

# PROJECT 1 (TIO-5) VPC CREATION

## Creation of VPC

The screenshot displays the AWS Management Console interface for a newly created VPC. A green notification banner at the top states: "You successfully created vpc-0acc5f390deddd0e4 / gl-vpc". The main content area shows the details for the VPC 'vpc-0acc5f390deddd0e4 / gl-vpc'. The details are organized into a table with four columns: VPC ID, State, DNS hostnames, and DNS resolution. Below the details table, there is a 'Resource map' section with tabs for 'Resource map', 'CIDRs', 'Flow logs', and 'Tags'. The 'Resource map' tab is active, showing a diagram of the VPC resources. A pop-up window titled 'Introducing the VPC resource map' is visible in the bottom left corner of the console area. The left sidebar shows the navigation menu with categories like 'Virtual private cloud', 'Security', 'DNS firewall', and 'Network Firewall'. The bottom of the screen shows the Windows taskbar with various application icons and system information.

**Notification:** You successfully created vpc-0acc5f390deddd0e4 / gl-vpc

**VPC Details:**

Details	Info
VPC ID vpc-0acc5f390deddd0e4	State Available
Tenancy Default	DNS hostnames Disabled
Default VPC No	DHCP option set dopt-0698f9fce1fb1ee7f
Network Address Usage metrics Disabled	Main route table rtb-02561ca11a9cad9f9
	IPv4 CIDR 10.0.0.0/16
	IPv6 pool -
	DNS resolution Enabled
	Main network ACL acl-0eca8ce92e92e1c94
	Route 53 Resolver DNS Firewall rule groups -
	Owner ID 380732321839

**Resource map:**

- VPC (Show details): Your AWS virtual network. Includes 'gl-vpc'.
- Subnets (0): Subnets within this VPC.
- Route tables (1): Route network traffic to resources. Includes 'rtb-02561ca11a9cad9f9'.
- Network connections (0): Connections to other networks.

**Introducing the VPC resource map:** Solid lines represent relationships between resources in your VPC. Dotted lines represent network traffic to network functions. This feature is under review.

## Creation of public subnet

The screenshot displays the AWS Management Console interface for the 'us-east-1' region. A green notification banner at the top states: 'You have successfully created 1 subnet: subnet-0d6015b5bc2d2d6d9'. The main content area shows the 'Subnets (1/1)' list with a single entry:

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	Available IPv4 addresses	Availability Zone
public	subnet-0d6015b5bc2d2d6d9	Available	vpc-0acc5f390deddd0e4   gl-vpc	10.0.1.0/24	-	251	us-east-1e

Below the table, the 'Details' tab for the subnet 'subnet-0d6015b5bc2d2d6d9 / public' is expanded, showing the following information:

Property	Value
Subnet ID	subnet-0d6015b5bc2d2d6d9
Subnet ARN	arn:aws:ec2:us-east-1:380732321839:subnet/subnet-0d6015b5bc2d2d6d9
State	Available
Availability Zone	us-east-1e
IPv4 CIDR	10.0.1.0/24
Available IPv4 addresses	251
Availability Zone ID	use1-az3
Network border group	us-east-1
IPv6 CIDR	-
Route table	rtb-03551c11-b0c2d6f6
Network ACL	acl-0acc8e0d073e1c04

The left sidebar shows the navigation menu with categories like 'Virtual private cloud', 'Security', 'DNS firewall', and 'Network Firewall'. The bottom of the screen shows the Windows taskbar with various application icons and system information like '33°C' and '4:04 PM'.

