Subject: AWS Funda

Document Name: AWS EC2 Storage Practice

Document No. 1

Project: Deploy a Web Application using Apache Tomcat

1. Launch an AWS EC2 instance:

- Select the EC2 instance (t2.micro)
- Choose an Ubuntu 22.04/latest Amazon Machine Image (AMI) that supports the Tomcat web server.
- To Deploy This WAR File On Apache Tomcat 9

    OR

  https://github.com/teamnubeera/NEMCO-Tasks/raw/master/A.AWSFunda/01.WebServer/sample.war

2. Configure Security Group:

- Create a security group for the EC2 instance.
- Define inbound and outbound rules to control traffic access.
- Rule1 Inbound rule:
    - Protocol: Allow SSH (Secure Shell) traffic from your IP address:
    - Port: 22
    - Source: Your [IP address].
    - Description: Setting Security Group
- Rule2 Inbound rules:
    - Protocol: Allow HTTP traffic for web access:
    - Port 80
    - Source: 0.0.0.0/0 (or specify a specific range of IP addresses).
    - Description: For Accessing and Retrieving web content(War file)
- Rule3 Inbound rules:
    - Protocol: Allow HTTP traffic for web access:
    - Port 8080
    - Source: 0.0.0.0/0 (or specify a specific range of IP addresses).
    - Description: ApacheTomcat
- Rule4 Outbound:
    - Protocol: Allow all outbound traffic: All traffic
    - Port: 0-65535
    - Destination: 0.0.0.0/0
    - Description: For updating linux repositories

3. Create an EBS Volume:

- Create an Elastic Block Store (EBS) volume with following details:
    - Size: 9GB
    - Type of Storage: General Purpose

4. Attach EBS Volume to EC2 Instance:

- Attach the created EBS volume to the EC2 instance as additional storage

5. Install Software and Dependencies:

- Connect to the EC2 instance using SSH or instance Connect
- Install Complete Java(JDK/JRE) with Version = 17 (ONLY)
- Apache Tomcat 9.x Version on the instance.
- Configure Tomcat settings and directories as needed.

6. Configure Tomcat to Serve Web Application:

- Configure Tomcat to deploy your web application.
- Set up environment variables, context paths, and other necessary configurations.

7. Test Web Application:

- Access the public IP or DNS of the EC2 instance in a web browser.
- Verify that your web application is running correctly.

8. Create Snapshot for Backup:

- Create a snapshot of the EBS volume used by the AWS EC2 instance to have a backup of your data.

9. Create an Amazon Machine Image (AMI):

- Create an AMI from the EC2 instance, including all the installed software & configurations.

10. Launch Additional EC2 Instances for Scalability:

- Launch new EC2 instances using the AMI(Amazon Machine Image) to scale your web application horizontally.
- Description: Maintaining Scalability.