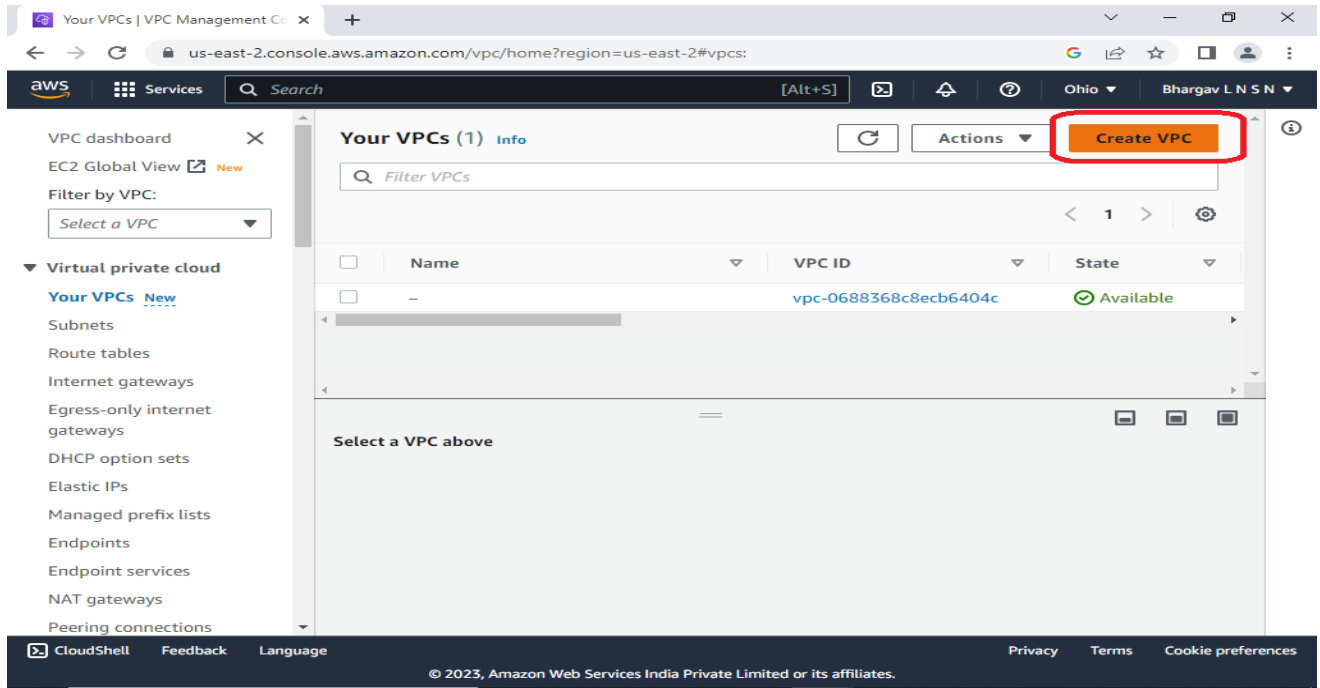
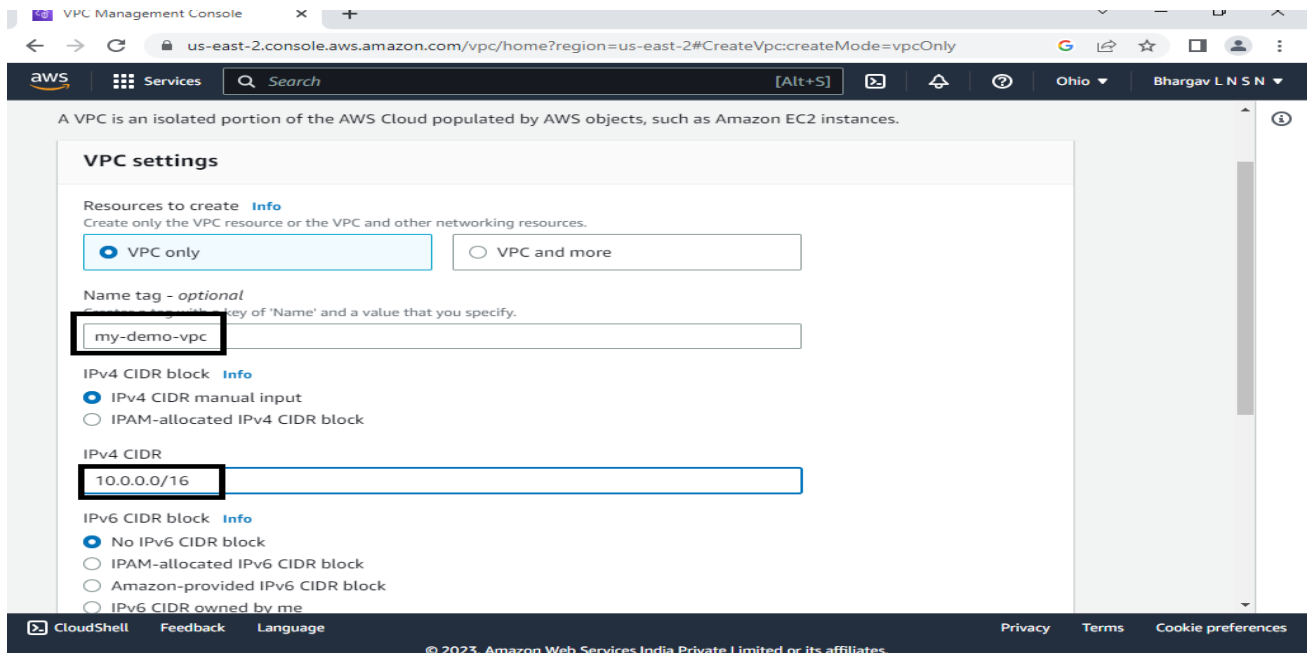


