Project Details

Project Name: How to Deploy Bastion Server using Custom VPC in AWS CloudShell

Tasks in Ascending Order:

1. **Create Custom VPC**

   - Start by setting up a custom Virtual Private Cloud (VPC) in AWS.

2. **Create 1 Private Subnet**

   - Establish a private subnet within the custom VPC.

3. **Create 1 Public Subnet**

   - Create a public subnet within the custom VPC.

4. **Create 1 Private Route Table**

   - Configure a dedicated route table for the private subnet.

5. **Create 1 Public Route Table**

   - Configure a dedicated route table for the public subnet.

6. **Create 1 NAT Gateway and Associate it with Private Route Table for Private Subnet**

   - Deploy a Network Address Translation (NAT) gateway and associate it with the private route table for the private subnet.

7. **Create 1 Internet Gateway with Public IP for Public Subnet and Associate it with Public Route Table**

   - Create an Internet Gateway with a public IP for the public subnet and associate it with the public route table.

8. **Associate NAT with 1 Elastic IP**

   - Connect the NAT gateway with one Elastic IP (EIP).

9. **Create EC2 Instance (Use RHEL and Rocky Linux)**

- Launch an Amazon Elastic Compute Cloud (EC2) instance using either Red Hat Enterprise Linux (RHEL) or Rocky Linux.

10. **Enable GUI Package**

- Configure the Graphical User Interface (GUI) package for the Linux environment.

11. **Deploy & Install Java, Setup Path**

- Deploy and install Java, then configure the environment path.

12. **Install IntelliJ IDE**

- Install the IntelliJ Integrated Development Environment (IDE).

13. **Retrieve Java Version Output using Terminal in Linux GUI Interface**

- Utilize the terminal in the Linux GUI interface to retrieve the Java version output.

14. **Choose MATE Linux GUI Desktop Graphical Package**

- Select the MATE Linux GUI desktop graphical package.

15. **Use Latest dnf or DNF Package Manager (RHEL and Rocky Linux)**

- Employ the latest dnf or DNF (Dandified YUM) package manager for managing packages in RHEL and Rocky Linux.

16. **Ensure AWS Bastion Server Accessibility**

- Ensure that the AWS Bastion server is accessible via both password authentication and SSH key pair for certificate generation (TLS).

17. **Enable RDP Once Linux is Ready**

- Activate Remote Desktop Protocol (RDP) access after the Linux environment setup is complete.

18. **Install Packages Related to Desktop or MATE Package/Distro**

- Install packages relevant to the desktop or MATE package/distribution.

19. **Add NACL or Firewall Rules**

- Configure Network Access Control Lists (NACL) or firewall rules, including:

  - Allowing HTTP on port 80.

  - Enabling or allowing plain text communication on port 9092.

  - Enabling port 9093.

  - Allowing port 22.

  - Allowing port 3389 for RDP.

  - Allowing port 32081 for schema registry.

  - Allowing port 32080 for Kafka clients.

20. **Create an IAM User Group: 'cloud_shell_deployment'**

- Establish an Identity and Access Management (IAM) user group named 'cloud_shell_deployment' with the following permissions:

  - VPC access.

  - Full access to IAM.

  - Full access to S3.

  - Access to CloudWatch.

  - Access to SQS (Simple Queue Service).

  - Access to Lambda.

21. **Create an IAM User and Add to the 'cloud_shell_deployment' Group**

- Create an IAM user and include them in the 'cloud_shell_deployment' IAM group with the appropriate permissions.

Following this ascending order of tasks will ensure an efficient workflow for deploying a Bastion server using a custom VPC in AWS CloudShell.
