

Project 1: Deploying website on AWS EC2 instances

1. Creating Vpc

1. In AWS console, search VPC.
2. In VPC dashboard, you will get my VPC's and click on my vpc's.
3. Click on create VPC. Select resource to create as vpc only.
4. Give name as theeksha-vpc and IPv4 CIDR as 10.0.0.0/16.
5. Then click on create VPC.

The screenshot displays the AWS Management Console interface for a VPC named 'theeksha-vpc' (ID: vpc-0075af2e567a19c68). The console is in the 'eu-west-2' region. The left sidebar shows the navigation menu with categories like Virtual private network (VPN), AWS Verified Access, and Transit gateways. The main content area is divided into sections: Details, Resource map, CIDRs, Flow logs, Tags, and Integrations. The 'Details' section shows the VPC is in an 'Available' state, with a default VPC, and includes information about DNS resolution, DHCP options, and IPv4 CIDR (10.0.0.0/16). The 'Resource map' section provides a visual overview of the VPC's components, including subnets (theeksha-subnet 1), route tables (theeksha route), and network connections (theeksha-gateway).

Details

Property	Value
VPC ID	vpc-0075af2e567a19c68
State	Available
Block Public Access	Off
DNS hostnames	Disabled
DNS resolution	Enabled
Tenancy	Default
DHCP option set	dopt-0546965e8e423613a
Main network ACL	acl-0aad01e6d0745e2ad
Default VPC	No
Main route table	rtb-02cccc2ea8fe72454
IPv4 CIDR (Network border group)	10.0.0.0/16
IPv6 pool	-
Route S3 Resolver DNS Firewall rule groups	Failed to load rule groups
Owner ID	471112860190

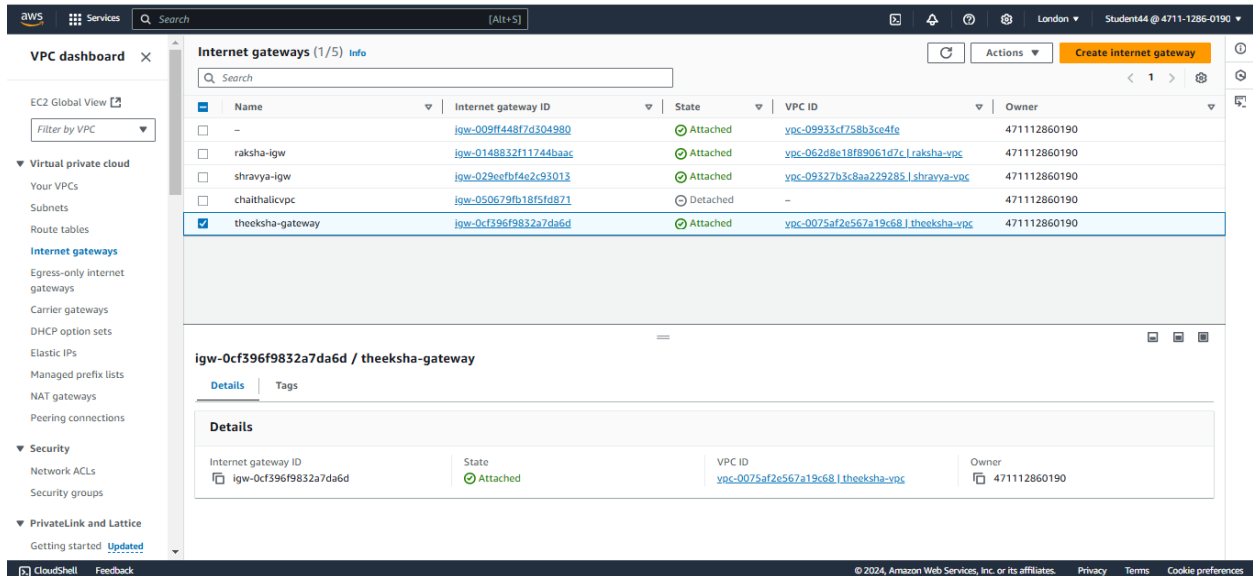
Resource map

- VPC**: theeksha-vpc
- Subnets (2)**: theeksha-subnet 1
- Route tables (2)**: theeksha route, rtb-02cccc2ea8fe72454
- Network connections (1)**: theeksha-gateway

Internet gateway

Steps :

1. In VPC dashboard, click on Internet Gateway.
2. To create Internet gateway, click on create Internet Gateway.
3. Then give name as theeksha-igw and click on create Internet Gateway.
4. Your internet Gateway is created.



