

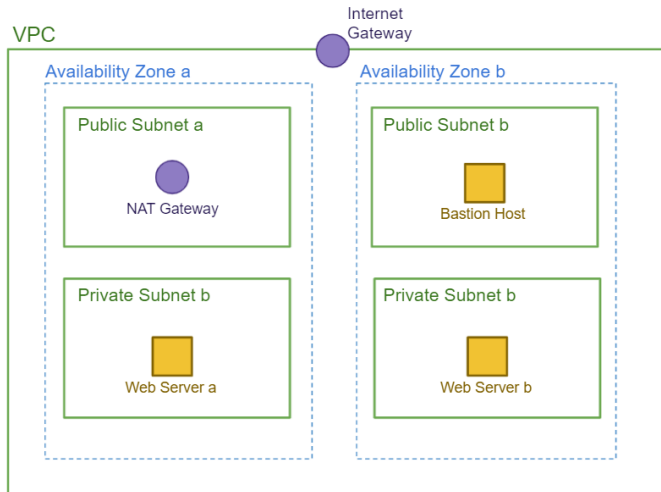
2021

PROJECT REPORT

CLASSIC LOAD BALANCER ON AWS CONSOLE

GROUP 2 – DEEPAK, NATHANIEL, JAHNAVI, MATTHEW, EFANGA

OVERVIEW



1. create a VPC
group-two-vpc
10.0.0.0/16
2. 4 subnets, two private, two public

private-subnet-a
10.0.0.0/24
availability zone a

private-subnet-b
10.0.1.0/24
availability zone b
auto-assign elastic ipv4

public-subnet-a
10.0.2.0/24
availability zone a

public-subnet-b
10.0.3.0/24
availability zone b
3. Internet gateway
group2-igw
4. NAT gateway
group2-nat-gw
public-subnet-a

5. Routes table

```
private-route-table (main=yes)
associations:
private-subnet-a
private-subnet-b
0.0.0.0/0 nat gateway
```

```
public-route-table
associations:
public-subnet-a
public-subnet-b
0.0.0.0/0 igw
```

6. EC2

```
Webserver 1
amazon linux 2
t2.micro
group-2-vpc
private-subnet-b
enable auto-assign ip
```

userdata as text:

```
#!/bin/bash
sudo su
yum update -y
yum install httpd -y
cd /var/www/html
echo "<html><h1>THIS IS SERVER-01</h1></html>" > index.html
systemctl start httpd
chkconfig httpd on
```

```
tag:
Name
Webserver-b
```

```
security group:
Webserver-a
HTTP all addresses
HTTPS all addresses
```

```
create new Key pair
webserver-b
```

7. Webserver 2
amazon linux 2
t2.micro
group-2-vpc

private-subnet-a
enable auto-assign ip

userdata as text:

```
#!/bin/bash
sudo su
yum update -y
yum install httpd -y
cd /var/www/html
echo "<html><h1>THIS IS SERVER-02</h1></html>" > index.html
systemctl start httpd
chkconfig httpd on
```

tag:
Name
webserver-b

security group:
name: WebServer-a
HTTP all addresses
HTTPS all addresses

create new Key pair
webserver-a

8. classic load balancer
Group2-loadbalancer
protocols:
HTTP

security groups:
Webserver-a

configure health check:
response timeouts 3
interval 10
unhealthy threshold 2
healthy threshold 5

SCREEN SHOTS

Creating VPC in AWS management console

Services

Q

Search for services, features, marketplace products, and docs

[Options]

Create VPC

Info

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances.

VPC settings

Name tag - optional

Creates a tag with a key of 'Name' and a value that you specify.

my-vpc-01

IPv4 CIDR block

Info

10.0.0.0/24

IPv6 CIDR block

Info

No IPv6 CIDR block

Amazon-provided IPv6 CIDR block

IPv6 CIDR owned by me

Tenancy

Info

Default

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Commented [NC1]: image tells me nothing, need extra notes for what goes where

Creating Subnets (2 private and 2 public in 2 availability zones)

Services

Q

Search for services, features, marketplace products, and docs

[Options+S]

VPC > Subnets > Create subnet

Create subnet

Info

VPC

VPC ID

Create subnets in this VPC.

Select a VPC

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Select a VPC first to create new subnets.

Add new subnet

Cancel

Create subnet

aws

Services

Search for services, features, marketplace products, and docs

[Opti]

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-PRI-A

The name can be up to 256 characters long.

