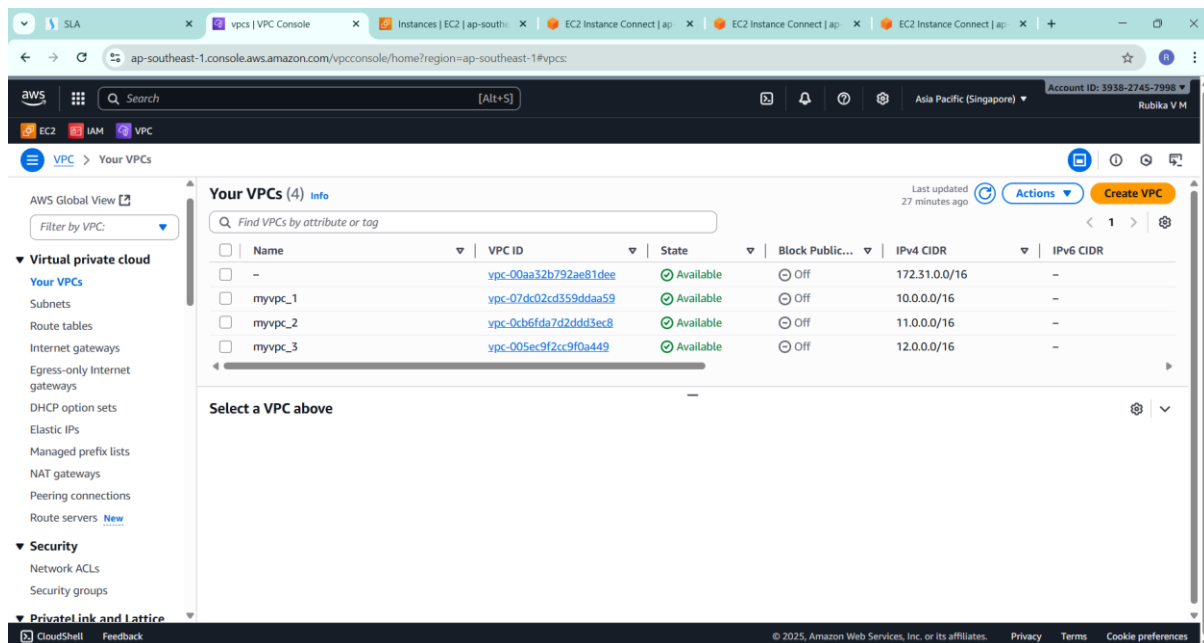


## TASK – 10

### VPC Transit gateway:

- A VPC Transit Gateway is a network hub service, often used in AWS, that simplifies the connectivity of multiple virtual private clouds (VPCs) and on-premises networks by providing a central point for traffic routing.
- Instead of creating separate direct connections between networks (like in VPC peering), a transit gateway works as a central cloud router, allowing each network to connect once and communicate with all other connected networks.

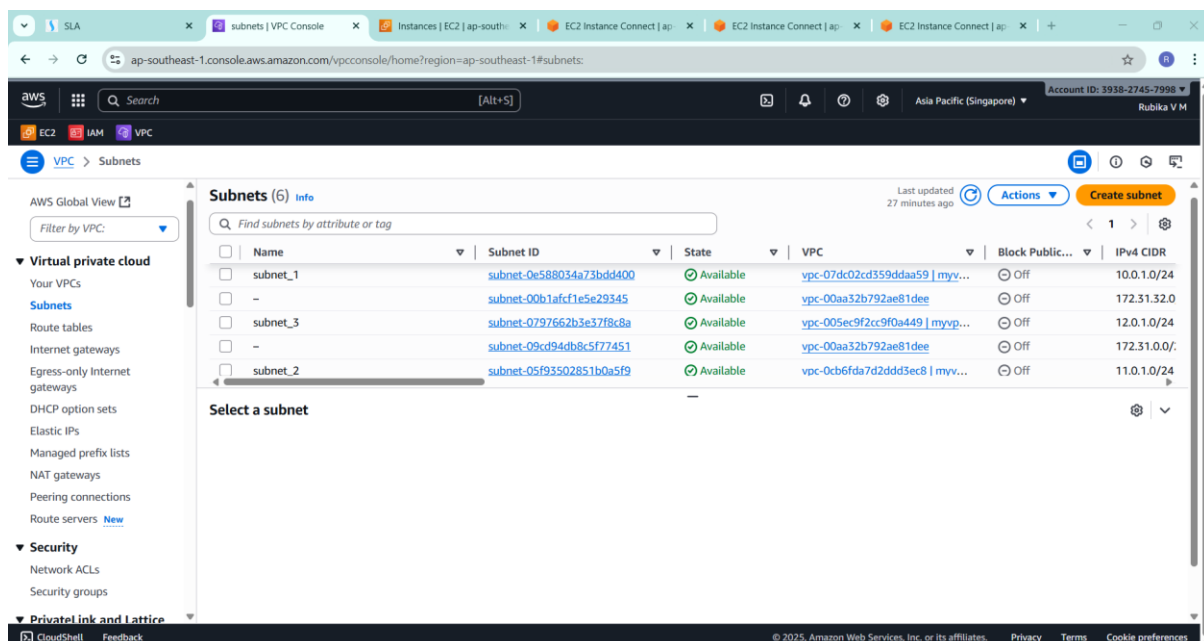
### Creation of VPC:



The screenshot shows the AWS VPC console interface. The left sidebar contains navigation links for Virtual private cloud, Security, and PrivateLink and Lattice. The main content area displays 'Your VPCs (4)' with a table listing four VPCs. The table columns are Name, VPC ID, State, Block Public..., IPv4 CIDR, and IPv6 CIDR. The VPCs listed are myvpc\_1, myvpc\_2, myvpc\_3, and myvpc\_4. Below the table, there is a section titled 'Select a VPC above'.

Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
myvpc_1	vpc-00aa32b792ae81dee	Available	Off	172.31.0.0/16	-
myvpc_2	vpc-07dc02cd359dda59	Available	Off	10.0.0.0/16	-
myvpc_3	vpc-0cb6fda7d2dd3ec8	Available	Off	11.0.0.0/16	-
myvpc_4	vpc-005ec9f2cc9f0a449	Available	Off	12.0.0.0/16	-

### Creation of subnets:



The screenshot shows the AWS VPC console interface for subnets. The left sidebar contains navigation links for Virtual private cloud, Security, and PrivateLink and Lattice. The main content area displays 'Subnets (6)' with a table listing six subnets. The table columns are Name, Subnet ID, State, VPC, Block Public..., and IPv4 CIDR. The subnets listed are subnet\_1, subnet\_2, subnet\_3, subnet\_4, subnet\_5, and subnet\_6. Below the table, there is a section titled 'Select a subnet'.

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
subnet_1	subnet-0e588034a73bdd400	Available	vpc-07dc02cd359dda59   myv...	Off	10.0.1.0/24
subnet_2	subnet-00b1afcf1e5e29345	Available	vpc-00aa32b792ae81dee	Off	172.31.32.0
subnet_3	subnet-0797662b3e37f8c8a	Available	vpc-005ec9f2cc9f0a449   myv...	Off	12.0.1.0/24
subnet_4	subnet-09cd94db8c5f77451	Available	vpc-00aa32b792ae81dee	Off	172.31.0.0/24
subnet_5	subnet-05f93502851b0a5f9	Available	vpc-0cb6fda7d2dd3ec8   myv...	Off	11.0.1.0/24
subnet_6	subnet-0a1a1a1a1a1a1a1a1	Available	vpc-00aa32b792ae81dee	Off	172.31.0.0/24

## Creation of Route tables:

The screenshot shows the AWS Management Console for the 'Route tables' section. The page title is 'Route tables (7) Info'. The table lists the following route tables:

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
-	rtb-013ed9a3068a5f7f0	-	-	Yes	vpc-0cb6fda7d2ddd3ec8   r
rt_vpc1	rtb-0e331280ed93c27a8	subnet-0e588034a73bdd...	-	No	vpc-07dc02cd359ddaa59   i
rt_vpc2	rtb-0f640b6b9d0b7e0a1	subnet-05f93502851b0a...	-	No	vpc-0cb6fda7d2ddd3ec8   r
rt_vpc3	rtb-0e07ceca02c188cc5	subnet-0797662b3e37f8...	-	No	vpc-005ec9f2cc9f0a449   m

The page also includes a sidebar with navigation options like Virtual private cloud, Security, and PrivateLink and Lattice. The top navigation bar shows the AWS logo, search bar, and account information.