## Creation of private subnet

https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#subnets:SubnetId=subnet-08983d4f415e9e914

Subnets (1) info

Filter subnets

Subnet ID: subnet-08983d4f415e9e914

Clear filters

	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	Available IPv4 addresses	Availability Zone
<input type="checkbox"/>	private	subnet-08983d4f415e9e914	Available	vpc-0acc5f390deddd0e4   gl-vpc	10.0.2.0/24	-	251	us-east-1e

Select a subnet

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Modify auto-assign IP setting

VPC dashboard

EC2 Global View

Filter by VPC:

Select a VPC

Virtual private cloud

Subnets

Route tables

Internet gateways

Egress-only internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Security

Network ACLs

Security groups

DNS firewall

Rule groups

Domain lists

Network Firewall

Firewalls

Firewall policies

Network Firewall rule

You have successfully changed subnet settings:

• Enable auto-assign public IPv4 address

Subnets (1/14)

Info

Filter subnets

	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	Available IPv4 addresses	Availability Zone
<input type="checkbox"/>	private	subnet-08983d4f415e9e914	Available	vpc-0acc5f390deddd0e4   gl-vpc	10.0.2.0/24	-	251	us-east-1e
<input type="checkbox"/>	-	subnet-07fc31dd58de43b97	Available	vpc-04298171e834c70e5	172.30.1.0/24	-	251	us-east-1b
<input type="checkbox"/>	-	subnet-085be62f4410f29b3	Available	vpc-0dc027bc3c9cfa5b4	172.31.32.0/20	-	4091	us-east-1b
<input type="checkbox"/>	-	subnet-0e5aca310f68862a	Available	vpc-04298171e834c70e5	172.30.2.0/24	-	251	us-east-1c
<input checked="" type="checkbox"/>	public	subnet-0d6015b5bc2d2d6d9	Available	vpc-0acc5f390deddd0e4   gl-vpc	10.0.1.0/24	-	251	us-east-1e
<input type="checkbox"/>	-	subnet-0b8d73c65873cb579	Available	vpc-04298171e834c70e5	172.30.0.0/24	-	251	us-east-1a
<input type="checkbox"/>	-	subnet-0ffb731ec39ff3d2d	Available	vpc-0dc027bc3c9cfa5b4	172.31.16.0/20	-	4091	us-east-1a
<input type="checkbox"/>	-	subnet-0d7e75b89e78b37a5	Available	vpc-04298171e834c70e5	172.30.3.0/24	-	251	us-east-1d

subnet-0d6015b5bc2d2d6d9 / public

Details

Flow logs

Route table

Network ACL

CIDR reservations

Sharing

Tags

Details

Subnet ID

subnet-0d6015b5bc2d2d6d9

Available IPv4 addresses

251

Subnet ARN

arn:aws:ec2:us-east-1:380732321839:subnet/subnet-0d6015b5bc2d2d6d9

IPv6 CIDR

-

State

Available

Availability Zone

us-east-1e

IPv4 CIDR

10.0.1.0/24

Availability Zone ID

use1-az3

Feedback

Language

Type here to search

33°C

ENG

4:09 PM

3/13/2023

## Launched internet gateway

The screenshot displays the AWS Management Console interface for an internet gateway. A green notification banner at the top states: "The following internet gateway was created: igw-070051534f375aba9 - gl-igw. You can now attach to a VPC to enable the VPC to communicate with the internet." An "Attach to a VPC" button is located in the top right corner of the notification.

The breadcrumb navigation shows: VPC > Internet gateways > igw-070051534f375aba9. The title of the page is "igw-070051534f375aba9 / gl-igw".

**Details**

Internet gateway ID	State	VPC ID	Owner
igw-070051534f375aba9	Detached	-	380732321839

**Tags**

Search tags

Key	Value
Name	gl-igw

The left sidebar contains a navigation menu with categories: Virtual private cloud, Security, DNS firewall, and Network Firewall. The bottom of the screen shows the Windows taskbar with various application icons and system information.

