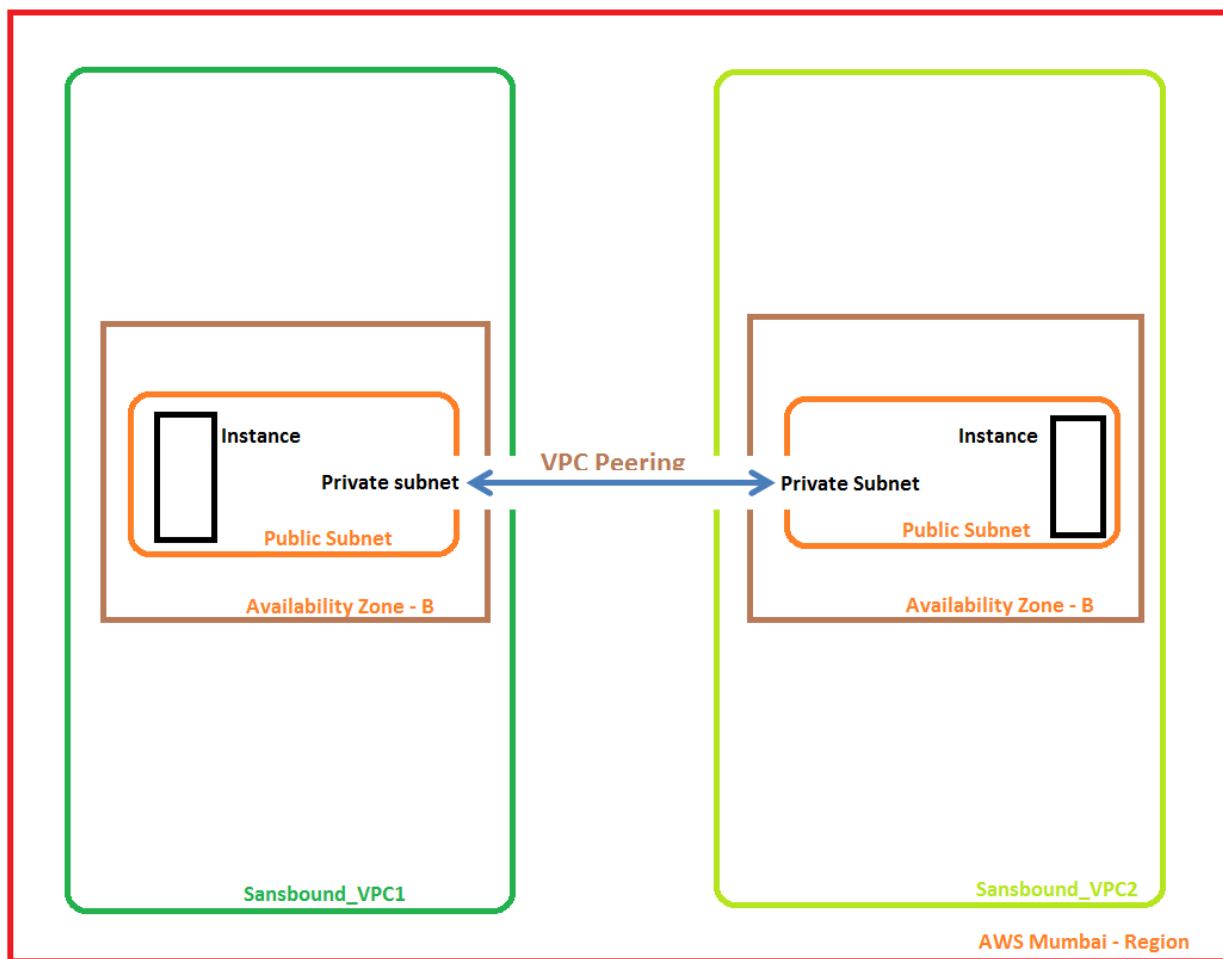


Lab 13

Configure VPC Peering Between two VPC's – 1 of 3

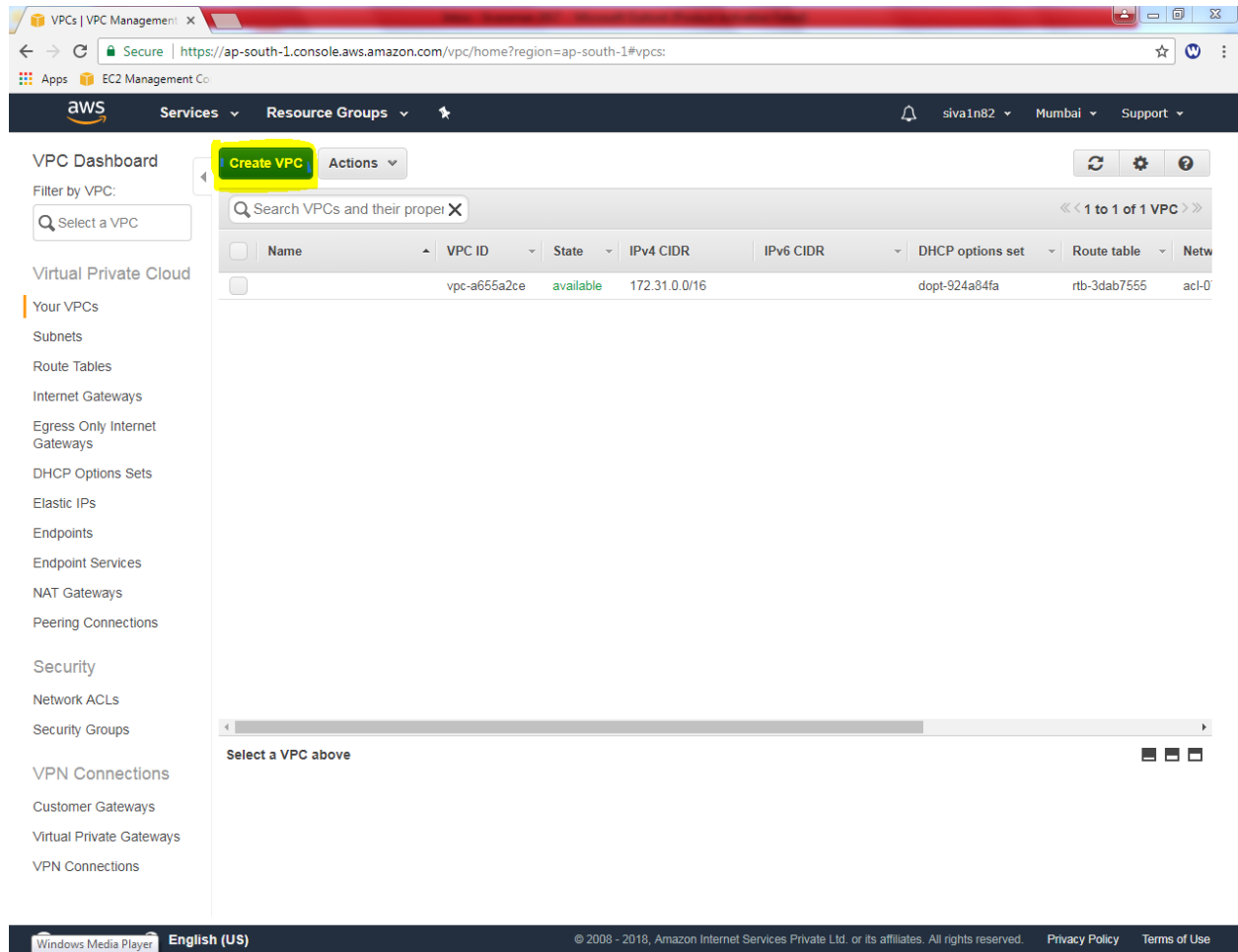
Scenario:



By default same regions VPC's are not communicate, hence we have required to configure VPC Peering for that.

Got to VPC Dashboard,

Click “Create VPC”