## Creation of Internet Gateway:

The screenshot shows the AWS Management Console for the 'Internet gateways' section. The page title is 'Internet gateways (4) Info'. The table lists the following internet gateways:

Name	Internet gateway ID	State	VPC ID	Owner
-	igw-03bbe680f5bcb9f72	Attached	vpc-00aa32b792ae81dee	393827457998
igw_vpc1	igw-0a5eeef3c0e55c5a81	Attached	vpc-07dc02cd359ddaa59   myvpc_1	393827457998
igw_vpc2	igw-06bbe98f953715209	Attached	vpc-0cb6fda7d2ddd3ec8   myvpc_2	393827457998
igw_vpc3	igw-0008dcac6c57b1702	Attached	vpc-005ec9f2cc9f0a449   myvpc_3	393827457998

The page also includes a sidebar with navigation options like Virtual private cloud, Security, and PrivateLink and Lattice. The top navigation bar shows the AWS logo, search bar, and account information.

## Creation of Security Groups:

Security group (sg-0beda0f4d3a9a9ceb | sg\_vpc3) was created successfully

Details

Security Groups (19) Info

Find security groups by attribute or tag

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description
<input type="checkbox"/>	-	sg-0e4346a5a43a925ba	sg_vpc1	vpc-07dc02cd359dda59	sg1
<input type="checkbox"/>	-	sg-0b583598d115ad22c	default	vpc-07dc02cd359dda59	default VPC sec
<input type="checkbox"/>	-	sg-0beda0f4d3a9a9ceb	sg_vpc3	vpc-005ec9f2cc9f0a449	sg_3
<input type="checkbox"/>	-	sg-07c3d812811778fa4	launch-wizard-41	vpc-00aa32b792ae81dee	launch-wizard-
<input type="checkbox"/>	-	sg-07aec593fe64982e4	launch-wizard-46	vpc-00aa32b792ae81dee	launch-wizard-
<input type="checkbox"/>	-	sg-000bd749d81b277cc	launch-wizard-39	vpc-00aa32b792ae81dee	launch-wizard-
<input type="checkbox"/>	-	sg-085c8ac9df0e5cf50	sg_vpc2	vpc-0cb6fda7d2ddd3ec8	sg_2

Select a security group

## Creation of Transit gateways:

You can visualize and monitor your Transit Gateway(s) from the AWS Network Manager. Register your Transit Gateway by creating a global network to get started.

Transit gateways (1) Info

Find transit gateway by attribute or tag

<input type="checkbox"/>	Name	Transit gateway ID	Owner ID	State
<input type="checkbox"/>	transit_gateway	tgw-0de6d5af5427c65cc	393827457998	Available

Select a transit gateway

## Attachment of transit gateways:

The screenshot shows the AWS Management Console for the 'ap-southeast-1' region. The left-hand navigation pane is open, showing the 'VPC' section with 'Transit gateway attachments' selected. The main content area displays a table of 'Transit gateway attachments (3)'. The table has columns for Name, Transit gateway attachment ID, Transit gateway ID, State, Resource type, and Resource ID. Three attachments are listed, all in an 'Available' state. Below the table, there is a section titled 'Select a transit gateway attachment'.

Name	Transit gateway attachment ID	Transit gateway ID	State	Resource type	Resource ID
transit_attachment3	tgw-attach-0022b8419a8ebdd37	tgw-0de6d5af5427c65cc	Available	VPC	vpc-005ec9f2cc9f0a44f
transit_attachment2	tgw-attach-02dc4d3659c436ef8	tgw-0de6d5af5427c65cc	Available	VPC	vpc-0cb6fda7d2dd53ec
transit_attachment1	tgw-attach-08e5522f2131cd86a	tgw-0de6d5af5427c65cc	Available	VPC	vpc-07dc02cd359ddaa

## Then attaching create transit gateway attachment to routes:

The screenshot shows the 'Edit routes' page in the AWS Management Console. The left-hand navigation pane is open, showing the 'Route tables' section with 'rtb-0e331280ed93c27a8' selected. The main content area displays a table of routes. The table has columns for Destination, Target, Status, Propagated, and Route Origin. Four routes are listed, all in an 'Active' state. The 'Add route' button is visible at the bottom left of the table.