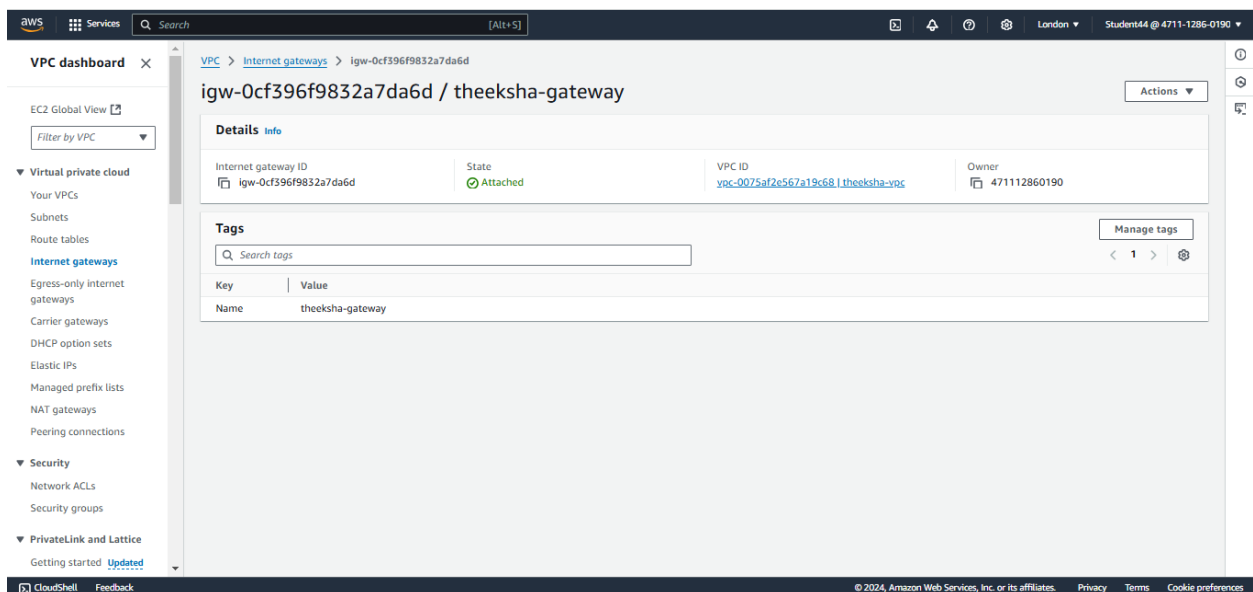
The screenshot shows the AWS VPC dashboard with the 'Internet gateways' section selected. A table lists several gateways, with 'theeksha-gateway' (ID: igw-0cf396f9832a7da6d) highlighted. Below the table, the details for this gateway are shown, including its state (Attached), VPC ID (vpc-0075af2e567a19c68), and owner (471112860190).

Name	Internet gateway ID	State	VPC ID	Owner
-	igw-009ff4487d304980	Attached	vpc-09933cf758b3cedfe	471112860190
raksha-igw	igw-0148832f11744baac	Attached	vpc-062d8e18f89061d7c raksha-vpc	471112860190
shravya-igw	igw-029ecfbf4e2c93013	Attached	vpc-09327b3c8aa229285 shravya-vpc	471112860190
chaithalicvpc	igw-050679fb18f5fd871	Detached	-	471112860190
theeksha-gateway	igw-0cf396f9832a7da6d	Attached	vpc-0075af2e567a19c68 theeksha-vpc	471112860190

igw-0cf396f9832a7da6d / theeksha-gateway

Details

Internet gateway ID	State	VPC ID	Owner
igw-0cf396f9832a7da6d	Attached	vpc-0075af2e567a19c68 theeksha-vpc	471112860190



The screenshot shows the details page for the 'theeksha-gateway' (ID: igw-0cf396f9832a7da6d). It displays the gateway's state (Attached), VPC ID (vpc-0075af2e567a19c68), and owner (471112860190). Below the details, the 'Tags' section shows a single tag with the key 'Name' and value 'theeksha-gateway'.

igw-0cf396f9832a7da6d / theeksha-gateway

Details

Internet gateway ID	State	VPC ID	Owner
igw-0cf396f9832a7da6d	Attached	vpc-0075af2e567a19c68 theeksha-vpc	471112860190

Tags

Key	Value
Name	theeksha-gateway

Subnet1:

Steps :

1. To create subnet, go to VPC dashboard under virtual private cloud, click on subnet.
2. Select the vpc you have already created and in subnet setting, give subnet name as public-subnet-01
3. Then choose availability zone as region you have selected before creating the vpc and IPv4 subnet CIDR block as 10.0.1.0/24.
4. Then create one more subnet as following subnet but give name as publicsubnet-02 and then choose availability zone and IPv4 subnet CIDR block as 10.0.2.0/24.