VPC Launching

Step-1: Create VPC



Add IPv4 CIDR



Create VPC

10.0.0.0/16

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

Tenancy [Info](#)

Default

Tags

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

Key Value - optional

Name my-demo-vpc Remove

Add new tag

You can add 49 more tags.

Cancel Create VPC

Create Subnets – Public and Private Subnets

Subnets (3) [Info](#)

Filter subnets

	Name	Subnet ID	State	VPC
<input type="checkbox"/>	-	subnet-0200b19a96cf59a81	Available	vpc-0688
<input type="checkbox"/>	-	subnet-07139d11daf1e4ad7	Available	vpc-0688
<input type="checkbox"/>	-	subnet-026e39c635a3f8228	Available	vpc-0688

Select a subnet

Create subnet

VPC Management Console

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

aws Services Search [Alt+S]

Ohio Bhargav L N S N

VPC > Subnets > Create subnet

Create subnet [Info](#)

VPC

VPC ID
Create subnets in this VPC.

vpc-0e212f40ff8fad002 (my-demo-vpc)

Associated VPC CIDRs

IPv4 CIDRs

10.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

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

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VPC Management Console

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

aws Services Search [Alt+S]

Ohio Bhargav L N S N

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

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

Public-SN

The name can be up to 256 characters long.

Availability Zone [Info](#)
Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (Ohio) / us-east-2a

IPv4 CIDR block [Info](#)

10.0.0.1/24

Tags - optional

Key	Value - optional
Name	Public-SN

[Add new tag](#)

You can add 49 more tags.

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Create Subnet

VPC Management Console

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

Subnet 2 of 2

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

Private-SN

The name can be up to 256 characters long.

Availability Zone [Info](#)
Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (Ohio) / us-east-2b

IPv4 CIDR block [Info](#)

10.0.1.0/24

Tags - optional

Remove

Add new subnet

Cancel

Create subnet

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Attach VPC

VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#InternetGateway:internetGatewayId=igw-...

The following internet gateway was created: igw-02bacede5f88e068c - IGW-. You can now attach to a VPC to enable the VPC to communicate with the internet.

Attach to a VPC

VPC > Internet gateways > igw-02bacede5f88e068c

igw-02bacede5f88e068c / IGW-

Actions

Attach to VPC

Detach from VPC

Manage tags

Delete

Details [Info](#)

Internet gateway ID
igw-02bacede5f88e068c

State
Detached

VPC ID
-

Owner
192095846711

Tags

Search tags

Manage tags

1

Attach internet gateway | VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#AttachInternetGateway:internetGateway1...

