

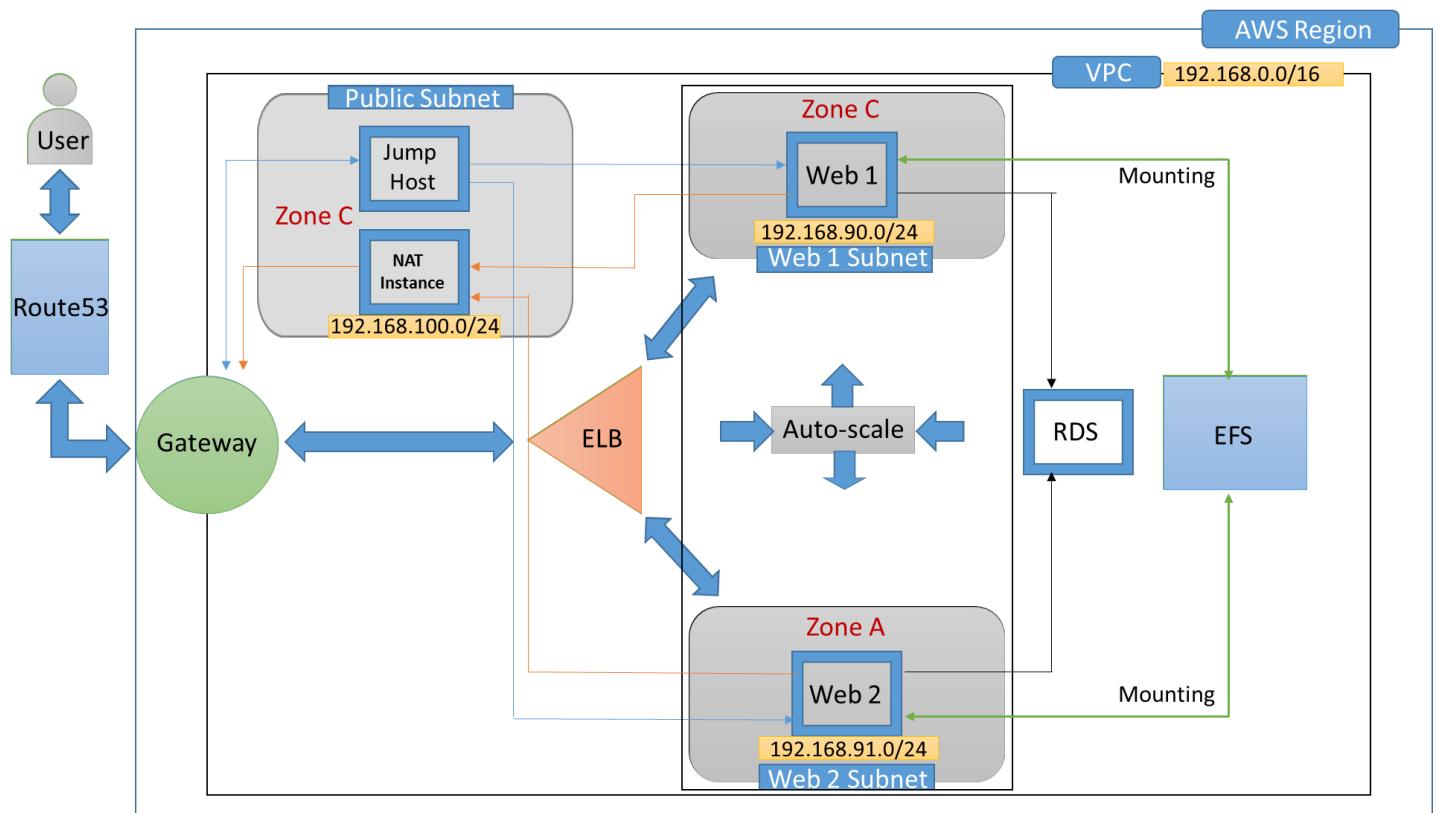
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 - Step 8: Launch NAT Instance
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Introduction

In this project, you will learn how to deploy a high-availability LAMP stack web app using AWS EC2 Instance, VPC, Elastic Load Balancer, Route53, auto-scale, EFS and Amazon Relational Database Service (RDS). The stack uses Linux, Apache, mysql, and PHP. Using Linux EC2 Instance, you can simply configure Webserver and using Elastic Load Balancer you can distribute (Balance) the incoming traffic between two webservers in private subnets across different availability zones. Using Route53 you can give alias name to your Elastic Load balancer DNS name. Auto-scale automatically scales your machines (Webservers) up and down based on load on Webserver using easily adjustable Auto Scaling settings. Amazon RDS makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks.

Project Block Diagram



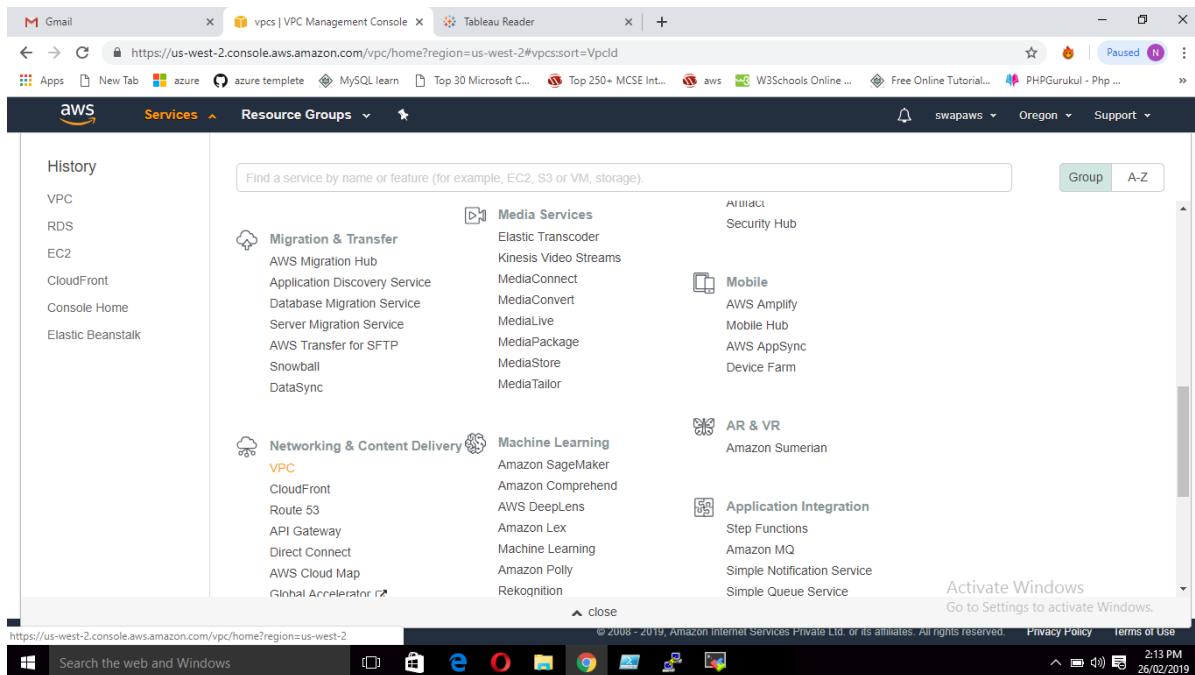
Pre-Requisites

- 1) VPC With 2private & 1public Subnet
- 2) Ami For Web Server For Auto Scale
- 3) Nat Gateway / Instance
- 4) Load Balancer
- 5) Auto-Scale
- 6) Route53
- 7) Cloud-Front
- 8) Database
- 9) EFS

Note - For auto-scale first need RDS DNS name in your VPC, two webservers with insert.php and index.php, EFS endpoint name for mounting on var/html and test all setting regarding output on database and EFS mounting and then create AMI.

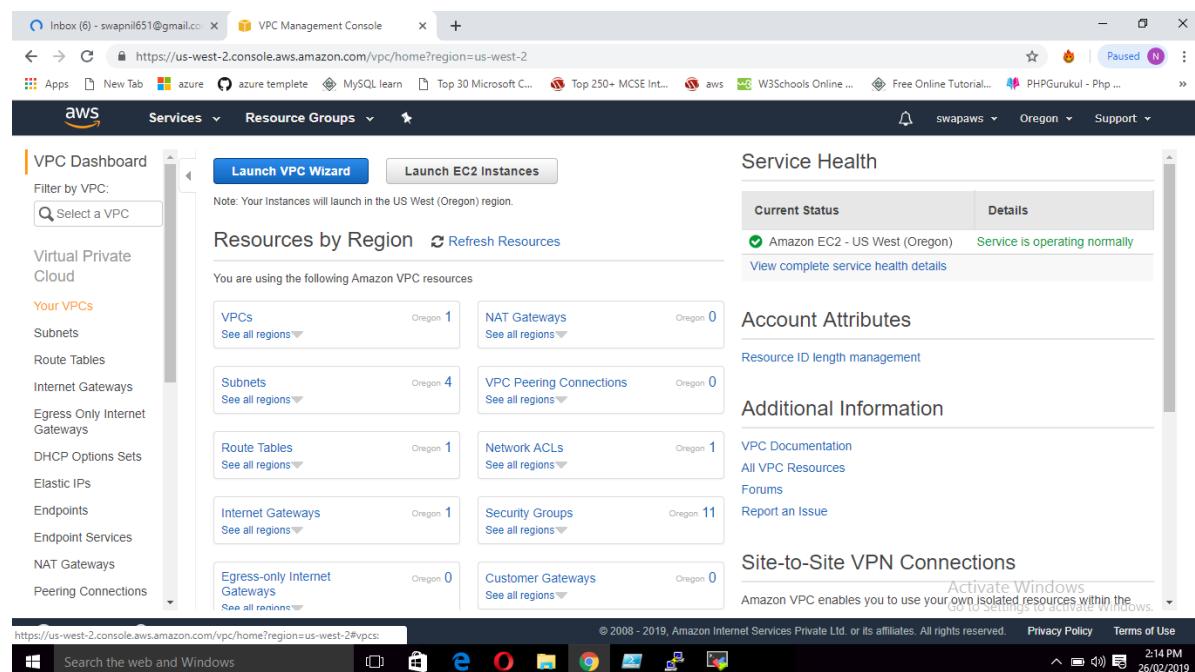
1) Create VPC

a. Login In AWS Web Console And Go To Services > Network & content Delivery > VPC



The screenshot shows the AWS Services navigation bar. Under the 'Networking & Content Delivery' section, the 'VPC' icon is highlighted. Other options in this section include CloudFront, Route 53, API Gateway, Direct Connect, AWS Cloud Map, and Global Accelerator.

b. Click on your VPC and create VPC



The screenshot shows the VPC Dashboard. On the left, there's a sidebar with 'Your VPCs' and other cloud services like Subnets, Route Tables, Internet Gateways, etc. The main area has a 'Launch VPC Wizard' button. Below it, a 'Resources by Region' section shows metrics for VPCs, NAT Gateways, Subnets, VPC Peering Connections, Route Tables, Network ACLs, Internet Gateways, Security Groups, Egress-only Internet Gateways, and Customer Gateways across the Oregon region.

c. Enter name[project] & CIDR IP block[192.168.0.0/16]

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an Amazon-provided IPv6 CIDR block with the VPC.

Name tag	ProjectVpc	<small>i</small>
IPv4 CIDR block*	192.168.0.0/16	<small>i</small>
IPv6 CIDR block	<input checked="" type="radio"/> No IPv6 CIDR Block <input type="radio"/> Amazon provided IPv6 CIDR block	<small>i</small>
Tenancy	Default	<small>i</small>

* Required

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Activate Windows
Go to Settings to activate Windows.

d. Click on internet gateway

VPC Dashboard

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Main Route table
ProjectVpc	vpc-084ff4103d2ac3926	available	192.168.0...	-	dopt-e1f52099	rtb-02cad3b6297bacbf3
default	vpc-25ce125d	available	172.31.0....	-	dopt-e1f52099	rtb-5e0eb025 default vpc

VPCs: vpc-25ce125d, vpc-084ff4103d2ac3926

Activate Windows
Go to Settings to activate Windows.

https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#igws:

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Internet Gateways

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Name	ID	State	VPC	Owner
default	igw-0e53e2b85bd...	attached	vpc-25ce125d d...	882408123207

Internet gateway: igw-0e53e2b85bd0c9e37

Description Tags

ID: igw-0e53e2b85bd0c9e37 State: attached Attached VPC ID: vpc-25ce125d | default Owner: 882408123207

Activate Windows
Go to Settings to activate Windows.

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Search the web and Windows

e. Create internet gateway and attach to VPC

The screenshot shows the 'Create internet gateway' page in the AWS VPC console. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#Create%20Internet%20Gateway:internetGatewayId=igw-0e53e2b85bd0c9e37>. The page title is 'Create internet gateway'. A 'Name tag' input field contains 'Project-IGW'. Below it, a note says '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.' On the right, there are 'Cancel' and 'Create' buttons. The status bar at the bottom indicates 'Paused'.

The screenshot shows the 'Internet Gateways' list page in the AWS VPC console. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#igws:sort=internetGatewayId>. The page title is 'Internet Gateways'. A context menu is open over the 'Project-IGW' row, with options: 'Delete internet gateway', 'Attach to VPC', and 'Detach from VPC'. The table lists two entries:

Name	ID	VPC	Owner
Project-IGW	igw-045b2c48346...	detached	882408123207
default	igw-0e53e2b85bd...	attached	vpc-25ce125d d...

The 'Project-IGW' row is highlighted. Below the table, a detailed view for 'Internet gateway: igw-045b2c48346e2a379' is shown with tabs for 'Description' and 'Tags'. The 'Description' tab is selected. The details are:

Internet gateway: igw-045b2c48346e2a379

ID	igw-045b2c48346e2a379	Attached VPC ID	-
State	detached	Owner	882408123207

The status bar at the bottom indicates 'Activate Windows'.

Internet gateways > Attach to VPC

Attach to VPC

Attach an internet gateway to a VPC to enable communication with the internet. Specify the VPC you would like to attach below.

VPC* Select a VPC

AWS Command Line Filter by attributes

VPC ID	Name
vpc-084ff4103d2ac3926	ProjectVpc

* Required

Cancel Attach

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- f. Create subnets
- g. Private subnets
- i. Web 1

Inbox (6) - swapnil651@gmail.co Attach to VPC | VPC Management Con... +

https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#subnets:sort=SubnetId

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aws Services Resource Groups

Create subnet Actions

Filter by tags and attributes or search by keyword

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Available
default	subnet-0e9ed545	available	vpc-25ce125d default	172.31.32.0/20	4090	-	us-west-2
default	subnet-606c4519	available	vpc-25ce125d default	172.31.16.0/20	4091	-	us-west-2
default	subnet-94fb81bc	available	vpc-25ce125d default	172.31.48.0/20	4091	-	us-west-2
default	subnet-e91028b3	available	vpc-25ce125d default	172.31.0.0/20	4091	-	us-west-2

Activate Windows
Go to Settings to activate Windows.

https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#subnets:sort=SubnetId

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Inbox (6) - swapnil651@gmail.co Create subnet | VPC Management

https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateSubnet:

Subnets > Create subnet

Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag: Web1

VPC*: vpc-084ff4103d2ac3926

VPC CIDRs:

Name	ID	Status	Status Reason
vpc-25ce125d	default	Associated	
vpc-084ff4103d2ac3926	ProjectVpc	Associated	

Availability Zone: No preference

IPv4 CIDR block*:

* Required

Activate Windows Cancel Create Go to Settings to activate Windows.