Attached internet gateway to VPC

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https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#InternetGateway:internetGatewayId=igw-070051534f375aba9

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RWS

Services

Search

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VPC dashboard

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EC2 Global View

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New

Filter by VPC:

Select a VPC

▼

▼ Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

▼ Security

Network ACLs

Security groups

▼ DNS firewall

Rule groups

Domain lists

▼ Network Firewall

Firewalls

Firewall policies

Network Firewall rule

🟢 Internet gateway igw-070051534f375aba9 successfully attached to vpc-0acc5f390deddd0e4

×

🔍

VPC > Internet gateways > igw-070051534f375aba9

igw-070051534f375aba9 / gl-igw

Actions

Details

Info

Internet gateway ID

igw-070051534f375aba9

State

🟢 Attached

VPC ID

vpc-0acc5f390deddd0e4 | gl-vpc

Owner

👤 380732321839

Tags

Manage tags

🔍 Search tags

< 1 > ⚙️

Key

Value

Name

gl-igw

Feedback

Language

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## Create custom Route Table

The screenshot displays the AWS Management Console interface for a custom route table. A green notification banner at the top states: "Route table rtb-081f6cdf83ebcc5aa | public-crt was created successfully." The breadcrumb navigation shows "VPC > Route tables > rtb-081f6cdf83ebcc5aa". The title of the page is "rtb-081f6cdf83ebcc5aa / public-crt".

Below the title, there is a message: "You can now check network connectivity with Reachability Analyzer" with a button "Run Reachability Analyzer".

The "Details" section provides the following information:

- Route table ID: rtb-081f6cdf83ebcc5aa
- Main: No
- Explicit subnet associations: -
- Edge associations: -
- VPC: vpc-0acc5f390deddd0e4 | gl-vpc
- Owner ID: 380732321839

The "Routes" tab is selected, showing a list of routes. The list has a search bar "Filter routes" and a dropdown menu "Both". The table below shows one route:

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

The bottom of the screenshot shows the Windows taskbar with various application icons and the system tray displaying the date and time as 4:18 PM on 3/13/2023.

## Edit route and attach to 0.0.0.0/0 CIDR block

Updated routes for rtb-081f6cdf83ebcc5aa / public-crt successfully

Details

VPC > Route tables > rtb-081f6cdf83ebcc5aa

### rtb-081f6cdf83ebcc5aa / public-crt

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

**Details** Info

Route table ID rtb-081f6cdf83ebcc5aa	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0acc5f390deddd0e4   gl-vpc	Owner ID 380732321839		

**Routes** Subnet associations Edge associations Route propagation Tags

**Routes (2)** [Filter routes](#) Both [Edit routes](#)

Destination	Target	Status	Propagated
0.0.0.0/0	igw-070051534f375aba9	Active	No
10.0.0.0/16	local	Active	No

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## Edit subnet association -public subnet

https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTables:

**You have successfully updated subnet associations for rtb-081f6cdf83ebcc5aa / public-crt.**

### Route tables (4) Info

Filter route tables

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associat...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	-	rtb-05e787ea46a73e604	-	-	Yes	vpc-04298171e834c70e5	380732321839
<input type="checkbox"/>	public-crt	rtb-081f6cdf83ebcc5aa	subnet-0d6015b5bc2d2...	-	No	vpc-0acc5f390deddd0e4   gl-vpc	380732321839
<input type="checkbox"/>	-	rtb-0ec8c31460cf62667	-	-	Yes	vpc-0dc027bc3c9cfa5b4	380732321839
<input type="checkbox"/>	-	rtb-02561ca11a9cad9f9	-	-	Yes	vpc-0acc5f390deddd0e4   gl-vpc	380732321839

Select a route table

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ENG 4:46 PM 3/13/2023

The screenshot displays the AWS Management Console interface for a NAT gateway. The top navigation bar shows the AWS logo, 'Services', and a search bar. The breadcrumb trail indicates the path: VPC > NAT gateways > nat-0ca78459251ff162f. The main header shows the gateway name 'nat-0ca78459251ff162f / gl-ngw' and an 'Actions' dropdown menu. The 'Details' tab is selected, showing the following information:

- NAT gateway ID:** nat-0ca78459251ff162f
- NAT gateway ARN:** arn:aws:ec2:us-east-1:380732321839:natgateway/nat-0ca78459251ff162f
- VPC:** vpc-0acc5f390deddd0e4 / gl-vpc
- Connectivity type:** Public
- Primary public IPv4 address:** subnet-0d6015b5bc2d2d6d9 / public
- Subnet:** subnet-0d6015b5bc2d2d6d9 / public
- State:** Pending
- Primary private IPv4 address:** -
- Created:** Monday, March 13, 2023 at 17:09:33 GMT+1
- State message:** -
- Primary network interface ID:** -
- Deleted:** -

Below the details, the 'Secondary IPv4 addresses' tab is selected. It shows a search bar with the placeholder text 'Filter by secondary IPv4 address' and a table with the following columns: Private IPv4 address, Network interface ID, Status, and Failure message. The table is currently empty, and a message at the bottom states: 'Secondary IPv4 addresses are not available for this nat gateway.'

## Attach NAT gateway to the route

Updated routes for rtb-02561ca11a9cad9f9 successfully

Details

VPC > Route tables > rtb-02561ca11a9cad9f9

### rtb-02561ca11a9cad9f9

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

**Details** Info

Route table ID rtb-02561ca11a9cad9f9	Main Yes	Explicit subnet associations -	Edge associations -
VPC vpc-0acc5f390deddd0e4   gl-vpc	Owner ID 380732321839		

**Routes** Subnet associations Edge associations Route propagation Tags

**Routes (2)** [Filter routes](#) [Both](#) [Edit routes](#)

Destination	Target	Status	Propagated
0.0.0.0/0	nat-0ca78459251ff162f	Active	No
10.0.0.0/16	local	Active	No

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ENG 5:13 PM 3/13/2023

## Showing the pasting of the script in the User Data

The screenshot displays the AWS Management Console's 'Launch instances' wizard. The 'User data' field is populated with a script to install and start the Apache httpd service. The 'Summary' section shows the configuration: 1 instance, Amazon Linux 2 Kernel 5.10 AMI, t2.micro instance type, no security group, and 8 GiB EBS storage. A 'Free tier' notification is displayed.

**User data - optional** [Info](#)  
Enter user data in the field.

```
#!/bin/bash
yum update -y
yum install httpd -y
service httpd start
chkconfig httpd on
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
echo "Instance in the public subnet with IP $IP_ADDR" >
/var/www/html/index.html
```

☐ User data has already been base64 encoded

**Summary**

Number of instances [Info](#)  
1

Software Image (AMI)  
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)  
ami-005f9685cb30f234b

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

[Cancel](#) [Launch instance](#)

## Launched public instance

The screenshot displays the AWS Management Console interface for the us-east-1 region. The main content area shows a list of EC2 instances with one instance, 'public-instance', in the 'Running' state. Below the list, the details for instance 'i-05418817f9a27162e' are expanded, showing its configuration: Amazon Linux (Inferred) platform, Linux/UNIX platform details, disabled stop protection, default instance auto-recovery, and a normal lifecycle. The instance is located in the us-east-1e availability zone with a public IPv4 address of 35.153.79.209. The left sidebar contains navigation links for various AWS services, and the bottom status bar shows the current time as 5:20 PM on 3/13/2023.

Instances (1/1) Info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
public-instance	i-05418817f9a27162e	Running	t2.micro	-	No alarms +	us-east-1e	-	35.153.79.209	-	-

Instance: i-05418817f9a27162e (public-instance)

Details Security Networking Storage Status checks Monitoring Tags

Instance summary Info

Instance details Info

Platform	AMI ID	Monitoring
Amazon Linux (Inferred)	ami-005f9685cb30f234b	disabled

Platform details	AMI name	Termination protection
Linux/UNIX	amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2	Disabled

Stop protection	Launch time	AMI location
Disabled	Mon Mar 13 2023 17:19:48 GMT+0100 (West Africa Standard Time) (1 minute)	amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2

Instance auto-recovery	Lifecycle	Stop-hibernate behavior
Default	normal	disabled

AMI Launch index	Key pair assigned at launch	State transition reason
0	project.kp	-

Waiting for us-east-1.console.aws.amazon.com...

