

School of Computer Science, Engineering and Applications (SCSEA)

B. Tech TY (CCSA)

Subject: Cloud Architecture And Protocol

Name of the Student: Sahil S. Mandawgade

PRN: 20220802265

**Title of Practical: 6. AWS Transit Gateway: Centralized VPC
Connectivity and Network Management.**

Step 1:- Create Three VPCs & connect an Internet gateway to the Public VPC.

- Search for VPC on AWS Console.
- Select VPC.
- Create First VPC with the name "VPC1-BastionHost-2265" with CIDR - "10.0.0.0/16".
- Create Second VPC with the name "VPC2-Private-2265" with CIDR-"11.0.0.0/16".
- Create Third VPC with the name "VPC3-Private-2265" with CIDR-"12.0.0.0/16".

Create VPC [Info](#)

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

VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☒ VPC only

☐ VPC and more

Name tag - optional

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

VPC1-BastionHost-2265

IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input

☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR

10.0.0.0/16

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me



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VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☒ VPC only

☐ VPC and more

Name tag - optional

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

VPC2-Private-2265

IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input

☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR

11.0.0.0/16

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

Create VPC [Info](#)

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

VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☒ VPC only

☐ VPC and more

Name tag - optional

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

VPC3-Private-2265

IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input

☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR

12.0.0.0/16

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

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- Create an Internet Gateway with name "IGW-2265".
- Then attach it to the Public VPC.

Attach to VPC (igw-0db35bc3efb189fc2) [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.

×

Use: "vpc-029cc8ff7cb8dfbe4"

vpc-046da47d5074a42e5 - VPC3-Private-2265

vpc-0e90e5d5e194c3afc - VPC2-Private-2265

vpc-029cc8ff7cb8dfbe4 - VPC1-BastionHost-2265

[Cancel](#) [Attach internet gateway](#)

Step 2:- Create one Subnet for each VPC.

- Create a Subnet for the First VPC.
- Select VPC – 'VPC1-BastionHost-2265'.
- Set name of the Subnet as "PubSub-2265" and IPv4 range as "10.0.1.0/24".

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.

PubSub-2265

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.

No preference

IPv4 VPC CIDR block [Info](#)

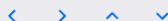
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

10.0.0.0/16

IPv4 subnet CIDR block

10.0.1.0/24

256 IPs



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- Create a Subnet for the Second VPC.
- Select VPC – ‘VPC2-Private-2265’.
- Set name of the Subnet as “PvtSub-1-2265” and IPv4 range as “11.0.1.0/24”.

Subnet 1 of 1

Subnet name

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

PvtSub-1-2265

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.

No preference

IPv4 VPC CIDR block [Info](#)

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

11.0.0.0/16

IPv4 subnet CIDR block

11.0.1.0/24

< > ^ v

- Create a Subnet for the First VPC.
- Select VPC – ‘VPC3-Private-2265’.
- Set name of the Subnet as “PvtSub-2-2265” and IPv4 range as “12.0.1.0/24”.

Subnet 1 of 1

Subnet name

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

PvtSub-2-2265

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.

No preference

IPv4 VPC CIDR block [Info](#)

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

12.0.0.0/16

IPv4 subnet CIDR block

12.0.1.0/24

< > ^ v

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Step 3:- Create Three Route tables and associate them with each Subnet.

- Create a Route Table with name 'PublicRT-2265' for VPC 1 i.e. 'VPC1-BastionHost-2265'.
- Associate it with the Public Subnet – 'PubSub-2265'.
- Now, go to "Edit Routes" and add Internet Gateway 'IGW-2265' in Public 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.

PublicRT-2265

VPC

The VPC to use for this route table.

vpc-029cc8ff7cb8dfbe4 (VPC1-BastionHost-2265)

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 y

Key

Q Name

Value - optional

Q PublicRT-2265

[Add new tag](#)

You can add 49 more tags.

