

### Handson steps:

1. Create a VPC with name VPC1 (10.1.0.0/16)
2. Create a second VPC with name VPC2 - 10.2.0.0/16)
3. Create public subnet in VPC1 ( VPC1-publicsubnet1 - 10.1.1.0/24 )
4. Create private subnet in VPC-2 (VPC2-privatesubnet2 - 10.2.1.0/24)
5. Create VPC1 Route table (VPC1-RT)
6. Create VPC2 Route table (VPC2-RT)
7. Associate VPC1 Route table with its subnet
8. Associate VPC2 route table with its subnet
9. Create an IGW and attach it to VPC-1. (VPC1-IGW)
10. Configure public route for VPC 1 public route table
11. Complete step 21 to show that connection is impossible without the TGW
12. Navigate to transit gateway and create a transit gateway (JJTECH-TGW). Give it a name and uncheck default route table association and default route table propagation.
13. Create a TGW attachment for VPC1 and VPC2
14. Create one TGW route table
15. Delete the TGW association and propagation from the default RT if it exists.
16. Create 2 TGW Route table associations. For VPC 1 attachment and VPC 2 attachment. Using the RT you created in step 13.
17. Create 2 TGW Route table propagation. For VPC 1 attachment and VPC 2 attachment. Using the RT you created in step 14.
18. Click on routes to double check and make sure that both routes have been propagated
19. Go to the public subnet RT in VPC 1 and edit route. Destination is VPC2 10.2.0.0/16 and target is TGW
20. Do the same for the VPC2 private subnet RT. Destination 10.1.0.0/16 and target is TGW.
21. Test connectivity between the 2 VPCs:
  - a. Spin up an instance in VPC1 with public IP enabled. (VPC1-Server), and connect to instance using AWS Instance Connect
  - b. Spin up instance in VPC2 (VPC2-Server) No public IP needed since this is in a private subnet. In the security group create an allow rule for all ICMP and the source should be the cidr of VPC1.

# Transit Gateway

## Create VPC 1 and VPC 2

### VPC settings

**Name tag - optional**  
Creates a tag with a key of 'Name' and a value that you specify.

**IPv4 CIDR block** [Info](#)

**IPv6 CIDR block** [Info](#)

☒ No IPv6 CIDR block  
☐ Amazon-provided IPv6 CIDR block  
☐ IPv6 CIDR owned by me

**Tenancy** [Info](#)

### VPC settings

**Name tag - optional**  
Creates a tag with a key of 'Name' and a value that you specify.

**IPv4 CIDR block** [Info](#)

**IPv6 CIDR block** [Info](#)

☒ No IPv6 CIDR block  
☐ Amazon-provided IPv6 CIDR block  
☐ IPv6 CIDR owned by me

**Tenancy** [Info](#)

Your VPCs (2/5)

Info

Filter VPCs

Actions

Create VPC

<input checked="" type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR (Network bo
<input checked="" type="checkbox"/>	VPC-2	vpc-043ffab6569f64438	Available	10.2.0.0/16	-
<input type="checkbox"/>	myvpc	vpc-003e7c4c5a49c151c	Available	10.0.0.0/16	-
<input type="checkbox"/>	default	vpc-871587fa	Available	172.31.0.0/16	-
<input checked="" type="checkbox"/>	VPC-1	vpc-0d8b1c917639df92c	Available	10.1.0.0/16	-
<input type="checkbox"/>	endpoint	vpc-018a24cc80e4bf912	Available	10.0.0.0/16	-

Click on create subnet

#### Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a

#### IPv4 CIDR block [Info](#)

10.1.1.0/24

#### ▼ Tags - optional

##### Key

Name

##### Value - optional

Public

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel

Create subnet

## Create private subnet in VPC-2

### VPC

#### VPC ID

Create subnets in this VPC.

vpc-043ffab6569f64438 (VPC-2)

#### Associated VPC CIDRs

##### IPv4 CIDRs

10.2.0.0/16

### 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.

Private

The name can be up to 256 characters long.

##### Availability Zone [Info](#)

Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US East (N. Virginia) / us-east-1a

IPv4 CIDR block [Info](#)

10.2.1.0/24

▼ Tags - optional

Key

Q Name

Value - optional

Q Private

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel

Create subnet

Subnets (2/10) [Info](#)



Actions ▼

Create subnet

Q Filter subnets

< 1 > ⚙

	Name	Subnet ID	State	VPC	IPv4 CIDR
<input checked="" type="checkbox"/>	Public	subnet-01d50995a3aadb5fc	Available	vpc-0d8b1c917639df92c   VP...	10.1.1.0/24
<input type="checkbox"/>	-	subnet-fa3c7ea5	Available	vpc-871587fa   default	172.31.32.0/20
<input type="checkbox"/>	private subnet end...	subnet-0ec4ec8f0355b81fc	Available	vpc-018a24cc80e4bf912   end...	10.0.1.0/24
<input type="checkbox"/>	-	subnet-6b031226	Available	vpc-871587fa   default	172.31.16.0/20
<input type="checkbox"/>	-	subnet-edb4f8cc	Available	vpc-871587fa   default	172.31.80.0/20
<input type="checkbox"/>	public subnet endp...	subnet-0f1f1155737131f15	Available	vpc-018a24cc80e4bf912   end...	10.0.0.0/24
<input type="checkbox"/>	-	subnet-5e41d46f	Available	vpc-871587fa   default	172.31.48.0/20
<input type="checkbox"/>	-	subnet-254e752b	Available	vpc-871587fa   default	172.31.64.0/20
<input type="checkbox"/>	-	subnet-a32968c5	Available	vpc-871587fa   default	172.31.0.0/20
<input checked="" type="checkbox"/>	Private	subnet-0f84ba29993d757ff	Available	vpc-043ffab6569f64438   VPC-2	10.2.1.0/24

## Create VPC-1 Route Table

Route tables (7) [Info](#)



Actions ▼

Create route table

Q Filter route tables

< 1 > ⚙

### Route table settings

**Name - optional**  
Create a tag with a key of 'Name' and a value that you specify.

VPC1-RT

**VPC**  
The VPC to use for this route table.

vpc-0d8b1c917639df92c (VPC-1) ▼

### Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Q Name

×

Value - optional

Q VPC1-RT

×

Remove

Add new tag

You can add 49 more tags.

