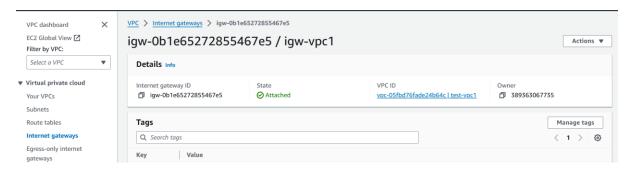


Step 1:

Create 1st -VPC (test-vpc-1)

reate VPC Info		
/PC is an isolated portion of the AWS Cloud p	opulated by AWS objects, such as Amazon EC	22 instances.
VPC settings		
Resources to create Info Create only the VPC resource or the VPC and other n	etworking resources.	
• VPC only	○ VPC and more	
Creates a tag with a key of 'Name' and a value that y test-vpc1 IPv4 CIDR block Info	ou specify.	
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		

Create IGW



Create subnet

Create subnets in this VPC.



Associated VPC CIDRs

IPv4 CIDRs 12.0.0.0/16

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.

subnet-test-vpc1-2a

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.

US East (Ohio) / us-east-2a ▼

IPv4 VPC CIDR block Info

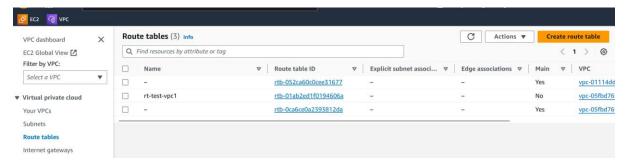
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

