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OMR, CHENNAI - 119



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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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.

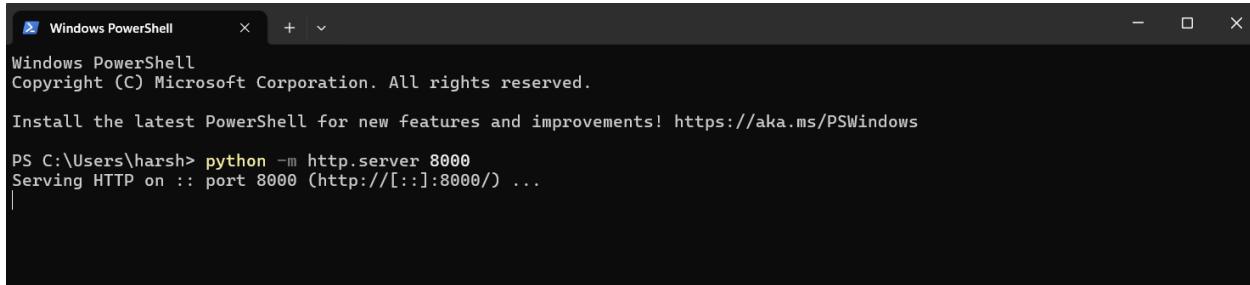
- ◆ **Improves Collaboration** – Multiple developers can push updates seamlessly.
- ◆ **Enhances Workflow** – Keeps the development environment synchronized with the latest version.
- ◆ **Prepares for Production** – Simulates a CI/CD pipeline used in real-world deployments.

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)**



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

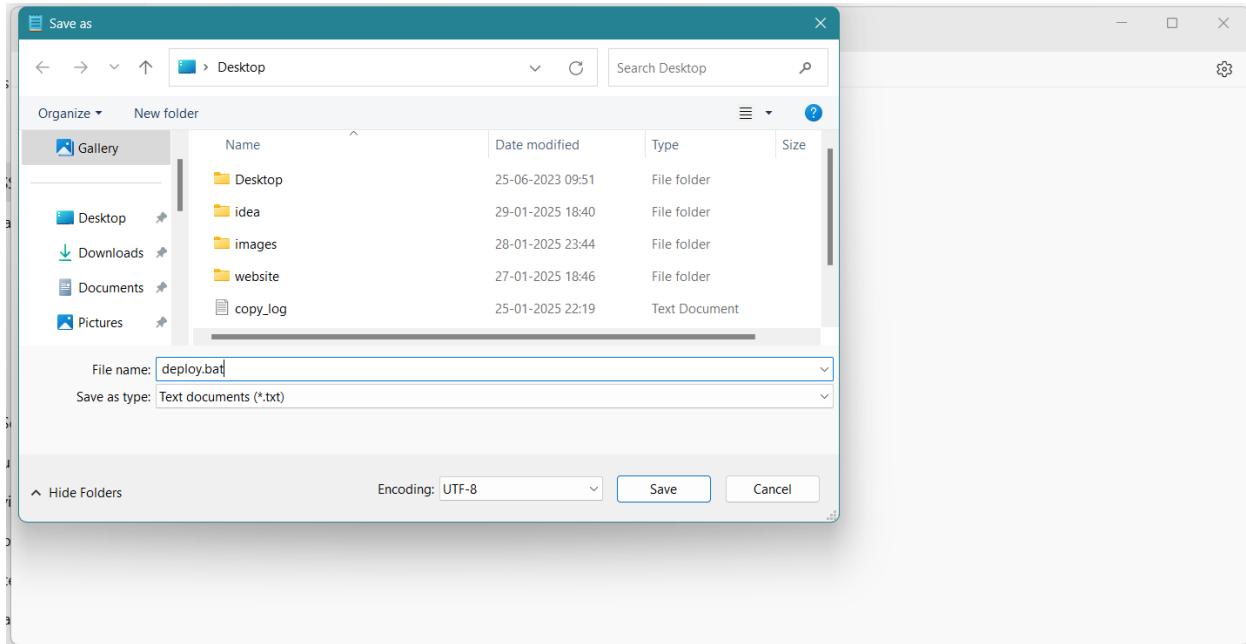
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

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



```

deploy.bat

@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.

