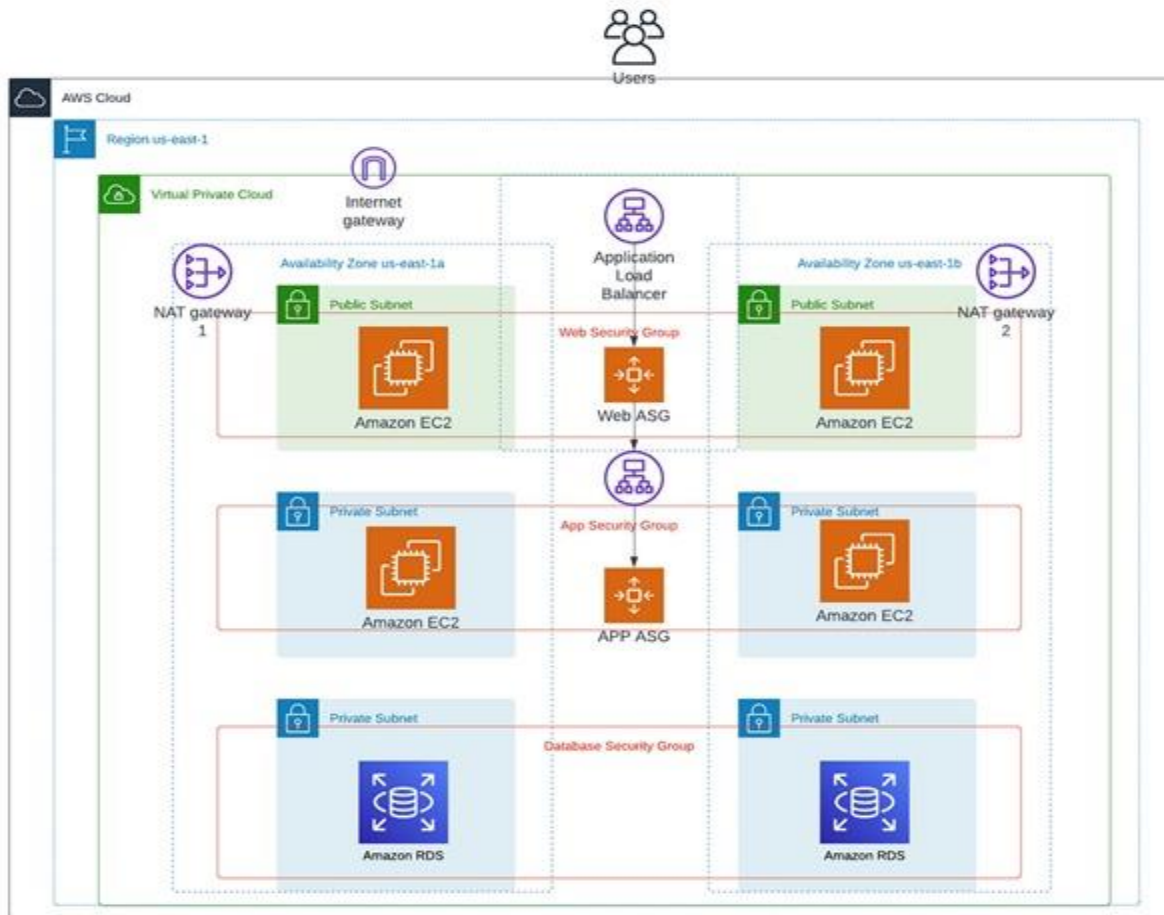


3 Tier architecture Application using AWS



The above picture is the architecture of the application that I Implemented in aws it has VPC , EC2 , RDS as major components , Auto scaling groups , Application load balancers, Nat gateways , internet Gateways , subnets are more components that were used in the project

EC2

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Security

Your VPCs (1) Info

Last updated less than a minute ago

Actions

Create VPC

Search

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP opt
<input type="checkbox"/>	3tiervpc	vpc-0986b52c70a9f1618	Available	145.0.0.0/16	-	dopt-0eb2