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/1)

Q Filter subnet associations

<input checked="" type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	PubSub-2265	subnet-01c89994c5d88e4d8	10.0.1.0/24	-	Main (rtb-01c6ec

Selected subnets

subnet-01c89994c5d88e4d8 / PubSub-2265

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Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="local"/>	-	No
	<input type="text" value="Internet Gateway"/>		
	<input type="text" value="igw-"/>		

[Add route](#) [Cancel](#) [Preview](#) [Save changes](#)

- Create another Route Table with name “PrivateRT-1-2265” for VPC 2 i.e. – ‘VPC2-Private-2265’.
- Associate it with the Private Subnet – ‘PvtSub-1-2265’.

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.

PrivateRT-1-2265

VPC

The VPC to use for this route table.

vpc-0e90e5d5e194c3afc (VPC2-Private-2265)

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 y

Key

Value - optional

[Add new tag](#)

You can add 49 more tags.

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/1)

<input checked="" type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
<input checked="" type="checkbox"/>	PvtSub-1-2265	subnet-0101523a1eed3a41	11.0.1.0/24	-

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- Create another Route Table with name “PrivateRT-2-2265” for VPC 2 i.e. – ‘VPC3-Private-2265’.
- Associate it with the Private Subnet – ‘PvtSub-2-2265’.

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.

PrivateRT-2-2265

VPC

The VPC to use for this route table.

vpc-046da47d5074a42e5 (VPC3-Private-2265)

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 y

Key

Q Name



Value - optional

Q PrivateRT-2-2265

Add new tag

You can add 49 more tags.

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/1)

Q Filter subnet associations

<input checked="" type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
<input checked="" type="checkbox"/>	PvtSub-2-2265	subnet-0640630824d9310f2	12.0.1.0/24	-

Selected subnets

subnet-0640630824d9310f2 / PvtSub-2-2265



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**Step 4: Allow “Enable DNS Hostname” in VPCs and Create Three Security Groups
(One Public and Two Private).**

- Select the Public VPC – ‘VPC1-BastionHost-2265’ and go to ‘Edit VPC settings’ and under ‘DNS setting’ tick “Enable DNS hostnames”, **also repeat this for the other two VPCs.**

Edit VPC settings [Info](#)

VPC details

VPC ID

vpc-029cc8ff7cb8dfbe4

Name

VPC1-BastionHost-2265

DHCP settings

DHCP option set [Info](#)

dopt-07ec6aa04749424cd

DNS settings

☒ Enable DNS resolution [Info](#)

☒ Enable DNS hostnames [Info](#)

- Create a Public Security Group with name ‘PublicSG-2265’.
- Select VPC – ‘VPC1-BastionHost-2265’ and add three inbound rules (SSH, HTTP, HTTPS) with source as “Anywhere IPv4” for all three rules.

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Create security group [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name [Info](#)

PublicSG-2265

Name cannot be edited after creation.

Description [Info](#)

Allow SSH, HTTP, HTTPS.

VPC [Info](#)

vpc-029cc8ff7cb8dfbe4 (VPC1-BastionHost-2265)

Inbound rules [Info](#)

Type [Info](#)

SSH

Protocol [Info](#)

TCP

Port range [Info](#)

22

Source [Info](#)

Anywhe...

Q

0.0.0.0/0 X

HTTP

TCP

80

Anywhe...

Q

0.0.0.0/0 X

HTTPS

TCP

443

Anywhe...

Q

0.0.0.0/0 X

Add rule

- Create a Private Security Group with name 'PrivateSG-1-2265'.
- Select VPC – 'VPC2-Private-2265' and give four inbound rules (SSH, HTTP, SSH, HTTP) with source as CIDR of other two VPCs (i.e. "10.0.0.0/16" & "12.0.0.0/16").

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Create security group [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name [Info](#)

PrivateSG-1-2265

Name cannot be edited after creation.

