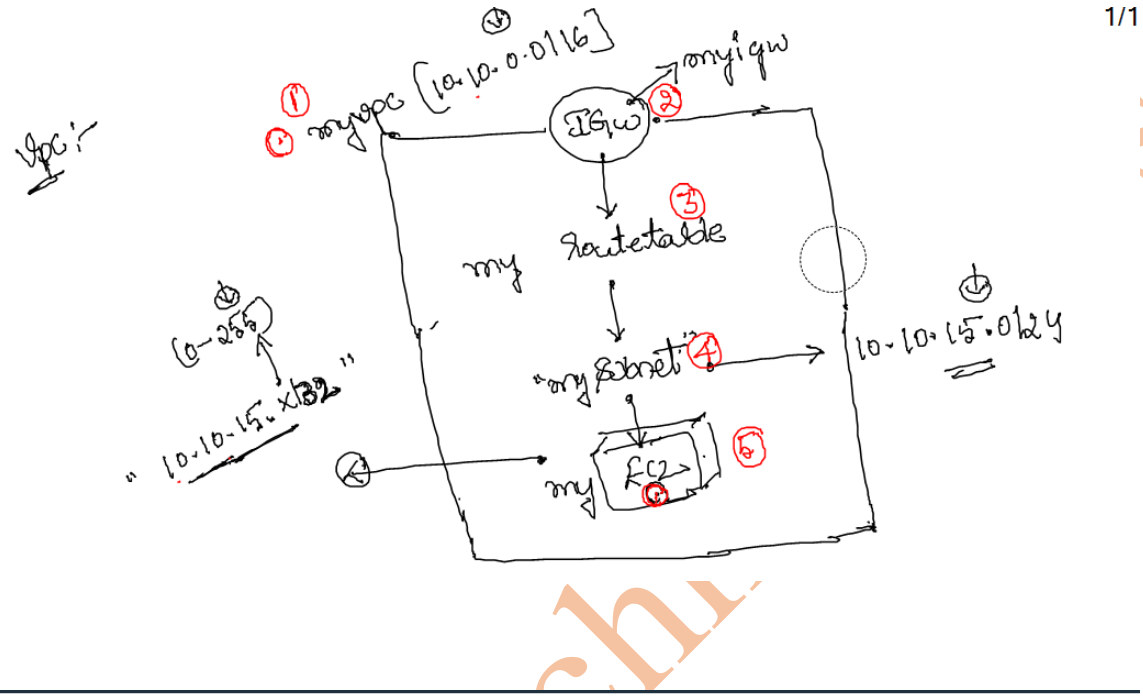
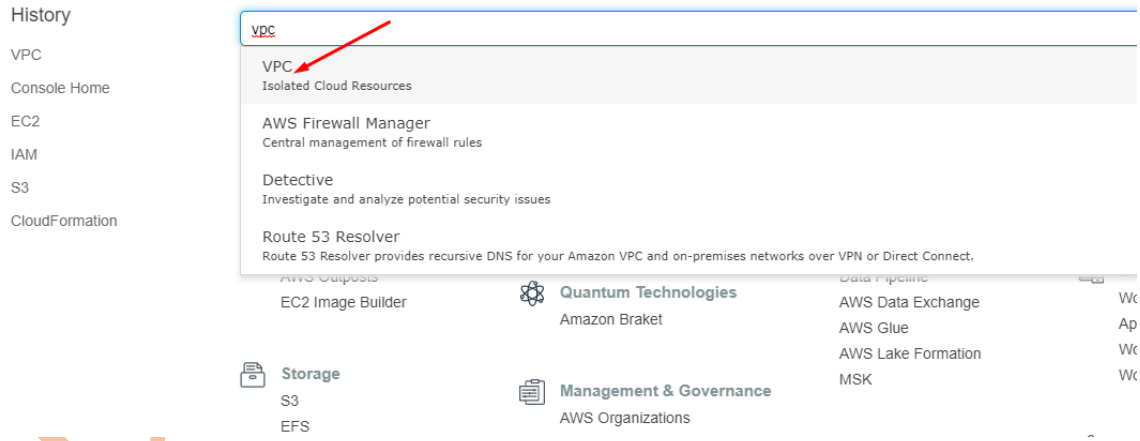
DVS Technologies Aws & Devops

1. Working with VPC

Creating a normal VPC and bringing one Ec2 from the customized VPC





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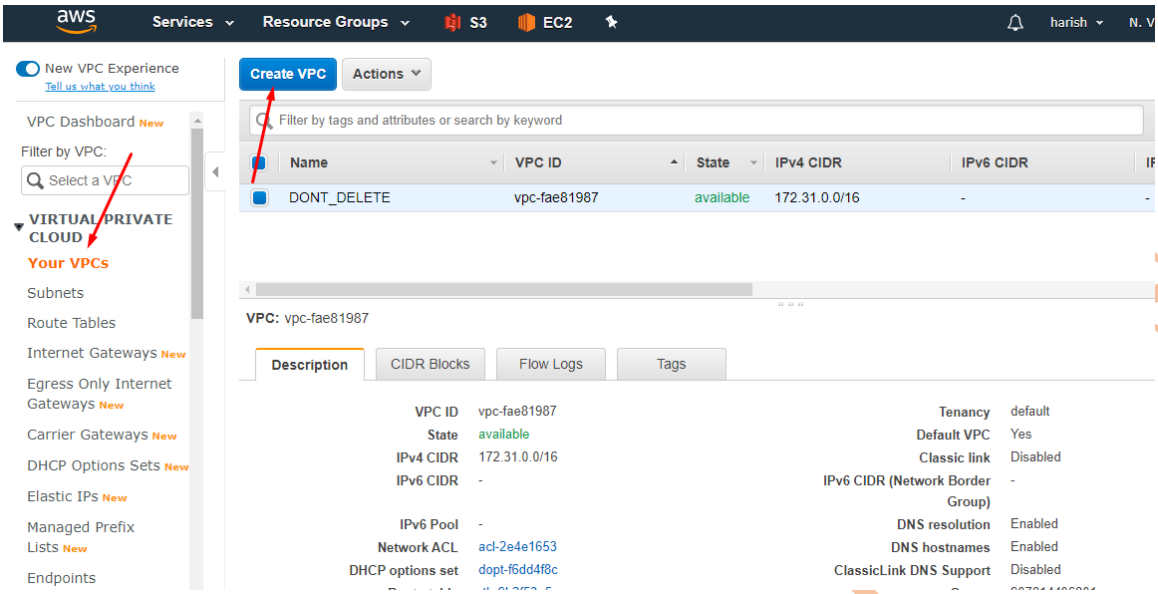

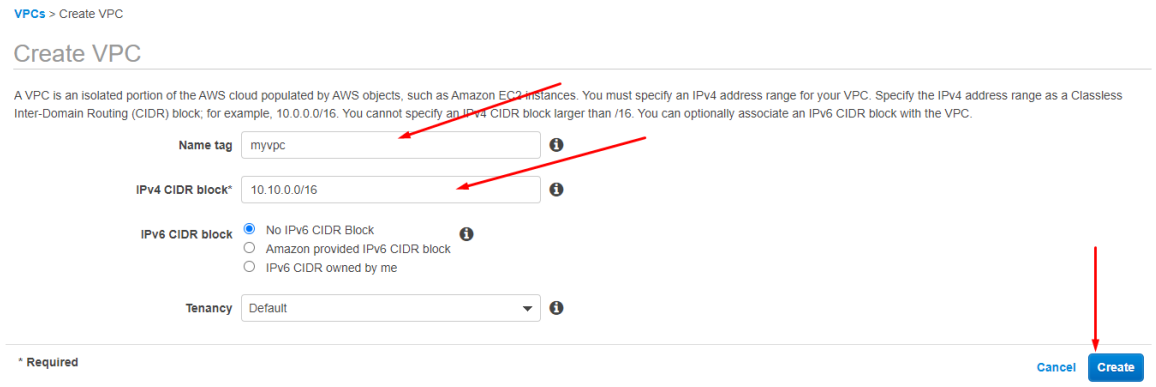

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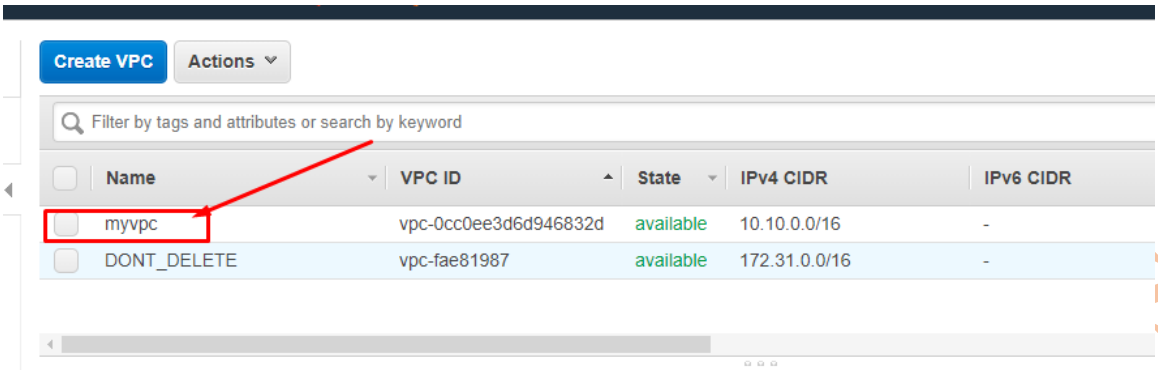
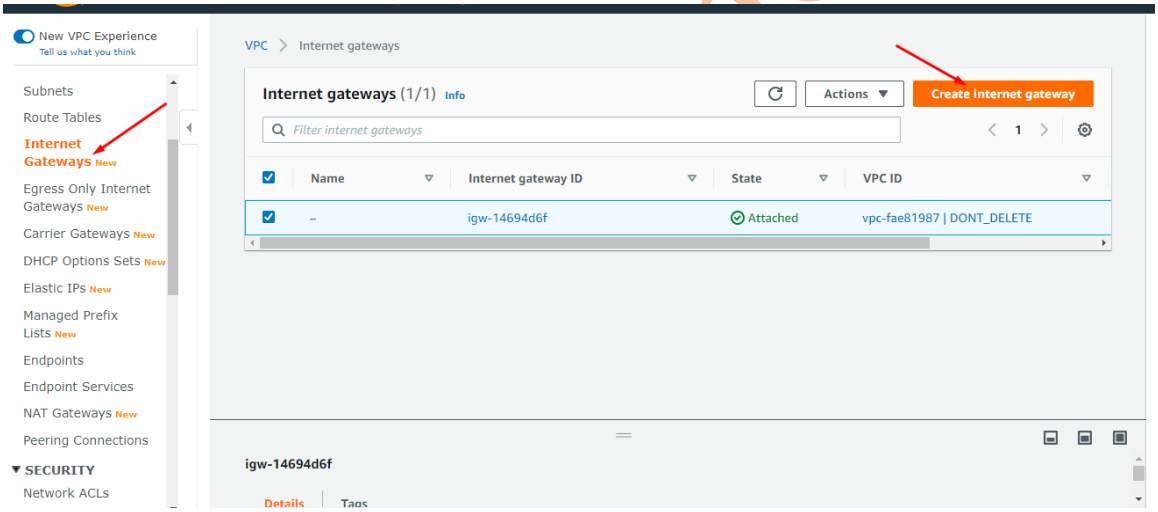
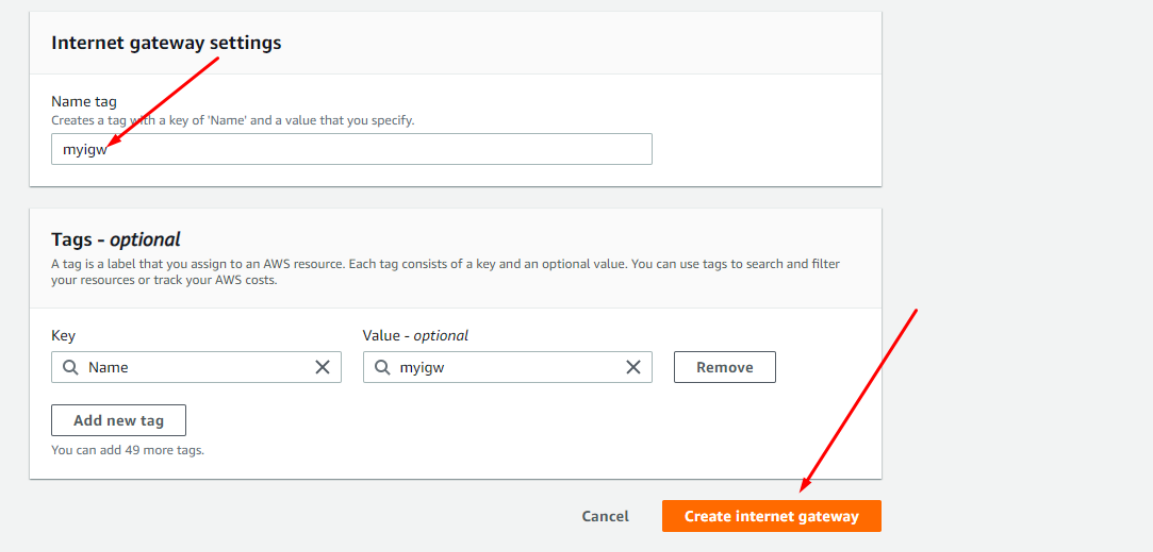
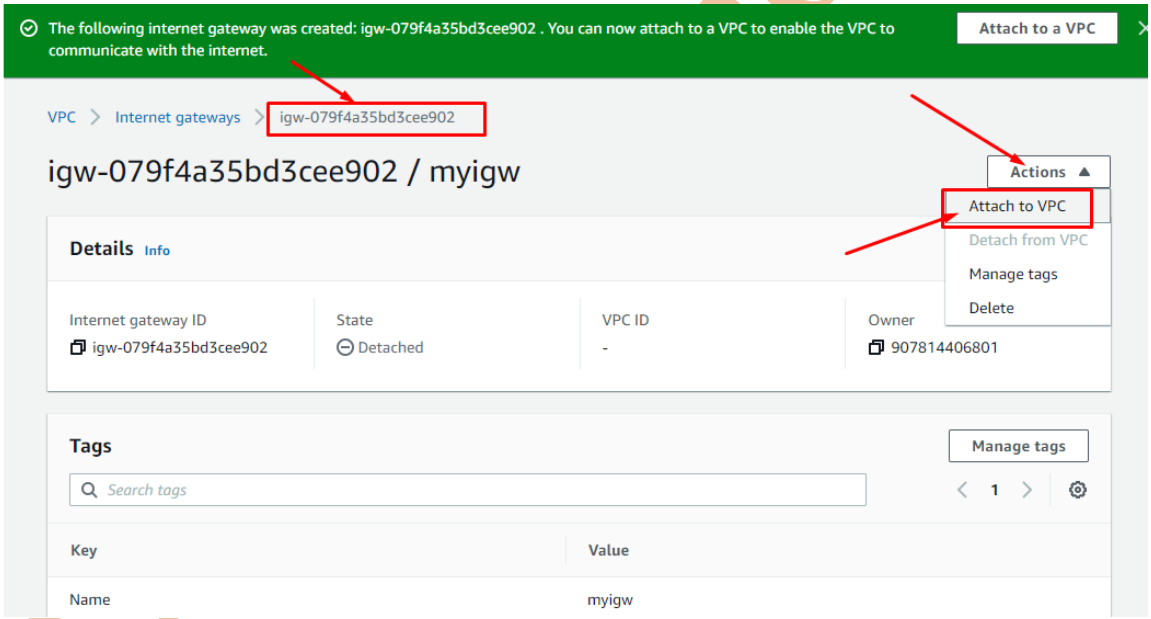





Internet gateway settings
Name tag
Creates a tag with a key of 'Name' and a value that you specify.
myigw
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
Key
Value - optional
Name
myigw
Remove
Add new tag
You can add 49 more tags.
Cancel
Create internet gateway


The following internet gateway was created: igw-079f4a35bd3cee902 . You can now attach to a VPC to enable the VPC to communicate with the internet.
Attach to a VPC
VPC
Internet gateways
igw-079f4a35bd3cee902
igw-079f4a35bd3cee902 / myigw
Actions
Attach to VPC
Detach from VPC
Manage tags
Delete
Details Info
Internet gateway ID
igw-079f4a35bd3cee902
State
Detached
VPC ID
-
Owner
907814406801
Tags
Manage tags
Search tags
1
Key
Value
Name
myigw

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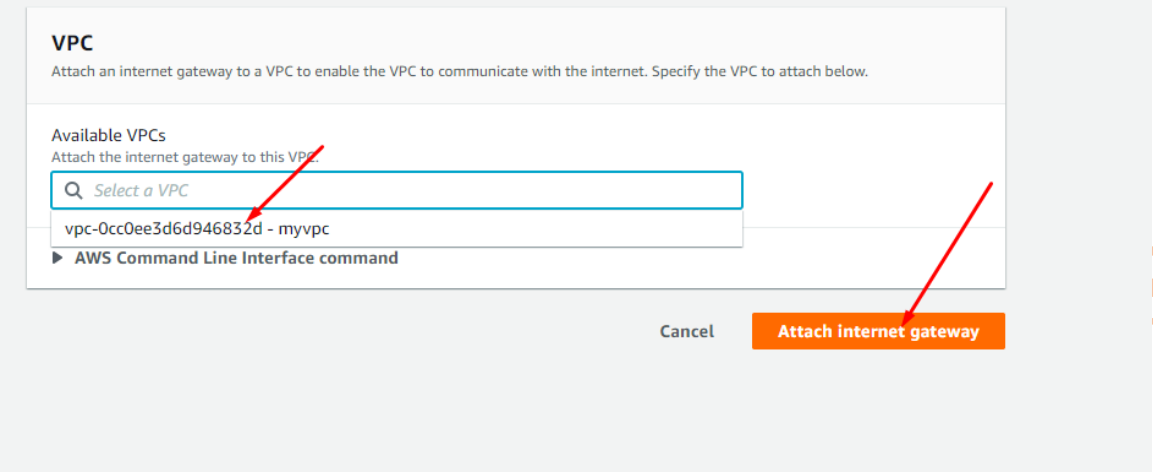

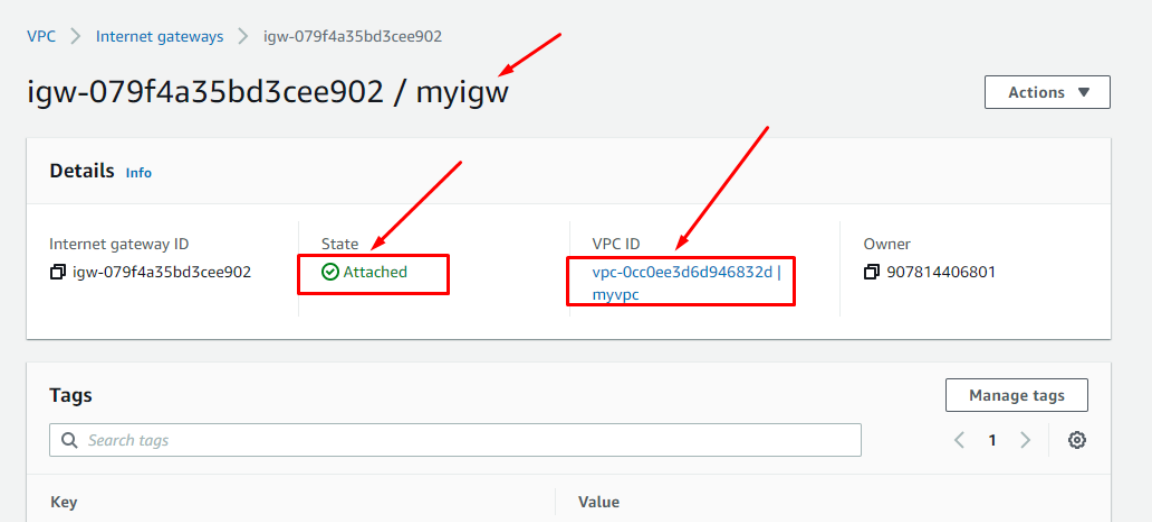

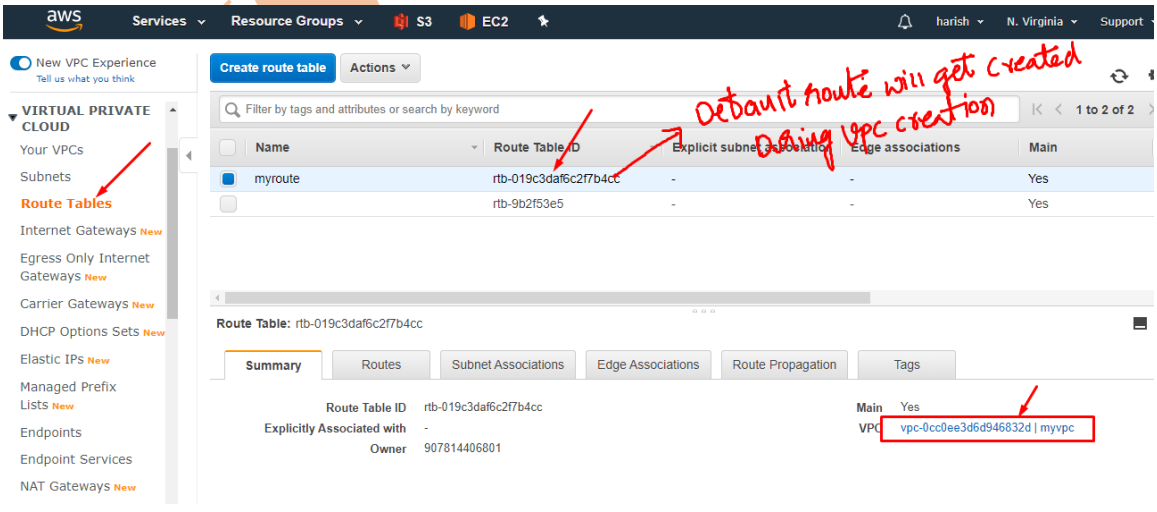

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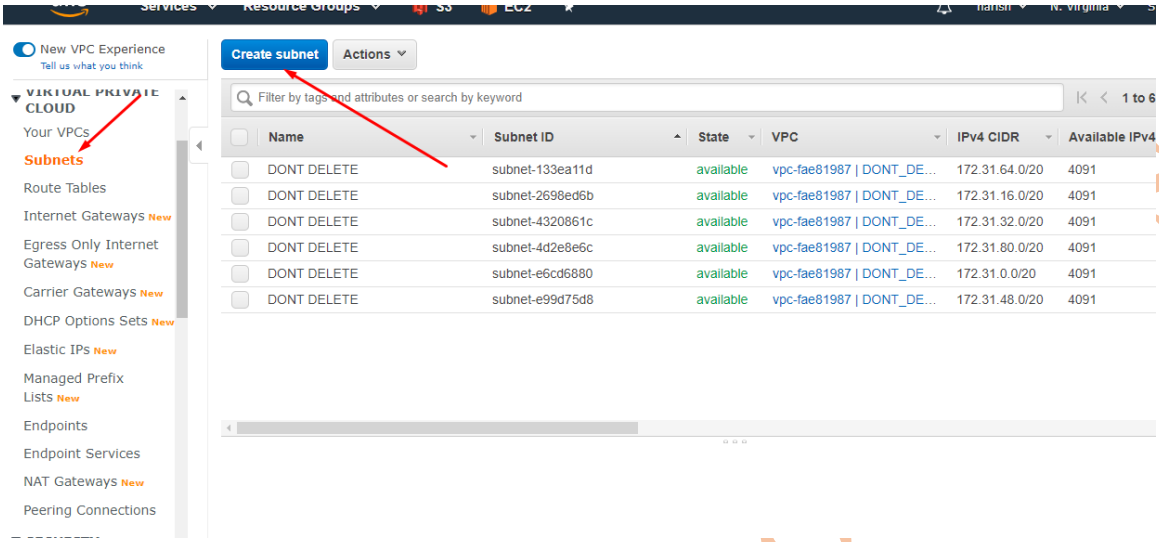
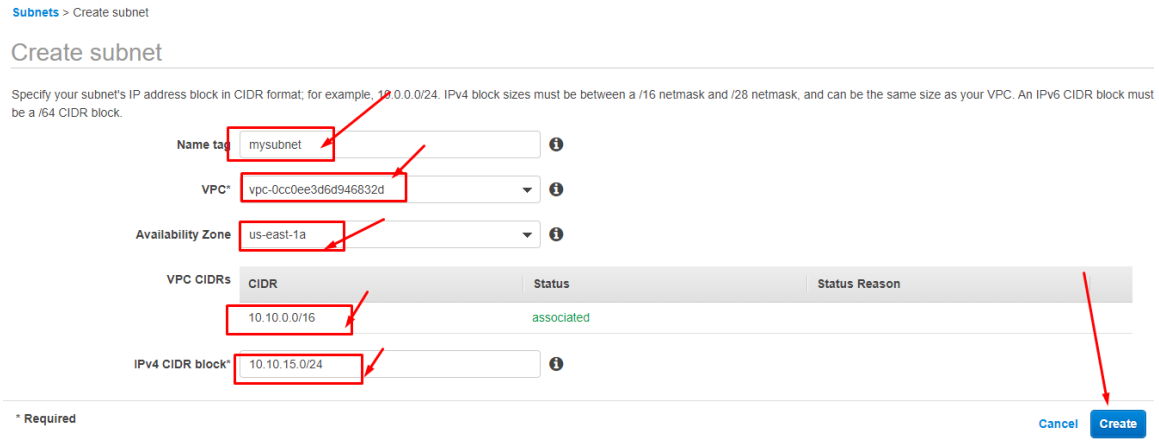
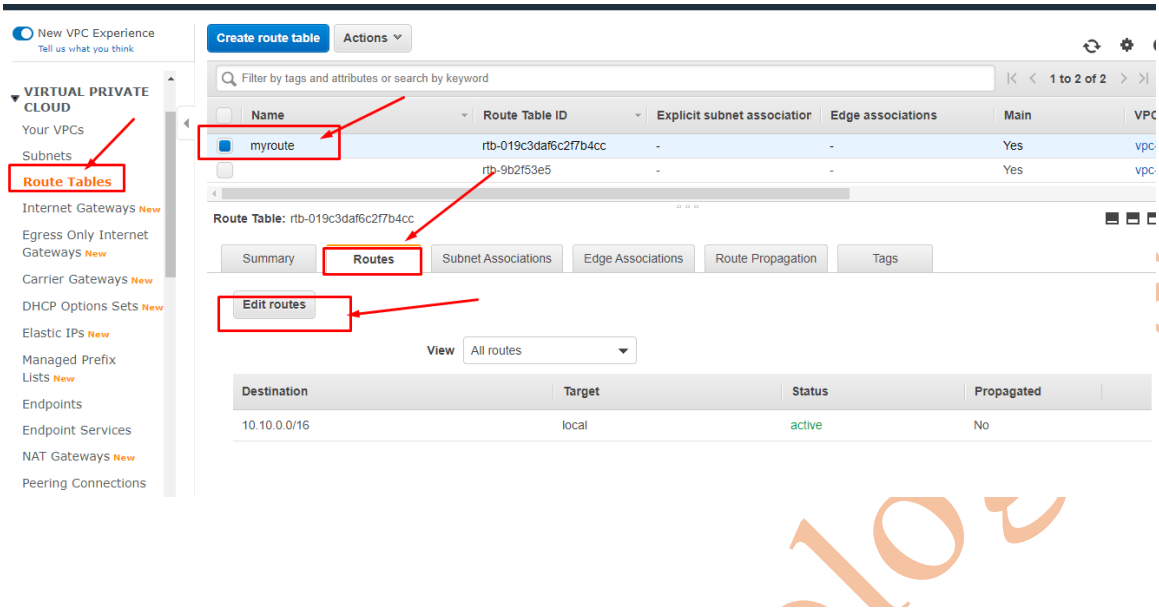
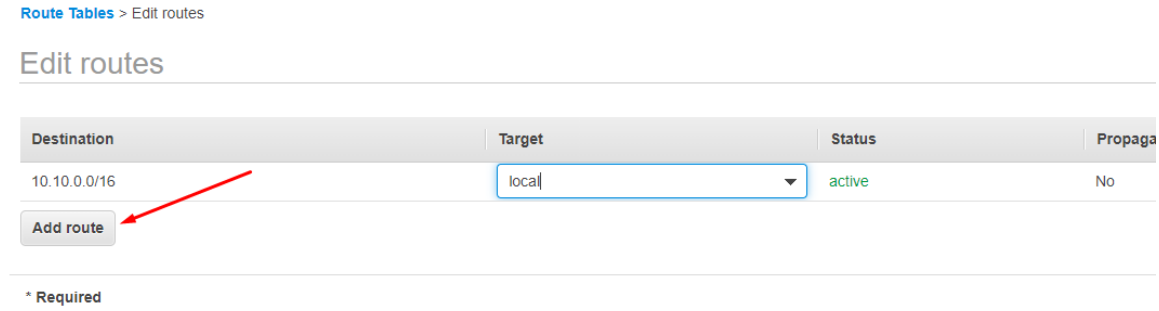


