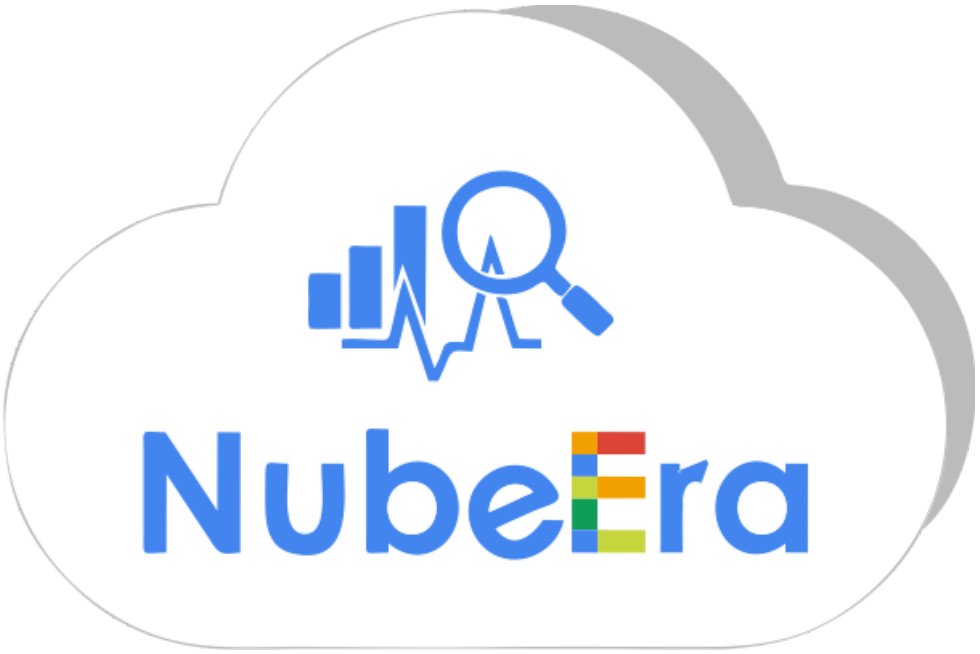

Subject: AWS Funda

Trainer: Mujahed S.

Document No.

Prepare Enterprise Cloud Virtual Server in AWS

Requirement:

You need to prepare 1 Server to be accessed by multiple teams with different keys.

Steps to solve:

Create Lock & Key using SSH-Keygen using using rename

id_rsa—>key

Id_rsa.pub—>lock.pub

Order EC2 server

key pair= Import Generated Lock to Keypair

security Group(Firewall) - Inbound Rule=All traffic, Anywhere

AMI: ubuntu

Instance type: t2.micro

Connect using AWS console(website)

Append lock.pub→ authorized_keys

~/.ssh/authorized_keys

Connect server using ssh

Command & use key

Creating an EBS Volume

Requirement:

Create an EBS volume of 10 GB in size in the AWS Management Console.

Steps to solve:

- Log in to the AWS Management Console.
- Go to the EC2 service.
- Click on "Volumes" in the left sidebar.
- Click "Create Volume" and specify the size as 10 GB.
- Choose the desired Availability Zone.
- Click "Create Volume" to create the EBS volume.

Attaching an EBS Volume to an EC2 Instance

Requirement:

Attach the previously created EBS volume to an EC2 instance.

Steps to solve:

- Go to the EC2 service in the AWS Management Console.
- Click on "Instances" in the left sidebar.
- Select the desired EC2 instance.
- Click "Actions" > "Attach Volume".
- Choose the EBS volume and specify the device name.
- Click "Attach" to attach the EBS volume to the EC2 instance.

Creating a Snapshot of an EBS Volume

Requirement:

Create a snapshot of the previously attached EBS volume.

Steps to solve:

- Go to the EC2 service in the AWS Management Console.
- Click on "Volumes" in the left sidebar.
- Select the attached EBS volume.
- Click "Actions" > "Create Snapshot".
- Specify a description for the snapshot.
- Click "Create Snapshot" to create the snapshot.

Creating an AMI from a Snapshot

Requirement:

Create an Amazon Machine Image (AMI) from the previously created snapshot.

Steps to solve:

- Go to the EC2 service in the AWS Management Console.
- Click on "Snapshots" in the left sidebar.
- Select the snapshot created in the previous task.
- Click "Actions" > "Create Image".
- Provide a name and description for the AMI.
- Configure additional settings if needed.
- Click "Create Image" to create the AMI.

Launching an EC2 Instance from an AMI

Requirement:

Launch a new EC2 instance from the previously created AMI.

Steps to solve:

- Go to the EC2 service in the AWS Management Console.
- Click on "Instances" in the left sidebar.
- Click "Launch Instances".
- Select the AMI created in the previous task.
- Choose the desired instance type and other configuration settings.
- Follow the on-screen instructions to configure the instance.
- Click "Launch" to launch the EC2 instance from the AMI.

Deploy a Web Application on AWS EC2

Requirement:

Deploy a web application on an AWS EC2 instance, utilizing the concepts of EBS Volume, Snapshot, AMI, and Security Group.

Steps to solve:

- Create an EC2 instance with the desired configuration.
- Set up a Security Group to control inbound and outbound traffic to the EC2 instance.
- Create an EBS Volume and attach it to the EC2 instance for persistent storage.
- Install the necessary software and dependencies on the EC2 instance.
- Transfer your web application code to the EC2 instance.
- Configure the web server (e.g., Apache, Nginx) to serve your application.
- Test the web application to ensure it is running correctly on the EC2 instance.
- Create a snapshot of the EBS Volume for backup purposes.
- Create an Amazon Machine Image (AMI) from the EC2 instance.
- Launch additional EC2 instances from the AMI to scale your web application.

Automated Backup and Restore of Data on AWS EBS Volumes.

Requirement:

Implement an automated backup and restore process for data stored on AWS EBS Volumes, incorporating Snapshot, AMI, and Security Group.

Steps to solve:

- Create an EBS Volume and attach it to an EC2 instance.
- Set up a Security Group to control inbound and outbound traffic to the EC2 instance.
- Configure a scheduled backup script to take regular snapshots of the EBS Volume.
- Implement a backup rotation strategy to manage multiple snapshots.
- Set up a mechanism for storing the snapshots securely (e.g., AWS S3).
- Develop a restore script to recreate the EBS Volume from a selected snapshot.
- Test the backup and restore process by creating and restoring from a snapshot.
- Automate the backup and restore workflow using tools like AWS Lambda or cron jobs.
- Implement monitoring and alerting for the backup and restore process.
- Document the backup and restore procedures for future reference.