## Create VPC-2 Route Table

### Create route table [Info](#)

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

### Route table settings

**Name - optional**  
Create a tag with a key of 'Name' and a value that you specify.

VPC2-RT

**VPC**  
The VPC to use for this route table.

vpc-043ffab6569f64438 (VPC-2) ▼

### Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Q Name

×

Value - optional

Q VPC2-RT

×

Remove

Route tables (2/9) <a href="#">Info</a>							<a href="#">Refresh</a>	<a href="#">Actions</a>	<a href="#">Create route table</a>
<input type="text" value="Filter route tables"/>							<a href="#">1</a> <a href="#">Settings</a>		
<input type="checkbox"/>	Name	Route table ID	Explicit subnet associat...	Edge associations	Main	VPC			
<input type="checkbox"/>	-	rtb-06e8b2777f72f15b	-	-	Yes	vpc-018a24cc80e4bf9			
<input type="checkbox"/>	public-rt-endpoint	rtb-0b304b840ff7fba2c	subnet-0f1f115573713...	-	No	vpc-018a24cc80e4bf9			
<input type="checkbox"/>	-	rtb-023e5f7d19c2c8a0b	-	-	Yes	vpc-043ffab6569f644			
<input type="checkbox"/>	-	rtb-00feb461d9e13d26b	-	-	Yes	vpc-0d8b1c917639df9			
<input checked="" type="checkbox"/>	VPC1-RT	rtb-096d0e87160c4dbe2	-	-	No	vpc-0d8b1c917639df9			
<input type="checkbox"/>	private-rt-endpoint	rtb-07a75dced274d25e9	subnet-0ec4ec8f0355b8...	-	No	vpc-018a24cc80e4bf9			
<input type="checkbox"/>	-	rtb-9d554de3	-	-	Yes	vpc-871587fa   default			
<input checked="" type="checkbox"/>	VPC2-RT	rtb-021824f092f8b4079	-	-	No	vpc-043ffab6569f644			
<input type="checkbox"/>	-	rtb-0447e18d83fce52c0	-	-	Yes	vpc-003e7c4c5a49c15			

## Associate VPC-1 route table with it's subnet and VP-2 route table with it's subnet

Select the RT and select actions and then subnet associations

Route tables (1/9) <a href="#">Info</a>							<a href="#">Refresh</a>	<a href="#">Actions</a>	<a href="#">Create route table</a>
<input type="text" value="Filter route tables"/>							<a href="#">1</a> <a href="#">Settings</a>		
<input type="checkbox"/>	Name	Route table ID	Explicit subnet associat...	Edge association					
<input type="checkbox"/>	-	rtb-06e8b2777f72f15b	-	-					
<input type="checkbox"/>	public-rt-endpoint	rtb-0b304b840ff7fba2c	subnet-0f1f115573713...	-					
<input type="checkbox"/>	-	rtb-023e5f7d19c2c8a0b	-	-					
<input type="checkbox"/>	-	rtb-00feb461d9e13d26b	-	-					
<input checked="" type="checkbox"/>	VPC1-RT	rtb-096d0e87160c4dbe2	-	-					
<input type="checkbox"/>	private-rt-endpoint	rtb-07a75dced274d25e9	subnet-0ec4ec8f0355b8...	-	No	vpc-018a24cc80e			

View details
Set main route table
Edit subnet associations
Edit edge associations
Edit route propagation
Edit routes
Manage tags
Delete route table

Choose the subnet and click save

VPC
Route tables
rtb-096d0e87160c4dbe2
Edit subnet associations

### Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/1)

1

<input checked="" type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	Public	subnet-01d50995a3aadb5fc	10.1.1.0/24	-	Main (rtb-00feb461d9e13d26b)

Selected subnets

subnet-01d50995a3aadb5fc / Public

Cancel
Save associations

Route tables (1/9)
Info

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associat...	Edge associatio
<input type="checkbox"/>	-	rtb-06e8b2777f72f15b	-	-
<input type="checkbox"/>	public-rt-endpoint	rtb-0b304b840ff7fba2c	subnet-0f1f115573713...	-
<input type="checkbox"/>	-	rtb-023e5f7d19c2c8a0b	-	-
<input type="checkbox"/>	-	rtb-00feb461d9e13d26b	-	-
<input type="checkbox"/>	VPC1-RT	rtb-096d0e87160c4dbe2	subnet-01d50995a3aad...	-
<input type="checkbox"/>	private-rt-endpoint	rtb-07a75dced274d25e9	subnet-0ec4ec8f0355b8...	-
<input type="checkbox"/>	-	rtb-9d554de3	-	-
<input checked="" type="checkbox"/>	VPC2-RT	rtb-021824f092f8b4079	-	-
<input type="checkbox"/>	-	rtb-0d447e18d183f9e52e0	-	-

Actions
Create route table

View details
Set main route table
Edit subnet associations
Edit edge associations
Edit route propagation
Edit routes
Manage tags
Delete route table

1

VPC
Route tables
rtb-021824f092f8b4079
Edit subnet associations

### Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/1)

1

<input checked="" type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	Private	subnet-0f84ba29993d757ff	10.2.1.0/24	-	Main (rtb-023e5f7d19c2c8a0b)

Selected subnets

subnet-0f84ba29993d757ff / Private

Cancel
Save associations

## Create IGW and attach it to VPC-1

Internet gateways (2)
Info

Actions
Create internet gateway

### Create internet gateway Info

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

Internet gateway settings

Name tag
Creates a tag with a key of 'Name' and a value that you specify.