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ENG 5:20 PM 3/13/2023

## Launched private instance

The screenshot displays the AWS Management Console interface. At the top, the browser address bar shows the URL: `https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:`. The console header includes the AWS logo, a search bar, and navigation links for Services, EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and a sidebar menu.

The main content area is titled "Instances (1/2) Info". It features a table listing EC2 instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, Public IPv4 ..., Elastic IP, and IPv6 IPs. Two instances are listed: "public-instance" (ID: i-05418817f9a27162e) and "private-instance" (ID: i-0c21a30780ea1f6f6). The "private-instance" is highlighted with a blue selection bar.

Below the table, the details for the selected instance "i-0c21a30780ea1f6f6 (private-instance)" are shown. The details are organized into sections: "Instance summary" and "Instance details". The "Instance details" section includes information about the Platform (Amazon Linux), Platform details (Linux/UNIX), Stop protection (Disabled), Instance auto-recovery (Default), AMI Launch index (0), AMI ID (ami-005f9685cb30f234b), AMI name (amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86\_64-gp2), Launch time (Mon Mar 13 2023 17:26:36 GMT+0100 (West Africa Standard Time) (1 minute)), Lifecycle (normal), Key pair assigned at launch (project.kp), Monitoring (disabled), Termination protection (Disabled), AMI location (amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86\_64-gp2), Stop-hibernate behavior (disabled), and State transition reason (-).

The bottom of the screenshot shows the Windows taskbar with various application icons and the system tray displaying the date and time (5:27 PM, 3/13/2023).

Copied pem file into the public instance from the terminal

```
MINGW64/c/Users/Kunle/Downloads
Kunle@Kunle-PC MINGW64 ~/Downloads
$ scp -i project-kp.pem ./project-kp.pem ec2-user@35.153.79.209:/home/ec2-user/p
project-kp.pem
Warning: Identity file project-kp.pem not accessible: No such file or directory.
ec2-user@35.153.79.209: Permission denied (publickey,gssapi-keyex,gssapi-with-mi
c).
scp: Connection closed

Kunle@Kunle-PC MINGW64 ~/Downloads
$ scp -i project-kp.pem ./project-kp.pem ec2-user@35.153.79.209:/home/ec2-user/p
project-kp.pem
Warning: Identity file project-kp.pem not accessible: No such file or directory.
ec2-user@35.153.79.209: Permission denied (publickey,gssapi-keyex,gssapi-with-mi
c).
scp: Connection closed

Kunle@Kunle-PC MINGW64 ~/Downloads
$ ssh -i "project.kp.pem" ec2-user@35.153.79.209
Last login: Mon Mar 13 16:53:37 2023 from 197.255.40.149

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Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-1-224 ~]$ ls al
ls: cannot access al: No such file or directory
[ec2-user@ip-10-0-1-224 ~]$ ls -a
. . . .bash_history .bash_logout .bash_profile .bashrc .ssh
[ec2-user@ip-10-0-1-224 ~]$ ls a
ls: cannot access a: No such file or directory
[ec2-user@ip-10-0-1-224 ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP gr
oup default qlen 1000
    link/ether 06:b0:4d:96:78:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.1.224/24 brd 10.0.1.255 scope global dynamic eth0
        valid_lft 2713sec preferred_lft 2713sec
    inet6 fe80::4b0:4dff:fe96:78b7/64 scope link
        valid_lft forever preferred_lft forever
[ec2-user@ip-10-0-1-224 ~]$ exit
logout
Connection to 35.153.79.209 closed.

Kunle@Kunle-PC MINGW64 ~/Downloads
$ scp -i project.kp.pem ./project.kp.pem ec2-user@35.153.79.209:/home/ec2-user/p
project.kp.pem
project.kp.pem
100% 1674 7.6KB/s 00:00

Kunle@Kunle-PC MINGW64 ~/Downloads
$
```