Description [Info](#)

Allow SSH and HTTP

VPC [Info](#)

vpc-0e90e5d5e194c3afc (VPC2-Private-2265)

Inbound rules [Info](#)

Type [Info](#)

SSH

Protocol [Info](#)

TCP

Port range [Info](#)

22

Source [Info](#)

Custom

Q 10.0.0.0/16

10.0.0.0/16

HTTP

TCP

80

Custom

Q 10.0.0.0/16

10.0.0.0/16

SSH

TCP

22

Custom

Q 12.0.0.0/16

12.0.0.0/16

HTTP

TCP

80

Custom

Q 12.0.0.0/16

12.0.0.0/16

- Create a Private Security Group with name 'PrivateSG-2-2265'.
- Select VPC - 'VPC3-Private-2265' and give four inbound rules (SSH, HTTP, SSH, HTTP) with source as CIDR of other two VPCs (i.e. "10.0.0.0/16" & "11.0.0.0/16").

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Create security group [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name [Info](#)

PrivateSG-2-2265

Name cannot be edited after creation.

Description [Info](#)

Allow SSH and HTTP

VPC [Info](#)

vpc-046da47d5074a42e5 (VPC3-Private-2265)

Inbound rules [Info](#)

Type [Info](#)

SSH

Protocol [Info](#)

TCP

Port range [Info](#)

22

Source [Info](#)

Custom

10.0.0.0/16

10.0.0.0/16

HTTP

TCP

80

Custom

10.0.0.0/16

10.0.0.0/16

SSH

TCP

22

Custom

11.0.0.0/16

11.0.0.0/16

HTTP

TCP

80

Custom

11.0.0.0/16

11.0.0.0/16

Step 5:- Create Transit Gateway & Transit Gateway Attachments.

- Create a Transit Gateway named "TG-2265".

Create transit gateway [Info](#)

A transit gateway (TGW) is a network transit hub that interconnects attachments (VPCs and VPNs) within the same AWS account or across AWS accounts.

Details - optional

Name tag

Creates a tag with the key set to Name and the value set to the specified string.

TG-2265

Description [Info](#)

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- Now create the First Transit Gateway Attachment named "VPC1-to-TG".
- Select the First VPC – 'VPC1-BastionHost-2265' in VPC ID.

Create transit gateway attachment [Info](#)

A transit gateway (TGW) is a network transit hub that interconnects attachments (VPCs and VPNs) within the same AWS account or a

Details

Name tag - *optional*

Creates a tag with the key set to Name and the value set to the specified string.

VPC1-to-TG

Transit gateway ID [Info](#)

tgw-09164cc08971ecb1e

Attachment type [Info](#)

VPC

VPC attachment

Select and configure your VPC attachment.

☒ DNS support [Info](#)

☒ Security Group Referencing support [Info](#)

☐ IPv6 support [Info](#)

☐ Appliance Mode support [Info](#)

VPC ID

Select the VPC to attach to the transit gateway.

vpc-029cc8ff7cb8dfbe4

- Now create the Second Transit Gateway Attachment named "VPC2-to-TG".
- Select the Second VPC – 'VPC2-Private-2265' in VPC ID.



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Create transit gateway attachment [Info](#)

A transit gateway (TGW) is a network transit hub that interconnects attachments (VPCs and VPNs) within the same AWS account or :

Details

Name tag - optional

Creates a tag with the key set to Name and the value set to the specified string.

VPC2-to-TG

Transit gateway ID [Info](#)

tgw-09164cc08971ecb1e

Attachment type [Info](#)

VPC

VPC attachment

Select and configure your VPC attachment.

☒ DNS support [Info](#)

☒ Security Group Referencing support [Info](#)

☐ IPv6 support [Info](#)

☐ Appliance Mode support [Info](#)

VPC ID

Select the VPC to attach to the transit gateway.

vpc-0e90e5d5e194c3afc

- Now create the Third Transit Gateway Attachment named "VPC3-to-TG".
- Select the Third VPC – 'VPC3-Private-2265' in VPC ID.