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Inbox (6) - swapnil651@gmail.co Create subnet | VPC Management

https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateSubnet:

Subnets > Create subnet

Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag: Web1

VPC*: vpc-084ff4103d2ac3926

VPC CIDRs:

Name	ID	Status	Status Reason
No preference			
us-west-2a	usw2-az1	Associated	
us-west-2b	usw2-az2	Associated	
us-west-2c	usw2-az3	Associated	
us-west-2d	usw2-az4	Associated	

Availability Zone: us-west-2a

IPv4 CIDR block*:

* Required

Activate Windows Cancel Create Go to Settings to activate Windows.

Feedback English (US)

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The screenshot shows the AWS VPC Management console with the 'Create subnet' wizard open. The URL in the address bar is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateSubnet>. The page title is 'Create subnet'. The form fields are as follows:

- Name tag: Web1
- VPC*: vpc-084ff4103d2ac3926
- VPC CIDRs:

CIDR	Status	Status Reason
192.168.0.0/16	associated	
- Availability Zone: us-west-2a
- IPv4 CIDR block*: 192.168.90.0/24

At the bottom right, there are 'Activate Windows' and 'Create' buttons. The Windows taskbar at the bottom shows the date as 26/02/2019 and the time as 2:21 PM.

ii. Web 2

The screenshot shows the AWS VPC Management console with the 'Create subnet' wizard open. The URL in the address bar is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateSubnet>. The page title is 'Create subnet'. The form fields are as follows:

- Name tag: Web2
- VPC*: vpc-084ff4103d2ac3926
- VPC CIDRs:

CIDR	Status	Status Reason
192.168.0.0/16	associated	
- Availability Zone: us-west-2b
- IPv4 CIDR block*: 192.168.91.0/24

At the bottom right, there are 'Activate Windows' and 'Create' buttons. The Windows taskbar at the bottom shows the date as 26/02/2019 and the time as 2:22 PM.

h. Public subnet

The screenshot shows the AWS VPC Management Console with the URL <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateSubnet>. The page is titled 'Create subnet'. It displays fields for 'Name tag' (Public), 'VPC*' (vpc-084ff4103d2ac3926), 'VPC CIDRs' (CIDR: 192.168.0.0/16, Status: associated), 'Availability Zone' (us-west-2c), and 'IPv4 CIDR block*' (192.168.100.0/24). A note at the bottom left says '* Required'. At the top right, there are 'Cancel' and 'Create' buttons, with a message above them: 'Activate Windows' and 'Go to Settings to activate Windows.' The browser's address bar shows 'Inbox (6) - swapnil651@gmail.com' and 'Create subnet | VPC Manager...'. The AWS logo is in the top left of the browser window.

i. Create route table as follow

Route Name	Zone	Subnet Association	Route	Rule
Web 1	2a	Web 1	NAT Instance	0.0.0.0 / 0
Web 2	2b	Web 2	NAT Instance	0.0.0.0 / 0
Public	2c	Public	Internet Gateway	0.0.0.0 / 0

a. Click on route tables

The screenshot shows the AWS VPC Management Console. The left sidebar is titled "VPC Dashboard" and includes links for Virtual Private Cloud, Your VPCs, Subnets, Route Tables (which is highlighted in orange), Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Endpoints, Endpoint Services, NAT Gateways, and Peering Connections. The main content area is titled "Resources by Region" and shows a grid of resources: VPCs (Oregon 2), NAT Gateways (Oregon 0), Subnets (Oregon 7), VPC Peering Connections (Oregon 0), Route Tables (Oregon 2), Network ACLs (Oregon 2), Internet Gateways (Oregon 2), Security Groups (Oregon 4), Egress-only Internet Gateways (Oregon 0), and Customer Gateways (Oregon 0). To the right, there are sections for "Service Health" (Amazon EC2 - US West (Oregon) is operating normally), "Account Attributes" (Resource ID length management), "Additional Information" (links to Documentation, All VPC Resources, Forums, and Report an Issue), and "Site-to-Site VPN Connections". The bottom status bar shows the URL as https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#RouteTables, the date as 26/02/2019, and the time as 3:31 PM.

b. Click on create route table

The screenshot shows the "Create route table" page within the AWS VPC Management Console. The left sidebar is identical to the previous screenshot. The main area has a search bar at the top and a table below it. The table has columns: Name, Route Table ID, Explicitly Associated, Main, VPC ID, and Owner. It lists two entries: "default vpc" (rtb-5e0eb025, rtb-02cad3b6297bacbf3) and "rtb-02cad3b6297bacbf3" (rtb-02cad3b6297bacbf3). At the bottom of the table are icons for refresh, settings, and help. The status bar at the bottom shows the URL as https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#RouteTables, the date as 26/02/2019, and the time as 3:31 PM.

c. Select VPC

The screenshot shows the AWS VPC Management console with the URL <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateRouteTable>. The 'Services' dropdown is set to 'VPC'. The 'Route Tables' section is selected, and the 'Create route table' sub-section is active. A modal window titled 'Create route table' is open, showing a form with a 'Name tag' field containing 'Web 1' and a 'VPC' dropdown menu. The dropdown menu lists two VPCs: 'vpc-25ce125d' (selected) and 'vpc-084ff4103d2ac3926' (highlighted). At the bottom right of the modal are 'Cancel' and 'Create' buttons.

d. Click on routes and edit routes

The screenshot shows the AWS VPC Management console with the URL <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#RouteTables:routeTableId=rtb-08d353314a04e222a;sort=desc:tag:Name>. The 'Services' dropdown is set to 'VPC'. The 'Route Tables' section is selected, and the 'Routes' tab is active. On the left, a sidebar shows navigation options like 'Virtual Private Cloud', 'Your VPCs', 'Subnets', 'Route Tables' (selected), and 'Internet Gateways'. The main area displays a table of routes for the 'Web 1' route table. The table has columns for Name, Route Table ID, Explicitly Associated, Main, VPC ID, and Owner. The rows show five routes: 'default vpc', 'Web 2', 'Web 1' (selected), 'Public', and another 'Web 1' entry. Below the table are tabs for 'Summary', 'Routes' (selected), 'Subnet Associations', 'Route Propagation', and 'Tags'. A 'Edit routes' button is visible. At the bottom, there's a 'View' dropdown set to 'All routes' and a table for viewing destination, target, status, and propagation. A status bar at the bottom right says 'Activate Windows'.

e. Target – Select NAT instance and give destination

The screenshot shows the AWS VPC Management Console with the 'Edit routes' page. A route table entry for '192.168.0.0/16' with a target of 'local' has a context menu open. The menu includes options like 'Web1', 'Web2', 'Jump', and 'Nat-Instance', with 'Nat-Instance' being the selected option.



f. Click on subnet association and edit subnet association

The screenshot shows the AWS VPC Management Console with the 'Create route table' page. The 'Subnet Associations' tab is selected. A message at the bottom states 'None found'.

g. Select Web1 subnet and save

The screenshot shows the AWS VPC Management Console. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditRouteTableSubnetAssociations:routeTableId=rtb-0e45ead4e1da51da7>. The page title is "Edit subnet associations". A sub-header indicates "Route table rtb-0e45ead4e1da51da7 (Web 1)". Below this, a table lists "Associated subnets": **subnet-0570cb48933fc121e**. The table has columns: Subnet ID, IPv4 CIDR, IPv6 CIDR, and Current Route Table. The row for "subnet-0570cb48933fc121e | Web1" is selected, showing the IP range 192.168.90.0/24. The "Current Route Table" column shows "Main". At the bottom right, there are "Activate Windows" links and a "Save" button.

h. Create route table for Web 2 and select VPC

The screenshot shows the AWS VPC Management Console. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#CreateRouteTable>. The page title is "Create route table". A sub-header indicates "Route Tables > Create route table". A descriptive text states: "A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection." Below this, there are input fields: "Name tag" (Web 2) and "VPC" (vpc-084ff4103d2ac3926). At the bottom right, there are "Cancel" and "Create" buttons. The "Create" button is highlighted in blue. The status bar at the bottom right shows "Activate Windows Go to Settings to activate Windows." and the date "26/02/2019".

i. Select instance

The screenshot shows the AWS VPC Management Console with the 'Edit routes' page. A context menu is open over a route entry. The route details are:

Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No

The context menu options are:

- Egress Only Internet Gateway
- Instance** (highlighted)
- Internet Gateway
- NAT Gateway
- Network Interface
- Peering Connection
- Transit Gateway
- Virtual Private Gateway

At the bottom right of the interface are 'Cancel' and 'Save routes' buttons.

j. Select NAT instance

The screenshot shows the AWS VPC Management Console with the 'Edit routes' page. A context menu is open over a route entry. The route details are:

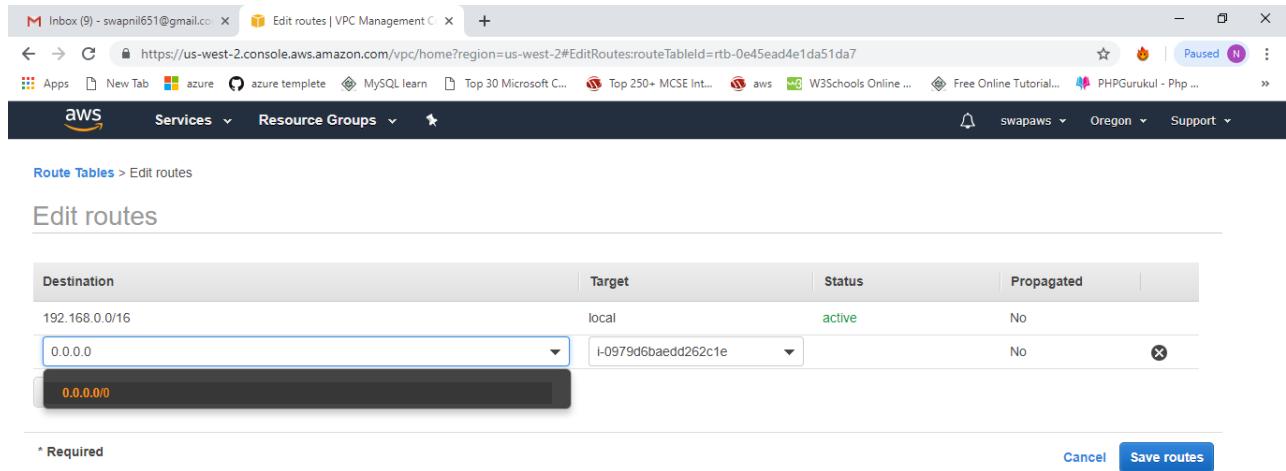
Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No

The context menu options are:

- i-0fa02635c93973f7c
- i-0e6ec8a431b522dec
- i-07387f8aa35f0762b
- i-09796baedd262c1e
- Web1
- Web2
- Jump
- Nat-Instance** (highlighted)

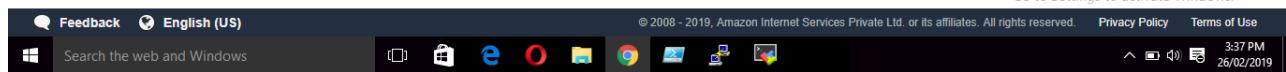
At the bottom right of the interface are 'Cancel' and 'Save routes' buttons.

k. Give destination

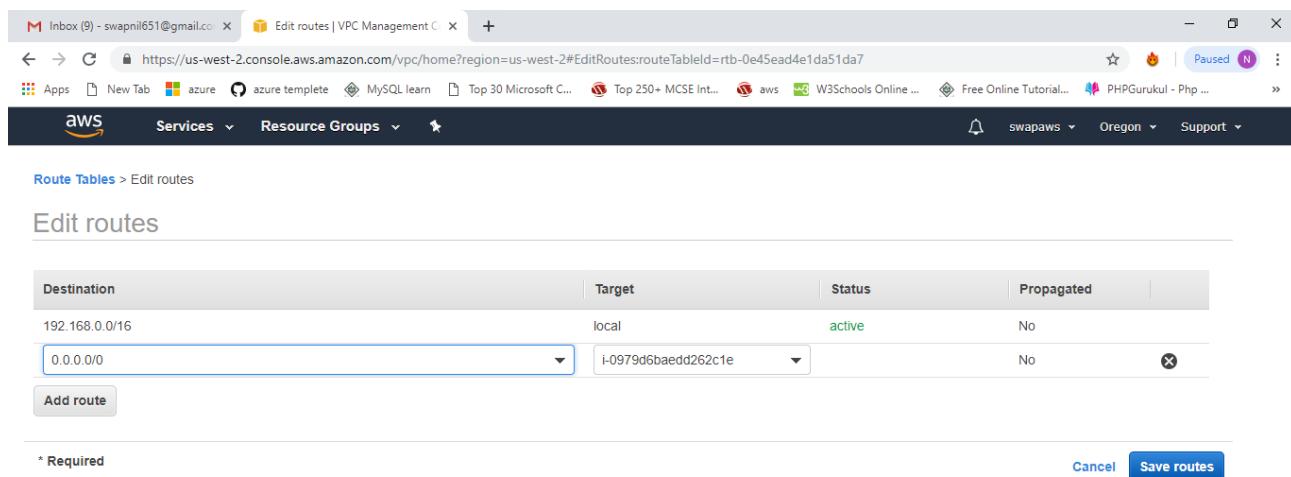


Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No
0.0.0.0/0	i-0979d6baedd262c1e	active	No

* Required Cancel Save routes

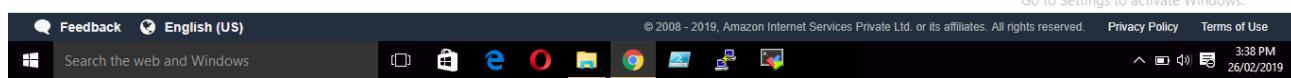


l. Click on save routes



Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No
0.0.0.0/0	i-0979d6baedd262c1e	active	No