Destination	Target	Status	Propagated	Route Origin
10.0.0.0/16	local	Active	No	CreateRouteTable
11.0.0.0/16	Transit Gateway	Active	No	CreateRoute
12.0.0.0/16	Transit Gateway	Active	No	CreateRoute
0.0.0.0/0	Internet Gateway	Active	No	CreateRoute

SLA

VPC | ap-southeast-1

Instances | EC2 | ap-south-

EC2 Instance Connect | ap-

EC2 Instance Connect | ap-

EC2 Instance Connect | ap-

+

ap-southeast-1.console.aws.amazon.com/vpconsole/home?region=ap-southeast-1#EditRoutes:RouteTableId=rtb-0f640b6b9d0b7e0a1

Search

[Alt+S]

Asia Pacific (Singapore)

Account ID: 3938-2745-7998

Rubika V M

EC2

IAM

VPC

VPC > Route tables > rtb-0f640b6b9d0b7e0a1 > Edit routes

Cancel

Preview

Save changes

CloudShell

Feedback

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Privacy

Terms

Cookie preferences

### Edit routes

Destination	Target	Status	Propagated	Route Origin
11.0.0.0/16	local	Active	No	CreateRouteTable
10.0.0.0/16	local			
	Transit Gateway	Active	No	CreateRoute
	tgw-0de6d5af5427c65cc			
12.0.0.0/16	Transit Gateway	Active	No	CreateRoute
	tgw-0de6d5af5427c65cc			
0.0.0.0/0	Internet Gateway	Active	No	CreateRoute
	igw-06bbe98f953715209			

Add route

SLA

VPC | ap-southeast-1

Instances | EC2 | ap-south-

EC2 Instance Connect | ap-

EC2 Instance Connect | ap-

EC2 Instance Connect | ap-

+

ap-southeast-1.console.aws.amazon.com/vpconsole/home?region=ap-southeast-1#EditRoutes:RouteTableId=rtb-0e07ceca02c188cc5

Search

[Alt+S]

Asia Pacific (Singapore)

Account ID: 3938-2745-7998

Rubika V M

EC2

IAM

VPC

VPC > Route tables > rtb-0e07ceca02c188cc5 > Edit routes

Cancel

Preview

Save changes

CloudShell

Feedback

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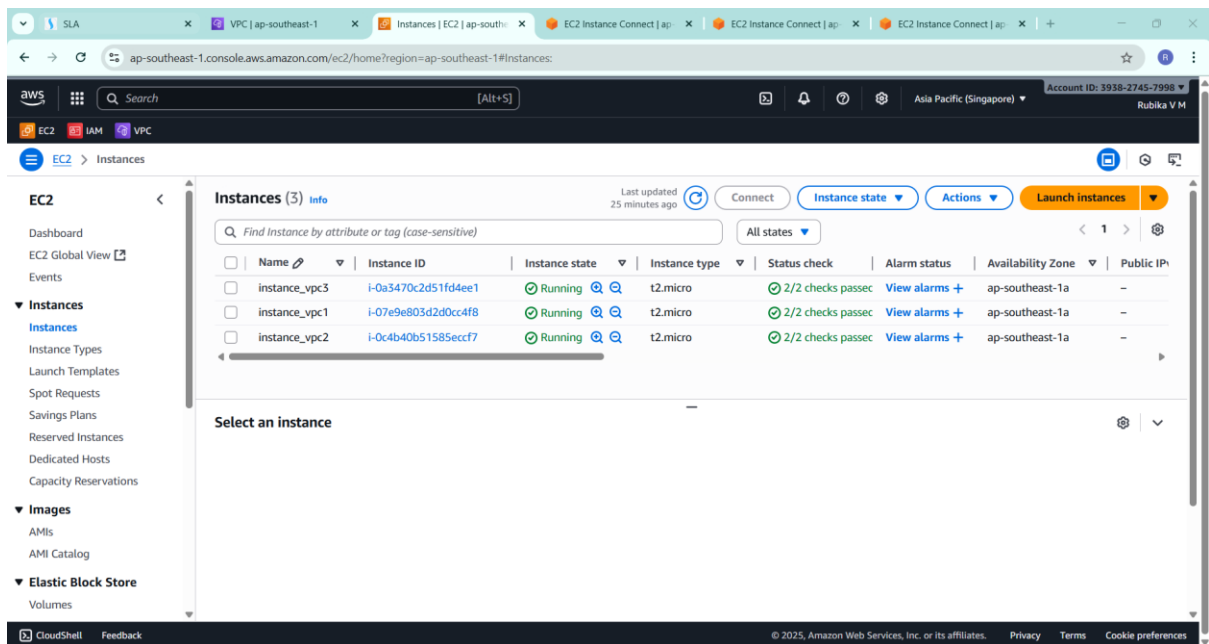
Cookie preferences

