MINI-PROJECT-3 :

Web Application Deployment on AWS using EC2, Target Groups, and Load Balancer

Objective :

To deploy a simple web application on AWS and make it accessible on the internet using EC2 instances, target groups, and an Application Load Balancer. The goal is to ensure high availability, scalability, and automated setup using user data.

Services Used :

* Amazon EC2 – For hosting the application.

* Elastic Load Balancer (ALB) – For distributing incoming traffic across instances.

* Target Groups – For managing and monitoring registered instances.

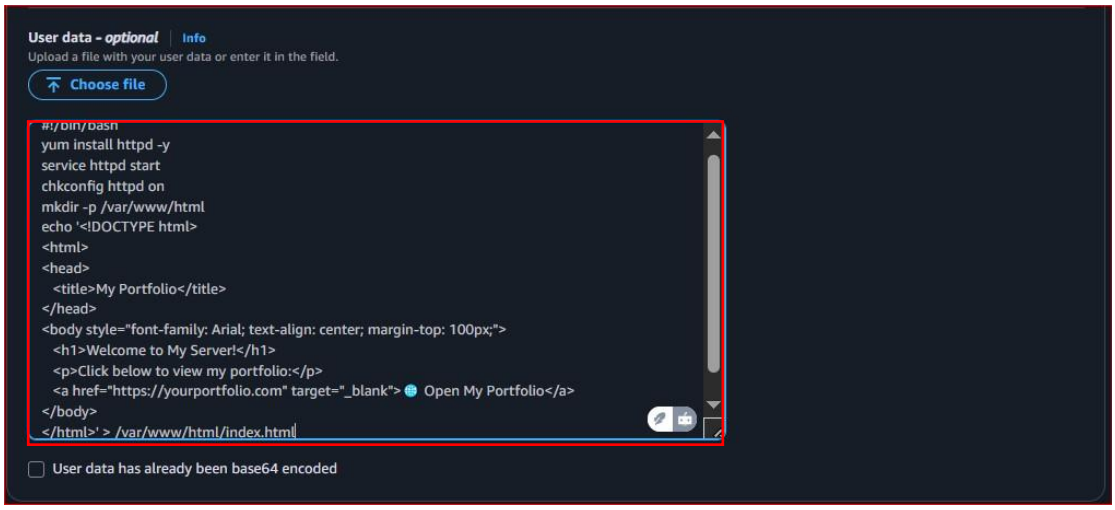
* Security Groups – For controlling inbound and outbound traffic.

* User Data (Linux commands) – For automated software installation and web server configuration.

Steps :

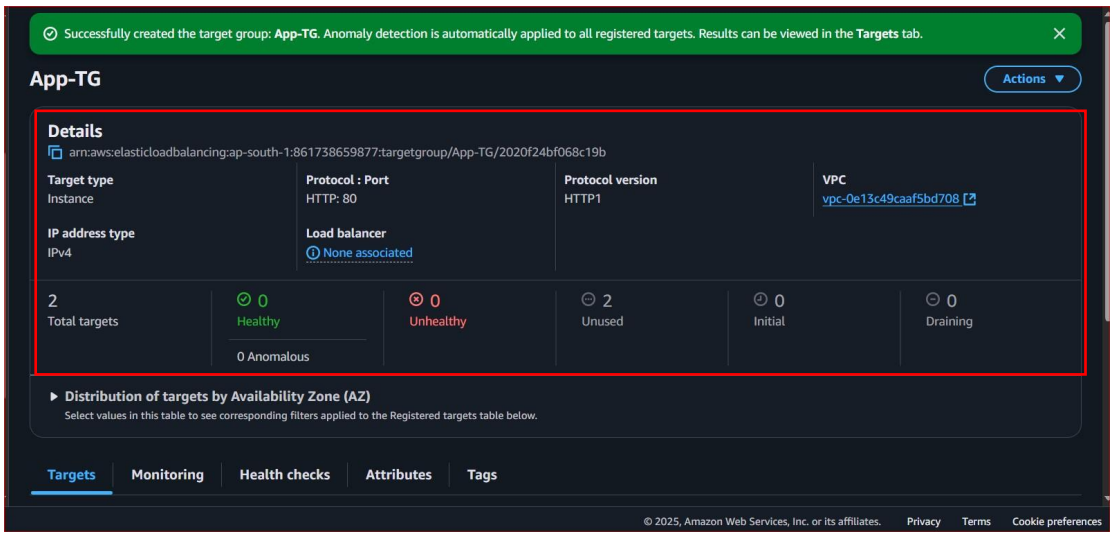
1.Launched an EC2 Instance :

-Selected Amazon Linux AMI.
-Configured instance details and added user data script for automatic Apache/HTTPD installation.
-Opened HTTP (port 80) in the security group.