Availability Zone

Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a

IPv4 CIDR block

Info

10.0.0.0/24

Tags - optional

Key

Value - optional

Q Name

Project-VPC-PRI-A

Remove

Add new tag

You can add 49 more tags.

Remove

aws

Services

Search for services, features, marketplace products, and docs

[Opti]

Subnet 2 of 2

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-PUB-A

The name can be up to 256 characters long.

Availability Zone

Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a

IPv4 CIDR block

Info

10.0.1.0/24

Tags - optional

Key

Value - optional

Q Name

Project-VPC-PUB-A

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel

Create subnet

aws

Services

Search for services, features, marketplace products, and docs

[Options]

Subnet 2 of 2

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-PUB-A

The name can be up to 256 characters long.

Availability Zone

Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a

IPv4 CIDR block

Info

10.0.1.0/24

Tags - optional

Key

Value - optional

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel

Create subnet

aws

Services

Search for services, features, marketplace products, and docs

[Options]

Subnet 3 of 3

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-Pri-B

The name can be up to 256 characters long.

Availability Zone

Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1b

IPv4 CIDR block

Info

10.0.2.0/24

Tags - optional

Key

Value - optional

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

aws

Services

Search for services, features, marketplace products, and docs

Options

Remove

Subnet 4 of 4

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-PUB-B

The name can be up to 256 characters long.

Availability Zone

Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1b

IPv4 CIDR block

Info

10.0.3.0/24

Tags - optional

Key

Value - optional

Q Name X

Q Project-VPC-PUB-B X

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Successfully created 4 subnets

aws

Services

Search for services, features, marketplace products, and docs

Options

New VPC Experience

See us what you think

VPC Dashboard

Filter by VPC:

Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

Carrier Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

You have successfully created 4 subnets: subnet-0412d3a7ac7f10d69, subnet-04686301319a519e4, subnet-05ecc2d8da211a703, sub...

Subnets (4)

Info

Filter subnets

Subnet ID: subnet-0412d3a7ac7f10d69 X

Subnet ID: subnet-04686301319a519e4 X

Subnet ID: subnet-05ecc2d8da211a703 X

Subnet ID: subnet-040e74944d7c68f0c X

Clear filters

	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6
<input type="checkbox"/>	Project-VPC-PUB-A	subnet-04686301319a519e4	Available	vpc-0937652ee3ed69dc8 Pro...	10.0.1.0/24	-
<input type="checkbox"/>	Project-VPC-PUB-A	subnet-0412d3a7ac7f10d69	Available	vpc-0937652ee3ed69dc8 Pro...	10.0.0.0/24	-
<input type="checkbox"/>	Project-VPC-PUB-B	subnet-05ecc2d8da211a703	Available	vpc-0937652ee3ed69dc8 Pro...	10.0.2.0/24	-
<input type="checkbox"/>	Project-VPC-PUB-B	subnet-040e74944d7c68f0c	Available	vpc-0937652ee3ed69dc8 Pro...	10.0.3.0/24	-

Select a subnet

Speaking

Deepak Mahendru

(*)

Creating Route tables for subnets

aws

Services

Search for services, features, marketplace products, and docs

[Option+]

Create route table

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

Name - optional

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-RT-PRI

VPC

The VPC to use for this route table.

vpc-0937652ee3ed69dc8 (Project-VPC)

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Value - optional

Q Name

X

Q Project-VPC-RT-PRI

X

Remove

Add new tag

You can add 49 more tags.

Cancel

Create route table

aws

Services

Search for services, features, marketplace products, and docs

[Option+]

Create route table

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

Name - optional

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-RT-PUB

VPC

The VPC to use for this route table.

vpc-0937652ee3ed69dc8 (Project-VPC)

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Value - optional

Q Name

X

Q Project-VPC-RT-PUB

X

Remove

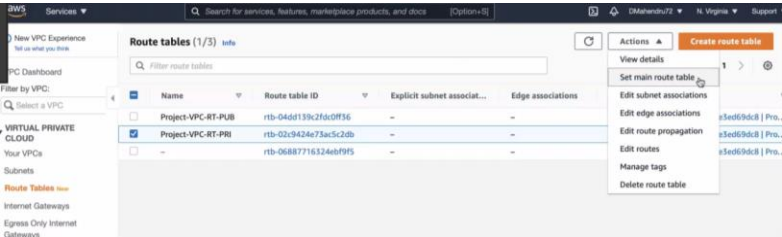
Add new tag

You can add 49 more tags.