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

Value - optional

Remove

Add new tag

You can add 49 more tags.



Internet gateways (1/3) <a href="#">Info</a>					
<input type="text" value="Filter internet gateways"/>					
	Name	Internet gateway ID	State	VPC ID	Owner
<input checked="" type="checkbox"/>	IGW-TEST	igw-00d0d22c52b923896	Detached	-	82543155335

Internet gateways (1/3) <a href="#">Info</a>					
<input type="text" value="Filter internet gateways"/>					
	Name	Internet gateway ID	State	VPC ID	Owner
<input checked="" type="checkbox"/>	IGW-TEST	igw-00d0d22c52b923896	Detached	-	82543155335

[View details](#)  
[Attach to VPC](#)  
[Detach from VPC](#)  
[Manage tags](#)

VPC > Internet gateways > Attach to VPC (igw-00d0d22c52b923896)

## Attach to VPC (igw-00d0d22c52b923896) [Info](#)

**VPC**

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs

Attach the internet gateway to this VPC.

► AWS Command Line Interface command

[Cancel](#)
[Attach internet gateway](#)

Internet gateways (1/3) <a href="#">Info</a>					
<input type="text" value="Filter internet gateways"/>					
	Name	Internet gateway ID	State	VPC ID	Owner
<input checked="" type="checkbox"/>	IGW-TEST	igw-00d0d22c52b923896	Attached	vpc-0d8b1c917639df92c   VPC-1	82543155335

## Edit VPC-1 Public Route table and configure public route

Select the public RT and click on routes

Route tables (1/9) Info

Filter route tables

< 1 >

Name

Route table ID

Explicit subnet associat...

Edge associations

Main

VPC

☐	-	rtb-06e8b2777f72f15b	-	-	Yes	vpc-018a24cc80e4t	
☐	public-rt-endpoint	rtb-0b304b840ff7fba2c	subnet-0f1f115573713...	-	No	vpc-018a24cc80e4t	
☐	-	rtb-023e5f7d19c2c8a0b	-	-	Yes	vpc-043ffab6569f6	
☐	-	rtb-00feb461d9e13d26b	-	-	Yes	vpc-0d8b1c917639	
☒	VPC1-RT	rtb-096d0e87160c4dbe2	subnet-01d50995a3aad...	-	No	vpc-0d8b1c917639	
☐	private-rt-endpoint	rtb-07a75dced274d25e9	subnet-0ec4ec8f0355b8...	-	No	vpc-018a24cc80e4t	
☐	-	rtb-9d554de3	-	-	Yes	vpc-871587fa	defa
☐	VPC2-RT	rtb-021824f092f8b4079	subnet-0f84ba29993d7...	-	No	vnc-043ffab6569f6	

rtb-096d0e87160c4dbe2 / VPC1-RT

Details

Routes

Subnet associations

Edge associations

Route propagation

Tags

rtb-096d0e87160c4dbe2 / VPC1-RT

Details

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Filter routes

Both

< 1 >

Destination

Target

Status

Propagated

10.1.0.0/16

local

Active

No

Add the IGW path

Edit routes

Destination	Target	Status	Propagated
10.1.0.0/16	<div>local</div>	Active	No
<div>0.0.0.0/0</div>	<div>igw-00d0d22c52b92389c</div>	-	No

Add route

Cancel

Preview

Save changes

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Q


Filter routes

Both

<

1

>



Destination


Target

Status

Propagated

10.1.0.0/16


local

 Active

No

0.0.0.0/0

[igw-00d0d22c52b923896](#)

 Active

No

## Navigate to Transit Gateways

New VPC Experience  
[Tell us what you think](#)

- Virtual Private Gateways
- Site-to-Site VPN Connections
- Client VPN Endpoints
- TRANSIT GATEWAYS
  - Transit Gateways**
  - Transit Gateway Attachments
  - Transit Gateway Route Tables
  - Transit Gateway Multicast
  - Network Manager
- TRAFFIC MIRRORING
  - Mirror Sessions

Create Transit Gateway Actions

< >

You do not have any Transit Gateways in this region

Click the Create Transit Gateway button to create your first Transit Gateway

Create Transit Gateway

## Create a Transit Gateway

Be sure to uncheck default route table association and default route table propagation.

A Transit Gateway (TGW) is a network transit hub that interconnects attachments (VPCs and VPNs) within the same account or across accounts.

Name tag JJTECH -TGW ⓘ

Description Transit gateway ⓘ

Configure the Transit Gateway

Amazon side ASN 64512 ⓘ

DNS support ☒ enable ⓘ

VPN ECMP support ☒ enable ⓘ

Default route table association ☐ enable ⓘ

Default route table propagation ☐ enable ⓘ

Multicast support ☐ enable ⓘ

Configure sharing options for cross account

Auto accept shared attachments ☐ enable ⓘ

Configure sharing options for cross account

Auto accept shared attachments ☐ enable ⓘ

Transit Gateway CIDR blocks

Add or remove IPv4 or IPv6 CIDR blocks for your Transit Gateway. [Learn more.](#)

CIDR ⓘ

You have no IPv4 or IPv6 CIDR blocks configured on this Transit Gateway.

Add CIDR

\* Required

Cancel Create Transit Gateway

Create Transit Gateway Actions				
Filter by tags and attributes or search by keyword				
	Name	Transit Gateway ID	Owner ID	State
<input checked="" type="checkbox"/>	TGW	tgw-01144c19b797633d1	825431553359	pending

It takes some time to go for available state

Create Transit Gateway Actions				
Filter by tags and attributes or search by keyword				
	Name	Transit Gateway ID	Owner ID	State
<input checked="" type="checkbox"/>	TGW	tgw-01144c19b797633d1	825431553359	available

# Create a transit gateway attachment for VPC-1 and VPC-2

Create Transit Gateway Attachment

Actions

Filter by tags and attributes or search by keyword

<< None found >>

You do not have any Transit Gateway Attachments in this region

Click the Create Transit Gateway Attachment button to create your first Transit Gateway Attachment

Create Transit Gateway Attachment

Click on create Transit Gateway Attachment

## Create Transit Gateway Attachment

Select a Transit Gateway and the type of attachment you would like to create.