* Required Cancel Save routes



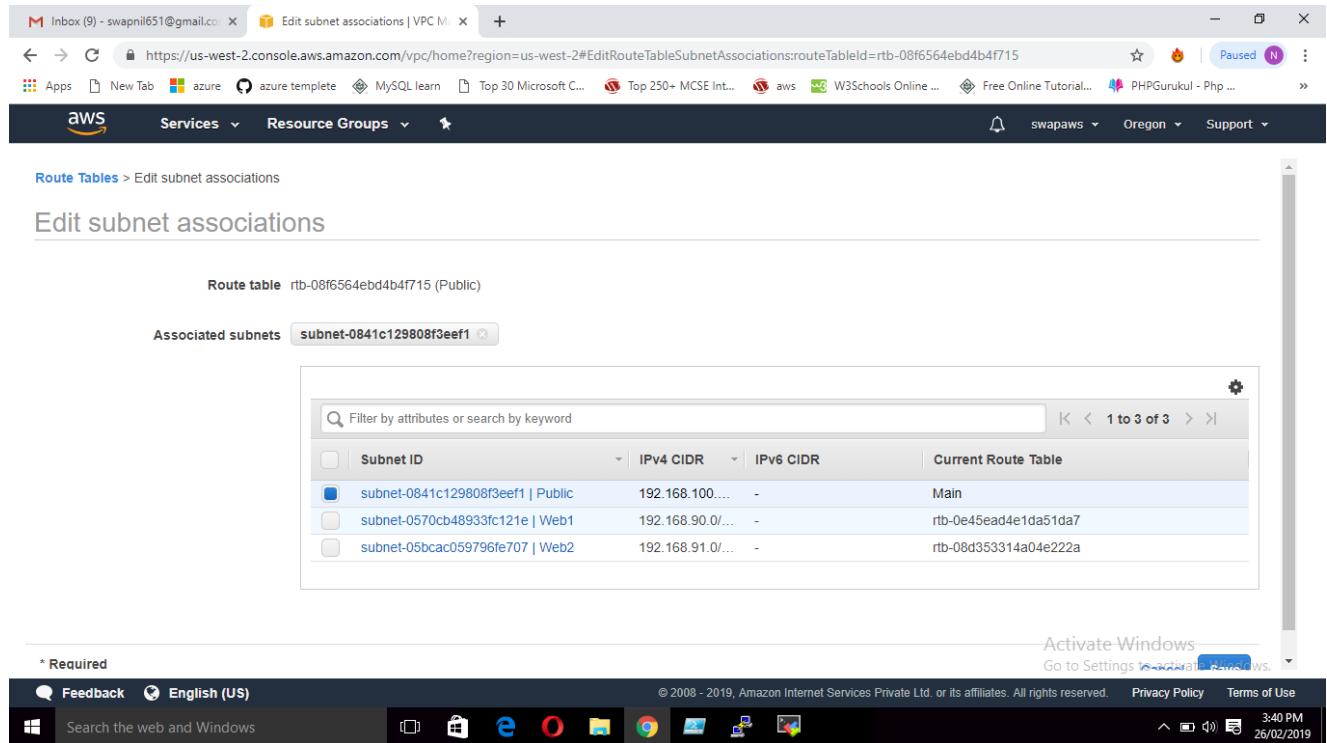
m. Select Web 2 subnet and save

The screenshot shows the AWS VPC Management Console with the URL <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditRouteTableSubnetAssociations:routeTableId=rtb-08d353314a04e222a>. The page displays a table of subnet associations for a route table named 'rtb-08d353314a04e222a (Web 2)'. One subnet, 'subnet-05bcac059796fe707 | Web2', is selected. At the bottom, there are 'Save' and 'Cancel' buttons, along with a note to 'Activate Windows'.

n. Create route for Public

The screenshot shows the AWS VPC Management Console with the URL <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditRoutes:routeTableId=rtb-08f6564ebd4b4f715>. The page displays a table of routes for a route table named 'rtb-08f6564ebd4b4f715'. A new route is being added with a destination of '192.168.0.0/16' and a target of 'Internet Gateway'. A dropdown menu lists other options like 'Egress Only Internet Gateway', 'Instance', 'NAT Gateway', 'Network Interface', 'Peering Connection', 'Transit Gateway', and 'Virtual Private Gateway'. At the bottom, there are 'Cancel' and 'Save routes' buttons, along with a note to 'Activate Windows'.

o. Select Public subnet and save



The screenshot shows the AWS Management Console interface for managing subnet associations. The user is navigating through the Route Tables section to edit subnet associations for a specific route table.

The URL in the browser is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2>EditRouteTableSubnetAssociations:routeTableId=rtb-08f6564ebd4b4f715>.

The page title is "Edit subnet associations".

The route table selected is "rtb-08f6564ebd4b4f715 (Public)".

The "Associated subnets" dropdown is set to "subnet-0841c129808f3eef1".

A table displays the current subnet associations:

Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
subnet-0841c129808f3eef1 Public	192.168.100.0/24	-	Main
subnet-0570cb4893fc121e Web1	192.168.90.0/24	-	rtb-0e45ead4e1da51da7
subnet-05bcac059796fe707 Web2	192.168.91.0/24	-	rtb-08d353314a04e222a

The "Main" route table is currently selected for the first subnet.

The status bar at the bottom right shows "Activate Windows" and the date "26/02/2019".

2) Create RDS Database

a. Go to Database service and click on RDS

The screenshot shows the AWS Management Console interface. The top navigation bar includes tabs for 'Inbox (6)', 'Subnets | VPC Management Con...', and a search bar. Below the navigation bar, the 'Services' menu is open, showing various AWS services like Storage, Management & Governance, Security, Identity, & Compliance, Internet Of Things, and more. The 'RDS' service is highlighted in the 'Database' section of the menu. The main content area is currently empty, indicating no databases have been created yet.

b. Create Database

The screenshot shows the 'Amazon RDS' service page. The top navigation bar is identical to the previous screenshot. The main content area features the 'Amazon RDS' logo and the tagline 'Managed relational database service'. A 'Get started' call-to-action button is prominently displayed, along with a link to 'Restore a database from Amazon S3'. On the left, there's a 'How it works' section with a video thumbnail titled 'Understanding Amazon Relational Database ...'. On the right, there's a 'Pricing and costs' sidebar with links to 'Amazon Aurora Pricing', 'Amazon RDS for MySQL Pricing', 'Amazon RDS for PostgreSQL Pricing', and 'Amazon RDS for MariaDB Pricing'. The bottom of the page includes standard browser navigation and status bars.

c. Select MySQL

The screenshot shows the AWS RDS console with the URL <https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:s3-import=false>. The page displays information about Amazon Aurora and MySQL editions. A callout box highlights the "Aurora global database feature is now available." message. At the bottom, there is a checkbox for "Only enable options eligible for RDS Free Usage Tier" and a "Next" button.

The screenshot shows the AWS RDS console with the URL <https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:s3-import=false>. The page is titled "Select engine" and shows "Step 1 Select engine" as the current step. It lists several database engines: Amazon Aurora, MySQL (selected), MariaDB, PostgreSQL, Oracle, and Microsoft SQL Server. A detailed description of MySQL is provided at the bottom.

The screenshot shows the AWS RDS console for MySQL. At the top, there are three service cards: Oracle, MySQL, and Microsoft SQL Server. The MySQL card is selected. Below the card, the MySQL logo and a brief description are shown. The description states: "MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database." A bulleted list follows, detailing MySQL's capabilities:

- Supports database size up to 32 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 5 Read Replicas per instance, within a single Region or cross-region.

A blue callout box highlights the "Aurora global database feature is now available." message, which says: "This feature is now available in our new database creation flow." A "Try it now" button is present. At the bottom of the page, there is a checkbox for "Only enable options eligible for RDS Free Usage Tier" and navigation buttons for "Cancel" and "Next".

d. Enter setting details

The screenshot shows the "Settings" configuration page for creating a new MySQL DB instance. The page has a header with "DB instance identifier" and "Info" link. It asks for a unique name for the DB instance. Below that is a "Project" field with a note: "DB instance identifier is case insensitive, but stored as all lower-case, as in "mydbinstance". Must contain from 1 to 63 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Cannot end with a hyphen or contain two consecutive hyphens." The "Master username" field is set to "root" with an "Info" link. The "Master password" field contains "*****" with an "Info" link, and the "Confirm password" field also contains "*****" with an "Info" link. Both fields have notes about password requirements. Navigation buttons at the bottom include "Cancel", "Previous", and "Next". The "Next" button is highlighted in orange. A "Activate Windows" message is visible at the bottom right.

e. Next

f. Select our VPC

Step 1
Select engine

Step 2
Specify DB details

Step 3
Configure advanced settings

RDS > Create database

Configure advanced settings

Network & Security

Virtual Private Cloud (VPC) [Info](#)
VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-25ce125d) [Edit](#)

Default VPC (vpc-25ce125d)

ProjectVpc (vpc-084ff4103d2ac3926)

Create new VPC

selected.

default

Public accessibility [Info](#)

Yes
EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.

No
DB instance will not have a public IP address assigned. No EC2 instance or devices outside of the VPC will be able to connect.

Availability zone [Info](#)

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2:27 PM 26/02/2019

g. Select project VPC

h. Select availability zone

Public accessibility [Info](#)

Yes
EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.

No
DB instance will not have a public IP address assigned. No EC2 instance or devices outside of the VPC will be able to connect.

Availability zone [Info](#)

No preference [Edit](#)

No preference

us-west-2a

us-west-2b

us-west-2c

Database options

Database name [Info](#)

dbname

Note: if no database name is specified then no initial MySQL database will be created on the DB Instance.

Port [Info](#)

TCP/IP port the DB instance will use for application connections.

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AWS Services Resource Groups

Database options

Database name [Info](#)
Project

Note: If no database name is specified then no initial MySQL database will be created on the DB Instance.

Port [Info](#)
TCP/IP port the DB instance will use for application connections.
3306

DB parameter group [Info](#)
default.mysql5.6

Option group [Info](#)
default:mysql-5.6

IAM DB authentication [Info](#)
 Enable IAM DB authentication
Manage your database user credentials through AWS IAM users and roles.
 Disable

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AWS Services Resource Groups

Maintenance

Auto minor version upgrade [Info](#)
 Enable auto minor version upgrade
Enables automatic upgrades to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the DB instance.
 Disable auto minor version upgrade

Maintenance window [Info](#)
Select the period in which you want pending modifications or patches applied to the DB instance by Amazon RDS.
 Select window
 No preference

Deletion protection

Enable deletion protection
Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Cancel Previous Create database Activate Windows Go to Settings to activate Windows.

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Inbox (6) - swapnil651@gmail.com RDS - AWS Console https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#dbinstance:id=project

Paused N

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AWS Services Resource Groups

Amazon RDS

Databases

Dashboard Performance Insights Snapshots Automated backups Reserved instances Subnet groups Parameter groups Option groups Events Event subscriptions Recommendations

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CloudWatch (17) Add instance to compare Monitoring Last Hour

Legend: project

Summary

Engine MySQL 5.6.40	DB instance class db.t2.micro	DB instance status creating	Pending maintenance none
---------------------	-------------------------------	-----------------------------	--------------------------

CPU Utilization (Percent)

DB Connections (Count)

Activate Windows Go to Settings to activate Windows.

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The screenshot shows the AWS RDS console with a MySQL database named 'project'. The summary page displays basic information like engine version (MySQL 5.6.40), DB instance class (db.t2.micro), and current status (creating). It also includes CloudWatch monitoring metrics for CPU utilization and DB connections, along with a link to activate Windows. The left sidebar provides navigation for other RDS features like databases, snapshots, and automated backups.

Inbox (6) - swapnil651@gmail.com RDS - AWS Console https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#database:id=project:is-cluster=false

Paused N

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AWS Services Resource Groups

Amazon RDS

Databases

Dashboard Performance Insights Snapshots Automated backups Reserved instances Subnet groups Parameter groups Option groups Events Event subscriptions Recommendations

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DB Name project	CPU 1.48%	Info Available	Class db.t2.micro
Role Instance	Current activity 0 Connections	Engine MySQL	Region & AZ us-west-2b

Connectivity & security Monitoring Logs & events Configuration Maintenance & backups Tags

Connectivity & security

Endpoint & port	Networking	Security
Endpoint project.ccveflhlhtyg.us-west-2.rds.amazonaws.com	Availability zone us-west-2b	VPC security groups rds-launch-wizard (sg-06f9352b737b3cd46) (active)
Port 3306	VPC ProjectVpc (vpc-084ff4103d2ac3926)	Public accessibility No
	Subnet group default-vpc-084ff4103d2ac3926	Activate Windows Certificate authority settings to activate Windows.

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The screenshot shows the connectivity & security section for the 'project' database. It lists endpoint details (IP and port), networking (availability zone, VPC), and security (VPC security groups). The 'Security' section also indicates public accessibility is disabled. The left sidebar remains consistent with the previous screenshot, providing access to various RDS management features.

i. Select security options as per requirement

The screenshot shows the AWS EC2 Management Console interface. On the left, there's a navigation sidebar with links like EC2 Dashboard, Events, Tags, Reports, Limits, Instances, AMIs, and EBS. The main area is titled 'Create Security Group' and shows a table with one row for the group 'sg-06f9352b737b3cd46'. The details for this group are shown in a modal window:

Name	Group ID	Group Name	VPC ID	Description
sg-06f9352b737b3cd46	rds-launch-wizard	vpc-084ff4103d2ac3926	Created from the RDS Management Console: 2019/02/26...	

Below the table, there's a section for the 'Security Group: sg-06f9352b737b3cd46' with tabs for Description, Inbound, Outbound, and Tags. The 'Description' tab is selected, showing the group name 'rds-launch-wizard', group ID 'sg-06f9352b737b3cd46', group description 'Created from the RDS Management Console: 2019/02/26 09:00:14', and VPC ID 'vpc-084ff4103d2ac3926'. A message at the bottom right says 'Activate Windows'.

This screenshot shows the same EC2 Management Console interface, but the 'Inbound' tab is selected in the security group configuration. It displays a table with one rule entry:

Type	Protocol	Port Range	Source	Description
MySQL/Aurora	TCP	3306	49.14.204.66/32	Activate Windows Go to Settings to activate Windows

The rest of the interface is identical to the previous screenshot, including the sidebar and the bottom navigation bar.