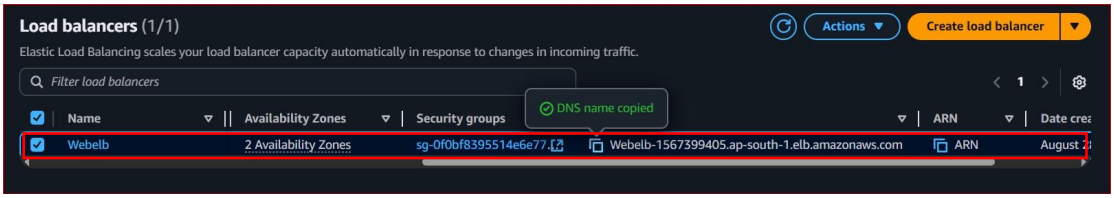
2. **Created a Target Group :**

-Defined the target group with protocol HTTP.
-Registered the EC2 instance to the target group.



3.Created an Application Load Balancer :

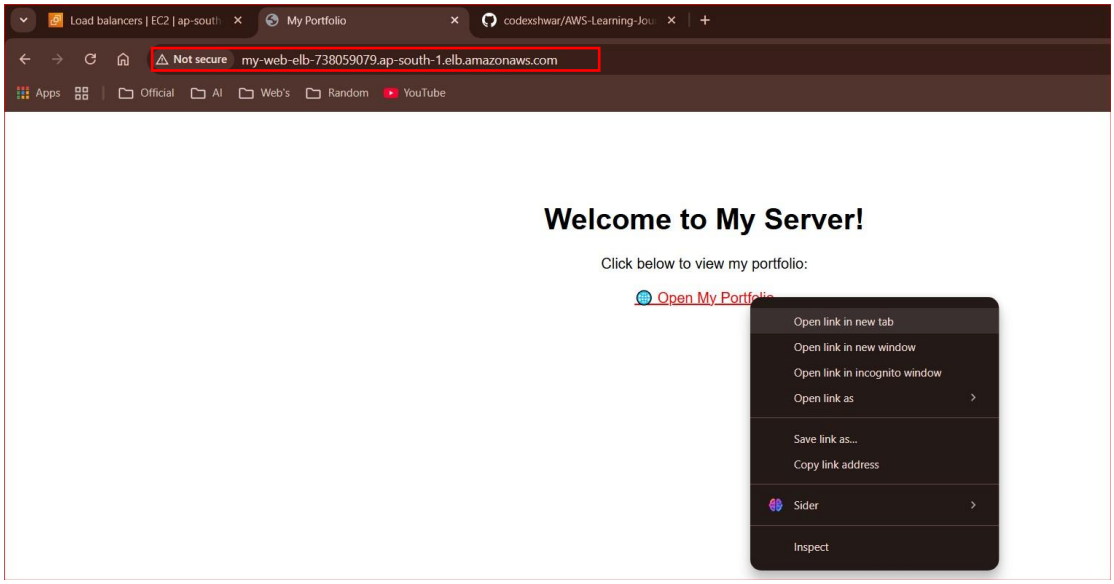
-Configured listeners on port 80.
-Attached the previously created target group.
-Security group allowed inbound traffic (HTTP).