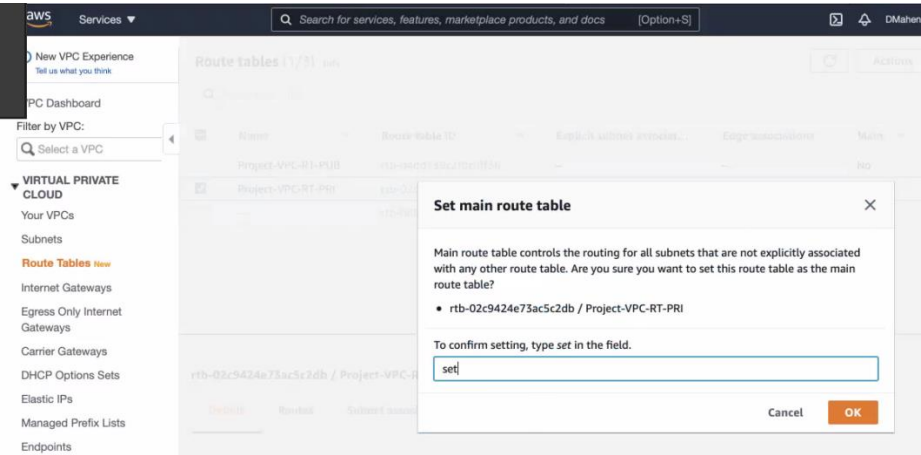
Cancel

Create route table

Set Main route table



Set Main route table



Successfully set main route table

Search for services, features, marketplace products, and docs

DMahendru72N. VirginiaSupport

You successfully set the route table rtb-02c9424e73ac5c2db / Project-VPC-RT-PRI as main.

Route tables (1/3)

Filter route tables

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
<input checked="" type="checkbox"/>	Project-VPC-RT-PUB	rtb-04dd139c2fcd0ff36	--	--	No	vpc-0937652ee3ed69dc8 Pro...
<input type="checkbox"/>	Project-VPC-RT-PRI	rtb-02c9424e73ac5c2db	--	--	Yes	vpc-0937652ee3ed69dc8 Pro...
<input type="checkbox"/>	--	rtb-06887716324ebf9f5	--	--	No	vpc-0937652ee3ed69dc8 Pro...

Subnets without explicit associations (4)

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Find subnet association

Edit subnet associations

Subnet ID	IPv4 CIDR	IPv6 CIDR
subnet-04686301319a519e4 / Project-VPC-PUB-A	10.0.1.0/24	--

Associating public and private subnets to different routing tables

Services

Search for services, features, marketplace products, and docs

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VPC > Route tables > rtb-02c9424e73ac5c2db > Edit subnet associations

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (2/4)

Filter subnet associations

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input type="checkbox"/>	Project-VPC-PUB-A	subnet-04686301319a519e4	10.0.1.0/24	--	rtb-04dd139c2fcd0ff36 / Project-VPC-RT-PUB
<input checked="" type="checkbox"/>	Project-VPC-PRI-A	subnet-0412d33a7710d69	10.0.0.0/24	--	Main (rtb-02c9424e73ac5c2db / Project-VPC-RT-PRI)
<input checked="" type="checkbox"/>	Project-VPC-PRI-B	subnet-05ecc2d8da211a703	10.0.2.0/24	--	Main (rtb-02c9424e73ac5c2db / Project-VPC-RT-PRI)
<input type="checkbox"/>	Project-VPC-PUB-B	subnet-040e74944d7c58f0c	10.0.3.0/24	--	rtb-04dd139c2fcd0ff36 / Project-VPC-RT-PUB

Selected subnets

subnet-05ecc2d8da211a703 / Project-VPC-PRI-B subnet-0412d33a7710d69 / Project-VPC-PRI-A

Cancel Save associations

Successfully updated public and private subnets

Services

Search for services, features, marketplace products, and docs

DMahendru72N. VirginiaSupport

You have successfully updated subnet associations for rtb-02c9424e73ac5c2db / Project-VPC-RT-PRI.