Inbox (6) - swapnil651@gmail.co EC2 Management Console

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups:search=sg-06f9352b737b3cd46;sort=groupId

aws Services Resource Groups

EC2 Dashboard Events Tags Reports Limits

INSTANCES Instances Launch Temp Spot Requests Reserved Inst Dedicated Hos Scheduled Ins Capacity Reservations

IMAGES AMIs Bundle Tasks

ELASTIC BLOCK STORE Volumes

Create Security Group Actions

search : sg-06f9352b737b3cd46 Add filter

Edit inbound rules

Type	Protocol	Port Range	Source	Description
MySQL/Aurora	TCP	3306	Custom Custom Anywhere My IP	49.14.204.66/32 e.g. SSH for Admin Desktop

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Save

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Inbox (6) - swapnil651@gmail.co EC2 Management Console

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups:search=sg-06f9352b737b3cd46;sort=groupId

aws Services Resource Groups

EC2 Dashboard Events Tags Reports Limits

INSTANCES Instances Launch Temp Spot Requests Reserved Inst Dedicated Hos Scheduled Ins Capacity Reservations

IMAGES AMIs Bundle Tasks

ELASTIC BLOCK STORE Volumes

Create Security Group Actions

search : sg-06f9352b737b3cd46 Add filter

Edit inbound rules

Type	Protocol	Port Range	Source	Description
MySQL/Aurora	TCP	3306	Anywhere	0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Save

Feedback English (US)

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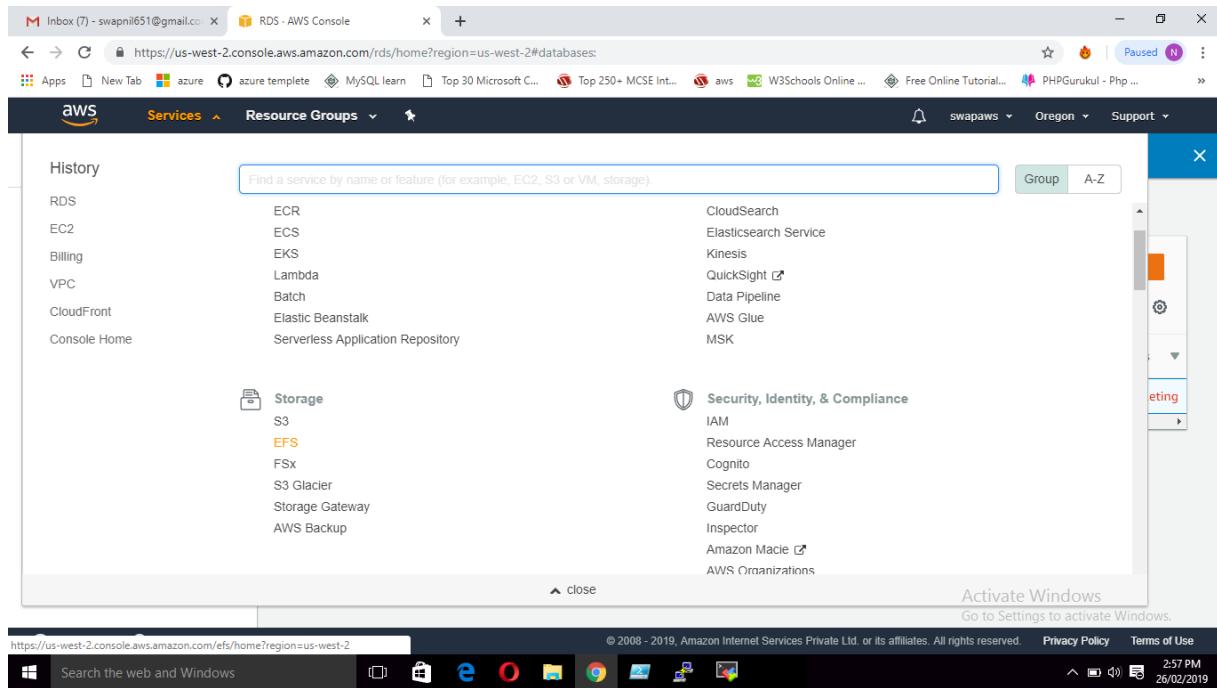
Search the web and Windows

2:50 PM 26/02/2019

j. Give database name and click on create

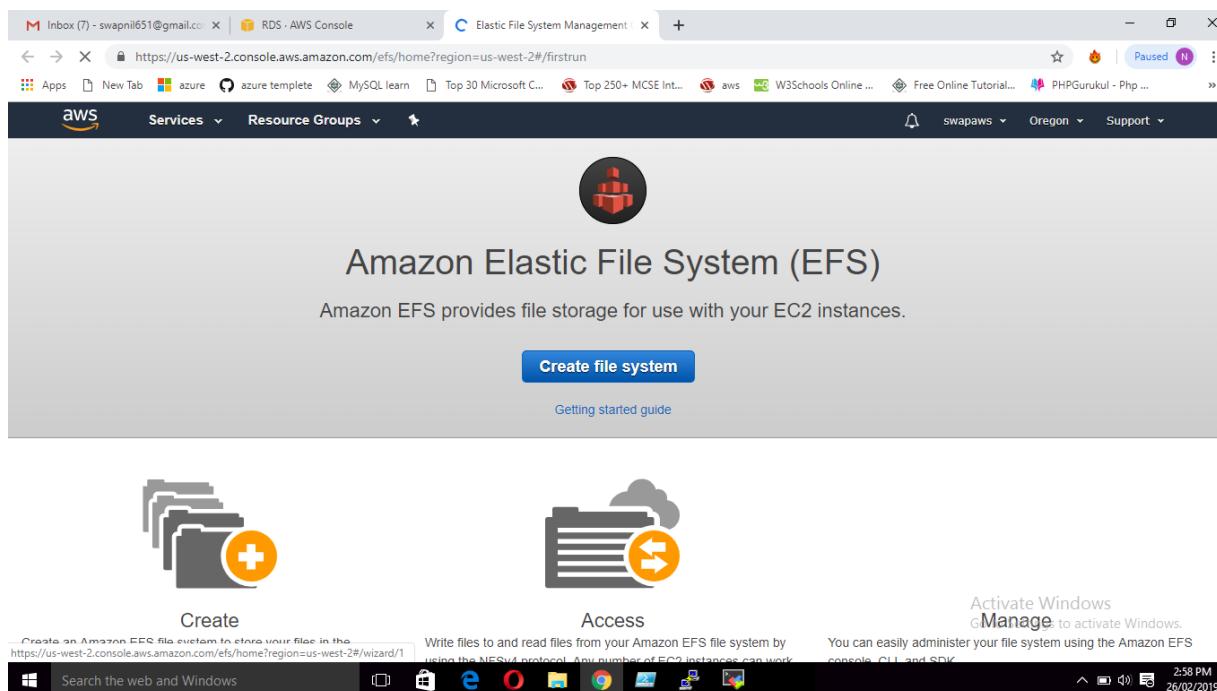
3) Create EFS

a. Open EFS Console



The screenshot shows the AWS Management Console interface. At the top, there is a search bar with the placeholder "Find a service by name or feature (for example, EC2, S3 or VM, storage)." Below the search bar is a list of services under "History" and "Storage". Under "Storage", the "EFS" service is highlighted in orange. To the right, there is a sidebar titled "Security, Identity, & Compliance" listing services like IAM, Resource Access Manager, Cognito, Secrets Manager, GuardDuty, Inspector, Amazon Macie, and AWS Organizations. The URL in the browser is <https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#databases>.

b. Create File System



The screenshot shows the "Elastic File System Management" section of the AWS Management Console. It features a large icon of a red cube with a white symbol. Below the icon, the text "Amazon Elastic File System (EFS)" is displayed. A subtext states "Amazon EFS provides file storage for use with your EC2 instances." There is a prominent blue "Create file system" button. Below the button, a link to "Getting started guide" is visible. At the bottom, there are two sections: "Create" (with an icon of a folder containing a plus sign) and "Access" (with an icon of a cloud and a double-headed arrow). The URL in the browser is <https://us-west-2.console.aws.amazon.com/efs/home?region=us-west-2#/firstrun>.

c. Select VPC

The screenshot shows the 'Create file system' wizard on the AWS EFS console. The current step is 'Step 1: Configure file system access'. A dropdown menu for 'VPC' is open, showing two options: 'vpc-25ce125d - default' (selected) and 'vpc-084ff4103d2ac3926 - ProjectVpc'. Below the dropdown, a note says: 'Instances connect to a file system by using mount targets you create. We recommend creating a mount target in each of your VPC's Availability Zones so that EC2 instances across your VPC can access the file system.' A table lists three availability zones: us-west-2a, us-west-2b, and us-west-2c, each associated with a subnet and security group.

d. Select all availability zones

The screenshot shows the 'Create mount targets' step of the wizard. A note says: 'Instances connect to a file system by using mount targets you create. We recommend creating a mount target in each of your VPC's Availability Zones so that EC2 instances across your VPC can access the file system.' A table lists four availability zones: us-west-2a, us-west-2b, us-west-2c, and us-west-2d. Each row includes a checkbox, an availability zone name, a subnet dropdown, an IP address dropdown set to 'Automatic', and a security group dropdown. The checkboxes for us-west-2a, us-west-2b, and us-west-2c are checked. The 'Next Step' button is visible at the bottom right.

e. Add security groups

f. Name = any name

Step 1: Configure file system access

Step 2: Configure optional settings

Step 3: Review and create

Configure optional settings

Add tags

You can add tags to describe your file system. A tag consists of a case-sensitive key-value pair. (For example, you can define a tag with key-value pair with key = Corporate Department and value = Sales and Marketing.) At a minimum, we recommend a tag with key = Name.

Key	Value	Remove
Name	ProjectEFS	(remove)
Add New Key		

Choose performance mode

We recommend **General Purpose** performance mode for most file systems. **Max I/O** performance mode is optimized for applications where tens, hundreds, or thousands of EC2 instances are accessing the file system — it scales to higher levels of aggregate throughput and operations per second with a tradeoff of slightly higher latencies for file operations.

Go to Settings to activate Windows.

g. Next

Inbox (7) - swapnil651@gmail.co | RDS - AWS Console | Elastic File System Management | +

← → C https://us-west-2.console.aws.amazon.com/efs/home?region=us-west-2#/wizard/2

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Services Resource Groups

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Enable encryption

If you enable encryption for your file system, all data on your file system will be encrypted at rest. You can select a KMS key from your account to protect your file system, or you can provide the ARN of a key from a different account. Encryption of data at rest can only be enabled during file system creation. Encryption of data in transit is configured when mounting your file system. [Learn more](#)

Enable encryption of data at rest

Enable lifecycle management

EFS **Lifecycle Management** automatically moves files to the lower-cost Infrequent Access storage class based on a predefined lifecycle policy. The Infrequent Access storage class has higher first-byte latency than the Standard storage class. Lifecycle policies apply to all files in your file system. Access charges apply. [Learn more](#)

Enable Lifecycle Management

Activate Windows

Cancel Previous Next Step Go to Settings to activate Windows

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3:01 PM 26/02/2019

h. Create file system

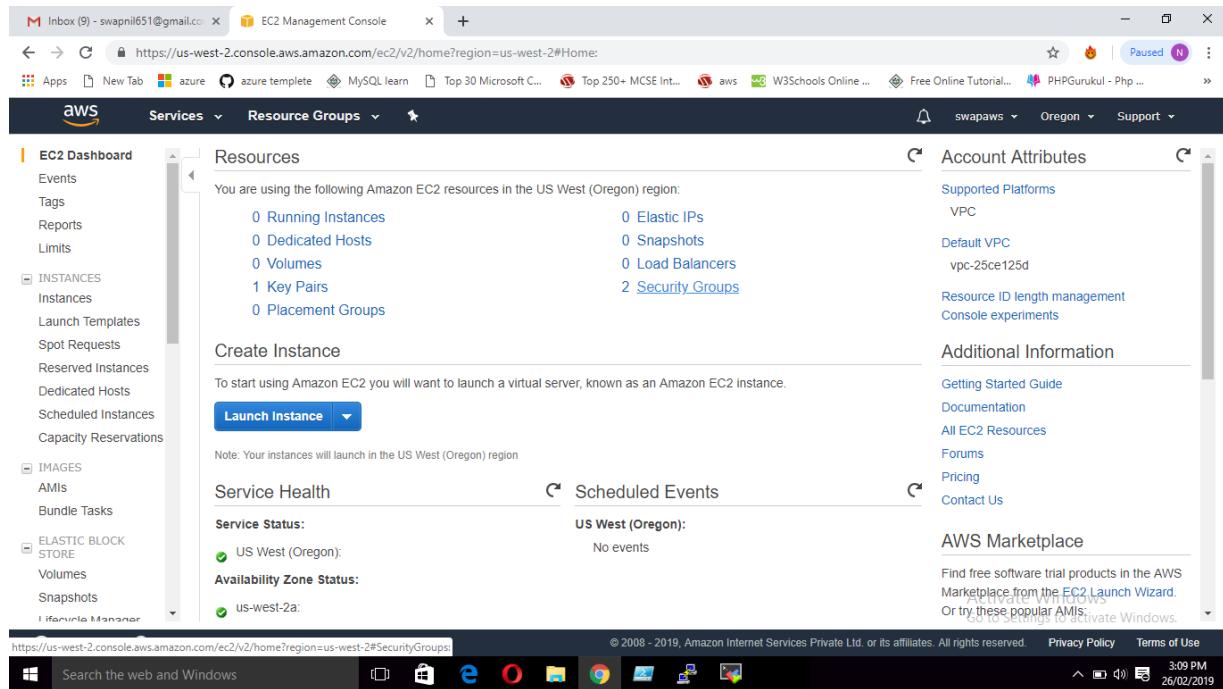
The screenshot shows the 'Optional settings' section of the AWS EFS creation wizard. It includes fields for Tags (Name: ProjectEfs), Performance mode (General Purpose), Throughput mode (Bursting), Encrypted (No), and Lifecycle policy (None). At the bottom right, there are buttons for 'Cancel', 'Activate Windows' (disabled), 'Previous', 'Create File System', and 'Go to Settings to Create Minidump'.

The screenshot shows the AWS EFS console under the 'File systems' tab. It displays a table with one row for 'ProjectEfs'. The table columns are Name, File system ID, Metered size, Number of mount targets, and Creation date. The details for 'ProjectEfs' are: Name - ProjectEfs, File system ID - fs-d1b99279, Metered size - 6.0 KB, Number of mount targets - 3, Creation date - 02/26/2019, 09:32:42 UTC. Below the table, there are sections for 'Other details' (Owner ID: 882408123207, File system state: Available, Performance mode: General Purpose, Throughput mode: Bursting, Encrypted: No, Lifecycle policy: None) and 'File system access' (DNS name: fs-d1b99279.efs.us-west-2.amazonaws.com).