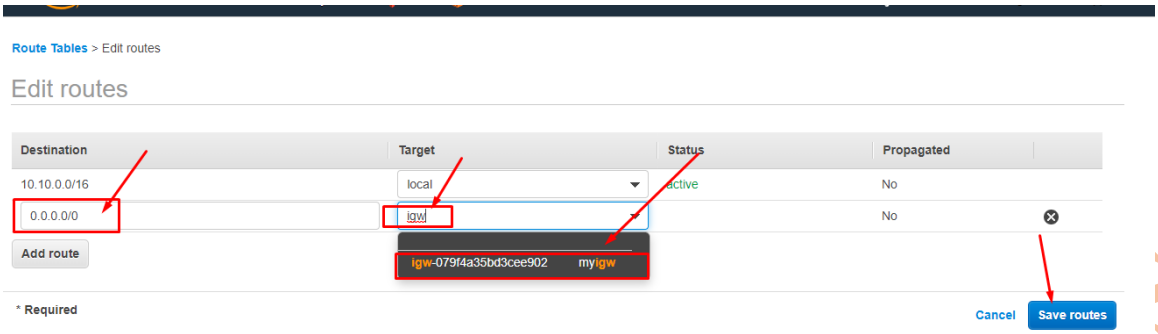


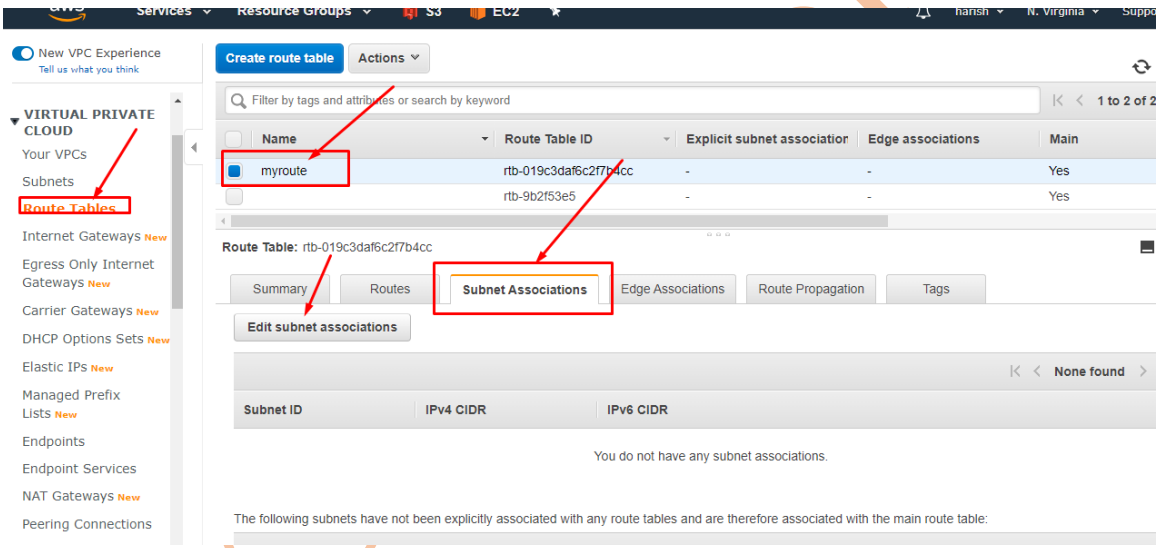
DVS Technologies Aws & Devops



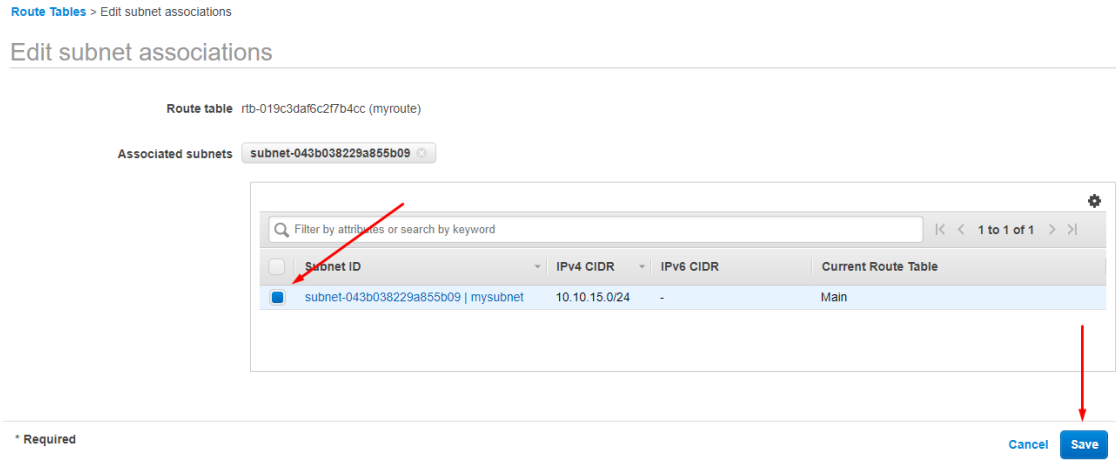


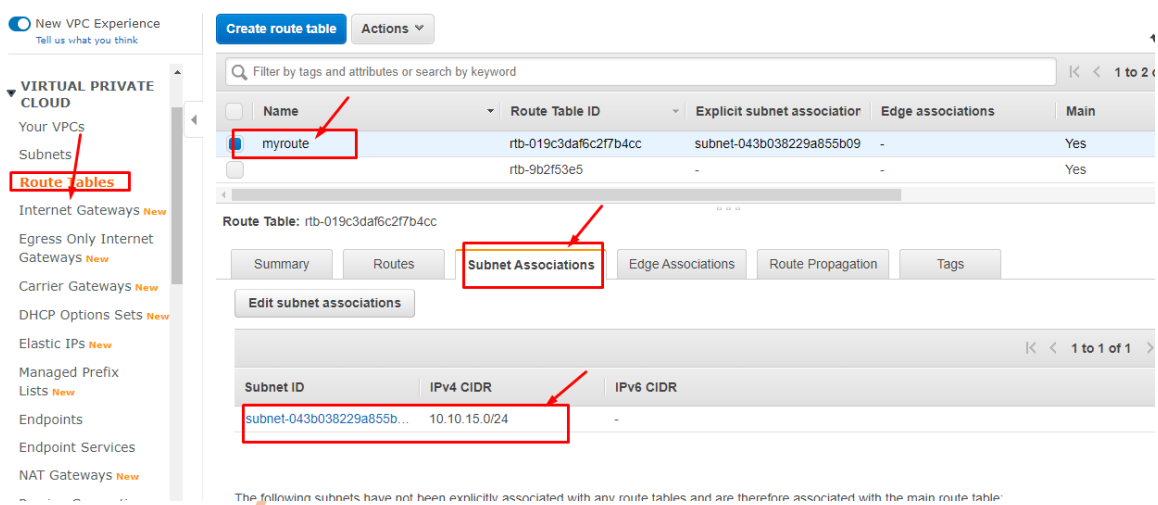
DVS Technologies Aws & Devops



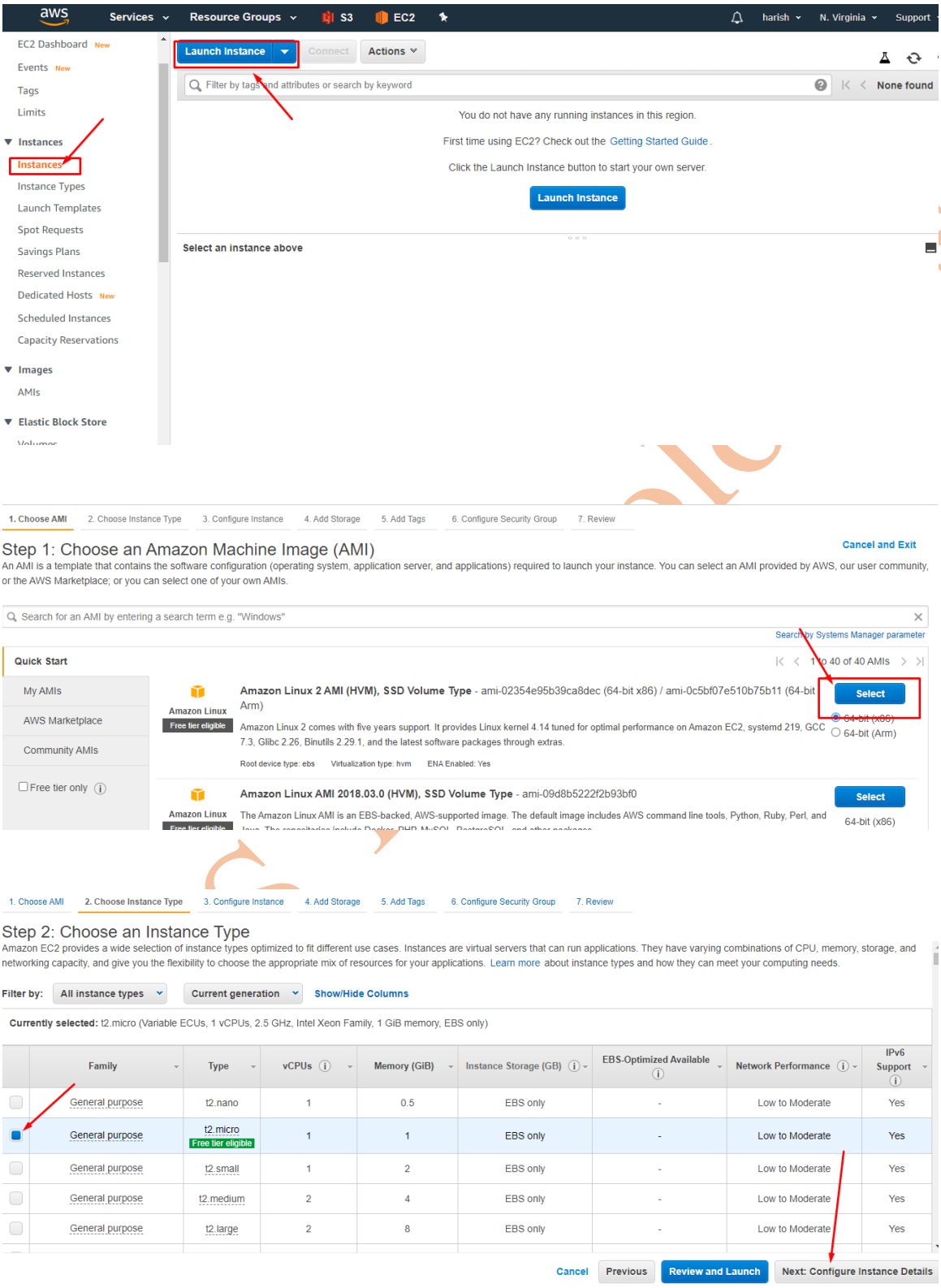


DVS Technologies Aws & Devops

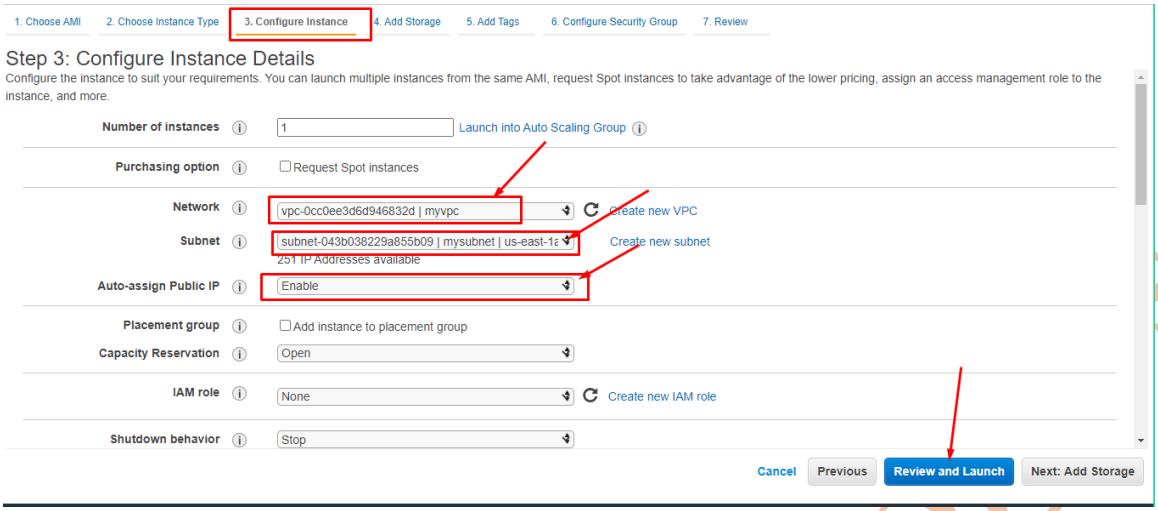


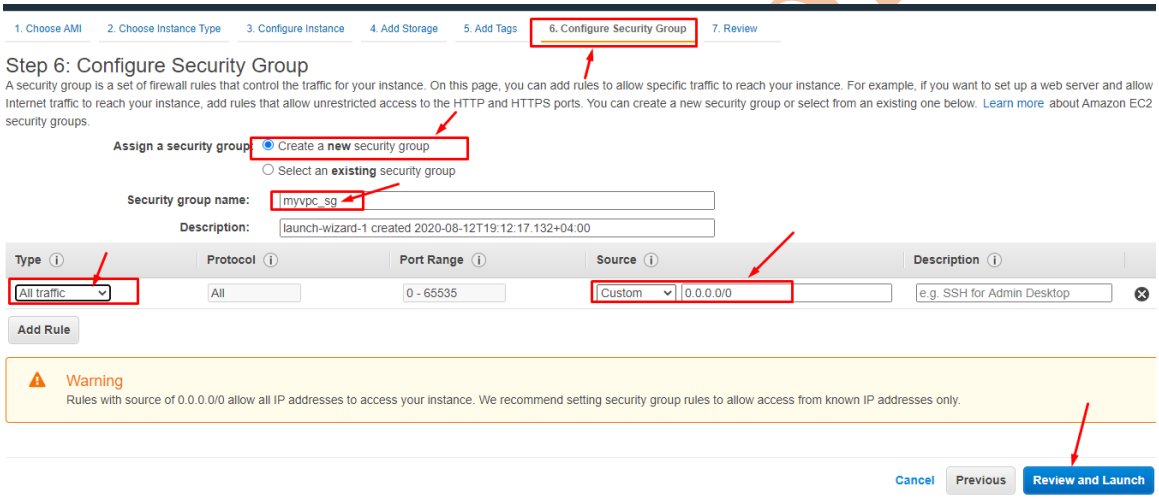


DVS Technologies Aws & Devops

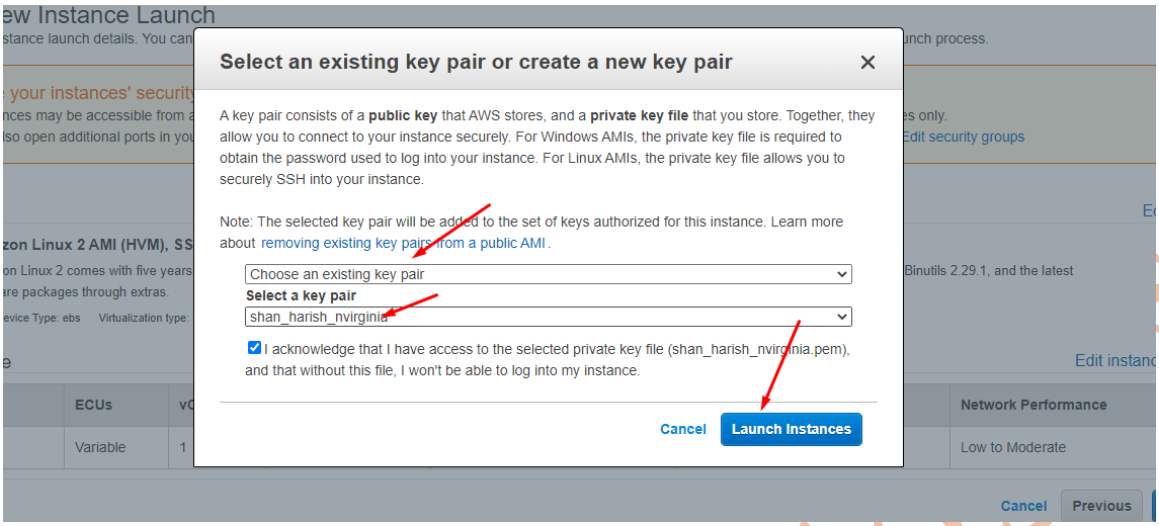


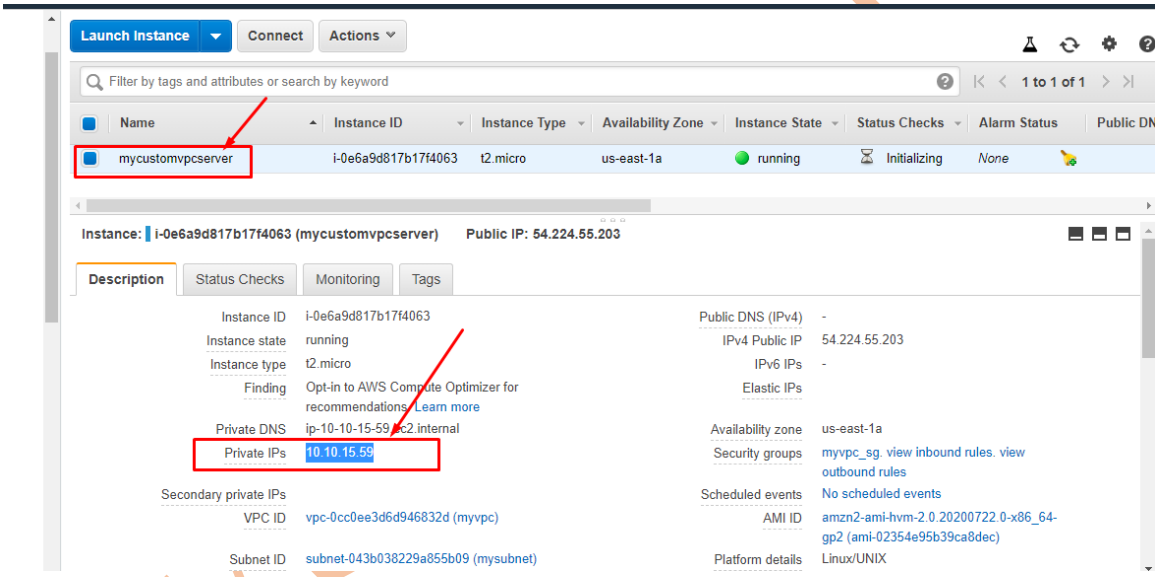
DVS Technologies Aws & Devops



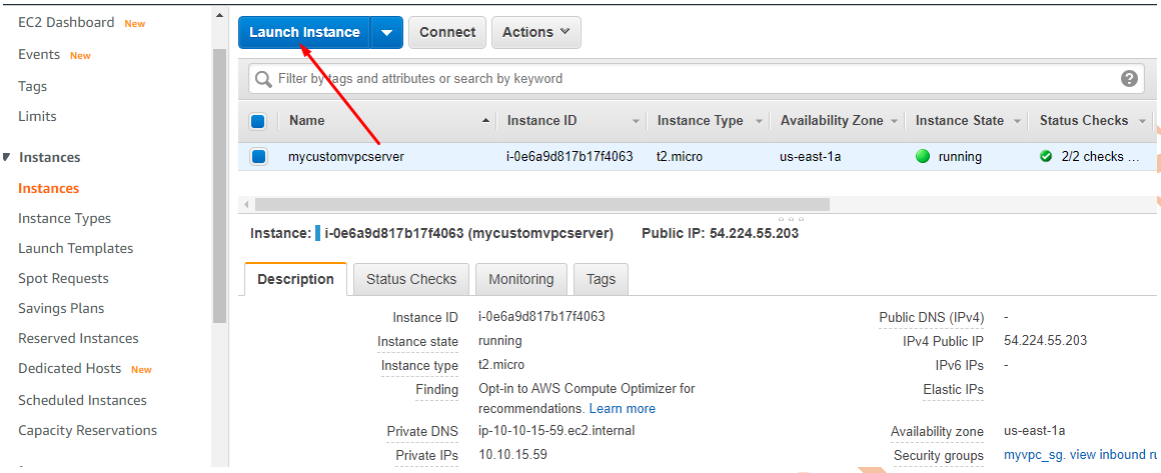


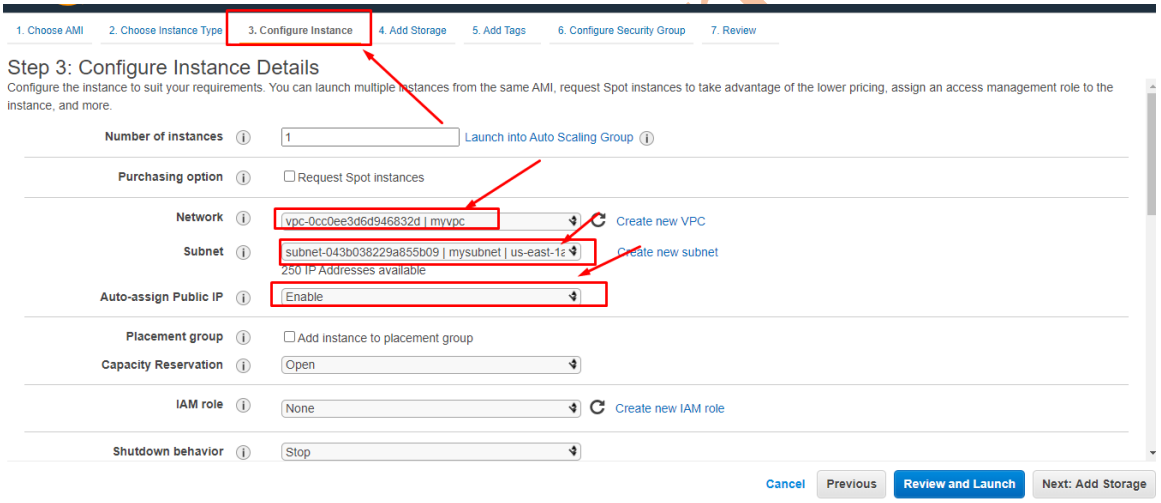
DVS Technologies Aws & Devops



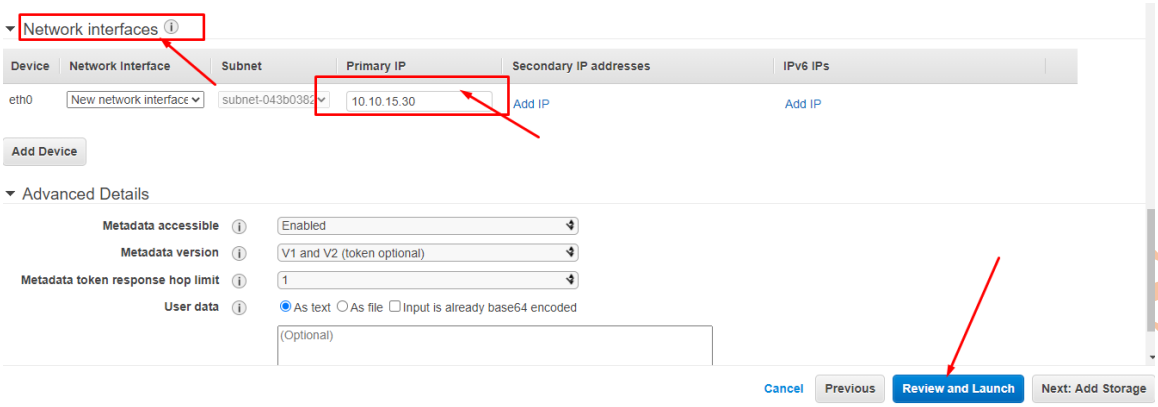


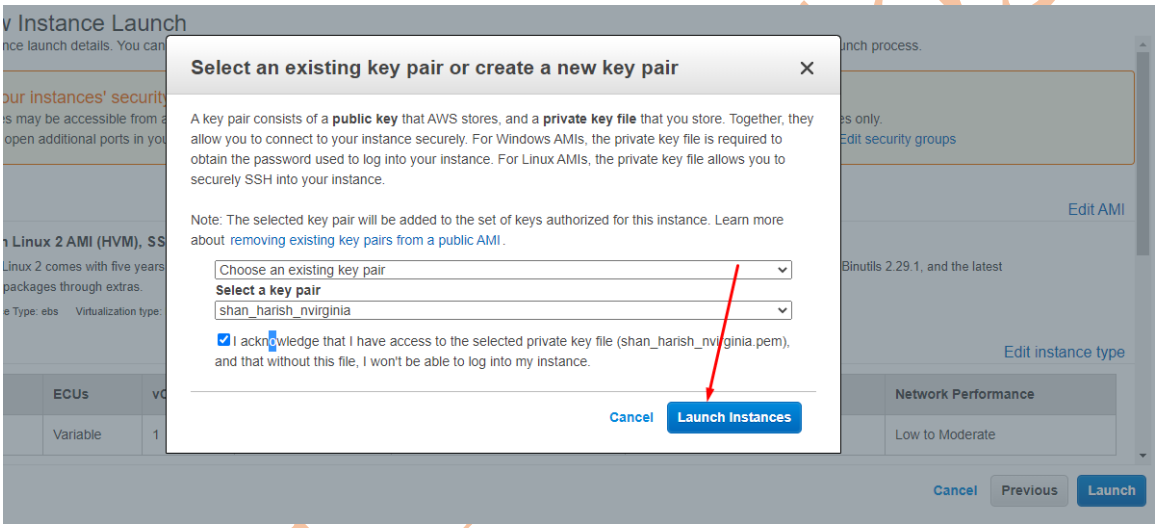
2. Ec2 with Selected IPAddress

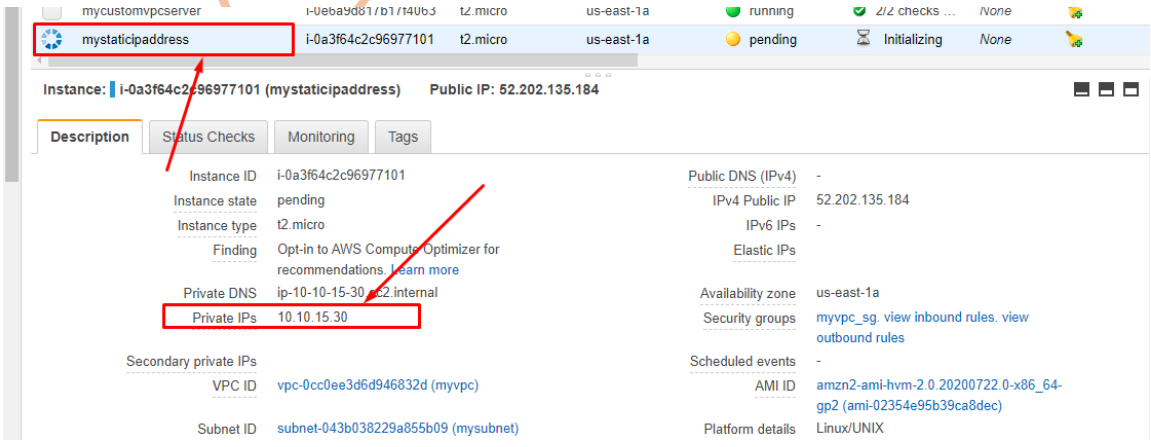




DVS Technologies Aws & Devops







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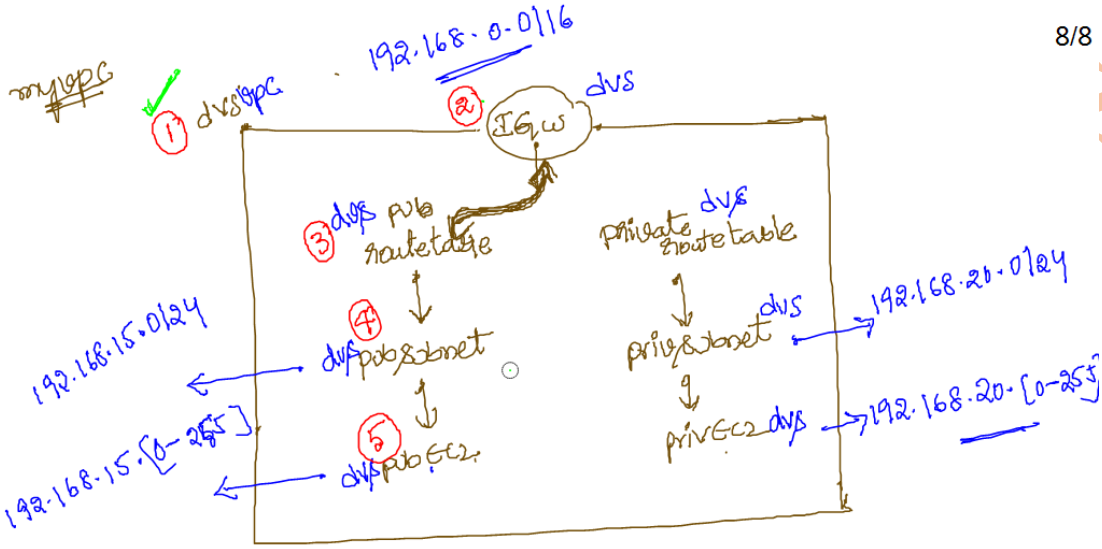
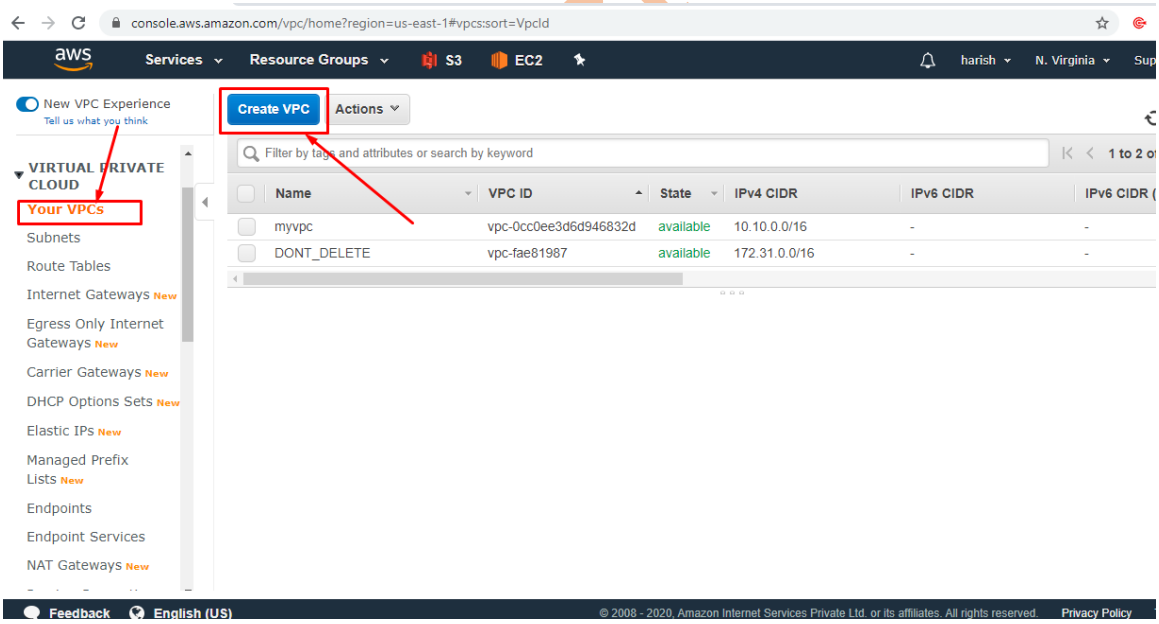
Remaining 5 IP Details:

```
tell them about the magic of 5 ips in the subnet ex (10.0.0.0/24)
10.0.0.0: Network address.

10.0.0.1: Reserved by AWS for the VPC router.

10.0.0.2: Reserved by AWS for mapping to the Amazon-provided DNS.

10.0.0.3: Reserved by AWS for future use.

10.0.0.255: Network broadcast address. We do not support broadcast in a VPC, therefore we reserve this address."

Explain about the usecase of bastion server
```

```
[root@ip-10-10-15-59 ~]# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
0.0.0.0         10.10.15.1      0.0.0.0         UG    0      0        0 eth0
10.10.15.0      0.0.0.0         255.255.255.0   U     0      0        0 eth0
169.254.169.254 0.0.0.0         255.255.255.255 UH    0      0        0 eth0
[root@ip-10-10-15-59 ~]# ping www.google.com^C
[root@ip-10-10-15-59 ~]# ping www.google.com
PING www.google.com (172.217.15.68) 56(84) bytes of data.
64 bytes from iad23s63-in-f4.1e100.net (172.217.15.68): icmp_seq=1 ttl=112 time=1.31 ms
^C
--- www.google.com ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 1.316/1.316/1.316/0.000 ms
[root@ip-10-10-15-59 ~]# cat /etc/resolv.conf
; generated by /usr/sbin/dhclient-script
search ec2.internal
options timeout:2 attempts:5
nameserver 10.10.0.2
[root@ip-10-10-15-59 ~]# ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 9001
        inet 10.10.15.59  netmask 255.255.255.0  broadcast 10.10.15.255
        inet6 fe80::c8c:f4ff:fe55:9449  prefixlen 64  scopeid 0x20<link>
        ether 0e:8c:f4:55:94:49  txqueuelen 1000  (Ethernet)
        RX packets 33636  bytes 47310639 (45.1 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
```

3. VPC with public & private subnets





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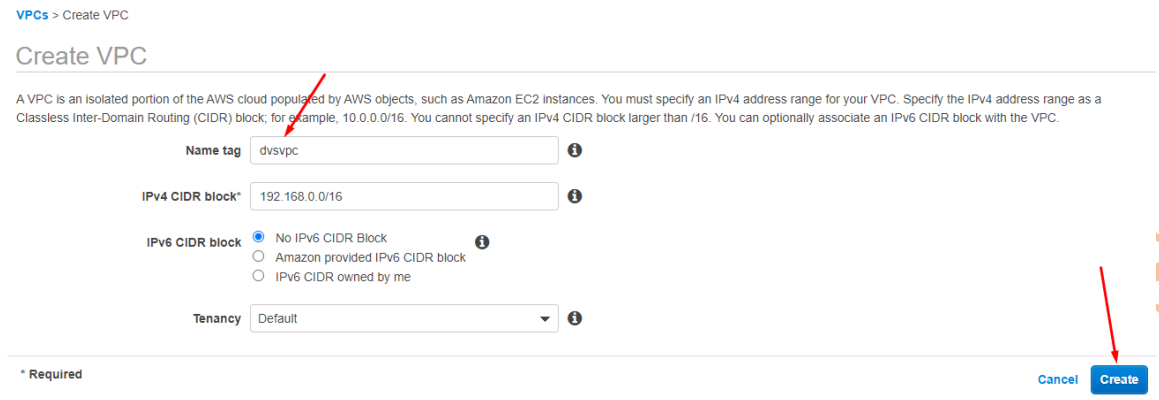
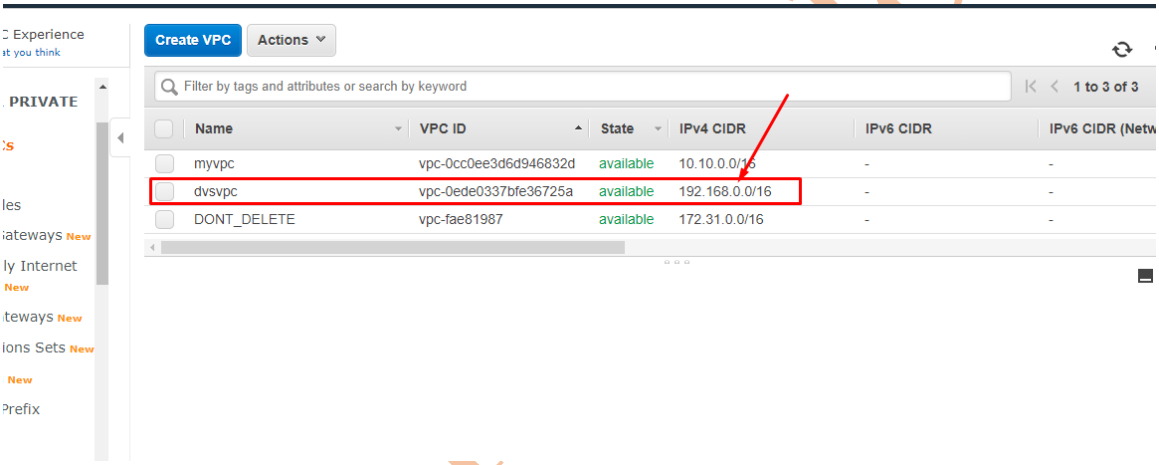
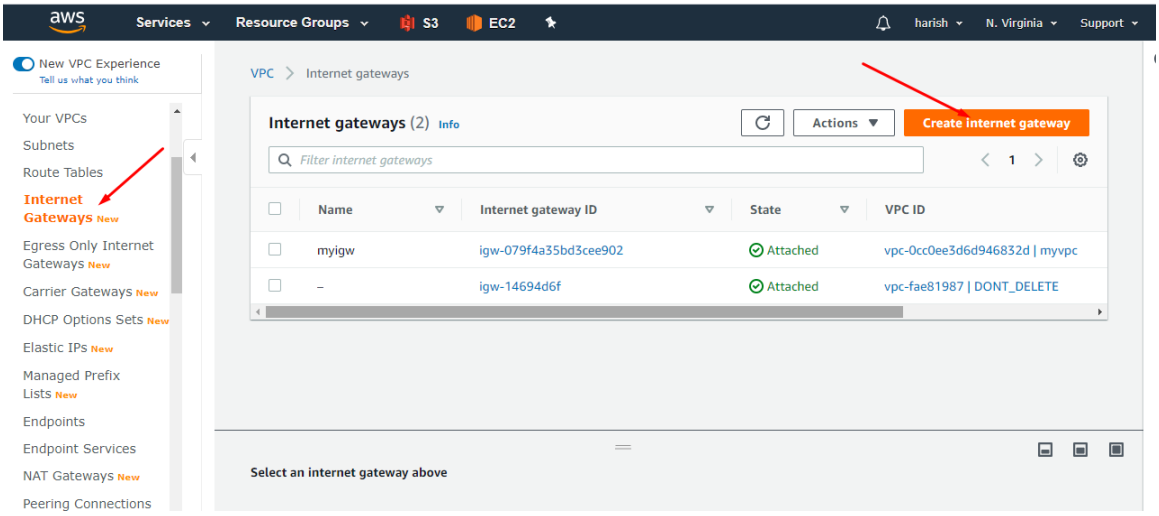
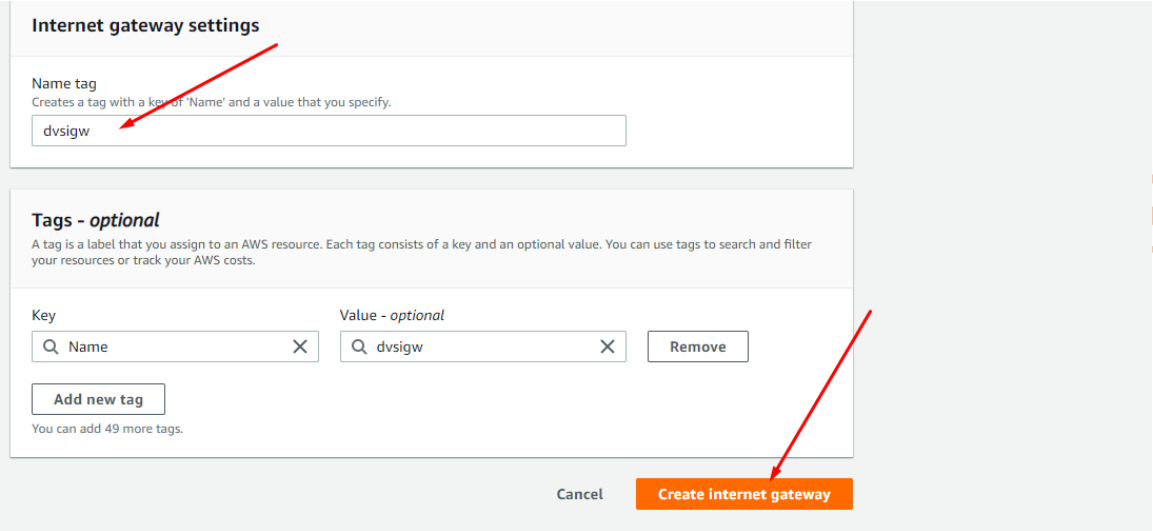
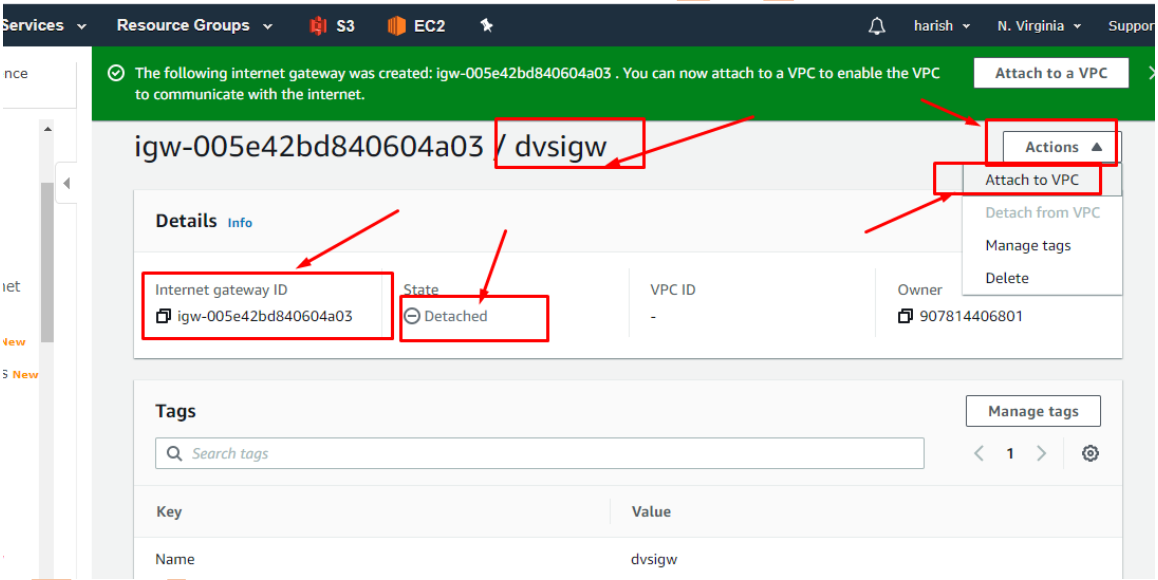
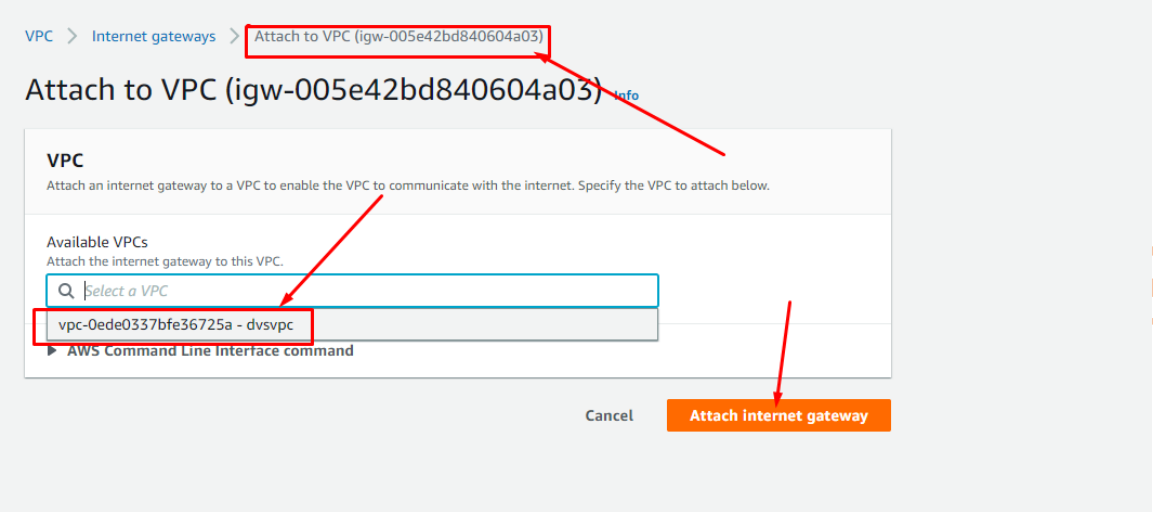


