

Search “VPC” service

The screenshot shows the AWS Management Console search interface. The search bar at the top contains the query "VPC". Below the search bar, a sidebar lists various AWS services and features. The main content area displays a list of services under the heading "Services". The first item in the list is "VPC" with the subtext "Isolated Cloud Resources". Other listed services include "AWS Firewall Manager", "Detective", and "Managed Services". A link "See all 12 results" is visible at the top right of the list.

create VPC if you don't have previously

The screenshot shows the "Your VPCs" page in the AWS Management Console. The left sidebar is titled "Virtual private cloud" and includes options like "Your VPCs" (which is selected), Subnets, Route tables, Internet gateways, Egress-only internet gateways, Carrier gateways, DHCP option sets, Elastic IPs, and Managed prefix lists. The main content area shows a table titled "Your VPCs (1/2) Info". It lists one VPC entry: "my-vpc" with VPC ID "vpc-01f55ac8113280b13", State "Available", and IPv4 CIDR "10.0.0.0/16". Below the table, there is a detailed view for "vpc-01f55ac8113280b13 / my-vpc" with tabs for Details, Resource map, CIDRs, Flow logs, and Tags. The "Details" tab is selected, showing the VPC ID, State, DNS hostnames, and DNS resolution.

go to subnets and click on “create subnet”

The screenshot shows the AWS VPC Management Console with the Subnets page open. The left sidebar shows navigation options like VPC dashboard, EC2 Global View, and Subnets. The main area displays a table of three existing subnets:

Name	Subnet ID	State	VPC	IPv4
-	subnet-0552d65241136c160	Available	vpc-0022c65e624ffe304	172
-	subnet-0d5cf0511e90f8cd	Available	vpc-0022c65e624ffe304	172
-	subnet-0ca9549bf2b1a972f	Available	vpc-0022c65e624ffe304	172

A "Create subnet" button is visible at the top right of the table.

give VPC ID that you have created i.e “my-vpc” here

The screenshot shows the AWS VPC Management Console with the "Create subnet" page open. The URL in the address bar is `ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateS...`. The page has a breadcrumb navigation: VPC > Subnets > Create subnet. The main form has two sections: "VPC" and "Subnet settings".

VPC

VPC ID: Create subnets in this VPC.

Subnet CIDR: 10.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

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give subnet name(Public), availability Zone and followed by a IPv4 CIDR block

The screenshot shows the AWS VPC Management Console interface. At the top, there are four tabs all labeled "VPC Management Console". Below the tabs, the URL is "ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateS...". The main content area is titled "Associated VPC CIDRs" and shows "IPv4 CIDRs" with "10.0.0.0/16". A section titled "Subnet settings" follows, with the sub-section "Subnet 1 of 1". Under "Subnet name", a text input field contains "My-demo-Public-subnet". A note states "The name can be up to 256 characters long.". Under "Availability Zone", a dropdown menu shows "Asia Pacific (Tokyo) / ap-northeast-1". A note says "Choose the zone in which your subnet will reside, or let Amazon choose one for you.". At the bottom of the subnet settings, there is an "IPv4 CIDR block" section with a "Info" link. The status bar at the bottom right shows "ENG IN" and the date "25-03-2023".

click on “Add new subnet”

The screenshot shows the "Add new subnet" dialog box. At the top, it says "IPv4 CIDR block" with a "Info" link. A search input field shows "10.0.1.0/24". Below the search field is a "Tags - optional" section with a "Key" input field containing "Name" and a "Value - optional" input field containing "My-demo-Public-subnet". There is a "Remove" button next to the value field. A "Add new tag" button is also present. A note says "You can add 49 more tags.". At the bottom of the dialog, there are "Cancel" and "Create subnet" buttons. The status bar at the bottom right shows "ENG IN" and the date "25-03-2023".

give name to 2nd subnet (Private) ,availability Zone and followed by a IPv4 CIDR block(this need to be unique)

Subnet 2 of 3

Subnet name
Create a tag with a key of 'Name' and a value that you specify.
My-demo-Private-subnet

The name can be up to 256 characters long.

Availability Zone [Info](#)
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
Asia Pacific (Tokyo) / ap-northeast-1c

IPv4 CIDR block [Info](#)
10.0.2.0/24

▼ Tags - optional

Key Value - optional
Name My-demo-Private-subnet Remove

Add new tag

You can add 49 more tags.

click on “add new subnet” and give name to 3rd subnet (Private) ,availability Zone and followed by a IPv4 CIDR block(this need to be unique)

Subnet 3 of 3

Subnet name
Create a tag with a key of 'Name' and a value that you specify.
DB-subnet-private

The name can be up to 256 characters long.

Availability Zone [Info](#)
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
Asia Pacific (Tokyo) / ap-northeast-1

IPv4 CIDR block [Info](#)
10.0.3.0/24

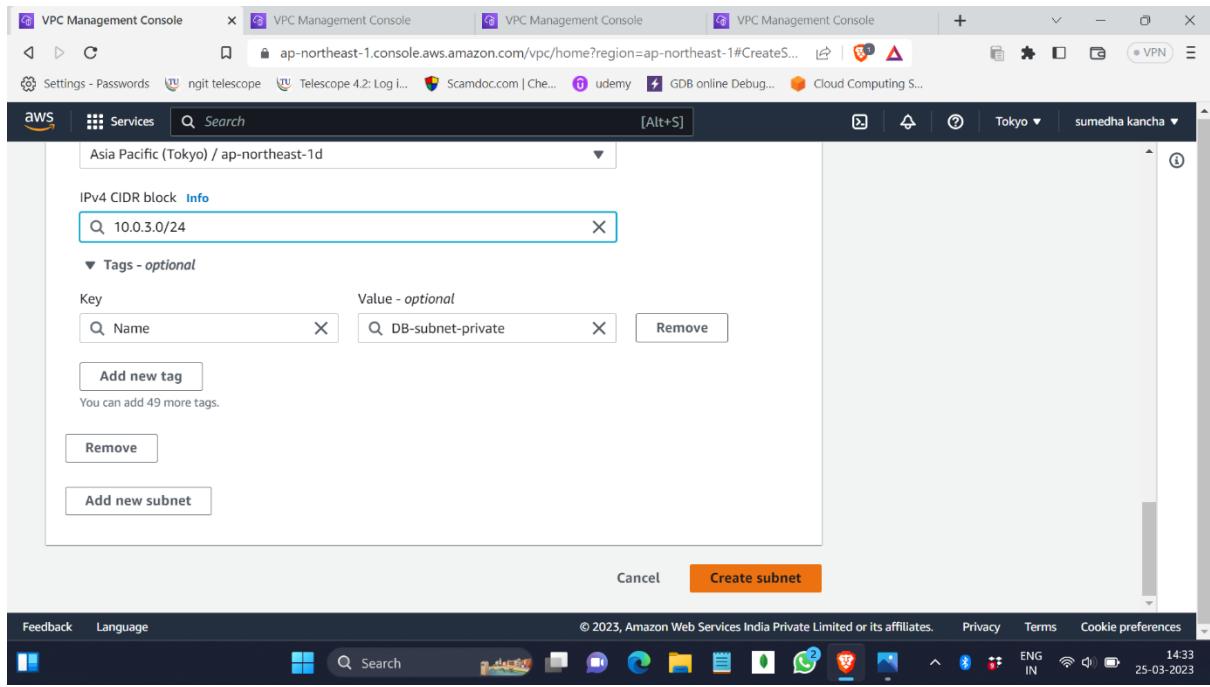
▼ Tags - optional

Key Value - optional
Name DB-subnet-private Remove

Add new tag

You can add 49 more tags.

click on “create subnet”



you can see all the create subnets here

The screenshot shows the AWS VPC Management Console with the 'Subnets' tab selected. A success message at the top states 'You have successfully created 3 subnets: subnet-0345f3e18e953549f, subnet-0e0250cdc4c71cf99, subnet-0c38df13561ba121c'. Below this, a table lists three subnets:

Name	Subnet ID	State	VPC	IPv4
My-demo-Public-su...	subnet-0345f3e18e953549f	Available	vpc-01f55ac8113280b13 my...	10.C
My-demo-Private-s...	subnet-0e0250cdc4c71cf99	Available	vpc-01f55ac8113280b13 my...	10.C
DB-subnet-private	subnet-0c38df13561ba121c	Available	vpc-01f55ac8113280b13 my...	10.C

go to Route tables click on “create route table”

The screenshot shows the AWS VPC Management Console with the "Route tables" page open. The left sidebar is collapsed, showing "Virtual private cloud" and "Route tables". The main area displays a table titled "Route tables (2) Info" with two entries:

Name	Route table ID	Explicit subnet associat...	Edge associations	Main
-	rtb-04a2bbbec8eb0c6ed	-	-	Yes
-	rtb-0bde8589ad842cc98	-	-	Yes

Below the table, there is a section titled "Select a route table" with three icons: a magnifying glass, a plus sign, and a minus sign.

create 2 route tables (public and private)

The screenshot shows the "Create route table" wizard. The top navigation bar includes "VPC" > "Route tables" > "Create route table". The main content area is titled "Create route table" and contains the following sections:

- Route table settings**:
 - Name - optional**: A text input field containing "demo-Public-RT".
 - VPC**: A dropdown menu showing "vpc-01f55ac8113280b13 (my-vpc)".
- Tags**: A note explaining what tags are and how they can be used to search and filter resources. It includes a text input field for "Tag key" and "Tag value".

At the bottom of the wizard, there is a "Create route table" button.

VPC Management Console

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

demo-Public-RT

VPC
The VPC to use for this route table.

vpc-01f55ac8113280b13 (my-vpc)

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

Key	Value - optional
Q Name X	Q demo-Public-RT X

Add new tag

You can add 49 more tags.

