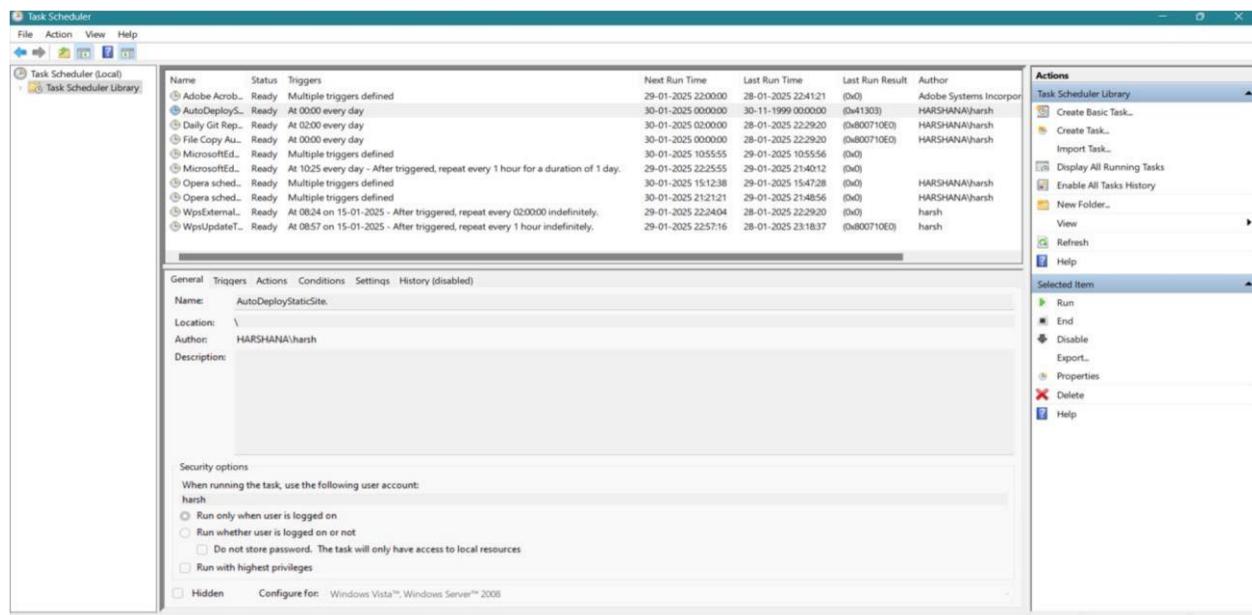


5. Choose Action: Start a Program → Select deploy.bat.



6. Click Finish.





Now, Windows will automatically run the deployment script at the scheduled time.

OUTCOME

Automatic static website deployment when changes are pushed.

No manual copying of files needed.

Works with Git Hooks or Windows Task Scheduler.