Transit Gateway ID\*

tgw-01144c19b797633d1

Attachment type

VPC

### VPC Attachment

Select and configure your VPC attachment.

Attachment name tag

VPC-1

DNS support

☒ enable

IPv6 support

☐ enable

VPC ID\*

vpc-0d8b1c917639df92c

VPC ID\*

vpc-0d8b1c917639df92c

Subnet IDs\*

subnet-01d50995a3aadb5fc

Availability Zone	Subnet ID
<input checked="" type="checkbox"/> us-east-1a	subnet-01d50995a3aadb5fc (Public)
<input type="checkbox"/> us-east-1b	No subnet available
<input type="checkbox"/> us-east-1c	No subnet available
<input type="checkbox"/> us-east-1d	No subnet available
<input type="checkbox"/> us-east-1e	No subnet available
<input type="checkbox"/> us-east-1f	No subnet available

\* Required

Cancel Create attachment

Click on create attachment

Create Transit Gateway Attachment

Actions

Filter by tags and attributes or search by keyword

<<1 to 1 of 1>>

	Name	Transit Gateway attachment ID	Transit Gateway ID	Resource type	Resource ID	State
<input checked="" type="checkbox"/>	VPC-1	tgw-attach-0aca6d8716056074c	tgw-01144c19b797633d1	VPC	vpc-0d8b1c917639df92c	pending

It takes some time to go to available state

[Transit Gateway Attachments](#) > Create Transit Gateway Attachment

## Create Transit Gateway Attachment

Select a Transit Gateway and the type of attachment you would like to create.

Transit Gateway ID\*

tgw-01144c19b797633d1

Attachment type

VPC

### VPC Attachment

Select and configure your VPC attachment.

Attachment name tag

VPC-2

DNS support

☒ enable

IPv6 support

☐ enable

VPC ID\*

vpc-043ffab6569f64438

VPC ID\*

vpc-043ffab6569f64438

Subnet IDs\*

subnet-0f84ba29993d757ff

Availability Zone	Subnet ID
<input checked="" type="checkbox"/> us-east-1a	subnet-0f84ba29993d757ff (Private)
<input type="checkbox"/> us-east-1b	No subnet available
<input type="checkbox"/> us-east-1c	No subnet available
<input type="checkbox"/> us-east-1d	No subnet available
<input type="checkbox"/> us-east-1e	No subnet available
<input type="checkbox"/> us-east-1f	No subnet available

Create Transit Gateway Attachment

Actions

Filter by tags and attributes or search by keyword

<<

<

1 to 2 of 2

>

>>

<div><input type="checkbox"/></div>	Name	Transit Gateway attachment ID	Transit Gateway ID	Resource type	Resource ID	State	Associated
<div><input checked="" type="checkbox"/></div>	VPC-2	tgw-attach-06d1910a620d143a9	tgw-01144c19b797633d1	VPC	vpc-043ffab6569f64438	available	tgw-rtb-088b
<div><input checked="" type="checkbox"/></div>	VPC-1	tgw-attach-0aca6d8716056074c	tgw-01144c19b797633d1	VPC	vpc-0d8b1c917639df92c	available	tgw-rtb-088b

## Create a single transit gateway route table

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

1 to 1 of 1

Transit Gateway Route Tables > Create Transit Gateway Route Table

### Create Transit Gateway Route Table

A route table controls how traffic flows for all associated attachments.

Name tag

TGW-RT

Transit Gateway ID\*

tgw-01144c19b797633d1

\* Required

Cancel

Create Transit Gateway Route Table

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

<<

<

1 to 2 of 2

>

>>

<input type="checkbox"/>	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No

## Create 2 transit gateway route table associations (for VP-1 attachment and VPC-2 attachment)

Select the TGW Route table and in the association tab select create association

Before attaching route table associate,when u create a TGW and TGW attachment then all association and propagation will be attached to default RT.Make sure from default RT u delete those association and propagation from those default RT.

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

<< 1 to 2 of 2 >>

<input type="checkbox"/>	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route tabl
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>		tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

<

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

Create association

Delete association

Filter by attributes or search by keyword

<< None found >>

<input type="checkbox"/>	Attachment ID	Resource type	Resource ID	State
--------------------------	---------------	---------------	-------------	-------

This route table does not have any associated attachments

[Transit Gateway Route Tables](#) > Create association

## Create association

Associating an attachment to a route table allows traffic to be sent from the attachment to the target route table. An attachment can only be associated to one route table.

Transit Gateway ID `tgw-01144c19b797633d1`

Transit Gateway route table ID `tgw-rtb-060dace7f8609628d`

Choose attachment to associate\* 

`tgw-attach-0aca6d8716056074c`

\* Required

Cancel

Create association

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

Create association

Delete association

Filter by attributes or search by keyword

<< 1 to 1 of 1 >>

<input type="checkbox"/>	Attachment ID	Resource type	Resource ID	State
<input type="checkbox"/>	tgw-attach-0aca6d8716056074c	VPC	vpc-0d8b1c917639df92c	associated

Similarly create for VPC-2



## Create association

Associating an attachment to a route table allows traffic to be sent from the attachment to the target route table. An attachment can only be associated to one

Transit Gateway ID

tgw-01144c19b797633d1

Transit Gateway route table ID

tgw-rtb-060dace7f8609628d

Choose attachment to associate\*

tgw-attach-06d1910a620d143a9

\* Required

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

<< 1 to 2 of 2 >>

	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>		tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

Create association

Delete association

Filter by attributes or search by keyword

<< 1 to 2 of 2 >>

	Attachment ID	Resource type	Resource ID	State
<input type="checkbox"/>	tgw-attach-0aca6d8716056074c	VPC	vpc-0d8b1c917639df92c	associated
<input type="checkbox"/>	tgw-attach-06d1910a620d143a9	VPC	vpc-043fab6569f64438	associated

Create 2 transit gateway route table propagation (or VP-1 attachment and VPC-2 attachment)

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

<>1 to 2 of 2>>

<input type="checkbox"/>	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>		tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

Create propagation

Delete propagation

Filter by attributes or search by keyword

<>None found>>

<input checked="" type="checkbox"/>	Attachment ID	Resource type	Resource ID	State
-------------------------------------	---------------	---------------	-------------	-------

This route table does not have any propagated attachments

Transit Gateway Route Tables > Create propagation

### Create propagation

Adding a propagation will allow routes to be propagated from an attachment to the target Transit Gateway route table. An attachment can be propagated to multiple route tables.