- i. After creation of EFS mount it on /var/www/html in both Web1 and Web2 with following command
#mount /var/www/html /efs DNS name

4) Create security group

i. Open the amazon EC2 console

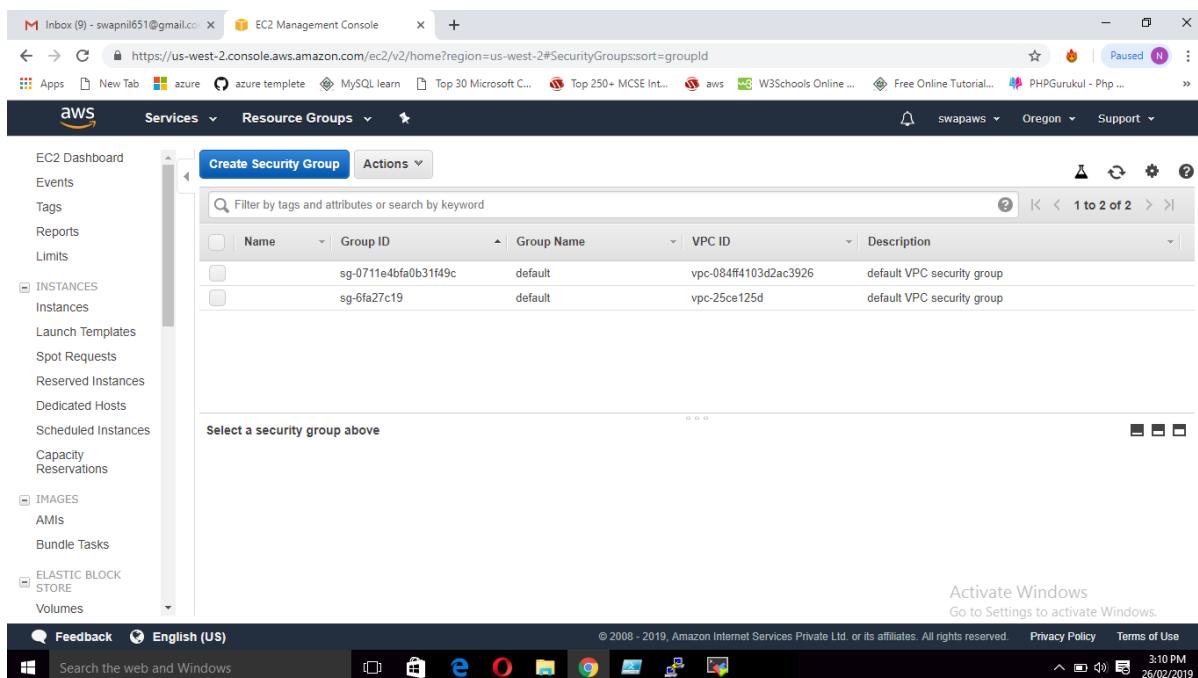


The screenshot shows the AWS EC2 Management Console interface. The left sidebar contains navigation links for EC2 Dashboard, Instances, Images, and Elastic Block Store. The main content area displays the following information:

- Resources:** You are using the following Amazon EC2 resources in the US West (Oregon) region:
 - 0 Running Instances
 - 0 Dedicated Hosts
 - 0 Volumes
 - 1 Key Pairs
 - 0 Placement Groups
 - 0 Elastic IPs
 - 0 Snapshots
 - 0 Load Balancers
 - 2 Security Groups
- Create Instance:** A button labeled "Launch Instance".
- Service Health:** Service Status: US West (Oregon); Availability Zone Status: us-west-2a.
- Scheduled Events:** No events.
- Account Attributes:** Supported Platforms: VPC; Default VPC: vpc-25ce125d.
- Additional Information:** Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, Contact Us.
- AWS Marketplace:** Find free software trial products in the AWS Marketplace from the EC2 Launch Wizard. Or try these popular AMIs: Go to Settings to activate Windows.

The browser address bar shows the URL: <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups>. The status bar at the bottom right indicates the date and time: 3:09 PM 26/02/2019.

ii. Choose security groups, and then click create security group.

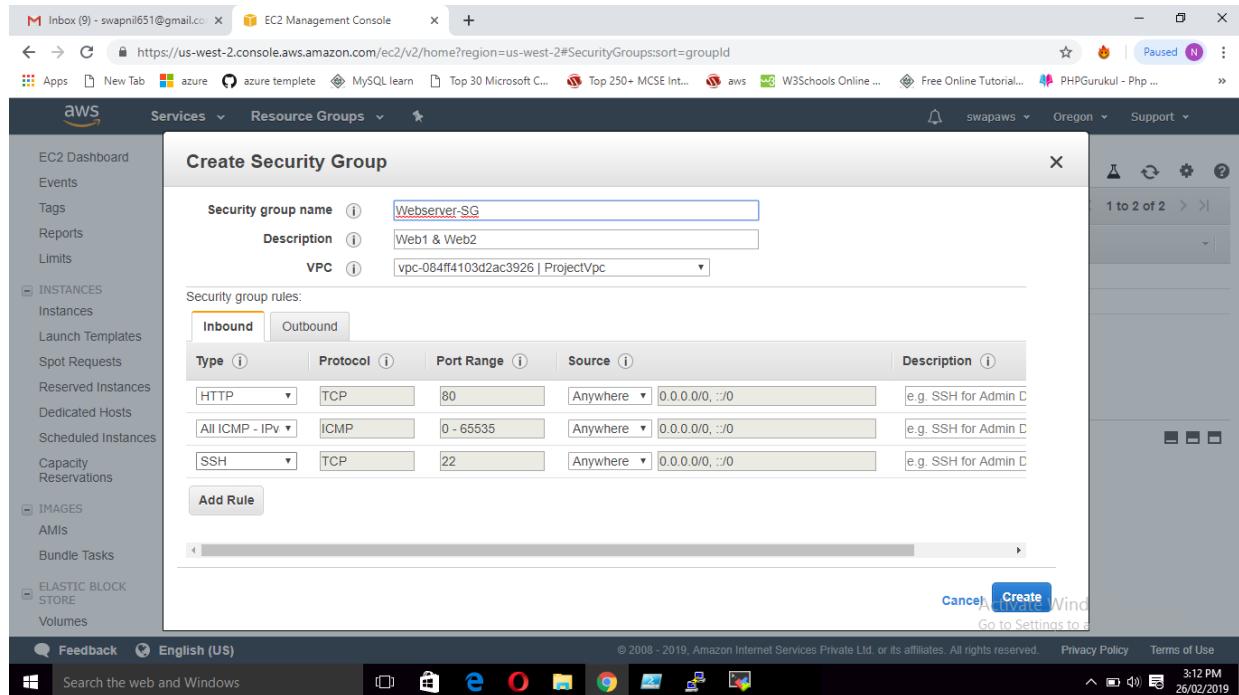


The screenshot shows the "Create Security Group" page. The left sidebar is identical to the previous screenshot. The main content area has the following structure:

- Create Security Group:** A button.
- Actions:** A dropdown menu.
- Filter:** Filter by tags and attributes or search by keyword.
- Table:** A table listing existing security groups:

Name	Group ID	Group Name	VPC ID	Description
sg-0711e4bfa0b31f49c		default	vpc-084ff4103d2ac3926	default VPC security group
sg-6fa27c19		default	vpc-25ce125d	default VPC security group
- Select a security group above:** A note.
- Activate Windows:** A link to Go to Settings to activate Windows.
- Feedback:** A feedback link.
- English (US):** A language selection link.
- Search the web and Windows:** A search bar.
- Browser Address Bar:** https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups
- Status Bar:** © 2008 - 2019, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use 3:09 PM 26/02/2019

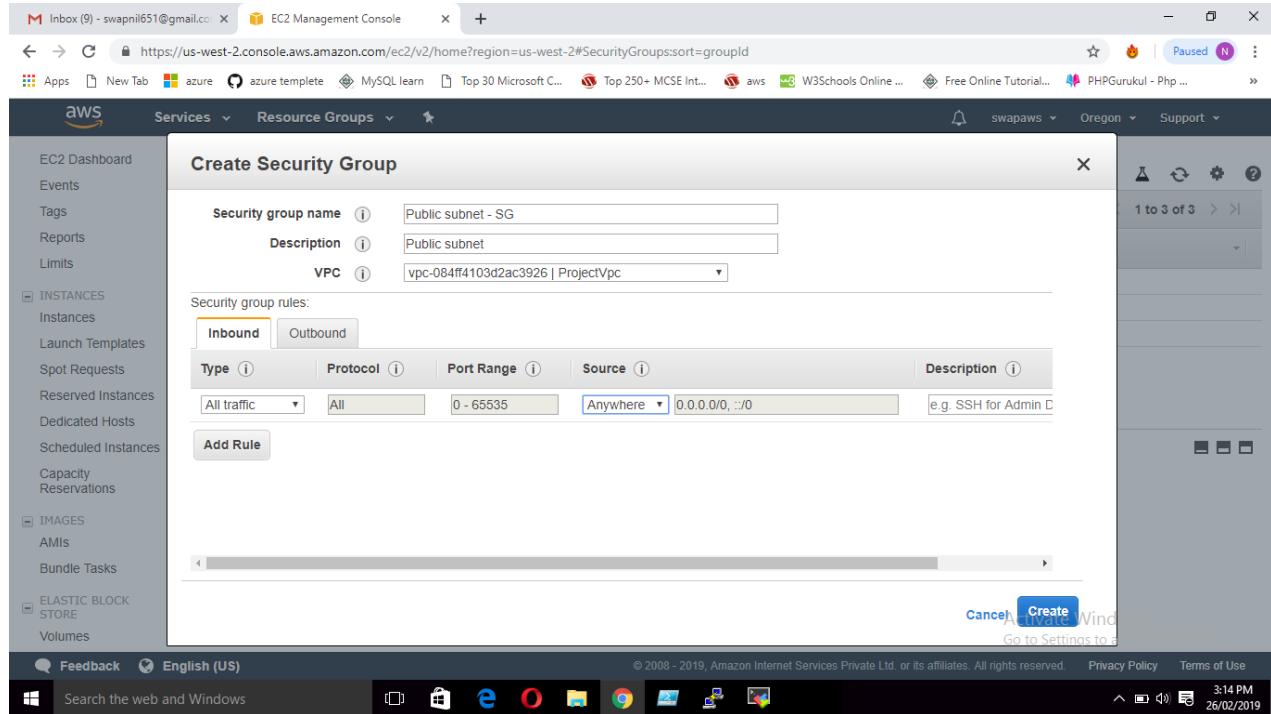
iii. In Security group name enter Webserver-SG and provide a description.



1. Choose your VPC from the list.
2. On the Inbound tab, add the rules as follows:
 3. Click Add Rule, and then choose SSH from the Type list. Under Source, select Custom and in the text box enter the public IP address range that you decided on in step
 4. Click Add Rule, and then choose HTTP from the Type list.
 5. Click Add Rule, and then choose ICMP4 Rule from the Type list. Under source select Anywhere

iv. Create security group for Jump and NAT instance

1. In Security group name enter Public-SG and provide a description



2. Choose your VPC from the list.
3. On the inbound tab, add the rule
4. Click add rule, and then choose all traffic from the type list and under source select anywhere

5) Launch Instances

- i. Open Amazon EC2 console, choose Instances, and then click Launch Instance.

The screenshot shows the AWS Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#>. The top navigation bar includes tabs for Services, Resource Groups, and a search bar. The sidebar on the left lists various AWS services: History, EC2, EFS, RDS, Billing, VPC, CloudFront, Compute (EC2, Lightsail, ECR, ECS, EKS, Lambda, Batch, Elastic Beanstalk, Serverless Application Repository), Storage (S3, EFS, FSx, S3 Glacier, Storage Gateway), Robotics (AWS RoboMaker), Blockchain (Amazon Managed Blockchain), Analytics (Athena, EMR, CloudSearch, Elasticsearch Service, Kinesis, QuickSight), Business Applications (Alexa for Business, Amazon Chime, WorkMail), Management & Governance (CloudWatch, AWS Auto Scaling, CloudFormation, Config), Security, Identity, & Compliance (IAM, Resource Access Manager, Cognito, Secrets Manager), End User Computing (WorkSpaces, AppStream 2.0, WorkDocs, WorkLink), Internet Of Things (IoT Core, Amazon FreeRTOS, IoT 1-Click, IoT Analytics), and Active Windows. The status bar at the bottom shows the date and time as 26/02/2019 and 3:16 PM.

The screenshot shows the AWS EC2 Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Home>. The top navigation bar and sidebar are identical to the previous screenshot. The main content area displays the EC2 Dashboard, showing 0 Running Instances, 0 Dedicated Hosts, 0 Volumes, 1 Key Pairs, 0 Placement Groups, 0 Elastic IPs, 0 Snapshots, 0 Load Balancers, and 4 Security Groups. It also features sections for Create Instance (with a blue "Launch Instance" button), Service Health (status: US West (Oregon)), Scheduled Events (no events), and Account Attributes (Supported Platforms: VPC, Default VPC: vpc-25ce125d, Resource ID length management, Console experiments). Additional Information links include Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, and Contact Us. The AWS Marketplace section is also present. The status bar at the bottom shows the date and time as 26/02/2019 and 3:17 PM.

- ii. On the Choose an Amazon Machine Image page, select free tier only, and then select an Amazon Linux AMI.

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

- My AMIs
- AWS Marketplace
- Community AMIs
- Free tier only (i)

AMI Name	Description	Root device type	Virtualization type	ENI Enabled	Action
Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0385455dc2b1498ef (64-bit x86) / ami-05b186cbeb4bd0170 (64-bit Arm)	Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Gilbc 2.26, Binutils 2.29.1, and the latest software packages through extras.	ebs	hvm	Yes	Select
Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-01e24be29428c15b2	The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.	ebs	hvm	Yes	Select

Activate Windows
Go to Settings to activate Windows.

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- iii. On the choose an instance type page, the t2.micro instance is selected by default. Keep this instance type to stay within the free tier.
- iv. Click next: configure instance details.
- v. On the configure instance details page, do the following:
1. T2 instances must be launched into a subnet. From network choose your VPC, and from subnet choose one of your public or private subnets.

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https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard:

Paused

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

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 instances: 1 Launch into Auto Scaling Group

Purchasing option: Request Spot instances

Network: vpc-25ce125d | default (default) Create new VPC
vpc-25ce125d | default (default)
vpc-084ff4103d2ac3926 | ProjectVpc

Subnet: vpc-084ff4103d2ac3926 | ProjectVpc Create new subnet

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: Add instance to placement group

Capacity Reservation: Open Create new Capacity Reservation

IAM role: None Create new IAM role

Cancel Previous Review and Launch Next: Add Storage Go to Settings to activate Windows.

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Inbox (9) - swapnil651@gmail.com EC2 Management Console

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard:

Paused

swapaws Oregon Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

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 instances: 1 Launch into Auto Scaling Group

Purchasing option: Request Spot instances

Network: vpc-084ff4103d2ac3926 | ProjectVpc Create new VPC
vpc-084ff4103d2ac3926 | ProjectVpc
vpc-0841c129808f3eeef1 | Public | us-west-2c
vpc-0841c129808f3eeef1 | Public | us-west-2c
subnet-0570ccb4893fc121e | Web1 | us-west-2a
subnet-05bcac059796fe707 | Web2 | us-west-2b

Subnet: subnet-0570ccb4893fc121e | Web1 | us-west-2a Create new subnet

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: Add instance to placement group

Capacity Reservation: Open Create new Capacity Reservation

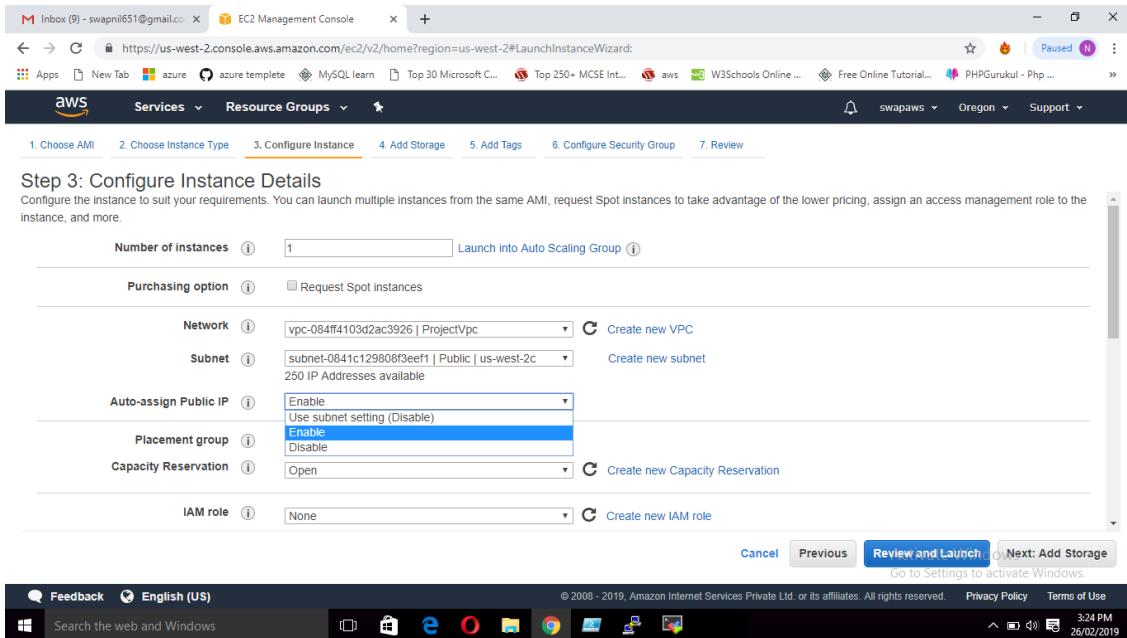
IAM role: None Create new IAM role

Cancel Previous Review and Launch Next: Add Storage Go to Settings to activate Windows.