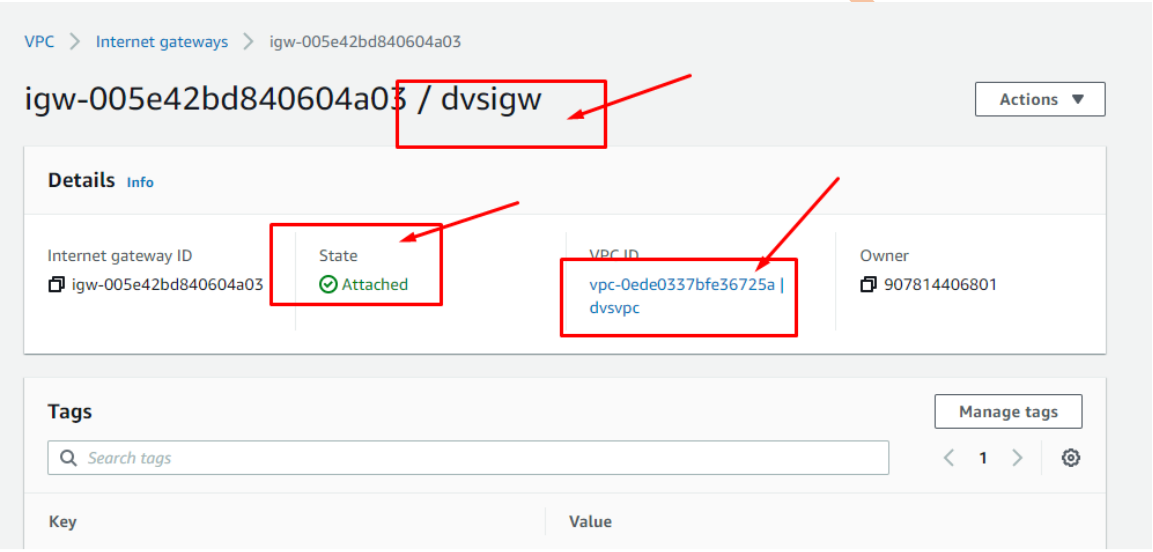




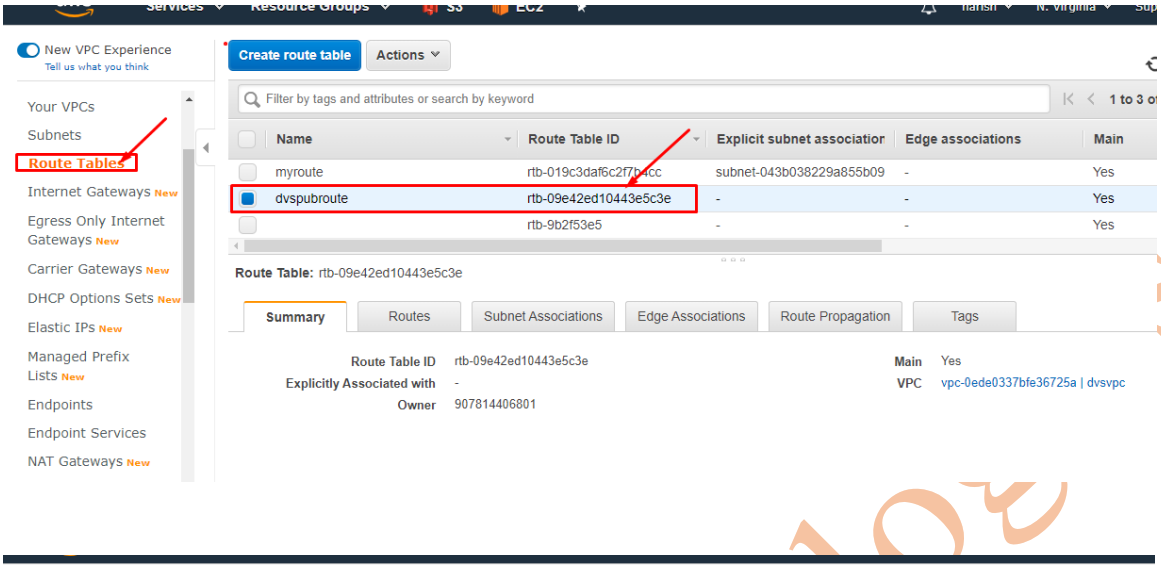

Internet gateway settings
Name tag
Creates a tag with a key of 'Name' and a value that you specify.
dvsigw
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
Key
Value - optional
Name
dvsigw
Remove
Add new tag
You can add 49 more tags.
Cancel
Create internet gateway

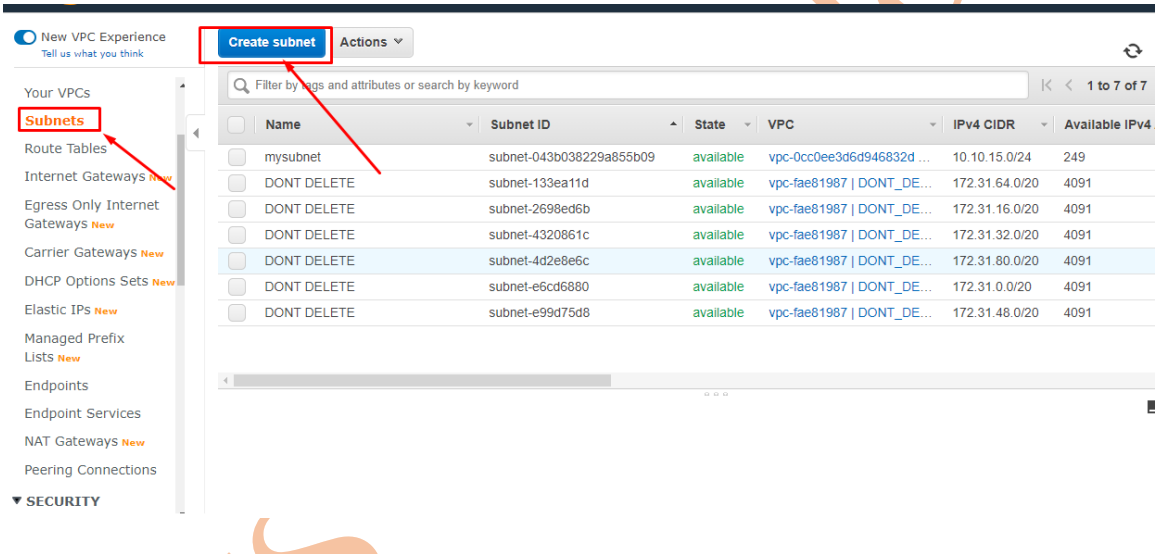

Services
Resource Groups
S3
EC2
harish
N. Virginia
The following internet gateway was created: igw-005e42bd840604a03 . You can now attach to a VPC to enable the VPC to communicate with the internet.
Attach to a VPC
igw-005e42bd840604a03 / dvsigw
Actions
Attach to VPC
Detach from VPC
Manage tags
Delete
Details Info
Internet gateway ID
igw-005e42bd840604a03
State
Detached
VPC ID
-
Owner
907814406801
Tags
Manage tags
Search tags
Key
Value
Name
dvsigw

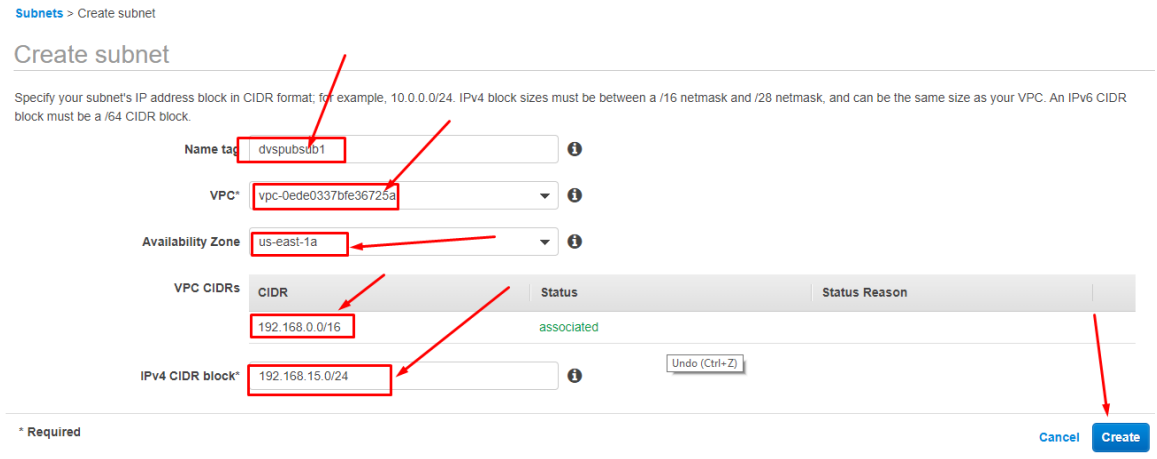

VPC > Internet gateways > Attach to VPC (igw-005e42bd840604a03)
Attach to VPC (igw-005e42bd840604a03) Info
VPC
Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.
Available VPCs
Attach the internet gateway to this VPC.
Select a VPC
vpc-0ede0337bfe36725a - dvsvpc
AWS Command Line Interface command
Cancel
Attach internet gateway


VPC > Internet gateways > igw-005e42bd840604a03
igw-005e42bd840604a03 / dvsigw
Actions
Details Info
Internet gateway ID
igw-005e42bd840604a03
State
Attached
VPC ID
vpc-0ede0337bfe36725a | dvsvpc
Owner
907814406801
Tags
Manage tags
Search tags
1
Key
Value

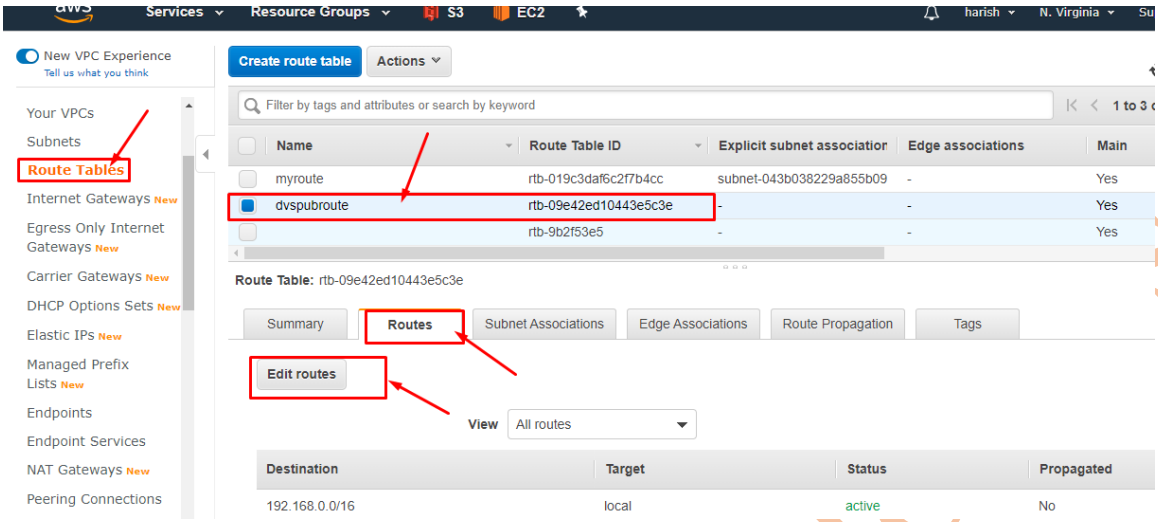
DVS Technologies Aws & Devops

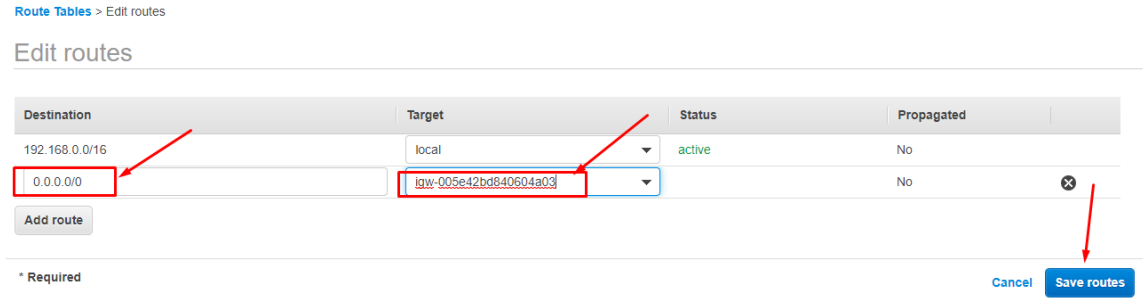


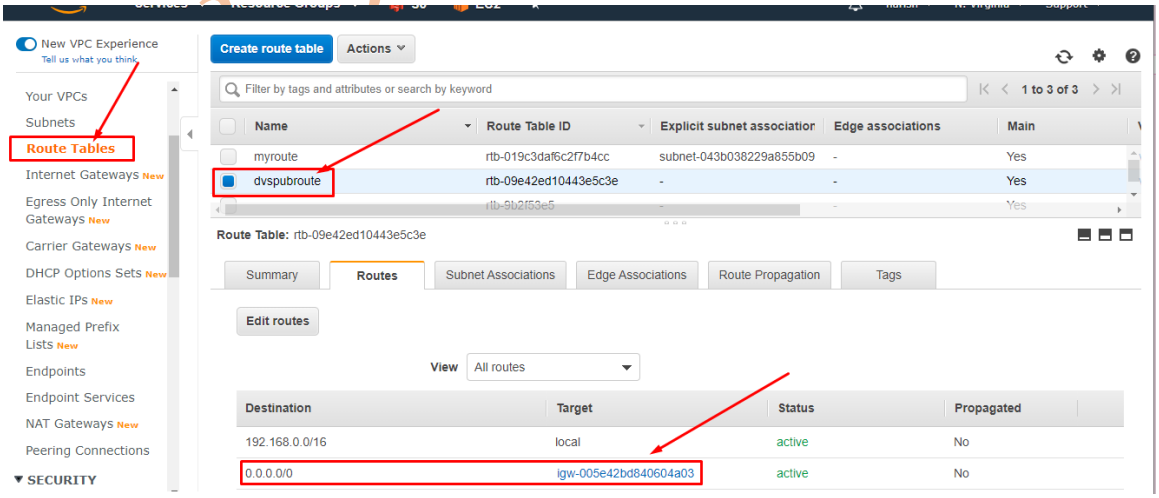


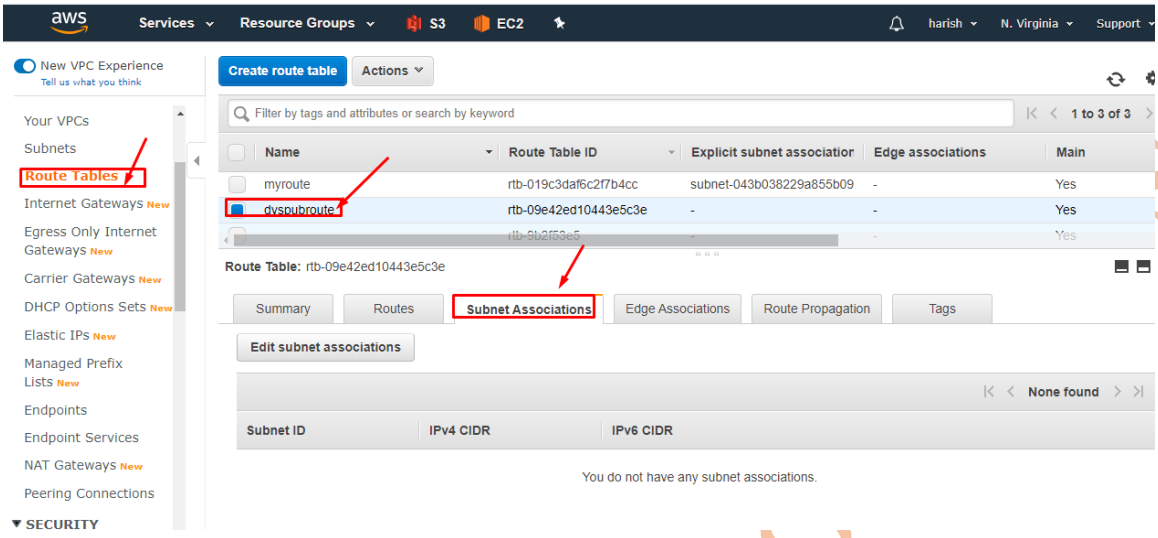


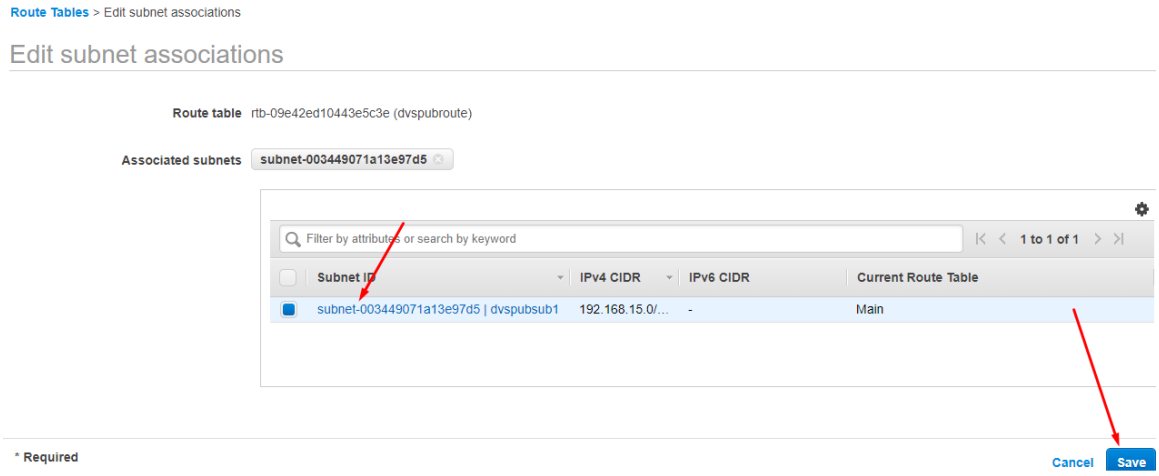
DVS Technologies Aws & Devops











Lets work on Private subnet creation:

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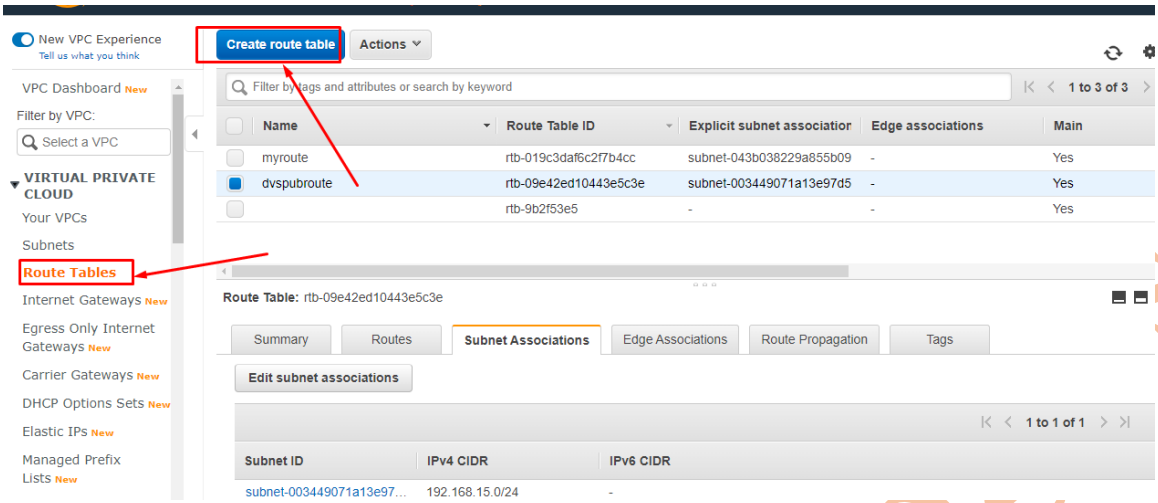
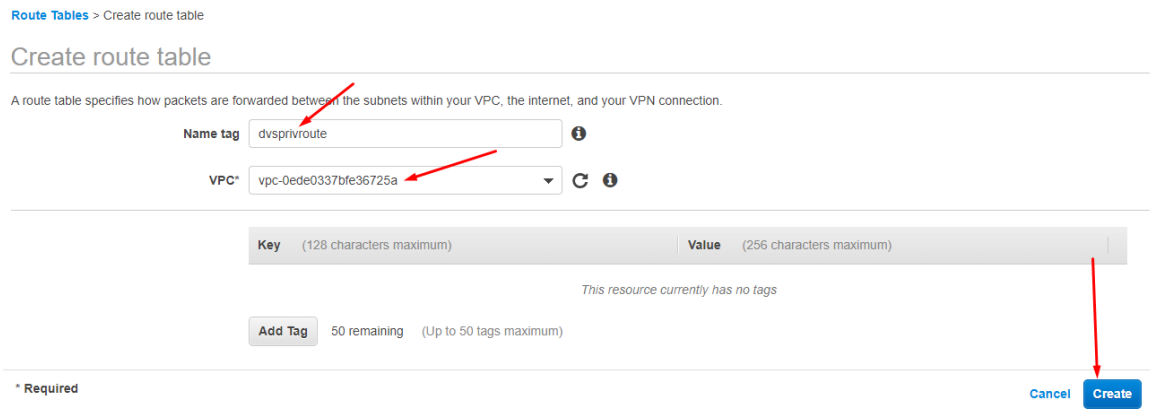
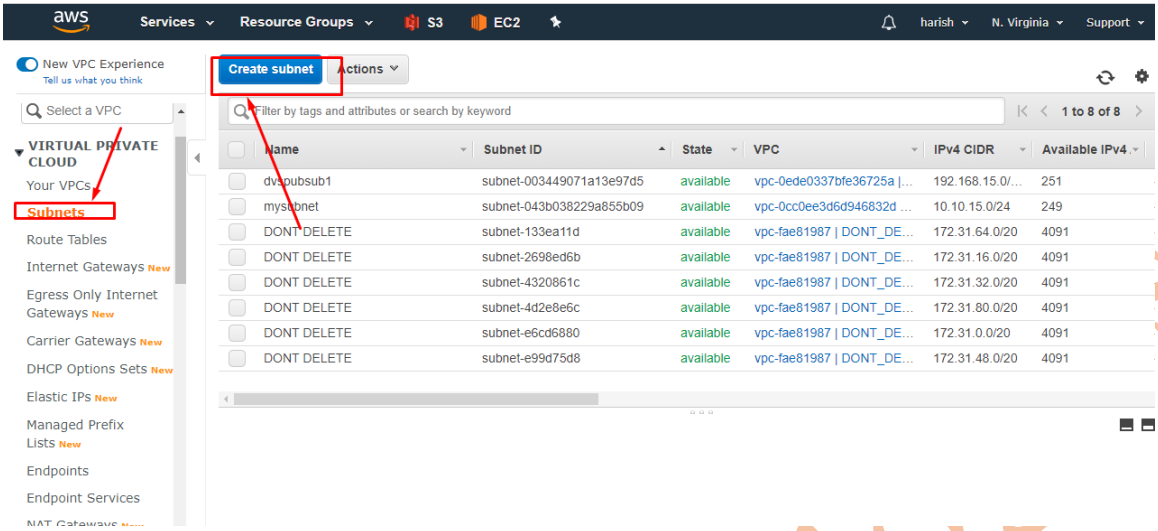
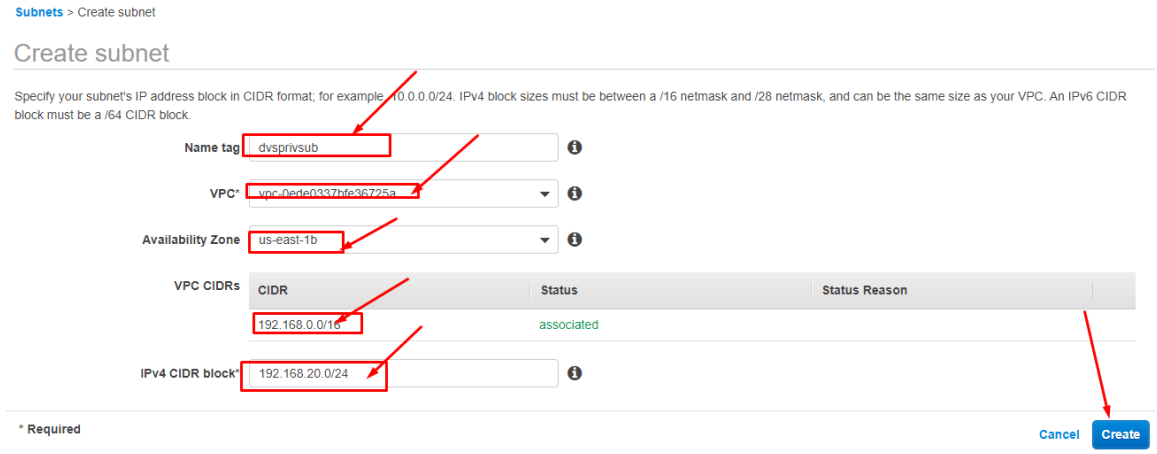
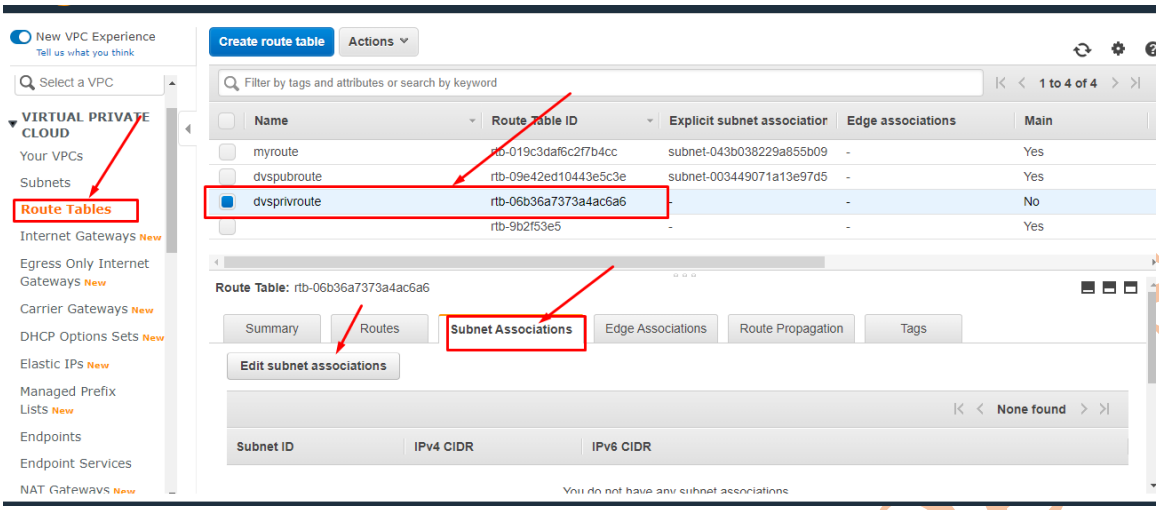


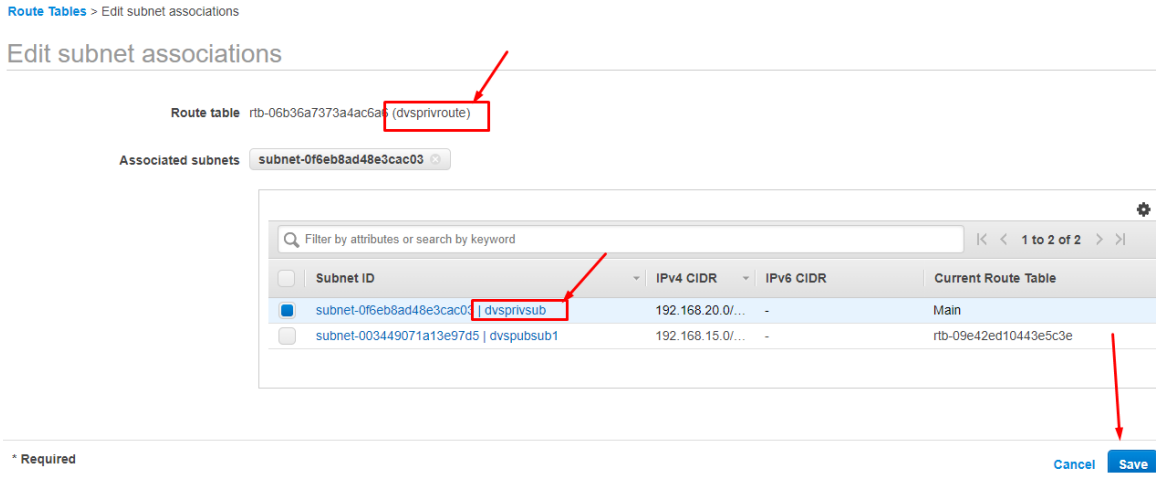


DVS Technologies Aws & Devops



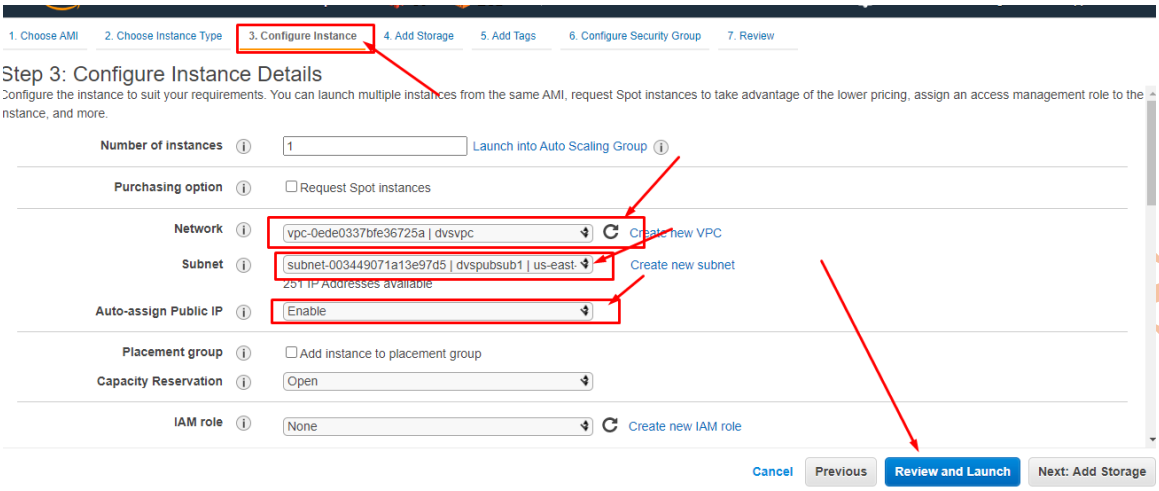


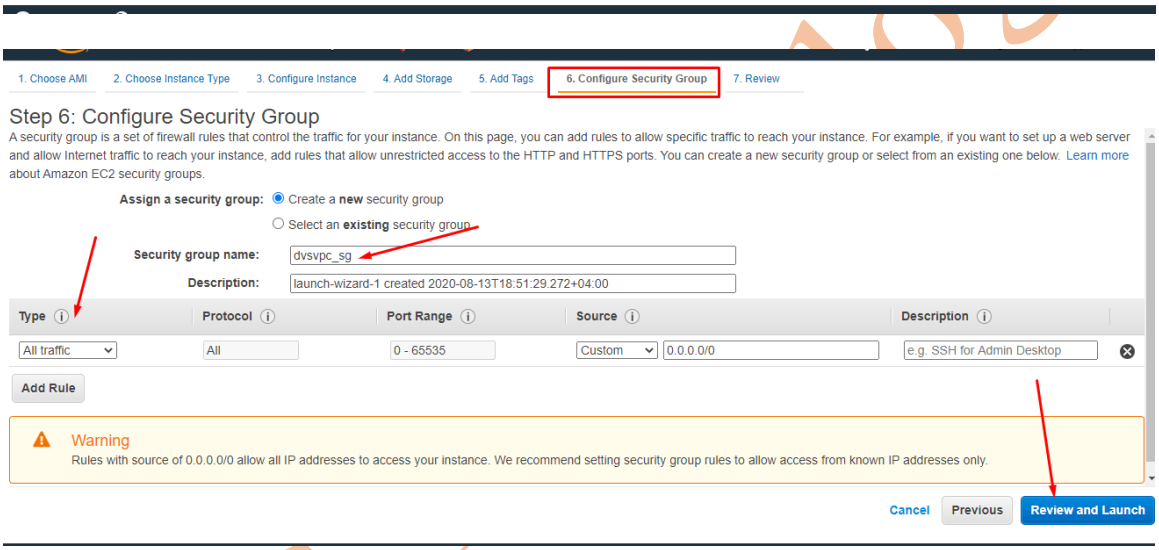


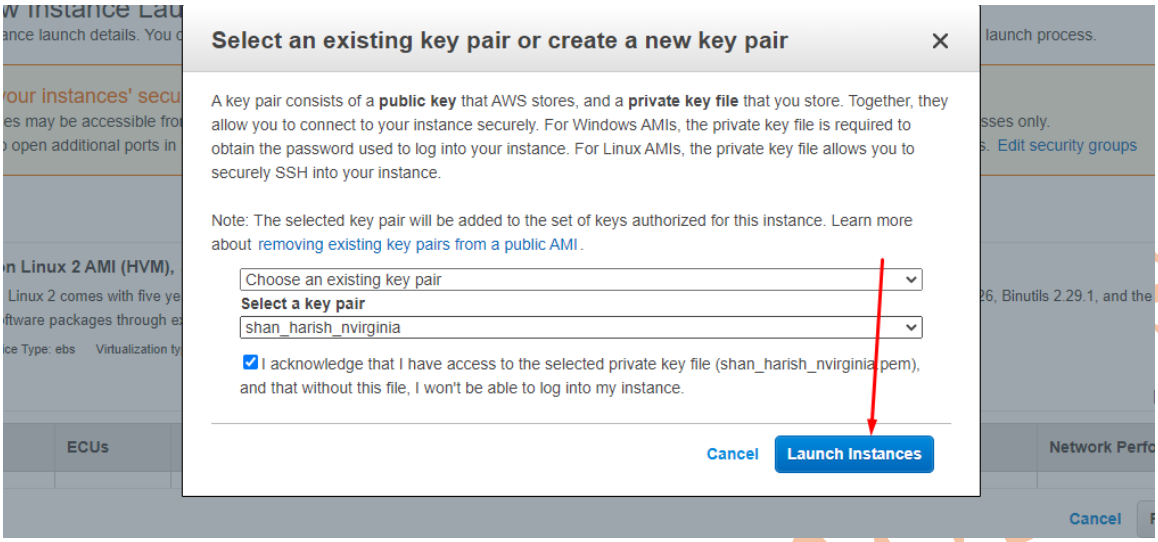


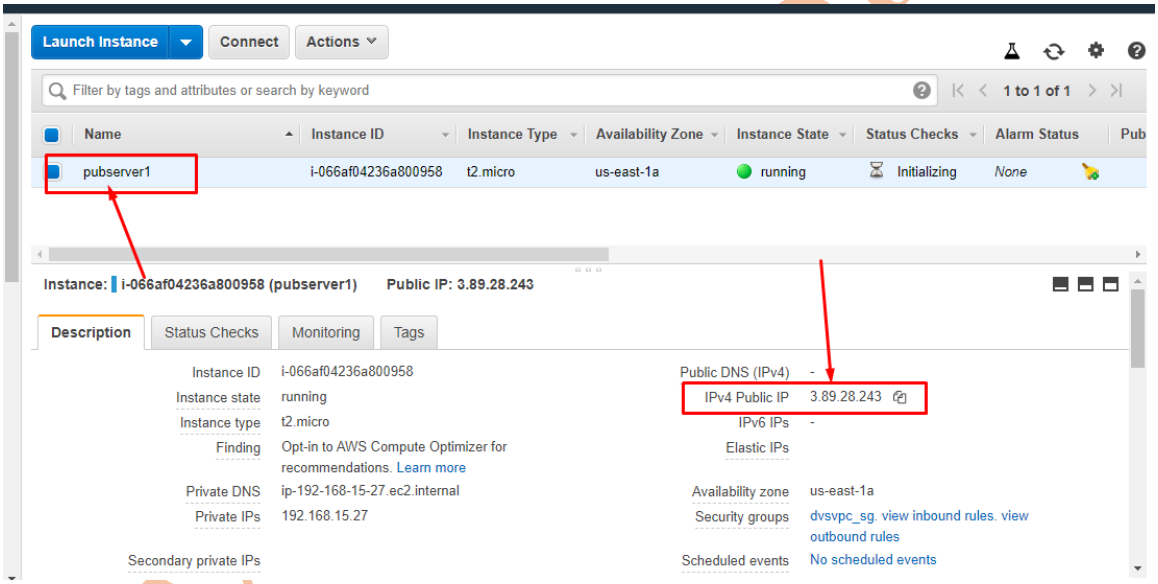
Lets create pub & priv servers:

DVS Technologies Aws & Devops

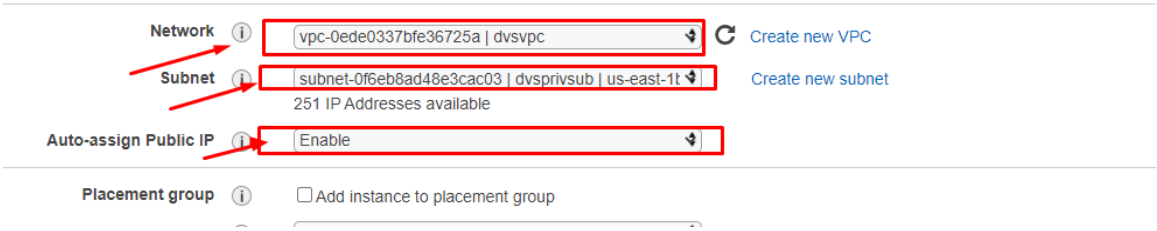


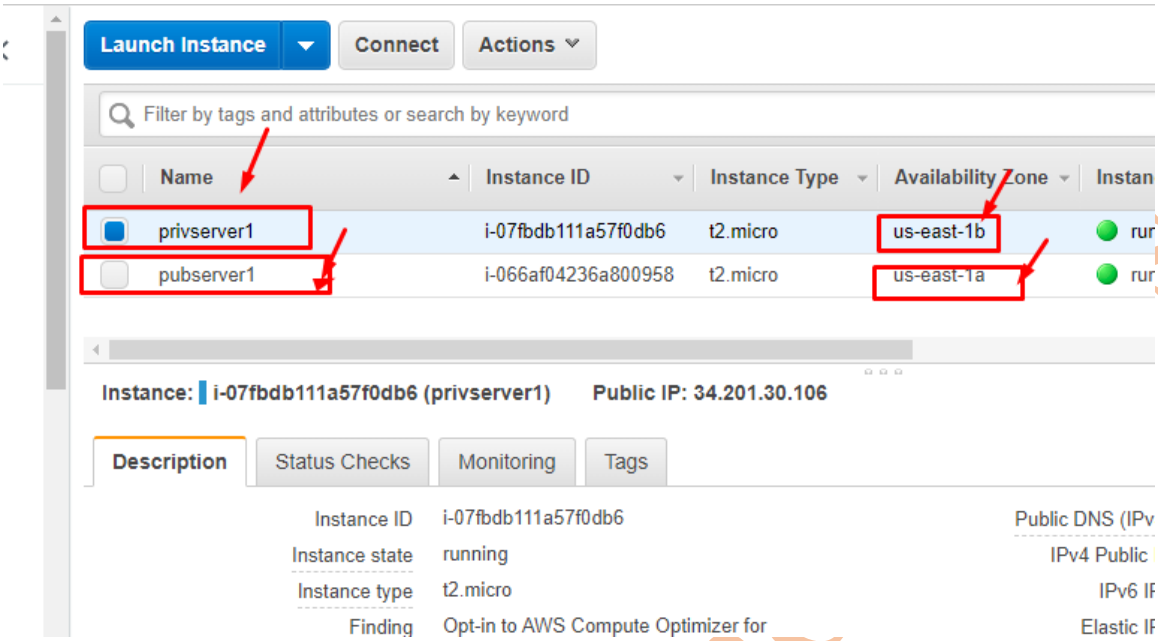






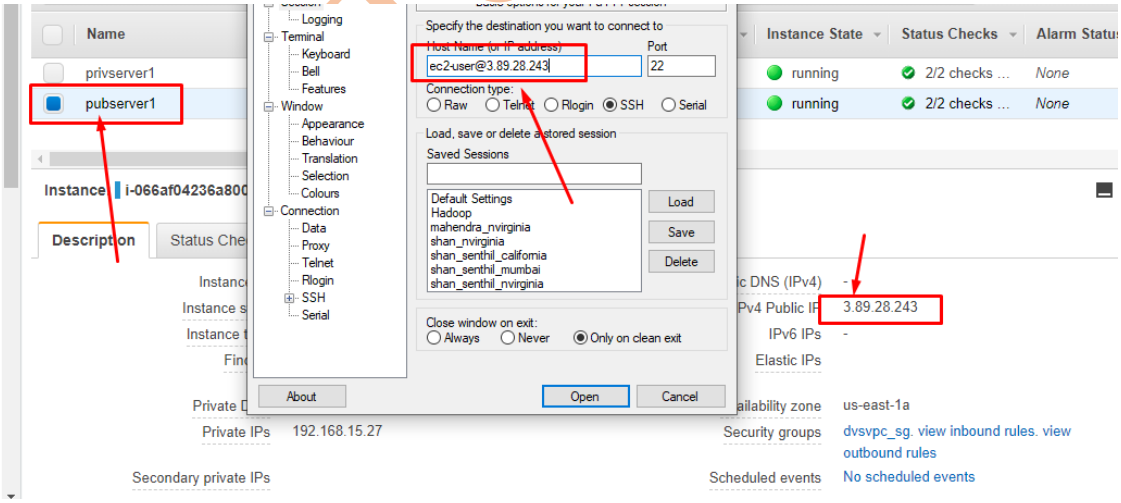
NOTE: Similarly launch your private server with private subnet