Create route table

Route tables | VPC Management

Route tables (3) Info

Name	Route table ID	Explicit subnet associat...	Edge associations	Main
—	rtb-04a2bbbec8eb0c6ed	—	—	Yes
—	rtb-0bde8589ad842cc98	—	—	Yes
demo-Public-RT	rtb-088a2f22ee105594e	—	—	No

Select a route table

VPC dashboard

EC2 Global View New

Filter by VPC:
Select a VPC

Virtual private cloud

- Your VPCs New
- Subnets
- Route tables**
- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists

Create route table

VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateR...

Settings - Passwords

ngit telescope

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Cloud Computing S...

AWS Services Search [Alt+S]

Tokyo sumedha kancha

VPC > Route tables > Create route table

Create route table Info

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

Route table settings

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

VPC
The VPC to use for this route table.

Tags

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

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

VPC
The VPC to use for this route table.

Tags

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

Key	Value - <i>optional</i>
<input type="text" value="Name"/>	<input type="text" value="demo-Private-RT"/> <input type="button" value="Remove"/>

You can add 49 more tags.

Cancel

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateR...

Settings - Passwords

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AWS Services Search [Alt+S]

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go to Internet gateways click on “create internet gateway”

The screenshot shows the AWS VPC Management Console with the "Internet gateways" page open. The left sidebar is collapsed, and the main area displays a table of existing Internet gateways. One gateway is listed:

Name	Internet gateway ID	State	VPC ID
-	igw-021c9dd3518a9334a	Attached	vpc-0022c65e624ffe304

Below the table, a message says "Select an internet gateway above". At the top right of the main area, there is a prominent orange button labeled "Create internet gateway".

give a name and create

The screenshot shows the "Create internet gateway" dialog box. It has two main sections: "Name tag" and "Tags - optional".

Name tag: A text input field containing "demo-IGW".

Tags - optional: A section for adding tags. It includes a table with columns "Key" and "Value - optional". One tag is present: "Name" with value "demo-IGW". There is also a "Remove" button and a "Add new tag" button. A note below says "You can add 49 more tags."

At the bottom of the dialog, there are "Cancel" and "Create internet gateway" buttons. The "Create internet gateway" button is highlighted in orange.

now go to actions click on "attach to VPC"

VPC dashboard

EC2 Global View New

Filter by VPC: Select a VPC

Virtual private cloud

Your VPCs New

Subnets

Route tables

Internet gateways

- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists

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click on attach Internet gateway

Attach internet gateway | VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#AttachIn...

Settings - Passwords ngit telescope Telescope 4.2: Log i... Scamdoc.com | Che... udemy GDB online Debug... Cloud Computing S...

aws Services Search [Alt+S]

VPC > Internet gateways > Attach to VPC (igw-02f33874b5cd0f0ba)

Attach to VPC (igw-02f33874b5cd0f0ba) Info

VPC

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

Available VPCs

Attach the internet gateway to this VPC.

vpc-01f55ac8113280b13

AWS Command Line Interface command

Cancel Attach internet gateway

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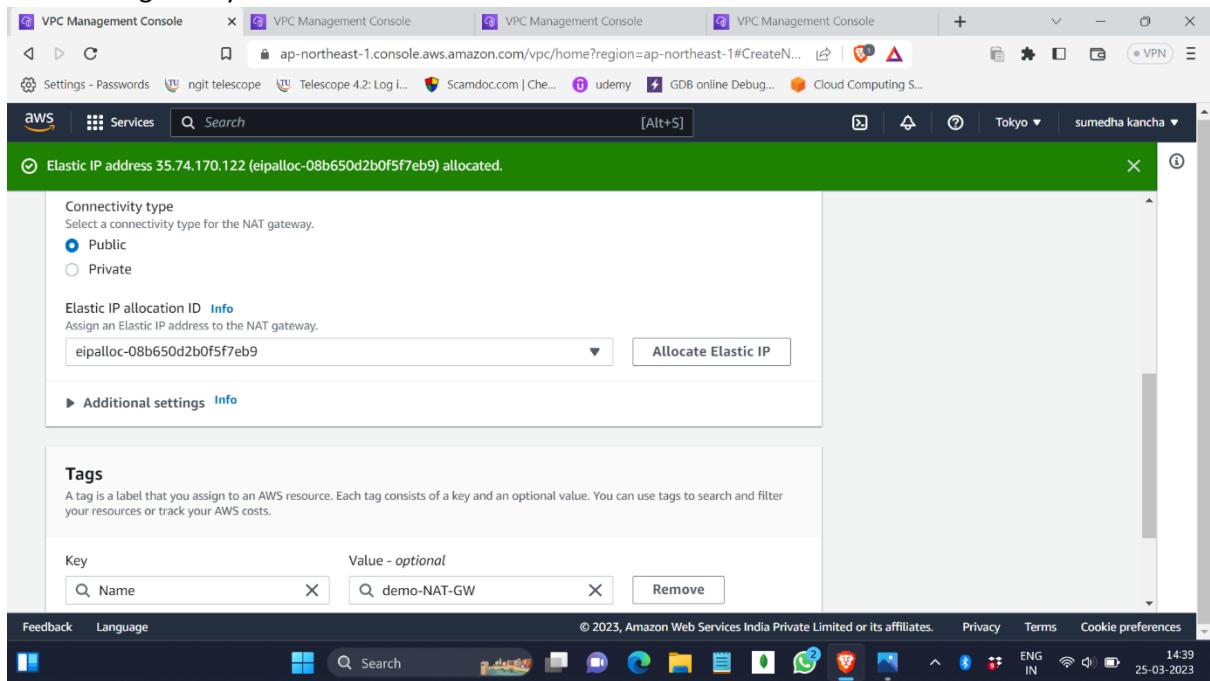
now go NAT gateways click on “Create NAT gateway”

The screenshot shows the AWS VPC Management Console with the "NAT gateways" service selected. On the left, a sidebar lists various VPC services: Subnets, Route tables, Internet gateways, Egress-only internet gateways, Carrier gateways, DHCP option sets, Elastic IPs, Managed prefix lists, Endpoints, Endpoint services, and **NAT gateways**. Below this is a section for Security, listing Network ACLs and Security groups. The main content area is titled "NAT gateways Info" and contains a table with columns: Name, NAT gateway ID, Connectivity, State, and State message. A search bar at the top of the table says "Filter NAT gateways". At the bottom of the table, there is a message: "Select a NAT gateway". The browser's address bar shows the URL: ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#NatGate... . The status bar at the bottom right indicates the date as 25-03-2023 and the time as 14:37.

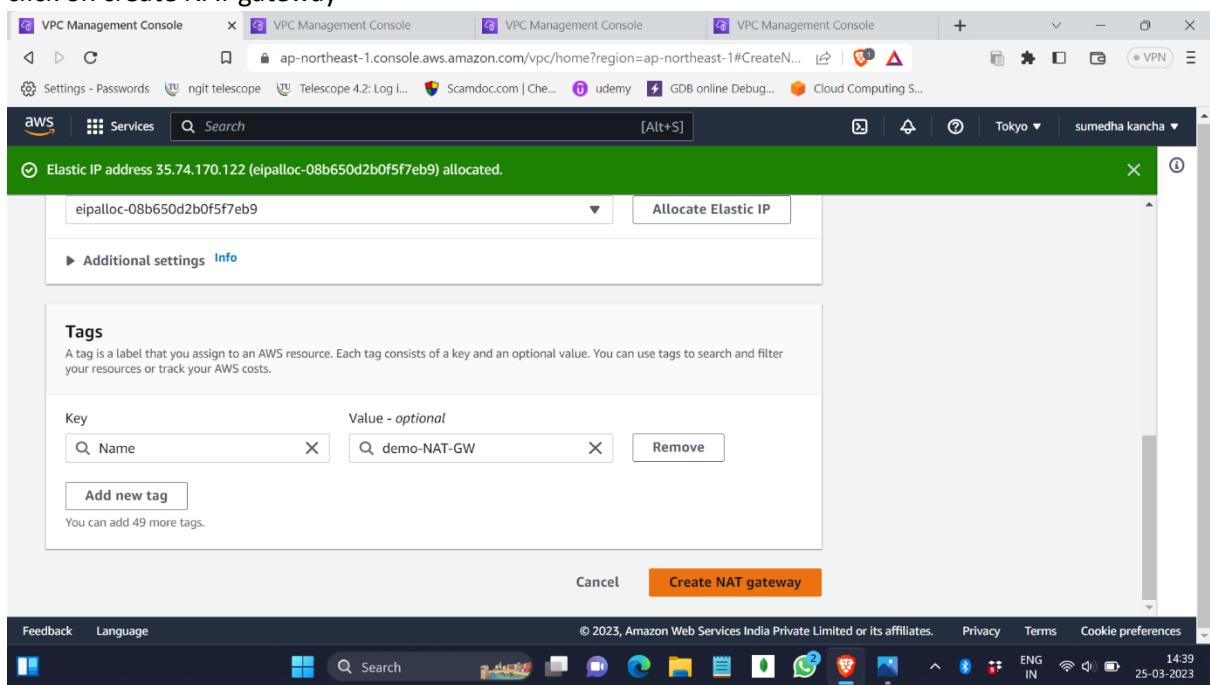
give name and select public subnet that you have created

The screenshot shows the "Create NAT gateway" settings page. The URL in the browser is ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateN... . The page title is "Create NAT gateway". It includes a sub-header "NAT gateway settings". There are three main sections: "Name - optional", "Subnet", and "Connectivity type". In the "Name" section, a tag named "demo-NAT-GW" is listed. In the "Subnet" section, a dropdown menu shows "subnet-0345f3e18e953549f (My-demo-Public-subnet)". The "Connectivity type" section is collapsed. The status bar at the bottom right indicates the date as 25-03-2023 and the time as 14:38.

select Connectivity type as public and click on “allocate Elastic IP” this will assign an elastic IP address to the NAT gateway



click on create NAT gateway



now associate subnets to the respective route tables click on public route table>subnet associations>edit subnet associations

The screenshot shows the AWS VPC Management Console with the Route tables page open. A public route table named "demo-Public-RT" is selected. The Subnet associations tab is active, showing a table with one row: "rtb-088a2f22ee105594e / demo-Public-RT". Below the table, it says "No subnet associations".