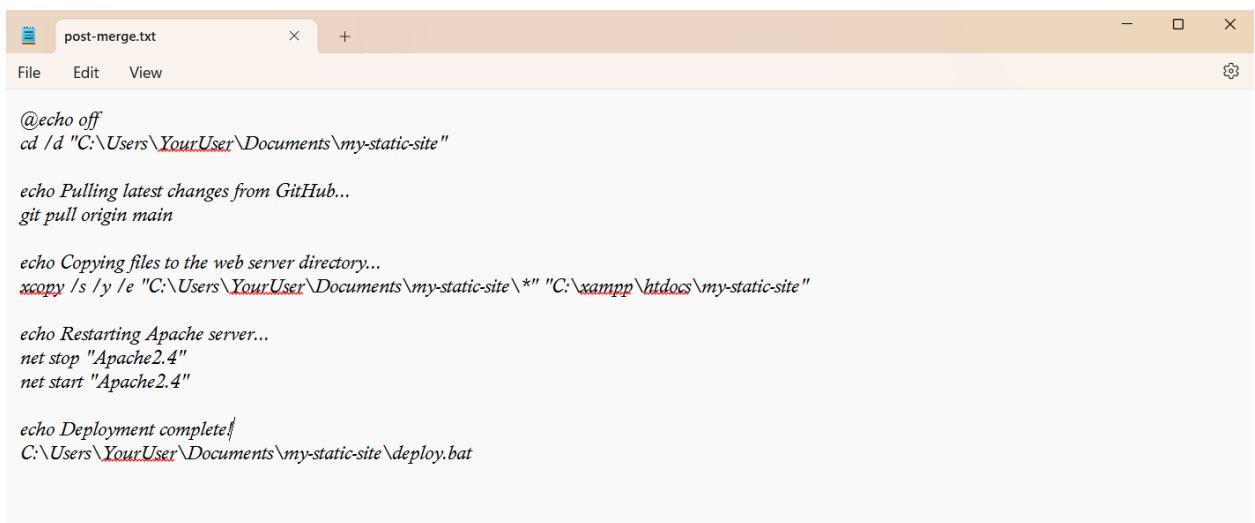
Steps to Configure Git Hook

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"

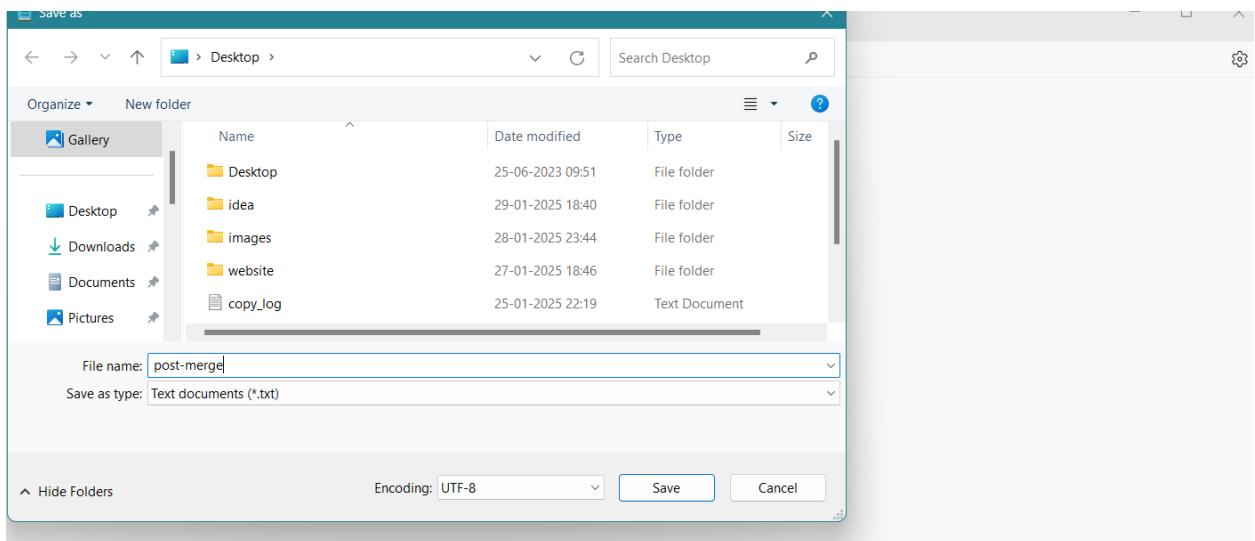
echo Pulling latest changes from GitHub...