12.0.0.0/16

IPv4 subnet CIDR block

12.0.1.0/24 256 IPs

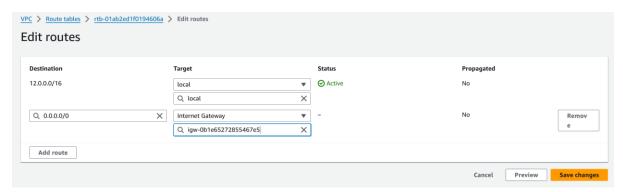
Create routing table



Create Subnet association

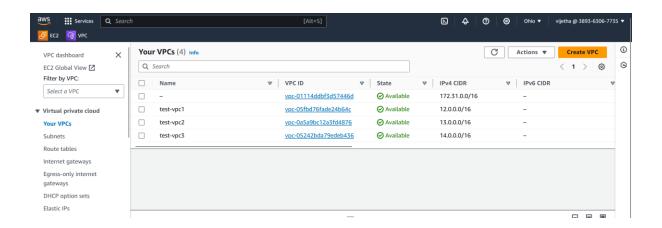


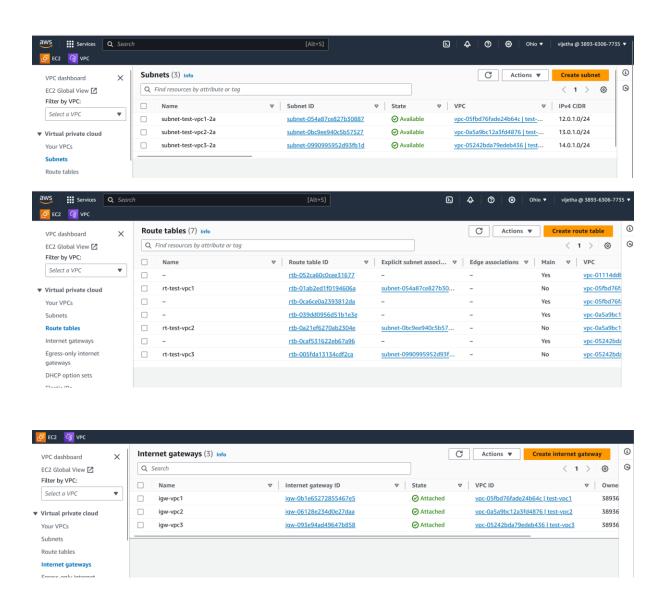
Edit routing table



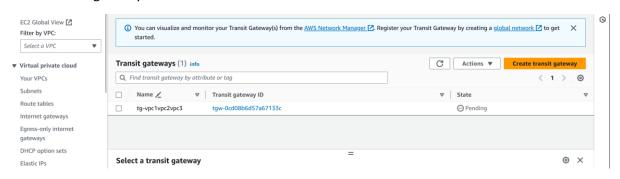
Done with first VPC

Repeat the same for the other two VpC

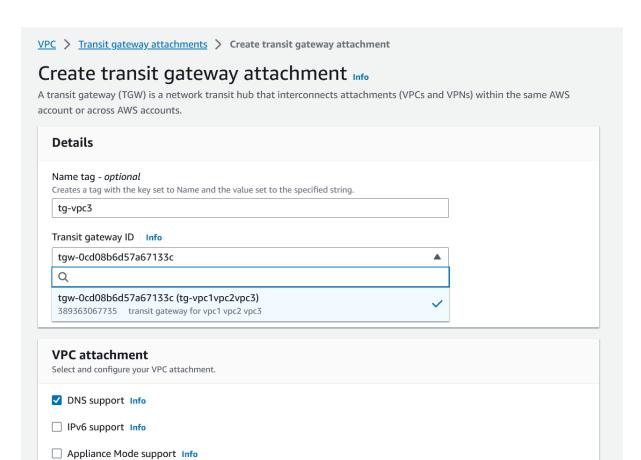




Create transit gateway



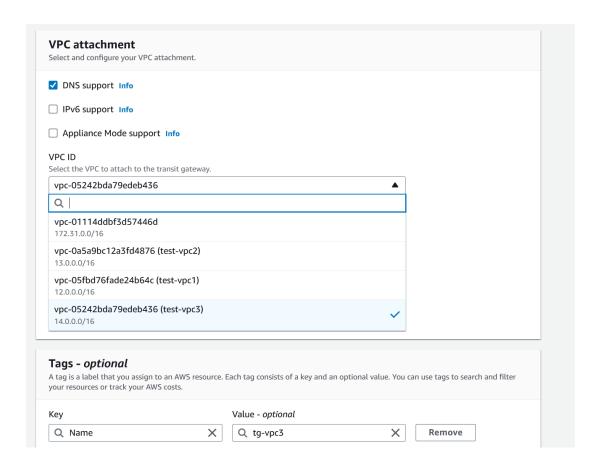
Create transit gateway attachment

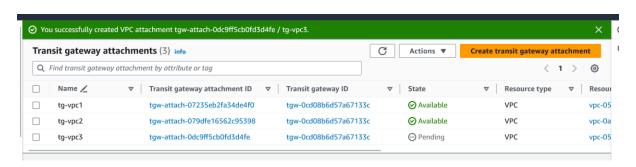


VPC ID

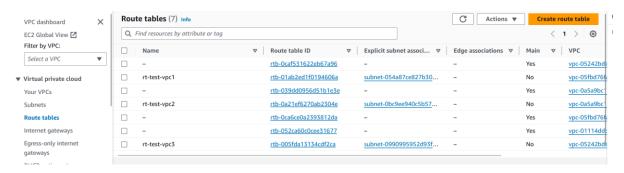
Select the VPC to attach to the transit gateway.

