

VPC PEERING

Task 1:

- Note down your region (i.e. Singapore). Navigate to VPC Service and Click on Your VPC. Give VPC Name as VPC-A.

The screenshot shows the AWS VPC Management Console for the Singapore region. The left sidebar lists various VPC resources, with 'Your VPCs' selected. The main panel displays a table of VPCs. A blue arrow points to the 'VPC-A' entry in the table.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Main Route table
VPC-A	vpc-406f6327	available	172.31.0.0/16	-	dopt-b17c7bd6	rtb-24ea7a42

Below the table, the details for VPC: vpc-406f6327 are shown, including its description, CIDR blocks, flow logs, and tags.

- Similarly, switch over to Mumbai region and give VPC Name as VPC-B. Also take a note of VPC-B VPC ID.

The screenshot shows the AWS VPC Management Console for the Mumbai region. The left sidebar lists various VPC resources, with 'Your VPCs' selected. The main panel displays a table of VPCs. Two blue arrows point to the 'VPC-B' entry in the table, highlighting its name and VPC ID.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Main Route table
VPC-B	vpc-92c8cffa	available	172.31.0.0/16	-	dopt-b26587d9	rtb-df66a3b4

Below the table, the details for VPC: vpc-92c8cffa are shown, including its description, CIDR blocks, flow logs, and tags.

- On Singapore Region, navigate to VPC Service and click on Peering Connection and click on **Create Peering Connection**.

The screenshot shows the AWS VPC Dashboard for the Singapore region. 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, and Security. The main content area displays a message: "You do not have any Peering Connections in this region. Click the Create Peering Connection button to create your first Peering Connection." A blue button labeled "Create Peering Connection" is centered in the main area, with a blue arrow pointing to it. The top navigation bar includes the AWS logo, "Services", "Resource Groups", and a user profile dropdown.

- Give Peer Connection Name as "VPC-A-SIN-VPC-B-MUM". Select VPC (Requester) as Singapore VPC.

The screenshot shows the "Create Peering Connection" wizard in the AWS console. The "Peering connection name tag" field is filled with "VPC-A-SIN-VPC-B-MUM" and has an information icon and a blue arrow pointing to it. Below this, the "Select a local VPC to peer with" section shows a dropdown menu for "VPC (Requester)" with "vpc-406f6327" selected, also highlighted with a blue arrow. Below the dropdown is a table with the following data:

CIDRs	CIDR	Status	Status Reason
	172.31.0.0/16	● associated	

At the bottom, there is a section for "Select another VPC to peer with" and an "Account" section with radio buttons for "My account" and "Another account". The bottom of the screen shows the Windows taskbar with various application icons and the system clock showing 2:35 AM on 24/12/2019.

- Click on Another Region and Select Region as “Asia Pacific (Mumbai) (ap-south-1)” and Put VPC Accepter ID as VPC ID of Mumbai VPC.

Create Peering Connection | VPC x

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#CreatePeeringConnection:

VPC (Requester)* vpc-406f6327

CIDRs	Status	Status Reason
172.31.0.0/16	associated	

Select another VPC to peer with

Account ☒ My account ☐ Another account

Region ☐ This region (ap-southeast-1) ☒ Another Region

Asia Pacific (Mumbai) (ap-south-1)

VPC (Accepter)* vpc-92c8cffa

* Required

Cancel Create Peering Connection

- Click on Create Peering Connection.

Peering Connections > Create Peering Connection

Create Peering Connection

Success

A VPC peering connection (pcx-016b418d648c5d810) has been requested. Remember to change your region to **ap-south-1** to accept the peering connection.

Requester VPC owner	616399057974 (This account)	Accepter VPC owner	616399057974 (This account)
Requester VPC ID	vpc-406f6327	Accepter VPC ID	vpc-92c8cffa
Requester VPC Region	ap-southeast-1	Accepter VPC Region	ap-south-1
Requester VPC CIDRs	172.31.0.0/16	Accepter VPC CIDRs	-

OK

- If you notice carefully, VPC Peering has been FAILED due to **identical CIDR Range (172.31.0.0/16)** on both the VPCs.

The screenshot shows the AWS VPC Peering Connections console. A table lists the peering connections, with one connection in a 'Failed' state. A blue arrow points to the 'Failed' status. Below the table, the details for the failed connection are shown, including the 'Peering connection status' which states: 'Failed due to incorrect VPC-ID, Account ID, or overlapping CIDR range'. Another blue arrow points to this status message.

