NAME: VAISHNAL MALI DIV: D15A ADVANCED DEV-OPS EXPERIMENT-01

AIM: To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE, Launch AWS Cloud9 IDE and Perform Collaboration Demonstration.

Theory:

Amazon EC2 (Elastic Compute Cloud) is a web service provided by AWS that offers scalable computing capacity in the cloud. It eliminates the need for investing in hardware upfront, allowing you to develop and deploy applications faster.

- Scalability: EC2 allows you to scale your compute capacity up or down as needed. You can increase or decrease the number of instances or the compute power of instances according to your application's needs.
- Flexibility: EC2 offers a wide variety of instance types that you can tailor to your application's requirements. These instance types vary based on CPU, memory, storage, and networking capabilities.
- Security: EC2 integrates with various AWS services such as AWS Identity and Access Management (IAM), AWS Key Management Service (KMS), and Virtual Private Cloud (VPC) to provide secure computing environments.
- Cost-Effective: EC2 provides different pricing models such as On-Demand Instances, Reserved Instances, Spot Instances, and Savings Plans, which help you optimize costs based on your workload.
- Global Reach: With data centers in multiple regions around the world, EC2 allows you to deploy applications closer to your users for reduced latency and better performance.

AWS Cloud9

AWS Cloud9 is an integrated development environment (IDE) that runs in the cloud. It allows you to write, run, and debug code with just a browser.

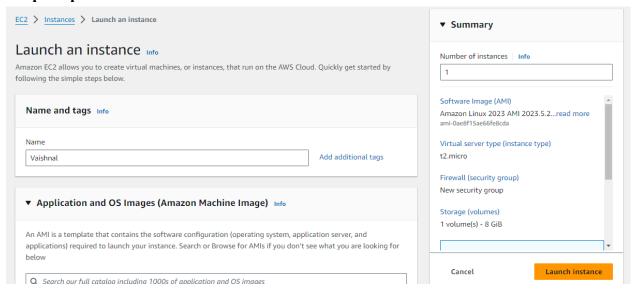
- Preconfigured Environment: Cloud9 comes prepackaged with essential tools like Python, Node.js, JavaScript, and more, so you don't have to install anything locally.
- Collaborative Coding: Multiple developers can work on the same project simultaneously, seeing each other's changes in real-time, which makes it ideal for pair programming or team collaboration.
- Integrated Terminal: You can access the terminal directly from the IDE, allowing you to run commands, install packages, and interact with AWS services using the AWS CLI.
- Serverless Development: Cloud9 makes it easier to develop serverless applications with built-in tools and environments that are ready for AWS Lambda functions.

Portable Development Environment: Because it's a cloud-based IDE, you can access your
development environment from any device with a web browser, ensuring a consistent
experience across different machines.

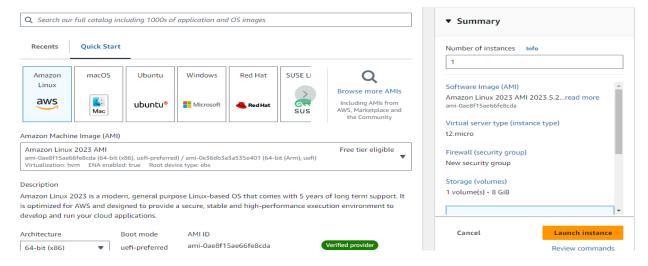
PART:1 Hosting a website using AWS EC2 instance

Steps:

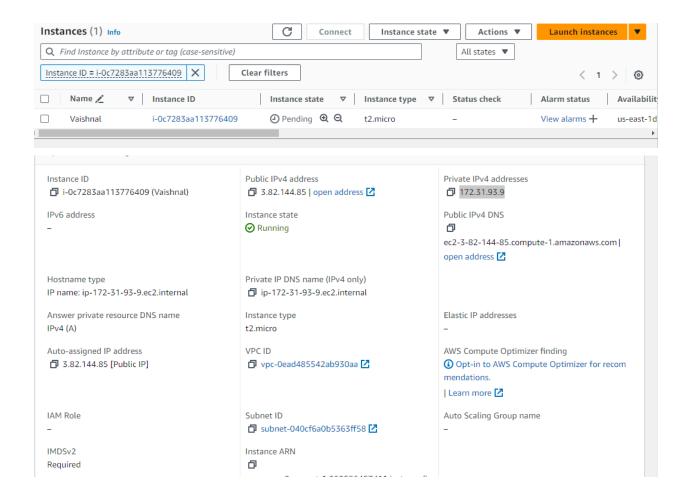
1. Open up EC2 Console and Launch a new Instance



2. Choose the Linux environmentConnect to the instance to access the CLI



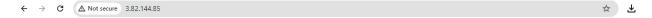
3. Connect to the instance to access the CLI



4.Perform following commands om terminal

ssh -i your-key.pem ec2-user@your-ec2-public-dns
sudo yum update -y
sudo yum install httpd -y
sudo systemctl start httpd
sudo systemctl enable httpd
scp -i your-key.pem /path/to/your-website-files/* ec2-user@your-ec2-public-dns:/var/www/html/
sudo chown -R apache:apache /var/www/html
sudo chmod -R 755 /var/www/html
sudo yum install certbot python2-certbot-apache -y
sudo certbot --apache
sudo systemctl restart httpd

5. Host your Website



Welcome to Service Samurai



Company Details

Name	Service Samurai
Address	123 Business Ave, Suite 100, City, Country
Contact Information	(123) 456-7890 contact@servicesamurai.com
Description	Service Samurai provides top-notch services in technology solutions, including consulting, development, and support.

Our Services

PART B: Create Environment on cloud 9