Select a VPC above

Created a vpc

aws

Services

Search

[Alt+S]

Ohio

Harsha

EC2

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Security

Subnets (6) Info

Last updated less than a minute ago

Actions

Create subnet

Find resources by attribute or tag

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	private-az2	subnet-099ebbb444f7d79e8	Available	vpc-0986b52c70a9f1618 3tier...	145.0.3.0/24	-
<input type="checkbox"/>	rds-az1	subnet-0e81e1b488f7b0dac	Available	vpc-0986b52c70a9f1618 3tier...	145.0.4.0/24	-
<input type="checkbox"/>	public-az1	subnet-0165d02a2a2ff85e5	Available	vpc-0986b52c70a9f1618 3tier...	145.0.0.0/24	-
<input type="checkbox"/>	private-az1	subnet-081e804942f246c0d	Available	vpc-0986b52c70a9f1618 3tier...	145.0.2.0/24	-
<input type="checkbox"/>	rds-az2	subnet-0afb479a533acae9c	Available	vpc-0986b52c70a9f1618 3tier...	145.0.5.0/24	-
<input type="checkbox"/>	public-az2	subnet-00ca2e71aac7c8af6	Available	vpc-0986b52c70a9f1618 3tier...	145.0.1.0/24	-

Select a subnet

Created 2 public subnets and 4 private subnets

aws Services Search [Alt+S] Ohio Harsha

EC2

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways
- Egress-only internet gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Security

VPC > Route tables > rtb-0236a94a4237df0d3

rtb-0236a94a4237df0d3 / private-db-routetable

Actions

Details info

Route table ID rtb-0236a94a4237df0d3	Main No	Explicit subnet associations 2 subnets	Edge associations -
VPC vpc-0986b52c70a9f1618 3tier-vpc	Owner ID 211125322230		

Routes Subnet associations Edge associations Route propagation Tags

Routes (2)

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	nat-00569d8708ce20943	Active	No
145.0.0.0/16	local	Active	No

Associated routes for the subnetsasda

aws Services Search [Alt+S] Ohio Harsha

EC2

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

- Your VPCs
- Subnets
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- Internet gateways
- Egress-only internet gateways
- DHCP option sets
- Elastic IPs
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- Endpoint services
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Security