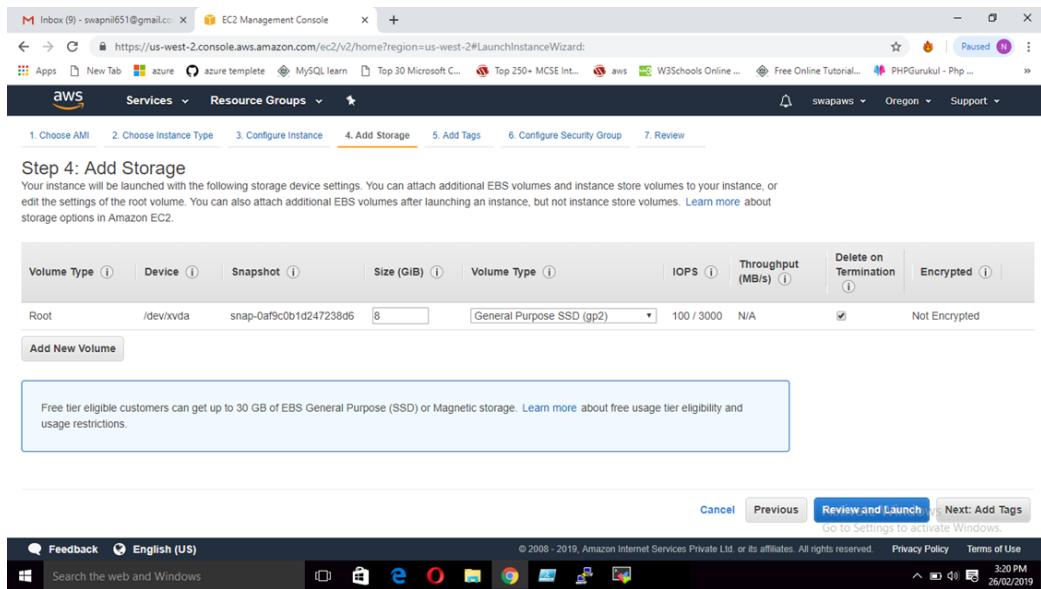
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Search the web and Windows 3:19 PM 26/02/2019

2. For auto-assign public IP, ensure that enable is selected from the list. Otherwise, your instance will not get a public IP address or a public DNS name.



3. Click Review and Launch. If you are prompted to specify the type of root volume, make your selection and then click next.

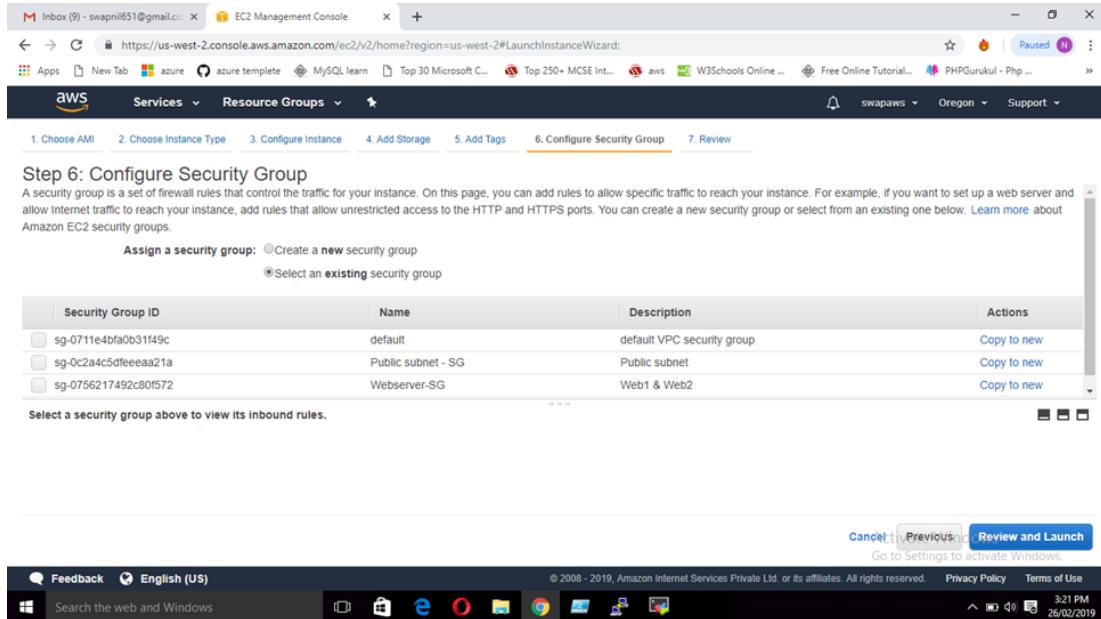


4. On the Review Instance Launch page, click Edit security groups.

vi. On the Configure Security Group page:

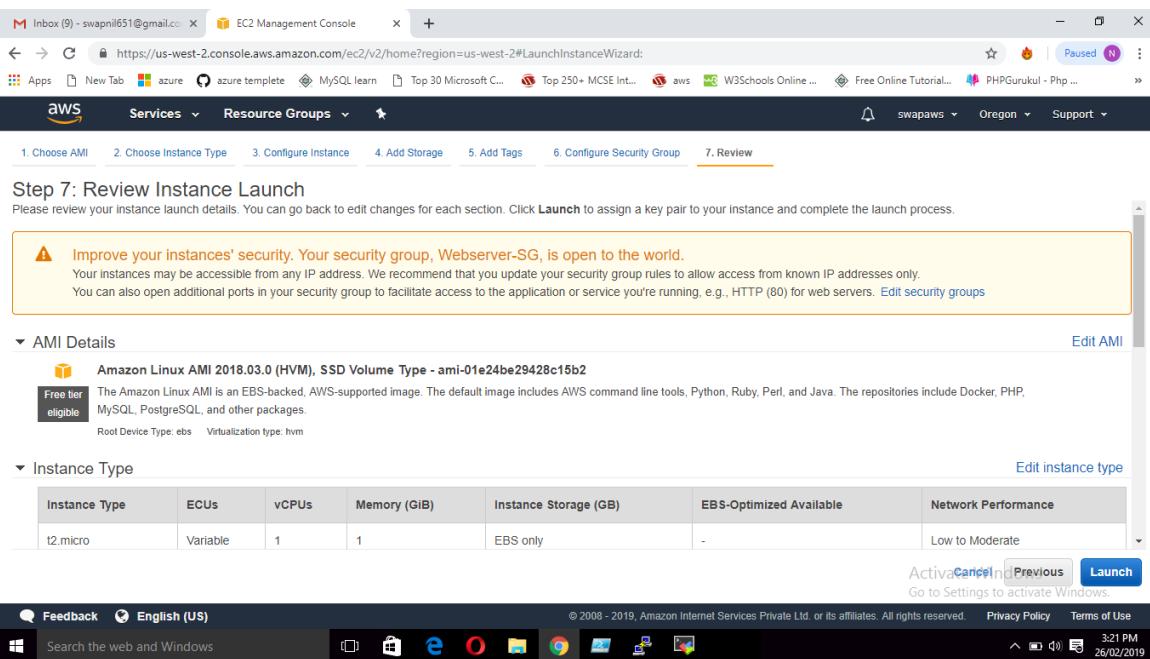
1. Select an existing security group.

2. Select the WebserverSG security group that you created.



The screenshot shows the AWS EC2 Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The page is titled "Step 6: Configure Security Group". It displays a table of security groups with columns for Security Group ID, Name, Description, and Actions. The "Webserver-SG" group is selected. A note at the bottom says "Select a security group above to view its inbound rules." At the top right, there are "Cancel", "Previous", "Review and Launch", and "Go to Settings to activate Windows" buttons. The status bar at the bottom shows "3:21 PM 26/02/2019".

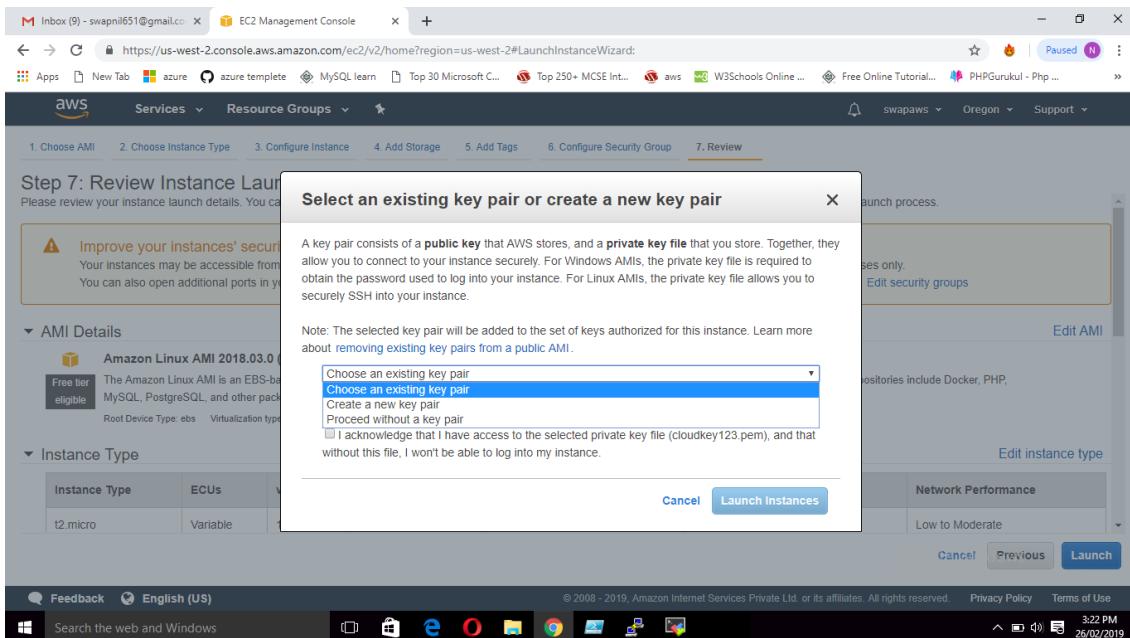
vii. Click review and launch.



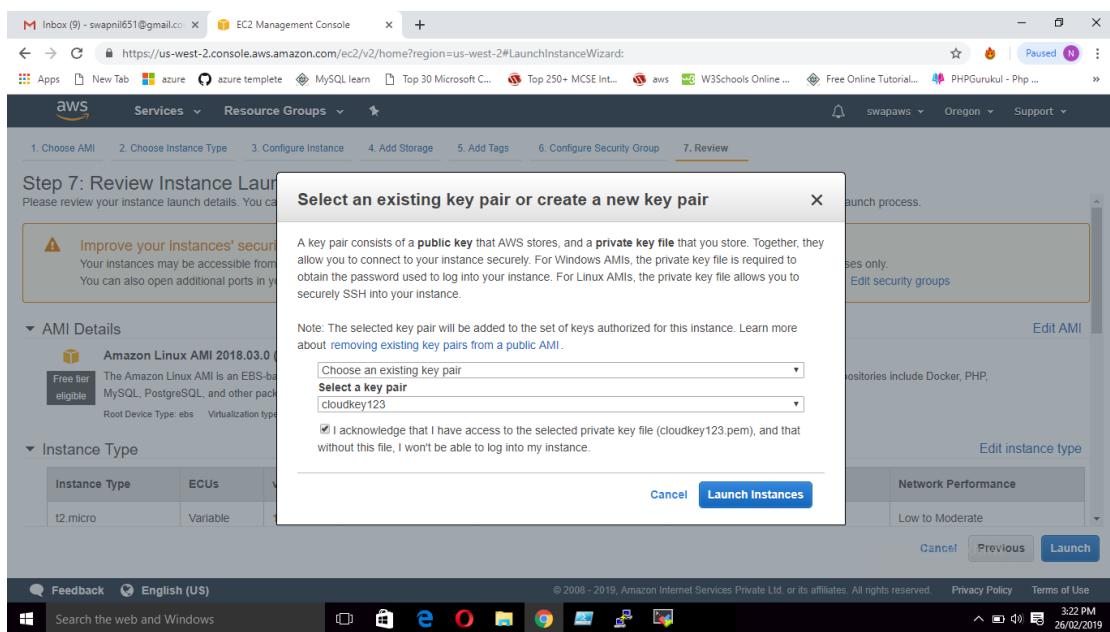
The screenshot shows the AWS EC2 Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The page is titled "Step 7: Review Instance Launch". It contains a warning message: "⚠ Improve your instances' security. Your security group, Webserver-SG, is open to the world. Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)". Below this, there are sections for "AMI Details" and "Instance Type". The "AMI Details" section shows "Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-01e24be29428c15b2" and "Root Device Type: ebs Virtualization type: hvm". The "Instance Type" section shows "t2.micro" with "ECUs: Variable", "vCPUs: 1", "Memory (GiB): 1", "Instance Storage (GB): EBS only", "EBS-Optimized Available: -", and "Network Performance: Low to Moderate". At the top right, there are "Cancel", "Previous", "Launch", and "Go to Settings to activate Windows" buttons. The status bar at the bottom shows "3:21 PM 26/02/2019".

viii. On the review instance launch page, click Launch.

