

21A91A6148

Creation of VPC

Your VPCs (4) Info

Find resources by attribute or tag

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<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP
<input type="checkbox"/>	BTS	vpc-016bde929ab0f21cc	Available	10.0.0.0/16	-	dopt
<input type="checkbox"/>	-	vpc-0f293be14a146bb0c	Available	172.31.0.0/16	-	dopt
<input type="checkbox"/>	Work VPC	vpc-0c4b7682021985e1a	Available	10.0.0.0/16	-	dopt
<input type="checkbox"/>	EXO	vpc-0e02f68d5da198bd4	Available	172.20.0.0/16	-	dopt

Creation of Subnets

Subnets (11) Info

Find resources by attribute or tag

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<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	BTS private	subnet-028ed47f785993e0e	Available	vpc-016bde929ab0f21cc BTS	10.0.2.0/24
<input type="checkbox"/>	-	subnet-0e33f2137f4995e32	Available	vpc-0f293be14a146bb0c	172.31.80.0/20
<input type="checkbox"/>	-	subnet-044ddaa44498accab	Available	vpc-0f293be14a146bb0c	172.31.64.0/20
<input type="checkbox"/>	-	subnet-04235d2c414607342	Available	vpc-0f293be14a146bb0c	172.31.48.0/20
<input type="checkbox"/>	-	subnet-02a075fccda1911c1	Available	vpc-0f293be14a146bb0c	172.31.32.0/20
<input type="checkbox"/>	EXO private	subnet-08346016394491773	Available	vpc-0e02f68d5da198bd4 EXO	172.20.2.0/24
<input type="checkbox"/>	-	subnet-0509e8d07217894a9	Available	vpc-0f293be14a146bb0c	172.31.16.0/20
<input type="checkbox"/>	Work Public Subnet	subnet-0af6ec8dc94db5527	Available	vpc-0c4b7682021985e1a Wor...	10.0.0.0/24
<input type="checkbox"/>	-	subnet-03140d1699d72b1b2	Available	vpc-0f293be14a146bb0c	172.31.0.0/20
<input type="checkbox"/>	EXO public	subnet-0da991febe8084d73	Available	vpc-0e02f68d5da198bd4 EXO	172.20.1.0/24
<input type="checkbox"/>	BTS public	subnet-0c17a65a0ee67c562	Available	vpc-016bde929ab0f21cc BTS	10.0.1.0/24

Creation of Routing Tables

Route tables (6) Info

Find resources by attribute or tag

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<input type="checkbox"/>	Name	Route table ID	Explicit subnet associati...	Edge associations	Main	VPC
<input type="checkbox"/>	Work Public Route Table	rtb-081cb0ef1eebc7536	subnet-0af6ec8dc94db55...	-	No	vpc-0c4b7682021985e...
<input type="checkbox"/>	-	rtb-08d36c05f796a8577	-	-	Yes	vpc-0f293be14a146bb0c
<input type="checkbox"/>	-	rtb-0a8a6d9eda948cc8f	-	-	Yes	vpc-0c4b7682021985e...
<input type="checkbox"/>	-	rtb-01cf7a40af2adfab7	-	-	Yes	vpc-016bde929ab0f21c
<input type="checkbox"/>	BTS rt	rtb-04f92f12aecf3e572	subnet-0c17a65a0ee67c...	-	No	vpc-016bde929ab0f21c
<input type="checkbox"/>	BTS private rt	rtb-07b96c4660e4c3f41	subnet-028ed47f785993...	-	No	vpc-016bde929ab0f21c

Adding Internet gateway to 1st route means public route

rtb-04f92f12aecf3e572 / BTS rt

Actions

Details Info

Route table ID

rtb-04f92f12aecf3e572

VPC

vpc-016bde929ab0f21cc | BTS

Main

No

Owner ID

474441244675

Explicit subnet associations

subnet-0c17a65a0ee67c562 / BTS public

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Filter routes

Both

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Destination	Target	Status	Propagated
0.0.0.0/0	igw-0d7ad03658e770ee0	Active	No
10.0.0.0/16	local	Active	No

- Adding nat gateway to private route we created for vpc

rtb-07b96c4660e4c3f41 / BTS private rt

Actions

Details

Info

Route table ID

rtb-07b96c4660e4c3f41

Main

No

Explicit subnet associations

subnet-028ed47f785993e0e / BTS private

Edge associations

-

VPC

vpc-016bde929ab0f21cc | BTS

Owner ID

474441244675

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Edit routes

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Filter routes

Both

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Destination	Target	Status	Propagated
0.0.0.0/0	nat-0e8b327675f4450c9	Active	No
10.0.0.0/16	local	Active	No

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

The terminal window displays the following commands and outputs:

```
[ec2-user@ip-10-0-1-9 ~]$ sudo su
[root@ip-10-0-1-9 ec2-user]# ping www.google.com
PING www.google.com (172.253.115.103) 56(84) bytes of data.
64 bytes from bg-in-f103.1e100.net (172.253.115.103): icmp_seq=1 ttl=55 time=2.19 ms
64 bytes from bg-in-f103.1e100.net (172.253.115.103): icmp_seq=2 ttl=55 time=2.17 ms
64 bytes from bg-in-f103.1e100.net (172.253.115.103): icmp_seq=3 ttl=55 time=2.16 ms
64 bytes from bg-in-f103.1e100.net (172.253.115.103): icmp_seq=4 ttl=55 time=2.17 ms
64 bytes from bg-in-f103.1e100.net (172.253.115.103): icmp_seq=5 ttl=55 time=2.21 ms
^C
--- www.google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 2.161/2.180/2.211/0.017 ms
[root@ip-10-0-1-9 ec2-user]# ssh -i btss.pem ec2-user@10.0.2.248
The authenticity of host '10.0.2.248 (10.0.2.248)' can't be established.
ED25519 key fingerprint is SHA256:s8bRQvfnixVhlJc8ukXdnkJZ/78ikPaqDB5rH03czQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.2.248' (ED25519) to the list of known hosts.
```

A diagram shows a connection between two EC2 instances:

- Instance 1: ip-10-0-1-9 Amazon Linux 2023
- Instance 2: ip-10-0-2-248 Amazon Linux 2023

The connection path is labeled with the URL: <https://aws.amazon.com/linux/amazon-linux-2023>.

```
[ec2-user@ip-10-0-2-248 ~]$ sudo su
[root@ip-10-0-2-248 ec2-user]# ping www.google.com
PING www.google.com (172.253.122.103) 56(84) bytes of data.
64 bytes from bi-in-f103.1e100.net (172.253.63.103): icmp_seq=1 ttl=50 time=2.87 ms
64 bytes from bi-in-f103.1e100.net (172.253.63.103): icmp_seq=2 ttl=50 time=2.26 ms
64 bytes from bi-in-f103.1e100.net (172.253.63.103): icmp_seq=3 ttl=50 time=2.33 ms
64 bytes from bi-in-f103.1e100.net (172.253.63.103): icmp_seq=4 ttl=50 time=2.36 ms
64 bytes from bi-in-f103.1e100.net (172.253.63.103): icmp_seq=5 ttl=50 time=2.20 ms
```

- Created routes for 2nd VPC

Route tables (9) Info							↻ Actions ▾ Create route table	
<input type="text" value="Find resources by attribute or tag"/>							< 1 > ⚙️	
<input type="checkbox"/>	Name ▾	Route table ID ▾	Explicit subnet associati...	Edge associations	Main ▾	VPC		
<input type="checkbox"/>	-	rtb-01cf7a40af2adf4b7	-	-	Yes	vpc-016bde929ab0f21...		
<input type="checkbox"/>	BTS rt	rtb-04f92f12aecf3e572	subnet-0c17a65a0ee67c...	-	No	vpc-016bde929ab0f21...		
<input type="checkbox"/>	BTS private rt	rtb-07b96c4660e4c3f41	subnet-028ed47f785993...	-	No	vpc-016bde929ab0f21...		
<input type="checkbox"/>	-	rtb-01bc9470271041802	-	-	Yes	vpc-0e02f68d5da198b...		
<input type="checkbox"/>	EXO rt	rtb-0b38b980eb72cb4ec	subnet-0da991febe8084...	-	No	vpc-0e02f68d5da198b...		
<input type="checkbox"/>	EXO rt private	rtb-00a09a17112ca3d0a	subnet-08346016394491...	-	No	vpc-0e02f68d5da198b...		

- Adding internet gateway to public rt

rtb-Ob38b980eb72cb4ec / EXO rt

Actions

Details info

Route table ID

rtb-Ob38b980eb72cb4ec

Owner ID

474441244675

Explicit subnet associations

subnet-0da991febe8084d73 / EXO public

Edge associations

-

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-0c8411c6af7898185	Active	No
172.20.0.0/16	local	Active	No

- Adding nat gateway to private rt we created

rtb-00a09a17112ca3d0a / EXO rt private

Actions

Details Info

Route table ID

rtb-00a09a17112ca3d0a

VPC

vpc-0e02f68d5da198bd4 | EXO

Main

No

Owner ID

474441244675

Explicit subnet associations

[subnet-08346016394491773](#) / EXO private

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Edit routes

Both

Destination	Target	Status	Propagated
0.0.0.0/0	nat-05fa2a0aa94188663	Active	No
172.20.0.0/16	local	Active	No

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

```

    _/_/_/_/
   /m/'_/_/

Last login: Mon Sep 11 05:34:56 2023 from 157.48.188.207
[ec2-user@ip-172-20-1-106 ~]$ sudo su
[root@ip-172-20-1-106 ec2-user]# ping www.google.com
ping: www.google.com: Name or service not known
[root@ip-172-20-1-106 ec2-user]# ping www.google.com
PING www.google.com (172.253.115.99) 56(84) bytes of data.
64 bytes from bg-in-f99.1e100.net (172.253.115.99): icmp_seq=1 ttl=53 time=2.47 ms
64 bytes from bg-in-f99.1e100.net (172.253.115.99): icmp_seq=2 ttl=53 time=2.45 ms
64 bytes from bg-in-f99.1e100.net (172.253.115.99): icmp_seq=3 ttl=53 time=2.45 ms
64 bytes from bg-in-f99.1e100.net (172.253.115.99): icmp_seq=4 ttl=53 time=2.44 ms
^C
--- www.google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 2.436/2.449/2.468/0.011 ms
[root@ip-172-20-1-106 ec2-user]# ssh -i exo.pem ec2-user@172.20.2.202
ssh: Could not resolve hostname 172.20.2.202: Name or service not known
[root@ip-172-20-1-106 ec2-user]# ssh -i exo.pem ec2-user@172.20.2.202
The authenticity of host '172.20.2.202 (172.20.2.202)' can't be established.
ED25519 key fingerprint is SHA256:BF0tgGKmFtiQFS2TZNXkIMxRtZU2VXNBBUh8bZ36RHU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.20.2.202' (ED25519) to the list of known hosts.

      #
     _/_/_/_/
    /m/'_/_/

Amazon Linux 2023

https://aws.amazon.com/linux/amazon-linux-2023

    _/_/_/_/
   /m/'_/_/

[ec2-user@ip-172-20-2-202 ~]$ sudo su
[root@ip-172-20-2-202 ec2-user]# ping www.google.com
PING www.google.com (172.253.122.147) 56(84) bytes of data.
64 bytes from bh-in-f147.1e100.net (172.253.122.147): icmp_seq=1 ttl=49 time=3.37 ms
64 bytes from bh-in-f147.1e100.net (172.253.122.147): icmp_seq=2 ttl=49 time=2.92 ms
64 bytes from bh-in-f147.1e100.net (172.253.122.147): icmp_seq=3 ttl=49 time=2.85 ms
^C

```

- Creating VPC peering between two VPC

VPC > Peering connections > pcx-0b6ed32141b65f1d4

pcx-0b6ed32141b65f1d4 / BTS-EXO

Actions ▾

Details [Info](#)

Requester owner ID 474441244675	Accepter owner ID 474441244675	VPC Peering connection ARN arn:aws:ec2:us-east-1:474441244675:vpc-peering-connection/pcx-0b6ed32141b65f1d4
Peering connection ID pcx-0b6ed32141b65f1d4	Requester VPC vpc-016bde929ab0f21cc / BTS	Accepter VPC vpc-0e02f68d5da198bd4 / EXO
Status Active	Requester CIDRs 10.0.0.0/16	Accepter CIDRs 172.20.0.0/16
Expiration time -	Requester Region N. Virginia (us-east-1)	Accepter Region N. Virginia (us-east-1)

- Adding peering connection to both rts using ipv4 cidr of VPC

Details [Info](#)

Route table ID rtb-04f92f12aecf3e572	Main No	Explicit subnet associations subnet-0c17a65a0ee67c562 / BTS public	Edge associations -
VPC vpc-016bde929ab0f21cc BTS	Owner ID 474441244675		

[Routes](#) | [Subnet associations](#) | [Edge associations](#) | [Route propagation](#) | [Tags](#)

Routes (3) [Edit routes](#)

Filter routes

Both ▾

Destination ▾	Target ▾	Status ▾	Propagated ▾
0.0.0.0/0	igw-0d7ad03658e770ee0	Active	No
10.0.0.0/16	local	Active	No
172.20.0.0/16	pcx-0b6ed32141b65f1d4	Active	No

Details [Info](#)

Route table ID rtb-0b38b980eb72cb4ec	Main No	Explicit subnet associations subnet-0da991febe8084d73 / EXO public	Edge associations -
VPC vpc-0e02f68d5da198bd4 EXO	Owner ID 474441244675		

[Routes](#) | [Subnet associations](#) | [Edge associations](#) | [Route propagation](#) | [Tags](#)

Routes (3) [Edit routes](#)

Filter routes

Both ▾

Destination ▾	Target ▾	Status ▾	Propagated ▾
0.0.0.0/0	igw-0c8411c6af7898185	Active	No
10.0.0.0/16	pcx-0b6ed32141b65f1d4	Active	No
172.20.0.0/16	local	Active	No

- Pinging One VPC instance with another VPC instance

```
Last login: Mon Sep 11 06:07:47 2023 from 157.47.19.64
[ec2-user@ip-172-20-1-106 ~]$ sudo su
[root@ip-172-20-1-106 ec2-user]# ping 10.0.1.9
PING 10.0.1.9 (10.0.1.9) 56(84) bytes of data.
64 bytes from 10.0.1.9: icmp_seq=1 ttl=127 time=0.733 ms
64 bytes from 10.0.1.9: icmp_seq=2 ttl=127 time=0.772 ms
64 bytes from 10.0.1.9: icmp_seq=3 ttl=127 time=0.842 ms
64 bytes from 10.0.1.9: icmp_seq=4 ttl=127 time=0.846 ms
64 bytes from 10.0.1.9: icmp_seq=5 ttl=127 time=0.886 ms
^C
--- 10.0.1.9 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4115ms
rtt min/avg/max/mdev = 0.733/0.815/0.886/0.055 ms
[root@ip-172-20-1-106 ec2-user]#
```

```
Last login: Mon Sep 11 06:03:19 2023 from 157.47.19.64
[ec2-user@ip-10-0-1-9 ~]$ sudo su
[root@ip-10-0-1-9 ec2-user]# ping 172.20.1.106
PING 172.20.1.106 (172.20.1.106) 56(84) bytes of data.
64 bytes from 172.20.1.106: icmp_seq=1 ttl=127 time=1.14 ms
64 bytes from 172.20.1.106: icmp_seq=2 ttl=127 time=0.759 ms
64 bytes from 172.20.1.106: icmp_seq=3 ttl=127 time=1.03 ms
64 bytes from 172.20.1.106: icmp_seq=4 ttl=127 time=0.784 ms
64 bytes from 172.20.1.106: icmp_seq=5 ttl=127 time=0.852 ms
^C
--- 172.20.1.106 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4104ms
rtt min/avg/max/mdev = 0.759/0.913/1.141/0.148 ms
[root@ip-10-0-1-9 ec2-user]#
```