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR

Check only public subnets save associations

The screenshot shows the AWS VPC Management Console with the Edit subnet associations dialog open. A public subnet named "My-demo-Public-subnet" is selected and added to the "Selected subnets" list. The "Save associations" button is visible at the bottom right.

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/> My-demo-Public-subnet	subnet-0345f3e18e953549f	10.0.1.0/24	-	Main (rtb-0bde8589ad842cc9)
<input type="checkbox"/> My-demo-Private-subnet	subnet-0e0250cdc4c71cf99	10.0.2.0/24	-	Main (rtb-0bde8589ad842cc9)
<input type="checkbox"/> DB-subnet-private	subnet-0c38df13561ba121c	10.0.3.0/24	-	Main (rtb-0bde8589ad842cc9)

check public subnet >routes>edit routes

The screenshot shows the AWS VPC Management Console. A modal window at the top right says "You have successfully updated subnet associations for rtb-088a2f22ee105594e / demo-Public-RT." Below it, the "Route tables (1/4)" section lists two route tables: "demo-Private-RT" and "demo-Public-RT". The "demo-Public-RT" row is selected. At the bottom, there's a "Routes (1)" section with a single entry: Destination 0.0.0.0/0 Target igw-02f33874b5cd0f0ba Status -.

give destination as 0.0.0.0/0 and target as Internet gateway click on save changes

The screenshot shows the "Edit routes" dialog for a route table. It has fields for "Destination" (0.0.0.0/0) and "Target" (igw-02f33874b5cd0f0ba). Below the dialog, the "Route tables" list shows the route table with the new configuration. At the bottom, there are "Save changes" and "Cancel" buttons.

similarly associate private subnet to route table

Route tables | VPC Management Console

VPC dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

Virtual private cloud Your VPCs **New** Subnets **Route tables**

- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists

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Route tables (1/4) Info

Actions Create route table

Filter route tables

Name	Route table ID	Explicit subnet associations	Edge associations	Main
-	rtb-04a2bbbec8eb0c6ed	-	-	Yes
-	rtb-0bde8589ad842cc98	-	-	Yes
demo-Private-RT	rtb-0e3bf45299929cb6d	-	-	No

rtb-0e3bf45299929cb6d / demo-Private-RT

Details Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (0) Edit subnet associations

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
------	-----------	-----------	-----------

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (2/3)

Filter subnet associations

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
My-demo-Public-subnet	subnet-0345f3e18e953549f	10.0.1.0/24	-	rtb-088a2f22ee105594e / de
My-demo-Private-subnet	subnet-0e0250cdc4c71cf99	10.0.2.0/24	-	Main (rtb-0bde8589ad842cc98)
DB-subnet-private	subnet-0c38df13561ba121c	10.0.3.0/24	-	Main (rtb-0bde8589ad842cc98)

Selected subnets

subnet-0e0250cdc4c71cf99 / My-demo-Private-subnet X subnet-0c38df13561ba121c / DB-subnet-private X

Cancel Save associations

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You have successfully updated subnet associations for rtb-0e3bf45299929cb6d / demo-Private-RT.

<input type="checkbox"/>	-	rtb-0bde8589ad842cc98	-	Yes
<input checked="" type="checkbox"/>	demo-Private-RT	rtb-0e3bf45299929cb6d	2 subnets	No

Routes (1)

<input type="checkbox"/>	Filter routes	Both	< 1 >

give destination as 0.0.0.0/0 and target as Nat gateway click on save changes

Propagated
No

Edit routes

Destination	Target	Status
0.0.0.0/0	nat-0c3e23d8d8252d243	-

Propagated
No

Add route

Save changes

now go to security groups>create security group

The screenshot shows the AWS VPC Management Console with the 'Security groups' tab selected. The left sidebar includes options like Carrier gateways, DHCP option sets, Elastic IPs, Managed prefix lists, Endpoints, Endpoint services, NAT gateways, Peering connections, Security (Network ACLs, Security groups), DNS firewall (Rule groups, Domain lists), and Network Firewall. The main pane displays a table titled 'Security Groups (12)' with columns for Name, Security group ID, Security group name, VPC ID, and Description. The table lists several security groups, including 'launch-wizard-4' through 'launch-wizard-10' and a 'default' group. A search bar at the top of the table allows filtering.

give security group name as web-server

The screenshot shows the 'Create security group' wizard. The first step, 'Basic details', is displayed. It requires entering a 'Security group name' (set to 'Web-server'), a 'Description' (set to 'Web-server'), and a 'VPC' (set to 'vpc-01f55ac8113280b13'). The second step, 'Inbound rules', is shown below, with a note that no rules have been added yet. The bottom of the screen shows the Windows taskbar with various pinned icons.

go to Inbound rules>add rules

This screenshot shows the AWS VPC Management Console. The top navigation bar has four tabs all labeled "VPC Management Console". The browser address bar shows "ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSe...". The AWS logo and "Services" link are in the top left. A search bar and "Alt+S" keyboard shortcut are in the top right. The main content area has two sections: "Inbound rules" and "Outbound rules".

Inbound rules

This security group has no inbound rules.

Add rule

Outbound rules

Type	Protocol	Port range	Destination	Description - optional
All traffic	All	All	Custom	0.0.0.0/0

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type =SSH and source= My IP >>add rule>> type=HTTP and source=anywhere

This screenshot shows the AWS VPC Management Console with the same interface as the previous one, but with two new rules added to the Inbound rules section.

Inbound rules

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	My IP	157.47.56.64/32
HTTP	TCP	80	Anywh...	0.0.0.0/0

Add rule

Outbound rules

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go to add new tag

Outbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Destination Info	Description - optional Info
All traffic	All	All	Custom X	0.0.0.0/ X

[Delete](#)

Add rule

Tags - optional

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

No tags associated with the resource.

[Add new tag](#)

You can add up to 50 more tags

give key=name and value=web-server click on create Security group

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VPC Management Console [Search](#)

Key	Value - optional
<input type="text" value="name"/> X	<input type="text" value="web-server"/> X

[Remove](#)

[Add new tag](#)

You can add up to 49 more tags

[Cancel](#) [Create security group](#)

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The screenshot shows the AWS VPC Management Console with the 'Security Groups' page open. The 'Actions' dropdown is set to 'Create security group'. A search bar is present above the table. The table lists security groups with columns: Name, Security group ID, Security group name, VPC ID, and Description. One row for 'web-server' is selected, highlighted with a blue border. The details for 'sg-0a8a8ddabacac2d - Web-server' are shown below the table.

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0c3eebbde7294381f	launch-wizard-7	vpc-0022c65e624ffe304	launched by launch-wizard-7
-	sg-06d437f3145a34a29	launch-wizard-4	vpc-0022c65e624ffe304	launched by launch-wizard-4
web-server	sg-0a8a8ddabacac2d	Web-server	vpc-01f55ac8113280b13	Web server
-	sg-0a295cd0a14073c21	launch-wizard-10	vpc-0022c65e624ffe304	launched by launch-wizard-10

now create another security group as DB-SG

The screenshot shows the 'Create security group' wizard in the AWS VPC Management Console. The 'Basic details' step is active. The 'Security group name' field contains 'DB-SG'. The 'Description' field contains 'database-SG'. The 'VPC' dropdown is set to 'vpc-01f55ac8113280b13'. The bottom status bar indicates the date and time as 25-03-2023 14:49.

click on Inbound rules>add rules

Inbound rules [Info](#)

This security group has no inbound rules.

Add rule

Outbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Destination Info	Description - optional Info
All traffic	All	All	Custom <input type="text" value="0.0.0.0/0"/> <input type="button" value="X"/>	<input type="button" value="Delete"/>

Add rule

type=MYSQL/Aurora and source=web-server-sg

Inbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
MYSQL/Aurora	TCP	3306	Custom <input type="text" value="sg-0a8a8ddabacada2d"/> <input type="button" value="X"/>	<input type="button" value="Delete"/>

Add rule

Outbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Destination	Description - optional Info
All traffic	All	All	Custom <input type="text" value="0.0.0.0/0"/> <input type="button" value="X"/>	<input type="button" value="Delete"/>

The screenshot shows the AWS VPC Management Console with the 'Inbound rules' tab selected. The interface includes filters for Type (MySQL/Aurora), Protocol (TCP), Port range (3306), Source (Custom), and Description (optional). A search bar and a delete button are also present. Below the table, there is an 'Add rule' button.

Inbound rules

Type	Info	Protocol	Port range	Info	Source	Info	Description - optional	Info
MySQL/Aurora		TCP	3306		Custom			

Outbound rules

Type	Info	Protocol	Port range	Info	Destination	Info	Description - optional	Info
All traffic		All	All		Custom			

click on add new tag

The screenshot shows the AWS VPC Management Console with the 'Tags - optional' section selected. It includes a description of what a tag is, a note about the number of tags, and an 'Add new tag' button. The 'Create security group' button is highlighted in orange.

Tags - optional

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

No tags associated with the resource.

Add new tag

You can add up to 50 more tags

Create security group

give key=name and value =DB-SG click on create Security group

The screenshot shows three stacked windows of the AWS VPC Management Console.

Top Window: A modal dialog titled "Create security group". It has a search bar with "0.0.0.0/0" and a "Del etc" button. Below it is a "Add rule" button. A "Tags - optional" section contains a "Key" input with "name" and a "Value - optional" input with "DB-SG". There is also an "Add new tag" button and a note about adding up to 49 more tags. At the bottom right are "Cancel" and "Create security group" buttons.