Route tables (3)

Filter route tables

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
<input type="checkbox"/>	Project-VPC-RT-PUB	rtb-04dd139c2fcd0ff36	2 subnets	--	No	vpc-0937652ee3ed69dc8 Pro...
<input type="checkbox"/>	Project-VPC-RT-PRI	rtb-02c9424e73ac5c2db	2 subnets	--	Yes	vpc-0937652ee3ed69dc8 Pro...
<input type="checkbox"/>	--	rtb-06887716324ebf9f5	--	--	No	vpc-0937652ee3ed69dc8 Pro...

Select a route table

Creating Internet gateway for public subnet access to internet

aws

Services

Search for services, features, marketplace products, and docs

[Option+]

VPC

Internet gateways

Create internet gateway

Create internet gateway

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

Internet gateway settings

Name tag

Creates a tag with a key of 'Name' and a value that you specify.

Project-VPC-IGW

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Value - optional

Q Name X

Q Project-VPC-IGW X

Remove

Add new tag

You can add 49 more tags.

Cancel

Create internet gateway

Attach to VPC

aws

Services

Search for services, features, marketplace products, and docs

[Option+S]

VPC

Internet gateways

Attach to VPC (igw-066923d7580467def)

Attach to VPC (igw-066923d7580467def)

VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs

Attach the internet gateway to this VPC.

Q Select a VPC

vpc-0937652ee3ed69dc8 - Project-VPC

▶ AWS Command Line Interface command vpc-0937652ee3ed69dc8 - Project-VPC

Cancel

Attach internet gateway

Create NAT gateway for private subnet access to internet
Assigning public subnet to NAT gateway (allocate Elastic IP)

Services

Search for services, features, marketplace products, and docs

Options

Elastic IP address 54.160.247.33 (eipalloc-031888e3081149183) allocated.

NAT gateway settings

Name - optional

Create a tag with a key of 'Name' and a value that you specify.

Project-VPC-NATGW

The name can be up to 256 characters long.

Subnet

Select a subnet in which to create the NAT gateway.

subnet-04686301319a519e4 (Project-VPC-PUB-A)

Connectivity type

Select a connectivity type for the NAT gateway.

☒ Public

☐ Private

Elastic IP allocation ID

[Info](#)

Assign an Elastic IP address to the NAT gateway.

eipalloc-031888e3081149183

Allocate Elastic IP

Nat gateway successfully created

Services

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Options

NAT gateway nat-09bcf92825fd08a13 | Project-VPC-NATGW was created successfully

VPC

NAT gateways

nat-09bcf92825fd08a13

Delete

Details

NAT gateway ID

nat-09bcf92825fd08a13

Connectivity type

Public

State

Pending

State message

Info

Elastic IP address

-

Private IP address

-

Network interface ID

-

Subnet

subnet-04686301319a519e4 / Project-VPC-PUB-A

Created

2021/07/23 10:06 GMT+1

Deleted

-

VPC

vpc-0937652ea3ed09d8 / Project-VPC

Edit route tables (connect private to NAT gateway)

Services

Search for services, features, marketplace products, and docs

Options

VPC > Route tables > rtb-02c9424e73ac5c2db > Edit routes

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	nat-09bcf92825fd08a13	-	No

Add route

Cancel

Preview

Save changes

Create EC2 instance (configure webserver 1 in private subnet A)

Step 3: Configure Instance Details

Purchasing option

Request Spot instances

Network

vpw-0037852ec3ed89d08 | Project-VPC

Create new VPC

No default VPC found. Create a new default VPC.

Subnet

subnet-0412d3a7ac7710d88 | Project-VPC-PNS-A

Create new subnet

251 IP Addresses available

Auto-assign Public IP

Enable

Placement group

Add instance to placement group

Capacity Reservation

Open

Domain join directory

No directory

Create new directory

IAM role

None

Create new IAM role

Shutdown behavior

Stop

Stop > Hibernate behavior

Enable hibernation as an additional stop behavior

Enable termination protection

Protect against accidental termination

Monitoring

Enable CloudWatch detailed monitoring

Additional charges apply

Tenancy

Shared - Run in shared hardware instance

Additional charges will apply for dedicated tenancy.

Elastic Inference

Add an Elastic Inference accelerator

Additional charges apply

Step 3: Configure Instance Details

Network interfaces

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs
eth0	New network interface	subnet-0412d3a7ac7710d88	Auto-assign	Add IP	The selected subnet does not support IPv6 because it does not have an IPv6 CIDR.