Services Search [Alt+S]

VPC > Internet gateways > Attach to VPC (igw-02bacede5f88e068c)

Attach to VPC (igw-02bacede5f88e068c) 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

Q vpc-0e212f40ff8fad002

► AWS Command Line Interface command

Cancel **Attach internet gateway**

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Create NAT gateway

VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateNatGateway:

Services Search [Alt+S]

VPC > NAT gateways > Create NAT gateway

Create NAT gateway Info

A highly available, managed Network Address Translation (NAT) service that instances in private subnets can use to connect to services in other VPCs, on-premises networks, or the internet.

NAT gateway settings

Name - optional
Create a tag with a key of 'Name' and a value that you specify.
my-NAT-gateway
The name can be up to 256 characters long.

Subnet
Select a subnet in which to create the NAT gateway.
subnet-01013376a5db29cab (Private-SN)

Connectivity type
Select a connectivity type for the NAT gateway.
☒ Public
☐ Private

Elastic IP allocation ID Info

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VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateNatGateway:

aws Services Search [Alt+S]

Ohio Bhargav L N S N

Elastic IP address 18.218.105.165 (eipalloc-0c6f106f2a1b8648f) allocated.

subnet-01013376a5db29cab (Private-SN)

Connectivity type
Select a connectivity type for the NAT gateway.
☒ Public
☐ Private

Elastic IP allocation ID [Info](#)
Assign an Elastic IP address to the NAT gateway.
eipalloc-0c6f106f2a1b8648f [Allocate Elastic IP](#)

Additional settings [Info](#)

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
Name my-NAT-gateway Remove

Add new tag

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VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#NatGatewayDetails:natGatewayId=nat-03...

aws Services Search [Alt+S]

Ohio Bhargav L N S N

NAT gateway nat-0335861e2a67c7bd6 | my-NAT-gateway was created successfully.

VPC > NAT gateways > nat-0335861e2a67c7bd6

nat-0335861e2a67c7bd6 / my-NAT-gateway

Actions

Details [Info](#)

NAT gateway ID nat-0335861e2a67c7bd6	Connectivity type Public
NAT gateway ARN arn:aws:ec2:us-east-2:192095846711:natgateway/nat-0335861e2a67c7bd6	Primary public IPv4 address -
VPC vpc-0e212f40ff8fad002 / my-demo-vpc	Subnet subnet-01013376a5db29cab / Private-SN
State	State message Info

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Create Route Table

VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateRouteTable:

aws Services Search [Alt+S]

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.

my-route

VPC
The VPC to use for this route table.

vpc-0e212f40ff8fad002 (my-demo-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 my-route X Remove

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Edit Subnet Associations : ADD Subnets to Route Table

VPC Management Console

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#RouteTableDetails:RouteTableId=rtb-0c5810d212dc297cb

aws Services Search [Alt+S]

VPC dashboard X

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

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Route table ID

rtb-0c5810d212dc297cb

Main

No

VPC

vpc-0e212f40ff8fad002 | my-demo-vpc

Owner ID

192095846711

Explicit subnet associations

Edge associations

< Routes Subnet associations Edge associations Route propagation >

Explicit subnet associations (0)

Find subnet association

Edit subnet associations

< 1 > ⚙

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
No subnet associations			
You do not have any subnet associations.			

Edit Route : Add Internet Gateway and NAT gateway

The image shows two screenshots of the AWS VPC Management Console. The top screenshot displays the 'Routes' tab for a specific route table, with the 'Edit routes' button highlighted by a red rectangle. The bottom screenshot shows the 'Edit routes' modal, where a new route is being added. The 'Destination' field is set to '0.0.0.0/0' and the 'Target' field is set to 'igw-02bacede5f88e068d', both highlighted by black rectangles. The 'Status' is 'Active'.

Top Screenshot: Route Table Details

Notification: You have successfully updated subnet associations for rtb-0c5810d212dc297cb / my-route.

rtb-0c5810d212dc297cb

VPC: vpc-0e212f40ff8fad002 | my-demo-vpc

Explicit subnet associations: 2 subnets

Owner ID: 192095846711

Edge associations: -

Routes (1)

