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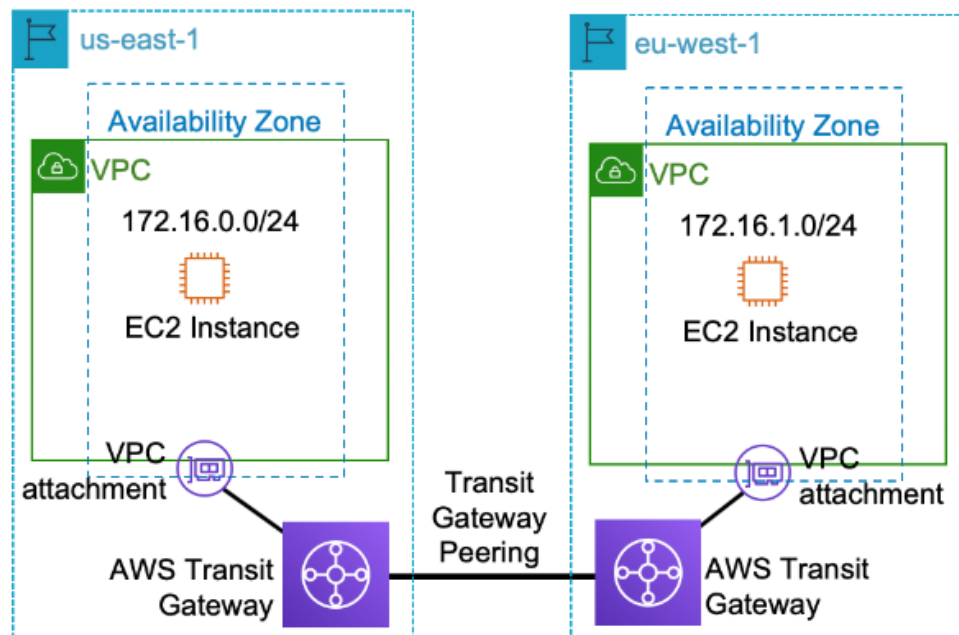
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BATCH:119

Transit gateway in multiple regions

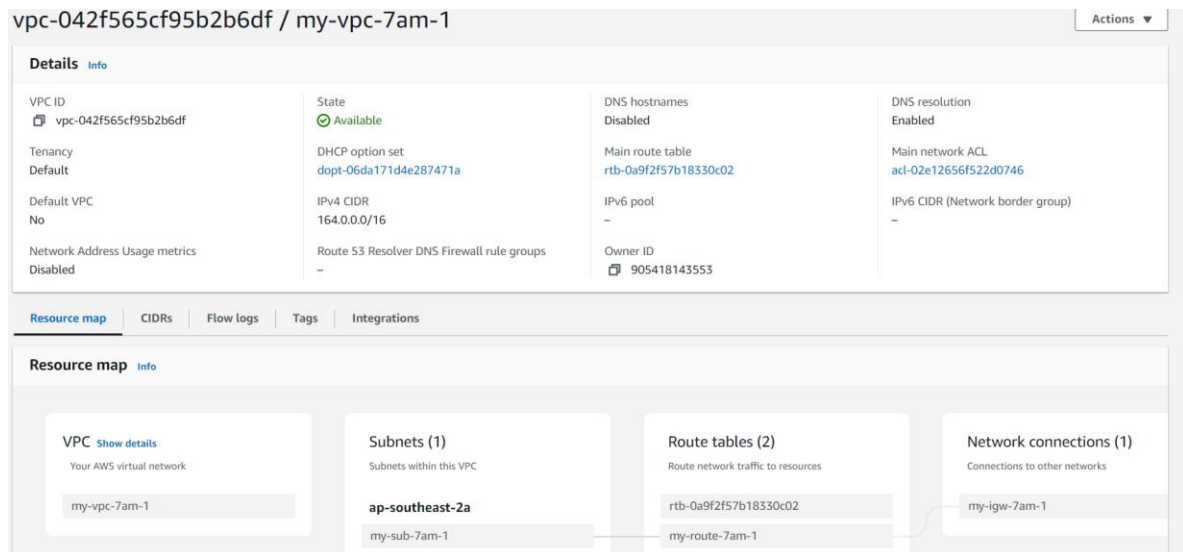
Transit gateway

A transit gateway is a network transit hub that you can use to interconnect your virtual private clouds (VPCs) and on-premises networks. As your cloud infrastructure expands globally, inter-Region peering connects transit gateways together using the AWS Global Infrastructure. All network traffic between AWS data centers is automatically encrypted at the physical layer.