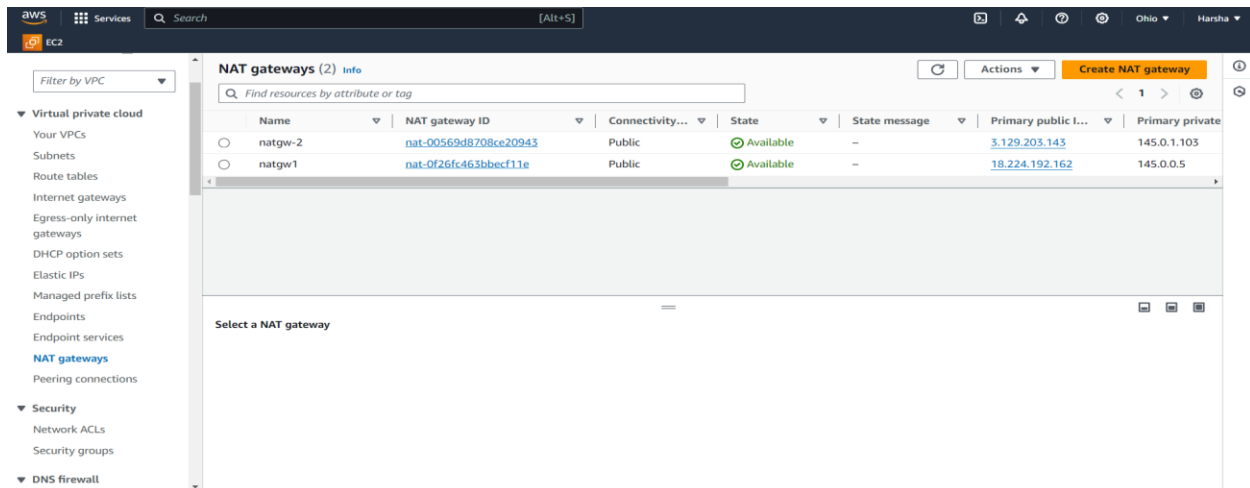
Internet gateways (1) info

Search

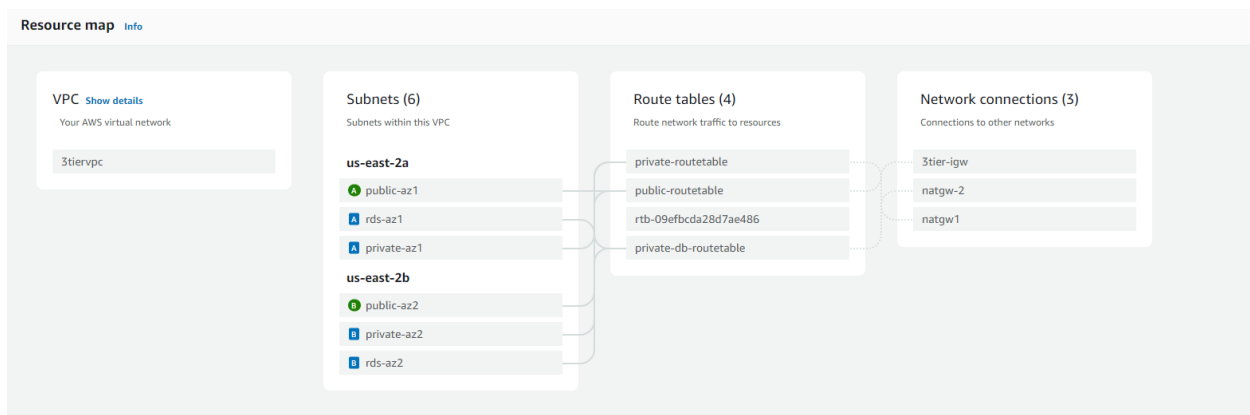
Name	Internet gateway ID	State	VPC ID	Owner
3tier-igw	igw-0927e03c116c73c6b	Attached	vpc-0986b52c70a9f1618 3tier-vpc	211125322230

Select an internet gateway above

Created internet gateway for public subnets



created Nat gateways for private subnets



Vpc and its components graphical representation

EC2 Dashboard

EC2 Global View

Events

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

EC2 > Security Groups > sg-0bb3169759e3f8a10 - alb-sg

sg-0bb3169759e3f8a10 - alb-sg

Actions

Details

Security group name

alb-sg

Security group ID

sg-0bb3169759e3f8a10

Description

alb-sg

VPC ID

ypc-0986b52c70a9f1618

Owner

21112532230

Inbound rules count

2 Permission entries

Outbound rules count

2 Permission entries

Inbound rules

Outbound rules

Tags

Inbound rules (2)

Manage tags

Edit inbound rules

Search

Name

Security group rule...

IP version

Type

Protocol

Port range

Created necessary security groups

aws

Services

Search

[Alt+S]

Ohio

Harsha

EC2

EC2 Dashboard

EC2 Global View

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Dedicated Hosts

Capacity Reservations

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Lifecycle Manager

Instances (7) Info

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

Running

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 D
<input type="checkbox"/>	server	i-0139be15924252e39	Running	t2.micro	2/2 checks passed	View alarms	us-east-2a	-
<input type="checkbox"/>	private	i-06a2e1b45dee1f042	Running	t2.micro	2/2 checks passed	View alarms	us-east-2a	-
<input type="checkbox"/>	server2	i-08ffdb7293497b448	Running	t2.micro	2/2 checks passed	View alarms	us-east-2b	-
<input type="checkbox"/>		i-000d2b3b08278a505	Running	m7a.medium	Initializing	View alarms	us-east-2b	-
<input type="checkbox"/>	private-2	i-08f203573a6ce04fd	Running	t2.micro	2/2 checks passed	View alarms	us-east-2b	-
<input type="checkbox"/>		i-0acb9305b41594e97	Running	m7a.medium	2/2 checks passed	View alarms	us-east-2b	-
<input type="checkbox"/>		i-02308fdad3b1b75cb	Running	m7a.medium	2/2 checks passed	View alarms	us-east-2b	-