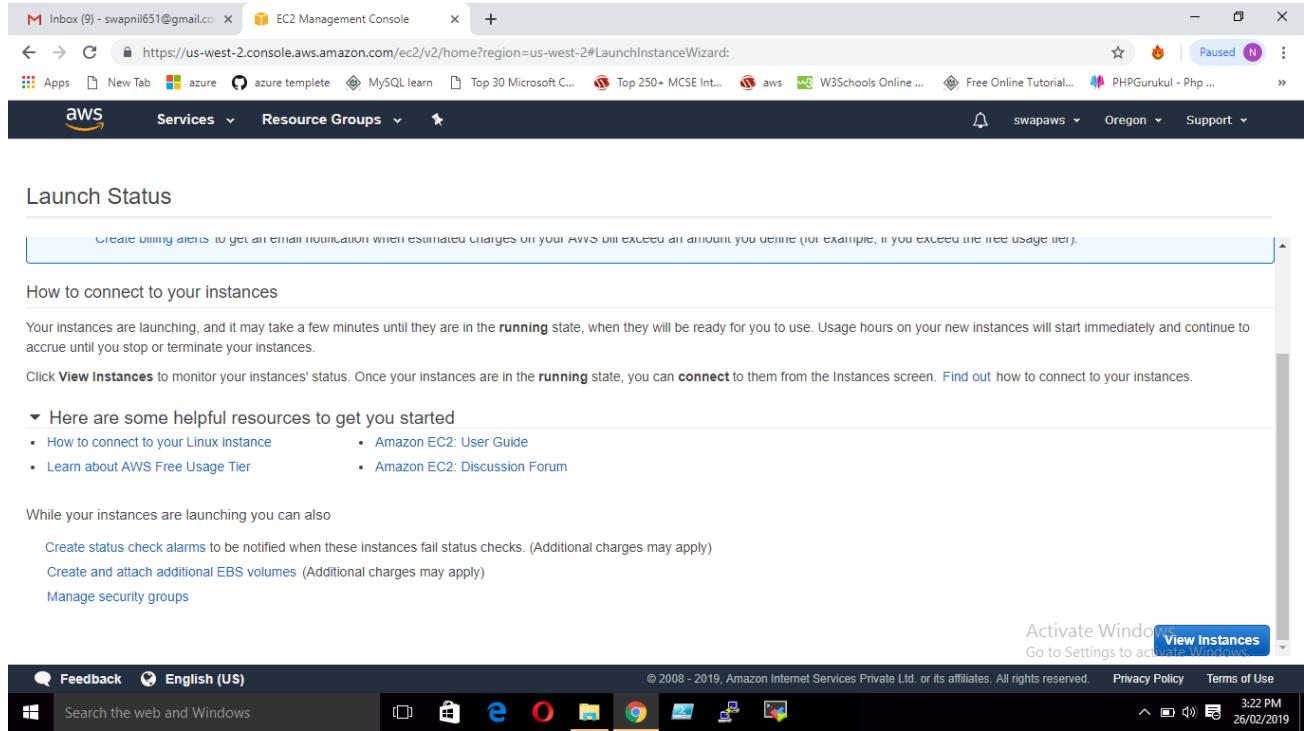
ix. In the Select an existing key pair or create a new key pair dialog box, select Choose an existing key pair, and then select the key pair you created in AWS.



x. Click the acknowledgement check box, and then click Launch Instances.



xi. In the left-hand navigation bar, choose Instances to see the status of your instance. Initially, the status of your instance is pending. After the status changes to running, your instance is ready for use.



The screenshot shows a browser window with the AWS EC2 Management Console. The URL is <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The page title is "Launch Status". The content includes a section titled "How to connect to your instances" with instructions about launching instances and connecting to them. It also lists helpful resources like the User Guide and Discussion Forum. Below this, there are links for creating status check alarms, attaching EBS volumes, and managing security groups. At the bottom, there's a Windows taskbar with various icons and system status information.

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https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard

Launch Status

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can [connect](#) to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [How to connect to your Linux instance](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

[Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)

[Create and attach additional EBS volumes](#) (Additional charges may apply)

[Manage security groups](#)

Activate Windows [View Instances](#)
Go to Settings to activate Windows.

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6) Configure web server 1 and web server 2

- a. Take remote of jump server and access each webserver
- b. Run following commands
 - i. sudo su
 - ii. yum install httpd -y
 - iii. service httpd restart
 - iv. chkconfig httpd on
 - v. for insert.php and index.php
 - vi. go to vi /etc/httpd/conf/httpd.conf
 - vii. search for index.html
 - viii. go to insert mode and add index.php
 - ix. for webpage
 - x. vi /var/www/html/index.php
 - xi. write code for website including insert file connection for insert.php page
 - xii. go to vi /var/www/html/insert.php
 - xiii. write code including database connection and properties

7) Configure Jump Server

- a. yum install php
- b. yum install mysql
- c. yum install php-mysqli

8) Launch NAT instance

a. Select image from community ami's 0541ea7d

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start (0)
My AMIs (0)
AWS Marketplace (0)
Community AMIs (1)
Operating system
Amazon Linux
Cent OS
Debian

amzn-ami-vpc-nat-hvm-2017.09.1.20180103-x86_64-ebs -ami-0541ea7d
Amazon Linux AMI 2017.09.1.20180103 x86_64 VPC NAT HVM EBS
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select
64-bit (x86)

Activate Windows
Go to Settings to activate Windows.

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Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.
A copy of a tag 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 (127 characters maximum) | Value (255 characters maximum) | Instances | Volumes |
Name | Nat-Instance |

Add another tag (Up to 50 tags maximum)

Cancel Previous Review and Launch Next: Configure Security Group
Go to Settings to activate Windows.

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b. After launching

i. Go to action

ii. Networking

The screenshot shows the AWS EC2 Management Console. On the left, there's a sidebar with options like EC2 Dashboard, Events, Tags, Reports, Limits, Instances (selected), Launch Templates, Spot Requests, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images (AMIs), Bundle Tasks, and Elastic Block Store (Volumes). The main area shows a table of instances. One instance, 'Nat-Instance' (ID: i-04e662f59cafb7be1), is selected. A context menu is open over this instance, with 'Networking' highlighted. The menu includes options like Connect, Get Windows Password, Create Template From Instance, Launch More Like This, Instance State, Instance Settings, Image, Networking (selected), CloudWatch Monitoring, Change Security Groups, Attach Network Interface, Detach Network Interface, Disassociate Elastic IP Address, Change Source/Dest. Check (which is being pointed to by a mouse cursor), and Manage IP Addresses.

iii. Source destination check

iv. Click on disable

This screenshot shows the same EC2 Management Console interface as above. A modal dialog box titled 'Enable Source/Destination Check' is displayed. It contains a message asking if the user wants to disable the source/destination check for the selected instance. Below the message, it lists the instance details: Instance: i-04e662f59cafb7be1 (Nat-Instance), Network Interface: eni-042bb299532089833, and Status: Enabled. At the bottom of the dialog are 'Cancel' and 'Yes, Disable' buttons. The background table of instances shows the same 'Nat-Instance' row with its status now listed as 'Enabled' under the 'Status' column.

9) Create Load Balancer

- Go to EC2 services
- Click on load balancer

The screenshot shows the AWS EC2 Management Console dashboard. On the left, a navigation sidebar lists various services: 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), and SYSTEMS MANAGER SERVICES (Run Command, State Manager, Configuration, Compliance). The 'LOAD BALANCING' section is currently selected. The main content area displays 'Resources' and 'Create Instance' sections. Under 'Resources', it shows 4 Running Instances, 0 Dedicated Hosts, 4 Volumes, 1 Key Pairs, 0 Placement Groups, 0 Elastic IPs, 0 Snapshots, 0 Load Balancers, and 4 Security Groups. The 'Create Instance' section includes a 'Launch Instance' button and notes about launching instances in the US West (Oregon) region. To the right, there are sections for 'Account Attributes' (Supported Platforms: VPC, Default VPC: vpc-25ce125d), 'Additional Information' (Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, Contact Us), and 'AWS Marketplace' (Find free software trial products in the AWS Marketplace from the EC2 Launch Wizard). The bottom of the page includes a search bar, a taskbar with various icons, and a footer with copyright information and links to Privacy Policy and Terms of Use.

- Create load balancer

The screenshot shows the 'Create Load Balancer' page within the AWS EC2 Management Console. The left sidebar remains the same as the previous screenshot. The main area features a 'Create Load Balancer' button at the top. Below it is a search bar and a table with columns for Name, DNS name, State, VPC ID, and Availability Zones. A message states 'You do not have any load balancers in this region.' At the bottom, there is a 'Select a load balancer' section with three small icons. The footer includes a 'Feedback' link, language selection (English (US)), and standard footer links for Privacy Policy and Terms of Use.

d. Select application load balancer and Create

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer type that meets your needs. Learn more about which load balancer is right for you

Application Load Balancer

Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

[Learn more >](#)

Network Load Balancer

Choose a Network Load Balancer when you need ultra-high performance, the ability to terminate TLS connections at scale, centralize certificate deployment, and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.

Classic Load Balancer

PREVIOUS GENERATION for HTTP, HTTPS, and TCP

Choose a Classic Load Balancer when you have an existing application running in the EC2-Classic network.

[Learn more >](#)

Activate Windows [Cancel](#)
Go to Settings to activate Windows.

e. Name = any name [project load balancer]

Step 1: Configure Load Balancer

Basic Configuration

To configure your load balancer, provide a name, select a scheme, specify one or more listeners, and select a network. The default configuration is an Internet-facing load balancer in the selected network with a listener that receives HTTP traffic on port 80.

Name

Scheme internet-facing internal

IP address type

Listeners

A listener is a process that checks for connection requests, using the protocol and port that you configured.

Load Balancer Protocol	Load Balancer Port
HTTP	80

[Next: Configure Security Settings](#)

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f. Select VPC and select availability zones

Step 1: Configure Load Balancer Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify only one subnet per Availability Zone. You must specify subnets from at least two Availability Zones to increase the availability of your load balancer.

VPC	Availability Zone	Subnet ID	Subnet IPv4 CIDR	Name
vpc-084ff4103d2ac3926 (192.168.0.0/16) ProjectVpc	us-west-2a	subnet-0570cb48933fc121e	192.168.90.0/24	Web1
	us-west-2b	subnet-05bcac059796fe707	192.168.91.0/24	Web2
	us-west-2c	subnet-0841c129808f3eeef1	192.168.100.0/24	Public

You are creating an internet-facing Load Balancer, but there is no Internet Gateway attached to these subnets you have selected: subnet-0570cb48933fc121e, subnet-05bcac059796fe707

Tags

Cancel Next: Configure Security Settings
Go to Settings to activate Windows.

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g. Click on next

h. Select security group

Step 3: Configure Security Groups

A security group is a set of firewall rules that control the traffic to your load balancer. On this page, you can add rules to allow specific traffic to reach your load balancer. First, decide whether to create a new security group or select an existing one.

Assign a security group:

- Create a new security group
- Select an existing security group

Security Group ID	Name	Description	Actions
sg-0711e4bfa0b31f49c	default	default VPC security group	Copy to new
sg-0c2a4c5df000aa21a	Public subnet - SG	Public subnet	Copy to new
sg-0756217492c80f572	Webserver-SG	Web1 & Web2	Copy to new

Cancel Previous Next: Configure Routing
Go to Settings to activate Windows.

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The screenshot shows a browser window with the AWS EC2 Management Console. The URL is <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#V2CreateELBWizard?type=application>. The page is titled "Step 4: Configure Routing". It displays a "Target group" configuration section with the following fields:

- Target group:** New target group
- Name:** Project-Target
- Target type:** Instance (radio button selected)
- Protocol:** HTTP
- Port:** 80

Below this, there is a "Health checks" section with a "Protocol" dropdown set to HTTP. At the bottom right of the form, there are buttons for "Cancel", "Next: Register Targets", and "Go to Settings to activate Windows".

The browser's address bar shows "Inbox (9) - swapnil651@gmail.co" and "EC2 Management Console". The tabs include "Inbox (9) - swapnil651@gmail.co", "EC2 Management Console", and others like "Azure", "MySQL learn", "Top 30 Microsoft C...", "Top 250+ MCSE Int...", "aws", "W3Schools Online...", "Free Online Tutorial...", "PHPGurukul - Php ...". The status bar at the bottom shows "swapaws" and "Oregon".

i. Target group

- i. Name = any name [project target]
- ii. Register targets

1. Select web1 and web2

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https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#V2CreateELBWizard?type=application:

aws Services Resource Groups

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 5: Register Targets

No instances available.

Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specified port, you must specify a different port.

Add to registered on port 80

Search Instances

Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR
i-0fa02635c93973f7c	Web1	running	Webserver-SG	us-west-2c	subnet-0841c129808f3eef1	192.168.100.0/24
i-0e6ec8a431b522...	Web2	running	Webserver-SG	us-west-2b	subnet-05bcac059796fe707	192.168.91.0/24
i-07387f8aa35f0762b	Jump	running	Public subnet - SG	us-west-2c	subnet-0841c129808f3eef1	192.168.100.0/24
i-0979d6baedd262...	Nat-Instance	running	Public subnet - SG	us-west-2c	subnet-0841c129808f3eef1	192.168.100.0/24

Cancel Previous Next: Review
Go to Settings to activate Windows.

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Inbox (9) - swapnil651@gmail.co EC2 Management Console

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#V2CreateELBWizard?type=application:

aws Services Resource Groups

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 5: Register Targets

Register targets with your target group. If you register a target in an enabled Availability Zone, the load balancer starts routing requests to the targets as soon as the registration process completes and the target passes the initial health checks.

Registered targets

To deregister instances, select one or more registered instances and then click Remove.

Remove

Instance	Name	Port	State	Security groups	Zone
i-0fa02635c93973f7c	Web1	80	running	Webserver-SG	us-west-2c
i-0e6ec8a431b522dec	Web2	80	running	Webserver-SG	us-west-2b

Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specified port, you must specify a different port.

Add to registered on port 80

Cancel Previous Next: Review
Go to Settings to activate Windows.

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j. Review and create

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https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#V2CreateELBWizard?type=application:

swapaws Oregon Support

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 6: Review

Routing

Target group New target group
Target group name Project-Target
Port 80
Target type instance
Protocol HTTP
Health check protocol HTTP
Path /
Health check port traffic port
Healthy threshold 5
Unhealthy threshold 2
Timeout 5
Interval 30
Success codes 200

Targets

Instances i-0fa02635c93973f7c (Web1):80, i-0e6ec8a431b522dec (Web2):80

Activate Windows Go to Settings to activate Windows.

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Inbox (9) - swapnil651@gmail.co EC2 Management Console

https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LoadBalancers:sort=loadBalancerName

swapaws Oregon Support

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones
Project-LB	Project-LB-1396851046.us-west-2.elb.amazonaws.com	provisioning	vpc-084ff4103d2ac3926	us-west-2a, us-west-2

Load balancer: Project-LB

Description Listeners Monitoring Integrated services Tags

Basic Configuration

Name	Project-LB	Creation time	February 26, 2019 at 3:47:14 PM UTC+5:30
ARN	arn:aws:elasticloadbalancing:us-west-2:882408123207:loadbalancer/app/Project-LB/d2b0f0f47bd9fd6	Hosted zone	Z1H1FL5HABSF5
		State	provisioning

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10) Configure Auto-scale

i. Create Launch configuration

Name: Project Auto-scale

Purchasing option: Request Spot Instances

IAM role: None

Monitoring: Enable CloudWatch detailed monitoring

Note: Later, if you want to use a different launch configuration, you can create a new one and apply it to any Auto Scaling group. Existing launch configurations cannot be edited.

ii. Select security group

Security Group ID	Name	VPC ID	Description	Actions
sg-03f9545649bc78e78	default	vpc-06b9fb78d0040e0c	default VPC security group	Copy to new
sg-6fa27c19	default	vpc-25ce125d	default VPC security group	Copy to new
sg-0b4247ae93bf38034	Public subnet-SG	vpc-06b9fb78d0040e0c	nat jump	Copy to new
sg-0a4f9c5ac0856c9b8	rds-launch-wizard	vpc-06b9fb78d0040e0c	Created from the RDS Management Console: 2019/03/01 06:11:46	Copy to new
sg-0d4ad73c64a659778	Webserver-SG	vpc-06b9fb78d0040e0c	web & web 2	Copy to new

Inbound rules for sg-0d4ad73c64a659778 Selected security groups: sg-0d4ad73c64a659778

Type	Protocol	Port Range	Source
HTTP	TCP	80	0.0.0.0/0
SSH	TCP	22	0.0.0.0/0

iii. Review and launch

EC2 Management Console

Create Launch Configuration

1. Choose AMI 2. Choose Instance Type 3. Configure details 4. Add Storage 5. Configure Security Group 6. Review

AMI Details

Auto-scale - ami-0974d06fc30f82866
Auto-scale
Root device type: ebs Virtualization Type: hvm

Instance Type

Instance Type	ECUs	vCPUs	Memory GiB	Instance Storage (GiB) GiB	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

Actions

Cancel Previous Create launch configuration Go to Settings to activate Windows.