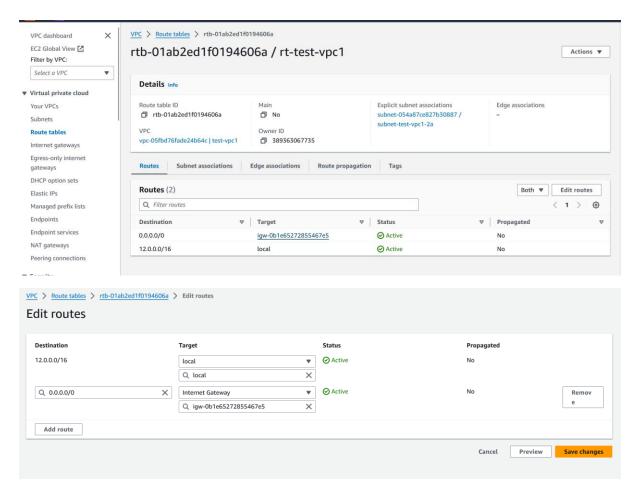
vpc-05242bda79edeb436

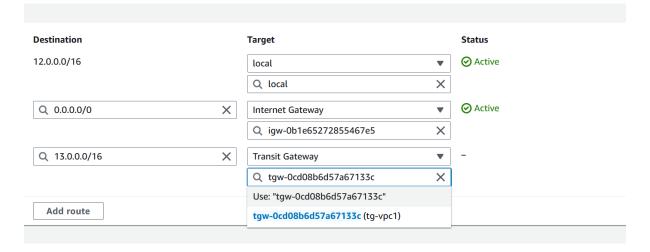


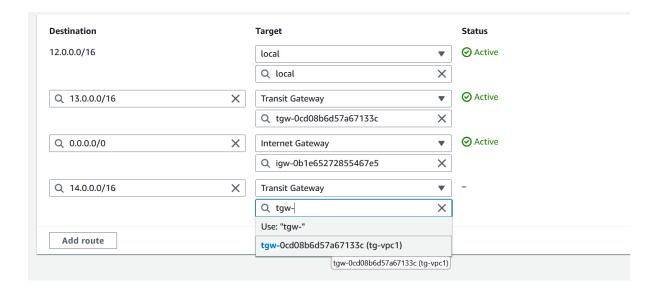


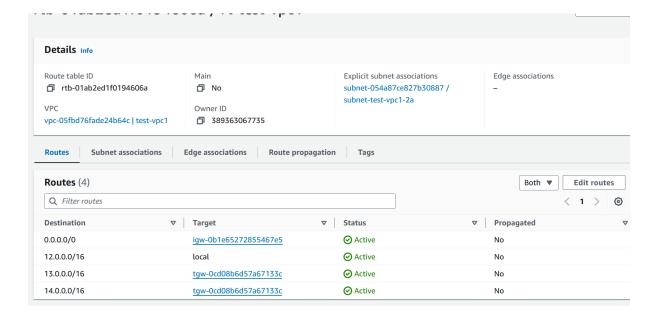
Now goto routers and make modify routing table for transit gateway.