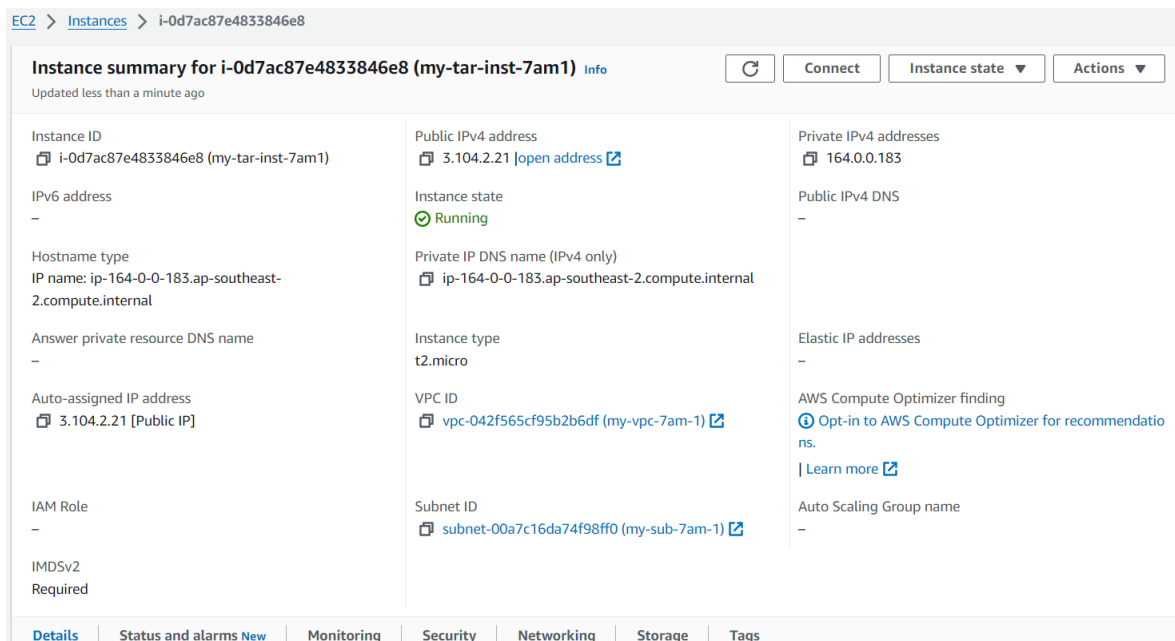


Create a vpc one region:

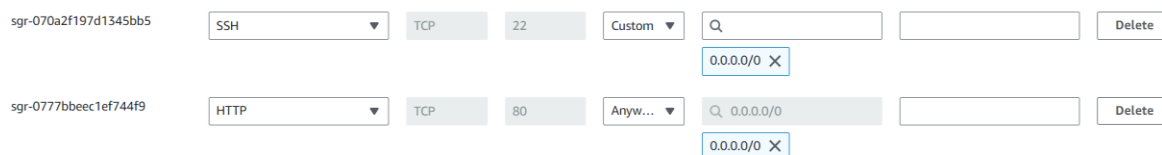
1.Create a VPC(my-vpc-7am-1) in the Sydney region with the following connections attached to the subnet, internet gateway, route tables.



2. Create an EC2 instance (my-tar-inst-7am1) in the same region by attaching the AMI, Key Pair and network setting.



3. Go to security and click on the security groups i.e Edit inbound rules Add rule HTTP.



4. Launch the instance (my-tar-inst-7am1) and connect to the WEB.

```

Last login: Fri Feb 23 06:21:30 2024 from 13.233.138.4
[ec2-user@ip-164-0-0-183 ~]$ sudo -i
[root@ip-164-0-0-183 ~]# yum update -y
Last metadata expiration check: 8:09:20 ago on Fri Feb 23 06:14:26 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-164-0-0-183 ~]# yum install nginx -y
Last metadata expiration check: 8:09:34 ago on Fri Feb 23 06:14:26 2024.
Package nginx-1:1.24.0-1.amzn2023.0.2.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-164-0-0-183 ~]# systemctl restart nginx
[root@ip-164-0-0-183 ~]# curl 164.0.0.183:80
<!DOCTYPE html>
<html>
<head>

```

i-0d7ac87e4833846e8 (my-tar-inst-7am1)

PublicIPs: 3.104.2.21 PrivateIPs: 164.0.0.183

5. Create a transit gateway same region.

Transit gateways (1) [info](#) Actions Create transit gateway

Find transit gateway by attribute or tag

Name	Transit gateway ID	State
transit-7am-1	tgw-04b0e7c4e51a5e02a	Available

- Now create a transit gateway attachment to vpc.

tgw-attach-0e42c18a09a37ebe8 / transit-at-7am-1 [info](#) Actions

Details

Transit gateway attachment ID tgw-attach-0e42c18a09a37ebe8	Transit gateway ID tgw-04b0e7c4e51a5e02a	Transit gateway owner ID 905418143553	Subnet IDs subnet-00a7c16da74f98ff0
State Available	Resource owner ID 905418143553	DNS support Enable	Resource type VPC
Resource ID vpc-042f565cf95b2b6df	IPv6 support Disable	Association state Associated	Association route table ID tgw-rtb-09cbf006ff2352897
Appliance Mode support Disable			

6. The following steps are must do after creation of another vpc region.

- Now go to the route tables in the VPC and click on edit route add the Transit gateway and click on save changes.