git pull origin main

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:

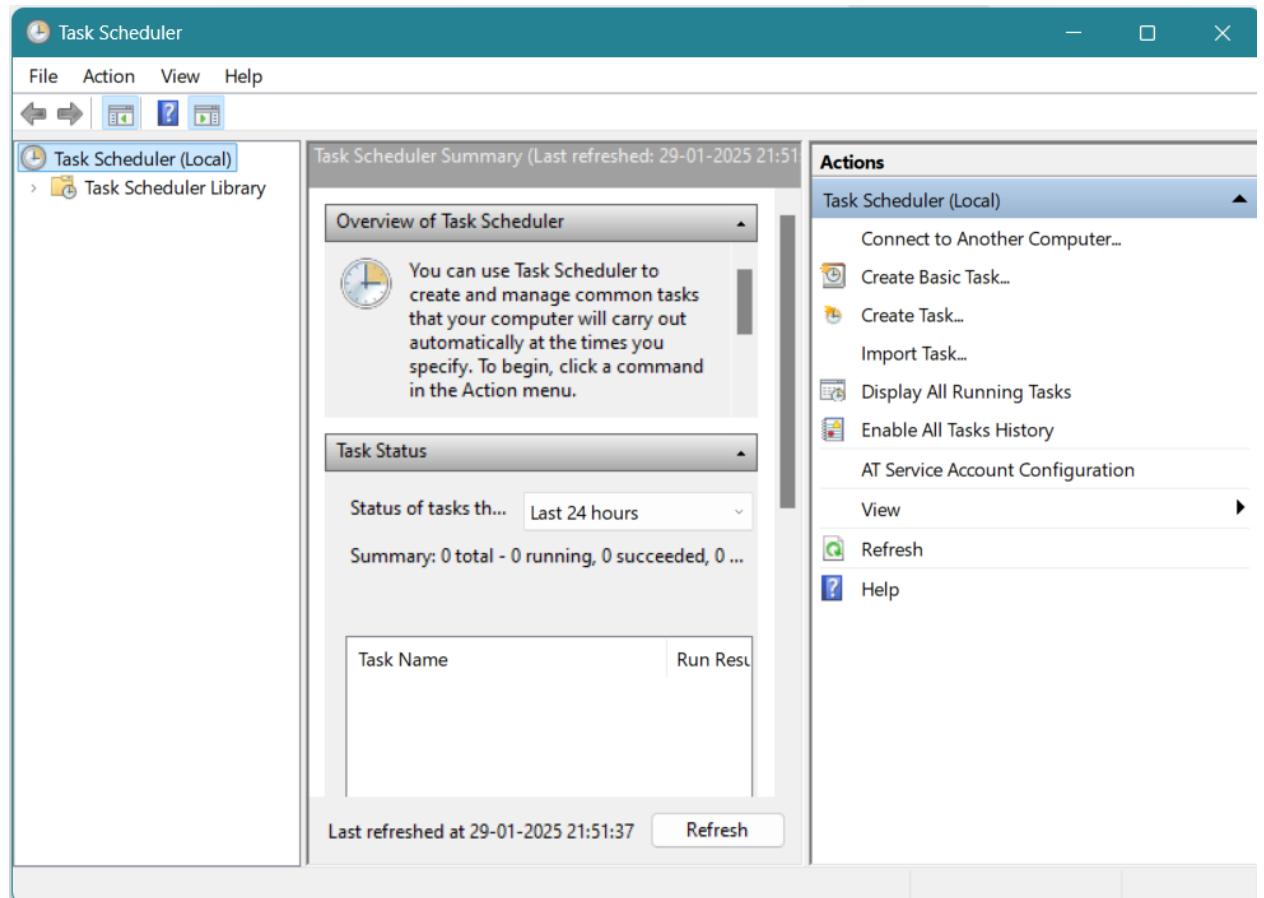
```
chmod +x .git/hooks/post-merge
```