Transit Gateway ID tgw-01144c19b797633d1

Transit Gateway route table ID tgw-rtb-060dace7f8609628d

Choose attachment to tgw-attach-0aca6d8716056074c

\* Required

Cancel

Create propagation

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

Create propagation

Delete propagation

Filter by attributes or search by keyword

<>1 to 1 of 1>>

<input checked="" type="checkbox"/>	Attachment ID	Resource type	Resource ID	State
<input type="checkbox"/>	tgw-attach-0aca6d8716056074c	VPC	vpc-0d8b1c917639df92c	enabled

Choose VPC-2

Filter by tags and attributes or search by keyword

Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table
<input checked="" type="checkbox"/> TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>	tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details Associations **Propagations** Prefix list references Routes Tags

Create propagation Delete propagation

Filter by attributes or search by keyword

Attachment ID	Resource type	Resource ID	State
<input type="checkbox"/> tgw-attach-06d1910a620d143a9	VPC	vpc-043ffab6569f64438	enabled
<input type="checkbox"/> tgw-attach-0aca6d8716056074c	VPC	vpc-0d8b1c917639df92c	enabled

Double check and make under both VPC routes have been propagated “click on routes”

Create Transit Gateway Route Table Actions

Filter by tags and attributes or search by keyword

Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table
<input checked="" type="checkbox"/> TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>	tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details Associations Propagations Prefix list references **Routes** Tags

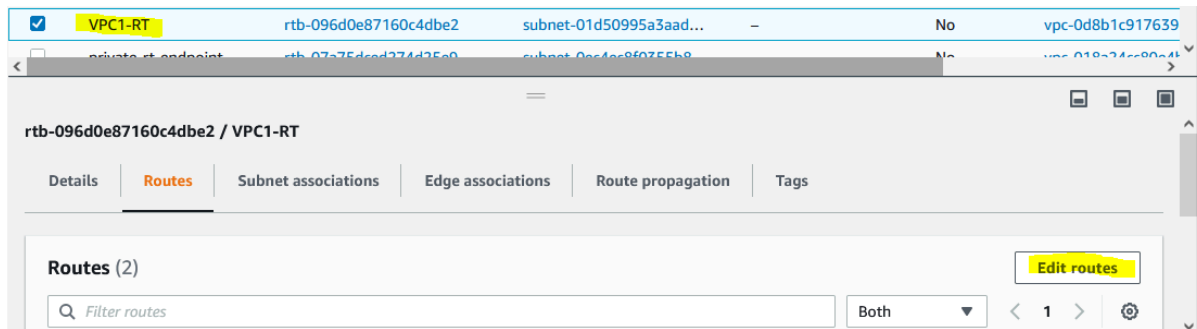
The table below will return a maximum of 1000 routes. Narrow the filter or use export routes to view more routes.

Create static route Replace static route Delete static route

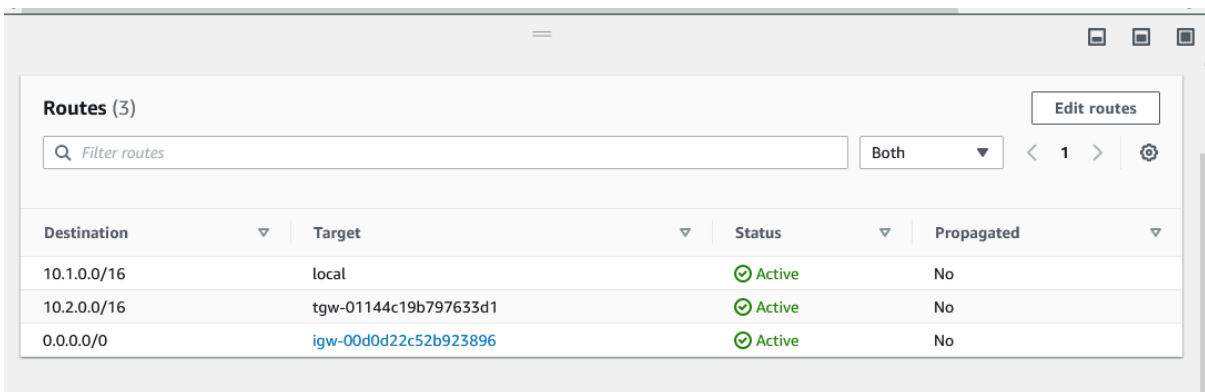
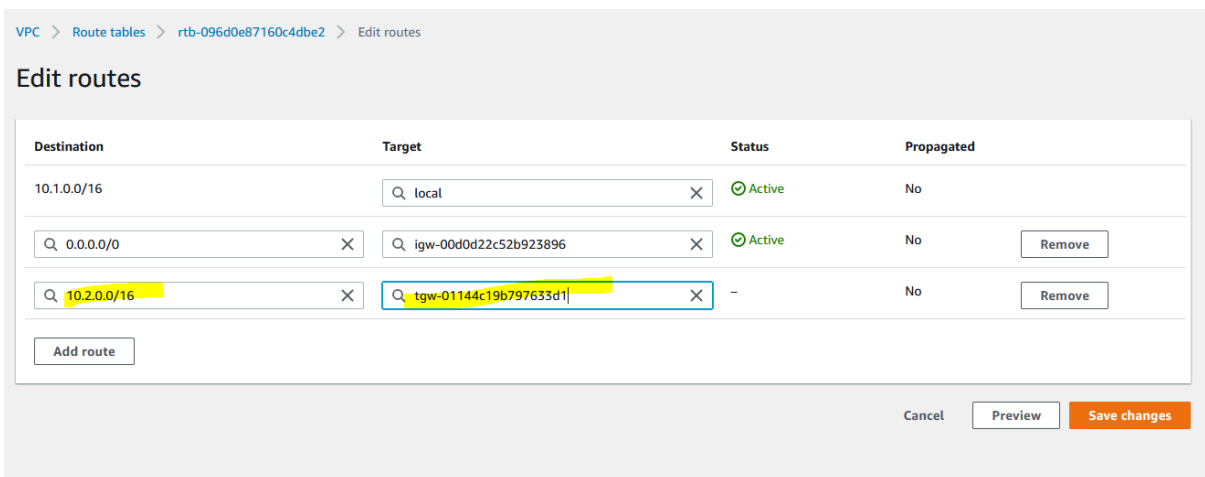
Filter by attributes or search by keyword