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

Edit routes

Bottom Screenshot: Edit routes modal

Destination: 10.0.0.0/16

Target: local

Status: Active

Propagated: No

Edit routes

Destination: 0.0.0.0/0

Target: igw-02bacede5f88e068d

Status: -

Propagated: No

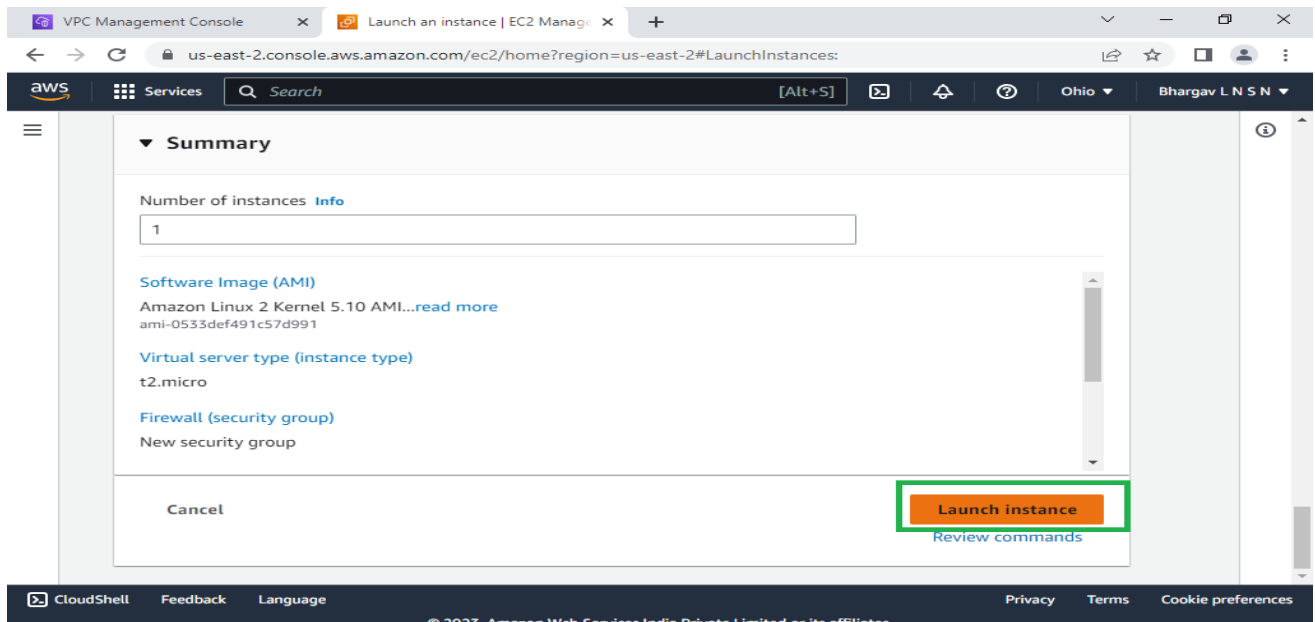
Remove

Add route

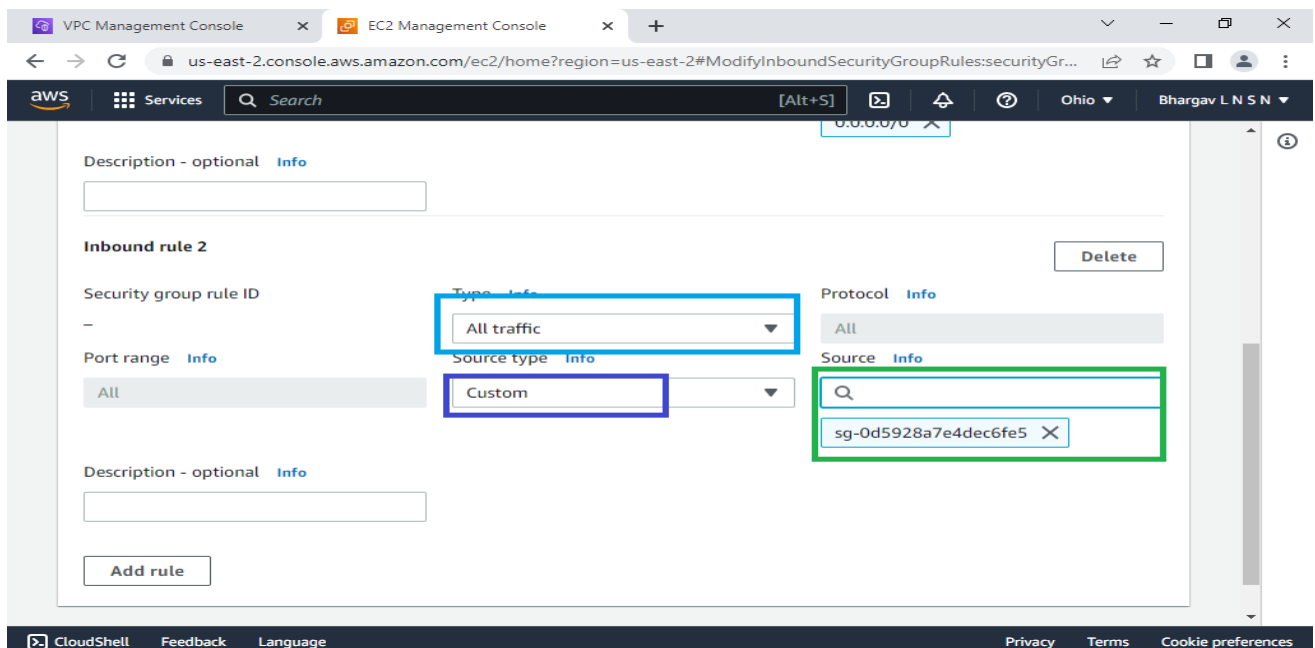
Cancel Preview Save changes

Now launch Instances : Public with Public Subnet and Private with Private Subnet

The screenshot displays the AWS Management Console's 'Launch an instance' wizard. The interface is in the 'us-east-2' region. The 'Name and tags' section has a text input field containing 'Public-Instance'. The 'Application and OS Images (Amazon Machine Image)' section is expanded, showing a search bar. The 'VPC - required' section shows a dropdown menu with 'vpc-0e212f40ff8fad002 (my-demo-vpc)' selected. The 'Subnet info' section shows a dropdown menu with 'subnet-0d4bd032c3d4c024f' selected, which is a public subnet. The 'Auto-assign public IP' section has a dropdown menu with 'Enable' selected. The 'Firewall (security groups)' section has a radio button selected for 'Create security group', and the 'Security group name' is 'launch-wizard-1'. The 'Description - required' section is also visible.



Edit Security Groups: ADD rule



VPC Management Console x EC2 Management Console x +

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#LaunchInstances:

aws Services Search [Alt+S] Ohio Bhargav L N S N

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: Private-Instance [Add additional tags](#)

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents Quick Start

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VPC Management Console x EC2 Management Console x +

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#LaunchInstances:

aws Services Search [Alt+S] Ohio Bhargav L N S N

Network settings Info

VPC - required Info: vpc-0e212f40ff8fad002 (my-demo-vpc) 10.0.0.0/16

Subnet Info: subnet-01013376a5db29cab Private-SN VPC: vpc-0e212f40ff8fad002 Owner: 192095846711 Availability Zone: us-east-2b 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.

☐ Create security group ☒ Select existing security group

Common security groups Info: Select security groups

launch-wizard-1 sg-0d5928a7e4dec6fe5 [Compare security group rules](#)

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VPC Management Console Instances | EC2 Management Console

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#Instances:

aws Services Search [Alt+S]