The screenshot shows the AWS VPC Dashboard in a web browser. The browser's address bar displays the URL: <https://ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#vpcs:>. The AWS navigation bar at the top includes the AWS logo, 'Services', 'Resource Groups', and user information (siva1n82, Mumbai, Support). The left-hand navigation pane lists various VPC resources: 'Your VPCs', 'Subnets', 'Route Tables', 'Internet Gateways', 'Egress Only Internet Gateways', 'DHCP Options Sets', 'Elastic IPs', 'Endpoints', 'Endpoint Services', 'NAT Gateways', 'Peering Connections', 'Security', 'Network ACLs', 'Security Groups', 'VPN Connections', 'Customer Gateways', 'Virtual Private Gateways', and 'VPN Connections'. The main content area is titled 'VPC Dashboard' and features a 'Filter by VPC:' dropdown set to 'Select a VPC'. A search bar is present with the placeholder text 'Search VPCs and their properties'. Below the search bar, a table lists VPCs. The first entry is highlighted with a yellow box, showing the 'Create VPC' button. The table has columns for Name, VPC ID, State, IPv4 CIDR, IPv6 CIDR, DHCP options set, Route table, and Network ACL. The first row shows a VPC with ID 'vpc-a655a2ce', State 'available', IPv4 CIDR '172.31.0.0/16', DHCP options set 'dopt-924a84fa', Route table 'rtb-3dab7555', and Network ACL 'acl-0'.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Route table	Network ACL
	vpc-a655a2ce	available	172.31.0.0/16		dopt-924a84fa	rtb-3dab7555	acl-0

While creating VPC, Name tag “Sansbound_VPC1”

IPv4 CIDR block as 10.0.0.0/16 subnet.

Create VPC ✕

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 ⓘ

IPv4 CIDR block* ⓘ

IPv6 CIDR block* ☒ No IPv6 CIDR Block ⓘ
☐ Amazon provided IPv6 CIDR block

Tenancy ⓘ

[Cancel](#) [Yes, Create](#)

Then click “Yes, create”.

Then we need to create subnet for the Sansbound_VPC1.

In VPC Dashboard, click Subnet, then click “create subnet”.

While creating subnet,

Name tag as “Sansbound_VPC1_Public_Subnet”.

VPC as Sansbound_VPC1.

Availability Zone – 1B (Optional)

IPv4 CIDR Block – 10.0.2.0/24 subnet.

Create Subnet

Use the CIDR format to specify your subnet's IP address block (e.g., 10.0.0.0/24). Note that block sizes must be between a /16 netmask and /28 netmask. Also, note that a subnet can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag

VPC

VPC CIDRs	CIDR	Status	Status Reason
	10.0.0.0/16	associated	

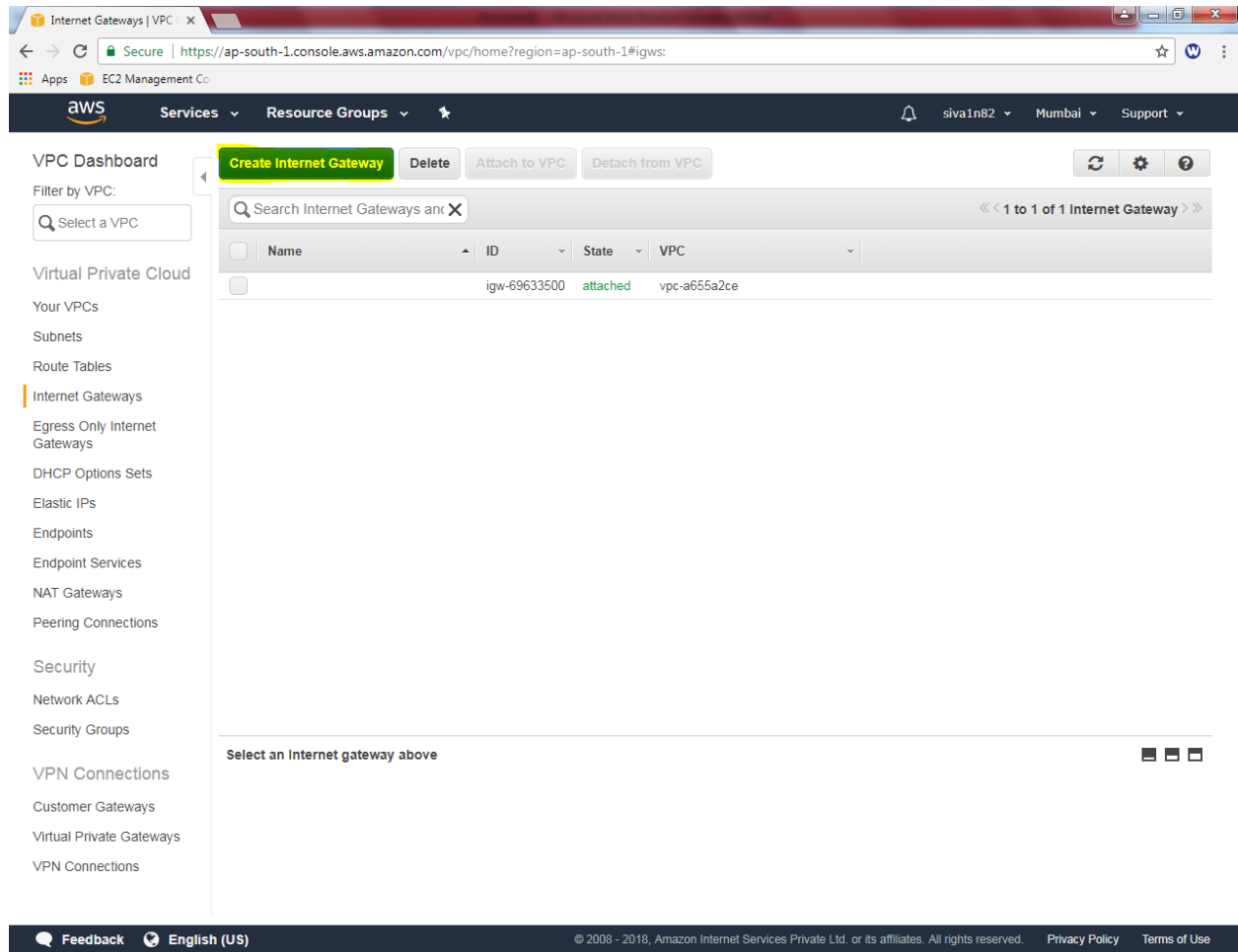
Availability Zone

IPv4 CIDR block

[Cancel](#) [Yes, Create](#)

Then Click “Yes, create”.

Then we need to create an internet gateway, click “create Internet Gateway”.



While creating internet gateway Name tag as “Sansbound_VPC1_IGW”.

Create Internet Gateway

An Internet gateway is a virtual router that connects a VPC to the Internet.

Name tag

[Cancel](#) [Yes, Create](#)

It shows, IGW in detached state, we need to attach VPC.

Internet Gateways | VPC

Secure | <https://ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#igws>

Apps EC2 Management Co

aws Services Resource Groups

siva1n82 Mumbai Support

VPC Dashboard

Filter by VPC:

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

Security

Network ACLs

Security Groups

VPN Connections

Customer Gateways

Virtual Private Gateways

VPN Connections

Create Internet Gateway Delete Attach to VPC Detach from VPC

Search Internet Gateways and

<< 1 to 2 of 2 Internet Gateways >>

	Name	ID	State	VPC
<input type="checkbox"/>		igw-69633500	attached	vpc-a655a2ce
<input checked="" type="checkbox"/>	Sansbound_VPC1_IGW	igw-c5b393ac	detached	

igw-c5b393ac | Sansbound_VPC1_IGW

Summary Tags

ID: igw-c5b393ac | Sansbound_VPC1_IGW

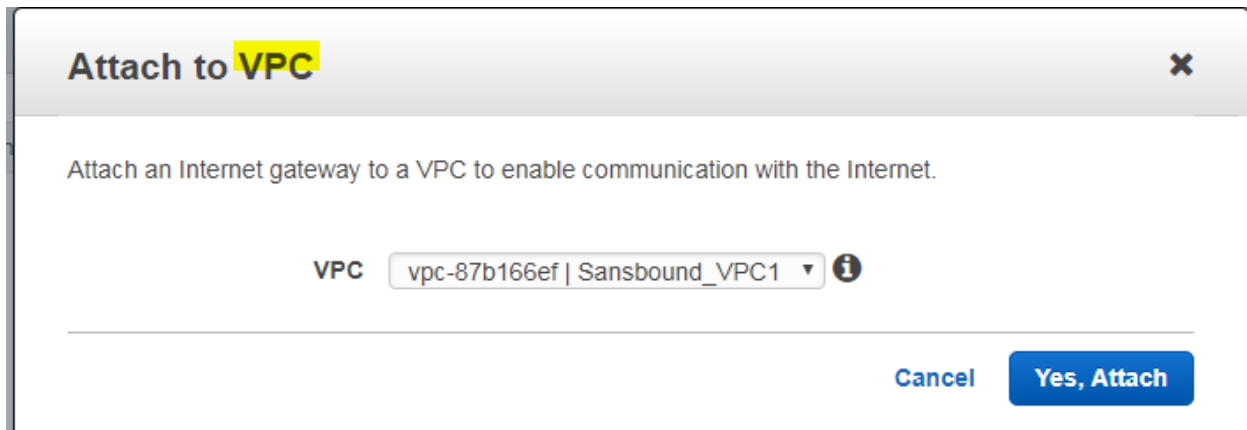
State: detached

Attached VPC ID:

Attachment state:

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Click "Yes, Attach".