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Create transit gateway attachment [Info](#)

A transit gateway (TGW) is a network transit hub that interconnects attachments (VPCs and VPNs) within the same AWS account o

Details

Name tag - optional

Creates a tag with the key set to Name and the value set to the specified string.

VPC3-to-TG

Transit gateway ID [Info](#)

tgw-09164cc08971ecb1e

Attachment type [Info](#)

VPC

VPC attachment

Select and configure your VPC attachment.

☒ DNS support [Info](#)

☒ Security Group Referencing support [Info](#)

☐ IPv6 support [Info](#)

☐ Appliance Mode support [Info](#)

VPC ID

Select the VPC to attach to the transit gateway.

vpc-046da47d5074a42e5

Step 6:- Add Transit Gateway Routes in all three Route Tables.

- In Public Route table (PublicRT-2265) add two routes with Destination as "11.0.0.0/16" & "12.0.0.0/16" with target "Transit Gateway" for both.



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Edit routes

Destination	Target	Status
10.0.0.0/16	local	Active
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="local"/>	
	Internet Gateway	Active
<input type="text" value="11.0.0.0/16"/>	<input type="text" value="igw-0db35bc3efb189fc2"/>	
	Transit Gateway	-
<input type="text" value="12.0.0.0/16"/>	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Transit Gateway	-
	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Use: "tgw-09164cc08971ecb1e"	
	tgw-09164cc08971ecb1e (VPC1-to-TG)	

- In Private Route table 1 (PrivateRT-1-2265) add two routes with Destination as "10.0.0.0/16" & "12.0.0.0/16" with target "Transit Gateway" for both.

Edit routes

Destination	Target	Status
11.0.0.0/16	local	Active
<input type="text" value="10.0.0.0/16"/>	<input type="text" value="local"/>	
	Transit Gateway	-
<input type="text" value="12.0.0.0/16"/>	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Transit Gateway	-
	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Use: "tgw-09164cc08971ecb1e"	
	tgw-09164cc08971ecb1e (VPC2-to-TG)	

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- In Private Route table 2 (PrivateRT-2-2265) add two routes with Destination as "10.0.0.0/16" & "11.0.0.0/16" with target "Transit Gateway" for both.

Edit routes

Destination	Target	Status
12.0.0.0/16	local	Active
<input type="text" value="10.0.0.0/16"/>	<input type="text" value="local"/>	
<input type="text" value="11.0.0.0/16"/>	Transit Gateway	-
	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Transit Gateway	-
	<input type="text" value="tgw-09164cc08971ecb1e"/>	
	Use: "tgw-09164cc08971ecb1e"	
	tgw-09164cc08971ecb1e (VPC3-to-TG)	

Step 7:- Launch Three EC2 Instances with one in each VPC.

- Go to EC2 console and click on 'Launch Instances'.
- Name the public instance – 'BastionHost-2265'.
- Select AMI as 'Amazon Linux' and under that select 'Amazon Linux 2 AMI (HVM)'.