Middle Window: The main "Security Groups" list page. It shows 14 security groups. One group, "DB-SG", is highlighted. The columns are: Name, Security group ID, Security group name, VPC ID, and Description. The "DB-SG" row shows "sg-0362065056c6a34cb", "DB-SG", "vpc-01f5ac8113280b13", and "data".

Bottom Window: The same "Security Groups" list page, showing the same 14 security groups, including the newly created "DB-SG".

now create a EC2 instance

The screenshot shows two separate browser windows for the AWS VPC Management Console.

Top Window (VPC Management Console):

- Search bar: EC2
- Results: Services (12) - EC2 (Virtual Servers in the Cloud), EC2 Image Builder (Managed service to automate build, customize and deploy OS images), Amazon Inspector (Continual vulnerability management at scale), AWS Firewall Manager (AWS Network Manager provides tools and features to help).

Bottom Window (EC2 Management Console):

- Search bar: Search
- Page: Instances | EC2 Management Con
- Header: Instances Info, Actions, Launch instances
- Table: No instances (You do not have any instances in this region). Buttons: Launch instances, Select an instance.

Both windows include standard browser navigation and status bars at the top.

give name as webserverEC2

The screenshot shows the 'Launch an instance' page in the AWS Management Console. In the 'Name and tags' section, the 'Name' field is filled with 'webserverEC2'. Below it, under 'Application and OS Images (Amazon Machine Image)', there is a dropdown menu showing 'Amazon Linux' selected, with other options like macOS, Ubuntu, Windows, Red Hat, and SUSE listed.

AWS linux and select any free tier AMI

The screenshot shows the 'Launch an instance' page in the AWS Management Console. In the 'Quick Start' section, 'Amazon Linux' is selected from a grid of operating system icons. Below this, a detailed view of the 'Amazon Linux 2 with .NET 6, PowerShell, Mono, and MATE Desktop Environment' AMI is shown, including its AMI ID (ami-0d5142f63c808d143), architecture (64-bit x86), and a 'Verified provider' badge.

select instance type t2.micro and create a new keypair

The screenshot shows the 'Launch an instance' wizard in the AWS Management Console. The first step, 'Select instance type', is displayed. It shows the 't2.micro' instance type selected, which is described as 'Free tier eligible'. Below this, there is a link to 'Compare instance types'. The second step, 'Key pair (login)', is shown next, with a note that you can use a key pair to securely connect to your instance. A dropdown menu for 'Key pair name - required' contains the value 'KP', and a button to 'Create new key pair' is visible.

go to network settings>edit

The screenshot shows the 'Edit' screen for an existing EC2 instance. Under the 'Network settings' section, there is a 'Configure storage' tab. It shows a root volume of 8 GiB using gp2 storage. A note indicates that free-tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. There is also an 'Add new volume' button. Under the 'Advanced details' tab, there is a section for file systems. The bottom of the screen shows the Windows taskbar with various pinned icons.

give a public subnet and enable public IP auto assign click select existing group

VPC - required Info
vpc-01f55ac8113280b13 (my-vpc)
10.0.0.0/16

Subnet Info
subnet-0345f3e18e953549 My-demo-Public-subnet
VPC: vpc-01f55ac8113280b13 Owner: 150339267598 Availability Zone: ap-northeast-1a IP addresses available: 250 CIDR: 10.0.1.0/24

Create new subnet

Auto-assign public IP Info
Enable

Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Select existing security group

select security group as web-server

Common security groups Info
Select security groups
Web-server sg-0a8a8ddabacdac2d

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

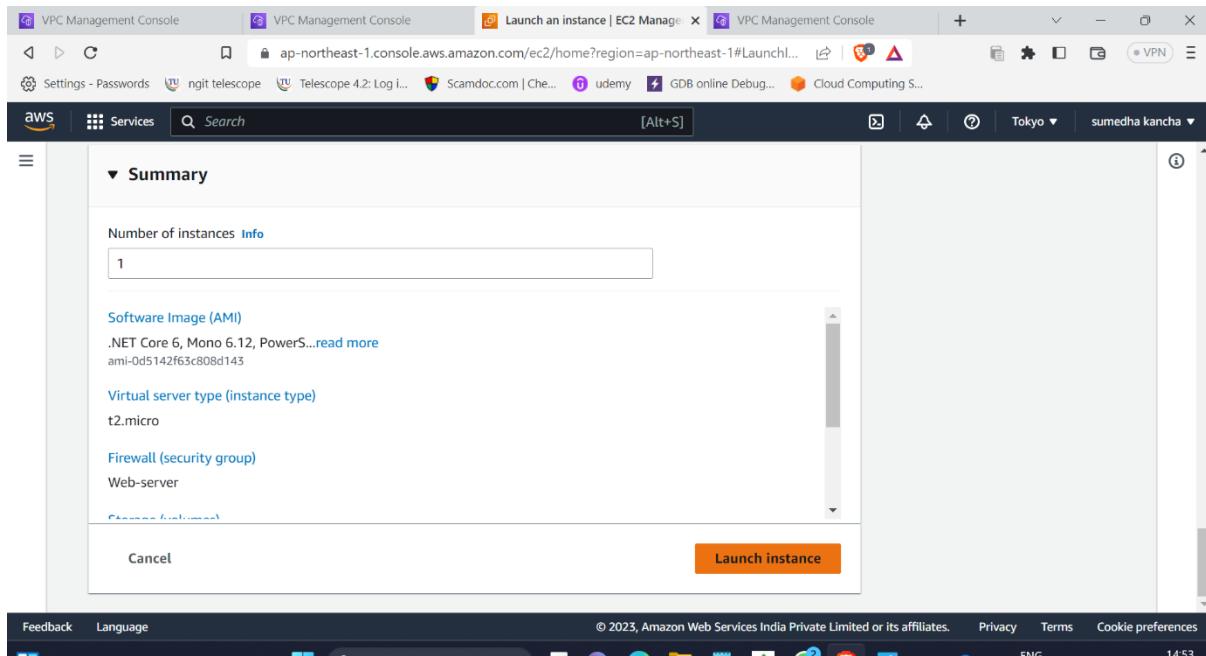
Advanced network configuration

Configure storage Info
1x 8 GiB gp2 Root volume (Not encrypted)

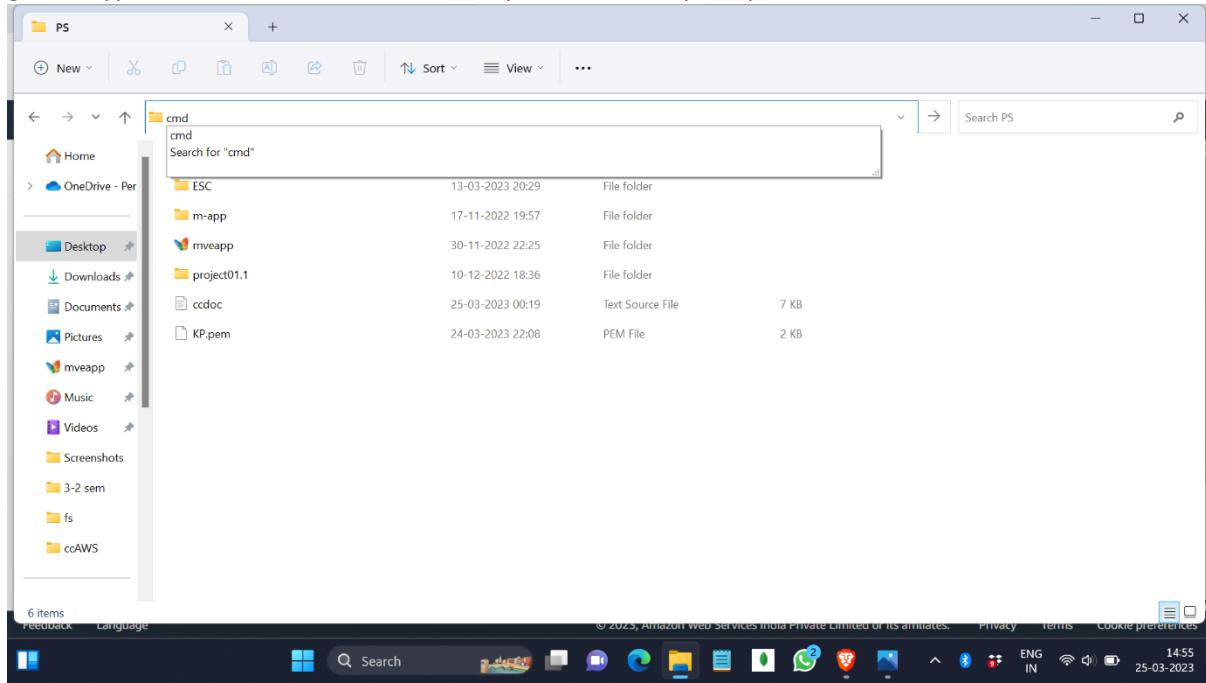
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