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.**

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:

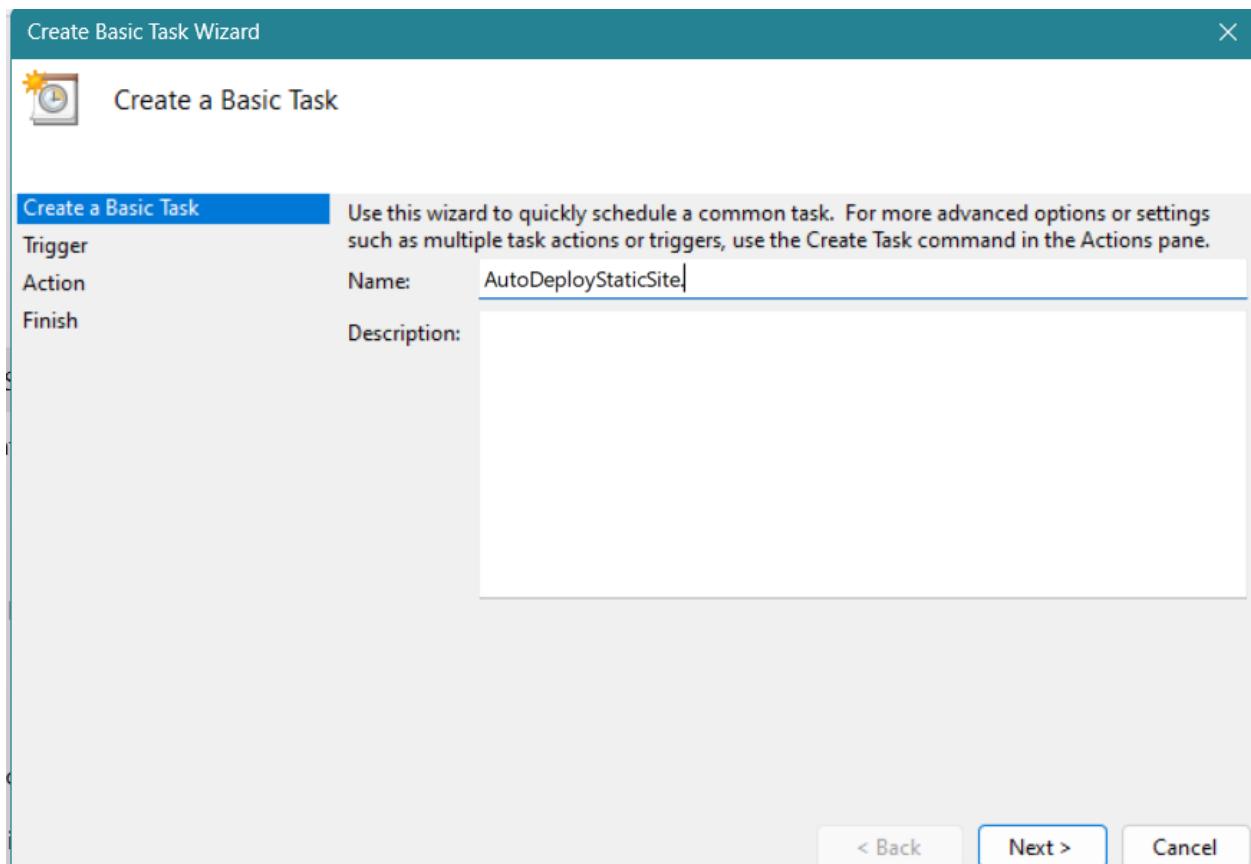
Description:

< Back

Next >

Cancel