Add Device

Advanced Details

Enclave

Enable

Metadata accessible

Enabled

Metadata version

V1 and V2 (token optional)

Metadata token response hop limit

1

User data

As text

Input is already base64 encoded

yum update -y
yum install httpd -y
cd /var/www/html
echo "<html><h1>THIS IS SERVER-01</h1></html>" > index.html
systemctl start httpd
chkconfig httpd on

Cancel

Previous

Review and Launch

Next: Add Storage

Step 4: Add Storage

Instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more about storage options in Amazon EC2.](#)

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/nvda	snap-053c42bcb1128764a	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GiB of EBS General Purpose (SSD) or Magnetic storage. [Learn more about free usage tier eligibility and usage restrictions.](#)

Cancel

Previous

Review and Launch

Next: Add Tags

Step 5: Add Tags

Tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Any number of tags can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more about tagging your Amazon EC2 resources.](#)

Key	Value	Instances	Volumes	Network Interfaces
Name	Web Server-1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Cancel

Previous

Review and Launch

Next: Configure Security Group

Step 6: Configure Security Group

Security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet access to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more about Amazon EC2 security groups.](#)

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name: Project-VPC-SG

Description: launch-wizard-1 created 2021-07-23T10:21:40.900+01:00

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0 ::0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Custom 0.0.0.0/0 ::0	e.g. SSH for Admin Desktop

Add Rule

Warning

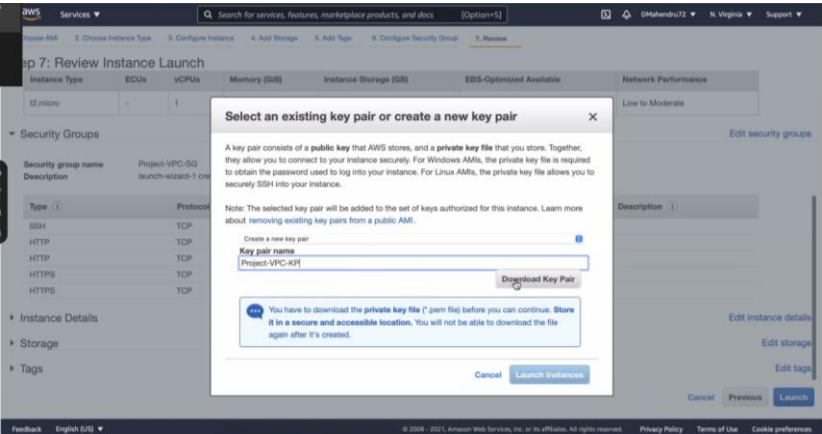
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel

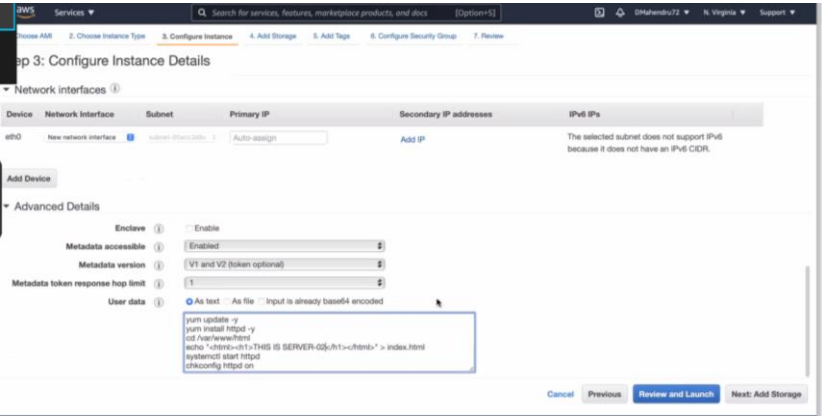
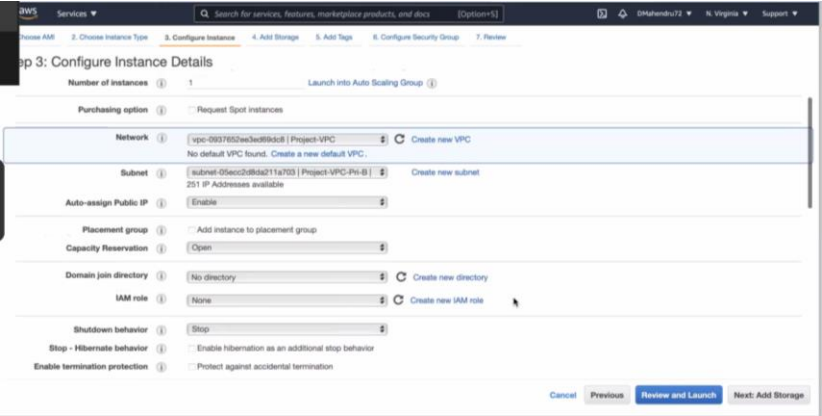
Previous