Rename the Sansbound_VPC1 route table as sansbound-public_route.

The screenshot shows the AWS Management Console interface for the VPC Dashboard. The left sidebar contains a navigation menu with options like 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, Security, Network ACLs, Security Groups, VPN Connections, Customer Gateways, Virtual Private Gateways, and VPN Connections. The main content area displays a list of Route Tables. The first route table, 'rtb-56d6533e', is selected and highlighted. Below the list, the details for this route table are shown, including its ID, Main status (yes), and the VPC it is associated with (vpc-87b166ef | Sansbound_VPC1).

Name	Route Table ID	Explicitly Associat	Main	VPC
<input checked="" type="checkbox"/>	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
<input type="checkbox"/>	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
<input type="checkbox"/>	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

rtb-56d6533e

Summary | Routes | Subnet Associations | Route Propagation | Tags

Route Table ID: rtb-56d6533e
Main: yes
Explicitly Associated With: 0 Subnets
VPC: vpc-87b166ef | Sansbound_VPC1

In Sansbound_Public_route table, select route tab then click “Edit” option.

The screenshot shows the AWS VPC console interface. The left sidebar contains a navigation menu with categories like VPC Dashboard, Virtual Private Cloud, Security, and VPN Connections. The main content area displays a list of Route Tables. The 'Sansbound_public_route' table is selected, and the 'Routes' tab is active. The 'Edit' button is highlighted in yellow. Below the tabs, a table shows the route details for the selected route table.

Name	Route Table ID	Explicitly Associat	Main	VPC
Sansbound_public_route	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

Click “Add another route” button.

The screenshot shows the AWS VPC Dashboard with the 'Route Tables' section selected. The 'Sansbound_public_route' is highlighted in the list. The 'Routes' tab is active, showing a single route for destination 10.0.0.0/16. The 'Add another route' button is visible at the bottom of the route list.

Route Tables List:

Name	Route Table ID	Explicitly Associat	Main	VPC
Sansbound_public_route	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

Route Details for rtb-56d6533e | Sansbound_public_route:

Summary | **Routes** | Subnet Associations | Route Propagation | Tags

Cancel Save

View: All rules

Destination	Target	Status	Propagated	Remove
10.0.0.0/16	local	Active	No	

Add another route

Add default route 0.0.0.0/0 and select "igw-*" as target.

The screenshot shows the AWS Management Console interface for the 'Route Tables' section. The left sidebar contains a navigation menu with options like 'VPC Dashboard', 'Virtual Private Cloud', 'Security', 'VPN Connections', etc. The main content area displays a list of route tables. The 'Sansbound_public_route' (rtb-56d6533e) is selected, and its 'Routes' tab is active. Below the tabs, there are 'Cancel' and 'Save' buttons. The 'Routes' table shows a single route with the destination '0.0.0.0/0' and target 'igw-c5b393ad'. The 'Save' button is highlighted in yellow.

Name	Route Table ID	Explicitly Associat	Main	VPC
<input checked="" type="checkbox"/> Sansbound_public_route	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
<input type="checkbox"/>	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
<input type="checkbox"/>	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

Destination	Target	Status	Propagated	Remove
10.0.0.0/16	local	Active	No	
0.0.0.0/0	igw-c5b393ad	No	No	✖

Then click "save".

Then we need to associate the subnet. Click "Subnet associations" tab, then click "Edit" option.

The screenshot shows the AWS Management Console interface for Route Tables. The left sidebar contains a navigation menu with categories like Virtual Private Cloud, Security, and VPN Connections. The main content area displays a list of route tables. The 'Sansbound_public_route' is selected, and its details are shown in the lower section. The 'Subnet Associations' tab is active, showing a table with columns for Subnet, IPv4 CIDR, and IPv6 CIDR. The 'Edit' button is highlighted with a yellow box.

Route Tables List:

Name	Route Table ID	Explicitly Associat-	Main	VPC
Sansbound_public_route	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

rtb-56d6533e | Sansbound_public_route

Summary Routes **Subnet Associations** Route Propagation Tags

Edit

You do not have any subnet associations.