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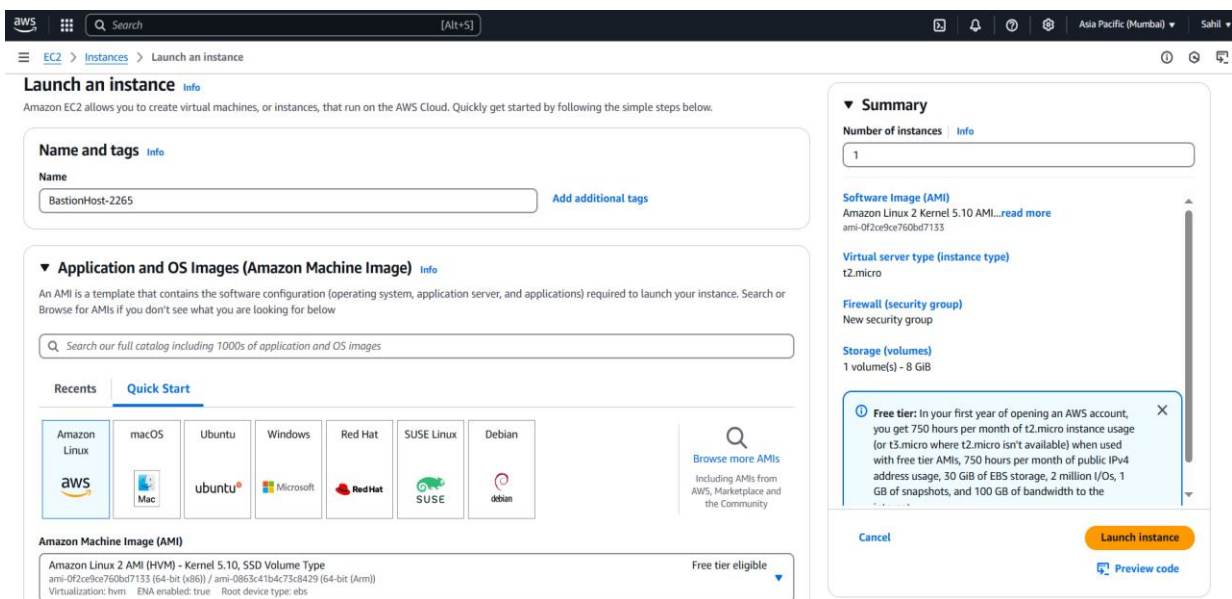
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Launch an instance Info

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: BastionHost-2265 [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

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux Debian

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
ami-0f2ce9ce760bd7133 (64-bit (x86)) / ami-0863c41b4c73c8429 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs Free tier eligible

Summary

Number of instances: 1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0f2ce9ce760bd7133

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (for t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the

Cancel [Launch instance](#) [Preview code](#)

- Now, select Key Pair.
- Under Network settings – select the Public VPC 'VPC1-BastionHost-2265'.
- Select Subnet as 'PubSub-2265'.
- Enable auto-assign public IP.
- For Security group, select the public SG we created earlier i.e. 'PublicSG-2265'.

School of Computer Science, Engineering and Applications (SCSEA)

B. Tech TY (CCSA)

Subject: Cloud Architecture And Protocol

Name of the Student: Sahil S. Mandawgade

PRN: 20220802265

Title of Practical: 6. AWS Transit Gateway: Centralized VPC Connectivity and Network Management.

▼ **Network settings** [Info](#)

VPC - required | [Info](#)

vpc-029cc8ff7cb8dfbe4 (VPC1-BastionHost-2265)
10.0.0.0/16



Subnet | [Info](#)

subnet-01c89994c5d88e4d8 PubSub-2265
VPC: vpc-029cc8ff7cb8dfbe4 Owner: 908027405956 Availability Zone: ap-south-1a
Zone type: Availability Zone IP addresses available: 250 CIDR: 10.0.1.0/24



[Create new subnet](#)

Auto-assign public IP | [Info](#)

Enable

[Additional charges apply](#) when outside of [free tier allowance](#)

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

PublicSG-2265 sg-0f2ce5e8e3a7c7e44 X
VPC: vpc-029cc8ff7cb8dfbe4



[Compare security group rules](#)

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

- In Advanced details, in 'User data' write the following script:
#!/bin/bash
sudo yum update -y
sudo yum install httpd -y
systemctl start httpd
systemctl enable httpd
echo "<h1>Welcome to Transit Gateway – 2265</h1>" >var/www/html/index.html



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User data - *optional* | [Info](#)

Upload a file with your user data or enter it in the field.