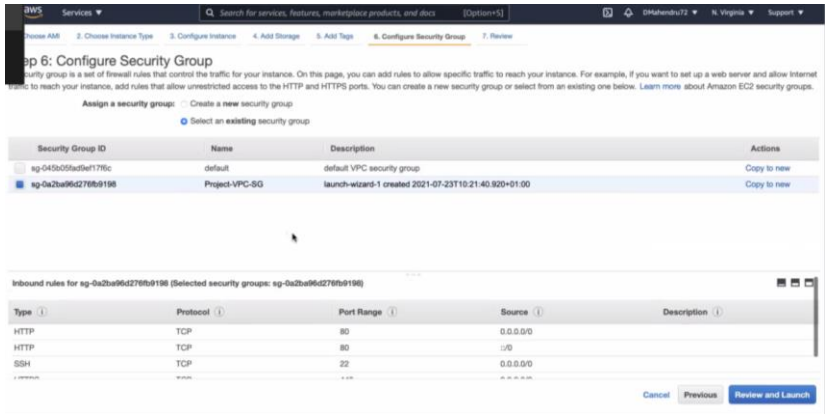
Review and Launch

Download Keypair for SSH (with putty on windows)

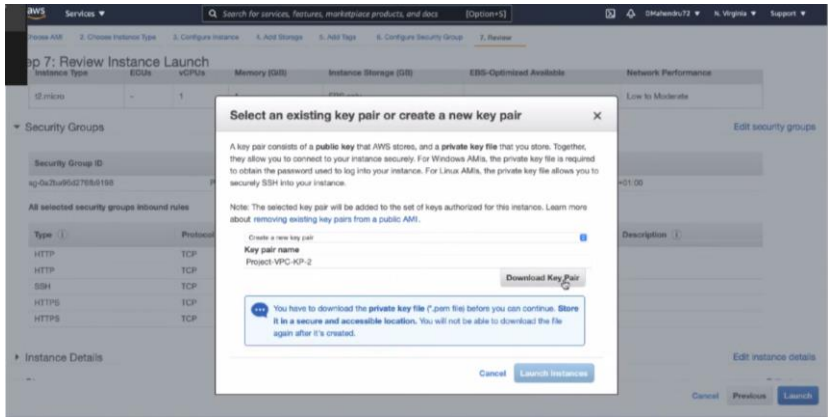


Create EC2 instance (webserver 2 in private subnet B)





Downloading the key pair for SSH



Create EC2 (Bastion server in public subnet)

Step 3: Configure Instance Details

No default VPC found. Select another VPC, or create a new default VPC.

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances1Launch into Auto Scaling Group

Purchasing optionRequest Spot instances

Networkvpc-0937652ee3ed99d08 | Project-VPC

No default VPC found. Create a new default VPC.

Create new VPC

Subnetsubnet-04686301319bd19e4 | Project-VPC-PUB-A

250 IP Addresses available

Create new subnet

Auto-assign Public IPUse subnet setting [Disable]

Placement groupAdd instance to placement group

Capacity ReservationOpen

Domain join directoryNo directory

Create new directory

IAM roleNone

Create new IAM role

Cancel

Previous

Review and Launch

Next: Add Storage

Create Load Balancer

Step 1: Define Load Balancer

wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer name:Only a-z, A-Z, 0-9 and hyphens are allowed

Create LB inside:vpc-0937652ee3ed99d08 (10.0.0.0/16) | Project-VPC

Create an internal load balancer:☐ Select this

Enable advanced VPC configuration:☒

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port
HTTP	80	HTTP	80

Add

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-0937652ee3ed99d08 (10.0.0.0/16) | Project-VPC

Please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

Cancel

Next: Assign Security Groups

Step 1: Define Load Balancer

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port
HTTP	80	HTTP	80

Add

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-0937652ee3ed99d08 (10.0.0.0/16) | Project-VPC