New EC2 Experience Learn more

EC2 Dashboard
EC2 Global View
Events
Tags
Limits

Instances

Instances

Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations

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keypair.pem Show all

Type here to search

26°C 10:22 AM 4/4/2023

keypair - Notepad

File Edit Format View Help

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpAIBAAKCAQEApgGq86yVnZrQhAKCBHsKoLpXXqvxDhJHEcQVvob1HhC9Ntv
SvUuxao32rgbp4S3sAv0/Z9KjBGxE0BexkiR7Tn2DRvaeNshdxqybEdNqG8khKzJ
AhVw7W1rq1wM195z3pgFJ4etdLLPtZXHh+OvxsV8KdvjnMpfNpgHrn+Sfa1JA1pR
FnJ5GBGXua4pLrp3SCxtX3r7xtu1ooFzU2KRIEWxg6Nto7xYBcLb5HyeIugPjmCr
k8u/k1K9wcs175sK1AQ9rOM+gA0IvGHw61LaGTMi73TaOV+aUbc+wc5+LFnnEa6N
DuIQaTZ6RbHf0No/HWv6j9o7SvXE7NRFD90RwIDAQABAoIBACZu6LHZ7t7MeIeC
pyFG/UhqLn0orvJISyT6uhGQH38EQ11F+1WLJFBk0XodNW6y/0rfyiaZq9zdHEZG
br9Y/zNgG1AygbWPcyNXBwF9Pj+djZjket+GjaX1+gIfWNRhLPh9ap0Ipe2RrQ8
LVaPq98nj1VX94DghPRR/fjcbmd1mkQAxWDLBIfewuaXDDH3GgzL71RnZ5wciM0P
C2ABTesVeozjIdRhwnjgAvbXQqh/GgreNbraW+jzQjy9bFt56sEIHJJjeVRVPX17
A8y8t1uf2FDC/tVgc5PS0+jk7LL7Kb9uIPGFRG6sUBAJ09JZF/Ypn1K8XQV1Ie
Z4UP60ECgYEA70Bt5G+ydZUUNHwhKYzgC7x5RfaCgdVQV20+GKkiSm4hIVzQXAm/
zyJh181j584mM6pVCaroJfbPXPdPD1PDxtv+Xj1P8qrPHkCNytPKIYMw70Ht4ZB
eengC5RoqmZcIr7TzmIM7g8z3If191Qe7tQzUKSGdXp0Y8H7eSGs50cCgYEAjRwM
iKhj62UQD+yHsXa7zhR94yET0DHMRmdR0d9rQpepvJ20j04c+52wghLgB6KQpLFF
t01R7p48cFmCPBYcbU8fNhn0yvjv+brTvv2HNScKXY+0R4M6RvRkJ4MucAYZgt/Ts
Rs19nEa/e1/pTyrNYBGs4M7nYJeo93Jy92BqaECgYEAk7PJsJRX4u8M/0EbaI44
Mfk+4Xo5nH2HkEZYhYYJIMIRFH2MSqe1m6IDwoqQEDemKHcgeVez/jmUyZJIEFX4
8KnCrbws9tK9PU7hw0S+eDEVGgz/n9cuQrerhWzV6rjs4LN+nAutpk+Cdh0jN90E
EMXuz0n1UqTr11ah2ME/zqcCgYBCGd2VNq33IPFsdTuulwHkXnXJ+uMH4e9gzDE
y5AHRdxxSr8FNZGgHxSs1zXtsNjJeMs10AYk291QaJ8TK9MVUAdrVe9uZIFrysP
z9TGK00V0kOf75FiqUj9L1DyZsNEWKNV13NEycnQD6eo0JJun3tYX7ptKGmKKYG
ueC/gQKBgQCav141XcAppRs6vzb+IP2c6PiYPnMbTq8LoPudCf6WYZFX1mT8zojq
e0w1Svstc9LnCH1bjUfu1jyvJoyUS1dIp51cZvtK7KRiUKhrcNzyowCPpJZX5KC
0w1v81Q+dJp2ADwOrOR8xWaH+/pJ2Yrj420AEYwa1AC758hfpdeM1Q==
-----END RSA PRIVATE KEY-----
```

Set the ssh connection from the public instance to private instance

VPC Management Console x Instances | EC2 Management Console x EC2 Instance Connect x

us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-06c94b876324...

aws Services Search [Alt+S] Ohio Bhargav L N S N

```

_ _ | _ _ | _ _
_ _ | ( _ _ | _ _ /
_ _ | \ _ _ | _ _ |

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-0-160 ~]$ sudo su -
[root@ip-10-0-0-160 ~]# vi demo.pem
[root@ip-10-0-0-160 ~]# chmod 400 demo.pem
[root@ip-10-0-0-160 ~]# ssh -i demo.pem ec2-user@10.0.1.167
The authenticity of host '10.0.1.167 (10.0.1.167)' can't be established.
ECDSA key fingerprint is SHA256:4W45sAc3tjNNxGzBoy0+6bc1YOaU7MS+IRJWRLKAVH4.
ECDSA key fingerprint is MD5:59:55:4a:23:bd:71:28:ad:e4:7c:13:78:bf:6b:a4:ea.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.1.167' (ECDSA) to the list of known hosts.

_ _ | _ _ | _ _
_ _ | ( _ _ | _ _ /
_ _ | \ _ _ | _ _ |

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-1-167 ~]$
```

i-06c94b8763244b2e8 (Public-Instance) X

PublicIPs: 18.222.182.90 PrivateIPs: 10.0.0.160

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keypair.pem ^ Show all X