[Choose file](#)

```
#!/bin/bash
sudo yum update -y
sudo yum install httpd -y
systemctl start httpd
systemctl enable httpd
echo "<h1>Welcome to Transit Gateway - 2265</h1>" >var/www/html/index.html
```

- Launch the instance.
- Now, launch two more EC2 Instances with other 2 VPCs. (Private Instances)
- Name the first Private Instance – ‘PvtInstance-1-2265’.
- Select AMI as ‘Amazon Linux’ and under that select ‘Amazon Linux 2 AMI (HVM)’.
- Now, select Key Pair.
- Under Network settings – select the Private VPC 1 ‘VPC2-Private-2265’.
- Select Private Subnet 1 - ‘PvtSub-1-2265’.
- For Security group, select the Private SG we created earlier i.e. ‘PrivateSG-1-2265’.
- Launch the instance.

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Connectivity and Network Management.

Launch an instance [Info](#)

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

PvtInstance-1-2265

[Add additional tags](#)

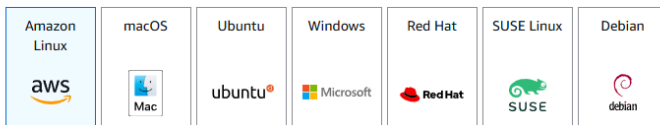
▼ Application and OS Images (Amazon Machine Image) [Info](#)

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

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

Recents

Quick Start



[Browse more AMIs](#)
Including AMIs from
AWS, Marketplace and
the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
ami-0f2ce9ce760bd7133 (64-bit (x86)) / ami-0863c41b4c73c8429 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

▼ Network settings [Info](#)

VPC - required [Info](#)

vpc-0e90e5d5e194c3afc (VPC2-Private-2265)
11.0.0.0/16



Subnet [Info](#)

subnet-0101523a1eed3a41 PvtSub-1-2265
VPC: vpc-0e90e5d5e194c3afc Owner: 908027405956 Availability Zone: ap-south-1c
Zone type: Availability Zone IP addresses available: 250 CIDR: 11.0.1.0/24



[Create new subnet](#)

Auto-assign public IP [Info](#)

Disable

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

PrivateSG-1-2265 sg-0103bbe111c693985
VPC: vpc-0e90e5d5e194c3afc



[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

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- Name the second Private Instance – ‘PvtInstance-2-2265’.
- Select AMI as ‘Amazon Linux’ and under that select ‘Amazon Linux 2 AMI (HVM)’.
- Now, select Key Pair.
- Under Network settings – select the Private VPC 2 ‘VPC3-Private-2265’.
- Select Private Subnet 2 - ‘PvtSub-2-2265’.
- For Security group, select the Private SG we created earlier i.e. ‘PrivateSG-2-2265’.
- Launch the instance.

Launch an instance [Info](#)

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

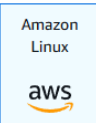


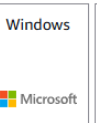



[Add additional tags](#)


▼ 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

Recents

Quick Start

 <p>Amazon Linux</p>	 <p>macOS</p>	 <p>Ubuntu</p>	 <p>Windows</p>	 <p>Red Hat</p>	 <p>SUSE Linux</p>	 <p>Debian</p>
---	--	---	--	--	---	---


[Browse more AMIs](#)
Including AMIs from
AWS, Marketplace and
the Community

Amazon Machine Image (AMI)