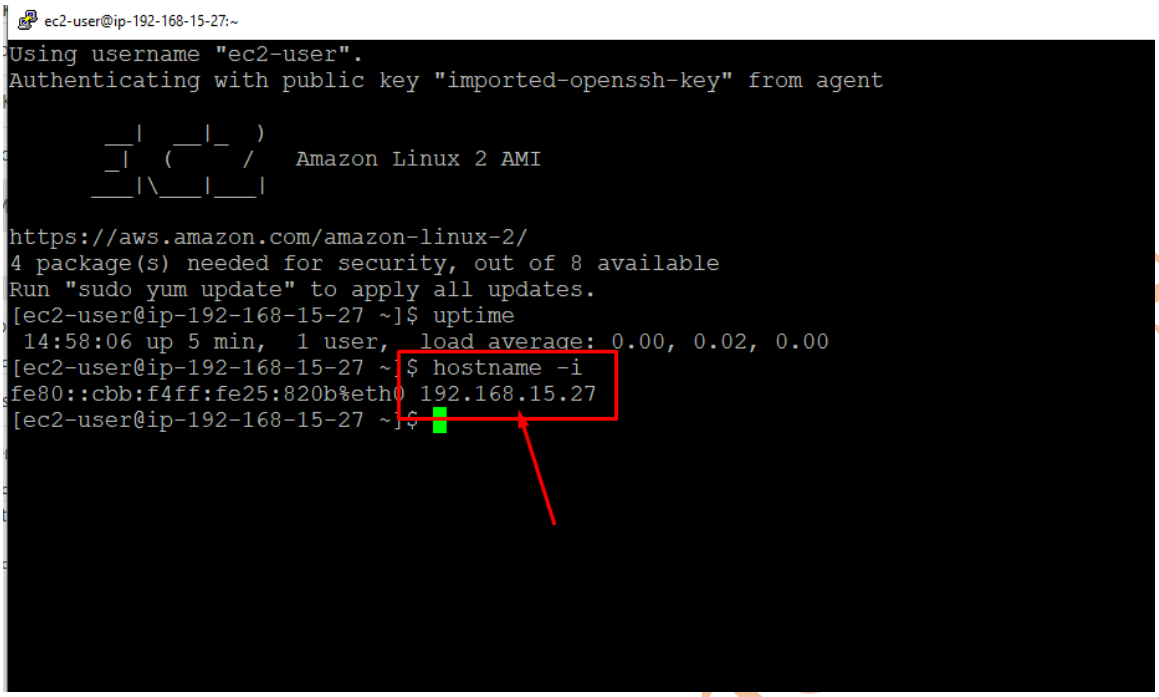




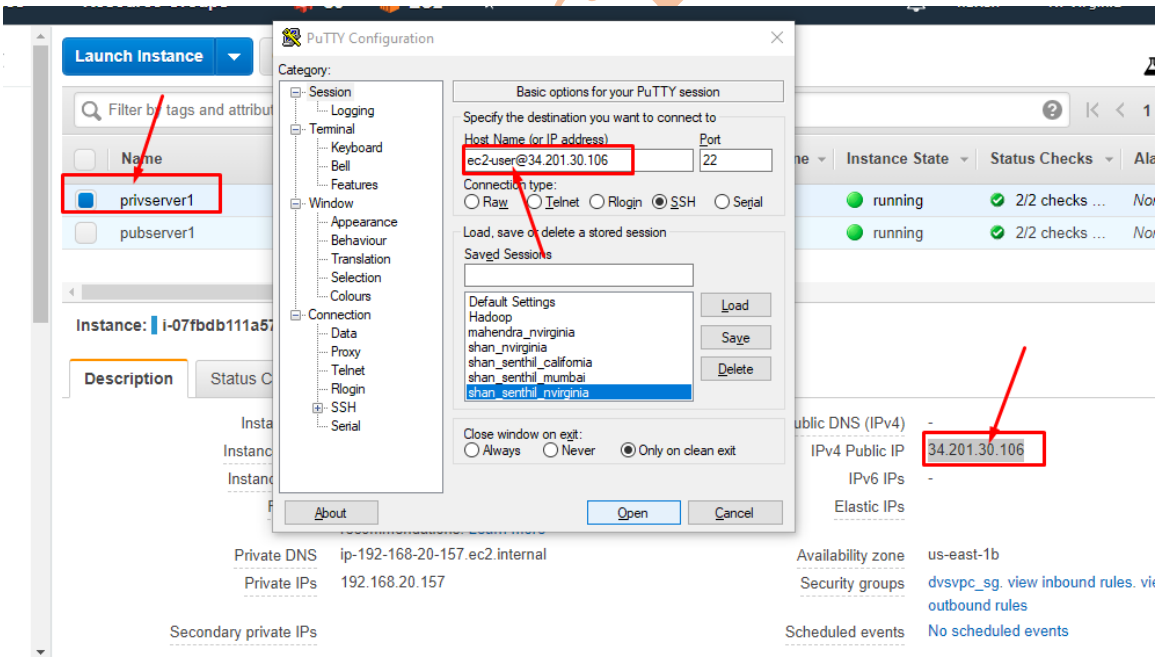
Testing Connectivity:

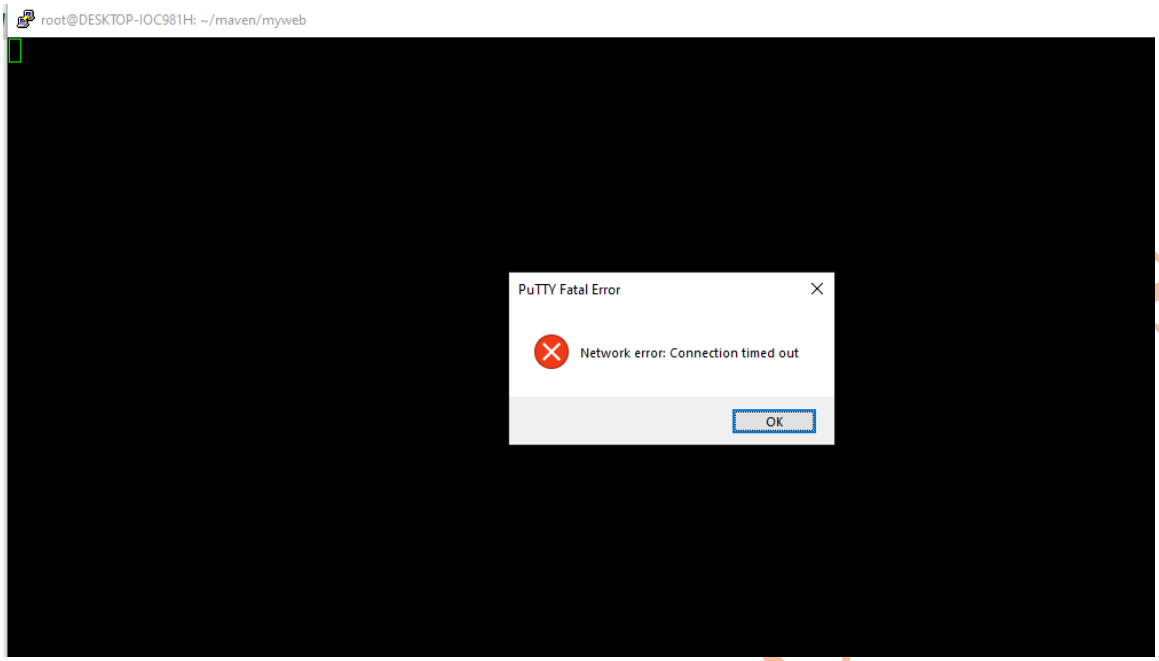
Public Server:



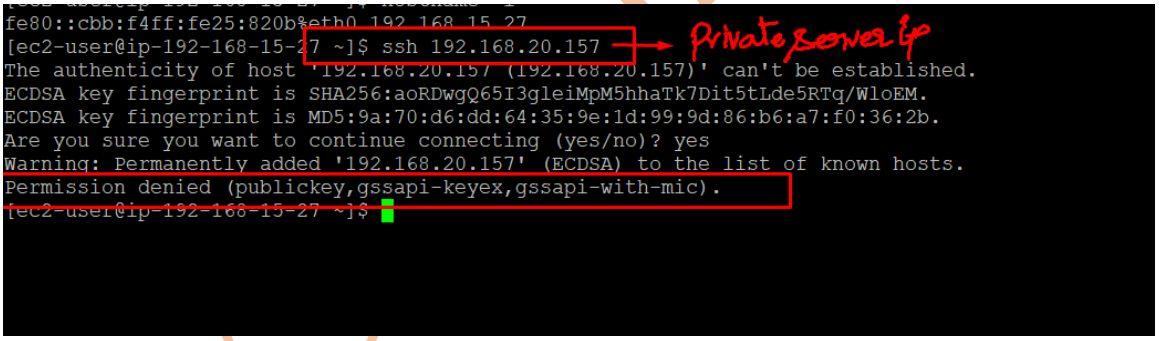


PrivateServer Access:

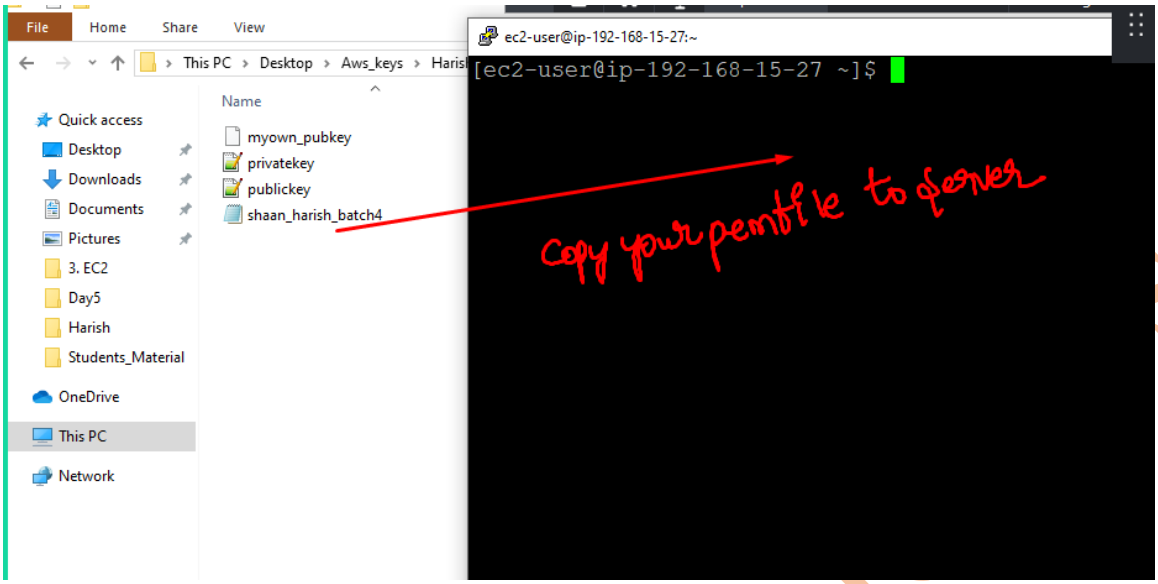




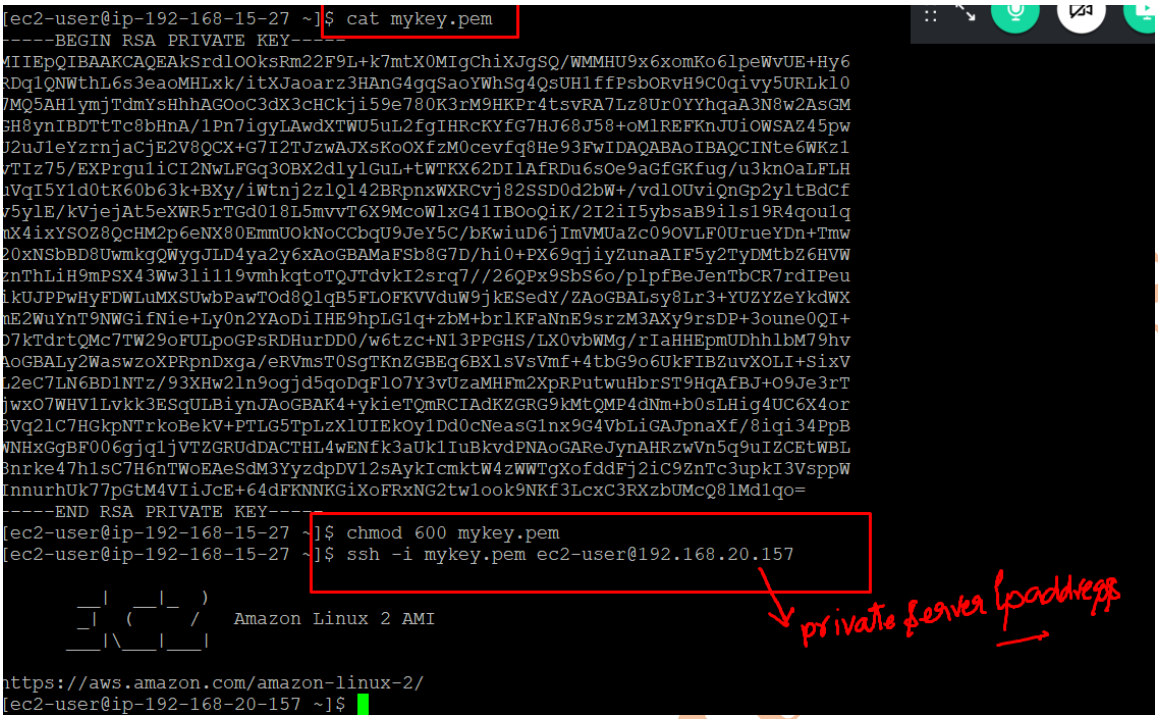
Now Lets connect private server from our public server:



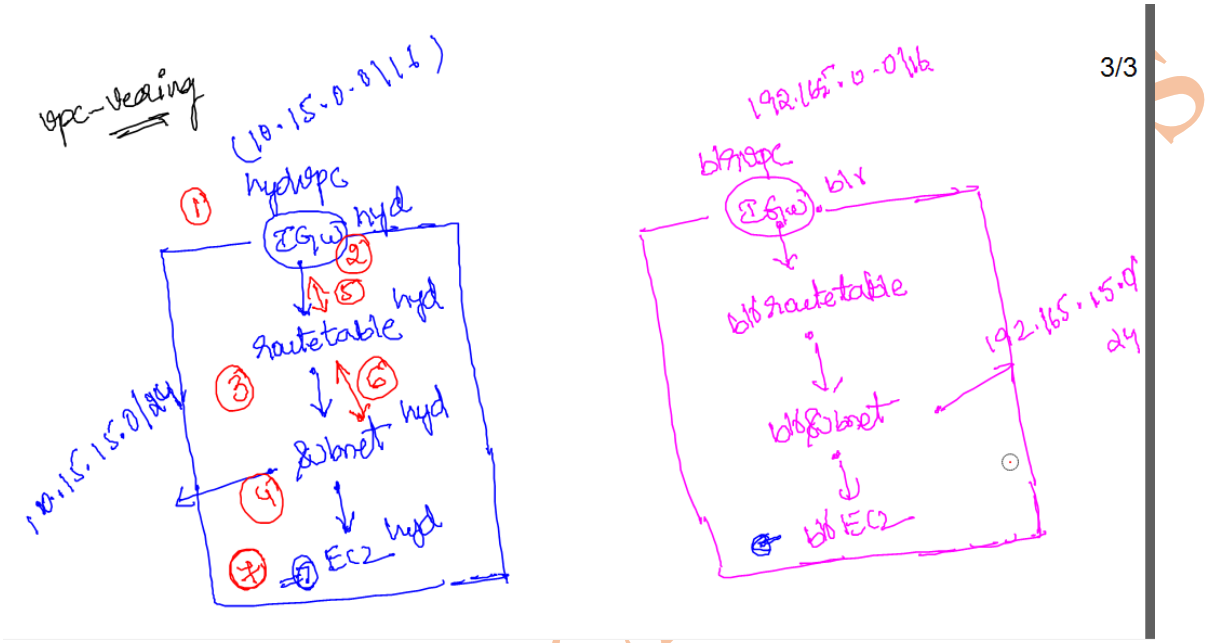
DVS Technologies Aws & Devops



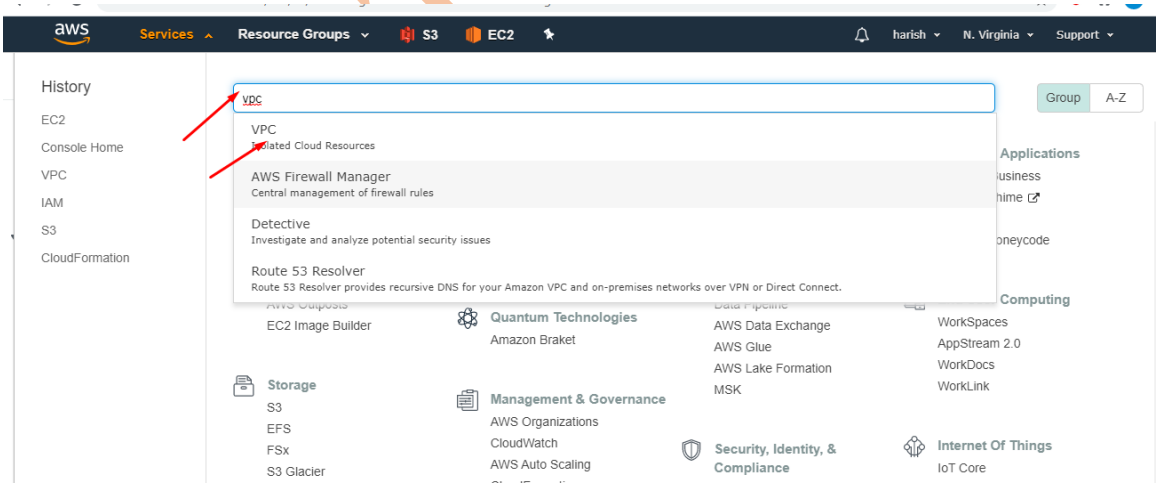
DVS Technologies Aws & Devops



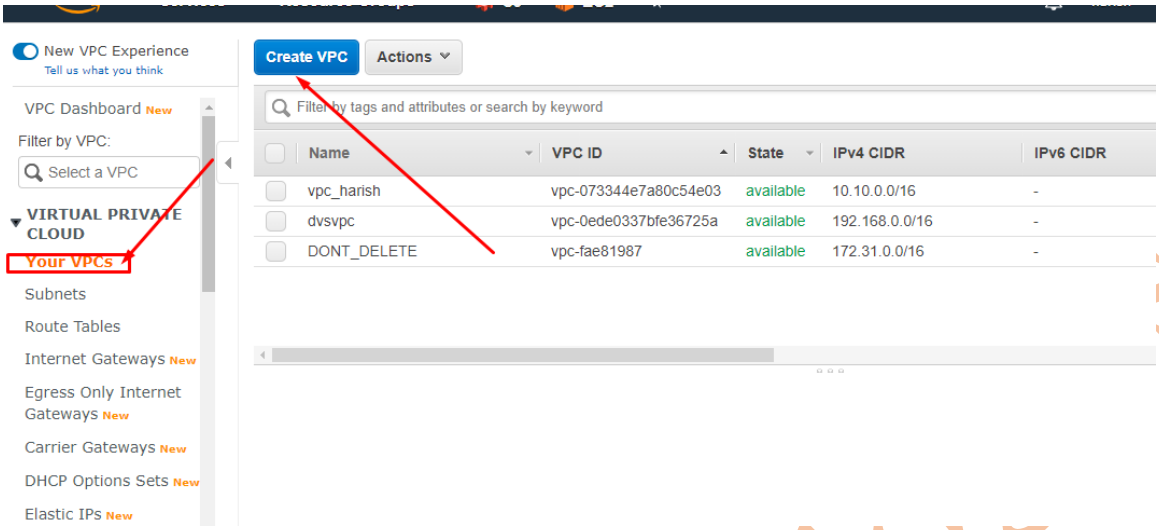
4. VPC Peering in the same region

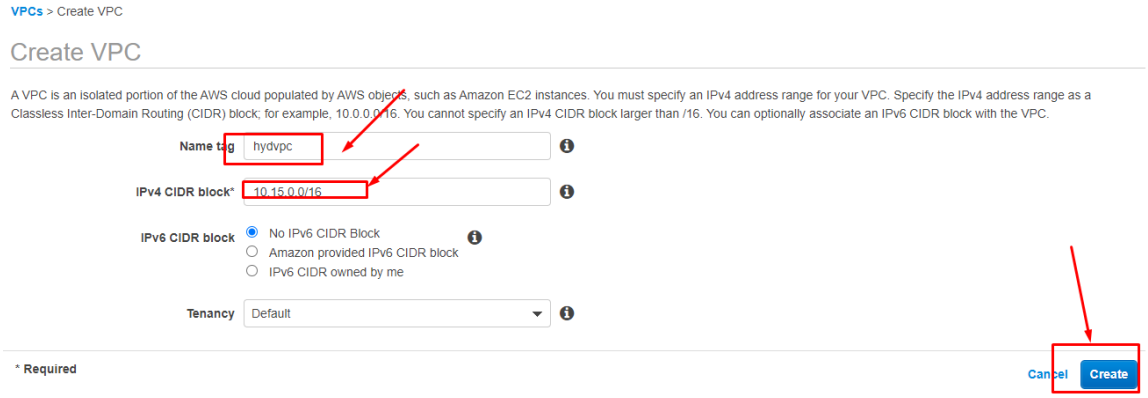


Creating HydVpc:

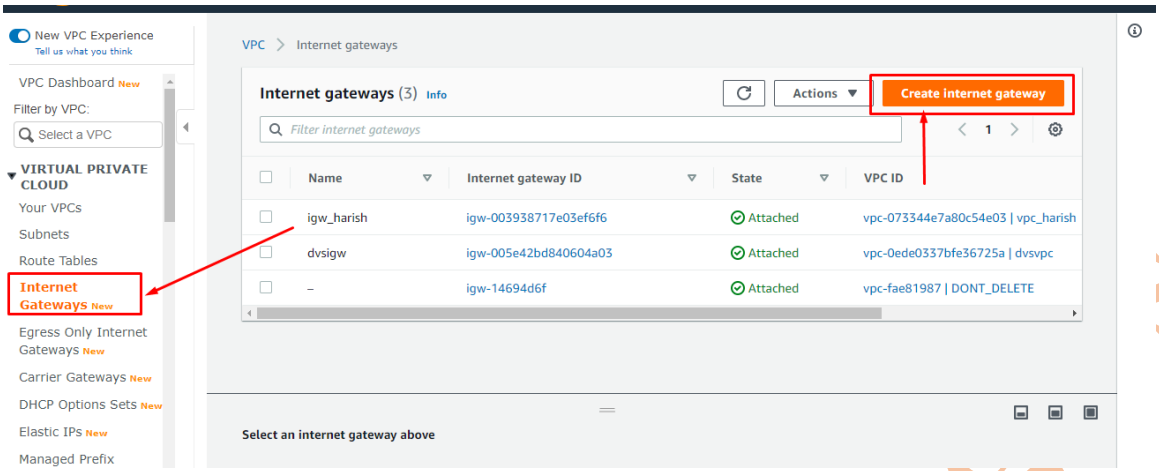


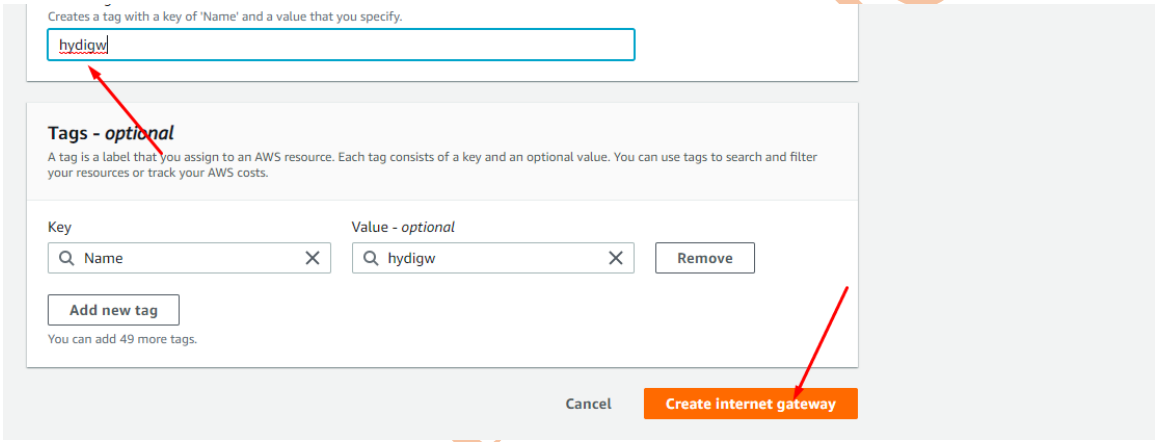
DVS Technologies Aws & Devops

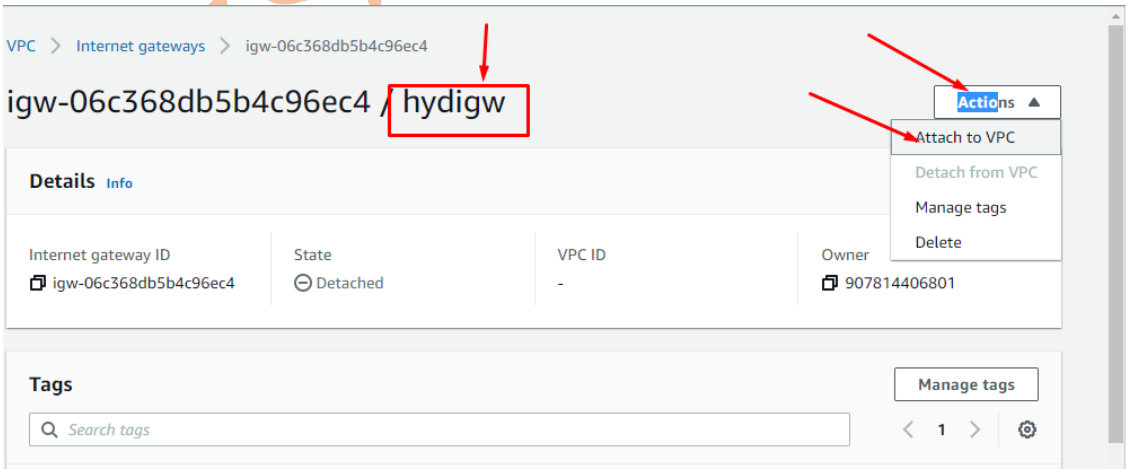


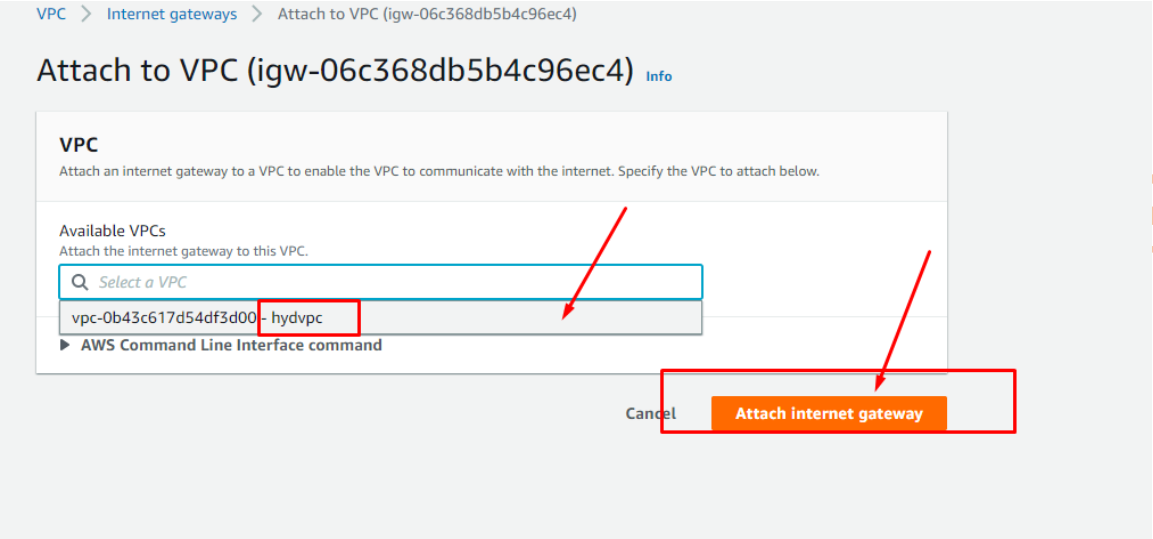


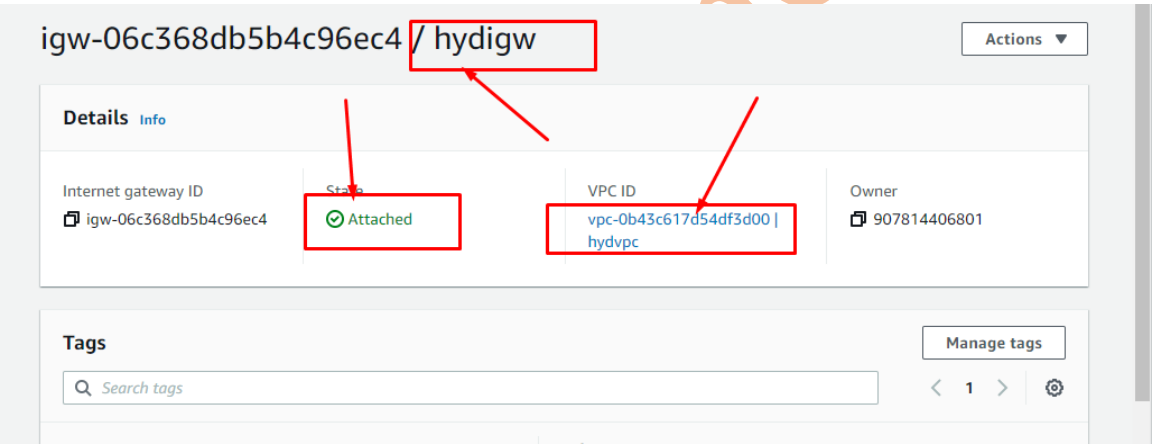
DVS Technologies Aws & Devops



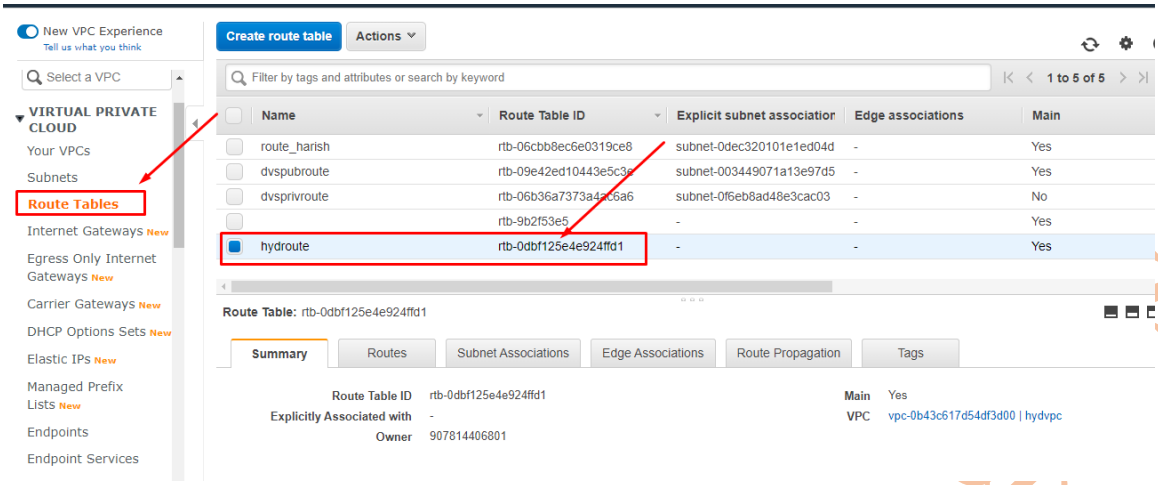


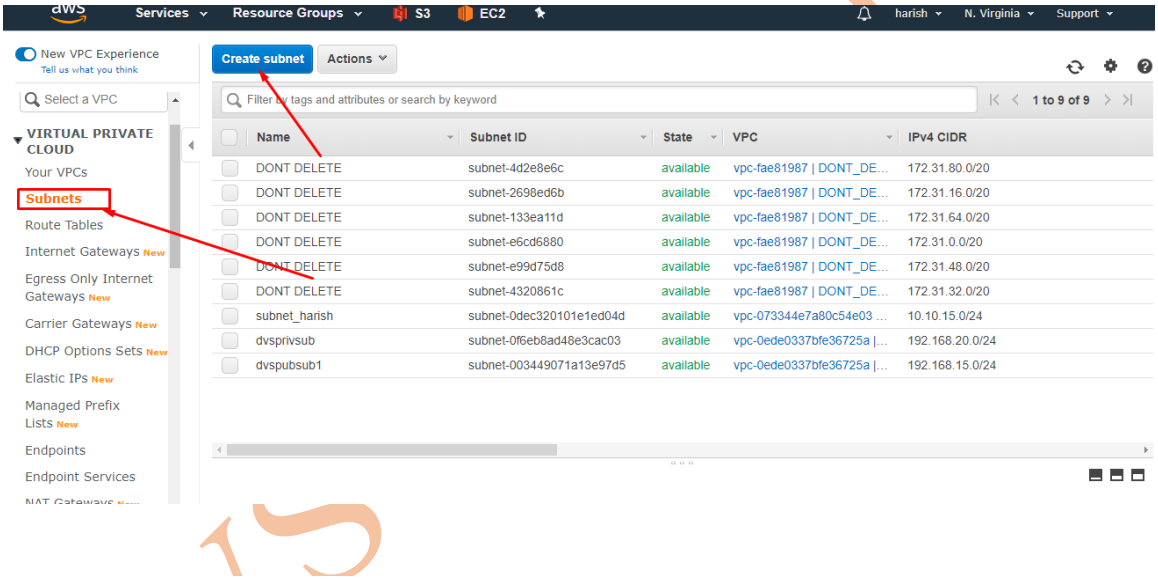


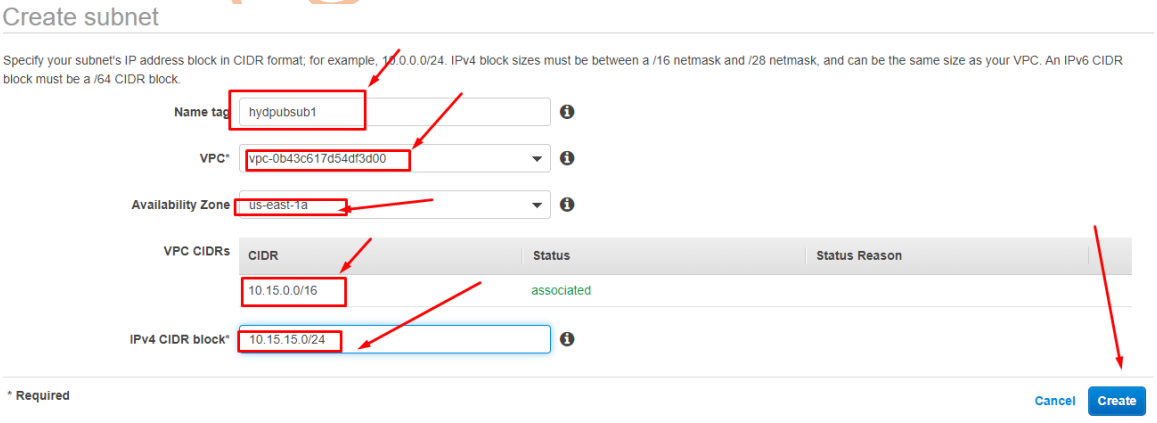

VPC > Internet gateways > Attach to VPC (igw-06c368db5b4c96ec4)
Attach to VPC (igw-06c368db5b4c96ec4) Info
VPC
Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.
Available VPCs
Attach the internet gateway to this VPC.
Select a VPC
vpc-0b43c617d54df3d00 - hydvpc
AWS Command Line Interface command
Cancel
Attach internet gateway


igw-06c368db5b4c96ec4 / hydigw
Actions
Details Info
Internet gateway ID
igw-06c368db5b4c96ec4
Attached
VPC ID
vpc-0b43c617d54df3d00 | hydvpc
Owner
907814406801
Tags
Manage tags
Search tags
1