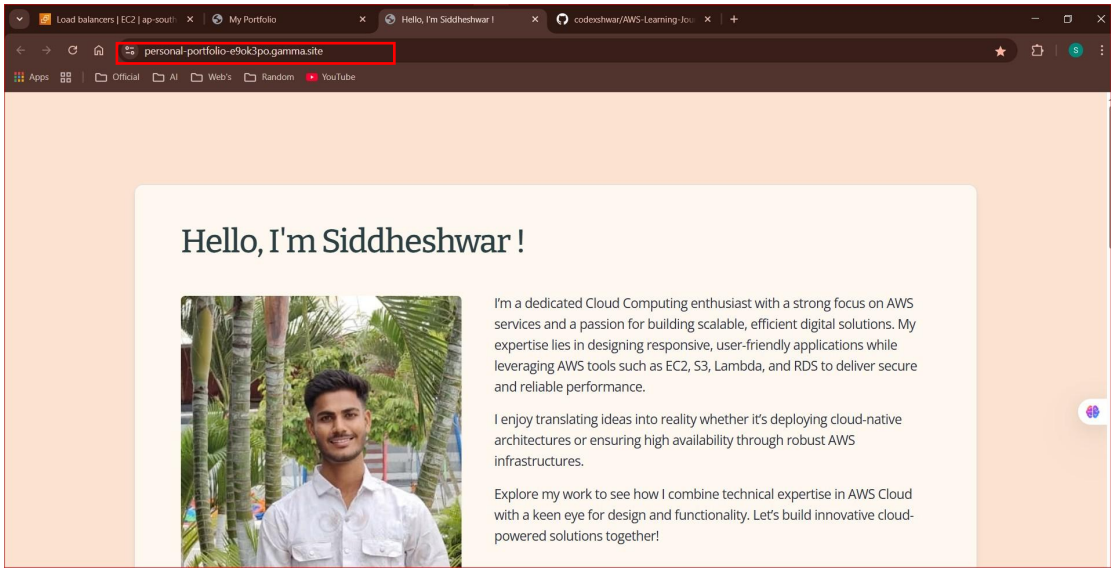
4.Testing the Deployment :

-Accessed the Load Balancer DNS name in a browser.
-Verified that the website was loading successfully.
- After Creation of loadbalancer Copy the DNS name and paste it in your browser and check it is working or not.

5.After opening it agin open it in new tap :



6.Successfully Deployed :



2)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Infrastructure as Code (IaC)
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Security Best Practices
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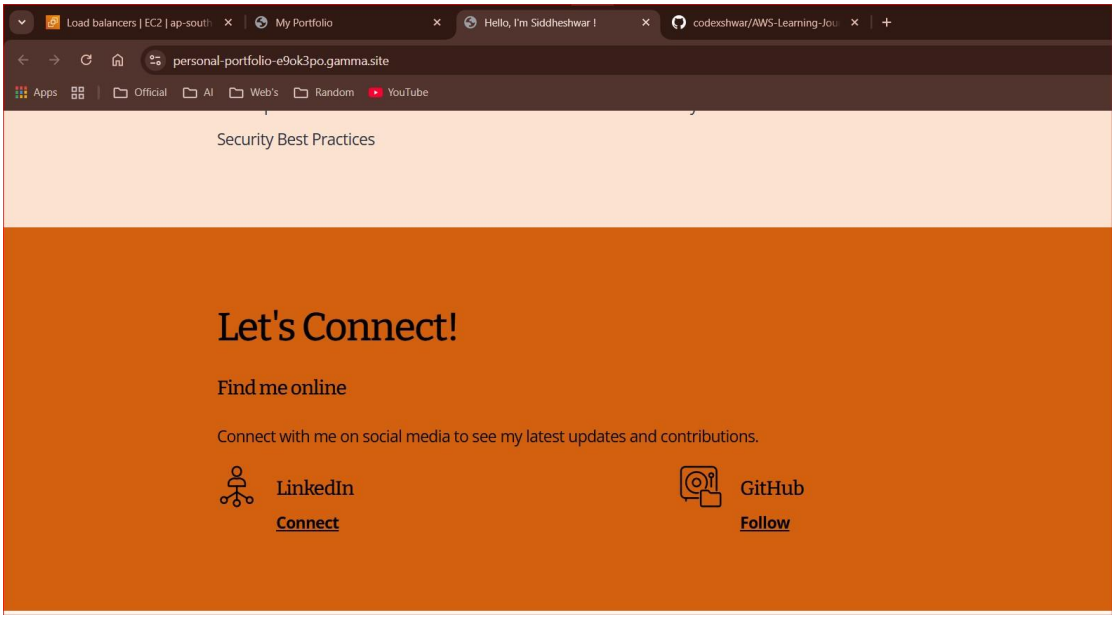
Python

3)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Result :

- Successfully deployed a working website accessible from the internet.
-Traffic is routed via the Application Load Balancer ensuring availability.
- Instances are automatically managed through the target group.
-Web server installation and content setup were automated using user data.

Key Learnings :

-How to deploy a website on AWS EC2.
-Setting up and configuring target groups and load balancer.
-Automating deployments using Linux commands in user data.
-Managing security groups for controlled access.

Stay Connected :

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Thank you.