Select an instance

CloudShell

Feedback

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Privacy

Terms

Cookie preferences

created necessary EC2 Instances

The screenshot shows the AWS Management Console interface for an EC2 instance. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, and Lifecycle Manager. The main content area displays the 'Instance summary for i-0139be15924252e39 (server)'. The instance is in a 'Running' state. Key details include: Instance ID: i-0139be15924252e39 (server), Public IPv4 address: 3.147.70.203, Private IPv4 address: 145.0.0.34, Hostname type: IP name: ip-145-0-0-34.us-east-2.compute.internal, VPC ID: vpc-0986b52c70a9f1618 (3tier-vpc), Subnet ID: subnet-0165d02a2a2ff85e5 (public-az1), and Instance ARN: arn:aws:ec2:us-east-2:211125322230:instance/i-0139be15924252e39.

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0139be15924252e39 (server)	3.147.70.203 open address	145.0.0.34

Instance state	Private IP DNS name (IPv4 only)	Public IPv4 DNS
Running	ip-145-0-0-34.us-east-2.compute.internal	-

Instance type	Elastic IP addresses	AWS Compute Optimizer finding
t2.micro	-	Opt-in to AWS Compute Optimizer for recommendations. Learn more

Subnet ID	Auto Scaling Group name
subnet-0165d02a2a2ff85e5 (public-az1)	-

Logged in and launched nginx servers in public subnet instances and logged into private instances through public instances

The screenshot shows the AWS Management Console interface for 'Target groups'. The left sidebar contains navigation links for Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces, Load Balancing, Load Balancers, Target Groups, Trust Stores, Auto Scaling, Auto Scaling Groups, and Settings. The main content area displays 'Target groups (2)'. A table lists two target groups: 'app' and 'private'. Both are of type 'Instance' and use HTTP protocol on port 80. The 'app' target group is associated with the load balancer 'app', and the 'private' target group is associated with the load balancer 'server'. Below the table, it states '0 target groups selected' and prompts the user to 'Select a target group above.'.

Name	ARN	Port	Protocol	Target type	Load balancer
app	arn:aws:elasticloadbalancing:us-east-2:211125322230:targetgroup/app/...	80	HTTP	Instance	app
private	arn:aws:elasticloadbalancing:us-east-2:211125322230:targetgroup/private/...	80	HTTP	Instance	server

created target groups for load balancers

The screenshot shows the AWS Management Console interface for the 'Load balancers' page. The left sidebar contains navigation links for Elastic Block Store, Network & Security, Load Balancing, Auto Scaling, and Settings. The main content area shows a table of load balancers with columns for Name, DNS name, State, VPC ID, Availability Zones, and Type. Two load balancers are listed: 'server' and 'app', both in an 'Active' state. Below the table, a message indicates '0 load balancers selected'.