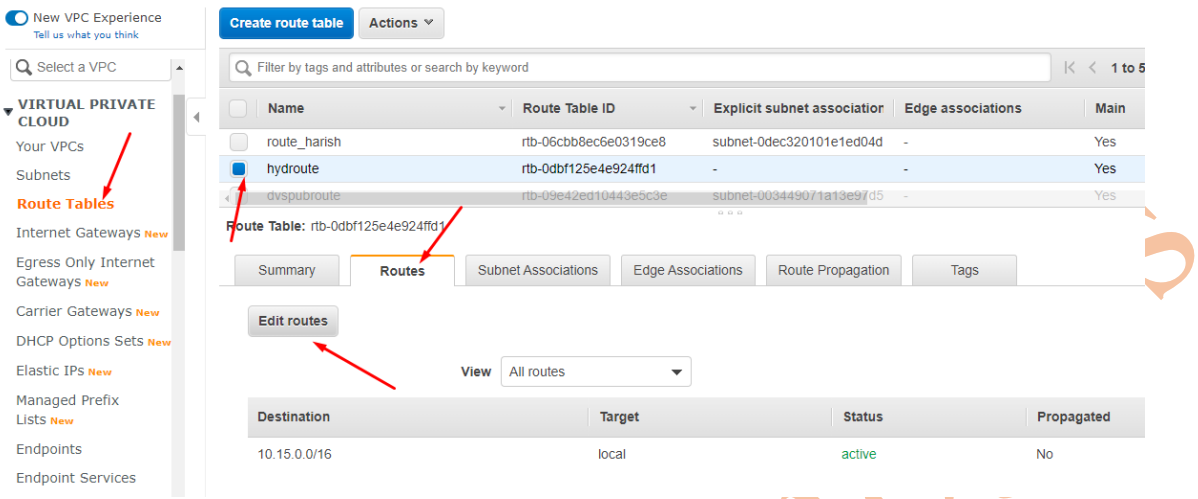
DVS Technologies Aws & Devops

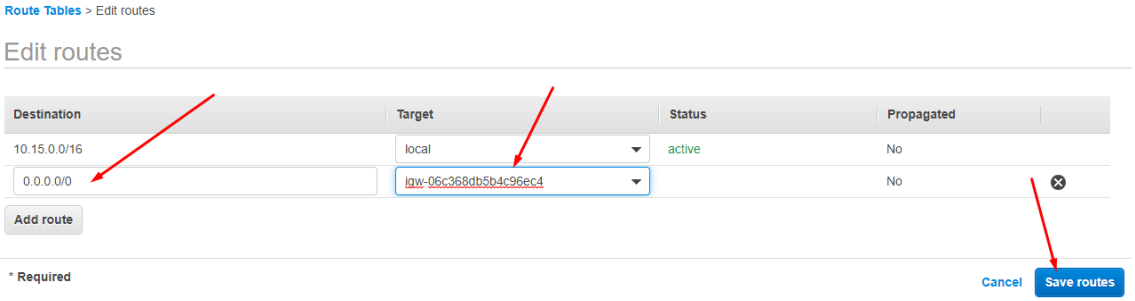


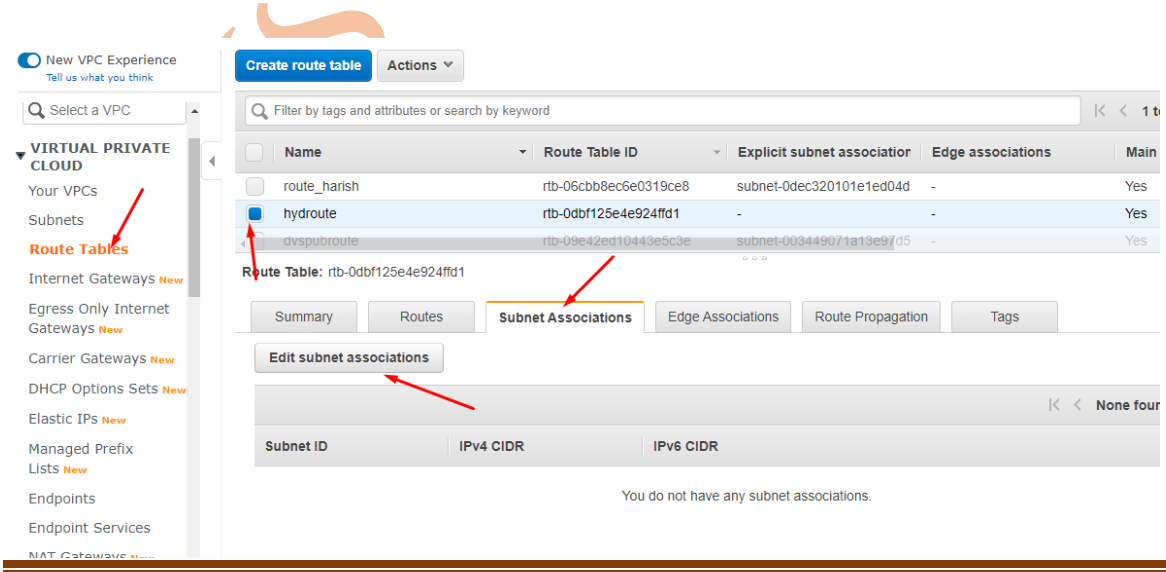


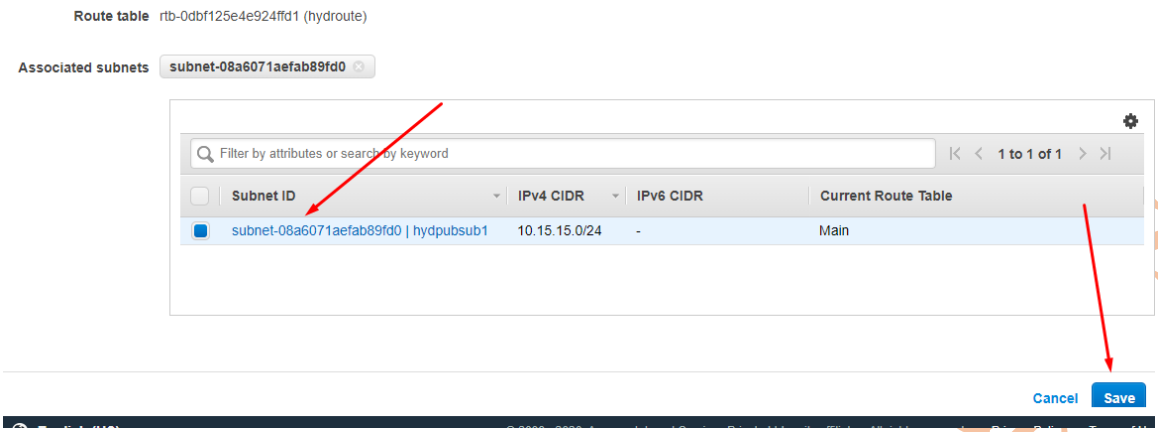


DVS Technologies Aws & Devops

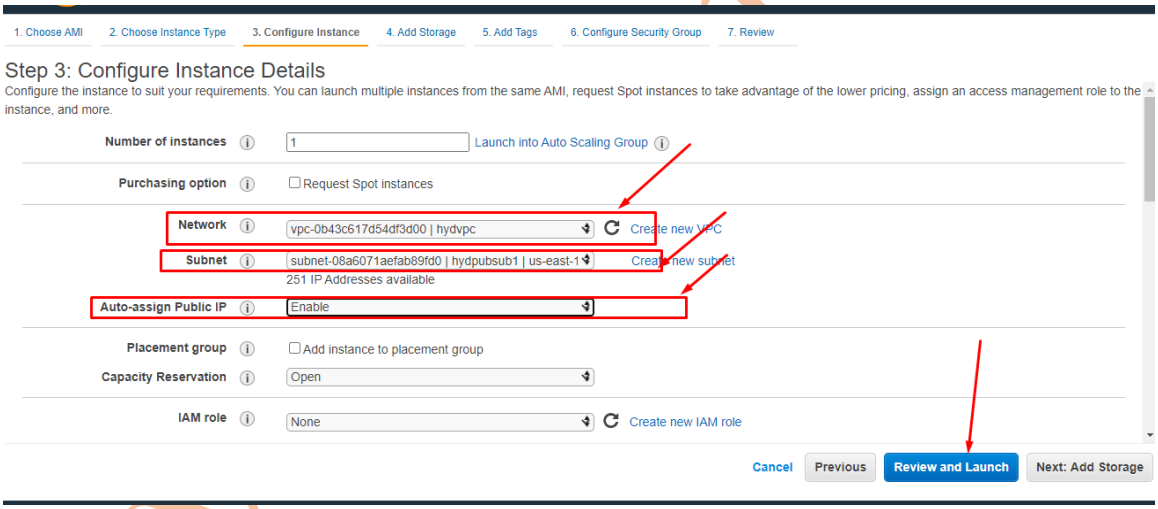




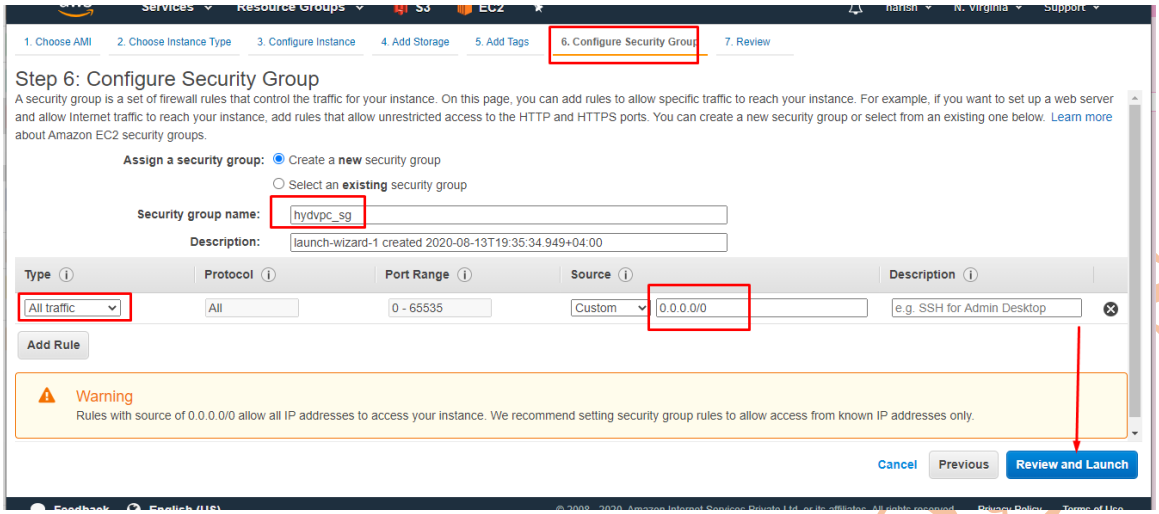


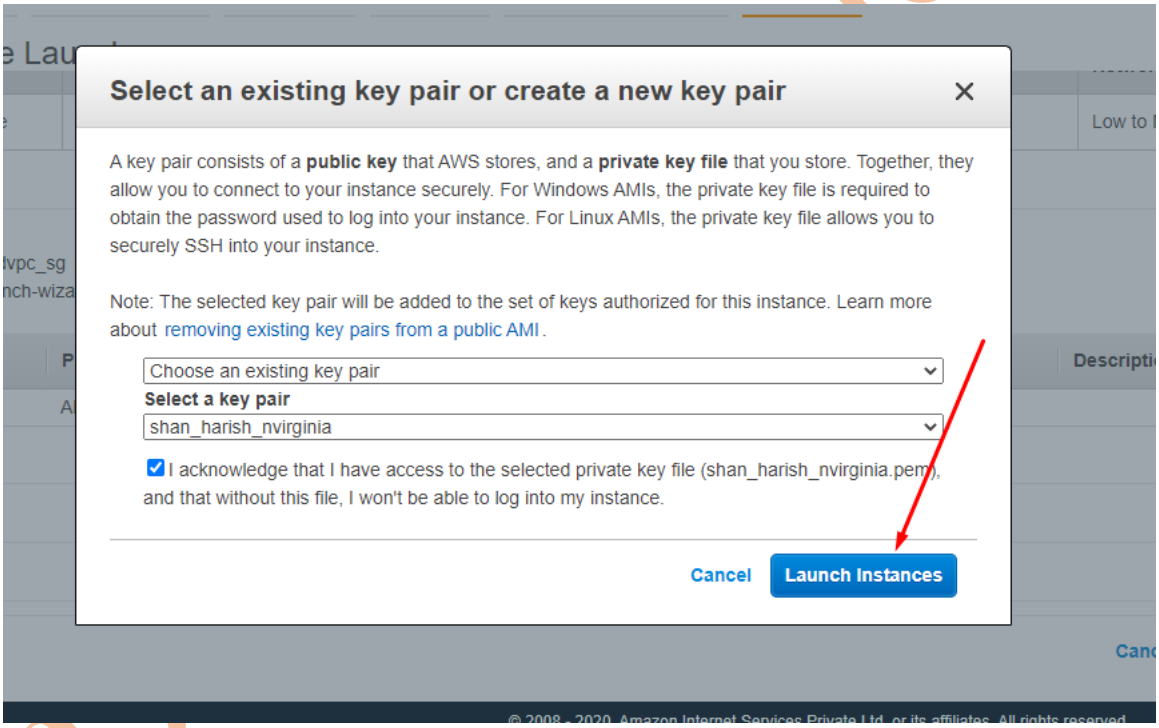


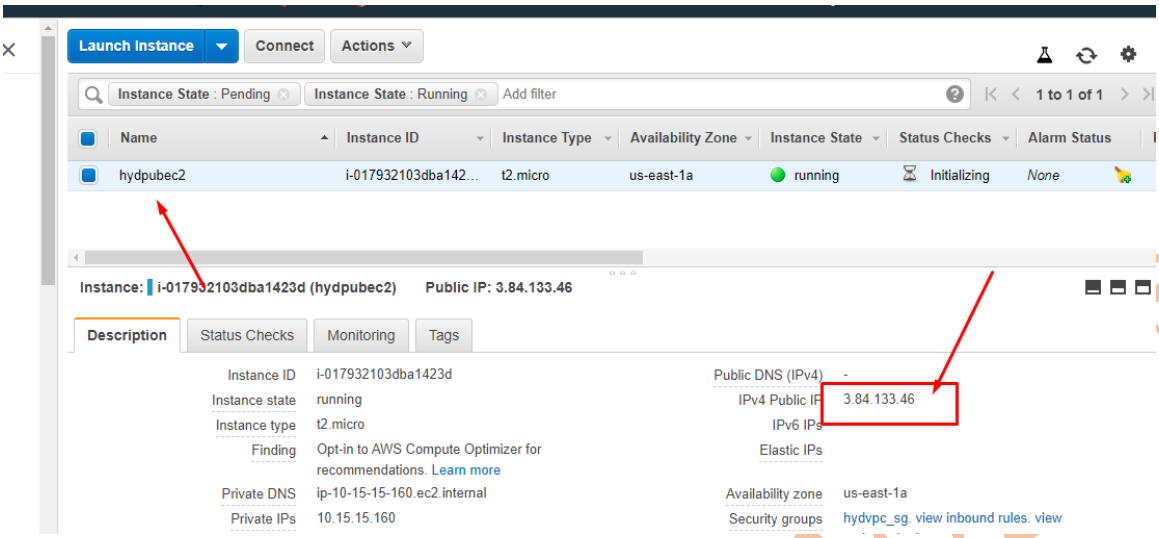
Lets launch one EC2 from our hyd vpc:

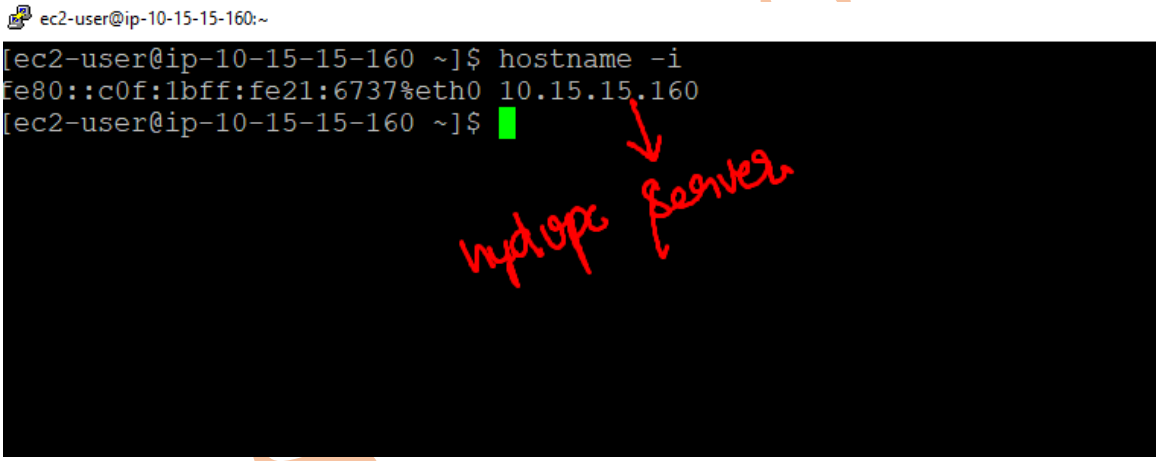


DVS Technologies Aws & Devops



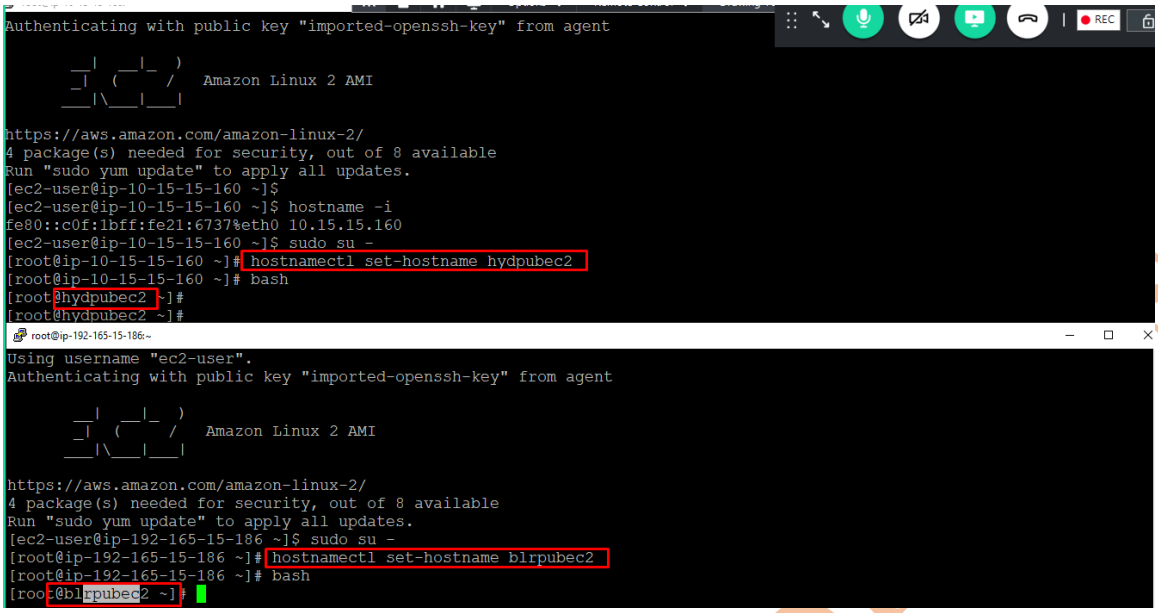


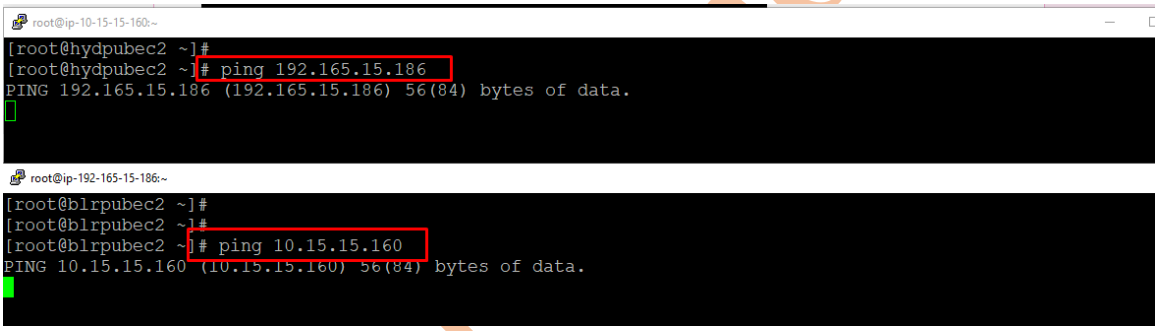




NOTE: PLEASE FOLLOW THE ABOVE STEPS FOR YOUR BLR VPC & EC2 CREATION

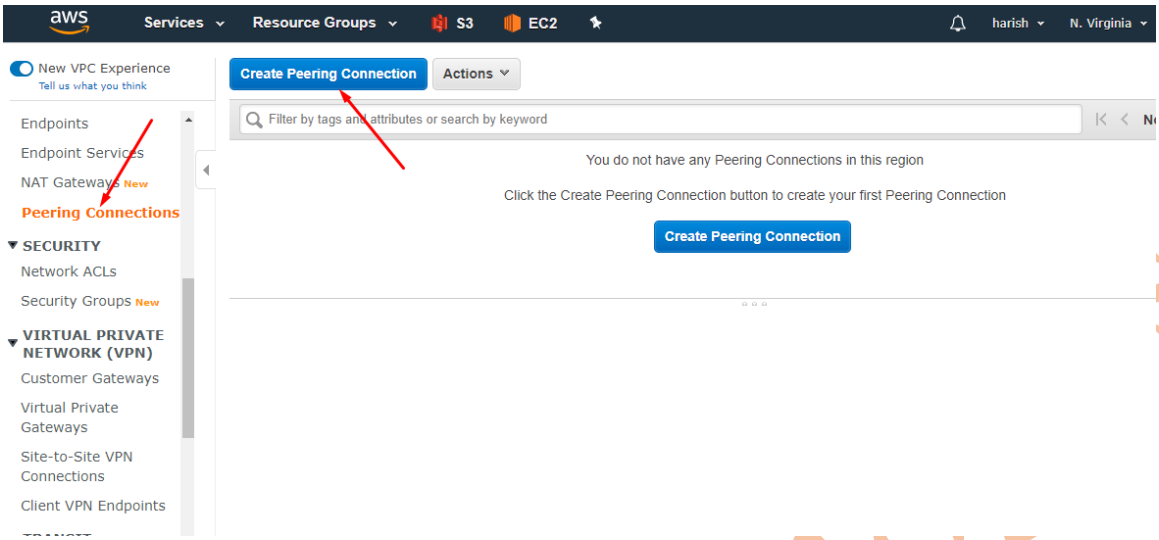
Now lets work on connecting these two diff ip range servers:

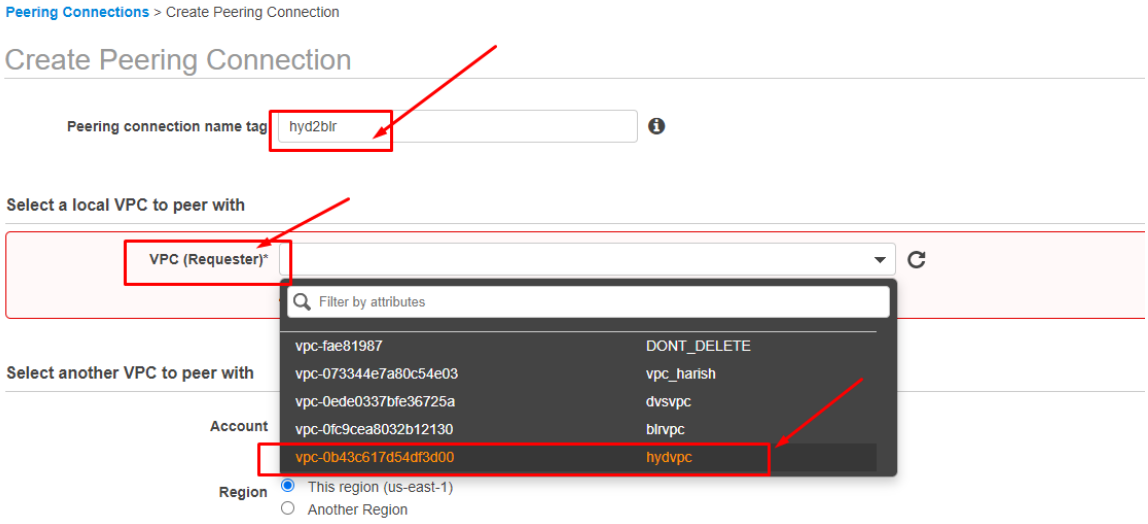


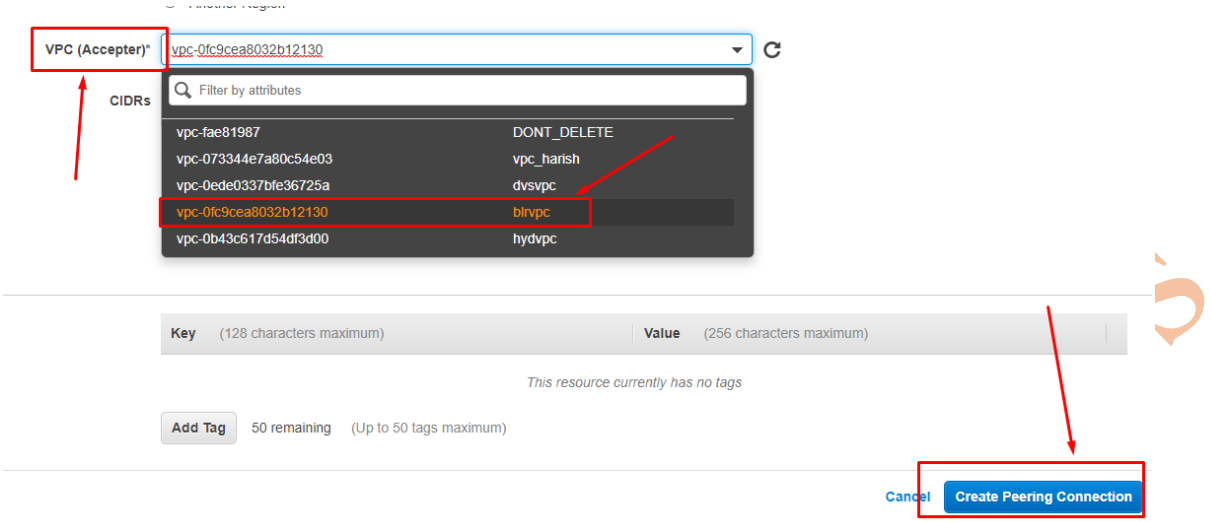


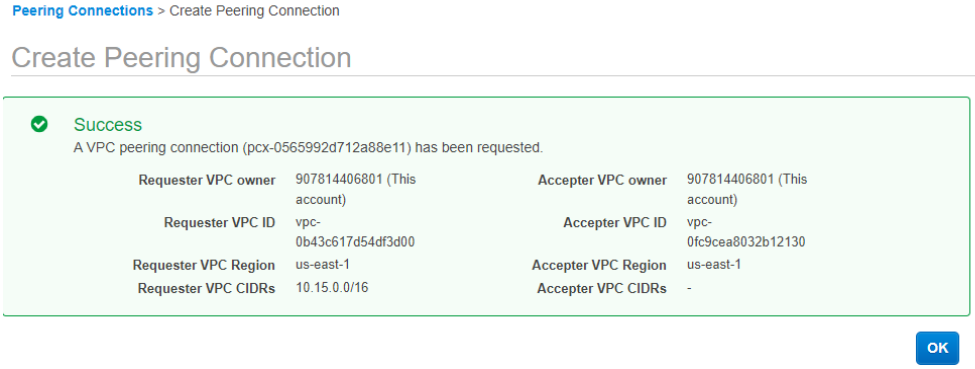
Enable VPC Peering:

DVS Technologies Aws & Devops

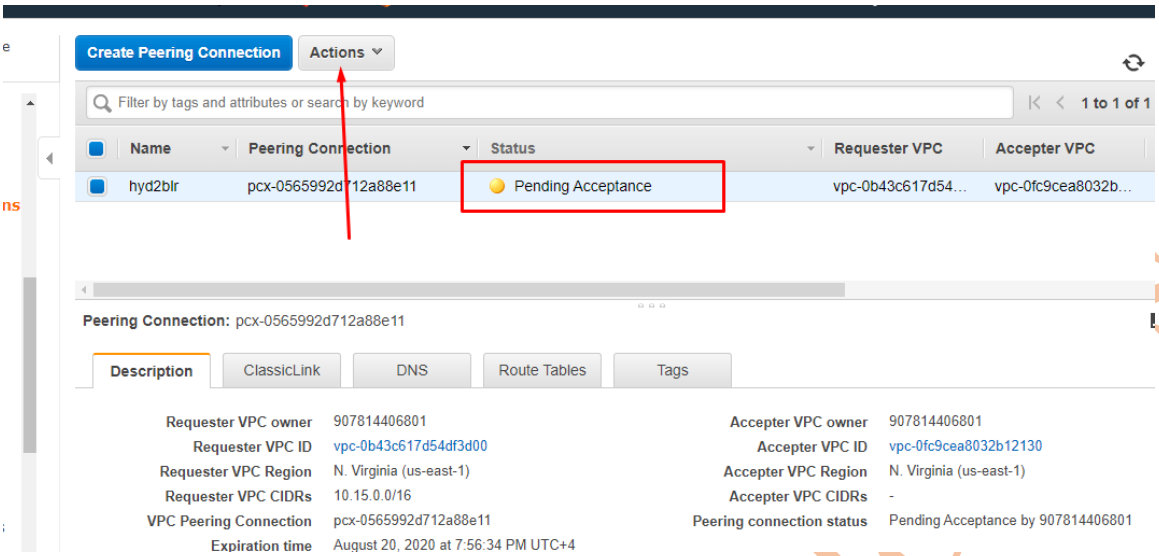


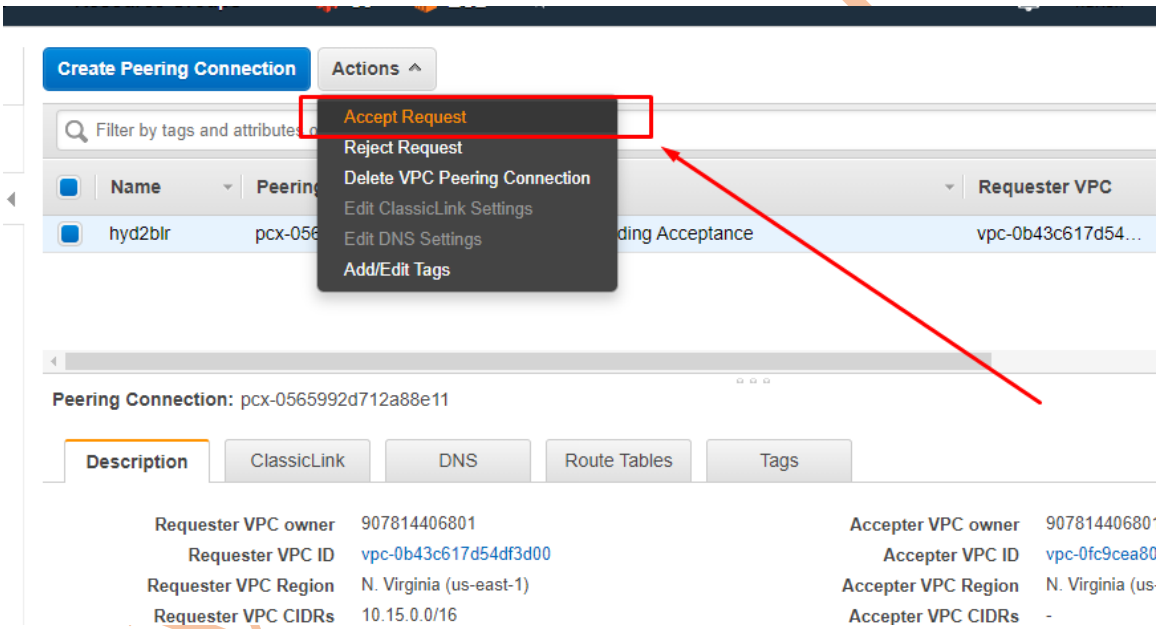



VPC (Accepter)*
vpc-0fc9cea8032b12130
CIDRs
Filter by attributes
vpc-fae81987 DONT_DELETE
vpc-073344e7a80c54e03 vpc_harish
vpc-0ede0337bfe36725a dvsvpc
vpc-0fc9cea8032b12130 blrvpc
vpc-0b43c617d54df3d00 hydvpc
Key (128 characters maximum)
Value (256 characters maximum)
This resource currently has no tags
Add Tag
50 remaining
(Up to 50 tags maximum)
Cancel
Create Peering Connection

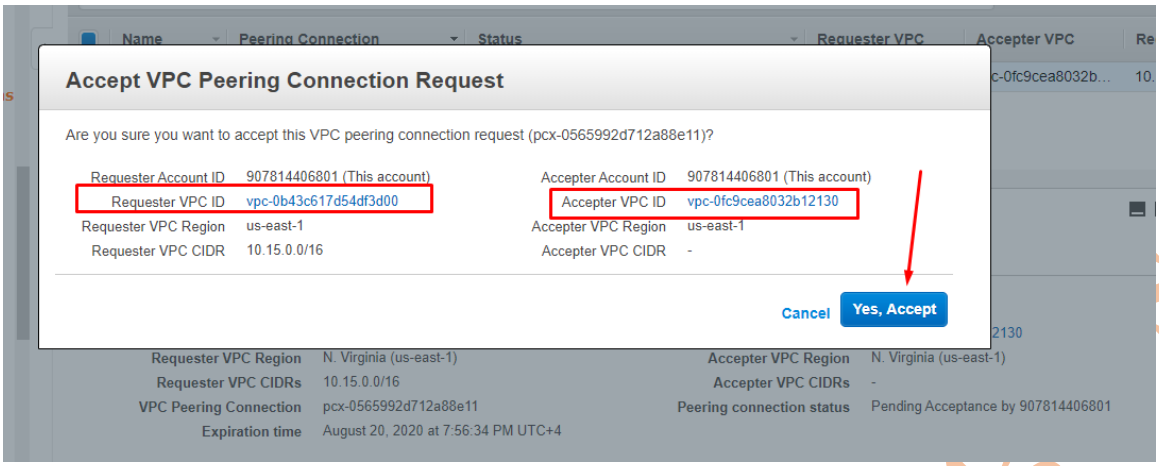

Peering Connections > Create Peering Connection
Create Peering Connection
Success
A VPC peering connection (pcx-0565992d712a88e11) has been requested.
Requester VPC owner 907814406801 (This account)
Requester VPC ID vpc-0b43c617d54df3d00
Requester VPC Region us-east-1
Requester VPC CIDRs 10.15.0.0/16
Accepter VPC owner 907814406801 (This account)
Accepter VPC ID vpc-0fc9cea8032b12130
Accepter VPC Region us-east-1
Accepter VPC CIDRs -
OK