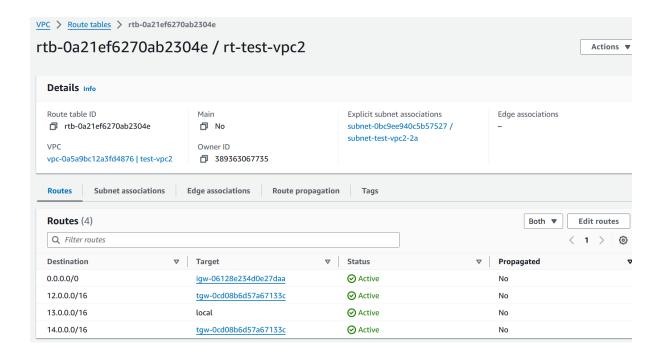




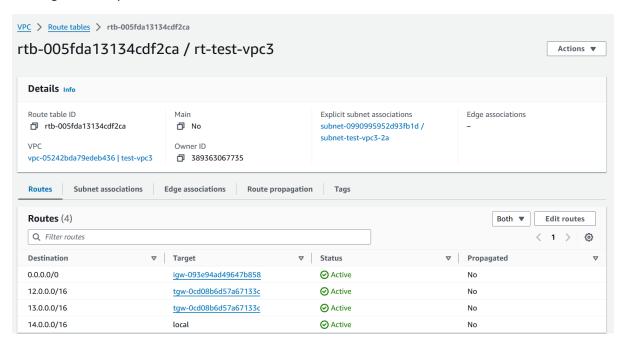




Routing table of vpc2



Routing table of vpc3



```
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem test-vpc2-key.pem
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem test-vpc2-key.pem test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ sudo chmod 400 test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ ls -l test-vpc3-key.pem
-r-----. 1 ec2-user ec2-user 1674 Feb 17 08:29 test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem test-vpc2-key.pem test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ watchls
-bash: watchls: command not found
[ec2-user@ip-12-0-1-127 ~]$ watch ls
[2]+ Stopped
                               watch ls
[ec2-user@ip-12-0-1-127 ~]$ ls -lart
total 24
-rw-r--r-. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
-rw-r--r-. 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r-. 1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout drwxr-xr-x. 3 root root 22 Feb 17 07:54 ..
drwxr-xr-x. 3 root root
-r-----. 1 ec2-user ec2-user 1674 Feb 17 08:15 test-vpc2-key.pem
drwx----. 2 ec2-user ec2-user 71 Feb 17 08:17 .ssh
-r------ 1 ec2-user ec2-user 1678 Feb 17 08:24 test-vpc1-key.pem drwx----- 3 ec2-user ec2-user 149 Feb 17 08:29 .
-r-----. 1 ec2-user ec2-user 1674 Feb 17 08:29 test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ watch ls
```

```
[ec2-user@ip-12-0-1-127 ~]$ ssh -i "test-vpc2-key.pem" ec2-user@3.149.249.73 The authenticity of host '3.149.249.73 (3.149.249.73)' can't be established.
ED25519 key fingerprint is SHA256:C9gbsKVQOzfyUB50tL/ffTrwGF6e661aN0+KlhBFqM8.
This host key is known by the following other names/addresses:

~/.ssh/known_hosts:1: 13.0.1.171

Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.149.249.73' (ED25519) to the list of known hosts.
          ####
                          Amazon Linux 2023
          #####\
           \###|
                          https://aws.amazon.com/linux/amazon-linux-2023
Last login: Sat Feb 17 08:35:34 2024 from 49.37.162.161
[ec2-user@ip-13-0-1-171 ~]$ ssh -i "test-vpc3-key.pem" ec2-user@3.145.62.57
The authenticity of host '3.145.62.57 (3.145.62.57)' can't be established.
ED25519 key fingerprint is SHA256:byWHfQ3UlhIinTYFHU12AeEbtuEeb/Zd9KDbzLJzQSQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes Warning: Permanently added '3.145.62.57' (ED25519) to the list of known hosts.
          ####
                          Amazon Linux 2023
          #####\
            \###|
                          https://aws.amazon.com/linux/amazon-linux-2023
                    Last login: Sat Feb 17 08:36:22 2024 from 49.37.162.161
[ec2-user@ip-14-0-1-153 ~]$
```