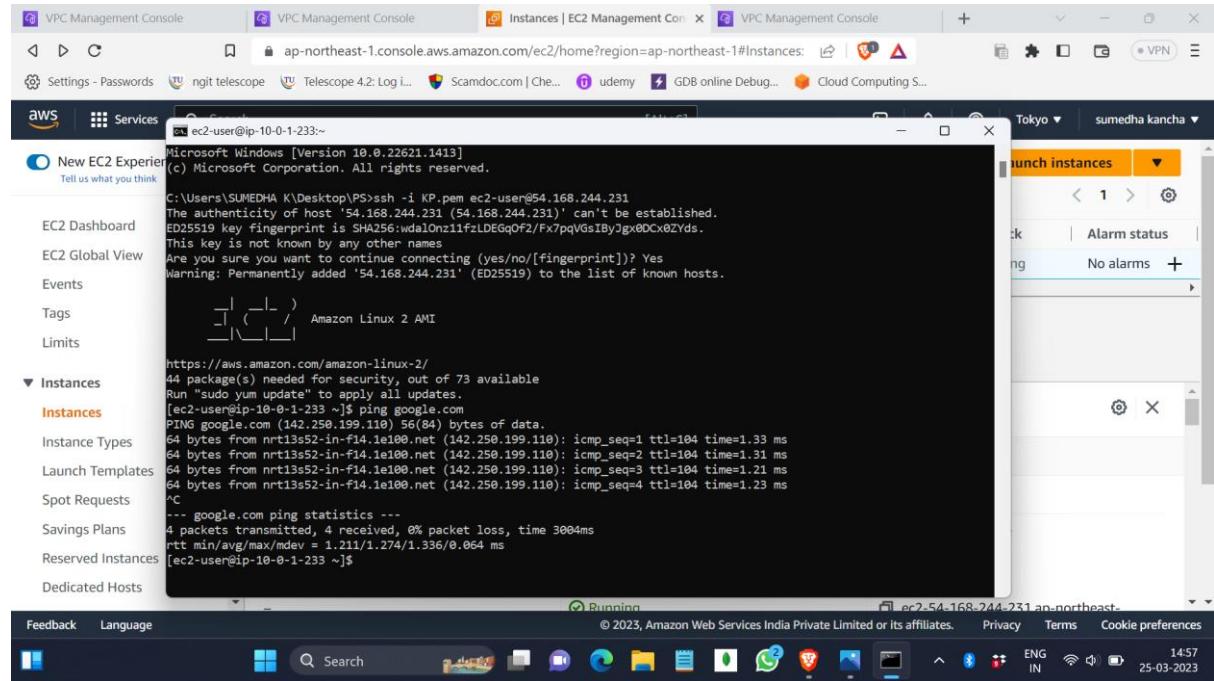
launch instance



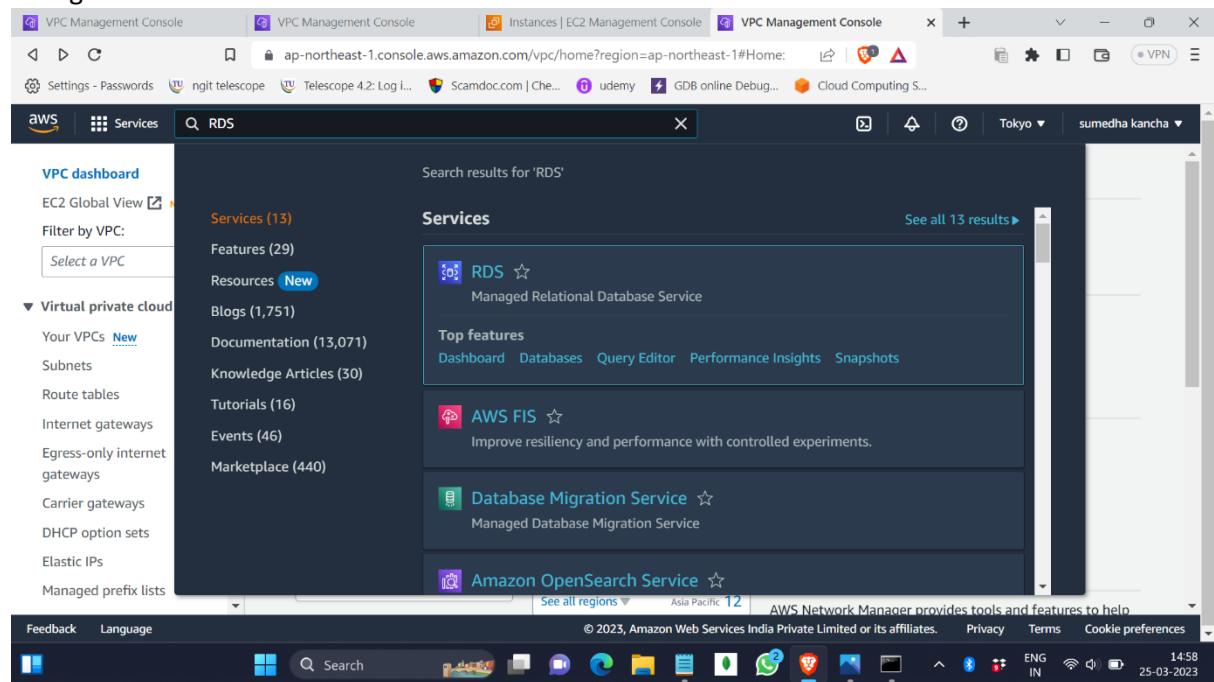
go to keypair download file location and open command prompt



type the commands check whether it is working or not by pinging



now go to RDS service



go to subnet groups

The screenshot shows the Amazon RDS console with the 'Subnet groups' section selected in the sidebar. The main area displays a summary of resources and a 'Create database' button. The 'Additional information' sidebar on the right provides links to documentation and guides.

Resources

- You are using the following Amazon RDS resources in the Asia Pacific (Tokyo) region (used/quota)
- DB Instances (0/40)**: Allocated storage (0 TB/100 TB), Parameter groups (1)
- DB Clusters (0/40)**: Increase DB instances limit (Custom (0/100))
- Reserved Instances (0/40)**: Option groups (1), Default (1)

Additional information

- Getting started with RDS
- Overview and features
- Documentation
- Articles and tutorials
- Data import guide for MySQL
- Data import guide for Oracle
- Data import guide for SQL Server

now create DB subnet group

The screenshot shows the 'Create DB subnet group' page in the Amazon RDS console. It displays a table with one row labeled 'No db subnet groups' and a message stating 'You don't have any db subnet groups.' A 'Create DB subnet group' button is visible at the bottom.

Name	Description	Status	VPC
No db subnet groups			

Create DB subnet group

The screenshot shows the AWS RDS Management Console with the URL ap-northeast-1.console.aws.amazon.com/rds/home?region=ap-northeast-1#create-database. The page title is "Create DB subnet group". The left sidebar shows "Amazon RDS" with options like Dashboard, Databases, Query Editor, etc., and "Subnet groups" highlighted. The main content area has a heading "Subnet group details" with fields for Name (demo-DB-subnet-group), Description (demo-DB-subnet-group), and VPC (my-vpc). A note says "To create a new subnet group, give it a name and a description, and choose an existing VPC. You will then be able to add subnets related to that VPC." The status bar at the bottom shows "© 2023, Amazon Web Services India Private Limited or its affiliates." and "25-03-2023".

select all the private availability zones and subnets>create

The screenshot shows the "Add subnets" step of the "Create DB subnet group" wizard. The left sidebar is identical to the previous screenshot. The main content area shows "Availability Zones" with "Choose an availability zone" dropdown containing "ap-northeast-1c" and "ap-northeast-1d". Below that is a "Subnets" section with "Select subnets" dropdown containing "subnet-0e0250cdc4c71cf99 (10.0.2.0/24)" and "subnet-0c38df13561ba121c (10.0.3.0/24)". A summary section titled "Subnets selected (2)" lists the selected subnets. The status bar at the bottom shows "© 2023, Amazon Web Services India Private Limited or its affiliates." and "25-03-2023".

The screenshot shows the AWS RDS Management Console interface. On the left, a sidebar menu lists various options like Dashboard, Databases, Query Editor, etc. Under the 'Subnet groups' section, there is a link to 'Create DB subnet group'. The main content area is titled 'Subnets' and displays two selected subnets: 'subnet-0e0250cdc4c71cf99 (10.0.2.0/24)' and 'subnet-0c38df13561ba121c (10.0.3.0/24)'. Below this, a table titled 'Subnets selected (2)' shows the details of the selected subnets, including their Availability zone, Subnet ID, and CIDR block.

Availability zone	Subnet ID	CIDR block
ap-northeast-1c	subnet-0e0250cdc4c71cf99	10.0.2.0/24
ap-northeast-1d	subnet-0c38df13561ba121c	10.0.3.0/24

At the bottom right of the 'Subnets' screen, there are 'Cancel' and 'Create' buttons. The 'Create' button is highlighted in orange. A success message 'Successfully created demo-DB-subnet-group. View subnet group' is displayed at the top of the next screen.

The second part of the screenshot shows the 'Subnet groups' list. It has a header 'Subnet groups (1)' with buttons for 'Edit', 'Delete', and 'Create DB subnet group'. A table lists one subnet group named 'demo-db-subnet-group' with a status of 'Complete' and associated with VPC 'vpc-01f55ac8113280b13'.

The browser status bar at the bottom indicates the date as 25-03-2023 and the time as 15:00.

go to databases>create database

The screenshot shows the Amazon RDS Management Console. A green success banner at the top right says "Successfully created demo-DB-subnet-group. View subnet group". The left sidebar has "Databases" selected. The main area shows a message about creating a Blue/Green deployment. Below it is a table titled "Databases" with columns for Group resources, Actions, and a "Create database" button. A search bar and filter options are also present.

select MYSQL

The screenshot shows the "Create database" page for MySQL. It starts with a section to choose a database creation method: "Standard create" (selected) or "Easy create". Below this is the "Engine options" section, where "MySQL" is selected from three options: "Aurora (MySQL Compatible)", "Aurora (PostgreSQL Compatible)", and "MySQL". To the right, there's a sidebar for "Aurora MySQL-Compatible Edition" which describes its features like up to 128 TB of storage and six-way replication. The bottom of the screen shows the standard AWS navigation bar.

go for free tier template

The screenshot shows the AWS RDS Management Console. In the top navigation bar, there are tabs for VPC Management Console, Instances | EC2 Management Console, and RDS Management Console. Below the tabs, there are several browser tabs open to various AWS services like VPC, CloudWatch Metrics, and CloudWatch Metrics Insights.