### Edit routes

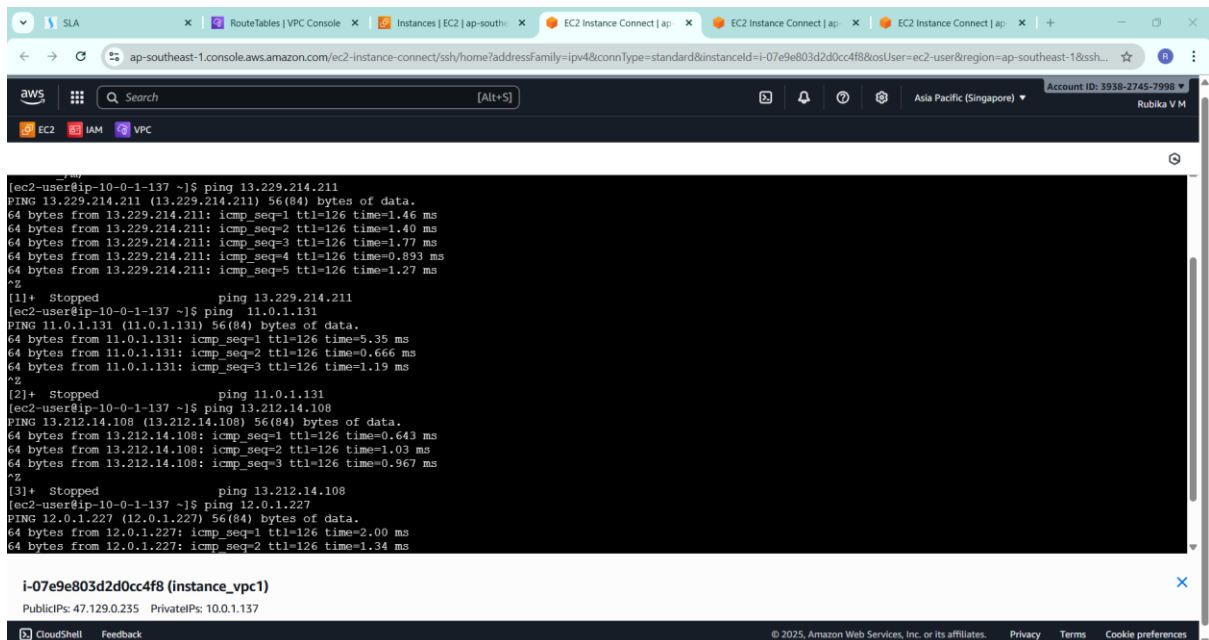
Destination	Target	Status	Propagated	Route Origin
12.0.0.0/16	local	Active	No	CreateRouteTable
	local			
10.0.0.0/16	Transit Gateway	Active	No	CreateRoute
	tgw-0de6d5af5427c65cc			
11.0.0.0/16	Transit Gateway	Active	No	CreateRoute
	tgw-0de6d5af5427c65cc			
0.0.0.0/0	Internet Gateway	Active	No	CreateRoute
	igw-0008dcac6c57b1702			

Add route

## Creation of Instances:



## Check for the internet connectivity through ping command:



SLA | RouteTables | VPC Console | Instances | EC2 | ap-south- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | +

ap-southeast-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=ap-southeast-1&connType=standard&instanceId=i-0c4b40b51585eccf7&osUser=ec2-user&sshPort=22&addressFam...