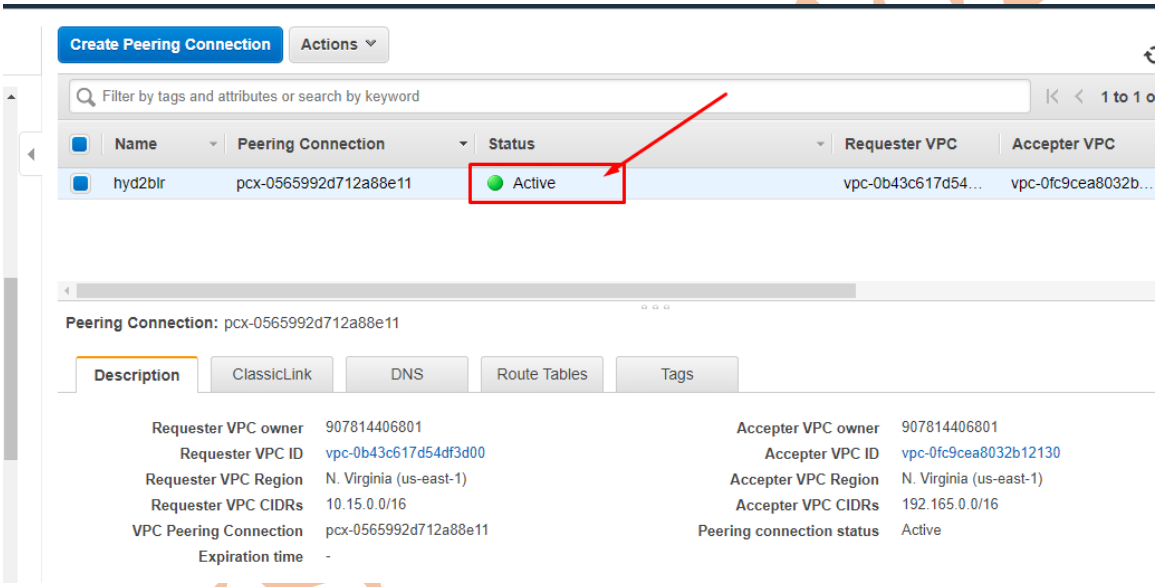
DVS Technologies Aws & Devops



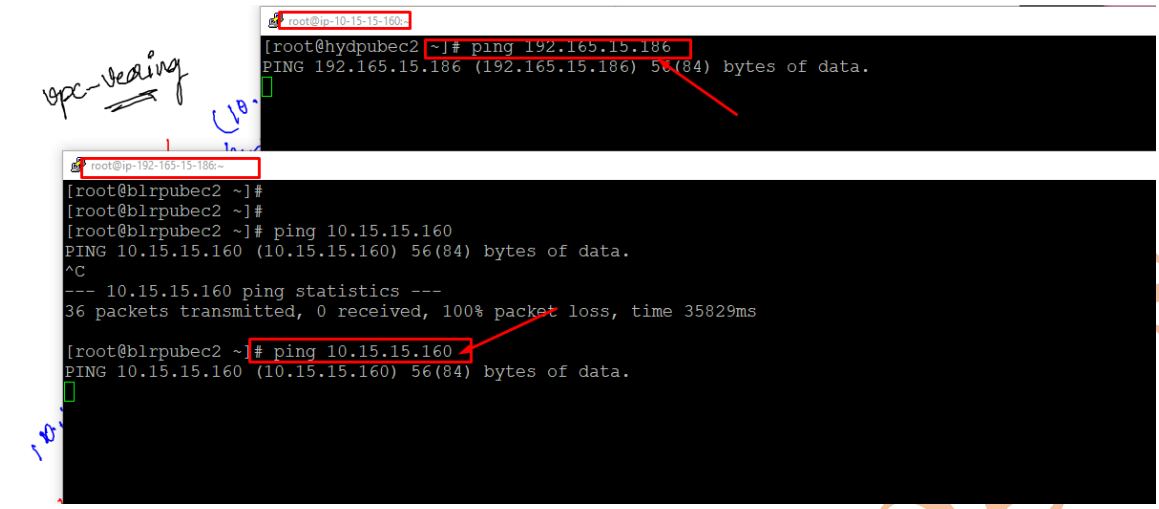


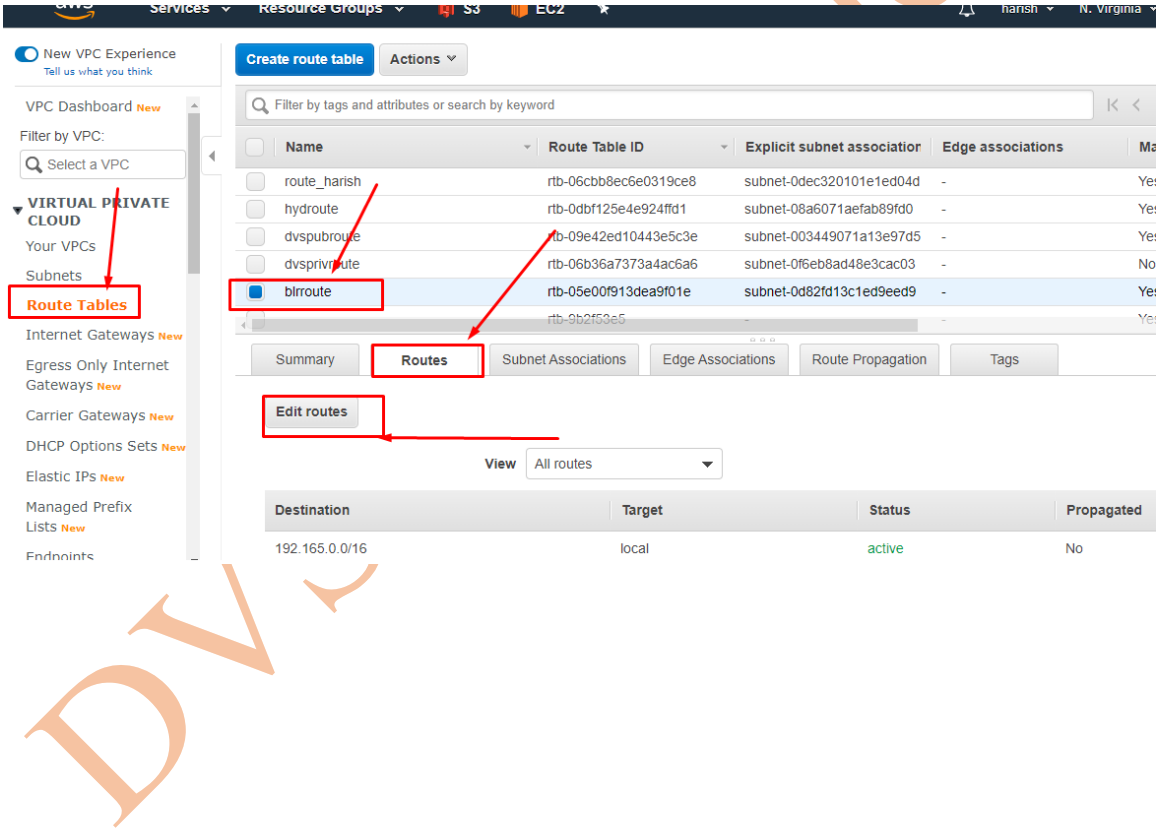
DVS Technologies Aws & Devops



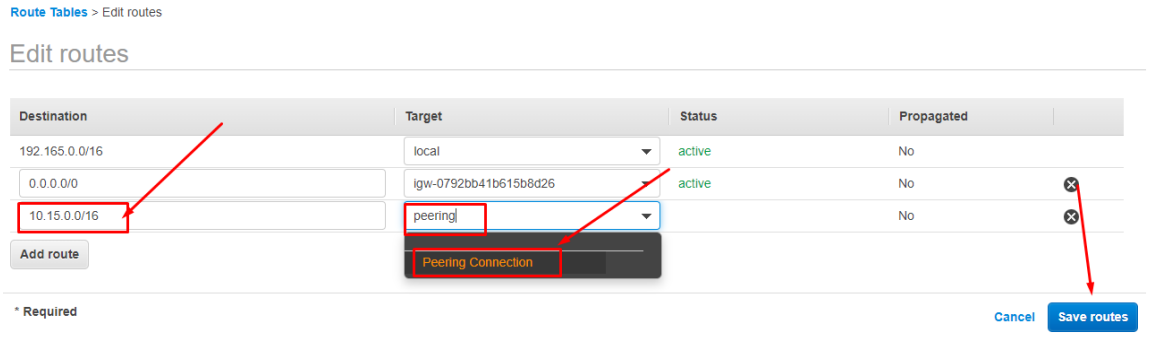


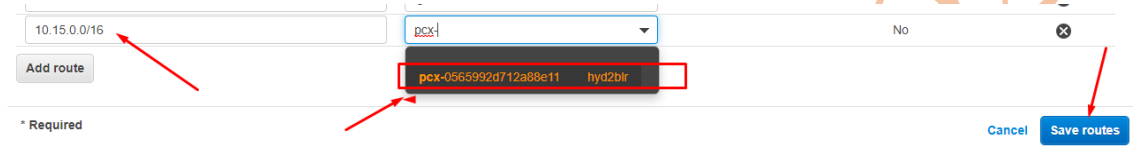
DVS Technologies Aws & Devops

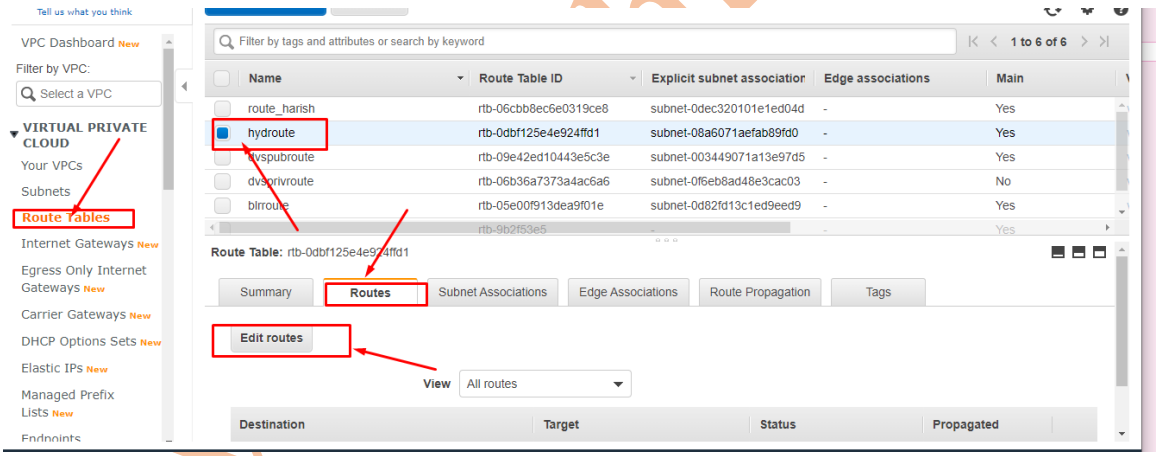


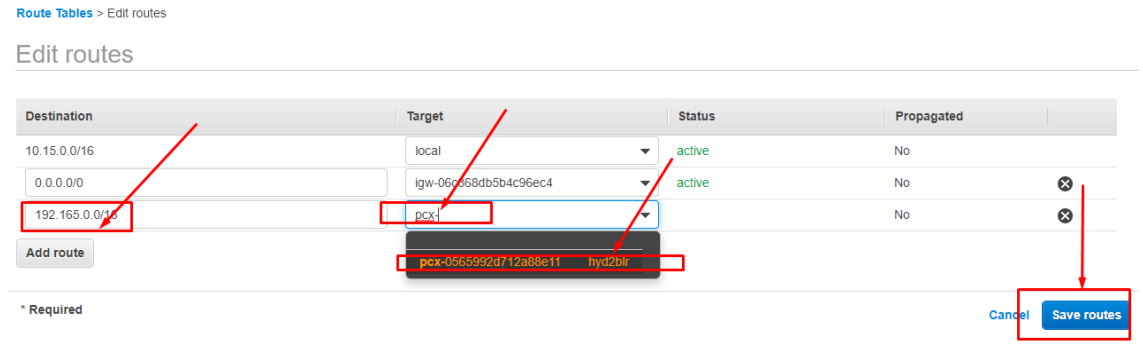


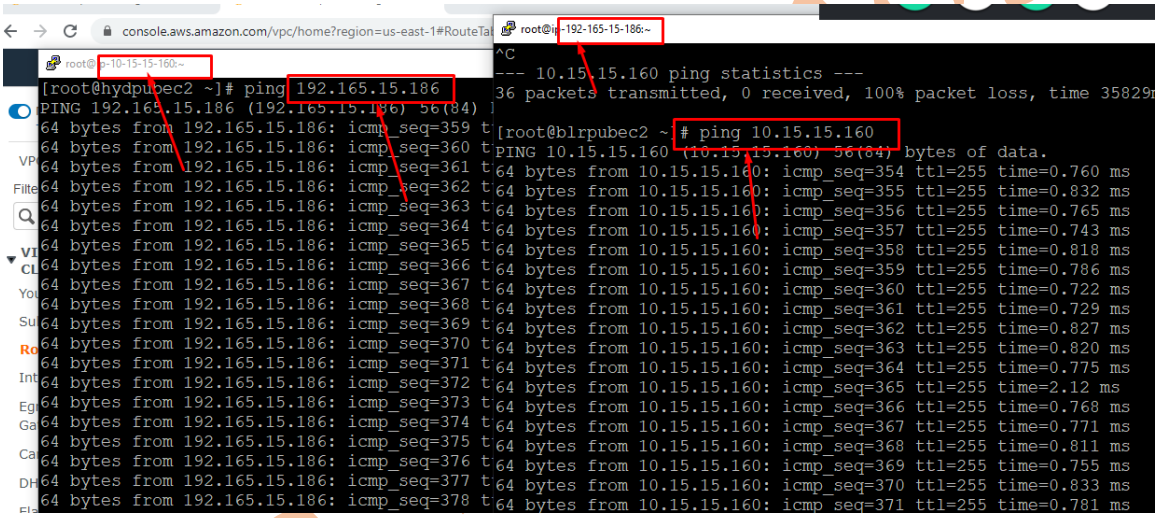
DVS Technologies Aws & Devops





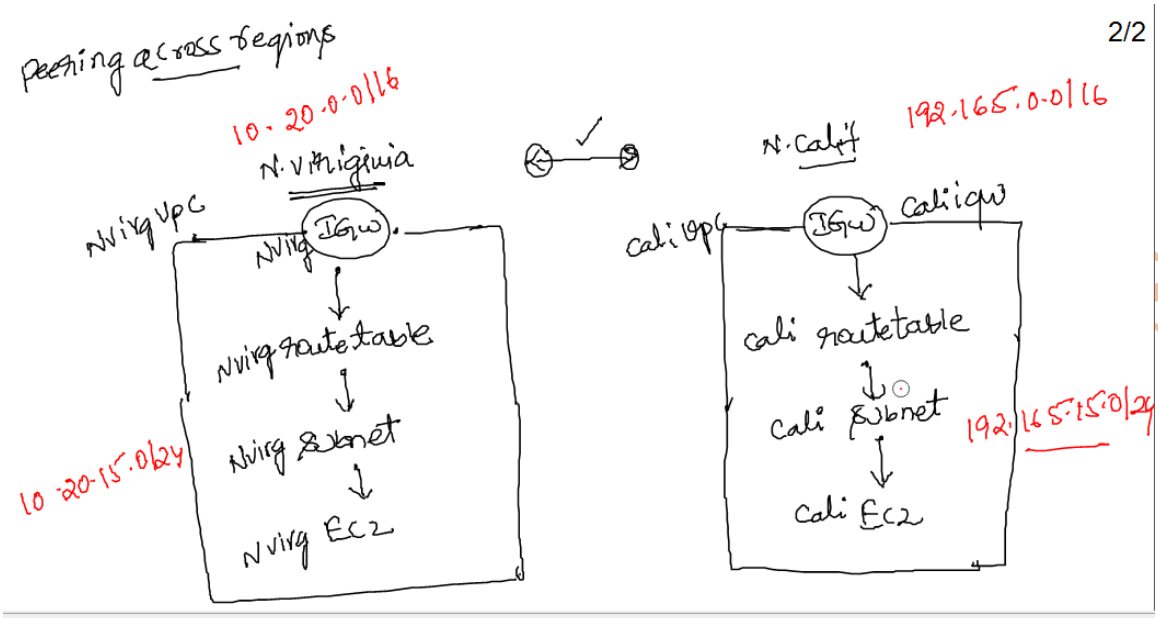




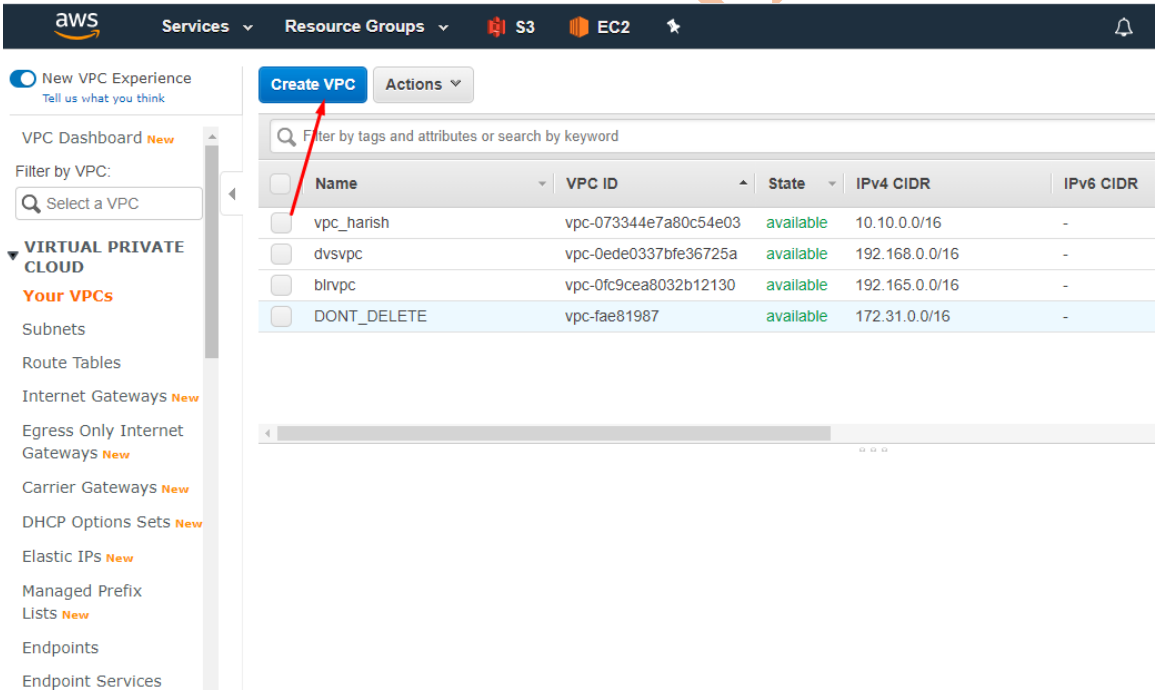


5. VPC Peering across regions

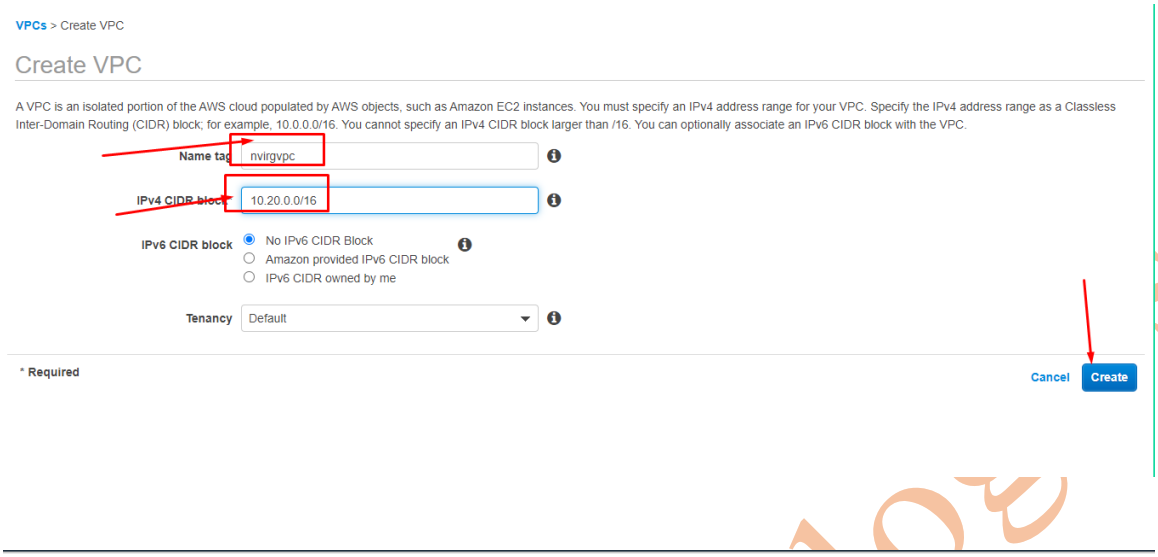
DVS Technologies Aws & Devops

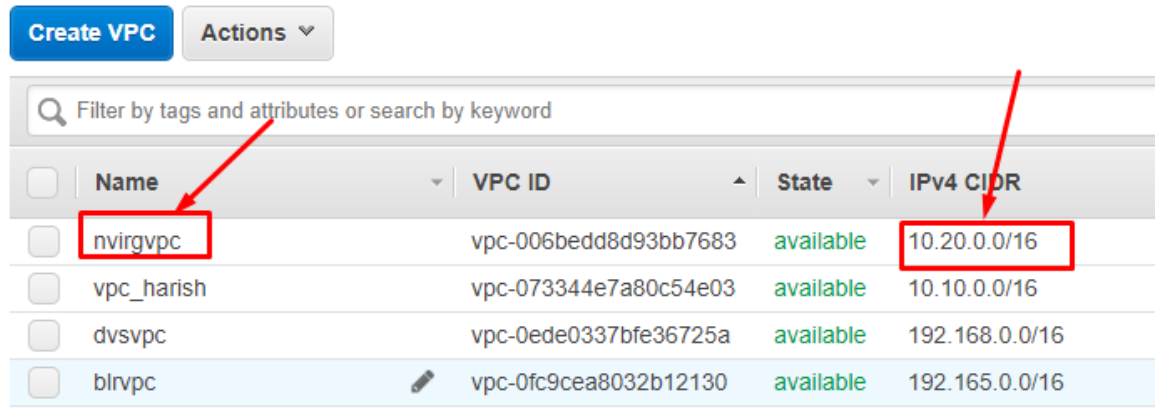


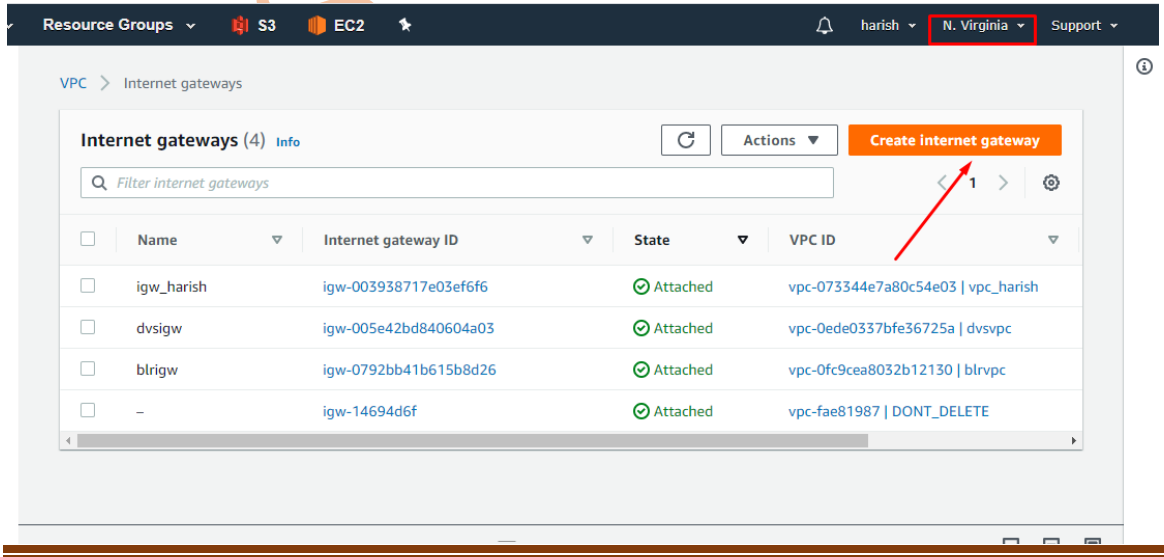
Perform below in N.Virginia Region:

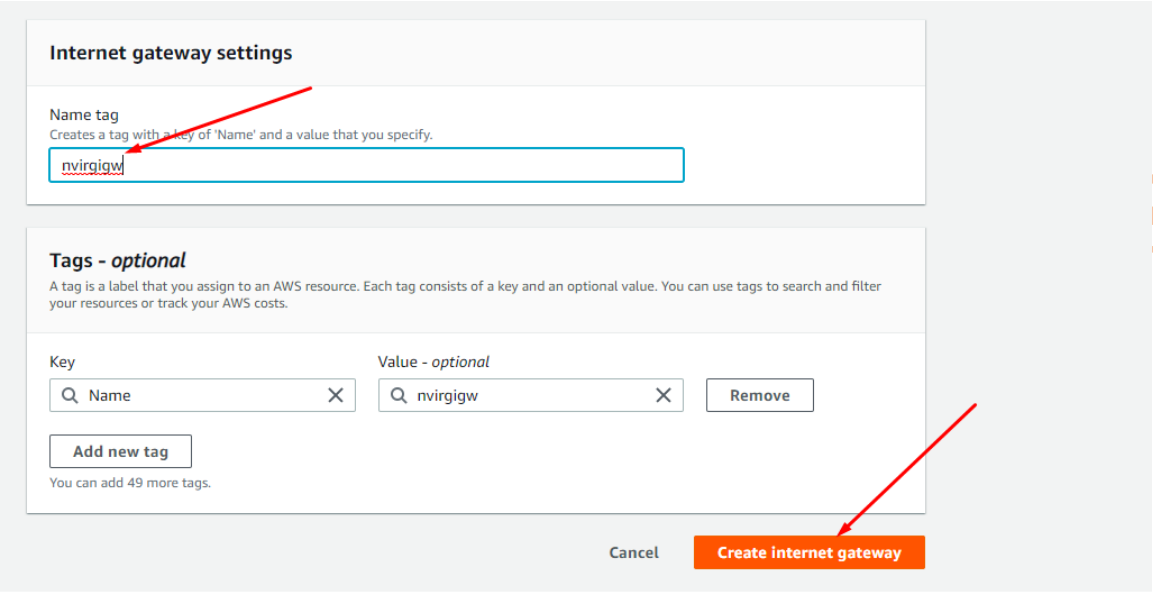


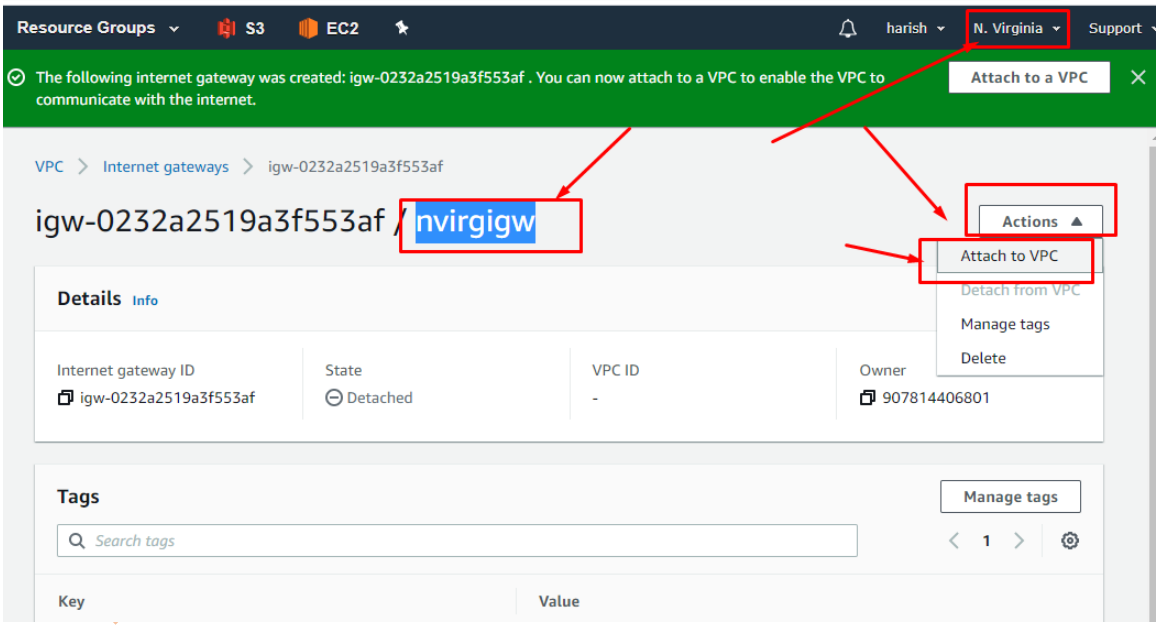
DVS Technologies Aws & Devops

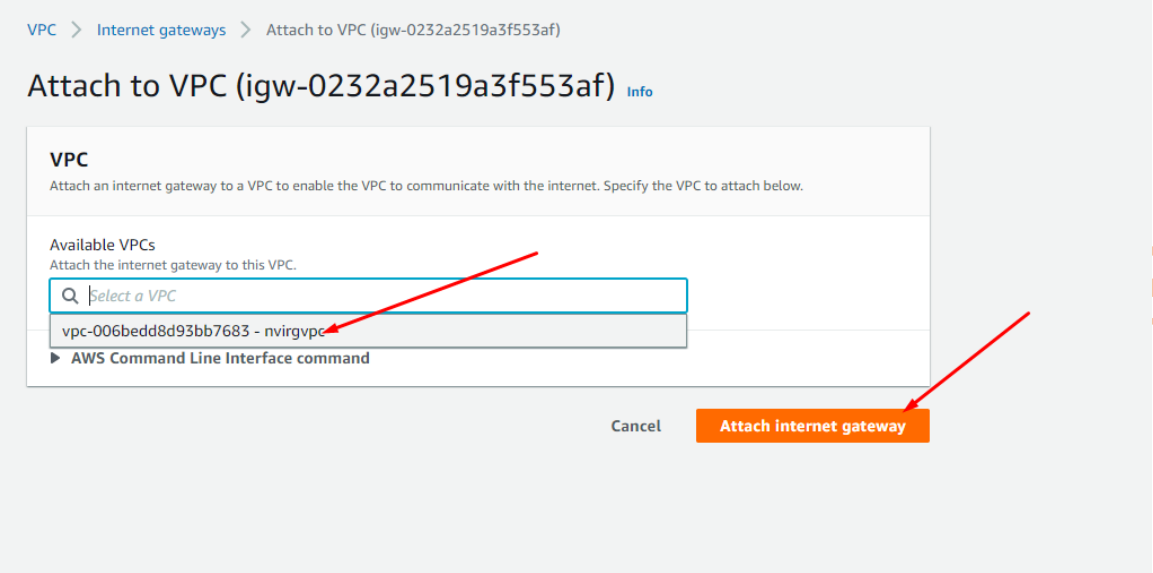


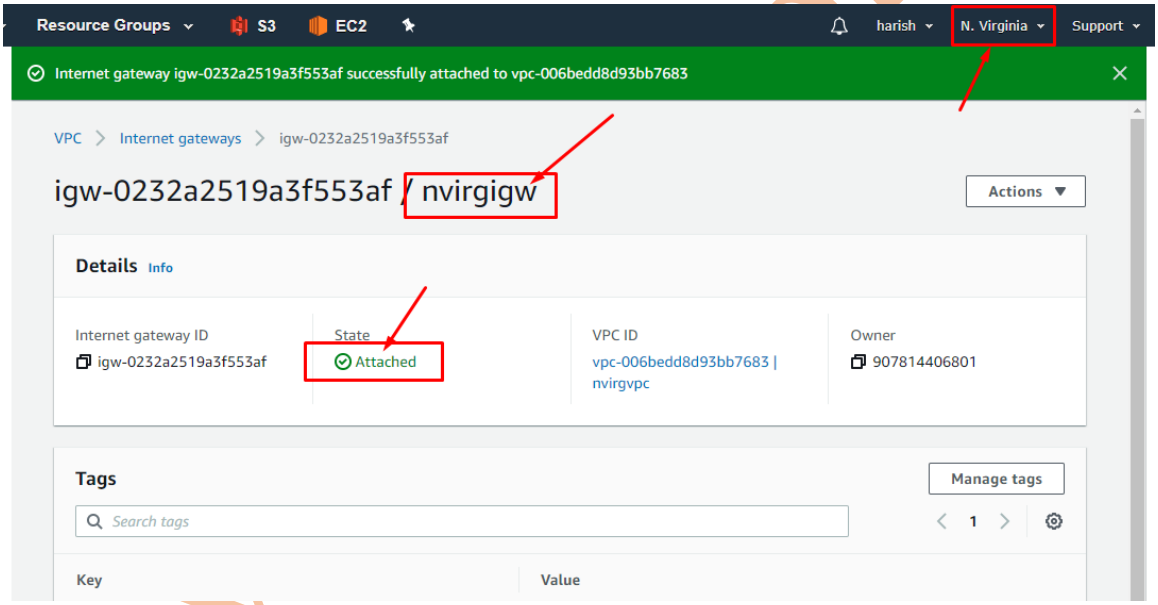




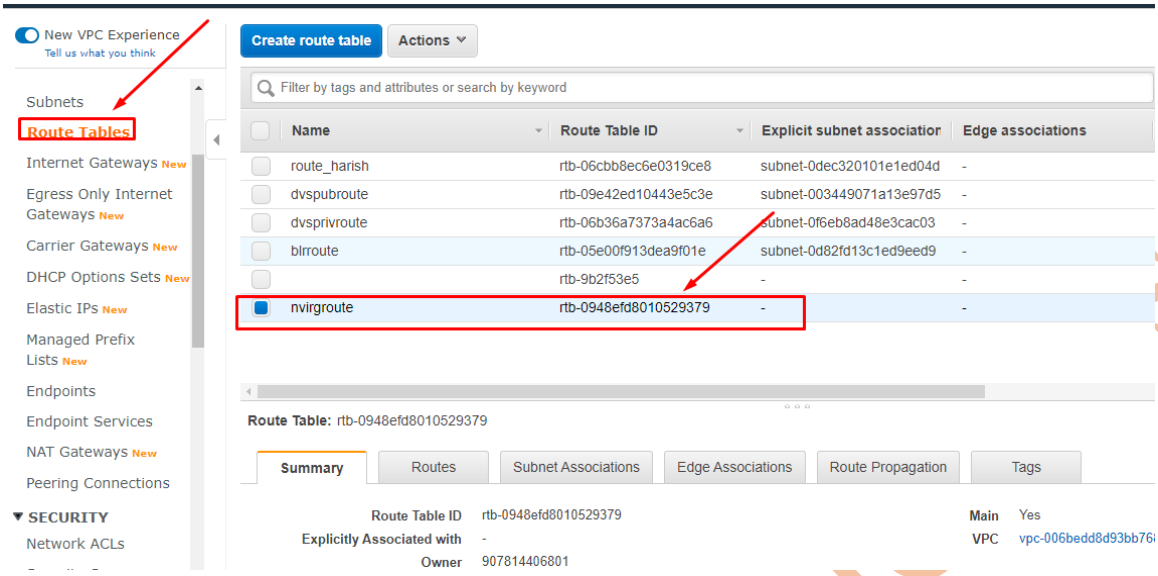

Internet gateway settings
Name tag
Creates a tag with a key of 'Name' and a value that you specify.
nvirgigw
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
Key
Value - optional
Name
nvirgigw
Remove
Add new tag
You can add 49 more tags.
Cancel
Create internet gateway

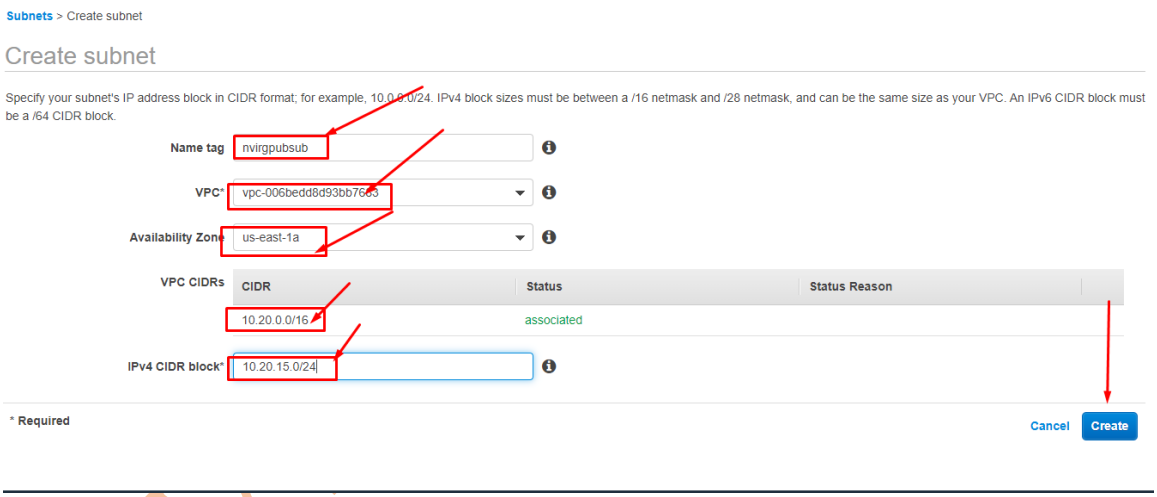

Resource Groups
S3
EC2
harish
N. Virginia
Support
The following internet gateway was created: igw-0232a2519a3f553af . You can now attach to a VPC to enable the VPC to communicate with the internet.
Attach to a VPC
VPC > Internet gateways > igw-0232a2519a3f553af
igw-0232a2519a3f553af / nvirgigw
Actions
Attach to VPC
Detach from VPC
Manage tags
Delete
Details Info
Internet gateway ID
igw-0232a2519a3f553af
State
Detached
VPC ID
-
Owner
907814406801
Tags
Manage tags
Search tags
1
Key
Value


VPC > Internet gateways > Attach to VPC (igw-0232a2519a3f553af)
Attach to VPC (igw-0232a2519a3f553af) 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.
Select a VPC
vpc-006bedd8d93bb7683 - nvirgvpc
AWS Command Line Interface command
Cancel
Attach internet gateway