In the main content area, the title is "Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost." Under "Engine Version", "MySQL 8.0.28" is selected. The "Templates" section contains three options: "Production" (radio button), "Dev/Test" (radio button), and "Free tier" (radio button, which is selected). A tooltip for "Free tier" states: "Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS." Below this is a section titled "Availability and durability".

On the right side, there is a sidebar titled "Aurora MySQL-Compatible Edition" with a brief description: "Aurora MySQL is Amazon's enterprise-class MySQL-compatible database." It lists several features:

- Up to five times the throughput of MySQL Community Edition
- Up to 128 TB of autoscaling SSD storage
- Six-way replication across three Availability Zones
- Up to 15 read replicas with replica lag under 10-ms
- Automatic monitoring with failover

give credentials

The screenshot shows the "Credentials Settings" step of creating a new DB instance. The "Master username" field is filled with "admin123". A note below it says: "1 to 16 alphanumeric characters. First character must be a letter." There is a checkbox for "Manage master credentials in AWS Secrets Manager" which is unchecked. A tooltip for this checkbox states: "If you manage the master user credentials in Secrets Manager, some RDS features aren't supported." Below this is a checkbox for "Auto generate a password" which is unchecked. A note below it says: "Amazon RDS can generate a password for you, or you can specify your own password." The "Master password" field is partially visible with the value "*****".

On the right side, there is a sidebar titled "Aurora MySQL-Compatible Edition" with a brief description: "Aurora MySQL is Amazon's enterprise-class MySQL-compatible database." It lists several features:

- Up to five times the throughput of MySQL Community Edition
- Up to 128 TB of autoscaling SSD storage
- Six-way replication across three Availability Zones
- Up to 15 read replicas with replica lag under 10-ms
- Automatic monitoring with failover

The screenshot shows the AWS RDS Management Console interface. On the left, there's a sidebar with a three-line menu icon. The main content area has a header "Instance configuration". Under "Master password", there are two input fields, both containing "*****". Below them is a note: "Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), ' (single quote), " (double quote) and @ (at sign)." Under "DB instance class", there are three radio button options: "Standard classes (includes m classes)", "Memory optimized classes (includes r and x classes)", and "Burstable classes (includes t classes)". The third option, "Burstable classes", is selected. To the right, a sidebar titled "Aurora MySQL-Compatible Edition" displays information about Aurora MySQL, including its enterprise-class nature, performance benefits, and replication features.

uncheck if you don't want storage autoscaling

This screenshot shows the same AWS RDS Management Console interface as the previous one, but with a different configuration. In the "Storage" section, the "Storage type" dropdown is set to "General Purpose SSD (gp2)". The "Allocated storage" input field contains "200 GiB". Below these, the "Storage autoscaling" section is visible, which includes a note: "Provides dynamic scaling support for your database's storage based on your application's needs." and a checkbox labeled "Enable storage autoscaling". This checkbox is currently unchecked. The right sidebar remains the same, displaying information about Aurora MySQL.

give public access as yes

The screenshot shows the AWS RDS Management Console. In the 'Public access' section, the radio button for 'Yes' is selected, indicating that the database can be accessed from outside the VPC. Other options like 'No' and 'VPC security group (firewall)' are also shown.

select existing vpc security groups as DB-SG

The screenshot shows the AWS RDS Management Console. In the 'VPC security group (firewall)' section, the radio button for 'Choose existing' is selected, and 'DB-SG' is listed as a chosen security group. Other options like 'Create new' and 'No preference' are also shown.

go to add configuration and give database name

The image consists of three vertically stacked screenshots of the AWS RDS Management Console. Each screenshot shows a different step in the configuration process:

- Screenshot 1 (Top):** Shows the 'Additional configuration' section. It includes fields for 'Initial database name' (set to 'sample'), 'DB parameter group' (set to 'default.mysql8.0'), and 'Option group' (set to 'default:mysql-8-0'). The 'Backup' section has a checked checkbox for 'Enable automated backups'. A sidebar on the right provides information about Aurora MySQL-Compatible Edition.
- Screenshot 2 (Middle):** Shows the 'Backup' section with the 'Enable automated backups' checkbox unchecked. The 'Encryption' section is visible below it, containing a checkbox for 'Enable encryption' which is also unchecked. Other sections like 'Log exports' and 'IAM role' are partially visible.
- Screenshot 3 (Bottom):** Shows the 'RDS service-linked role' section, which is currently empty.

Maintenance

Auto minor version upgrade [Info](#)

Enable auto minor version upgrade
Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window [Info](#)
Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

Choose a 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.

Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier](#)

When your free usage expires or if your application usage exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page](#).

Aurora MySQL-Compatible Edition

Aurora MySQL is Amazon's enterprise-class MySQL-compatible database.

Aurora MySQL offers:

- Up to five times the throughput of MySQL Community Edition
- Up to 128 TB of autoscaling SSD storage
- Six-way replication across three Availability Zones
- Up to 15 read replicas with replica lag under 10-ms
- Automatic monitoring with failover

click on create database

Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier](#)

When your free usage expires or if your application usage exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page](#).

Important You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

[Cancel](#) **Create database**

now go to documentation>amazon RDS>tutorial>install a web server user guide

The screenshot shows a browser window displaying the AWS Documentation for Amazon RDS User Guide. The main content is titled "Install a web server on your EC2 instance". It includes a brief description, a "PDF" link, and a "RSS" link. Below the main title, there's a section titled "Install an Apache web server with PHP and MariaDB" with a sub-instruction "Connect to your EC2 instance and install the web server." On the left sidebar, there's a navigation tree under "Tutorial: Create a web server and an Amazon RDS DB instance". The system tray at the bottom right shows the date as 25-03-2023 and time as 15:12.

copy paste following commands in the cmd prompt

The screenshot shows a Windows Command Prompt window with a Linux terminal session running. The terminal is executing the command "sudo yum update -y". The output shows the update process, including package statistics and dependency resolution. The system tray at the bottom right shows the date as 25-03-2023 and time as 15:15.

3. After the updates complete, install the PHP software using the `amazon-linux-extras` install command. This command installs multiple software packages and related dependencies at the same time.

```
sudo amazon-linux-extras install php8.0 mariadb10.5
```

If you receive an error stating `sudo: amazon-linux-extras: command not found`, your instance wasn't launched with an Amazon Linux 2 AMI. You might be using the Amazon Linux AMI instead. You can view your version of Amazon Linux using the following command.

```
cat /etc/system-release
```

For more information, see [Updating instance software](#).

4. Install the Apache web server.

```
sudo yum install -y httpd
```

You can test that your web server is properly installed and started. To do this, enter the public Domain Name System (DNS) name of your EC2 instance in the address bar of a web browser, for example: `http://ec2-42-8-168-21.us-west-1.compute.amazonaws.com`. If your web server is running, then you see the Apache test page.

If you don't see the Apache test page, check your inbound rules for the VPC security group that you created in [Tutorial: Create a VPC for use with a DB instance \(IPv4 only\)](#). Make sure that your inbound rules include one allowing HTTP (port 80) access for the IP address to connect to the web server.

```
[root@ip-10-0-1-233:~]# sudo amazon-linux-extras install php8.0 mariadb10.5
[yudo amazon-linux-extras install php8.0 mariadb10.5 -y
Installing php-pdo, mariadb, php-fpm, php-mysqlnd, php-cli
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Cleaning repos: amzn2-core amzn2extra-docker amzn2extra-epel amzn2extra-mariadb10.5
: mono-centos7-stable packages-microsoft-com-prod
: packages-microsoft-rhel-prod
39 metadata files removed
16 sqlite files removed
0 metadata files removed
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
amzn2extra-docker
amzn2extra-epel
amzn2extra-mariadb10.5
amzn2extra-mate-desktop1.x
amzn2extra-php8.0
epel/x86_64/metalink
epel
mono-centos7-stable
packages-microsoft-com-prod
packages-microsoft-rhel-prod
(1/19): amzn2-core/2/x86_64/group.gz
(2/19): amzn2-core/2/x86_64/updateinfo
(3/19): amzn2extra-epel/2/x86_64/primary_db
(4/19): amzn2extra-mariadb10.5/2/x86_64/updateinfo
(5/19): amzn2extra-mariadb10.5/2/x86_64/primary_db
(6/19): amzn2extra-mate-desktop1.x/2/x86_64/updateinfo
(7/19): amzn2extra-mate-desktop1.x/2/x86_64/primary_db
(8/19): amzn2extra-php8.0/2/x86_64/updateinfo
(9/19): amzn2extra-php8.0/2/x86_64/primary_db
(10/19): amzn2extra-docker/2/x86_64/updateinfo
(11/19): amzn2extra-epel/2/x86_64/updateinfo
(12/19): amzn2extra-docker/2/x86_64/primary_db
(13/19): epel/x86_64/group.gz
(14/19): epel/x86_64/updateinfo
(15/19): epel/x86_64/primary_db
(16/19): mono-centos7-stable/primary_db
```

```
[root@ip-10-0-1-233:~]# sudo yum install -y httpd
[sudo yum install -y httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
324 packages excluded due to repository priority protections
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.56-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.56-1.amzn2 for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.56-1.amzn2 for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: /etc/mime_types for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.56-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.56-1.amzn2.x86_64
--> Running transaction check
--> Package apr.x86_64 0:1.6.3-1.amzn2_0.1 will be installed
--> Package apr-util.x86_64 0:1.6.3-1.amzn2_0.1 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.3-1.amzn2_0.1 for package: apr-util-1.6.3-1.amzn2_0.1.x86_64
--> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
--> Package httpd-filesystem.noarch 0:2.4.56-1.amzn2 will be installed
--> Package httpd-tools.x86_64 0:2.4.56-1.amzn2 will be installed
--> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
--> Package mod_http2.x86_64 0:1.15.19-1.amzn2_0.1 will be installed
--> Running transaction check
--> Package apr-util-bdb.x86_64 0:1.6.3-1.amzn2_0.1 will be installed
--> Finished Dependency Resolution
```