aws Search [Alt+S] Asia Pacific (Singapore) Account ID: 3938-2745-7998 Rubika VM

EC2 IAM VPC

```
[ec2-user@ip-11-0-1-131 ~]$ ping 47.129.0.235
PING 47.129.0.235 (47.129.0.235) 56(84) bytes of data.
64 bytes from 47.129.0.235: icmp_seq=1 ttl=126 time=0.983 ms
64 bytes from 47.129.0.235: icmp_seq=2 ttl=126 time=1.54 ms
64 bytes from 47.129.0.235: icmp_seq=3 ttl=126 time=1.66 ms
64 bytes from 47.129.0.235: icmp_seq=4 ttl=126 time=0.862 ms
^Z
(1)+ Stopped ping 47.129.0.235
[ec2-user@ip-11-0-1-131 ~]$ ping 10.0.1.137
PING 10.0.1.137 (10.0.1.137) 56(84) bytes of data.
64 bytes from 10.0.1.137: icmp_seq=1 ttl=126 time=2.22 ms
64 bytes from 10.0.1.137: icmp_seq=2 ttl=126 time=2.17 ms
64 bytes from 10.0.1.137: icmp_seq=3 ttl=126 time=1.43 ms
^Z
(2)+ Stopped ping 10.0.1.137
[ec2-user@ip-11-0-1-131 ~]$ ping 13.212.14.108
PING 13.212.14.108 (13.212.14.108) 56(84) bytes of data.
64 bytes from 13.212.14.108: icmp_seq=1 ttl=126 time=0.700 ms
64 bytes from 13.212.14.108: icmp_seq=2 ttl=126 time=1.39 ms
64 bytes from 13.212.14.108: icmp_seq=3 ttl=126 time=1.54 ms
64 bytes from 13.212.14.108: icmp_seq=4 ttl=126 time=1.06 ms
^Z
(3)+ Stopped ping 13.212.14.108
[ec2-user@ip-11-0-1-131 ~]$ ping 12.0.1.227
PING 12.0.1.227 (12.0.1.227) 56(84) bytes of data.
64 bytes from 12.0.1.227: icmp_seq=1 ttl=126 time=2.48 ms
```

**i-0c4b40b51585eccf7 (instance\_vpc2)**

PublicIPs: 13.229.214.211 PrivateIPs: 11.0.1.131

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SLA | RouteTables | VPC Console | Instances | EC2 | ap-south- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | EC2 Instance Connect | ap- | +

ap-southeast-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=ap-southeast-1&connType=standard&instanceId=i-0a3470c2d51fd4ee1&osUser=ec2-user&sshPort=22&addressFam...

aws Search [Alt+S] Asia Pacific (Singapore) Account ID: 3938-2745-7998 Rubika VM

EC2 IAM VPC

```
[ec2-user@ip-12-0-1-227 ~]$ ping 47.129.0.235
PING 47.129.0.235 (47.129.0.235) 56(84) bytes of data.
64 bytes from 47.129.0.235: icmp_seq=1 ttl=126 time=1.55 ms
64 bytes from 47.129.0.235: icmp_seq=2 ttl=126 time=0.815 ms
64 bytes from 47.129.0.235: icmp_seq=3 ttl=126 time=1.55 ms
64 bytes from 47.129.0.235: icmp_seq=4 ttl=126 time=1.04 ms
^Z
(1)+ Stopped ping 47.129.0.235
[ec2-user@ip-12-0-1-227 ~]$ ping 10.0.1.137
PING 10.0.1.137 (10.0.1.137) 56(84) bytes of data.
64 bytes from 10.0.1.137: icmp_seq=1 ttl=126 time=1.52 ms
64 bytes from 10.0.1.137: icmp_seq=2 ttl=126 time=1.08 ms
64 bytes from 10.0.1.137: icmp_seq=3 ttl=126 time=0.757 ms
^Z
(2)+ Stopped ping 10.0.1.137
[ec2-user@ip-12-0-1-227 ~]$ ping 13.229.214.211
PING 13.229.214.211 (13.229.214.211) 56(84) bytes of data.
64 bytes from 13.229.214.211: icmp_seq=1 ttl=126 time=1.66 ms
64 bytes from 13.229.214.211: icmp_seq=2 ttl=126 time=1.03 ms
64 bytes from 13.229.214.211: icmp_seq=3 ttl=126 time=0.869 ms
^Z
(3)+ Stopped ping 13.229.214.211
[ec2-user@ip-12-0-1-227 ~]$ ping 11.0.1.131
PING 11.0.1.131 (11.0.1.131) 56(84) bytes of data.
64 bytes from 11.0.1.131: icmp_seq=1 ttl=126 time=1.35 ms
64 bytes from 11.0.1.131: icmp_seq=2 ttl=126 time=1.39 ms
64 bytes from 11.0.1.131: icmp_seq=3 ttl=126 time=1.07 ms
```

**i-0a3470c2d51fd4ee1 (instance\_vpc3)**

PublicIPs: 13.212.14.108 PrivateIPs: 12.0.1.227

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