Name	Peering Connection ID	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs
VPC-A-SIN-VPC-B-MUM	pcx-016b418d648c5d810	Failed	vpc-406f6327 VP...	vpc-92c8cffa	-	-

Peering Connection: pcx-016b418d648c5d810

Requester VPC		Accepter VPC	
Requester VPC owner	616399057974	Accepter VPC owner	616399057974
Requester VPC ID	vpc-406f6327	Accepter VPC ID	vpc-92c8cffa
Requester VPC Region	Singapore (ap-southeast-1)	Accepter VPC Region	Mumbai (ap-south-1)
Requester VPC CIDRs	-	Accepter VPC CIDRs	-
VPC Peering Connection	pcx-016b418d648c5d810	Peering connection status	Failed due to incorrect VPC-ID, Account ID, or overlapping CIDR range
Expiration time	-		

Task 2:

- Now In this Task, lets create a new Custom VPC and try to establish a new VPC Peering Connection.
- In Singapore Region, Navigate to VPC Service and Click on Create VPC.

The screenshot shows the AWS VPC Management Console. A table lists the VPCs, with one VPC in an 'available' state. A blue arrow points to the 'Create VPC' button. Below the table, the details for the created VPC are shown, including the 'VPC ID', 'State', and 'IPv4 CIDR'.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Main Route Table
VPC-A	vpc-406f6327	available	172.31.0.0/16	-	dopt-b17c7bd6	rtb-24ea7a42

VPC: vpc-406f6327

VPC Details		Tenancy	
VPC ID	vpc-406f6327	Tenancy	default
State	available	Default VPC	Yes
IPv4 CIDR	172.31.0.0/16	Classic link	Disabled

- Give VPC Name as VPC-C and CIDR Range as **192.168.1.0/24** and Click on Save.

Create VPC | VPC Management Console

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#CreateVpcVpcId=vpc-406f6327

Services Resource Groups

VPCs > Create VPC

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 ⓘ

* Required

Cancel Create

- Now click on Peering Connections again and Click on Peering Connection.

Peering Connections | VPC Management Console

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#PeeringConnections:sort=vpcPeeringConnectionId

Services Resource Groups

Create Peering Connection Actions

Filter by tags and attributes or search by keyword

Name	Peering Connection	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs
VPC-A-SIN-VPC-B-MUM	pcx-016b418d648c5d810	Failed	vpc-406f6327 VP...	vpc-92c8cffa	-	-

Peering Connection: pcx-016b418d648c5d810

Description DNS Route Tables Tags

Requester VPC owner	Requester VPC ID	Requester VPC Region	Requester VPC CIDRs	VPC Peering Connection	Accepter VPC owner	Accepter VPC ID	Accepter VPC Region	Accepter VPC CIDRs	Peering connection status
616399057974	vpc-406f6327	Singapore (ap-southeast-1)	-	pcx-016b418d648c5d810	616399057974	vpc-92c8cffa	Mumbai (ap-south-1)	-	Failed due to incorrect VPC-ID, Account ID, or overlapping CIDR range

Expiration time -

- Give Peering Connection Name as **VPC-C-SIN-VPC-B-MUM** and Select VPC (Requester) as **Custom VPC** which was newly created in Singapore Region.

Create Peering Connection | VPC

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#CreatePeeringConnection:vpcPeeringConnectionId=pcx-016b418d648c5d810

Services Resource Groups

Peering Connections > Create Peering Connection

Create Peering Connection

Peering connection name tag

Select a local VPC to peer with

VPC (Requester)*

CIDRs	CIDR	Status	Status Reason
	192.168.1.0/24	associated	

Select another VPC to peer with

Account ☒ My account ☐ Another account

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- Click on Another Region and Select Region as Asia Pacific (Mumbai) (ap-south-1). Select VPC (Acceptor) as VPC ID of VPC-B (Default VPC in Mumbai Region). Click on Create Peering Connection.

Create Peering Connection | VPC

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#CreatePeeringConnection:vpcPeeringConnectionId=pcx-016b418d648c5d810

Services Resource Groups

VPC (Requester)*

CIDRs	CIDR	Status	Status Reason
	192.168.1.0/24	associated	

Select another VPC to peer with

Account ☒ My account ☐ Another account

Region ☐ This region (ap-southeast-1) ☒ Another Region

VPC (Acceptor)*

* Required

Cancel Create Peering Connection

Feedback English (US)

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Create Peering Connection | VPC

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#CreatePeeringConnection:vpcPeeringConnectionId=pcx-016b418d648c5d810

Services Resource Groups

Prasad_SMU Singapore Support

Peering Connections > Create Peering Connection

Create Peering Connection

Success

A VPC peering connection (pcx-0c4d2df94f1abb9b9) has been requested. Remember to change your region to **ap-south-1** to accept the peering connection.

Requester VPC owner	616399057974 (This account)	Accepter VPC owner	616399057974 (This account)
Requester VPC ID	vpc-0526316fefaf0908c6	Accepter VPC ID	vpc-92c8cffa
Requester VPC Region	ap-southeast-1	Accepter VPC Region	ap-south-1
Requester VPC CIDRs	192.168.1.0/24	Accepter VPC CIDRs	-

OK

Feedback English (US)

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➤ You'll notice that the VPC Peering Connection's status is Pending Acceptance.