Package	Arch	Version	Repository	Size
Installing:				

The screenshot shows a Windows desktop environment with three main windows:

- Terminal Window 1 (Top Right):** A black terminal window titled "root@ip-10-0-1-233:/home/ec2-user". It displays the command "sudo systemctl start httpd" being run, followed by the output "Complete!" and "httpd" starting successfully.
- Terminal Window 2 (Bottom Middle):** A black terminal window titled "root@ip-10-0-1-233:/home/ec2-user". It displays the command "sudo systemctl enable httpd" being run, followed by the output "Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service".
- Browser Window (Left):** A Microsoft Edge browser window showing a guide for installing Apache. It includes steps 4 and 5 of the tutorial, code snippets for "sudo yum install -y httpd" and "sudo systemctl start httpd", and instructions for testing the server.

now go to webserverEC2 instance copy public DNS IP address and paste in the browser

The screenshot shows the AWS EC2 Instances page. On the left sidebar, under 'Instances', 'Instances' is selected. In the main area, there is one instance listed:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
webserverEC2	i-0cf5317220fa0d650	Running	t2.micro	Initializing	No alarms

A tooltip is displayed over the instance details, stating 'Public IPv4 address copied'. Below the instance table, there are sections for Instance ID, IPv6 address, Hostname type, Instance state, Private IP4 addresses, Public IPv4 DNS, and Private IP DNS name (IPv4 only). The instance ID is i-0cf5317220fa0d650 (webserverEC2), the IPv6 address is -, the Hostname type is -, the Instance state is Running, the Private IP4 addresses are 10.0.1.233, the Public IPv4 DNS is ec2-54-168-244-231.ap-northeast-1.compute.amazonaws.com, and the Private IP DNS name (IPv4 only) is 54.168.244.231 | open address.

Below the EC2 interface, a screenshot of a Windows desktop browser window shows the URL 54.168.244.231. The page title is 'Test Page'.

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

You are free to use the image below on web sites powered by the Apache HTTP Server:



and continue with all the commands in this user guide

The screenshot shows a terminal window with three tabs. The current tab displays a series of terminal commands and their outputs. The desktop environment visible in the background includes icons for various applications like VPC, AWS Lambda, and the File Explorer.

1. Add the `ec2-user` user to the `apache` group.

```
sudo usermod -a -G apache ec2-user
```

2. Log out to refresh your permissions and include the new `apache` group.

```
exit
```

3. Log back in again and verify that the `apache` group exists with the `groups` command.

```
groups
```

Your output looks similar to the following:

```
ec2-user adm wheel apache systemd-journal
```

4. Change the group ownership of the `/var/www` directory and its contents to the `apache` group.

```
sudo chown -R ec2-user:apache /var/www
```

5. Change the directory permissions of `/var/www` and its subdirectories to add group write permissions and set the group ID on subdirectories created in the future.

```
sudo chmod 2775 /var/www
find /var/www -type d -exec sudo chmod 2775 {} \;
```

6. Recursively change the permissions for files in the `/var/www` directory and its subdirectories to add group write permissions.

```
find /var/www -type f -exec sudo chmod 0664 {} \;
```

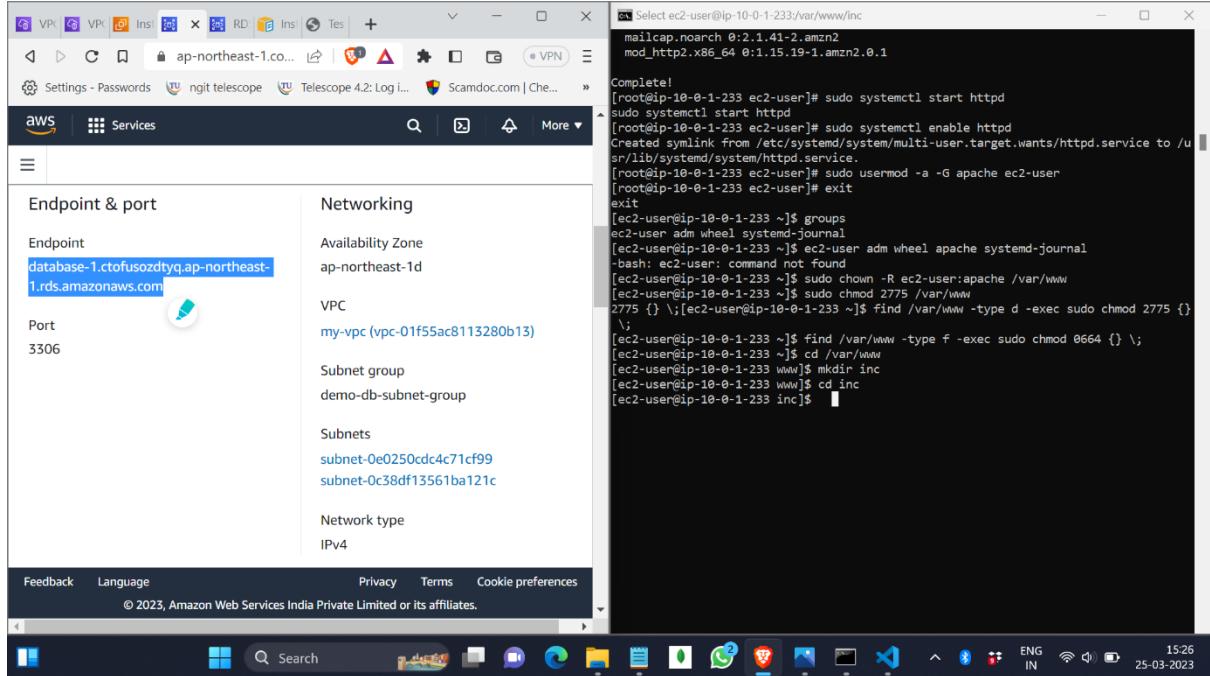
Terminal Output (Top Tab):

```
[root@ip-10-0-1-233 ~]# sudo systemctl start httpd
[sudo] password for root:
httpd.service started
[ec2-user@ip-10-0-1-233 ~]$ sudo systemctl enable httpd
[sudo] password for ec2-user:
httpd.service enabled
[ec2-user@ip-10-0-1-233 ~]$ exit
exit
[ec2-user@ip-10-0-1-233 ~]$ groups
ec2-user adm wheel
[ec2-user@ip-10-0-1-233 ~]$ ec2-user adm wheel apache
[ec2-user@ip-10-0-1-233 ~]$ sudo chown -R ec2-user:apache /var/www
[ec2-user@ip-10-0-1-233 ~]$
```

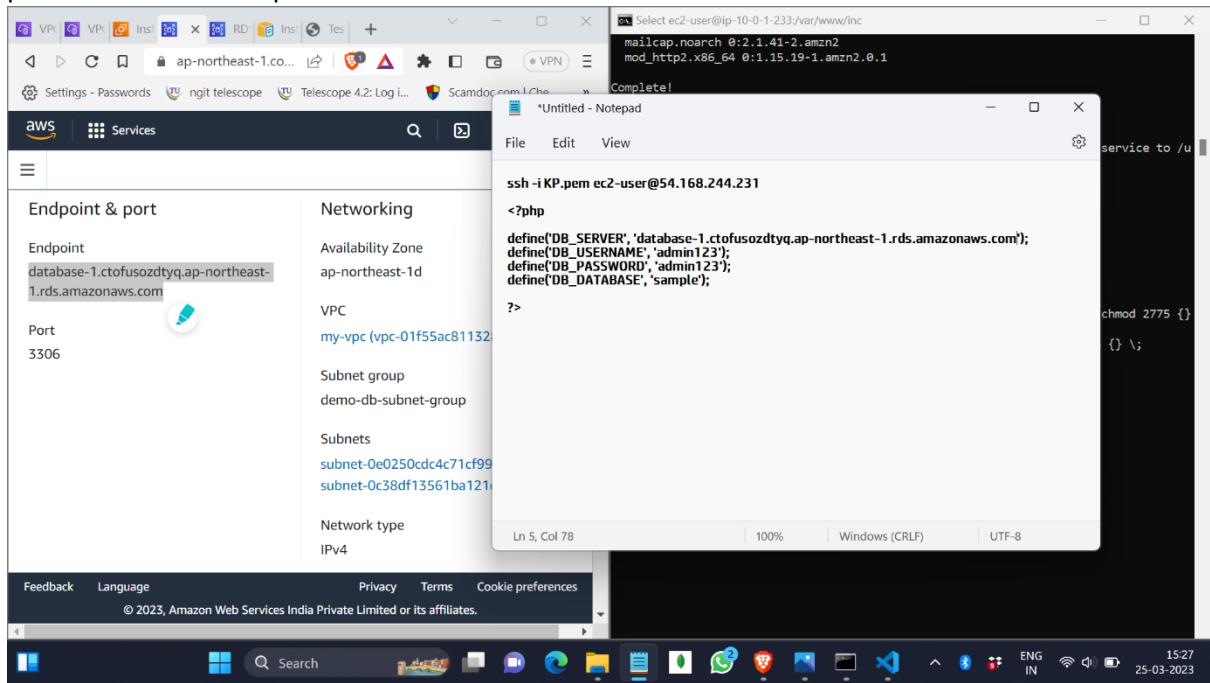
Terminal Output (Bottom Tab):

```
[root@ip-10-0-1-233 ~]# sudo usermod -a -G apache ec2-user
[sudo] password for root:
[ec2-user@ip-10-0-1-233 ~]$ exit
exit
[ec2-user@ip-10-0-1-233 ~]$ groups
ec2-user adm wheel
[ec2-user@ip-10-0-1-233 ~]$ ec2-user adm wheel apache
[ec2-user@ip-10-0-1-233 ~]$ sudo chown -R ec2-user:apache /var/www
[ec2-user@ip-10-0-1-233 ~]$ sudo chmod 2775 /var/www
[ec2-user@ip-10-0-1-233 ~]$ find /var/www -type d -exec sudo chmod 2775 {} \;
[ec2-user@ip-10-0-1-233 ~]$ sudo chmod 2775 /var/www
[ec2-user@ip-10-0-1-233 ~]$ find /var/www -type f -exec sudo chmod 0664 {} \;
[ec2-user@ip-10-0-1-233 ~]$
```

now go to RDB and copy the endpoint



paste here in this notepad



now paste selected code in the nano GUC

The screenshot shows a terminal window with the following command history:

```
cd /var/www
mkdir inc
cd inc
```

2. Create a new file in the `inc` directory named `dbinfo.inc`, and then edit the file by calling nano (or the editor of your choice).

```
>dbinfo.inc
nano dbinfo.inc
```

3. Add the following contents to the `dbinfo.inc` file. Here, `db_instance_endpoint` is your DB instance endpoint, without the port, and `master password` is the master password for your DB instance.