CIDR	Attachment	Resource type	Route type
<input type="checkbox"/> 10.1.0.0/16	tgw-attach-0aca6d8716056074c   vpc-0d8b1c917639df92c	VPC	propagated
<input type="checkbox"/> 10.2.0.0/16	tgw-attach-06d1910a620d143a9   vpc-043ffab6569f64438	VPC	propagated

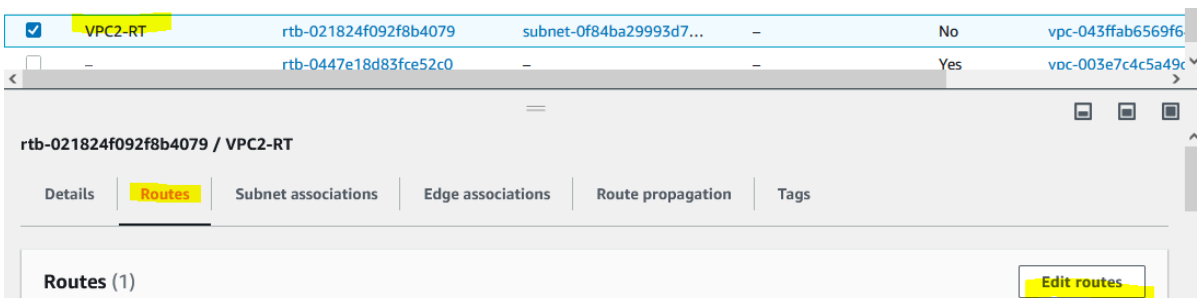
Go to VPC RT and select VPC-1 RT and click on edit routes



Add the path for VPC-2 CIDR



Similarly do for VPC2-RT



VPC > Route tables > rtb-021824f092f8b4079 > Edit routes

## Edit routes

Destination	Target	Status	Propagated
10.2.0.0/16	local	Active	No
10.1.0.0/16	tgw-01144c19b797633d1	-	No

Add route

Cancel Preview **Save changes**

Routes Subnet associations Edge associations Route propagation Tags

### Routes (2)

Filter routes Both 1

Destination	Target	Status	Propagated
10.1.0.0/16	tgw-01144c19b797633d1	Active	No
10.2.0.0/16	local	Active	No

## Test connectivity and confirm everything is working as expected

Create 1 instances in VPC-1 and 1 Instance in VPC-2 using the EC2 console

In VPC-1, create public instance

## Launch an instance

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

**Name and tags**

Name: public-vpc1

**Application and OS Images (Amazon Machine Image)**

Search our full catalog including 1000s of application and OS images

Recents Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux

Browse more AMIs

- ▼ Network settings Info

VPC - required Info

vpc-04185f158c7590a65 (VPC-1)  
10.1.0.0/16

↻

Subnet Info

subnet-0145ecd2c35de2976 project-subnet-public1-eu-central-1a  
VPC: vpc-04185f158c7590a65 Owner: 945685952191  
Availability Zone: eu-central-1a IP addresses available: 4090 CIDR: 10.1.0.0/20

↻ Create new subnet

Auto-assign public IP Info

Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group

Select existing security group

Security group name - required

TGW-test-sg

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and \_-./()!@,[]\*+=&:{}\$\*

Description - required Info

for testing TGW connection

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 0.0.0.0/0)

Type Info

ssh

Protocol Info

TCP

Port range Info

22

Source type Info

Anywhere

Source Info

0.0.0.0/0

Add CIDR, prefix list or security

Description - optional Info

e.g. SSH for admin desktop

Remove

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

▼ Summary

Number of instances Info  
1

Software image (AMI)  
Amazon Linux 2023 AMI 2023.4.2...read more  
ami-00cf59bc9978eb266