The screenshot displays the AWS VPC dashboard for a subnet named 'theeksha-subnet 1' (subnet-08079d838ca266d50). The interface includes a left-hand navigation menu with categories like Virtual private cloud, Security, and PrivateLink and Lattice. The main content area shows the subnet's details in a table format.

Details			
Subnet ID subnet-08079d838ca266d50	Subnet ARN arn:aws:ec2:eu-west-2:471112860190:subnet/subnet-08079d838ca266d50	State Available	Block Public Access Off
IPv4 CIDR 10.0.1.0/26	Available IPv4 addresses 58	IPv6 CIDR -	IPv6 CIDR association ID -
Availability Zone eu-west-2a	Availability Zone ID euw2-az2	Network border group eu-west-2	VPC vpc-0075af2e567a19c68 theeksha-vpc
Route table rtb-029128e177c5bd2ea theeksha route	Network ACL acl-0aad01e6d0745e2ad	Default subnet No	Auto-assign public IPv4 address No
Auto-assign IPv6 address No	Auto-assign customer-owned IPv4 address No	Customer-owned IPv4 pool -	Outpost ID -
IPv4 CIDR reservations -	IPv6 CIDR reservations -	IPv6-only No	Hostname type IP name
Resource name DNS A record Disabled	Resource name DNS AAAA record Disabled	DNS64 Disabled	Owner 471112860190

Below the details table, there are tabs for 'Flow logs', 'Route table', 'Network ACL', 'CIDR reservations', 'Sharing', and 'Tags'. The 'Flow logs' tab is currently selected, showing a 'Create flow log' button.

Subnet2:

The screenshot displays the AWS Management Console interface for a subnet. The breadcrumb navigation shows 'VPC > Subnets > subnet-06a42bb7facca13f4'. The main heading is 'subnet-06a42bb7facca13f4 / theeksha-subnet 2'. The 'Details' section is divided into four columns:

- Subnet ID:** subnet-06a42bb7facca13f4
- Subnet ARN:** arn:aws:ec2:eu-west-2:471112860190:subnet/subnet-06a42bb7facca13f4
- State:** Available
- Block Public Access:** Off

Other details include:

- IPv4 CIDR:** 10.0.2.0/26
- Availability Zone:** eu-west-2b
- Route table:** rtb-029128e177c5bd2ea | theeksha route
- Auto-assign IPv6 address:** No
- IPv4 CIDR reservations:** -
- Resource name DNS A record:** Disabled
- Available IPv4 addresses:** 59
- Availability Zone ID:** euw2-az3
- Network ACL:** acl-0aad01e6d0745e2ad
- Auto-assign customer-owned IPv4 address:** No
- IPv6 CIDR reservations:** -
- Resource name DNS AAAA record:** Disabled
- Network border group:** eu-west-2
- Default subnet:** No
- Customer-owned IPv4 pool:** -
- IPv6-only:** No
- DNS64:** Disabled
- IPv6 CIDR association ID:** -
- VPC:** vpc-0075af2e567a19c68 | theeksha-vpc
- Auto-assign public IPv4 address:** No
- Outpost ID:** -
- Hostname type:** IP name
- Owner:** 471112860190

The bottom of the console shows the 'Flow logs' section with a 'Create flow log' button.

