

Automation of website using git hooks

About:

Deploying code updates efficiently is crucial for maintaining a smooth and reliable application workflow. Manually updating a server after each change can be time-consuming and prone to errors. To streamline this process, automation techniques such as Git hooks and deployment scripts can be used.

Git hooks, specifically the post-receive hook, allow for automatic deployment whenever new code is pushed to a remote repository. Alternatively, a custom deployment script can periodically pull the latest changes and restart the necessary services. Both methods help ensure that the latest version of the application is always running without requiring manual intervention.

SIGNIFICANCE:

Reduces Manual Effort – Eliminates the need for manually pulling updates and restarting services.

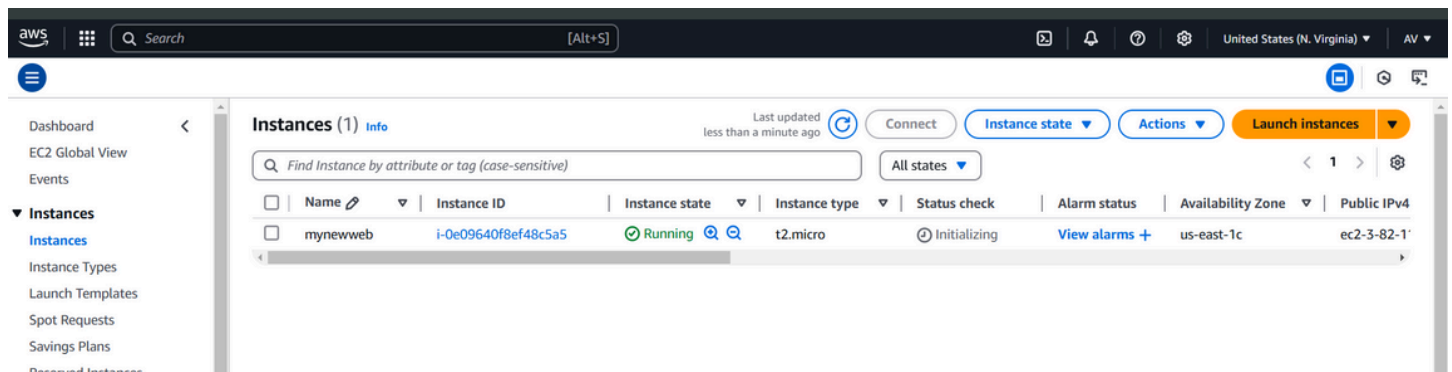
Ensures Consistency – Deploys the latest code automatically, reducing the risk of human errors.

Improves Efficiency – Speeds up the deployment process, allowing faster updates and bug fixes.

Enhances Reliability – Ensures that the application runs with the latest stable version without downtime.

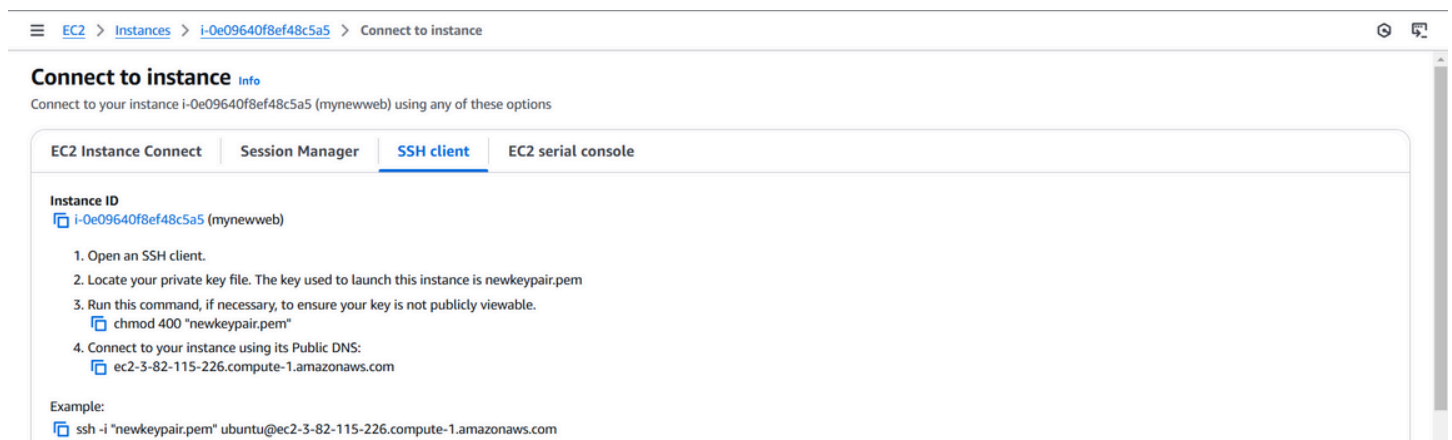
STEP 1:

Create a EC2 instance in your AWS cloud or any other cloud platform



STEP 2:

Click on instance ID, select connection and go to ssh. Copy the SSH id



STEP 3:

Go to downloads using powershell using the command



STEP 4:

Copy the SSH id and paste it in the Powershell. Type yes

```
PS C:\Users\DELL\downloads> ssh -i "newkeypair.pem" ubuntu@ec2-3-82-115-226.compute-1.amazonaws.com
The authenticity of host 'ec2-3-82-115-226.compute-1.amazonaws.com (3.82.115.226)' can't be established.
ED25519 key fingerprint is SHA256:AICtUHBZUa8pALPHCO29M/4Tg8Bq6M2dR3Na/x22skA.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-82-115-226.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)
```

```
* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/pro
```

```
System information as of Wed Feb  5 14:25:02 UTC 2025
```

```
System load:  0.0      Processes:            104
Usage of /:   24.9% of 6.71GB   Users logged in:     0
Memory usage: 19%      IPv4 address for enX0: 172.31.93.44
Swap usage:   0%
```

STEP 5:

update the packages of ubuntu

```
ubuntu@ip-172-31-93-44:~$ sudo apt update
```

Upgrade by typing sudo apt upgrade command

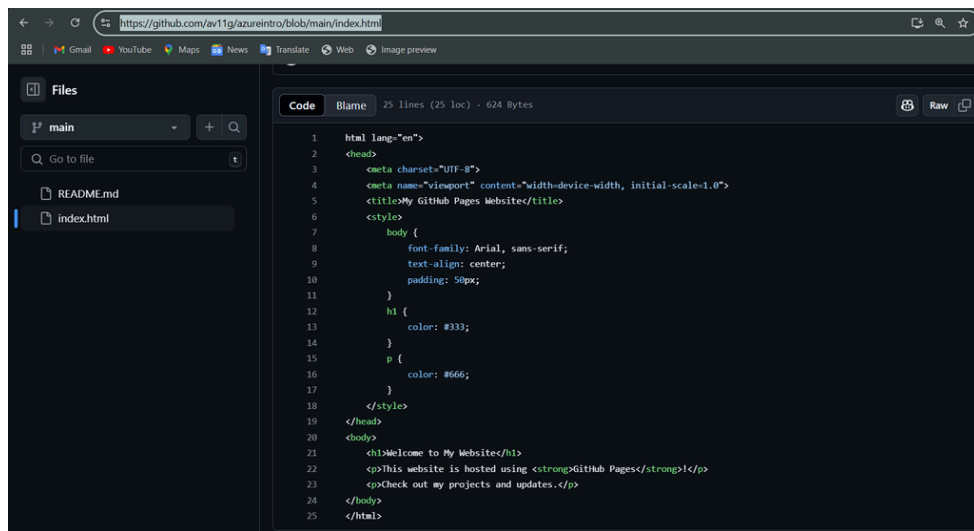
STEP 6:

Install the nginx server. Type 'Y' and start installing

```
ubuntu@ip-172-31-93-44:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
```

STEP 7:

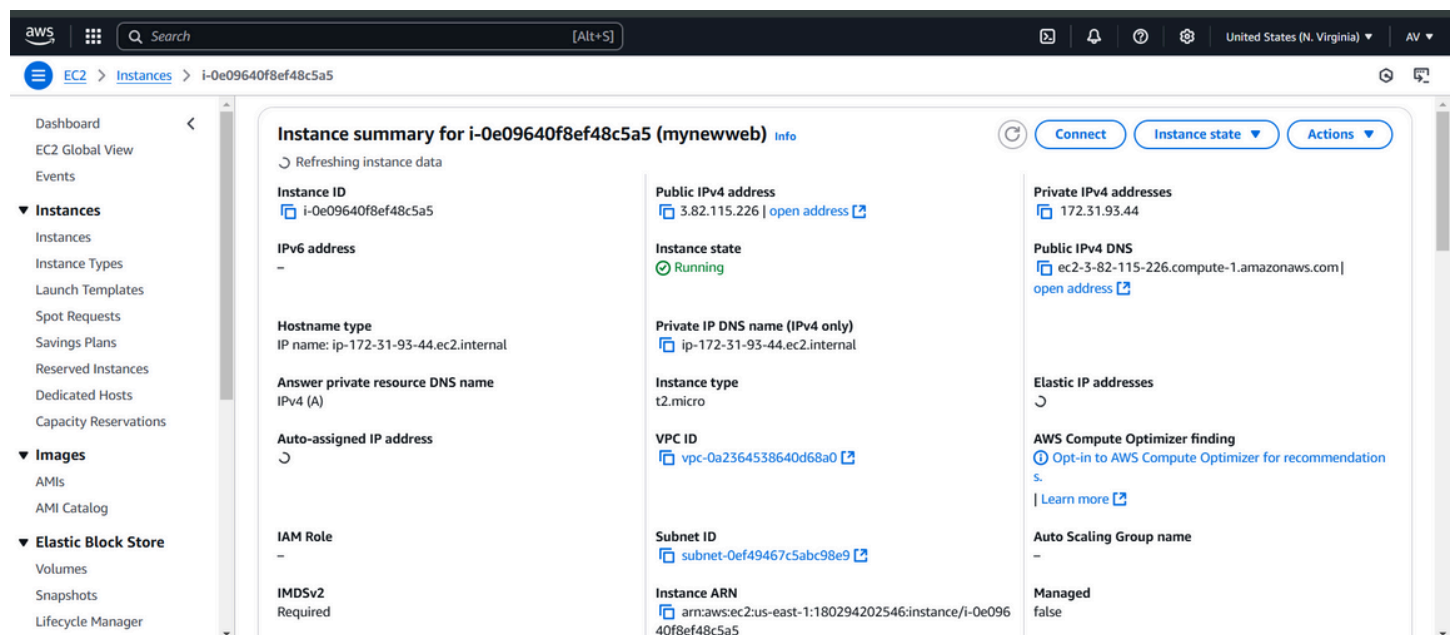
Create a Github repository with your basic static file in it and copy the link



```
1  html lang="en">
2  <head>
3    <meta charset="UTF-8">
4    <meta name="viewport" content="width=device-width, initial-scale=1.0">
5    <title>My GitHub Pages Website</title>
6    <style>
7      body {
8        font-family: Arial, sans-serif;
9        text-align: center;
10       padding: 50px;
11     }
12     h1 {
13       color: #333;
14     }
15     p {
16       color: #666;
17     }
18   </style>
19 </head>
20 <body>
21   <h1>Welcome to My Website</h1>
22   <p>This website is hosted using <strong>GitHub Pages</strong>!</p>
23   <p>Check out my projects and updates.</p>
24 </body>
25 </html>
```

STEP 8:

Run the command `cd/var/www/html .` copy the IP address from the EC2 instance



Instance summary for i-0e09640f8ef48c5a5 (mynewweb)

Instance ID: i-0e09640f8ef48c5a5

IPv6 address: -

Hostname type: IP name: ip-172-31-93-44.ec2.internal

Answer private resource DNS name: IPv4 (A)

Auto-assigned IP address: -

IAM Role: -

IMDSv2: Required

Public IPv4 address: 3.82.115.226 | [open address](#)

Instance state: **Running**

Private IP DNS name (IPv4 only): ip-172-31-93-44.ec2.internal

Instance type: t2.micro

VPC ID: vpc-0a2364538640d68a0 | [open address](#)

Subnet ID: subnet-0ef49467c5abc98e9 | [open address](#)

Instance ARN: arn:aws:ec2:us-east-1:180294202546:instance/i-0e09640f8ef48c5a5

Private IPv4 addresses: 172.31.93.44

Public IPv4 DNS: ec2-3-82-115-226.compute-1.amazonaws.com | [open address](#)

Elastic IP addresses: -

AWS Compute Optimizer finding: [Opt-in to AWS Compute Optimizer for recommendation](#)

Auto Scaling Group name: -

Managed: false

STEP 9:

Paste the IP address in the web and you will be able to see your website deployed

html lang="en">

Welcome to My Website

This website is hosted using **GitHub Pages**!

Check out my projects and updates.

OUTCOME:

Faster Deployment – Eliminates manual steps, ensuring quick and consistent website updates.

Cost-Effective Hosting – Uses Azure Storage, reducing infrastructure costs compared to traditional web hosting.

Improved Reliability – Azure ensures high availability and scalability for website hosting.

Simplified Maintenance – Automation scripts streamline future updates, reducing human effort.