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3:00 PM 01/03/2019

iv. Click on create auto scaling group

EC2 Management Console

Launch configuration creation status

✓ Successfully created launch configuration: Project Auto-scale
View creation log

View

View your launch configurations
View your Auto Scaling groups

Here are some helpful resources to get you started

Create an Auto Scaling group using this launch configuration Close

Activate Windows
Go to Settings to activate Windows.

Feedback English (US)

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3:00 PM 01/03/2019

v. Select VPC and availability zone

The screenshot shows the 'Create Auto Scaling Group' wizard on the '1. Configure Auto Scaling group details' step. In the 'Network' section, the 'Subnet' dropdown is open, displaying two subnets: 'subnet-01672a068661c98b (192.168.90.0/24) | Web 1' and 'subnet-075408a05a0d9ffcf (192.168.102.0/24) | private'. A warning message box states: 'No public IP addresses will be assigned. None of the instances in this Auto Scaling group will be assigned a public IP address because you have not chosen to launch in your default VPC and subnet.' Below the warning, a note says: 'You can ensure a public IP address is assigned to instances launched with this configuration by launching in a subnet with a public IP address or by adding a scaling policy that adds instances to an existing load balancer.' The status bar at the bottom indicates the date as 01/03/2019.

vi. Increase group size

The screenshot shows the 'Create Auto Scaling Group' wizard on the '2. Configure scaling policies' step. It displays two scaling policies: 'Increase Group Size' and 'Decrease Group Size'. The 'Increase Group Size' policy is configured with a name 'Increase Group Size', an execute policy 'awsec2-AUTO123-CPU-Utilization', and a metric dimension 'AutoScalingGroupName = AUTO123'. The action is set to 'Add 1 instances when CPUUtilization <= 30 <= CPUUtilization < +infinity'. The 'Instances need' field is set to '300 seconds to warm up after each step'. The 'Decrease Group Size' policy has a name 'Decrease Group Size'. At the bottom, there are 'Cancel', 'Previous', 'Review', and 'Next: Configure Notifications' buttons. The status bar at the bottom indicates the date as 01/03/2019.

vii. Decrease group size

The screenshot shows the 'Create Auto Scaling Group' wizard at step 2. The 'Decrease Group Size' policy is being configured. The 'Name' field is set to 'Decrease Group Size'. The 'Execute policy when:' dropdown is set to 'awsec2-AUTO123-CPU-Utilization'. Below it, a note states: 'breaches the alarm threshold: CPUUtilization >= 25 for 300 seconds for the metric dimensions. AutoScalingGroupName = AUTO123'. The 'Take the action:' section shows 'Remove 1 instances when 25 <= CPUUtilization < +infinity'. There are buttons for 'Add new alarm' and 'Add step'. Other options like 'Create a simple scaling policy' and 'Scale the Auto Scaling group using a target tracking scaling policy' are also visible. At the bottom are 'Cancel', 'Previous', 'Review', and 'Next: Configure Notifications' buttons.

viii. Add tag

The screenshot shows the 'Create Auto Scaling Group' wizard at step 4. A single tag is being added: 'Name' is 'Project Auto-scale' and 'Value' is also 'Project Auto-scale'. A checkbox for 'Tag New Instances' is checked. Below the table, there's a button to 'Add tag' and a note saying '49 remaining'. At the bottom are 'Activate', 'Cancel', 'Previous', and 'Review' buttons. The status bar at the bottom right shows '3:08 PM 01/03/2019'.

ix. Create Auto scaling group

Inbox (34) - swapnil651@gmail.com | Inbox (4) - prembozinwar98@gmail.com | Top 70 AWS Architect Interview Questions | Route Tables | VPC Management | EC2 Management Console | + | - | X

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AWS Services Resource Groups

1. Configure Auto Scaling group details 2. Configure scaling policies 3. Configure Notifications 4. Configure Tags 5. Review

Create Auto Scaling Group

Please review your Auto Scaling group details. You can go back to edit changes for each section. Click **Create Auto Scaling group** to complete the creation of an Auto Scaling group.

Auto Scaling Group Details

Group name	Project Auto-scale group
Group size	1
Minimum Group Size	1
Maximum Group Size	3
Subnet(s)	subnet-01672a0686861c98b, subnet-075408a05a0d9ffcf
Health Check Grace Period	300
Detailed Monitoring	No
Instance Protection	None
Service-Linked Role	AWSServiceRoleForAutoScaling

Scaling Policies

Edit scaling policies

Increase Group Size With alarm = awsec2-AUTO123-CPU-Utilization; Add 1 instances and 300 seconds for instances to warm up
Decrease Group Size With alarm = awsec2-AUTO123-CPU-Utilization; Remove 1 instances

Cancel Previous Create Auto Scaling group Go to Settings to activate Windows.

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Search the web and Windows 3:08 PM 01/03/2019

11) Configure Route-53

a. Open Route53 console

The screenshot shows the AWS Management Console interface. The top navigation bar includes links for EC2 Management Console, Apps, New Tab, azure, azure template, MySQL learn, Top 30 Microsoft C..., Top 250+ MCSE Int..., aws, W3Schools Online..., Free Online Tutorial..., PHPGurukul - Php ..., and swapaws. The Services navigation bar is open, showing categories like History, EC2, VPC, EFS, RDS, Billing, CloudFront, and Networking & Content Delivery. Under Networking & Content Delivery, Route 53 is listed. A search bar at the top right contains the placeholder "find a service by name or feature (for example, EC2, S3 or VM, storage)". The main content area displays a grid of service icons and names.

b. Click on DNS management

The screenshot shows the Route 53 Management Console homepage. The top navigation bar is identical to the previous screenshot. The main content area is divided into four sections: 1. DNS management: Shows a monitor icon with a cloud and a circular arrow. Description: If you already have a domain name, such as example.com, Route 53 can tell the Domain Name System (DNS) where on the Internet to find web servers, mail servers, and other resources for your domain. Learn More. 2. Traffic management: Shows a network diagram with a central www node connected to multiple endpoints. Description: Route 53 traffic flow provides a visual tool that you can use to create and update sophisticated routing policies to route end users to multiple endpoints for your application. Learn More. 3. Availability monitoring: Shows a shield with a stethoscope and a plus sign. Description: Route 53 can monitor the health and performance of your application as well as your web servers and other resources. Route 53 can also redirect traffic to healthy resources. Learn More. 4. Domain registration: Shows a monitor icon with a globe and three domain suffixes (.net, .com, .org). Description: If you need a domain name, you can find an available name and register it by using Route 53. You can also make Route 53 the registrar for existing domains that you registered with other registrars. Learn More. At the bottom, there are links for Route 53 documentation and support, and a footer with standard AWS links and copyright information.

a. Click on create hosted zone

Domain name	swapnilaws.tk
Comment	swapnilaws.tk
Type	Public hosted zone

Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#hosted-zones:

Create Hosted Zone Go to Record Sets Delete Hosted Zone

Amazon Route 53 is an authoritative Domain Name System (DNS) service. DNS is the system that translates human-readable domain names (example.com) into IP addresses (192.0.2.0). With authoritative name servers in data centers all over the world, Route 53 is reliable, scalable, and fast.

If you already have a domain name, such as example.com, Route 53 can tell the Domain Name System (DNS) where on the Internet to find web servers, mail servers, and other resources for your domain.

Learn More Create Hosted Zone

Activate Windows

Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#hosted-zones:

Create Hosted Zone Go to Record Sets Delete Hosted Zone

Search all fields All Types

Domain Name Type Record Set Count Comment Hosted Zone ID

You have no hosted zones

Create Hosted Zone

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain Name:

Comment:

Type: Public Hosted Zone

A public hosted zone determines how traffic is routed on the Internet.

Create Activate Windows

Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#hosted-zones:

Paused N

aws swapaws Global Support

Create Hosted Zone Go to Record Sets Delete Hosted Zone

Search all fields All Types

No Hosted Zones to display

Domain Name Type Record Set Count Comment Hosted Zone ID

You have no hosted zones

Create Hosted Zone

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain Name: swapnilaws.tk

Comment: project

Type: Public Hosted Zone

A public hosted zone determines how traffic is routed on the Internet.

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Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#resource-record-sets:Z2S1FTI3S333VY

Paused N

aws swapaws Global Support

Back to Hosted Zones Create Record Set Import Zone File Delete Record Set Test Record Set

Record Set Name Any Type Aliases Only Weighted Only

Displaying 1 to 2 out of 2 Record Sets

Name	Type	Value
swapnilaws.tk.	NS	ns-1115.awsdns-11.org. ns-1735.awsdns-24.co.uk. ns-976.awsdns-58.net. ns-199.awsdns-24.com.
swapnilaws.tk.	SOA	ns-1115.awsdns-11.org. awsdns-hostmaster.amazon.com.

Edit Record Set

Name: swapnilaws.tk.

Type: NS – Name server

Alias: Yes No

TTL (Seconds): 172800 1m 5m 1h 1d

Value: ns-1115.awsdns-11.org.
ns-1735.awsdns-24.co.uk.
ns-976.awsdns-58.net.

The domain name of a name server. Enter multiple name servers on separate lines.

Example:
ns1.amazon.com
ns2.amazon.org
ns3.amazon.net
ns4.amazon.co.uk

Save Record Set

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- b. Open freenom or godaddy account
- c. Copy all name servers [AWS] in freenom or godaddy account

Nameservers

You can change where your domain points to here. Please be aware changes can take up to 24 hours to propagate.

Information Upgrade Management Tools Manage Freenom DNS

Use default nameservers (Freenom Nameservers) Use custom nameservers (enter below)

Nameserver 1: ns-1115.awsdns-11.org
Nameserver 2: ns-1735.awsdns-24.co.uk
Nameserver 3: ns-976.awsdns-58.net
Nameserver 4: ns-199.awsdns-24.com
Nameserver 5: ns-199.awsdns-24.com

Activate Windows
Go to Settings to activate Windows.

- d. Under hosted zone click on swapnilAWS.com

Back to Hosted Zones Create Record Set Import Zone File Delete Record Set Test Record Set

Name	Type	Value
swapnilaws.tk	NS	ns-1115.awsdns-11.org. ns-1735.awsdns-24.co.uk ns-976.awsdns-58.net. ns-199.awsdns-24.com.
swapnilaws.tk	SOA	ns-1115.awsdns-11.org. awsdns-hostmaster.amazon.

To get started, click Create Record Set button or click an existing record set.

Activate Windows
Go to Settings to activate Windows.

e. Create record set

Name	Org.swapnilAWS.tk
Type	IPv4
Alias	Yes
Target	Load-balancer

The screenshot shows the AWS Route 53 Management Console. On the left, there's a sidebar with various services like Hosted zones, Domains, and Rules. The main area shows a table of existing records for the zone 'swapnilaws.tk'. A modal window is open for creating a new record set. The 'Name' field contains 'org.swapnilaws.tk', the 'Type' field is set to 'A - IPv4 address', and the 'Alias' field is checked 'Yes'. The 'Alias Target' dropdown is expanded, listing several target types with no specific targets selected. The 'Routing Policy' dropdown is set to 'Simple'. At the bottom right of the modal, there's a large blue 'Create' button.

f. Create alias record

Name	www.swapnilAWS.tk
Type	CNAME
Alias	No
Value	Org.swapnilAWS.tk

Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#resource-record-sets:Z2S1FTI3S333VY

Services Resource Groups

Hosted zones

Record Set Name: swapnilaws.tk

Name	Type	Value
swapnilaws.tk.	NS	ns-1115.awsdns-11.org. ns-1735.awsdns-24.co.uk. ns-976.awsdns-58.net. ns-199.awsdns-24.com.
swapnilaws.tk.	SOA	ns-1115.awsdns-11.org. awsdns-hostmaster.amazon.com. 1 14400 3600 1209600 86400
org.swapnilaws.tk.	A	ALIAS dualstack.project-lb-1396851046.us-west-2.e.amazonaws.com.

To get started, click Create Record Set button or click an existing record set.

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Inbox (10) - swapnil651@gmail.com Route 53 Management Console

https://console.aws.amazon.com/route53/home?region=us-west-2#resource-record-sets:Z2S1FTI3S333VY

Services Resource Groups

Hosted zones

Record Set Name: www.swapnilaws.tk

Create Record Set

Name	Type	Value
swapnilaws.tk.	NS	ns-1115.awsdns-11.org. ns-1735.awsdns-24.co.uk. ns-976.awsdns-58.net. ns-199.awsdns-24.com.
swapnilaws.tk.	SOA	ns-1115.awsdns-11.org. awsdns-hostmaster.amazon.com. 1 14400 3600 1209600 86400
org.swapnilaws.tk.	A	ALIAS dualstack.project-lb-1396851046.us-west-2.e.amazonaws.com.

Create Record Set

Name: www.swapnilaws.tk.

Type: A – IPv4 address

Alias: CNAME – Canonical name

TTL (s): 3600

Value: MX – Mail exchange
AAAA – IPv6 address
TXT – Text
PTR – Pointer
SRV – Service locator
SPF – Sender Policy Framework
NAPTR – Name Authority Pointer
CAA – Certification Authority Authorization
NS – Name server
SOA – Start of authority

Routing Policy: Simple

Route 53 responds to queries based only on the values in this record. Learn More

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The screenshot shows the AWS Route 53 Management Console. On the left, a sidebar lists various services like Hosted zones, Domains, and Resolver. The main area displays a table of existing record sets for the domain 'swapnilaws.tk'. A 'Create Record Set' button is visible at the top right of the table. To the right of the table, a 'Create Record Set' dialog box is open, showing the configuration for a new record set named 'www'. The 'Type' is set to 'CNAME - Canonical name', and the 'Value' is 'org.swapnilaws.tk'. Other fields include 'Alias' (set to 'No'), 'TTL (Seconds)' (set to 300), and 'Routing Policy' (set to 'Simple').

This screenshot is nearly identical to the one above, showing the AWS Route 53 Management Console. The sidebar and table of existing record sets are the same. The 'Create Record Set' dialog box is also present, but the 'Value' field now contains 'www.swapnilaws.tk' instead of 'org.swapnilaws.tk'. The rest of the dialog box settings remain the same.

g. Verify website with www.swapnilaws.tk