

Introduction

When choosing between a NAT Gateway and a NAT instance to handle your network address translations, there are a few key differences to consider. Some examples include maintenance, availability, and performance.

A NAT instance is managed by you, which includes software installation, updates, and patching. It also requires additional scripting to manage its availability and failover between instances. Its performance relies heavily on a generic Amazon Machine Image (AMI) that is configured to perform NAT.

A NAT Gateway, on the other hand, is managed by AWS which means you do not need to perform any maintenance. It's highly available with a NAT gateway in each Availability Zone to improve redundancy. As for performance, the software used by a NAT Gateway is optimized for handling NAT traffic.

To read more about the differences between a NAT Gateway and a NAT instance, refer to the following documentation:

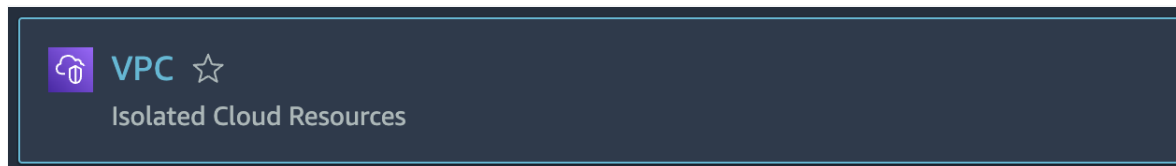
- [Compare NAT gateways and NAT instances](#)

In addition to the differences mentioned above, it's important to note that the [Amazon Linux AMI has ended its standard support on December 31, 2020](#). Going forward, AWS recommends that you migrate to using NAT Gateways or create and maintain your own NAT AMI on Amazon Linux 2.

In this lab step, you will create a NAT Gateway that will be used by the EC2 instance in your private subnet to access the public internet. You will also revisit the route table associated with the private subnet and update the target entry to point to this gateway.

Instructions

1. In the AWS Management Console search bar, enter *VPC*, and click the **VPC** result under **Services**:



2. Click **NAT Gateways** in the left navigation pane:



3. Click **Create NAT gateway**:



4. Begin configuring the following in the **NAT gateway settings** form:

- **Name:** Enter *NAT-GW*
- **Subnet:** Select **Public-A**
- **Connectivity type:** Ensure **Public** is selected

The **Public** connectivity type will allow this NAT Gateway the ability to access the public internet.

5. Click **Allocate Elastic IP** next to the **Elastic IP allocation ID**:

Elastic IP allocation ID [Info](#)

Assign an Elastic IP address to the NAT gateway.

Select an Elastic IP**Allocate Elastic IP**

You will need to attach an Elastic IP address to your NAT Gateway. This allows it to be referenced by the route table responsible for routing outbound traffic from instances in the private subnet to the public internet.

This allocates an Elastic IP address for the NAT Gateway to use. When the NAT Gateway is created, this IP address will be attached to the NAT Gateway automatically.

You will receive the following message at the top of the page:

✓ Elastic IP address 44.226.216.87 (eipalloc-05a788ad9b91c84bf) allocated.

6. Click Create NAT gateway:**Create NAT gateway**

You are brought to the details page for your newly created NAT Gateway. You will notice the current **State** will display as **Pending**:

State

 Pending

7. Wait for the NAT Gateway **State** to display as **Available** before continuing.

This process can take up to 2 minutes. After a brief waiting period, you may need to refresh the page to view the available status.

8. On the left-hand navigation pane, click **Route Tables**:

Route Tables

9. Select **PrivateRouteTable** then scroll down and click on the **Routes** tab to view the existing routes:

Destination ▾	Target ▾
10.0.0.0/16	local
0.0.0.0/0	igw-0629aff6204c420b0

You will recall temporarily setting the **Destination** to **0.0.0.0/0** with the Internet Gateway created previously as the **Target**.

10. Click **Edit routes**:

Edit routes

11. Locate the **0.0.0.0/0** Destination route and clear the **Target** field by clicking the **X**:

12. Begin typing *NAT*, then select **NAT Gateway**, then **NAT-GW** from the drop-down menu that appears:

Edit routes

Destination	Target
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="nat-gw"/>
Propagated	<div>nat-052f9eeb5cf4034b7 (NAT-GW)</div>

13. Click **Save changes**:

Save changes

Summary

In this lab step, you created a NAT Gateway to allow your instances in private subnet access to the public internet.

VALIDATION CHECKS

1 Checks

Check again 



Created a NAT Gateway

Check if a NAT Gateway has been created.