## ssh into the public instance

```
ec2-user@ip-10-0-1-224:~
project.kp.pem
Warning: Identity file project.kp.pem not accessible: No such file or directory.
ec2-user@35.153.79.209: Permission denied (publickey,gssapi-keyex,gssapi-with-mi
C).
scp: Connection closed

Kunle@Kunle-PC MINGW64 ~/Downloads
$ ssh -i "project.kp.pem" ec2-user@35.153.79.209
Last login: Mon Mar 13 16:53:37 2023 from 197.255.40.149

 _ _ _ _ _
| | | | |
|_|_|_|_|_| Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-1-224 ~]$ ls al
ls: cannot access al: No such file or directory
[ec2-user@ip-10-0-1-224 ~]$ ls -a
. .bash_history .bash_logout .bash_profile .bashrc .ssh
[ec2-user@ip-10-0-1-224 ~]$ ls a
ls: cannot access a: No such file or directory
[ec2-user@ip-10-0-1-224 ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP gr
oup default qlen 1000
    link/ether 06:b0:4d:96:78:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.1.224/24 brd 10.0.1.255 scope global dynamic eth0
        valid_lft 2713sec preferred_lft 2713sec
    inet6 fe80::4b0:4dff:fe96:78b7/64 scope link
        valid_lft forever preferred_lft forever
[ec2-user@ip-10-0-1-224 ~]$ exit
logout
Connection to 35.153.79.209 closed.

Kunle@Kunle-PC MINGW64 ~/Downloads
$ scp -i project.kp.pem ./project.kp.pem ec2-user@35.153.79.209:/home/ec2-user/p
project.kp.pem
project.kp.pem                                100% 1674    7.6KB/s   00:00

Kunle@Kunle-PC MINGW64 ~/Downloads
$ ssh -i "project.kp.pem" ec2-user@35.153.79.209
Last login: Mon Mar 13 17:02:33 2023 from 197.255.40.149

 _ _ _ _ _
| | | | |
|_|_|_|_|_| Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-1-224 ~]$
[ec2-user@ip-10-0-1-224 ~]$
[ec2-user@ip-10-0-1-224 ~]$
[ec2-user@ip-10-0-1-224 ~]$
[ec2-user@ip-10-0-1-224 ~]$
```