Available subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
	us-east-1a	subnet-0412d3a7ac7110869	10.0.0.0/24	Project-VPC-PUB-A
	us-east-1b	subnet-05eccd89bd211a703	10.0.2.0/24	Project-VPC-PUB-B

Selected subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
	us-east-1a	subnet-04686301319bd19e4	10.0.1.0/24	Project-VPC-PUB-A
	us-east-1b	subnet-046e74944d7c8890c	10.0.3.0/24	Project-VPC-PUB-B

Cancel

Next: Assign Security Groups

Step 1: Define Load Balancer

Basic Configuration

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer name:

Project-VPC-LB

Create LB inside:

vpc-0937652ee3e099a08 (10.0.0.0/16) | Project-VPC

Create an internal load balancer:

☐ (what's this?)

Enable advanced VPC configurations:

☒

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port
HTTP	80	HTTP	80

Add

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-0937652ee3e099a08 (10.0.0.0/16) | Project-VPC

Available subnets

Cancel

Next: Assign Security Groups

Step 2: Assign Security Groups

Assign a security group:

☐ Create a new security group

☒ Select an existing security group

Filter: VPC security groups

Security Group ID	Name	Description	Actions
sg-0456c5f9def1786c	default	default VPC security group	Copy to new
sg-0a2be96d79b9198	Project-VPC-SG	launch-wizard-1 created 2021-07-23T10:21:40.920+01:00	Copy to new

Cancel

Previous

Next: Configure Security Settings

Step 3: Configure Security Settings

Improve your load balancer's security. Your load balancer is not using any secure listener.

If your traffic to the load balancer needs to be secure, use either the HTTPS or the SSL protocol for your front-end connection. You can go back to the first step to add/configure secure listeners under Basic Configuration section. You can also continue with current settings.

Cancel

Previous

Next: Configure Health Check

Services

Search for services, features, marketplace products, and docs

Option+5

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Support

1. Create Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

5. Add EC2 Instances

6. Add Tags

7. Review

Step 4: Configure Health Check

Load balancer will automatically perform health checks on your EC2 instances and only route traffic to instances that pass the health check. If an instance fails the health check, it is automatically removed from the load balancer. Customize the health check to meet your specific needs.

Ping Protocol

HTTP

Ping Port

80

Ping Path

/index.html

Advanced Details

Response Timeout

3

seconds

Interval

6

seconds

Unhealthy threshold

2

Healthy threshold

5

Cancel

Previous

Next: Add EC2 Instances

Services

Search for services, features, marketplace products, and docs

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Support

1. Create Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

5. Add EC2 Instances

6. Add Tags

7. Review

Step 5: Add EC2 Instances

Available below lists all your running EC2 instances. Check the boxes in the Select column to add those instances to this load balancer.

VPC vpc-0937652ee3ed89dd8 (10.0.0.0/16) | Project-VPC

Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR
<input checked="" type="checkbox"/>	i-2b4a3073d6d572e1	running	Project-VPC-SG	us-east-1b	subnet-05ecc2d...	10.0.2.0/24
<input checked="" type="checkbox"/>	i-08f4a0a228ae0231	running	Project-VPC-SG	us-east-1a	subnet-0412d3a...	10.0.0.0/24

Availability Zone Distribution

1 instance in us-east-1a

1 instance in us-east-1b

☒ Enable Cross-Zone Load Balancing

☒ Enable Connection Draining

300 seconds

Cancel

Previous

Next: Add Tags

Services

Search for services, features, marketplace products, and docs

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Support

1. Create Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

5. Add EC2 Instances

6. Add Tags

7. Review

Step 6: Add Tags

Apply tags to your resources to help organize and identify them.