3. Name it **AutoDeployStaticSite**.



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

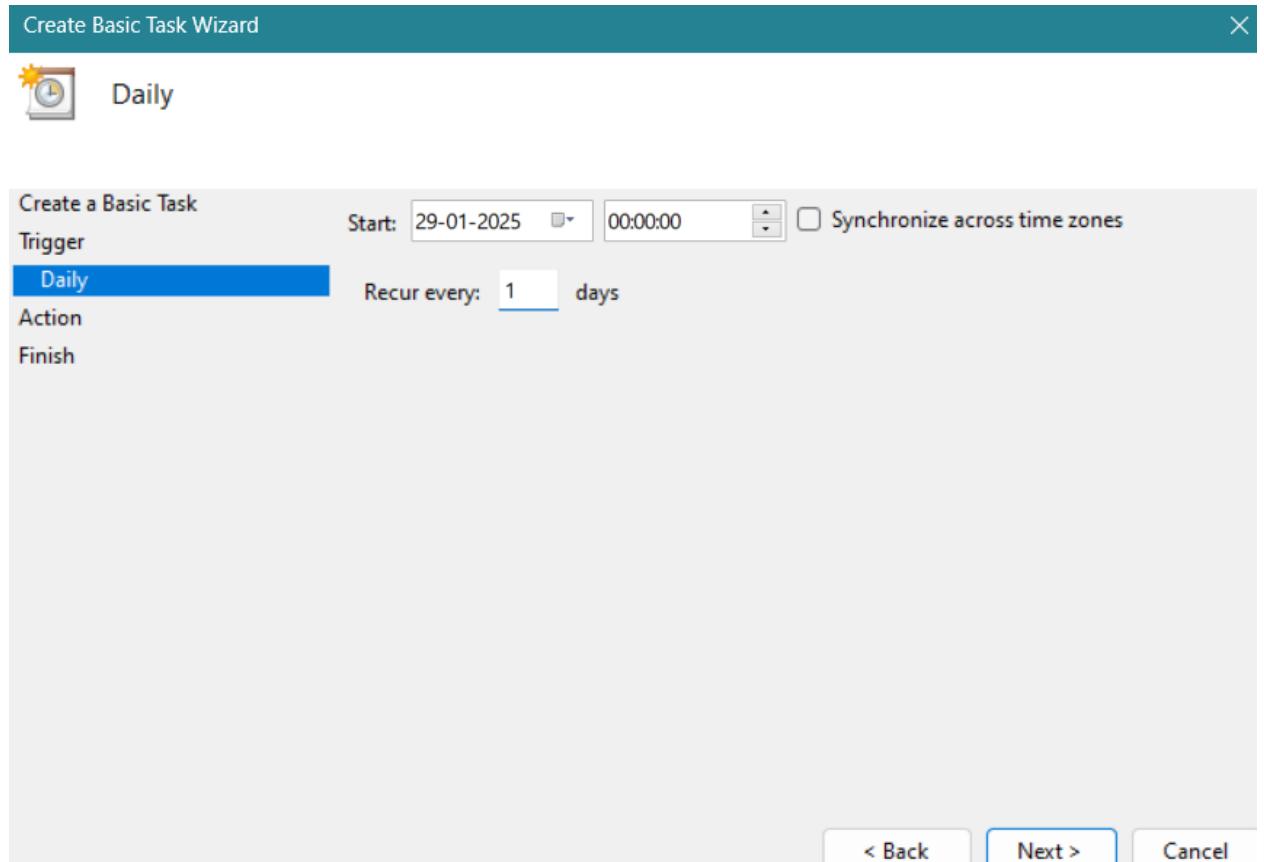
When I log on