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

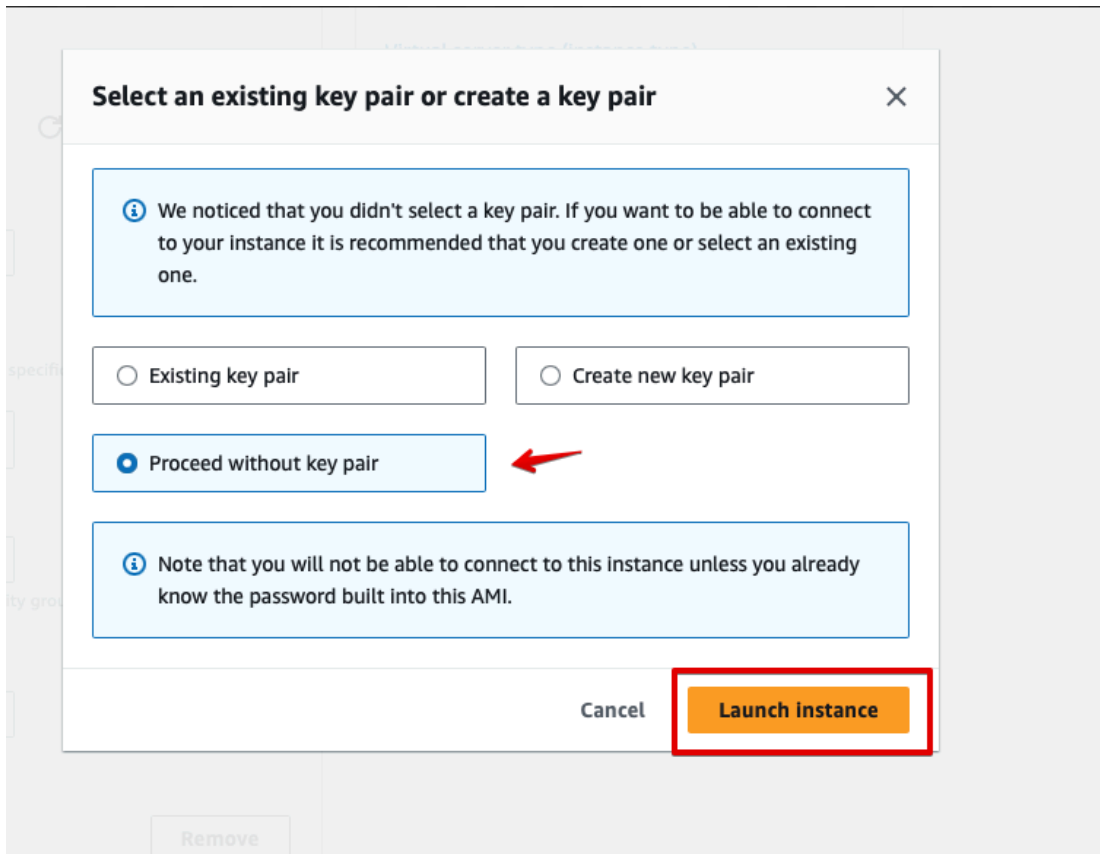
Storage (volumes)  
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the Internet.

Cancel

Launch instance

Review commands



## In VPC-2, create private instance

**Name and tags** Info

Name

private-vpc1

Add additional tags

**▼ Application and OS Images (Amazon Machine Image)** Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Q Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Li

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI

ami-00cf59bc9978eb266 (64-bit (x86), uefi-preferred) / ami-00068b9d3a9643636 (64-bit (Arm), uefi)

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description

Amazon Linux 2023 AMI 2023.4.20240611.0 x86\_64 HVM kernel-6.1

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-00cf59bc9978eb266

Verified provider

Number of instances

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.4.2...[read more](#)

ami-00cf59bc9978eb266

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

[Review commands](#)

Similar to VPC-1, leave other settings as default and only adjust the network settings in order to create the server (instance) in VPC-2 as shown

**Network settings** [Info](#)

VPC - *required* [Info](#)

vpc-06d150c1fb9a27c00 (VPC-2-vpc) 10.2.0.0/16

Subnet [Info](#)

subnet-08cbb175d9a759842 VPC-2-subnet-private1-eu-central-1a  
VPC: vpc-06d150c1fb9a27c00 Owner: 945685952191  
Availability Zone: eu-central-1a IP addresses available: 4090 CIDR: 10.2.128.0/20

Auto-assign public IP [Info](#)

Disable

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

Security group name - *required*

TGW-connectivity test

Description - *required* [Info](#)

for testing TGW connections

Inbound Security Group Rules

Security group rule 1 (ICMP, All, 0.0.0.0/0)

Type [Info](#) Protocol [Info](#) Port range [Info](#)

All ICMP - IPv4 ICMP All

Source type [Info](#) Source [Info](#) Description - *optional* [Info](#)

Anywhere Add CIDR, prefix list or security group e.g. SSH for admin desktop

0.0.0.0/0

**Summary**

Number of instances [Info](#)

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.4.2...[read more](#)  
ami-00cf59bc9978eb266

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel **Launch instance**

[Review commands](#)

Accept to proceed without keypair and create instance ( same as above)

And try to ping instance of VPC\_2 from VPC-1 instance



Instances (1/2) [Info](#) Refresh Connect Instance state Actions Launch instances

Filter instances

search: running × Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	VPC2	i-0fed47a283d4d3ff8	Running	t2.micro	2/2 checks passed	No alarms
<input checked="" type="checkbox"/>	VPC1	i-04bb89276efd670c4	Running	t2.micro	2/2 checks passed	No alarms

Instance: i-04bb89276efd670c4 (VPC1)

**Details** | Security | Networking | Storage | Status checks | Monitoring | Tags

▼ Instance summary [Info](#)

Instance ID	Public IPv4 address	Private IPv4 addresses
i-04bb89276efd670c4 (VPC1)	54.160.243.95   <a href="#">open address</a>	10.1.1.251

Instances (1/2) [Info](#) Refresh Connect Instance state Actions Launch instances

Filter instances

search: running × Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm
<input checked="" type="checkbox"/>	VPC2	i-0fed47a283d4d3ff8	Running	t2.micro	2/2 checks passed	No alarm
<input type="checkbox"/>	VPC1	i-04bb89276efd670c4	Running	t2.micro	2/2 checks passed	No alarm

Instance: i-0fed47a283d4d3ff8 (VPC2)

**Details** | Security | Networking | Storage | Status checks | Monitoring | Tags

▼ Instance summary [Info](#)

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0fed47a283d4d3ff8 (VPC2)	-	10.2.1.104