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. [Learn more](#) about tagging your Amazon EC2 resources

Key	Value
Name	Project-VPC-LB

Create Tag

Cancel

Previous

Review and Create

Services

Search for services, features, marketplace products, and docs

[Options+1]

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Support

Images

EC2

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

Auto Scaling

Launch Configurations

Auto Scaling Groups

Create Load Balancer

Actions

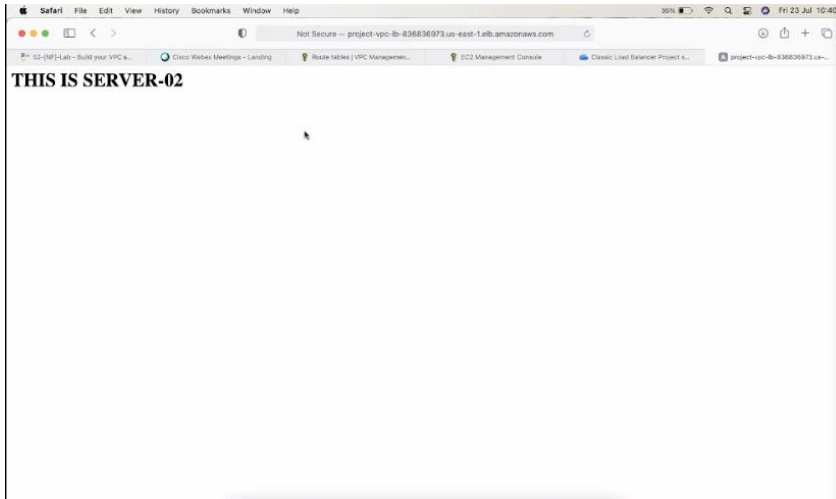
Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones	Type
Project-VPC-LB	Project-VPC-LB-836836973...		vpc-0937852ec3ed89dc8	us-east-1b, us-east-1a	classic

DNS name	Hosted zone	Status
Project-VPC-LB-836836973.us-east-1.elb.amazonaws.com (A Record)	Z365XDOTRQ7X7K	0 of 2 instances in service
Type	Classic (Migrate Now)	VPC
Scheme	Internet-facing	vpc-0937852ec3ed89dc8
Availability Zones	subnet-048e7484d07d89dc - us-east-1b, subnet-04886201319ad19ed - us-east-1a	

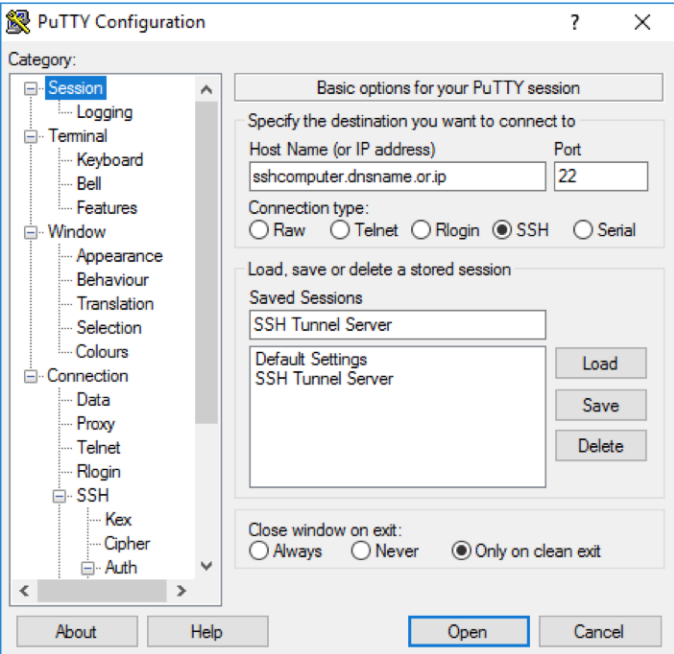
Copy and paste DNS in web browser to test load balancer

The screenshot shows a web browser window with the address bar displaying the DNS name: `project-vpc-lb-836836973.us-east-1.elb.amazonaws.com`. The browser tabs include "12-2075-Lab - Build your VPC...", "Cisco Webex Meetings - Landing", "Route tables | VPC Managem...", "EC2 Management Console", "Classic Load Balancer Project s...", and "project-vpc-lb-836836973.us...". The main content area of the browser displays the text "THIS IS SERVER-01".



Using SSH to Connect

Open putty.exe



- Configure PuTTY to not timeout:
 - Click Connection
 - Set Seconds between keepalives to 30
- Configure PuTTY session:
 - Click Session
 - Host Name (or IP address): Paste the Public IPv4 value of the EC2 instance (Bastion Host)

PuTTY, in the Connection list, expand SSH

Click Auth (don't expand it)

Click Browse

Browse to and select the webserver.ppk file that was downloaded when instance was created

Login as ec2-user

Successful connection to instance.

From the Bastion Host you can now SSH to the web servers in your private subnets.