In the below screenshots .. we can see that ec2-instance from VPC2(13.0.0.0/16) can connect to instance in VPC1(12.0.0.0/16) & VPC3(14.0.0.0/16)

```
🙀 Authenticating with public key "Imported-Openssh-Key"
                      • MobaXterm Personal Edition v23.3 •
                    (SSH client, X server and network tools)
      ➤ SSH session to ec2-user@3.149.249.73
        • Direct SSH
        • SSH compression : ✓

    SSH-browser

    X11-forwarding : x (disabled or not supported by server)

      ➤ For more info, ctrl+click on help or visit our website.
         #
        ####
                     Amazon Linux 2023
        #####\
         \###1
                     https://aws.amazon.com/linux/amazon-linux-2023
Last login: Sat Feb 17 08:17:31 2024 from 12.0.1.127
[ec2-user@ip-13-0-1-171 ~]$ watch ls
[1]+ Stopped
                              watch ls
[ec2-user@ip-13-0-1-171 ~]$ ls
[ec2-user@ip-13-0-1-171 ~]$ ls
test-vpc1-key.pem test-vpc2-key.pem test-vpc3-key.pem
[ec2-user@ip-13-0-1-171 ~]$ sudo chmod 400 test-vpc1-key.pem
ec2-user@ip-13-0-1-171 ~]$ sudo chmod 400 test-vpc2-key.pem
[ec2-user@ip-13-0-1-171 ~]$ sudo chmod 400 test-vpc3-key.pem
[ec2-user@ip-13-0-1-171 ~]$ ls -lart
total 28
-rw-r--r-. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
-rw-r--r-. 1 ec2-user ec2-user 141 Jan 28
                                141 Jan 28 2023 .bash_profile
18 Jan 28 2023 .bash_logout
                                             2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user
drwxr-xr-x. 3 root
                                  22 Feb 17 07:58 ...
                       root
drwx-----. 2 ec2-user ec2-user
                                  29 Feb 17 07:58 .ssh
-rw-----. 1 ec2-user ec2-user 70 Feb 17 08:25 .bash history
-r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc3-key.pem
-r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc2-key.pem
drwx-----. 3 ec2-user ec2-user 170 Feb 17 08:38
-r----. 1 ec2-user ec2-user 1678 Feb 17 08:38 test-vpc1-key.pem
[ec2-user@ip-13-0-1-171 ~]$ watch ls
```

```
rw-r--r-. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
rw-r--r-. 1 ec2-user ec2-user 141 Jan 28 2023 .bash profile
rw-r--r-. 1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
lrwxr-xr-x. 3 root
                                      22 Feb 17 07:58 ...
                        root
rw-----. 1 ec2-user ec2-user 70 Feb 17 08:25 .bash_history

r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc3-key.pem

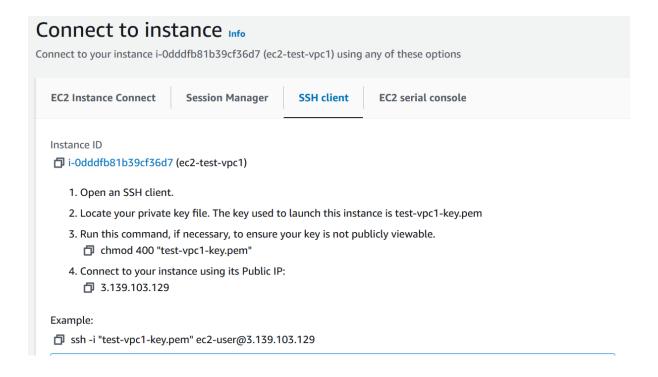
r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc2-key.pem

lrwx----. 3 ec2-user ec2-user 170 Feb 17 08:38 .

r-----. 1 ec2-user ec2-user 1678 Feb 17 08:38 test-vpc1-key.pem
ec2-user@ip-13-0-1-171 ~]$ watch ls
2]+ Stopped
                                  watch ls
[ec2-user@ip-13-0-1-171 ~]$
ec2-user@ip-13-0-1-171 ~]$ ssh -i "test-vpc1-key.pem" ec2-user@3.139.103.129
he authenticity of host '3.139.103.129 (3.139.103.129)' can't be established.
D25519 key fingerprint is SHA256:1kEOsuA5bbF6qdw45ZSOddfyFY0p5/B4+2al0LZttGI.
his key is not known by any other names
re you sure you want to continue connecting (yes/no/[fingerprint])? yes
arning: Permanently added '3.139.103.129' (ED25519) to the list of known hosts.
        Amazon Linux 2023
        #####\
          \###|
            \#/
                       https://aws.amazon.com/linux/amazon-linux-2023
         /m/'
ast login: Sat Feb 17 08:34:03 2024 from 49.37.162.161
ec2-user@ip-12-0-1-127 ~]$
ec2-user@ip-12-0-1-127 ~]$ ssh -i "test-vpc3-key.pem" ec2-user@3.145.62.57 he authenticity of host '3.145.62.57 (3.145.62.57)' can't be established.
D25519 key fingerprint is SHA256:byWHfQ3UlhIinTYFHU12AeEbtuEeb/Zd9KDbzLJzQSQ.
his key is not known by any other names
re you sure you want to continue connecting (yes/no/[fingerprint])?         yes
arning: Permanently added '3.145.62.57' (ED25519) to the list of known hosts.
        ####
                       Amazon Linux 2023
```

```
drwxr-xr-x. 3 root
                        root
                                    22 Feb 17 07:58 ...
                                    29 Feb 17 07:58 .ssh
drwx----. 2 ec2-user ec2-user
-rw-----. 1 ec2-user ec2-user
                                   70 Feb 17 08:25 .bash_history
 r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc3-key.pem
 r-----. 1 ec2-user ec2-user 1674 Feb 17 08:38 test-vpc2-key.pem
drwx----. 3 ec2-user ec2-user 170 Feb 17 08:38
-r------. 1 ec2-user ec2-user 1678 Feb 17 08:38 test-vpc1-key.pem
[ec2-user@ip-13-0-1-171 ~]$ watch ls
2]+ Stopped
                               watch ls
[ec2-user@ip-13-0-1-171 ~]$
[ec2-user@ip-13-0-1-171 ~]$ ssh -i "test-vpc1-key.pem" ec2-user@3.139.103.129
The authenticity of host '3.139.103.129 (3.139.103.129)' can't be established.
ED25519 key fingerprint is SHA256:1kEOsuA5bbF6qdw45ZSOddfyFY0p5/B4+2al0LZttGI.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.139.103.129' (ED25519) to the list of known host
        ####
                      Amazon Linux 2023
        #####\
          \###|
                      https://aws.amazon.com/linux/amazon-linux-2023
 .ast login: Sat Feb 17 08:34:03 2024 from 49.37.162.161
[ec2-user@ip-12-0-1-127 ~]$
ec2-user@ip-12-0-1-127 ~]$ ssh -i "test-vpc3-key.pem" ec2-user@3.145.62.57
The authenticity of host '3.145.62.57 (3.145.62.57)' can't be established.
ED25519 key fingerprint is SHA256:byWHfQ3UlhIinTYFHU12AeEbtuEeb/Zd9KDbzLJzQSQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?          yes
Warning: Permanently added '3.145.62.57' (ED25519) to the list of known hosts.
        ####
                      Amazon Linux 2023
        ####\
          \###1
                      https://aws.amazon.com/linux/amazon-linux-2023
             ۱ ~۷
Last login: Sat Feb 17 08:51:46 2024 from 3.149.249.73
[ec2-user@ip-14-0-1-153 ~]$ ■
```