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

Subnet	IPv4 CIDR	IPv6 CIDR
subnet-f9b9b5b4 Sansbound_VPC1_Public_Subnet	10.0.2.0/24	-

Select option check box option to select “sansbound_VPC1_Public_subnet”.

The screenshot shows the AWS Management Console interface for the 'Route Tables' section. The left sidebar contains a navigation menu with categories like VPC Dashboard, Virtual Private Cloud, Security, and VPN Connections. The main content area displays a list of route tables. Below this, the 'Subnet Associations' tab is selected for the route table 'rtb-56d6533e | Sansbound_public_route'. A table lists the subnet associations, with the first row highlighted. The 'Save' button is highlighted with a yellow box.

Name	Route Table ID	Explicitly Associat	Main	VPC
Sansbound_public_route	rtb-56d6533e	0 Subnets	Yes	vpc-87b166ef Sansbound_VPC1
	rtb-91b209f9	0 Subnets	No	vpc-a655a2ce
	rtb-3dab7555	0 Subnets	Yes	vpc-a655a2ce

Associate	Subnet	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/>	subnet-f9b9b5b4 Sansbound_VPC1_Public_Subnet	10.0.2.0/24	-	Main

Then click “Save”.

Then we need to create an instance for VPC1. Click “Launch Instance”.

The screenshot displays the AWS Management Console interface for the EC2 service. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information. The left sidebar lists various AWS services, with 'INSTANCES' and 'Instances' highlighted. The main content area shows a list of EC2 instances. A table lists the instance details, and a detailed view for a specific instance is shown below.

Launch Instance (highlighted in yellow) | **Connect** | **Actions**

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
VPC2 Public ...	i-0d3d628b1c1bebc11	t2.micro	ap-south-1b	running	Initializing	None	

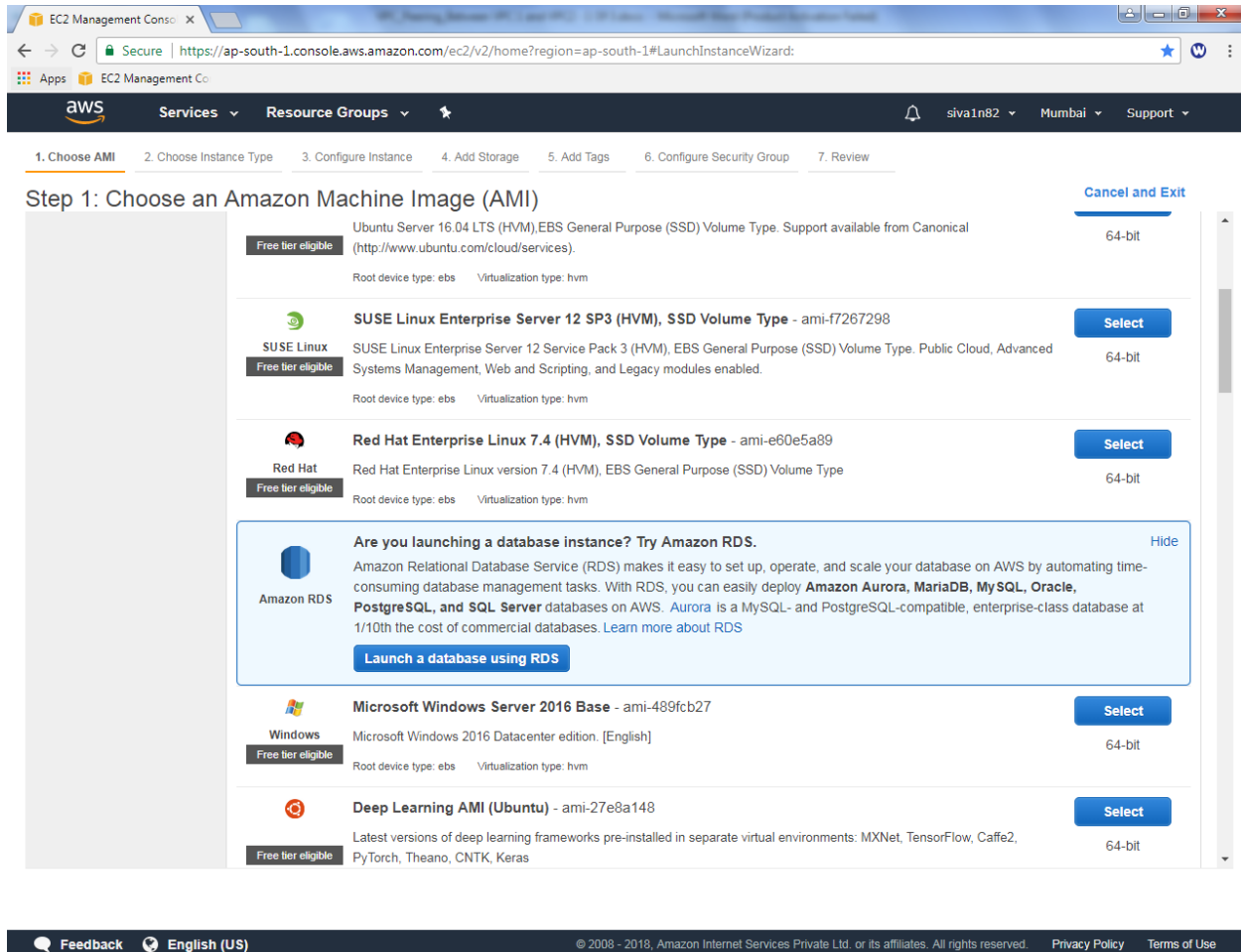
Instance: i-0d3d628b1c1bebc11 (VPC2 Public Instance) | **Public IP: 13.126.233.75**