Note
We recommend placing the user name and password information in a folder that isn't part of the document root for your web application.

The terminal window title is `ec2-user@ip-10-0-1-233:/var/www/inc`. The file being edited is `dbinfo.inc`. The nano editor interface is visible, showing the PHP code:

```
<?php
define('DB_SERVER', 'database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com');
define('DB_USERNAME', 'admin123');
define('DB_PASSWORD', 'admin123');
define('DB_DATABASE', 'sample');
```

The status bar at the bottom of the terminal window shows `Ln 10, Col 3`, `100%`, `Windows (CRLF)`, and `UTF-8`.

and save it

The screenshot shows a terminal window with the following command history:

```
cd /var/www
mkdir inc
cd inc
```

2. Create a new file in the `inc` directory named `dbinfo.inc`, and then edit the file by calling nano (or the editor of your choice).

```
>dbinfo.inc
nano dbinfo.inc
```

3. Add the following contents to the `dbinfo.inc` file. Here, `db_instance_endpoint` is your DB instance endpoint, without the port, and `master password` is the master password for your DB instance.

Note
We recommend placing the user name and password information in a folder that isn't part of the document root for your web application.

The terminal window title is `ec2-user@ip-10-0-1-233:/var/www/inc`. The file being edited is `dbinfo.inc`. The nano editor interface is visible, showing the PHP code:

```
<?php
define('DB_SERVER', 'database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com');
define('DB_USERNAME', 'admin123');
define('DB_PASSWORD', 'admin123');
define('DB_DATABASE', 'sample');
```

The status bar at the bottom of the terminal window shows `Modified`, `15:28`, `IN`, `25-03-2023`.

```

ec2-user@ip-10-0-1-233:~$ cd /var/www
ec2-user@ip-10-0-1-233:~$ find /var/www -type f -exec sudo chmod 0664 {} \;
ec2-user@ip-10-0-1-233:~$ cd /var/www
ec2-user@ip-10-0-1-233:~$ mkdir inc
ec2-user@ip-10-0-1-233:~$ cd inc
ec2-user@ip-10-0-1-233:inc$ nano dbinfo.inc
ec2-user@ip-10-0-1-233:inc$ [ec2-user@ip-10-0-1-233 inc]$ 

```

2. Create a new file in the `inc` directory named `dbinfo.inc`, and then edit the file by calling nano (or the editor of your choice).

```

>dbinfo.inc
nano dbinfo.inc

```

3. Add the following contents to the `dbinfo.inc` file. Here, `db_instance_endpoint` is your DB instance endpoint, without the port, and `master password` is the master password for your DB instance.

Note

We recommend placing the user name and password information in a folder that isn't part of the document root for your web

```

ec2-user@ip-10-0-1-233:~$ nano SamplePage.php

```

7. Add the following contents to the `SamplePage.php` file:

```

<?php include "../inc/dbinfo.inc"; ?>
<html>
<body>
<h1>Sample page</h1>
<?php

/* Connect to MySQL and select the database. */
$connection = mysqli_connect(DB_SERVER, DB_USERNAME, DB_PASSWORD);

if (mysqli_connect_errno()) echo "Failed to connect to MySQL: " . mysqli_connect_error();

$database = mysqli_select_db($connection, DB_DATABASE);

/* Ensure that the EMPLOYEES table exists. */
VerifyEmployeeTable($connection, DB_DATABASE);

/* If input fields are populated, add a row to the EMPLOYEES table. */
$employee_name = htmlentities($_POST['NAME']);
$employee_address = htmlentities($_POST['ADDRESS']);

if (strlen($employee_name) || strlen($employee_address)) {
    AddEmployee($connection, $employee_name, $employee_address);
}


<form action=<?PHP echo $_SERVER['SCRIPT_NAME'] ?>" method="POST">
<table border="0">
    <tr>
        <td>NAME</td>
        <td>ADDRESS</td>
    </tr>
    <tr>

```

6. Create a new file in the `html` directory named `SamplePage.php`, and then edit the file by calling `nano` (or the editor of your choice).

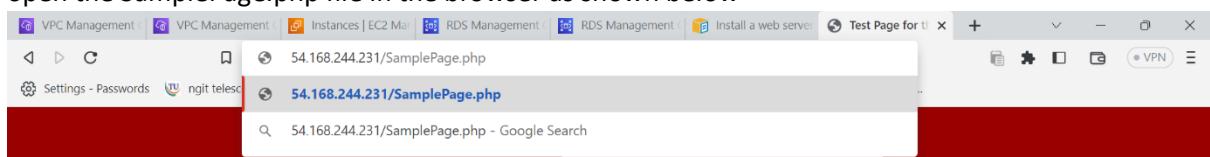
```
>SamplePage.php
nano SamplePage.php
```

7. Add the following contents to the `SamplePage.php` file:

```
<?php include "../inc/dbinfo.inc"; ?>
<html>
<body>
<h1>Sample page</h1>
<?php

/* Connect to MySQL and select the database. */
$connection = mysqli_connect(DB_SERVER, DB_USERNAME, DB_PA
```

open the `SamplePage.php` file in the browser as shown below



This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting `www.example.com`, you should send e-mail to "`webmaster@example.com`".

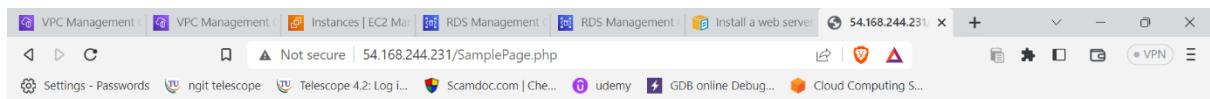
If you are the website administrator:

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server:



this is final page where user can give input



Sample page

NAME	ADDRESS
ID	NAME ADDRESS



The screenshot shows two browser windows. The top window is titled 'Connect to instance' and displays instructions for connecting to an EC2 instance (i-0cf5317220fa0d650). It includes steps for opening an SSH client, locating a private key file, running a chmod command, and connecting via Public DNS. The bottom window is titled 'Amazon RDS' and shows the configuration for a database named 'database-1'. A Notepad window is overlaid on the RDS interface, containing MySQL connection code:

```
ssh -i KP.pem ec2-user@54.168.244.231
<?php
define('DB_SERVER', 'database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com');
define('DB_USERNAME', 'admin123');
define('DB_PASSWORD', 'admin123');
define('DB_DATABASE', 'sample');

?>
mysql -h database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com -P 3306 -u admin123 -p
```

type the mysql commands to access the database

```
ec2-user@ip-10-0-1-233:~  
Amazon Linux 2 AMI  
  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-10-0-1-233 ~]$ mysql -h database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com -P 3306 -u admin123 -p  
Enter password:  
Welcome to the MariaDB monitor. Commands end with ; or \g.  
Your MySQL connection id is 21  
Server version: 8.0.28 Source distribution  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
MySQL [(none)]> ■
```

```
ec2-user@ip-10-0-1-233:~  
[ec2-user@ip-10-0-1-233 ~]$ mysql -h database-1.ctofusozdtyq.ap-northeast-1.rds.amazonaws.com -P 3306 -u admin123 -p  
Enter password:  
Welcome to the MariaDB monitor. Commands end with ; or \g.  
Your MySQL connection id is 30  
Server version: 8.0.28 Source distribution  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
MySQL [(none)]> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sample |  
| sys |  
+-----+  
5 rows in set (0.002 sec)  
  
MySQL [(none)]> use sample;  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Database changed  
MySQL [sample]> show tables;  
+-----+  
| Tables_in_sample |  
+-----+  
| EMPLOYEES |  
+-----+  
1 row in set (0.003 sec)  
  
MySQL [sample]> select *from EMPLOYEES  
-> ;  
Empty set (0.002 sec)  
  
MySQL [sample]> ■
```

give input you will see the data in the form of table

A screenshot of a web browser window. The address bar shows the URL 3.113.17.114/SamplePage.php. The page content includes a table with columns NAME and ADDRESS, and a row with values SUMEDHA and hyd. There is also a button labeled 'Add Data'.

Sample page

NAME	ADDRESS
SUMEDHA	hyd
1	
2	
3	
4	
5	



and verify in the database that you have created

A screenshot of a Linux desktop environment. The terminal window shows the MySQL command-line interface connected to the 'sample' database. It lists the databases available and then shows the results of running 'show tables;' and 'select * from employees;'. The table 'EMPLOYEES' contains five rows of data: (1, SUMEDHA, hyd), (2, eashwar, wrl), (3, nittu, hyd), (4, chiru, jagithal), and (5, chiru, jagithal).