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AWS Lab 22

NAT Gateway

Overview of the lab

In this lab you will learn what is the use of NAT gateway

NAT - Network Address Translation

It is used to translate public IP address to private IP address or vise versa

NAT Instance & NAT Gateway

It allows instance(s) in private subnet to connect to internet or on premises or other VPC

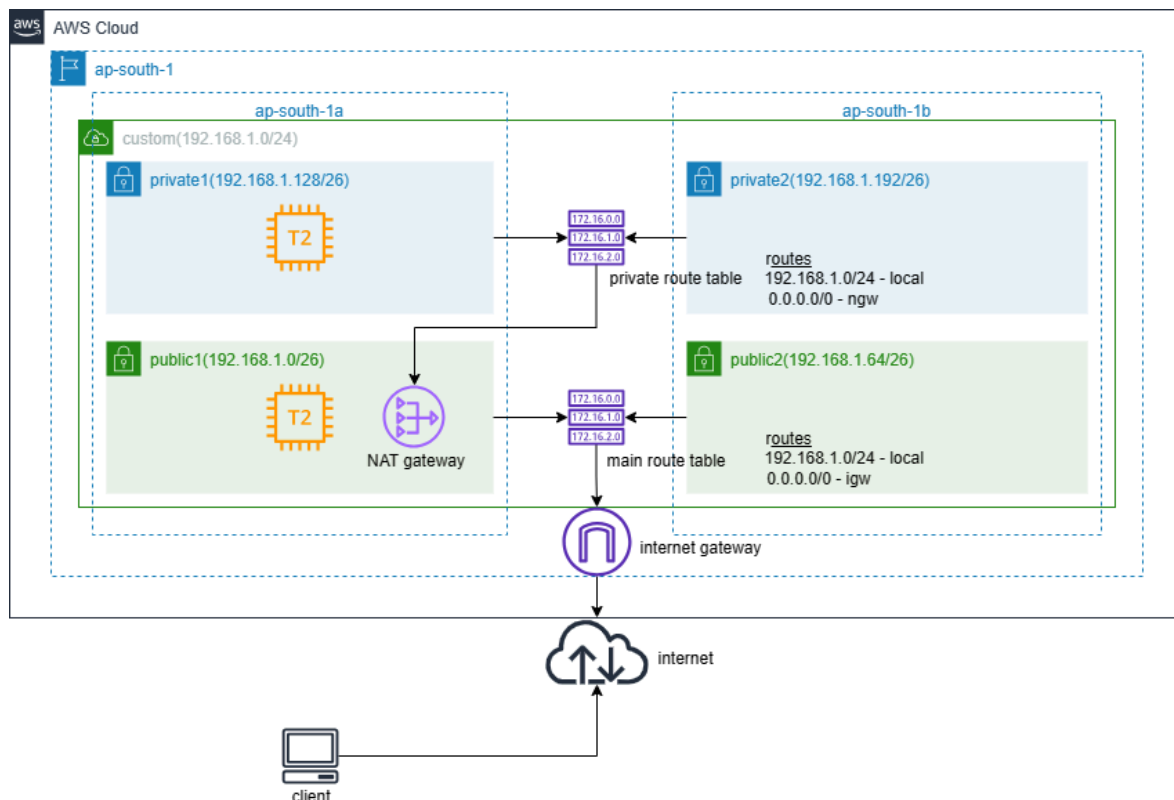## NAT Instance

It is an EC2 instance managed by us

We need to configure high availability for NAT instance

NAT Gateway

It is a NAT device fully managed by aws

NAT gateway is highly available

Architecture

Step by Step Lab

Launch instance in public subnet with public IP and check internet connectivity

1. In EC2 management console, click on launch instance
   a. Name and tag – windows-public
   b. Application and OS Images – Windows
   c. Instance type - t2.micro
   d. Key pair – select the existing keypair
   e. Edit Network settings
      a. VPC - custom-vpc

     b. Subnet – custom-vpc-public1

     c. Auto-assign public IP - Enable

     d. Firewall – Select existing security group

     e. Common security groups - custom-vpc-demo-sg

   f. Click on launch instance

2. Connect to instance via RDP using public IP address (from local machine)

3. Check connectivity to internet using powershell command (you will get reply)

      ping facebook.com

Launch instance in private subnet without public IP and check internet connectivity

4. Click on launch instance

   a. Name and tag – windows-private

   b. Application and OS Images – Windows

   c. Instance type - t2.micro

   d. Key pair – select the existing keypair

   e. Edit Network settings

      i. VPC - custom-vpc

      ii. Subnet – custom-vpc-private1

     iii. Auto-assign public IP - Disable

     iv. Firewall – Select existing security group

      v. Common security groups - custom-vpc-demo-sg

   f. Click on launch instance

5. Connect to instance via RDP using private IP address (from public subnet instance)

6. Check connectivity to internet using powershell command (you will not get reply)

> ping facebook.com

Create NAT Gateway

7. In VPC management console - Click on NAT gateways and click on Create NAT gateway
   a. Name - custom--vpc-ngw
   b. Subnet - custom-vpc-public1
   c. Connectivity type - public
   d. Click on Allocate Elastic IP
8. Click on Create NAT gateway

Manage route table route

9. Click on Route tables
10. Select custom-vpc-private-rt in Actions Click on Edit routes
11. Click on Add route
    a. Destination - 0.0.0.0/0
    b. Target - NAT gateway and select the nat-gateway
12. Click on Save changes

Connectivity check

13. Check connectivity to internet using powershell command from private subnet instance (you will get reply)

> ping facebook.com

Clean Up Step

1. Select both windows-public and windows-private instance and terminate it
2. Select the NAT gateway and in Actions Delete NAT gateway
3. (wait for few mins) Select Elastic IPs and in Actions click on Release Elastic IP addresses