Router Table:

Steps :

1. To create Route table, click on create route table.
2. In route table setting, give route table name as anu-route-table-01 and select vpc that is created.
3. Then click on create route table.
4. After route table is created, go to routes and click on edit route and then click on add route.
5. Then in destination, select 0.0.0.0/0 as destination and target as Internet Gateways .
6. After selecting internet gateway, it allows to select the igw- and select the internet gateway that is created by you.
7. At last click on save changes.
8. Then go to subnet association and click on edit subnet association.
9. Select the subnet you have created and click on save changes

VPC dashboard ×

EC2 Global View Filter by 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
- NAT gateways
- Peering connections

▼ Security

- Network ACLs
- Security groups

▼ PrivateLink and Lattice

- Getting started **Updated**

VPC > **Route tables** > rtb-029128e177c5bd2ea

rtb-029128e177c5bd2ea / theeksha route Actions

Details info

Route table ID rtb-029128e177c5bd2ea	Main No	Explicit subnet associations 2 subnets	Edge associations -
VPC vpc-0075af2e567a19c68 theeksha-vpc	Owner ID 471112860190		

Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2) Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0cf396f9832a7da6d	Active	No
10.0.0.0/16	local	Active	No

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Connection:

Steps:

1. Go to EC2 in AWS console and click on instances.
2. Click on launch instance and give the name for the instances as theeksha-server.
3. After giving name to instances, select application and OS Images as Amazon Linux and instances type as t2.micro .
4. In keypair, click on create keypair and give keypair name as anu-keypair and click on create keypair. The keypair is created.
5. Then in network setting, click edit. Select vpc and subnet and also assign public IP as enable.

EC2 > **Instances** > i-Oea9e0253cd890123 > Connect to instance

Connect to instance info

Connect to your instance i-Oea9e0253cd890123 (theeksha-server) using any of these options

EC2 Instance Connect | Session Manager | **SSH client** | EC2 serial console

Instance ID
i-Oea9e0253cd890123 (theeksha-server)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is theeksha1keypair.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 "theeksha1keypair.pem"
4. Connect to your instance using its Public IP:
3.8.39.252

Example:
ssh -i "theeksha1keypair.pem" ec2-user@3.8.39.252

Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

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Steps:

• Cd Downloads

- **Yow will get to confirm the connecting, type yes.**

- Then type **yum install httpd -y**.

- After installation, type `cd /var/www/html`.

- Then type `vi index.html` and `vi` editor will get opened and press `i` to insert the content.

- After that, press **esc** and: **wq** to save the content.

- **Go to instances, copy the public ip and paste on browser url**

```

root@ip-10-0-1-9:/var/www/html
Microsoft Windows [Version 10.0.19045.3271]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Kudkuli>cd Downloads

C:\Users\Kudkuli\Downloads>ssh -i "theekshakeypair.pem" ec2-user@3.8.39.252

#
#####
      Amazon Linux 2023
#####
      https://aws.amazon.com/linux/amazon-linux-2023
#####

Last login: Tue Dec 10 04:57:34 2024 from 152.58.237.201

#
#####
      Amazon Linux 2023
#####
      https://aws.amazon.com/linux/amazon-linux-2023
#####

Last login: Tue Dec 10 04:57:34 2024 from 152.58.237.201
[ec2-user@ip-10-0-1-9 ~]$ sudo su
[root@ip-10-0-1-9 ec2-user]# cd

Command Prompt
</html>

[root@ip-10-0-1-9 html]# ^C
[root@ip-10-0-1-9 html]#
[root@ip-10-0-1-9 html]# systemctl start httpd
[root@ip-10-0-1-9 html]# systemctl enable httpd
[root@ip-10-0-1-9 html]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Tue 2024-12-10 05:02:05 UTC; 51min ago
     Docs: man:httpd.service(8)
   Main PID: 26001 (httpd)
    Status: "Total requests: 5 | Idle/Busy workers 100/0;Requests/sec: 0.00161; Bytes served/sec: 0 B/sec"
     Tasks: 230 (limit: 1111)
  Memory: 16.5M
    CPU: 2.007s
    CGroup: /system.slice/httpd.service
            └─26001 /usr/sbin/httpd -DFOREGROUND
              └─26002 /usr/sbin/httpd -DFOREGROUND
                └─26003 /usr/sbin/httpd -DFOREGROUND
                  └─26004 /usr/sbin/httpd -DFOREGROUND
                    └─26005 /usr/sbin/httpd -DFOREGROUND
                      └─26451 /usr/sbin/httpd -DFOREGROUND

Dec 10 05:02:05 ip-10-0-1-9.eu-west-2.compute.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Dec 10 05:02:05 ip-10-0-1-9.eu-west-2.compute.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
Dec 10 05:02:05 ip-10-0-1-9.eu-west-2.compute.internal httpd[26001]: Server configured, listening on: port 80
[root@ip-10-0-1-9 html]# client_loop: send disconnect: Connection reset

C:\Users\Kudkuli\Downloads>

```

Final Result:

