# 3 VPC PEERING

1. Created a VPC named BTS making it accessible allowing internet gateway, nat gateway and bastion host also.



2. Making the instance in public as bastion host and trying to go to internet with both instances in public and private in VPC 2

3. Created a VPC named EXO making it accessible allowing internet gateway, nat gateway and bastion host also.



**rtb-01b26adeb3538a88d / EXO rt**

Details Info

| Route table ID | Main | Explicit subnet associations | Edge associations |
|---|---|---|---|
| rtb-01b26adeb3538a88d | No | subnet-057e4f76e52dd83ff / EXO public | – |
| VPC | Owner ID | | |
| vpc-0e8a6872fcfdc72f5 \| EXO | 474441244675 | | |

Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2)

| Destination | Target | Status | Propagated |
|---|---|---|---|
| 0.0.0.0/0 | igw-05337544caa1086be | ⊘ Active | No |
| 10.0.1.0/24 | local | ⊘ Active | No |

VPC > Route tables > rtb-0cbb6013506295671

**rtb-0cbb6013506295671 / EXO private rt**

Details Info

| Route table ID | Main | Explicit subnet associations | Edge associations |
|---|---|---|---|
| rtb-0cbb6013506295671 | No | subnet-0c28e0de58c8473f5 / EXO private | – |
| VPC | Owner ID | | |
| vpc-0e8a6872fcfdc72f5 \| EXO | 474441244675 | | |

Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2)

| Destination | Target | Status | Propagated |
|---|---|---|---|
| 0.0.0.0/0 | nat-0052ddd7a8358e70f | ⊘ Active | No |
| 10.0.1.0/24 | local | ⊘ Active | No |

4. Making the instance in public as bastion host and trying to go to internet with both instances in public and private in VPC 2



```
[ec2-user@ip-10-0-1-103 ~]$ sudo su
[root@ip-10-0-1-103 ec2-user]# ssh -i exo.pem ec2-user@10.0.1.135
The authenticity of host '10.0.1.135 (10.0.1.135)' can't be established.
ED25519 key fingerprint is SHA256:uFwXwwox0six91gXgyDrOuXl8CxcJXkz/KSD2au1Zjg.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.1.135' (ED25519) to the list of known hosts.
       #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-10-0-1-135 ~]$ sudo su
[root@ip-10-0-1-135 ec2-user]# ping www.google.com
PING www.google.com (172.253.63.147) 56(84) bytes of data.
64 bytes from bi-in-f147.1e100.net (172.253.63.147): icmp_seq=1 ttl=51 time=3.33 ms
64 bytes from bi-in-f147.1e100.net (172.253.63.147): icmp_seq=2 ttl=51 time=2.75 ms
64 bytes from bi-in-f147.1e100.net (172.253.63.147): icmp_seq=3 ttl=51 time=2.76 ms
64 bytes from bi-in-f147.1e100.net (172.253.63.147): icmp_seq=4 ttl=51 time=2.74 ms
^C
--- www.google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 2.744/2.896/3.331/0.251 ms
[root@ip-10-0-1-135 ec2-user]#
```

5. VPC peering between 1<sup>st</sup> and 2<sup>nd</sup> VPC

rtb-0c9432a86a7d8ae6f / BTS rt                                               Actions ▼

**Details** Info

| Route table ID | Main | Explicit subnet associations | Edge associations |
| rtb-0c9432a86a7d8ae6f | No | subnet-0c3ee4df3db4a6352 / BTS public | – |
| VPC | Owner ID | | |
| vpc-0e584f7924909f0ef \| BTS | 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (3)                                                              Edit routes
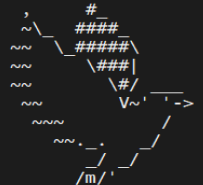
Q Filter routes            Both ▼              ‹ 1 ›  ⚙

| Destination | Target | Status | Propagated |
|---|---|---|---|
| 0.0.0.0/0 | igw-063a7d292718ce24d | ⊘ Active | No |
| 10.0.0.0/24 | local | ⊘ Active | No |
| 10.0.1.0/24 | pcx-0e8fa578d9ec9259e | ⊘ Active | No |

rtb-01b26adeb3538a88d / EXO rt                                              Actions ▼

**Details** Info

| Route table ID | Main | Explicit subnet associations | Edge associations |
| rtb-01b26adeb3538a88d | No | subnet-057e4f76e52dd83ff / EXO public | – |
| VPC | Owner ID | | |
| vpc-0e8a6872fcfdc72f5 \| EXO | 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (3)                                                              Edit routes

Q Filter routes            Both ▼              ‹ 1 ›  ⚙

| Destination | Target | Status | Propagated |
|---|---|---|---|
| 0.0.0.0/0 | igw-05337544caa1086be | ⊘ Active | No |
| 10.0.0.0/24 | pcx-0e8fa578d9ec9259e | ⊘ Active | No |
| 10.0.1.0/24 | local | ⊘ Active | No |

6. VPC peering is successful and communication is happening

```
Last login: Tue Sep 12 05:55:01 2023 from 157.48.145.130
[ec2-user@ip-10-0-0-82 ~]$ sudo su
[root@ip-10-0-0-82 ec2-user]# ping 10.0.1.103
PING 10.0.1.103 (10.0.1.103) 56(84) bytes of data.
64 bytes from 10.0.1.103: icmp_seq=1 ttl=127 time=1.31 ms
64 bytes from 10.0.1.103: icmp_seq=2 ttl=127 time=0.963 ms
64 bytes from 10.0.1.103: icmp_seq=3 ttl=127 time=1.03 ms
64 bytes from 10.0.1.103: icmp_seq=4 ttl=127 time=0.988 ms
64 bytes from 10.0.1.103: icmp_seq=5 ttl=127 time=0.929 ms
64 bytes from 10.0.1.103: icmp_seq=6 ttl=127 time=1.01 ms
64 bytes from 10.0.1.103: icmp_seq=7 ttl=127 time=0.958 ms
^C
--- 10.0.1.103 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6007ms
rtt min/avg/max/mdev = 0.929/1.027/1.313/0.120 ms
[root@ip-10-0-0-82 ec2-user]#
```

```
Last login: Tue Sep 12 05:59:41 2023 from 157.48.88.11
[ec2-user@ip-10-0-1-103 ~]$ sudo su
[root@ip-10-0-1-103 ec2-user]# ping 10.0.0.82
PING 10.0.0.82 (10.0.0.82) 56(84) bytes of data.
64 bytes from 10.0.0.82: icmp_seq=1 ttl=127 time=0.869 ms
64 bytes from 10.0.0.82: icmp_seq=2 ttl=127 time=1.03 ms
64 bytes from 10.0.0.82: icmp_seq=3 ttl=127 time=1.00 ms
64 bytes from 10.0.0.82: icmp_seq=4 ttl=127 time=1.01 ms
^C
--- 10.0.0.82 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3070ms
rtt min/avg/max/mdev = 0.869/0.979/1.034/0.064 ms
[root@ip-10-0-1-103 ec2-user]#
```

7. Created a VPC named EXO making it accessible allowing internet gateway, nat gateway and bastion host also.

## rtb-00f752ff748ca56dd / TXT rt

Actions ▼

**Details** Info

| | | | |
|---|---|---|---|
| Route table ID | Main | Explicit subnet associations | Edge associations |
| rtb-00f752ff748ca56dd | No | subnet-0c7bc55acda7f33b9 / TXT public | – |
| VPC | Owner ID | | |
| vpc-0fde006bab68498de \| TXT | 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (2)     Edit routes

| Filter routes | | Both ▼ | | ‹ 1 › ⚙ |

| Destination ▽ | Target ▽ | Status ▽ | Propagated ▽ |
|---|---|---|---|
| 0.0.0.0/0 | igw-0b18aaa827ec19d7a | ⊘ Active | No |
| 10.0.2.0/24 | local | ⊘ Active | No |

## rtb-0a81abd64a11744a5 / TXT private rt

Actions ▼

**Details** Info

| | | | |
|---|---|---|---|
| Route table ID | Main | Explicit subnet associations | Edge associations |
| rtb-0a81abd64a11744a5 | No | subnet-064950ce6e9912afc / TXT private | – |
| VPC | Owner ID | | |
| vpc-0fde006bab68498de \| TXT | 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (2)     Edit routes

| Filter routes | | Both ▼ | | ‹ 1 › ⚙ |

| Destination ▽ | Target ▽ | Status ▽ | Propagated ▽ |
|---|---|---|---|
| 0.0.0.0/0 | nat-0a39361dc4d76fd13 | ⊘ Active | No |
| 10.0.2.0/24 | local | ⊘ Active | No |

8. Making the instance in public as bastion host and trying to go to internet with both instances in public and private in VPC 2

```
[ec2-user@ip-10-0-2-80 ~]$ sudo su
[root@ip-10-0-2-80 ec2-user]# ssh -i txt.pem ec2-user@10.0.2.148
The authenticity of host '10.0.2.148 (10.0.2.148)' can't be established.
ED25519 key fingerprint is SHA256:FfOCoC8eYjch7rlIfMpavjI7DzV1K9UiSdd1NTqraac.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.2.148' (ED25519) to the list of known hosts.
       ,  #_
       ~\_  ####_        Amazon Linux 2023
      ~~  \_#####\
      ~~     \###|
      ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
       ~~       V~' '->
        ~~~         /
          ~~._.   _/
             _/ _/
           _/m/'
[ec2-user@ip-10-0-2-148 ~]$ sudo su
[root@ip-10-0-2-148 ec2-user]# ping www.google.com
PING www.google.com (142.251.163.99) 56(84) bytes of data.
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=1 ttl=48 time=3.34 ms
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=2 ttl=48 time=2.72 ms
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=3 ttl=48 time=2.67 ms
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=4 ttl=48 time=2.67 ms
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=5 ttl=48 time=2.73 ms
64 bytes from wv-in-f99.1e100.net (142.251.163.99): icmp_seq=6 ttl=48 time=2.65 ms
^C
--- www.google.com ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5007ms
rtt min/avg/max/mdev = 2.654/2.797/3.337/0.242 ms
[root@ip-10-0-2-148 ec2-user]#
```

9. Peering creation between 3 VPCs

**Peering connections** (3) Info                     Actions ▼     Create peering connection

Q Filter peering connections                                    < 1 >   ⚙

| | Name | Peering connection ID | Status | Requester VPC | Accepter VPC | Requester CI |
|---|---|---|---|---|---|---|
| ○ | BTS-EXO | pcx-0e8fa578d9ec9259e | ⊘ Active | vpc-0e584f7924909f0ef / BTS | vpc-0e8a6872fcfdc72f5 / EXO | 10.0.0.0/24 |
| ○ | BTS-TXT | pcx-01a5b03bcdbf74359 | ⊘ Active | vpc-0e584f7924909f0ef / BTS | vpc-0fde006bab68498de / TXT | 10.0.0.0/24 |
| ○ | EXO-TXT | pcx-00554befc2b0fde72 | ⊘ Active | vpc-0e8a6872fcfdc72f5 / EXO | vpc-0fde006bab68498de / TXT | 10.0.1.0/24 |

10. 3 VPC peering routes adding

### rtb-0c9432a86a7d8ae6f / BTS rt                                    Actions ▼

**Details** Info

| Route table ID | Main | Explicit subnet associations | Edge associations |
|---|---|---|---|
| ⎘ rtb-0c9432a86a7d8ae6f | ⎘ No | subnet-0c3ee4df3db4a6352 / BTS public | – |
| **VPC** | **Owner ID** | | |
| vpc-0e584f7924909f0ef | BTS | ⎘ 474441244675 | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (4)                                                      Edit routes

Q Filter routes                        Both ▼                      < 1 >   ⚙

| Destination | Target | Status | Propagated |
|---|---|---|---|
| 0.0.0.0/0 | igw-063a7d292718ce24d | ⊘ Active | No |
| 10.0.0.0/24 | local | ⊘ Active | No |
| 10.0.1.0/24 | pcx-0e8fa578d9ec9259e | ⊘ Active | No |
| 10.0.2.0/24 | pcx-01a5b03bcdbf74359 | ⊘ Active | No |

## rtb-00f752ff748ca56dd / TXT rt

Actions ▼

### Details Info

| | | | |
|---|---|---|---|
| Route table ID | Main | Explicit subnet associations | Edge associations |
| ⬚ rtb-00f752ff748ca56dd | ⬚ No | subnet-0c7bc55acda7f33b9 / TXT public | – |
| VPC | Owner ID | | |
| vpc-0fde006bab68498de \| TXT | ⬚ 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (4)                                                      Edit routes

🔍 Filter routes                                    Both ▼        < 1 >  ⚙

| Destination ▽ | Target ▽ | Status ▽ | Propagated ▽ |
|---|---|---|---|
| 0.0.0.0/0 | igw-0b18aaa827ec19d7a | ⊘ Active | No |
| 10.0.0.0/24 | pcx-01a5b03bcdbf74359 | ⊘ Active | No |
| 10.0.1.0/24 | pcx-00554befc2b0fde72 | ⊘ Active | No |
| 10.0.2.0/24 | local | ⊘ Active | No |

## rtb-01b26adeb3538a88d / EXO rt

Actions ▼

### Details Info

| | | | |
|---|---|---|---|
| Route table ID | Main | Explicit subnet associations | Edge associations |
| ⬚ rtb-01b26adeb3538a88d | ⬚ No | subnet-057e4f76e52dd83ff / EXO public | – |
| VPC | Owner ID | | |
| vpc-0e8a6872fcfdc72f5 \| EXO | ⬚ 474441244675 | | |

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes** (4)                                                      Edit routes

🔍 Filter routes                                    Both ▼        < 1 >  ⚙

| Destination ▽ | Target ▽ | Status ▽ | Propagated ▽ |
|---|---|---|---|
| 0.0.0.0/0 | igw-05337544caa1086be | ⊘ Active | No |
| 10.0.0.0/24 | pcx-0e8fa578d9ec9259e | ⊘ Active | No |
| 10.0.1.0/24 | local | ⊘ Active | No |
| 10.0.2.0/24 | pcx-00554befc2b0fde72 | ⊘ Active | No |

11. Checking the peering connection.

```
Last login: Tue Sep 12 06:27:52 2023 from 157.48.132.173
[ec2-user@ip-10-0-2-80 ~]$
[ec2-user@ip-10-0-2-80 ~]$ sudo su
[root@ip-10-0-2-80 ec2-user]# ping 10.0.0.82
PING 10.0.0.82 (10.0.0.82) 56(84) bytes of data.
64 bytes from 10.0.0.82: icmp_seq=1 ttl=127 time=1.42 ms
64 bytes from 10.0.0.82: icmp_seq=2 ttl=127 time=0.856 ms
64 bytes from 10.0.0.82: icmp_seq=3 ttl=127 time=0.952 ms
64 bytes from 10.0.0.82: icmp_seq=4 ttl=127 time=0.923 ms
64 bytes from 10.0.0.82: icmp_seq=5 ttl=127 time=0.898 ms
^C
--- 10.0.0.82 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 0.856/1.009/1.418/0.206 ms
[root@ip-10-0-2-80 ec2-user]# ping 10.0.1.103
PING 10.0.1.103 (10.0.1.103) 56(84) bytes of data.
64 bytes from 10.0.1.103: icmp_seq=1 ttl=127 time=1.11 ms
64 bytes from 10.0.1.103: icmp_seq=2 ttl=127 time=0.680 ms
64 bytes from 10.0.1.103: icmp_seq=3 ttl=127 time=0.675 ms
64 bytes from 10.0.1.103: icmp_seq=4 ttl=127 time=0.725 ms
64 bytes from 10.0.1.103: icmp_seq=5 ttl=127 time=0.950 ms
64 bytes from 10.0.1.103: icmp_seq=6 ttl=127 time=0.693 ms
^C
--- 10.0.1.103 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5087ms
rtt min/avg/max/mdev = 0.675/0.804/1.106/0.164 ms
[root@ip-10-0-2-80 ec2-user]#
```

```
                    _/III/
Last login: Tue Sep 12 06:12:49 2023 from 157.48.223.95
[ec2-user@ip-10-0-1-103 ~]$ sudo su
[root@ip-10-0-1-103 ec2-user]# ping 10.0.0.82
PING 10.0.0.82 (10.0.0.82) 56(84) bytes of data.
64 bytes from 10.0.0.82: icmp_seq=1 ttl=127 time=0.942 ms
64 bytes from 10.0.0.82: icmp_seq=2 ttl=127 time=1.02 ms
64 bytes from 10.0.0.82: icmp_seq=3 ttl=127 time=1.10 ms
64 bytes from 10.0.0.82: icmp_seq=4 ttl=127 time=1.05 ms
^C
--- 10.0.0.82 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 0.942/1.026/1.099/0.056 ms
[root@ip-10-0-1-103 ec2-user]# ping 10.0.2.80
PING 10.0.2.80 (10.0.2.80) 56(84) bytes of data.
64 bytes from 10.0.2.80: icmp_seq=1 ttl=127 time=0.642 ms
64 bytes from 10.0.2.80: icmp_seq=2 ttl=127 time=0.718 ms
64 bytes from 10.0.2.80: icmp_seq=3 ttl=127 time=0.720 ms
64 bytes from 10.0.2.80: icmp_seq=4 ttl=127 time=0.773 ms
64 bytes from 10.0.2.80: icmp_seq=5 ttl=127 time=0.738 ms
^C
--- 10.0.2.80 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4184ms
rtt min/avg/max/mdev = 0.642/0.718/0.773/0.042 ms
[root@ip-10-0-1-103 ec2-user]#
```

```
                    _/III/
Last login: Tue Sep 12 06:10:15 2023 from 157.48.223.95
[ec2-user@ip-10-0-0-82 ~]$ sudo su
[root@ip-10-0-0-82 ec2-user]# ping 10.0.1.103
PING 10.0.1.103 (10.0.1.103) 56(84) bytes of data.
64 bytes from 10.0.1.103: icmp_seq=1 ttl=127 time=1.12 ms
64 bytes from 10.0.1.103: icmp_seq=2 ttl=127 time=1.09 ms
64 bytes from 10.0.1.103: icmp_seq=3 ttl=127 time=0.953 ms
64 bytes from 10.0.1.103: icmp_seq=4 ttl=127 time=1.08 ms
64 bytes from 10.0.1.103: icmp_seq=5 ttl=127 time=0.984 ms
^C
--- 10.0.1.103 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 0.953/1.045/1.124/0.065 ms
[root@ip-10-0-0-82 ec2-user]# ping 10.0.2.80
PING 10.0.2.80 (10.0.2.80) 56(84) bytes of data.
64 bytes from 10.0.2.80: icmp_seq=1 ttl=127 time=0.901 ms
64 bytes from 10.0.2.80: icmp_seq=2 ttl=127 time=0.872 ms
64 bytes from 10.0.2.80: icmp_seq=3 ttl=127 time=0.879 ms
64 bytes from 10.0.2.80: icmp_seq=4 ttl=127 time=0.877 ms
^C
--- 10.0.2.80 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 0.872/0.882/0.901/0.011 ms
[root@ip-10-0-0-82 ec2-user]#
```