## Used ssh to access the private instance

```
ec2-user@ip-10-0-2-203:~  
[ec2-user@ip-10-0-1-224 ~]$ ls -a  
[ec2-user@ip-10-0-1-224 ~]$ ls -a  
[ec2-user@ip-10-0-1-224 ~]$ ls a  
ls: cannot access a: No such file or directory  
[ec2-user@ip-10-0-1-224 ~]$ ip a  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
    inet6 ::1/128 scope host  
        valid_lft forever preferred_lft forever  
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP gr  
oup default qlen 1000  
    link/ether 06:b0:4d:96:78:b7 brd ff:ff:ff:ff:ff:ff  
    inet 10.0.1.224/24 brd 10.0.1.255 scope global dynamic eth0  
        valid_lft 2713sec preferred_lft 2713sec  
    inet6 fe80::4b0:4dff:fe96:78b7/64 scope link  
        valid_lft forever preferred_lft forever  
[ec2-user@ip-10-0-1-224 ~]$ exit  
logout  
Connection to 35.153.79.209 closed.  
  
Kunle@Kunle-PC MINGW64 ~/Downloads  
$ scp -i project.kp.pem ./project.kp.pem ec2-user@35.153.79.209:/home/ec2-user/p  
project.kp.pem  
project.kp.pem 100% 1674 7.6KB/s 00:00  
  
Kunle@Kunle-PC MINGW64 ~/Downloads  
$ ssh -i "project.kp.pem" ec2-user@35.153.79.209  
Last login: Mon Mar 13 17:02:33 2023 from 197.255.40.149  
  
Amazon Linux 2 AMI  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-10-0-1-224 ~]$  
[ec2-user@ip-10-0-1-224 ~]$  
[ec2-user@ip-10-0-1-224 ~]$  
[ec2-user@ip-10-0-1-224 ~]$ cd /home/ec2-user/  
[ec2-user@ip-10-0-1-224 ~]$ ls -ltr  
total 4  
-rw-r--r-- 1 ec2-user ec2-user 1674 Mar 13 17:06 project.kp.pem  
[ec2-user@ip-10-0-1-224 ~]$ chmod 400 project.kp.pem  
[ec2-user@ip-10-0-1-224 ~]$ ssh -i "project.kp.pem" ec2-user@10.0.2.203  
The authenticity of host '10.0.2.203 (10.0.2.203)' can't be established.  
ECDSA key fingerprint is SHA256:1/WRjrfPrR81glsuv/qicAQ9UumjupuoA8xg3Ar$so.  
ECDSA key fingerprint is MD5:3b:7c:ae:9e:fd:5a:75:b7:0d:44:88:39:de:a8:55:b5.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '10.0.2.203' (ECDSA) to the list of known hosts.  
  
Amazon Linux 2 AMI  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-10-0-2-203 ~]$
```



## Clean up-deleted the NAT gateway

https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#NatGateways:

**You successfully deleted nat-0ca78459251ff162f (gl-ngw).**

**NAT gateways (1/1)** Info

Filter NAT gateways

Name	NAT gateway ID	Connectivity type	State	State message	Primary public IPv4 address	Primary private IPv4 address	Primary network interface ID	VPC
gl-ngw	nat-0ca78459251ff162f	Public	Deleting	-	34.192.90.196	10.0.1.157	eni-0a4fe092f4cd9045e	vpc-0acc5f390deddd0e4 / gl-...

**nat-0ca78459251ff162f / gl-ngw**

Details Secondary IPv4 addresses Monitoring Tags

**Details**

NAT gateway ID nat-0ca78459251ff162f	Connectivity type Public	State Deleting	State message -
NAT gateway ARN arn:aws:ec2:us-east-1:380732321839:natgateway/nat-0ca78459251ff162f	Primary public IPv4 address 34.192.90.196	Primary private IPv4 address 10.0.1.157	Primary network interface ID eni-0a4fe092f4cd9045e
VPC vpc-0acc5f390deddd0e4	Subnet subnet-046015b5e7d74640 / public	Created Monday, March 13, 2023 at 17:00:33 GMT+1	Deleted Monday, March 13, 2023 at 18:37:30 GMT+1

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ENG 6:23 PM 3/13/2023

## Clean up-terminated public instance

The screenshot displays the AWS Management Console's 'Instances' page. At the top, a green banner confirms the successful termination of instance 'i-05418817f9a27162e'. The main table lists two EC2 instances. The 'private-instance' (ID: i-0c21a30780ea1f6f6) is currently in a 'Running' state, which is highlighted. Below the table, the console shows the configuration details for the selected 'public-instance' (i-05418817f9a27162e). The 'Details' tab is selected, revealing information such as the platform (Amazon Linux), AMI ID (ami-005f9685cb30f234b), and the instance's launch time on March 13, 2023. Other tabs like Security, Networking, and Status checks are also visible.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
public-instance	i-05418817f9a27162e	Shutting-down	t2.micro	2/2 checks passed	No alarms	us-east-1e	-	35.153.79.209	-	-
private-instance	i-0c21a30780ea1f6f6	Running	t2.micro	2/2 checks passed	No alarms	us-east-1e	-	-	-	-