Description | **Status Checks** | **Monitoring** | **Tags**

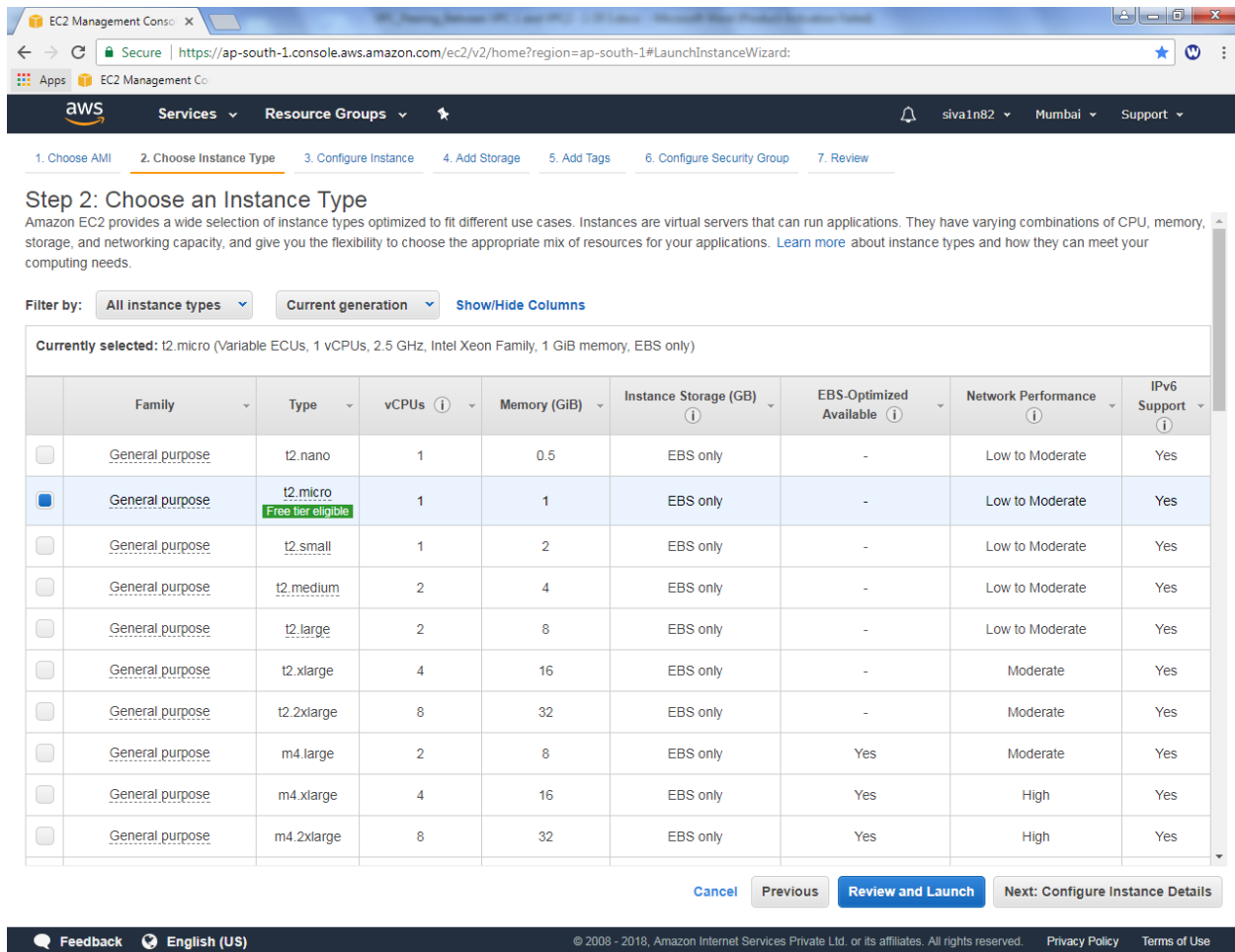
Instance ID	i-0d3d628b1c1bebc11	Public DNS (IPv4)	-
Instance state	running	IPv4 Public IP	13.126.233.75
Instance type	t2.micro	IPv6 IPs	-
Elastic IPs		Private DNS	ip-192-168-2-35.ap-south-1.compute.internal
Availability zone	ap-south-1b	Private IPs	192.168.2.35
Security groups	VPC2_Security_Public_Sec_Group	Secondary private IPs	