Peering Connections | VPC Manager

ap-southeast-1.console.aws.amazon.com/vpc/home?region=ap-southeast-1#PeeringConnections:sort=vpcPeeringConnectionId

Services Resource Groups

Prasad_SMU Singapore Support

Create Peering Connection Actions

Filter by tags and attributes or search by keyword

Name	Peering Connection	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs
VPC-A-SIN-VPC-B-MUM	pcx-016b418d648...	Failed	vpc-406f6327 VP...	vpc-92c8cffa	-	-
VPC-C-SIN-VPC-B-MUM	pcx-0c4d2df94f1a...	Pending Acceptance	vpc-0526316fefaf0...	vpc-92c8cffa	192.168.1.0/24	-

Peering Connection: pcx-016b418d648c5d810

Description DNS Route Tables Tags

Requester VPC owner	616399057974	Accepter VPC owner	616399057974
Requester VPC ID	vpc-406f6327	Accepter VPC ID	vpc-92c8cffa
Requester VPC Region	Singapore (ap-southeast-1)	Accepter VPC Region	Mumbai (ap-south-1)
Requester VPC CIDRs	-	Accepter VPC CIDRs	-
VPC Peering Connection	pcx-016b418d648c5d810	Peering connection status	Failed due to incorrect VPC-ID, Account ID, or overlapping CIDR range
Expiration time	-		

Feedback English (US)

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- Hence, switch over to Mumbai region. Navigate to VPC Service and click on Peering Connection to accept the Request.

The screenshot shows the AWS Management Console interface for the Mumbai region. The left sidebar contains the navigation menu with 'Peering Connections' selected. The main content area displays a table of peering connections. A context menu is open over the first connection, with 'Accept Request' highlighted. Below the table, the details for the selected peering connection are shown.

Peering Connection: pcx-0c4d2df94f1abb9b9

Requester VPC		Accepter VPC	
Requester VPC owner	616399057974	Accepter VPC owner	616399057974
Requester VPC ID	vpc-0526316fefa0908c6	Accepter VPC ID	vpc-92c8cfa
Requester VPC Region	Singapore (ap-southeast-1)	Accepter VPC Region	Mumbai (ap-south-1)

A modal dialog titled 'Accept VPC Peering Connection Request' is displayed, asking for confirmation to accept the request. The dialog contains the following information:

Requester Account ID		Accepter Account ID	
Requester Account ID	616399057974 (This account)	Accepter Account ID	616399057974 (This account)
Requester VPC ID	vpc-0526316fefa0908c6	Accepter VPC ID	vpc-92c8cfa
Requester VPC Region	ap-southeast-1	Accepter VPC Region	ap-south-1
Requester VPC CIDR	192.168.1.0/24	Accepter VPC CIDR	-

The dialog has 'Cancel' and 'Yes, Accept' buttons. A blue arrow points to the 'Yes, Accept' button.

VPC Peering Connection has been established successfully between Custom VPC of Singapore Region and Default VPC of Mumbai Region.

The screenshot shows the AWS VPC console interface. A modal dialog titled "Accept VPC Peering Connection Request" is displayed in the center. The dialog contains the following text:

Accept VPC Peering Connection Request

Your VPC Peering Connection has been established.

To send and receive traffic across this VPC peering connection, you must add a route to the peered VPC in one or more of your VPC route tables. [Learn more](#)

[Modify my route tables now](#)

Close

Below the dialog, the details of the peering connection are visible:

Peering Connection: pcx-0c4d2df94f1abb9b9

Field	Value
Requester VPC owner	616399057974
Requester VPC ID	vpc-0526316fefa0908c6
Requester VPC Region	Singapore (ap-southeast-1)
Accepter VPC owner	616399057974
Accepter VPC ID	vpc-92c8cffa
Accepter VPC Region	Mumbai (ap-south-1)

The screenshot shows the AWS VPC console interface with a list of VPC Peering Connections. A blue arrow points to the "Active" status of the connection pcx-0c4d2df94f1a....

Name	Peering Connection ID	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs	Requester C
pcx-016b418d648...		Failed	vpc-406f6327	vpc-92c8cffa VP...	-	-	616399057974
pcx-0c4d2df94f1a...		Active	vpc-0526316fefa0...	vpc-92c8cffa VP...	192.168.1.0/24	172.31.0.0/16	616399057974

Below the table, the details of the selected peering connection are visible:

Peering Connection: pcx-0c4d2df94f1abb9b9

Field	Value
Requester VPC owner	616399057974
Requester VPC ID	vpc-0526316fefa0908c6
Requester VPC Region	Singapore (ap-southeast-1)
Accepter VPC owner	616399057974
Accepter VPC ID	vpc-92c8cffa
Accepter VPC Region	Mumbai (ap-south-1)

This completes the Lab on VPC Peering.

For Questions, contact me on pbhavsar@smu.edu .