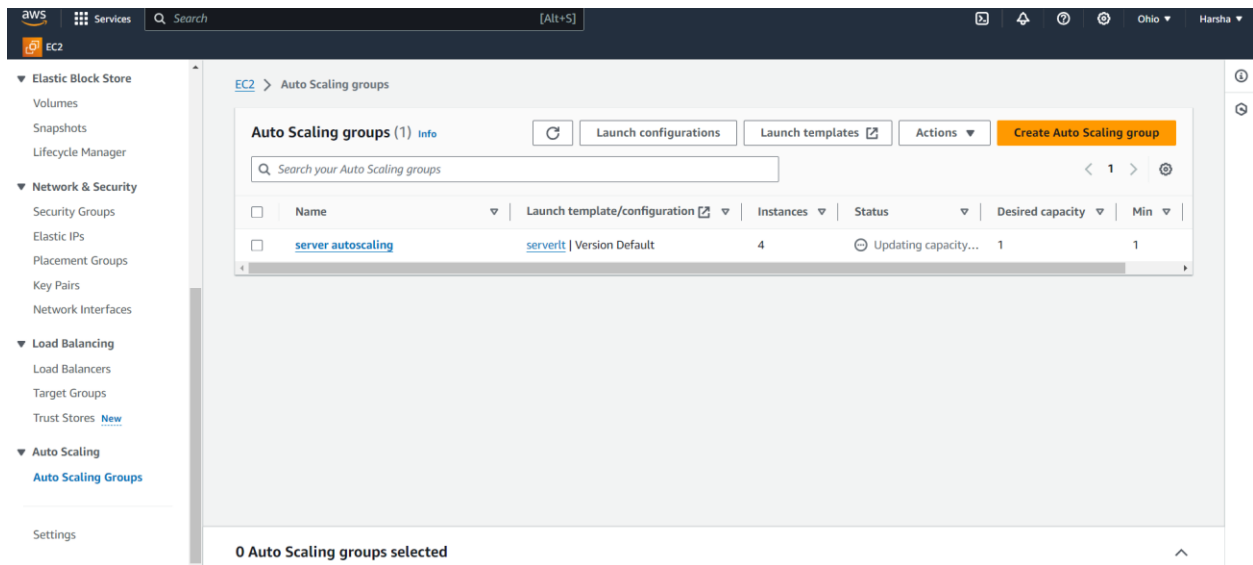
Name	DNS name	State	VPC ID	Availability Zones	Type
server	server-167890051.us-east...	Active	vpc-0986b52c70a9f16...	2 Availability Zones	application
app	app-1469125934.us-east...	Active	vpc-0986b52c70a9f16...	2 Availability Zones	application

Created load balancers

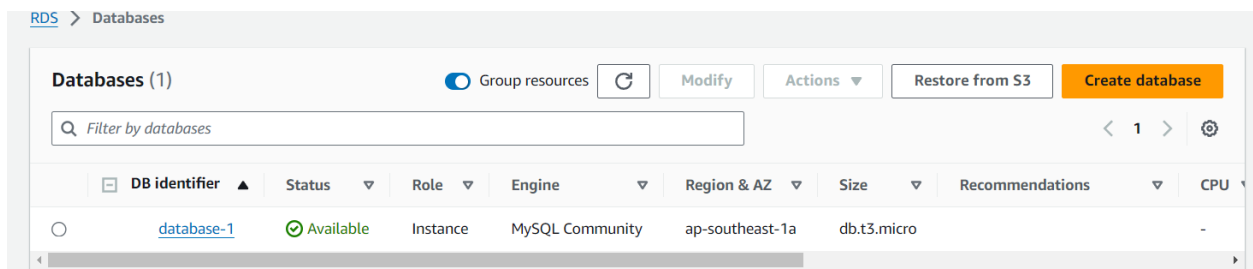
The screenshot shows the AWS Management Console interface for the 'Amazon Machine Images (AMIs)' page. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, and Lifecycle Manager. The main content area shows a table of AMIs with columns for Name, AMI name, AMI ID, Source, Owner, and Visibility. Three AMIs are listed: 'as img', 'im1', and 'server image'. Below the table, a message indicates 'Select an AMI'.

Name	AMI name	AMI ID	Source	Owner	Visibility
as img	ami-0000ecdc2c3a213b3	211125322230/as img	211125322230	Private	
im1	ami-0e18634bd7a5dd802	211125322230/im1	211125322230	Private	
server image	ami-035bc7f05d44a0d25	211125322230/server image	211125322230	Private	

Auto scaling



Created auto scalers using AMI and launch templates



Created multi cluster database with the subnet groups and logged into the database in the Ec2 instance.