Edit routes

Destination	Target	Status	Propagated
164.0.0.0/16	local	Active	No
<input type="text" value="165.0.0.0/16"/>	Transit Gateway	Active	No
<input type="text" value="0.0.0.0/0"/>	Internet Gateway	Active	No

- Go to Ec2 instance security and click on the security groups i.e Edit inbound rules.

Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0619c0f61756f755c	HTTP	TCP	80	Custom	
sgr-070a2f197d1345bb5	SSH	TCP	22	Custom	

Create a VPC in another region:

1.Create a VPC(my-vpc-7am-2) in the mumbai region with the following connections attached to subnet, internet gateway, route tables.

vpc-0ac002ebb22fccfad / my-vpc-7am-2

Details			
VPC ID vpc-0ac002ebb22fccfad	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-05a2f457257a86511	Main route table rtb-0ed4a85c1f6272669	Main network ACL acl-06be356f0bbe7836f
Default VPC No	IPv4 CIDR 165.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 905418143553	

Resource map

Subnets (1)
Subnets within this VPC
ap-south-1b
my-sub-7am-2

Route tables (2)
Route network traffic to resources
my-route-7am-2
rtb-0ed4a85c1f6272669

Network connections (1)
Connections to other networks
my-igw-7am-2

2.Create an EC2 instance(my-tr-inst-7am2) in the same region by attaching the AMI, Key Pair, and network setting.

Instance summary for i-0a8a6f25c9594d432 (my-tr-inst-7am2) [Info](#)

Updated 1 minute ago

Instance ID i-0a8a6f25c9594d432 (my-tr-inst-7am2)	Public IPv4 address 13.200.229.66 Open address	Private IPv4 addresses 165.0.0.201
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP name: ip-165-0-0-201.ap-south-1.compute.internal	Private IP DNS name (IPv4 only) ip-165-0-0-201.ap-south-1.compute.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address 13.200.229.66 [Public IP]	VPC ID vpc-0ac002ebb22fccfad (my-vpc-7am-2)	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-0ffae4d04a5317849 (my-sub-7am-2)	
IMDSv2 Disabled		

3.Go to security and click on the security groups i.e Edit inbound rules Add rule HTTP.

sgr-070a2f197d1345bb5	SSH	TCP	22	Custom	<input type="text" value="0.0.0.0/0"/>	<input type="text"/>	<input type="button" value="Delete"/>
sgr-0777bbeec1ef744f9	HTTP	TCP	80	Anyw...	<input type="text" value="0.0.0.0/0"/>	<input type="text" value="0.0.0.0/0"/>	<input type="button" value="Delete"/>

4.Create a transit gateway in same region.

Transit gateways (1) [Info](#)

<input type="checkbox"/>	Name	Transit gateway ID	State
<input type="checkbox"/>	transit-7am-2	tgw-06491f0e3cd9e0037	Available

- Create a transit gateway attachment to the vpc.

tgw-attach-0b6b809e3af2b331f / transit-at-7am-2 [Info](#)

Transit gateway attachment ID tgw-attach-0b6b809e3af2b331f	Transit gateway ID tgw-06491f0e3cd9e0037	Transit gateway owner ID 905418143553	Subnet IDs subnet-0ffae4d04a5317849
State Available	Resource owner ID 905418143553	DNS support Enable	Resource type VPC
Resource ID vpc-0ac002ebb22fccfad	IPv6 support Disable	Association state Associated	Association route table ID tgw-rtb-0703d4c8bdf60372a
Appliance Mode support Disable			

5. Now go to the route tables in the VPC and click on edit route add the Transit gateway and click on save changes.

Edit routes

Destination	Target	Status	Propagated
165.0.0.0/16	local	Active	No
Q 164.0.0.0/16	Transit Gateway	Active	No
Q 0.0.0.0/0	Internet Gateway	Active	No

Add route

Cancel Preview Save changes

6. Go to EC2 instance security and click on the security groups i.e Edit inbound rules.

Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0c0a76fec3abc85e3	HTTP	TCP	80	Custom	164.0.0.0/16
sgr-0f1243e1536164fe9	SSH	TCP	22	Custom	0.0.0.0/0

This is the final step to create a transit gateway routetables:

Create a new attachment in the transit gateway and connect the transit gateway by using peering and there will be a request sent to another transit gateway which is located in another region where the user has to accept it to form the connection in b/w the two transit gateways.

7. Launch the instance(my-tar-inst-7am2) and connect to the WEB.

- In this server copy the my-tar-inst-7am1 , Private IP address and past it.
- This is running with out install nginx.

- In this server copy the my-tar-inst-7am1 , Private IP address and past it.
- This is running with out install nginx.

[illegible]

PublicIPs: 13.200.229.66 PrivateIPs: 165.0.0.201