When a specific event is logged

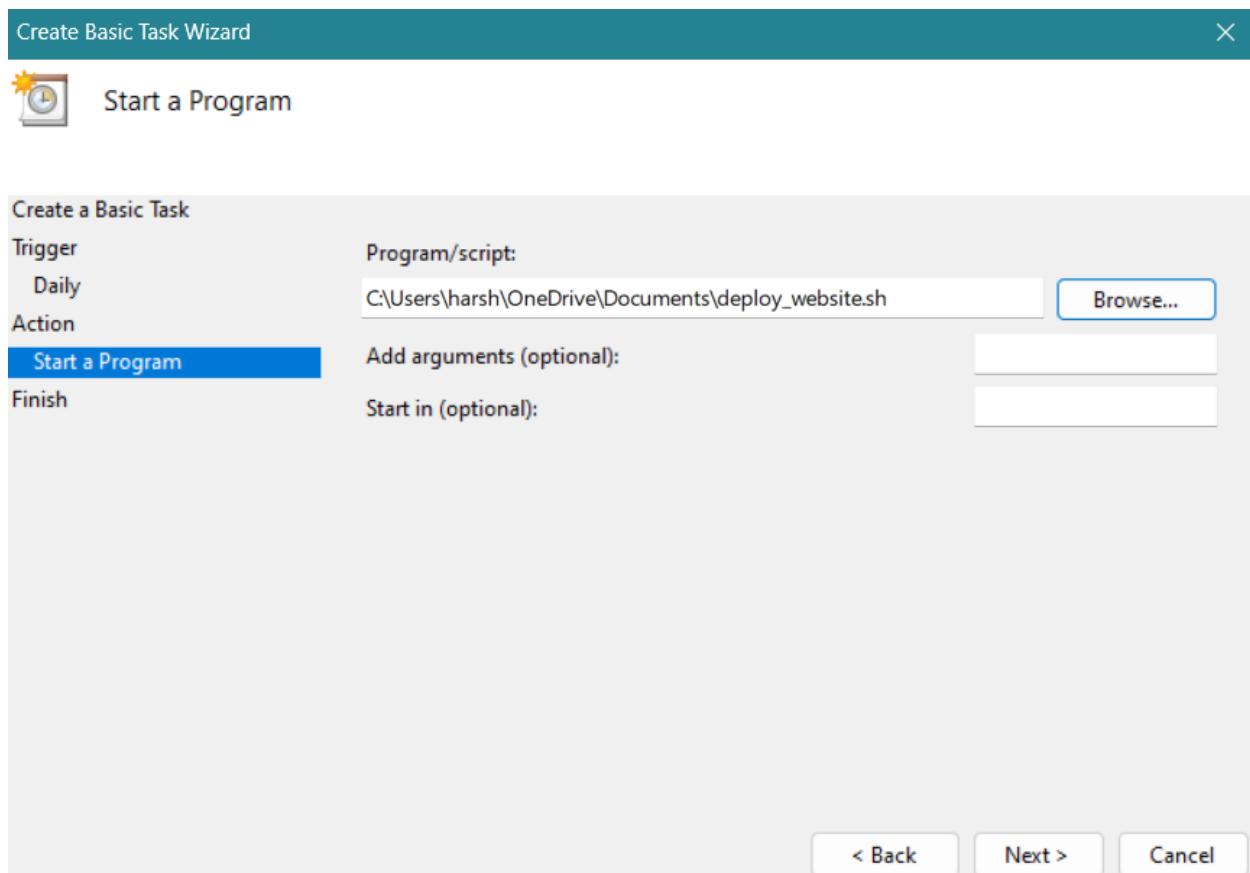
< Back

Next >

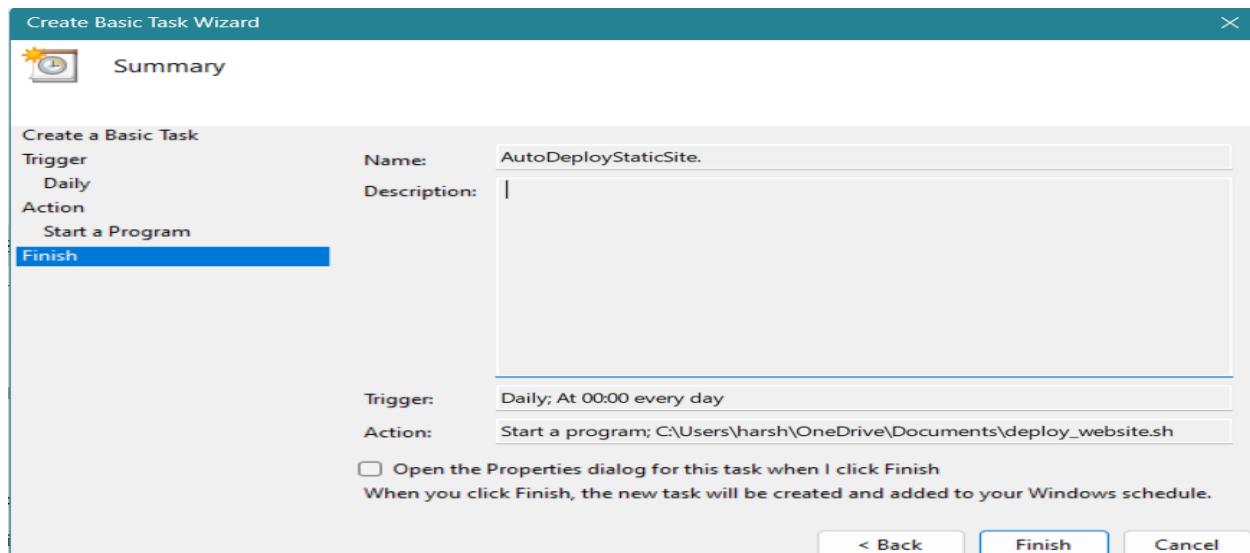
Cancel