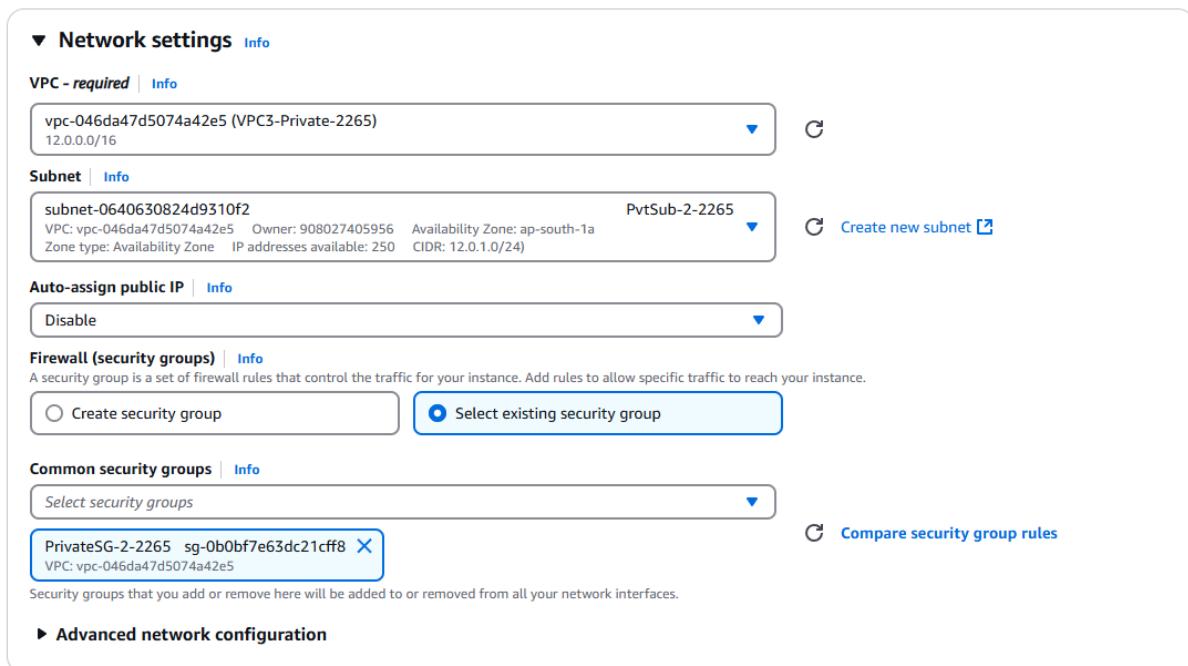
Amazon Linux 2023 AMI
ami-0d682f26195e9ec0f (64-bit (x86), uefi-preferred) / ami-05b5cad4abb7f9a27 (64-bit (Arm), uefi)
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible ▼

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The screenshot shows the AWS Network settings console for a VPC. The 'Network settings' section is expanded, showing the VPC ID 'vpc-046da47d5074a42e5 (VPC3-Private-2265)' with a refresh icon. Below it, the 'Subnet' section shows 'subnet-0640630824d9310f2' (PvtSub-2-2265) with details: VPC: vpc-046da47d5074a42e5, Owner: 908027405956, Availability Zone: ap-south-1a, Zone type: Availability Zone, IP addresses available: 250, and CIDR: 12.0.1.0/24. There is a 'Create new subnet' link. The 'Auto-assign public IP' section is set to 'Disable'. The 'Firewall (security groups)' section has a description: '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.' It has two buttons: 'Create security group' and 'Select existing security group'. The 'Common security groups' section shows a dropdown with 'Select security groups' and a selected group 'PrivateSG-2-2265 sg-0b0bf7e63dc21cff8' with a close button. There is a 'Compare security group rules' link. At the bottom, there is a note: 'Security groups that you add or remove here will be added to or removed from all your network interfaces.' and a link to 'Advanced network configuration'.

Step 8:- Connect to Public Instance & try to connect to other two Private instances through Public instance.

- Copy the SSH endpoint of instance 'BastionHost-2265' and paste it in Command Prompt to connect to the instance.
- The IP address of Public Instance is : **10.0.1.204**. Now, Start Key Pair creation.
- Type the command 'vi KP-2265.pem' to create a Key pair in the Public instance so that we can launch the private instance inside this public instance.
- Open the Key on the device and copy the contents of the key and paste it in the terminal (vi editor) – press 'esc' key and type command ':wq' to save and exit the window.
- Now type the command 'chmod 400 KP-2265.pem' and press Enter button.
- Now, go to the private instance 'PvtInstance-1-2265' and connect it in terminal.
- The IP address of Private Instance 1 is : **11.0.1.126**.
- Follow the Key Pair creation steps again.
- Now, go to the private instance 'PvtInstance-2-2265' and connect it in terminal.
- The IP address of Private Instance 2 is : **12.0.1.81**.