Pinging instance of VPC-2 via private ip of VPC-2 instance

```
[ec2-user@ip-10-1-1-251 ~]$ ls
[ec2-user@ip-10-1-1-251 ~]$ ping 10.2.1.104
PING 10.2.1.104 (10.2.1.104) 56(84) bytes of data:
64 bytes from 10.2.1.104: icmp_seq=1 ttl=254 time=1.21 ms
64 bytes from 10.2.1.104: icmp_seq=2 ttl=254 time=0.938 ms
64 bytes from 10.2.1.104: icmp_seq=3 ttl=254 time=0.924 ms
64 bytes from 10.2.1.104: icmp_seq=4 ttl=254 time=0.965 ms
```

VPC-1 instance is able to connect to VPC\_2 instance

# Create a static blackhole route to DENY back-to-back communication between VPC-2 and VPC-1

Create Transit Gateway Route Table

Actions

Filter by tags and attributes or search by keyword

1 to 2 of 2

	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route t
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No
<input type="checkbox"/>		tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

Routes

Tags

The table below will return a maximum of 1000 routes. Narrow the filter or use export routes to view more routes.

Create static route

Replace static route

Delete static route

Filter by attributes or search by keyword

1 to 2 of 2

	CIDR	Attachment	Resource type	Route type
<input type="checkbox"/>	10.1.0.0/16	tgw-attach-0aca6d8716056074c   vpc-0d8b1c917639df92c	VPC	propagated
<input type="checkbox"/>	10.2.0.0/16	tgw-attach-06d1910a620d143a9   vpc-043fab6569f64438	VPC	propagated

Transit Gateway Route Tables > Create static route

Create static route

Add a static route to your Transit Gateway route table.

Transit Gateway ID

tgw-01144c19b797633d1

Transit Gateway route table ID

tgw-rtb-060dace7f8609628d

CIDR\*

10.1.0.0/16

Blackhole

☒

\* Required

Cancel

Create static route

Filter by tags and attributes or search by keyword							1 to 2 of 2	
<input type="checkbox"/>	Name	Transit Gateway route table ID	Transit Gateway ID	State	Default association route table	Default propagation route table		
<input checked="" type="checkbox"/>	TGW-RT	tgw-rtb-060dace7f8609628d	tgw-01144c19b797633d1	available	No	No		
<input type="checkbox"/>		tgw-rtb-088bf15c630319ab3	tgw-01144c19b797633d1	available	Yes	Yes		

Transit Gateway Route Table: tgw-rtb-060dace7f8609628d

Details

Associations

Propagations

Prefix list references

**Routes**

Tags

The table below will return a maximum of 1000 routes. Narrow the filter or use export routes to view more routes.

Create static route

Replace static route

Delete static route

Filter by attributes or search by keyword				1 to 2 of 2	
<input type="checkbox"/>	CIDR	Attachment	Resource type	Route type	
<input type="checkbox"/>	10.1.0.0/16	-	-	static	
<input type="checkbox"/>	10.2.0.0/16	tgw-attach-06d1910a620d143a9   vpc-043ffab6569f64438	VPC	propagated	

Now when you will ping VPC\_2 instance from VPC-1 instance it will show timeout error so we through doing blackhole VPC\_1 instance is not able to communicate VPC-2.

## Create a CloudWatch Dashboard to monitor your Transit Gateway packets metrics.

aws

Services

Search for services, features, marketplace products, and docs

[Alt+S]

CloudWatch

New menu experience

Favorites

Dashboards

Alarms 0 0 0

In alarm

All alarms

Billing

Logs

Log groups

Logs Insights

Metrics

All metrics

Explorer

Streams

The new design for CloudWatch Custom Dashboards is now available

We have launched a new design for custom dashboards to make them easier to use.

Try out the new interface

Dashboards

Create dashboard

Name	Favorite	Share
You have no CloudWatch dashboards. Please <a href="#">create a dashboard</a> .		

Create new dashboard

Dashboard name:


TGW1

Cancel


Create dashboard

Add to this dashboard


Select a widget type to configure



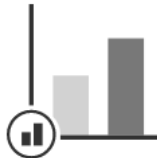
**Line**  
Compare metrics over time




**Stacked area**  
Compare the total over time




**Number**  
Instantly see the latest value for a metric




**Bar**  
Compare categories of data




**Pie**  
Show percentage or proportional data



**Custom widget**  
Code widgets using Lambda and more



**Text**  
Free text with markdown formatting



**Logs table**  
Explore results from Logs Insights

## Add to this dashboard



From which data source would you like to create the widget?



### Metrics

Create widget based on Metrics and configure your widget on the next step.



### Logs

Create widget based on query results from CloudWatch Logs Insights.

Cancel

Configure

## Add metric graph



Untitled graph

1h 3h 12h 1d 3d 1w custom

Stacked area



No unit

2.15k

1.07k

0

04:15 04:30 04:45 05:00 05:15 05:30 05:45 06:00 06:15 06:30 06:45 07:00

BytesIn PacketsIn PacketsOut BytesOut PacketDropCountBlackhole BytesDropCountBlackhole BytesDropCountNoRoute PacketDropCountNoRoute

All metrics

Graphed metrics (8)

Graph options

Source

N. Virginia

All

TransitGateway

Per-TransitGateway Metrics

transit

gateway

Search for any metric, dimension or resource id

Graph search



TransitGateway (8)

Metric Name

BytesIn PacketsIn PacketsOut BytesOut PacketDropCountBlackhole BytesDropCountBlackhole BytesDropCountNoRoute PacketDropCountNoRoute

Cancel

Create widget

CloudWatch

New menu experience

Favorites

Dashboards

TGW1

Alarms

In alarm

All alarms

Billing

Logs

Log groups

Logs Insights

Metrics

TGW1

Add widget

Actions

Save dashboard

1h 3h 12h 1d 3d 1w custom



BytesDropCountBlackhol...

No unit

2.15k

1.07k

0

04:10 07:05

BytesIn PacketsIn PacketsOut BytesOut

PacketDropCountBlackhole BytesDropCountBlackhole