Therefore ec2 instance from three different vpc's are connected.



All the three key files has to be present n uploaded for any kindf of access from different vpc & its mod has to be changed to 400

```
Amazon Linux 2023
                      https://aws.amazon.com/linux/amazon-linux-2023
Last login: Sat Feb 17 08:55:09 2024 from 3.149.249.73
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem test-vpc2-key.pem test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ rm test-vpc2-key.pem
rm: remove write-protected regular file 'test-vpc2-key.pem'? yes
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem test-vpc3-key.pem
[ec2-user@ip-12-0-1-127 ~]$ rm test-vpc3-key.pem
rm: remove write-protected regular file 'test-vpc3-key.pem'? yes
[ec2-user@ip-12-0-1-127 ~]$ ls
test-vpc1-key.pem
[ec2-user@ip-12-0-1-127 ~]$ ssh -i "test-vpc2-key.pem" ec2-user@3.149.249.73
Warning: Identity file test-vpc2-key.pem not accessible: No such file or directory.
ec2-user@3.149.249.73: Permission denied (publickey,gssapi-keyex,gssapi-with-mic). [ec2-user@ip-12-0-1-127 ~]$ ssh -i "test-vpc2-key.pem" ec2-user@13.0.1.171
Warning: Identity file test-vpc2-key.pem not accessible: No such file or directory.
ec2-user@13.0.1.171: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-12-0-1-127 ~]$
```