**Instance: i-05418817f9a27162e (public-instance)**

**Details** | Security | Networking | Storage | Status checks | Monitoring | Tags

**Instance summary** [info](#)

**Instance details** [info](#)

Platform Amazon Linux (Inferred)	AMI ID ami-005f9685cb30f234b	Monitoring disabled
Platform details Linux/UNIX	AMI name amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2	Termination protection Disabled
Stop protection Disabled	Launch time Mon Mar 13 2023 17:19:48 GMT+0100 (West Africa Standard Time) (about 1 hour)	AMI location amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2
Instance auto-recovery Default	Lifecycle normal	Stop-hibernate behavior disabled
AMI Launch index 0	Key pair assigned at launch project.kp	State transition reason User initiated (2023-03-13 17:24:29 GMT)

## Clean up-terminated private instance

Successfully terminated i-0c21a30780ea1f6f6

Successfully terminated i-05418817f9a27162e

Notifications 0 0 2 0 0 0

Instances (1/2) Info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
public-instance	i-05418817f9a27162e	Terminated	t2.micro	2/2 checks passed	No alarms	us-east-1e	-	35.153.79.209	-	-
private-instance	i-0c21a30780ea1f6f6	Shutting-down	t2.micro	2/2 checks passed	No alarms	us-east-1e	-	-	-	-

Instance: i-0c21a30780ea1f6f6 (private-instance)

Details Security Networking Storage Status checks Monitoring Tags

Instance summary Info

Instance details Info

Platform	AMI ID	Monitoring
Amazon Linux (Inferred)	ami-005f9685cb30f234b	disabled
Platform details	AMI name	Termination protection
Linux/UNIX	amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2	Disabled
Stop protection	Launch time	AMI location
Disabled	Mon Mar 13 2023 17:26:36 GMT+0100 (West Africa Standard Time) (about 1 hour)	amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230307.0-x86_64-gp2
Instance auto-recovery	Lifecycle	Stop-hibernate behavior
Default	normal	disabled
AMI Launch index	Key pair assigned at launch	State transition reason
0	project.kp	User initiated (2023-03-13 17:25:46 GMT)

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ENG 6:26 PM 3/13/2023

Deleted the VPC (gl-vpc)

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https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#vpcs:

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VPC dashboard

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EC2 Global View

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New

Filter by VPC:

Select a VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Security

Network ACLs

Security groups

DNS firewall

Rule groups

Domain lists

Network Firewall

Firewalls

Firewall policies

Network Firewall rule

🔔 You successfully deleted vpc-0acc5f390deddd0e4 / gl-vpc and 5 other resources.

Details

Your VPCs (2)

Info

🔄

Actions

Create VPC

🔍 Filter VPCs

1

⚙️

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP option set	Main route table	Main network ACL
<input type="checkbox"/>	-	vpc-0dc027bc3c9cfa5b4	Available	172.31.0.0/16	-	dopt-0698f9fce1fb1ee7f	rtb-0ec8c31460cf62667	acl-010bb1487d76c
<input type="checkbox"/>	-	vpc-04298171e834c70e5	Available	172.30.0.0/16	-	dopt-0698f9fce1fb1ee7f	rtb-05e787ea46a73e604	acl-0a0839bd17fc0c

vpc-0acc5f390deddd0e4 / gl-vpc

Details

Resource map

CIDRs

Flow logs

Tags

VPC ID

vpc-0acc5f390deddd0e4

State

Available

DNS hostnames

Disabled

DNS resolution

Enabled

Tenancy

Default

DHCP option set

dopt-0698f9fce1fb1ee7f

Main route table

rtb-02561ca11a9cad9f9

Main network ACL

acl-0eca8ce92e92e1c94

Default VPC

IPv4 CIDR

IPv6 pool

IPv6 CIDR (Network border group)

Feedback

Language

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94