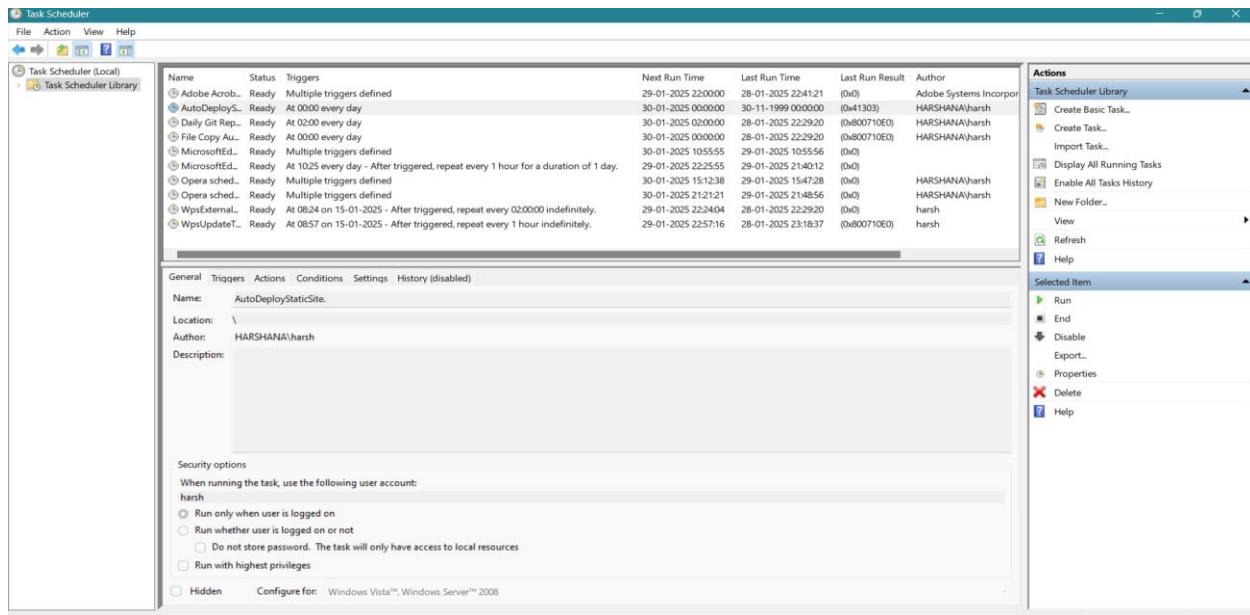


5. Choose Action: Start a Program → Select deploy.bat.



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.