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Select “Microsoft Windows server 2016 Base” option.



Select “t2 micro”



Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: **All instance types** **Current generation** [Show/Hide Columns](#)

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	m4.large	2	8	EBS only	Yes	Moderate	Yes
<input type="checkbox"/>	General purpose	m4.xlarge	4	16	EBS only	Yes	High	Yes
<input type="checkbox"/>	General purpose	m4.2xlarge	8	32	EBS only	Yes	High	Yes

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

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Click “Next”.

Select Network as Sansbound_VPC1

Subnet : Sansbound_VPC1_public_Subnet

Auto Assign Public IP: Enable.

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 [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)
251 IP Addresses available

Auto-assign Public IP

IAM role [Create new IAM role](#)

Shutdown behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy
[Additional charges will apply for dedicated tenancy.](#)

T2 Unlimited ☐ Enable
[Additional charges may apply](#)

Network interfaces

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

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Click “Next”.

Leave default and click “Next”.

The screenshot shows the AWS Management Console interface for the 'Launch Instance Wizard'. The browser address bar indicates the URL: <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>. The console header shows the user is logged in as 'siva1n82' in the 'Mumbai' region. The navigation bar includes 'Services' and 'Resource Groups'. The wizard progress bar shows seven steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage (current step), 5. Add Tags, 6. Configure Security Group, and 7. Review.

Step 4: Add Storage

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

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/sda1	snap-0316734ece99acb1a	30	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

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

At the bottom of the wizard, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Add Tags'.

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Name: VPC1 Public Instance

The screenshot shows the AWS Management Console interface for the 'Launch Instance Wizard'. The browser address bar shows the URL: `https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard`. The console header includes the AWS logo, 'Services' and 'Resource Groups' dropdowns, and user information 'siva1n82' in 'Mumbai'. The wizard progress bar shows seven steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Add Tags (active), 6. Configure Security Group, and 7. Review.

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 ⁱ	Volumes ⁱ
Name	VPC1 Public Instance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(Up to 50 tags maximum)

At the bottom of the wizard, there are four buttons: 'Cancel' (disabled), 'Previous' (disabled), 'Review and Launch' (active), and 'Next: Configure Security Group' (disabled).

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Click “Next”.

Create a new security group for VPC1, as VPC1_Public_Sec_Group.

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>

Apps EC2 Management Co

Services Resource Groups

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

Step 6: Configure Security Group

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

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

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
RDP	TCP	3389	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

Add Rule

Warning

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

Cancel Previous **Review and Launch**

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Click “Review and Launch”.

Select the keypair the launch the machine.

Select an existing key pair or create a new key pair ✕

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair ▼

Select a key pair

siva2k16 ▼

☒ I acknowledge that I have access to the selected private key file (siva2k16.pem), and that without this file, I won't be able to log into my instance.

Cancel

Launch Instances

Click launch instance to run the machine.