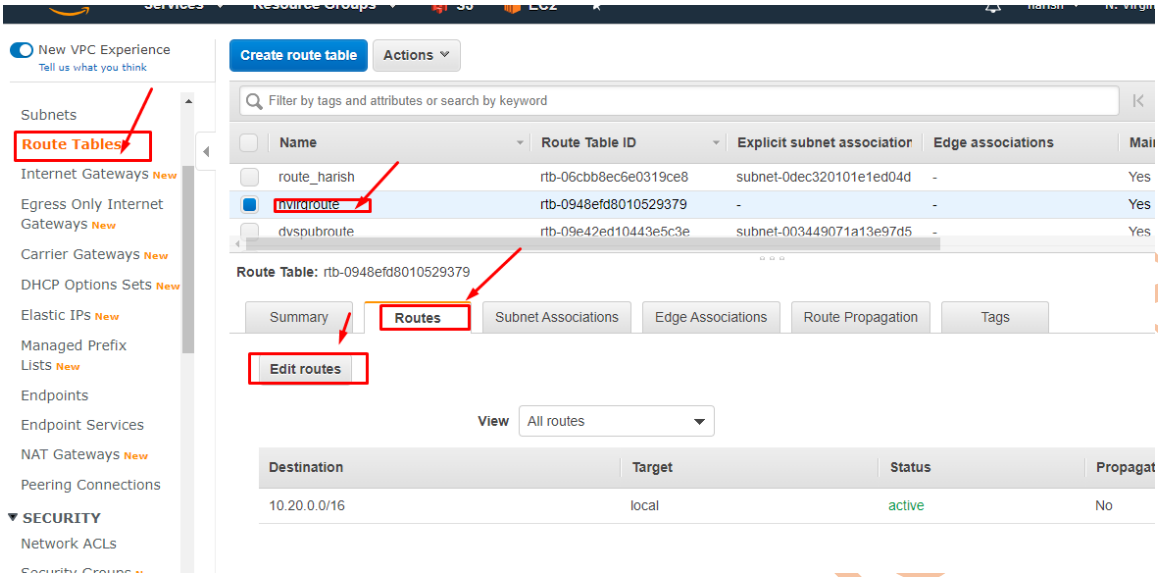

Resource Groups
S3
EC2
harish
N. Virginia
Support
Internet gateway igw-0232a2519a3f553af successfully attached to vpc-006bedd8d93bb7683
VPC > Internet gateways > igw-0232a2519a3f553af
igw-0232a2519a3f553af / nvirgigw
Actions
Details Info
Internet gateway ID
igw-0232a2519a3f553af
State
Attached
VPC ID
vpc-006bedd8d93bb7683 | nvirgvpc
Owner
907814406801
Tags
Manage tags
Search tags
1
Key
Value

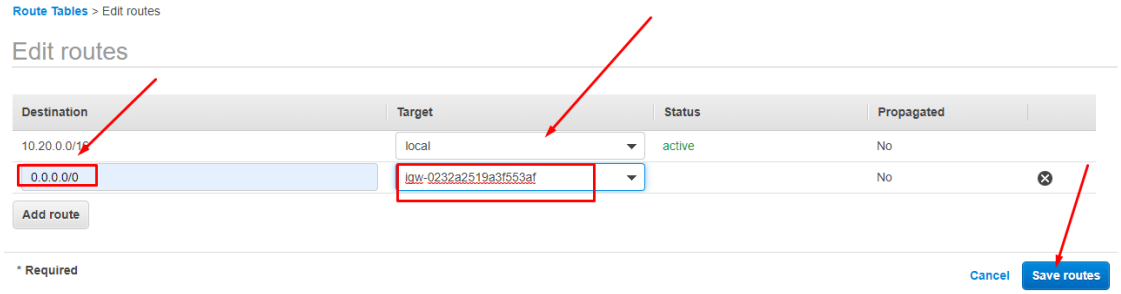
DVS Technologies Aws & Devops

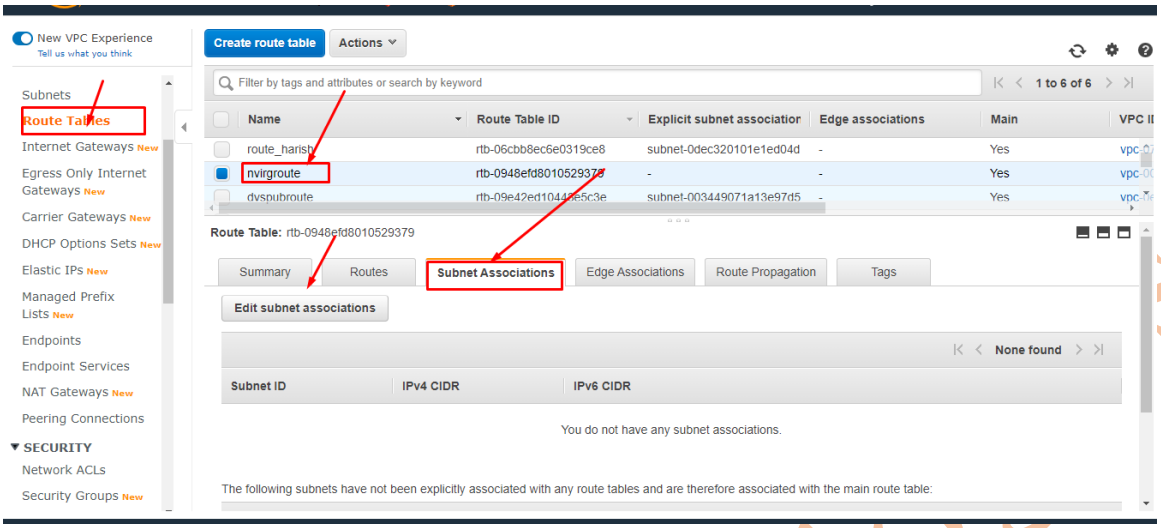


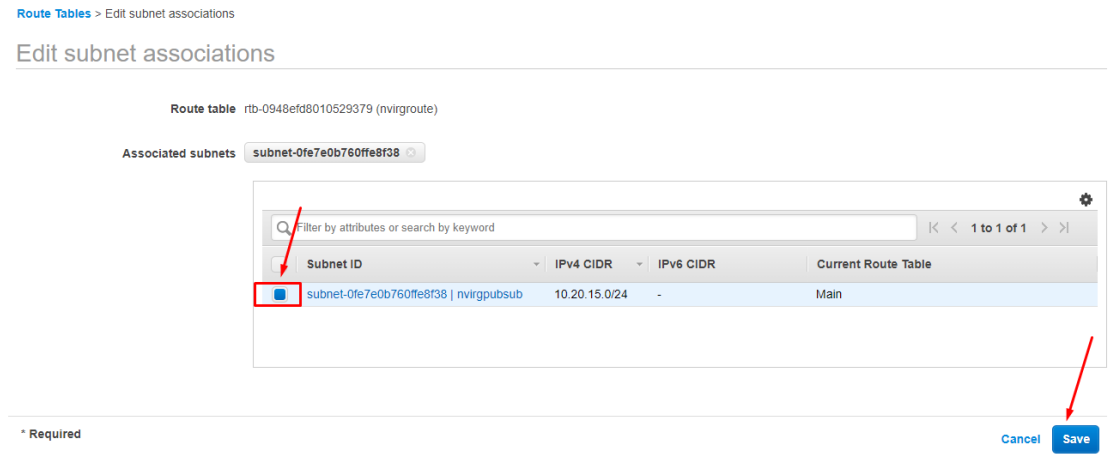


DVS Technologies Aws & Devops



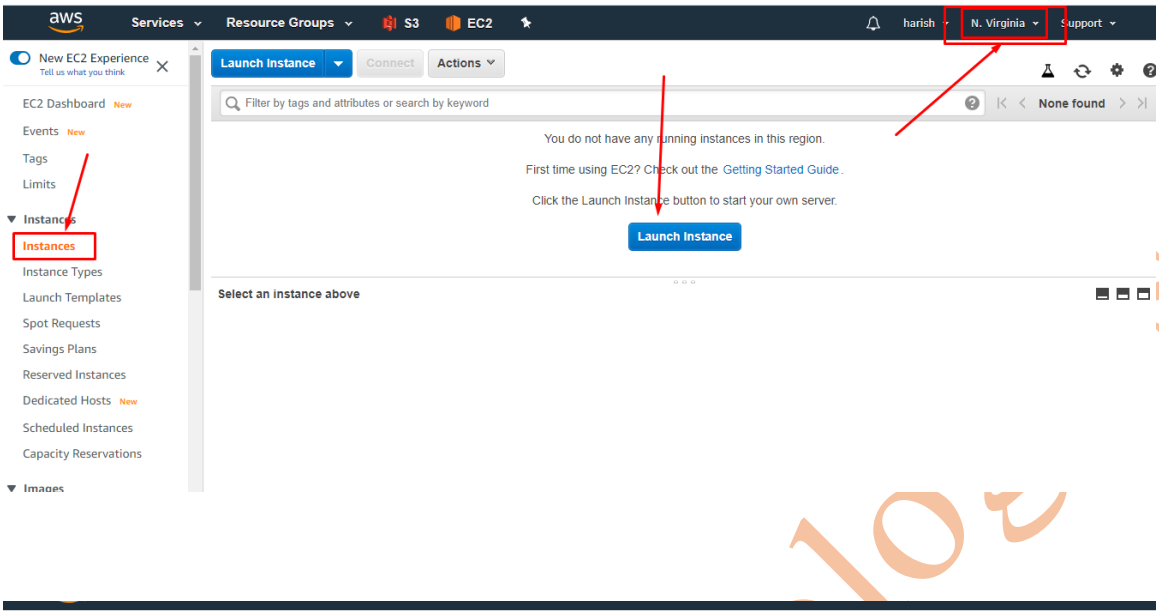


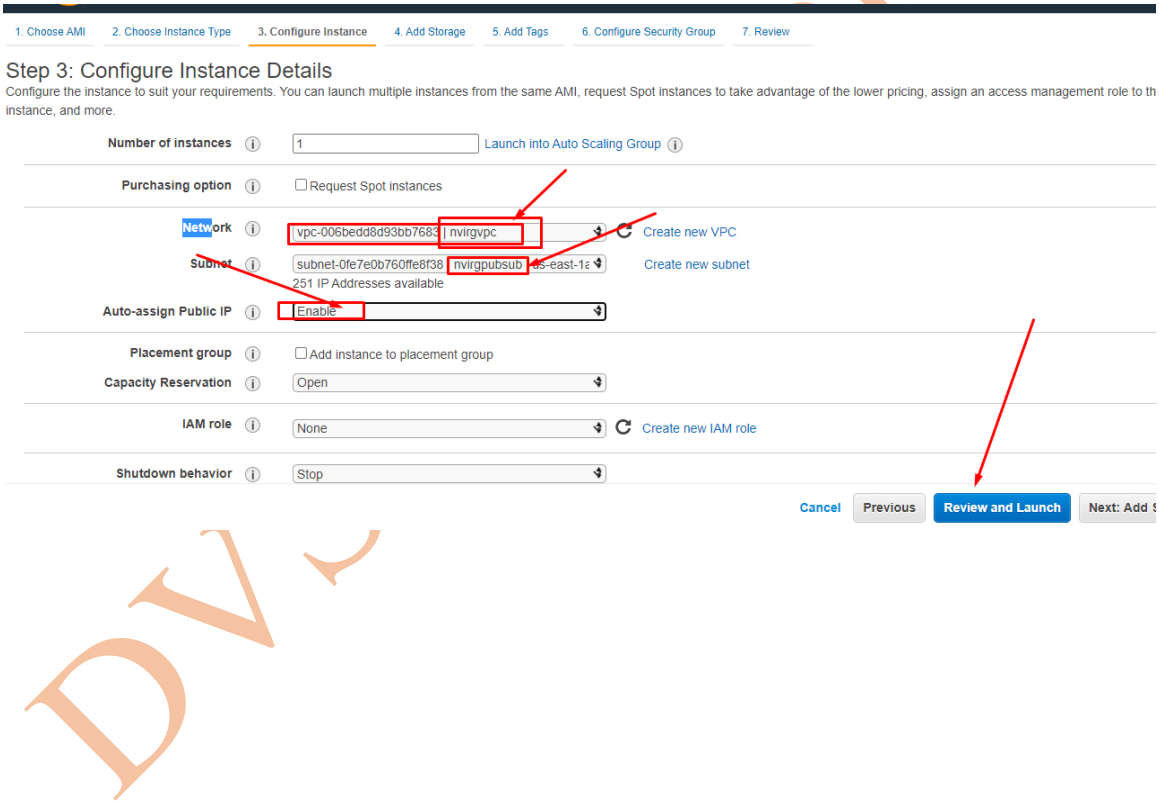




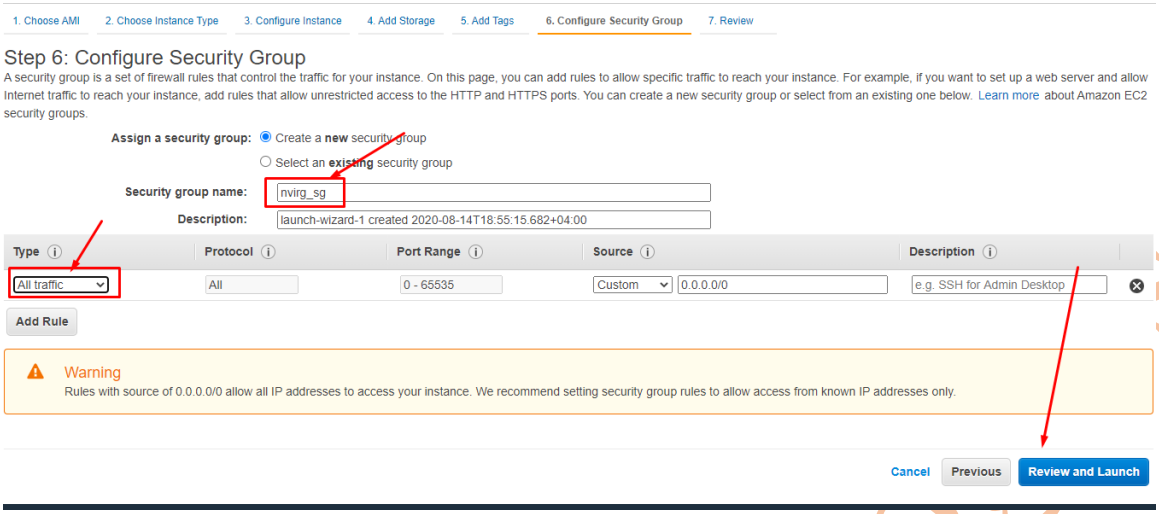
Create EC2 in N.virginia region:

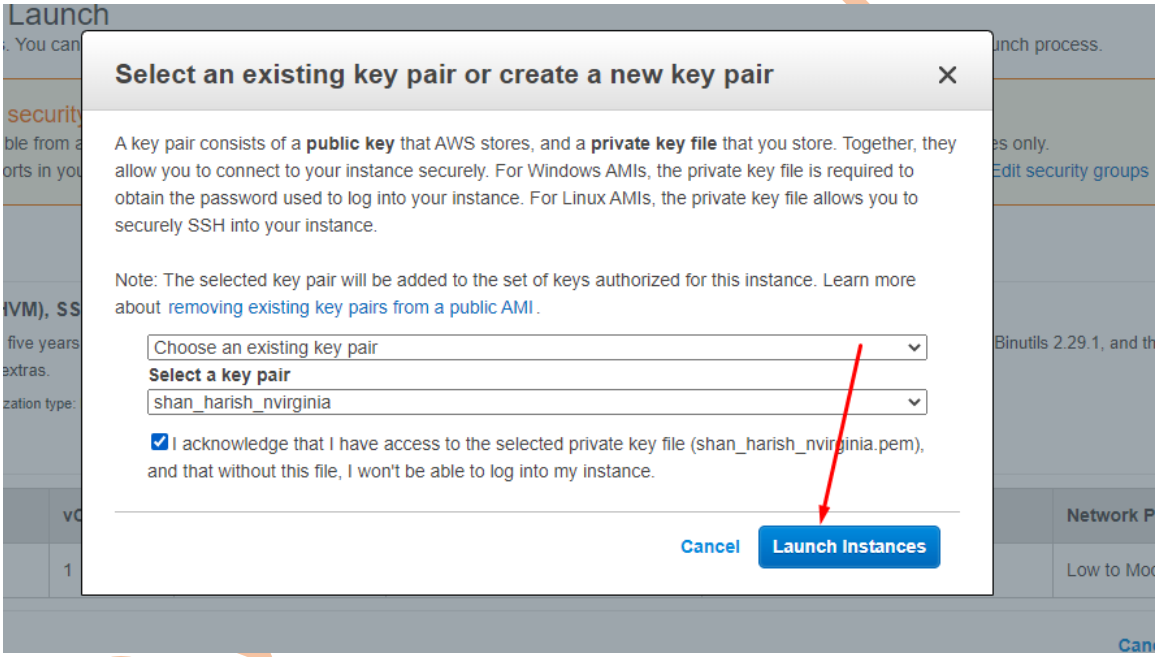
DVS Technologies Aws & Devops



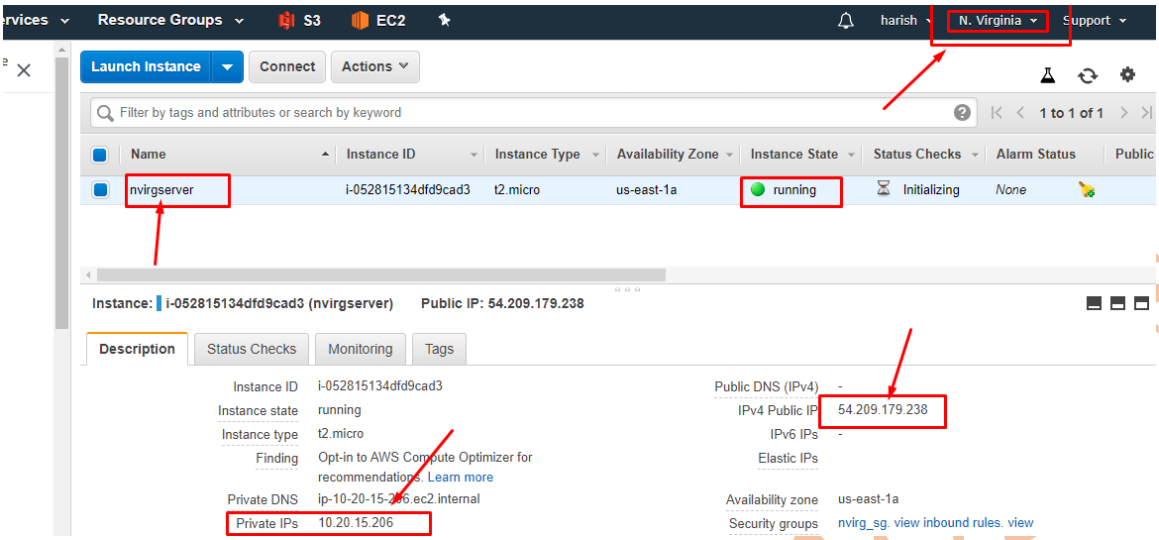


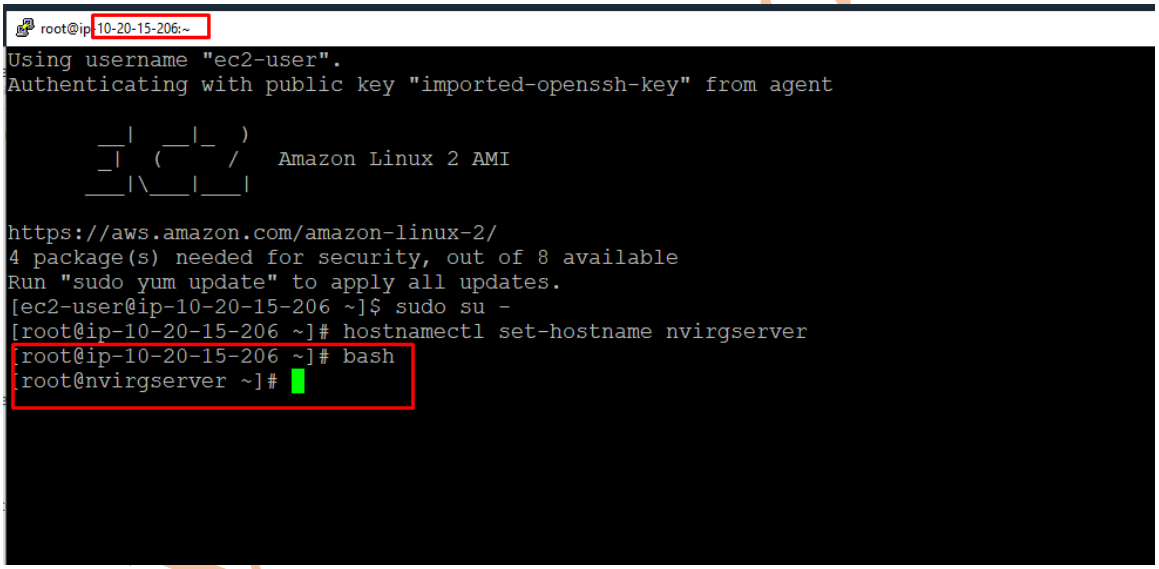
DVS Technologies Aws & Devops





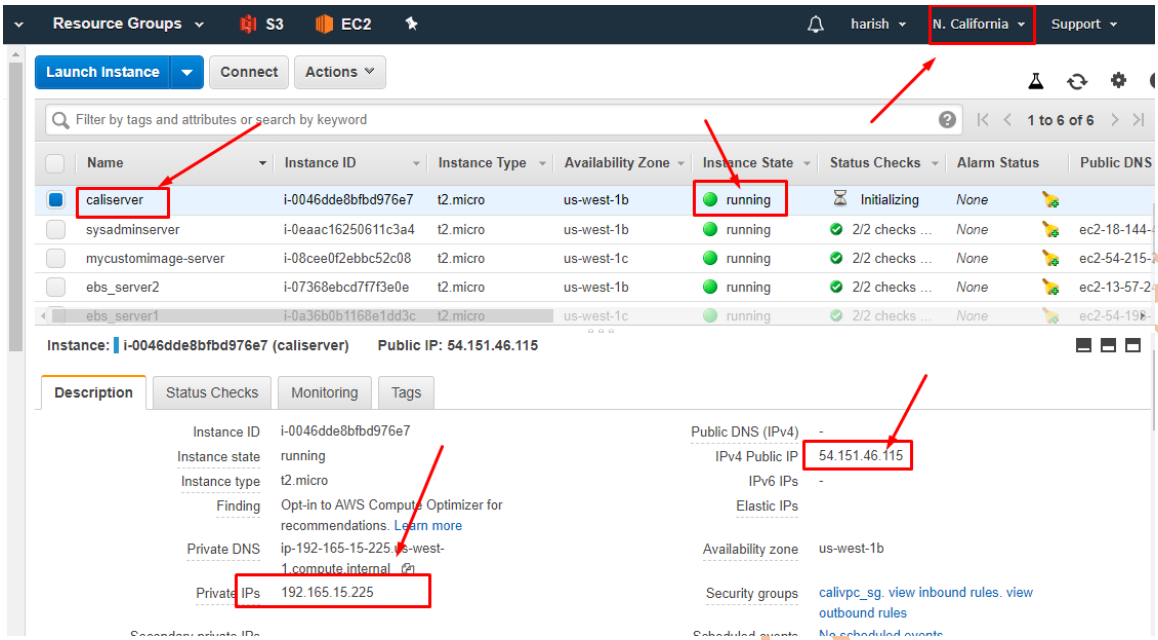
DVS Technologies Aws & Devops

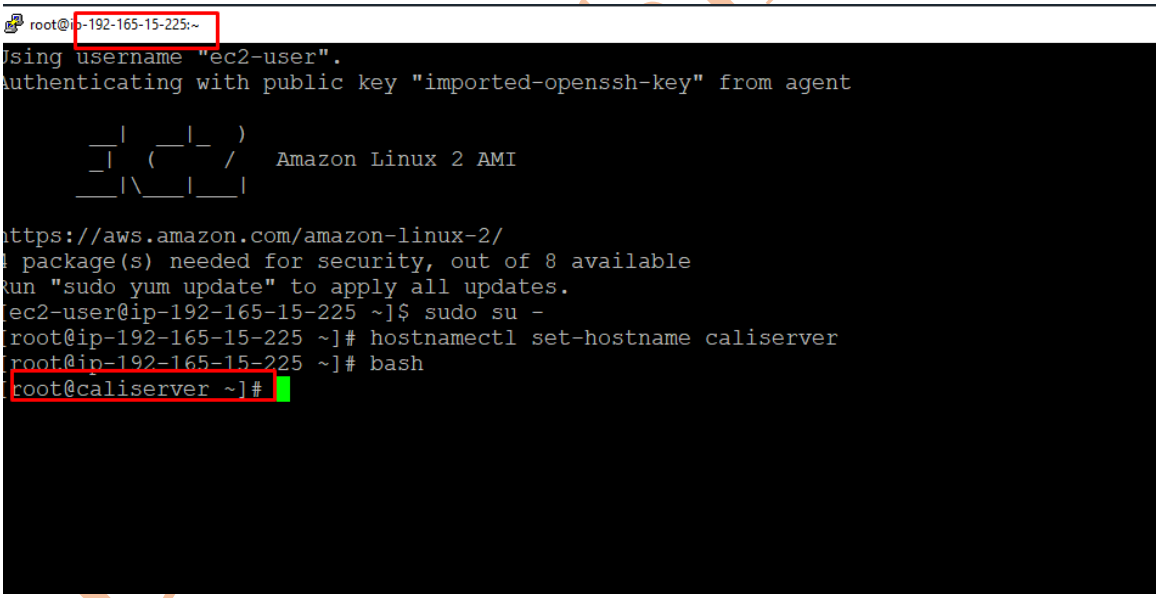




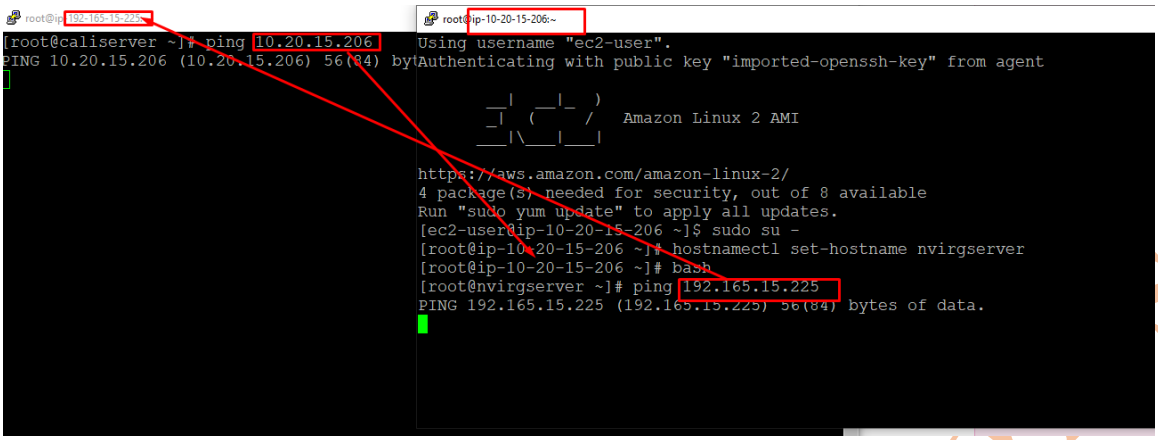
NOTE: PLEASE PERFORM THE ABOVE STEPS IN N.CALIFORNIA REGION

Once you are done you will get like below



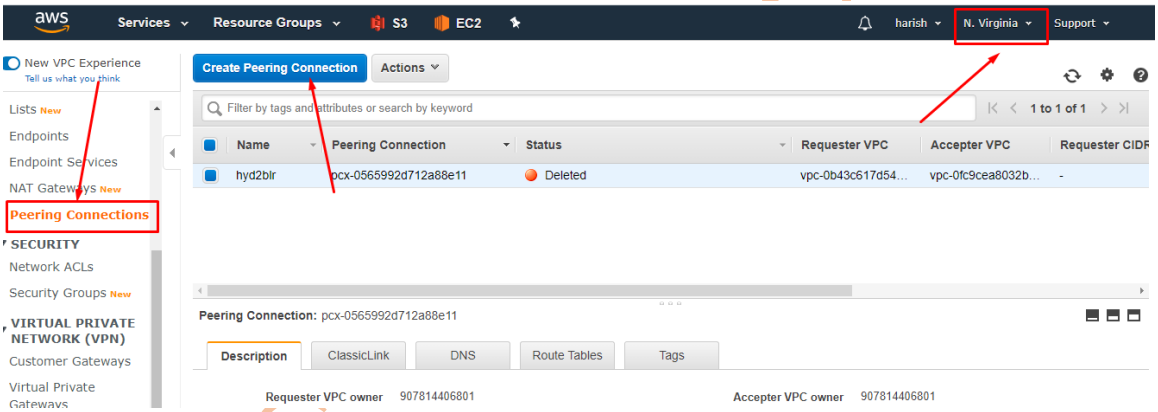


Testing the connectivity:

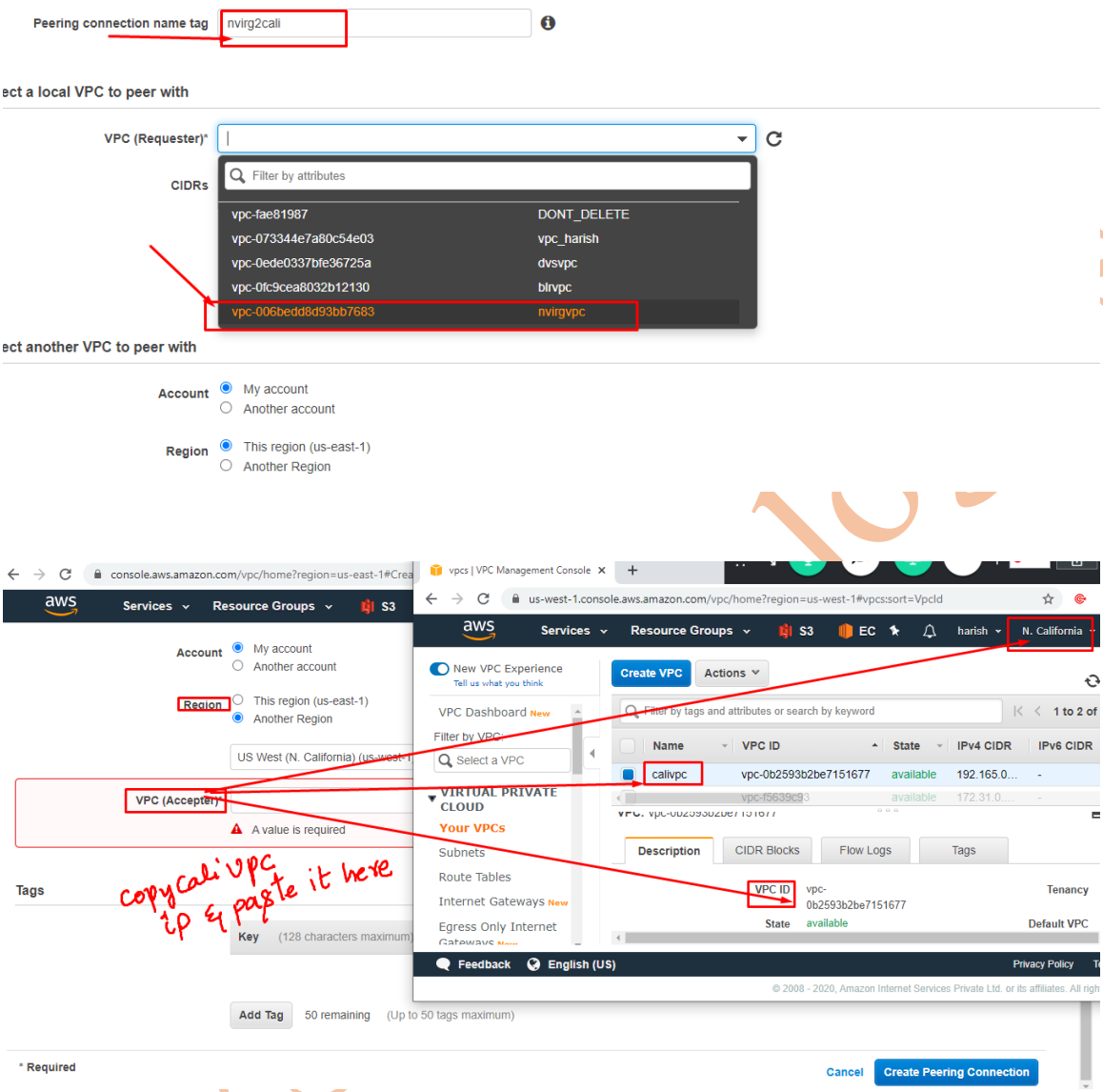


Now Configure Peering across the regions:

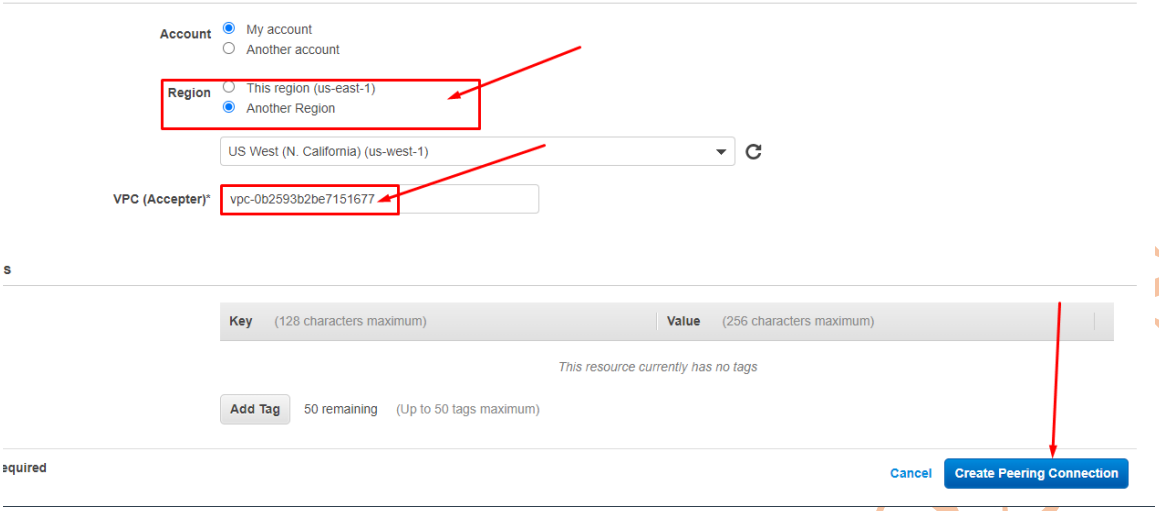
Perform below from N.Virginia region

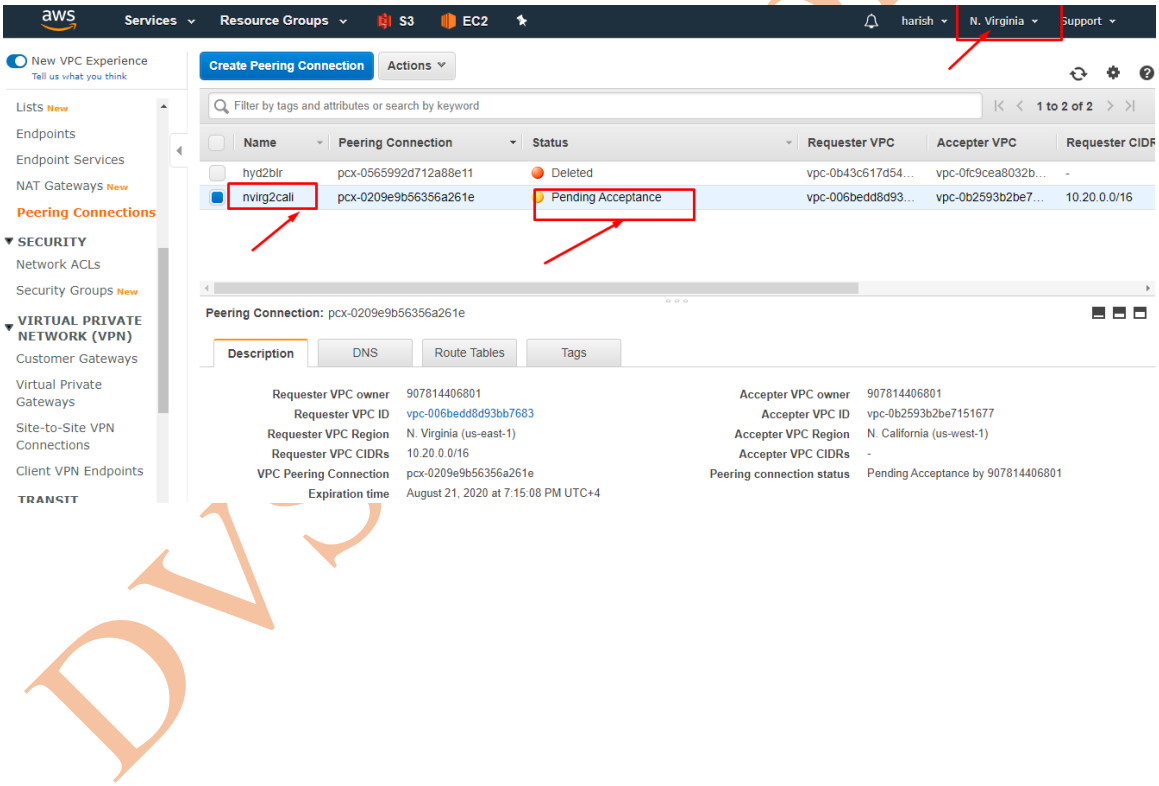


DVS Technologies Aws & Devops

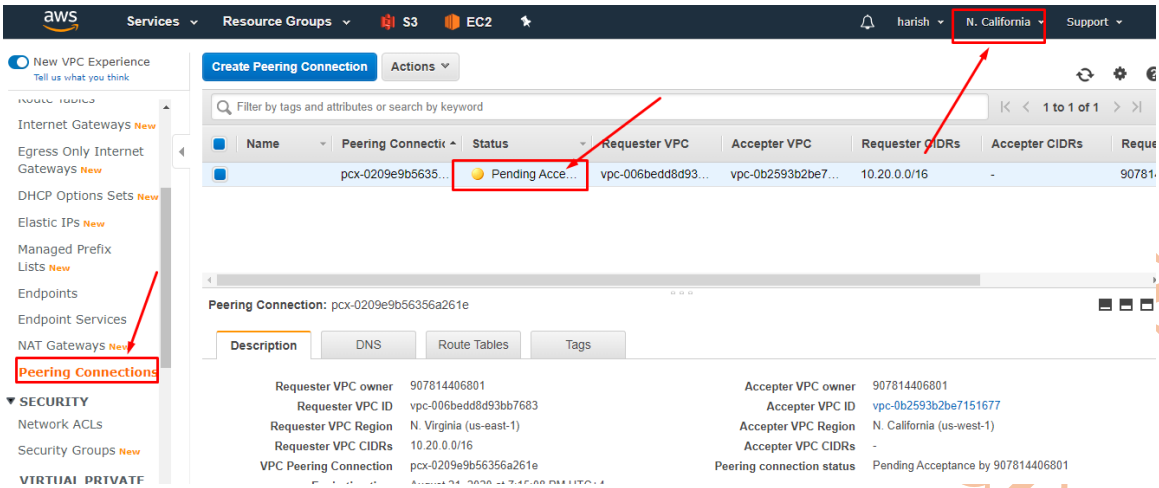


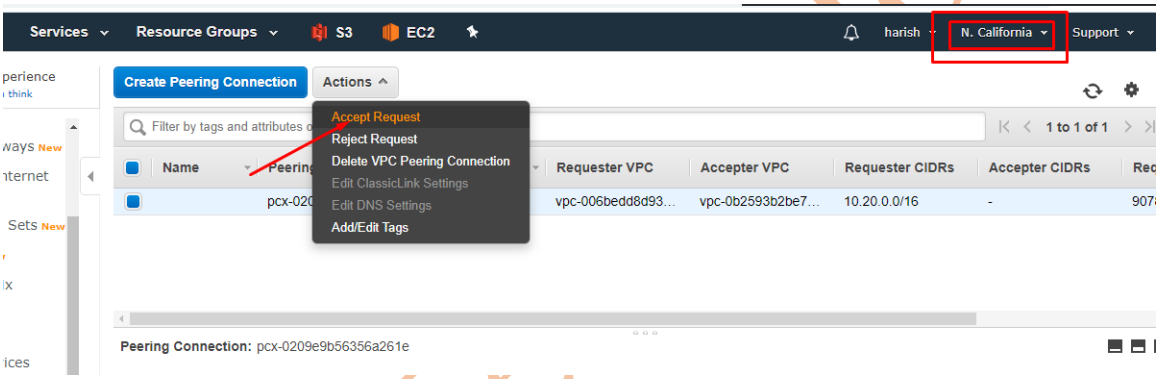
DVS Technologies Aws & Devops



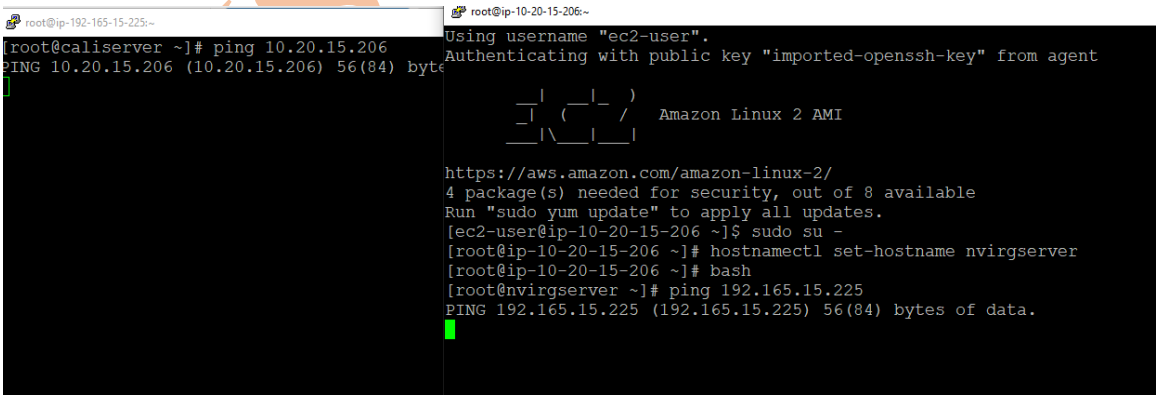


DVS Technologies Aws & Devops

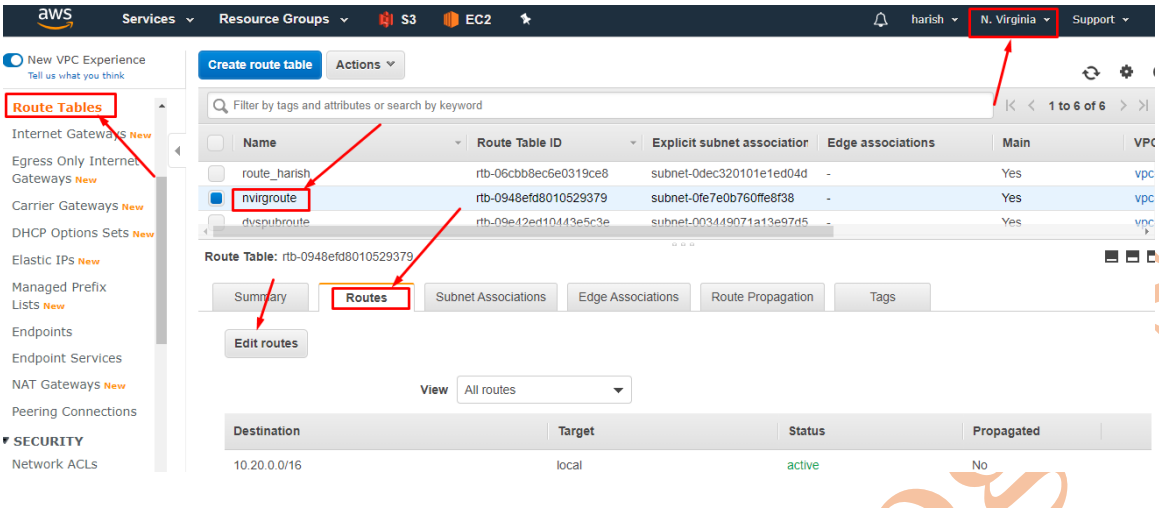


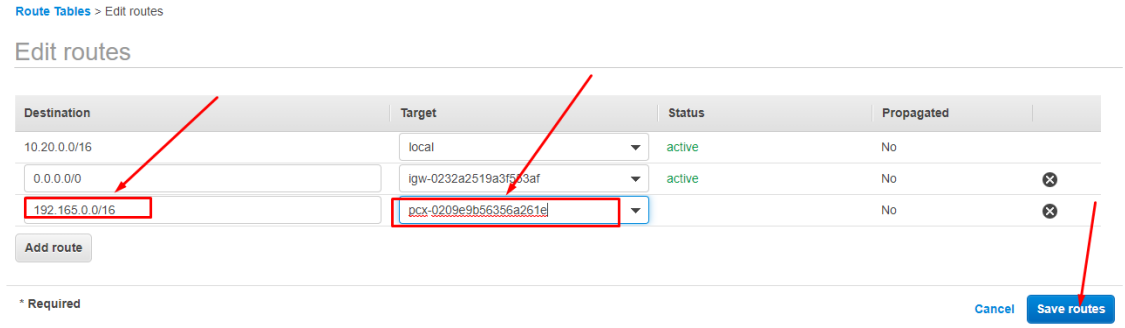


Let again check the connectivity:

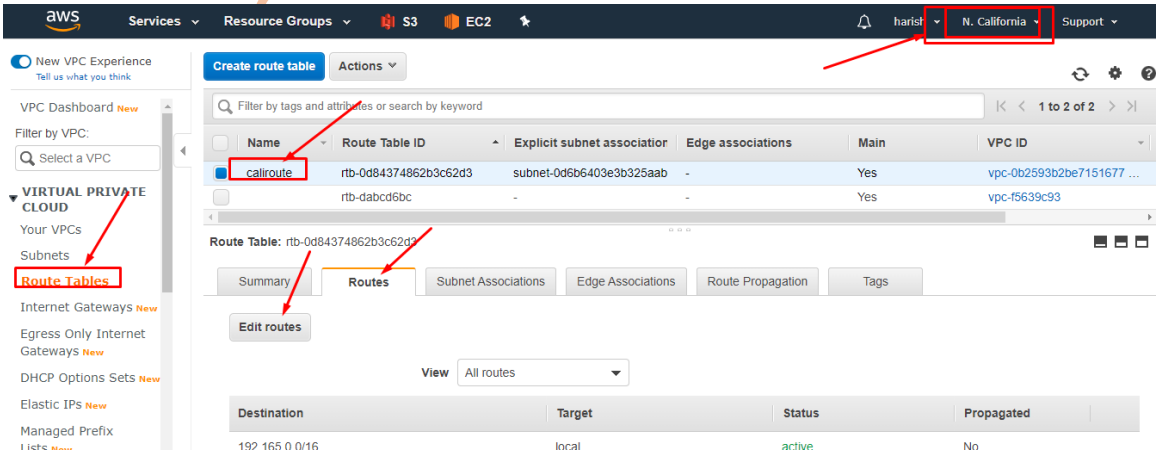


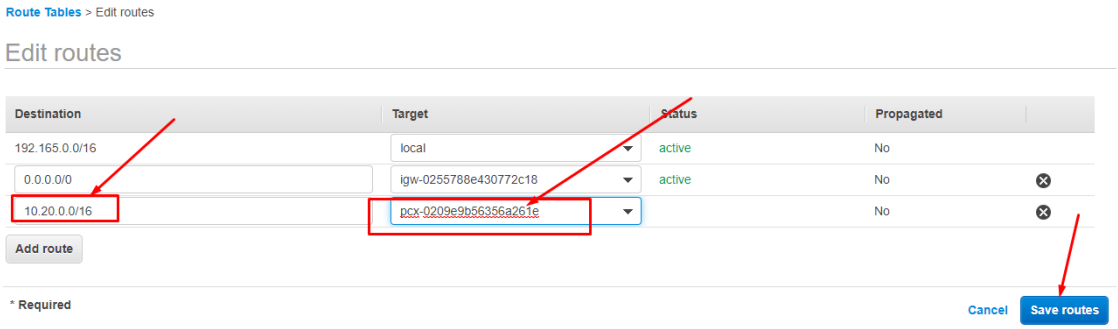
DVS Technologies Aws & Devops

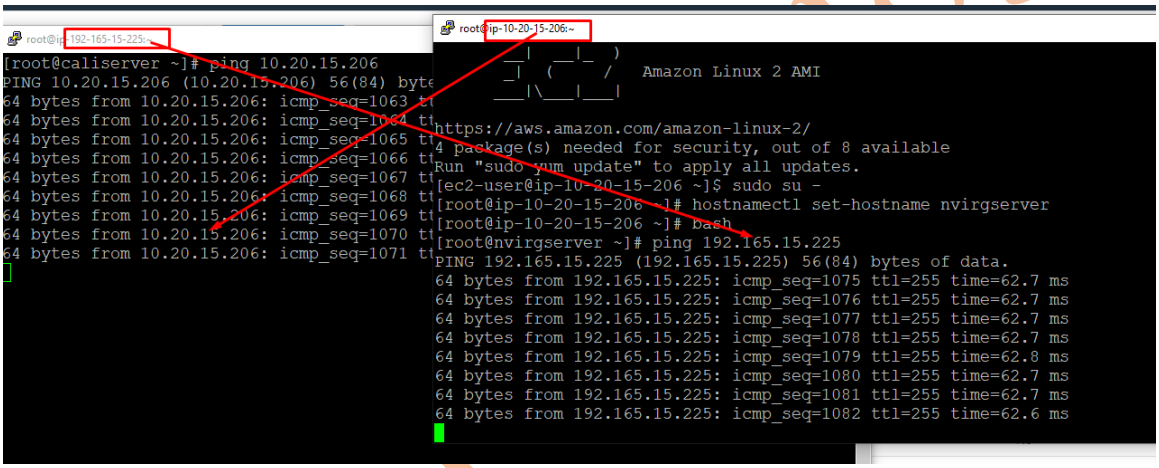




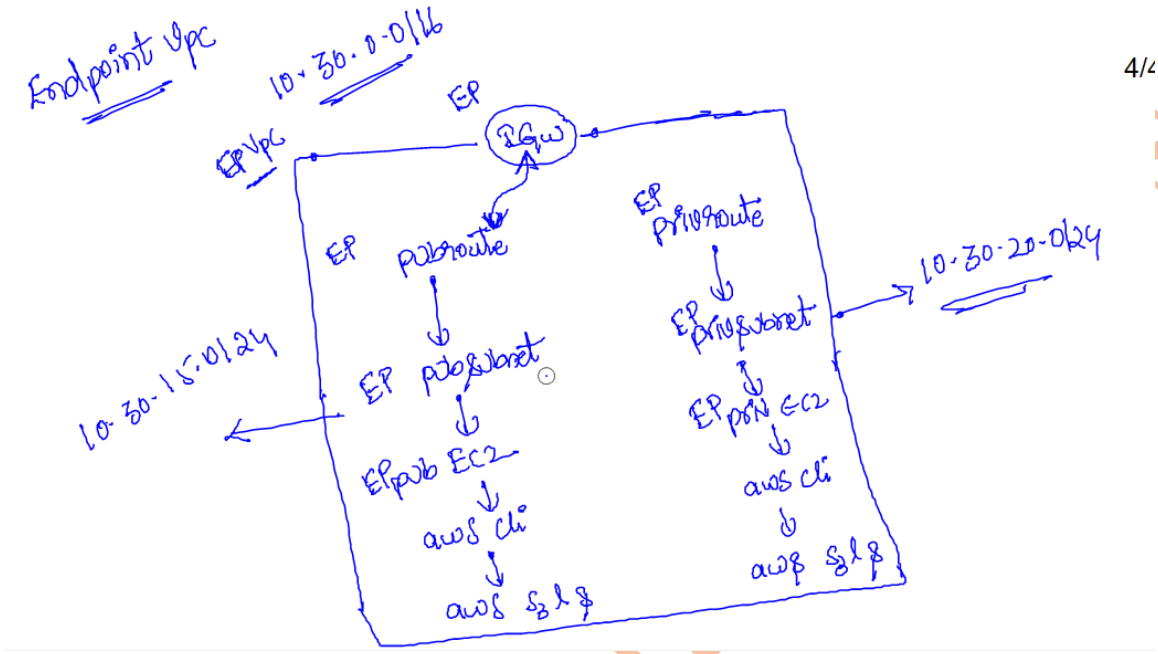
Now perform below in California:

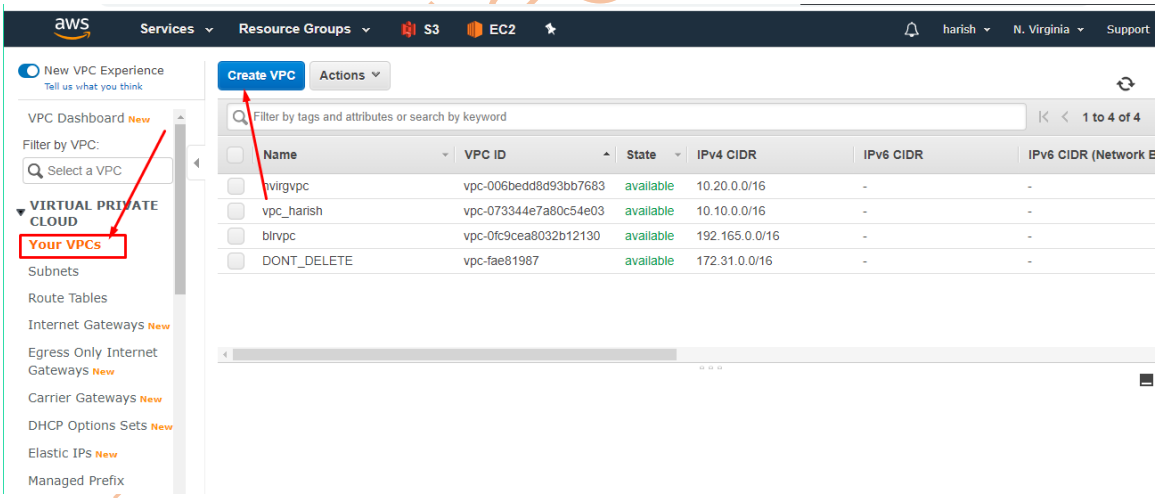



Route Tables > Edit routes
Edit routes
Destination
Target
Status
Propagated
192.165.0.0/16
local
active
No
0.0.0.0/0
igw-0255788e430772c18
active
No
10.20.0.0/16
pcx-0209e9b56356a261e
No
Add route
* Required
Cancel
Save routes

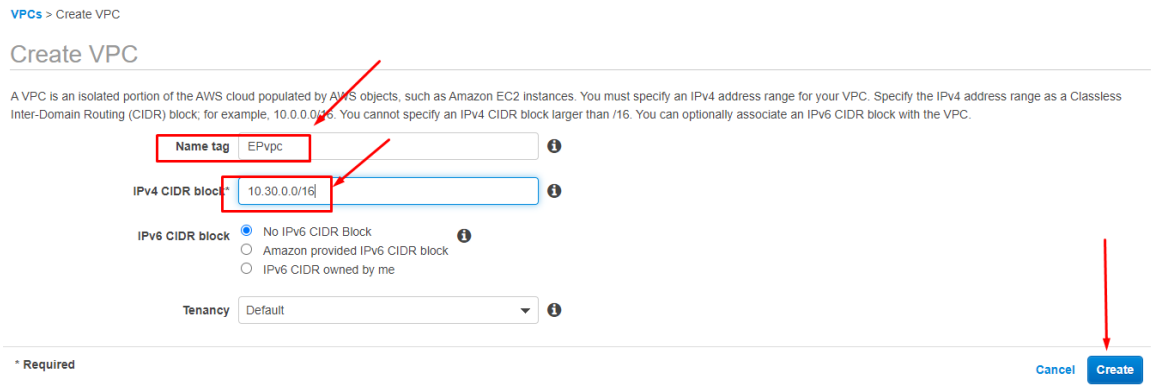

[root@caliserver ~]# ping 10.20.15.206
PING 10.20.15.206 (10.20.15.206) 56(84) byte
64 bytes from 10.20.15.206: icmp_seq=1063 t
64 bytes from 10.20.15.206: icmp_seq=1064 t
64 bytes from 10.20.15.206: icmp_seq=1065 t
64 bytes from 10.20.15.206: icmp_seq=1066 t
64 bytes from 10.20.15.206: icmp_seq=1067 t
64 bytes from 10.20.15.206: icmp_seq=1068 t
64 bytes from 10.20.15.206: icmp_seq=1069 t
64 bytes from 10.20.15.206: icmp_seq=1070 t
64 bytes from 10.20.15.206: icmp_seq=1071 t
Amazon Linux 2 AMI
https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 8 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-20-15-206 ~]$ sudo su -
[root@ip-10-20-15-206 ~]# hostnamectl set-hostname nvirgserver
[root@ip-10-20-15-206 ~]# bash
[root@nvirgserver ~]# ping 192.165.15.225
PING 192.165.15.225 (192.165.15.225) 56(84) bytes of data.
64 bytes from 192.165.15.225: icmp_seq=1075 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1076 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1077 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1078 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1079 ttl=255 time=62.8 ms
64 bytes from 192.165.15.225: icmp_seq=1080 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1081 ttl=255 time=62.7 ms
64 bytes from 192.165.15.225: icmp_seq=1082 ttl=255 time=62.6 ms

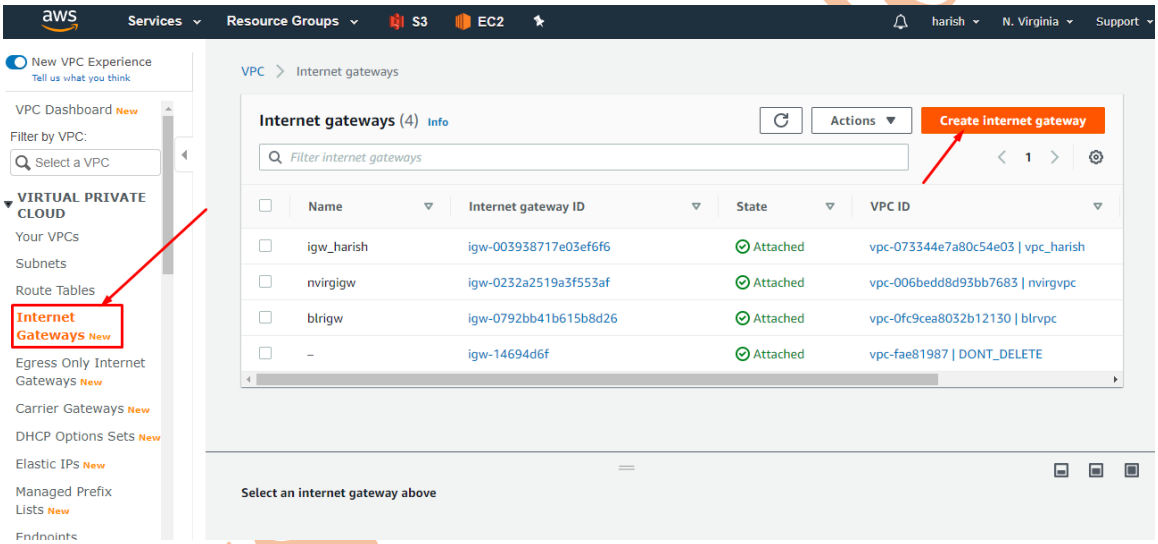
6. Endpoint Configuration

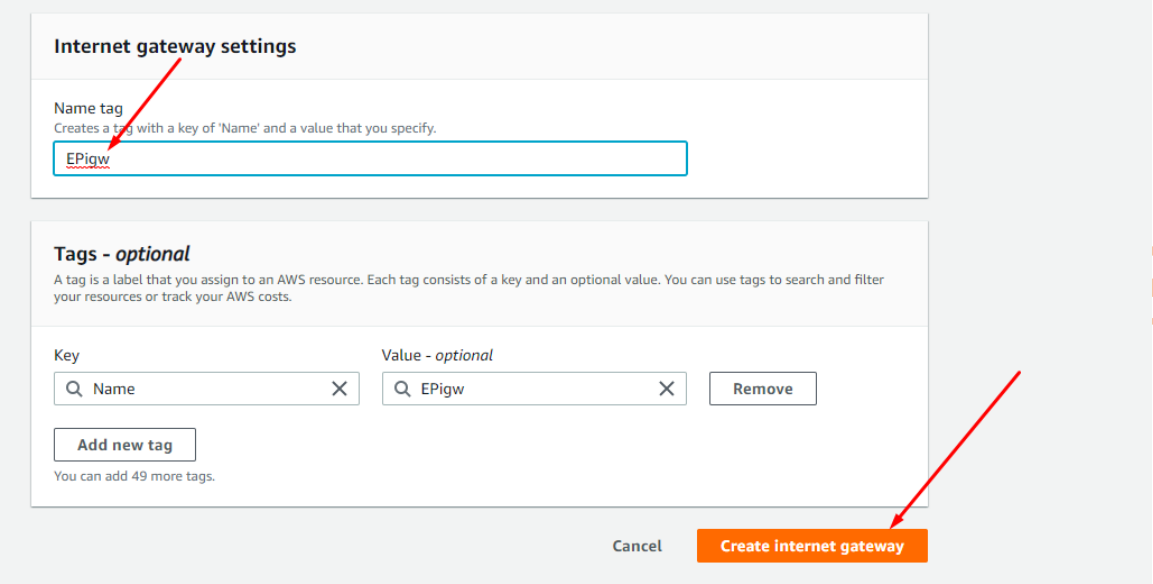


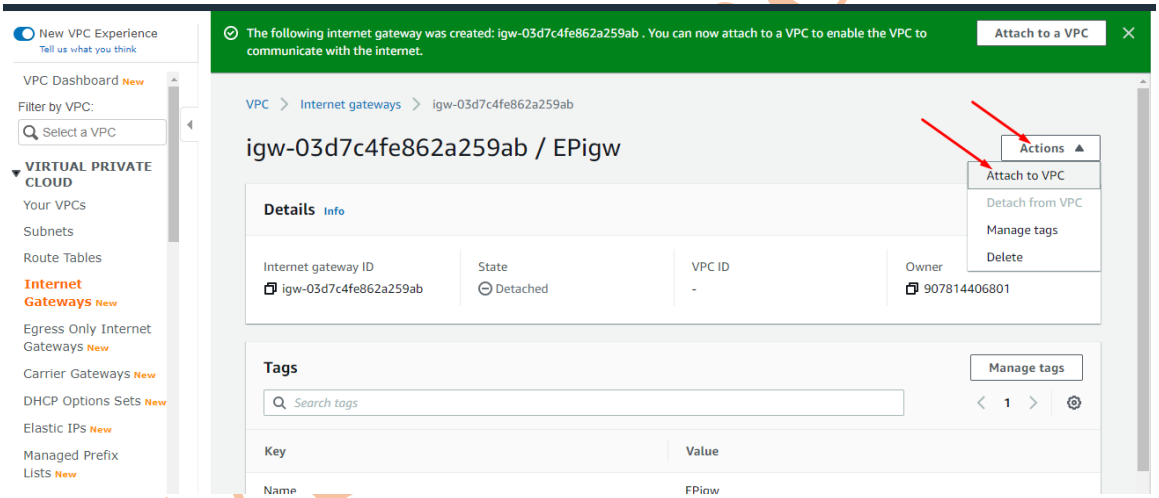


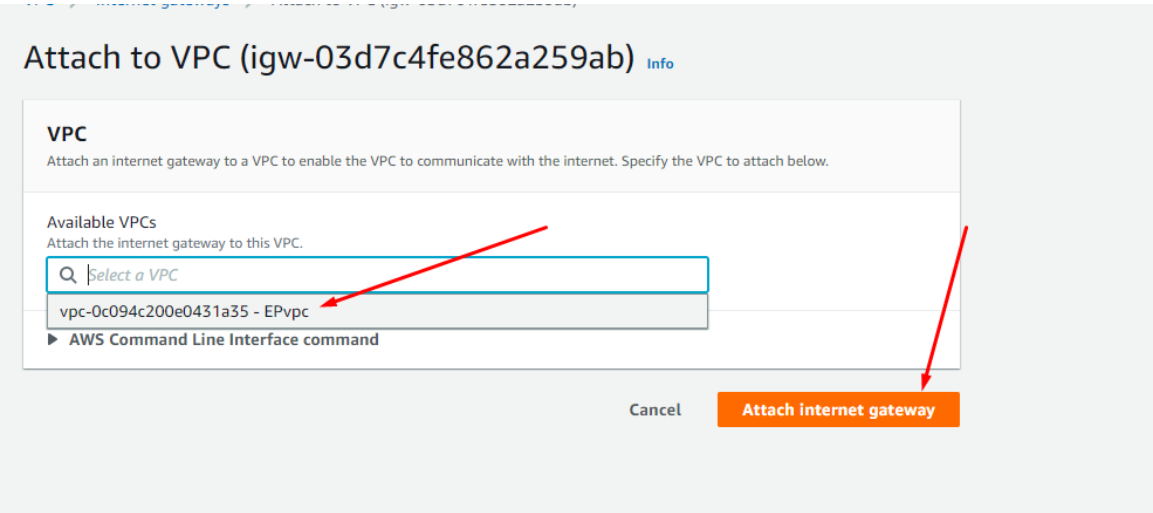
DVS Technologies Aws & Devops

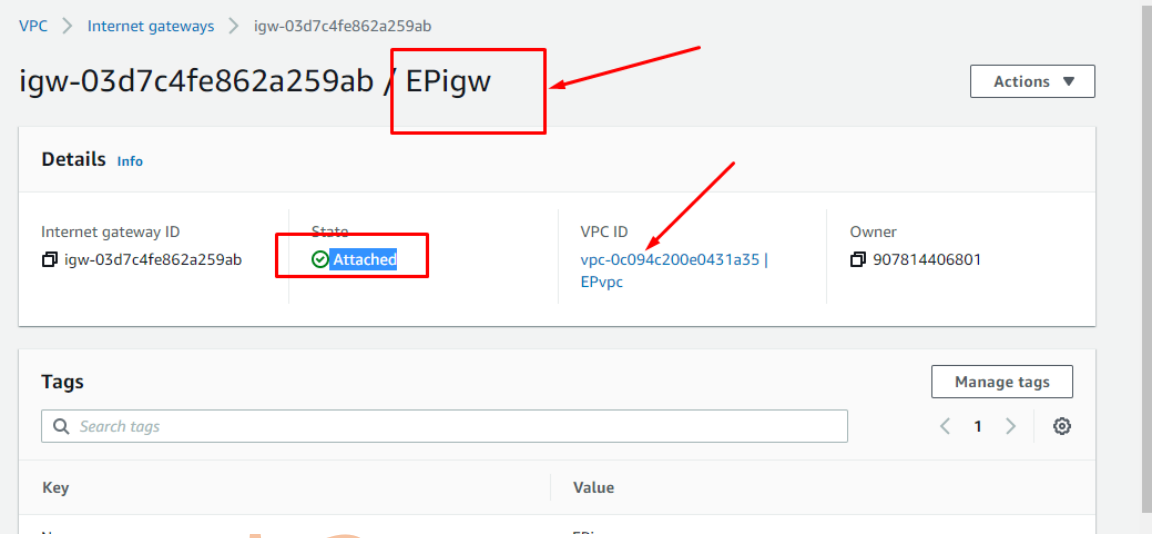





Internet gateway settings
Name tag
Creates a tag with a key of 'Name' and a value that you specify.
EPigw
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
Key
Name
Value - optional
EPigw
Remove
Add new tag
You can add 49 more tags.
Cancel
Create internet gateway

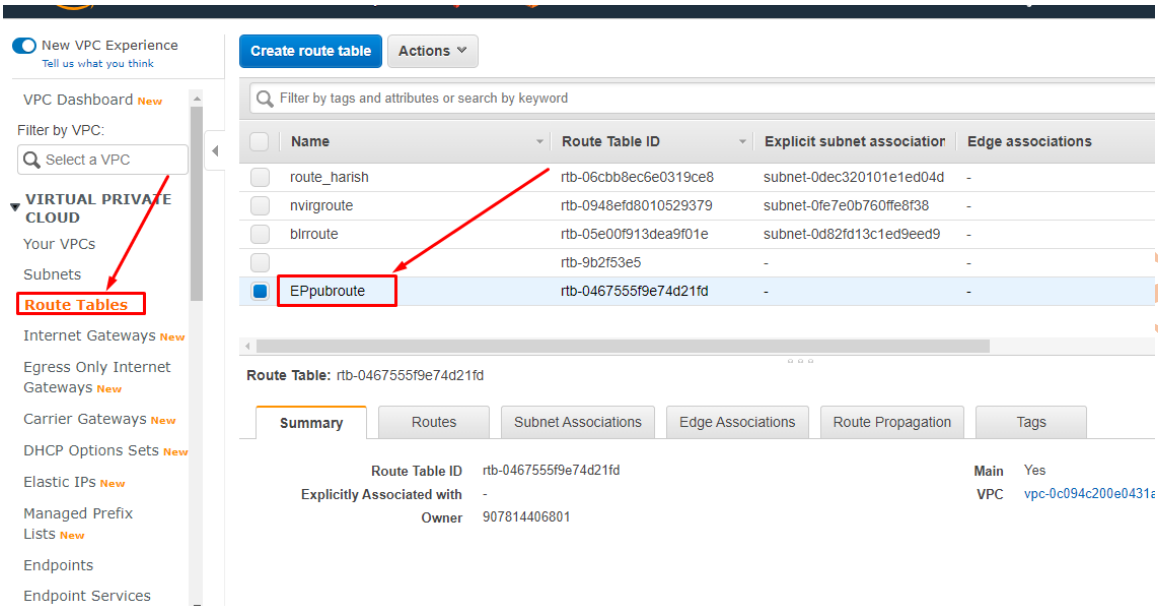

New VPC Experience
Tell us what you think
VPC Dashboard New
Filter by VPC:
Select a VPC
VIRTUAL PRIVATE CLOUD
Your VPCs
Subnets
Route Tables
Internet Gateways New
Egress Only Internet Gateways New
Carrier Gateways New
DHCP Options Sets New
Elastic IPs New
Managed Prefix Lists New
The following internet gateway was created: igw-03d7c4fe862a259ab . You can now attach to a VPC to enable the VPC to communicate with the internet.
Attach to a VPC
VPC > Internet gateways > igw-03d7c4fe862a259ab
igw-03d7c4fe862a259ab / EPigw
Actions
Attach to VPC
Detach from VPC
Manage tags
Delete
Details Info
Internet gateway ID
igw-03d7c4fe862a259ab
State
Detached
VPC ID
-
Owner
907814406801
Tags
Manage tags
Search tags
Key
Value
Name
EPigw

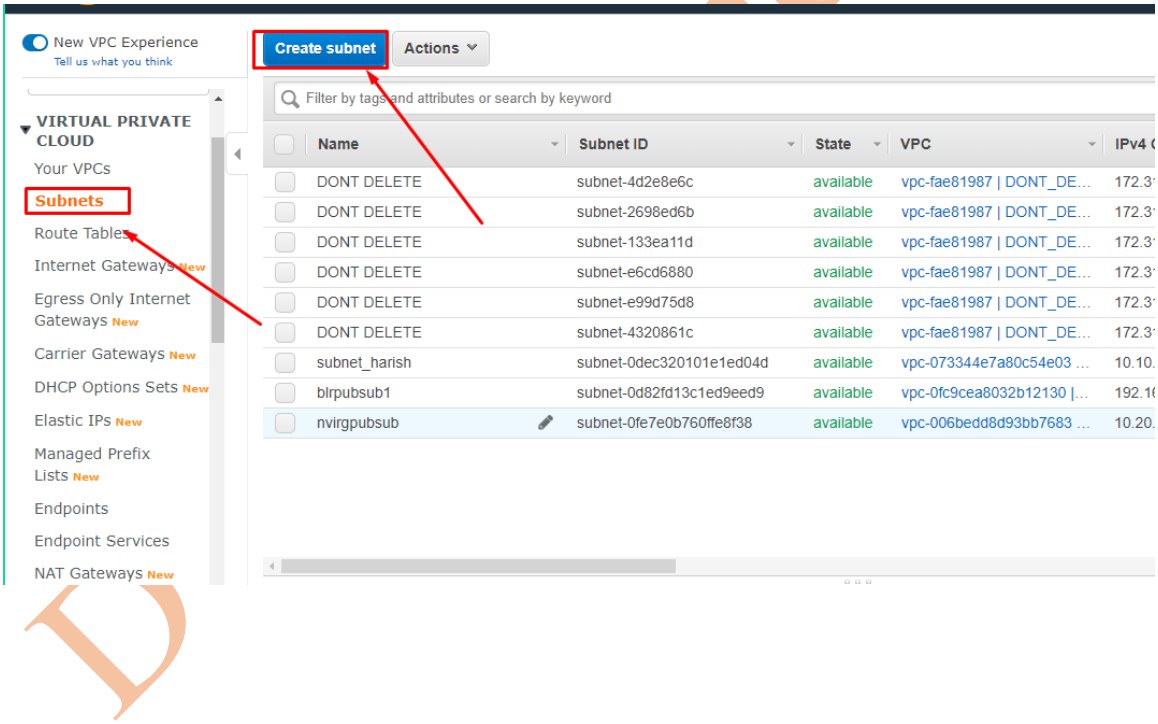




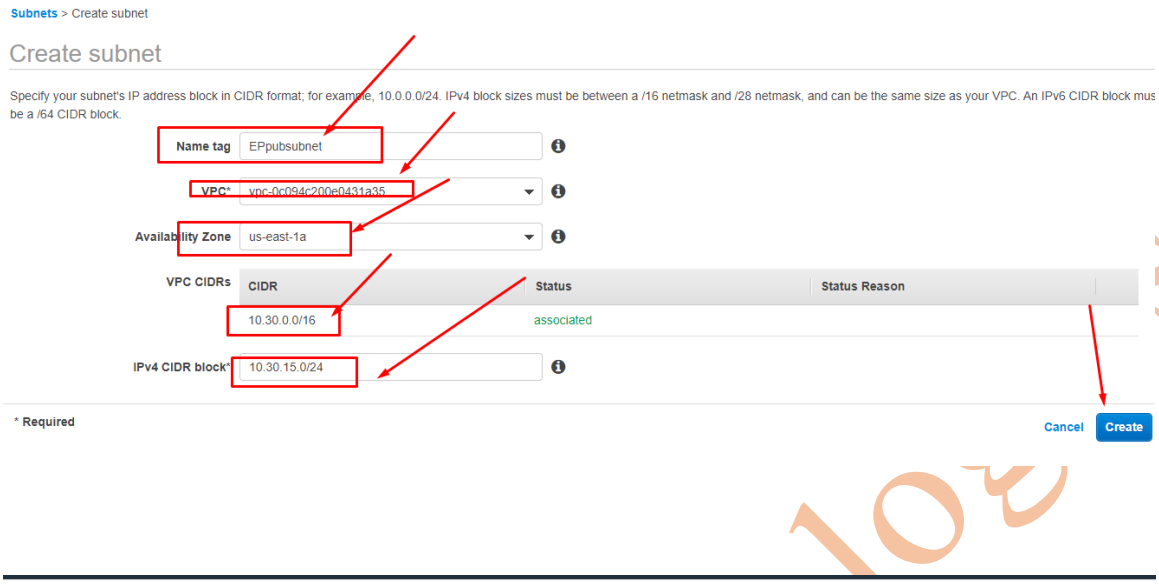
Let's Concentrate on Pub section:

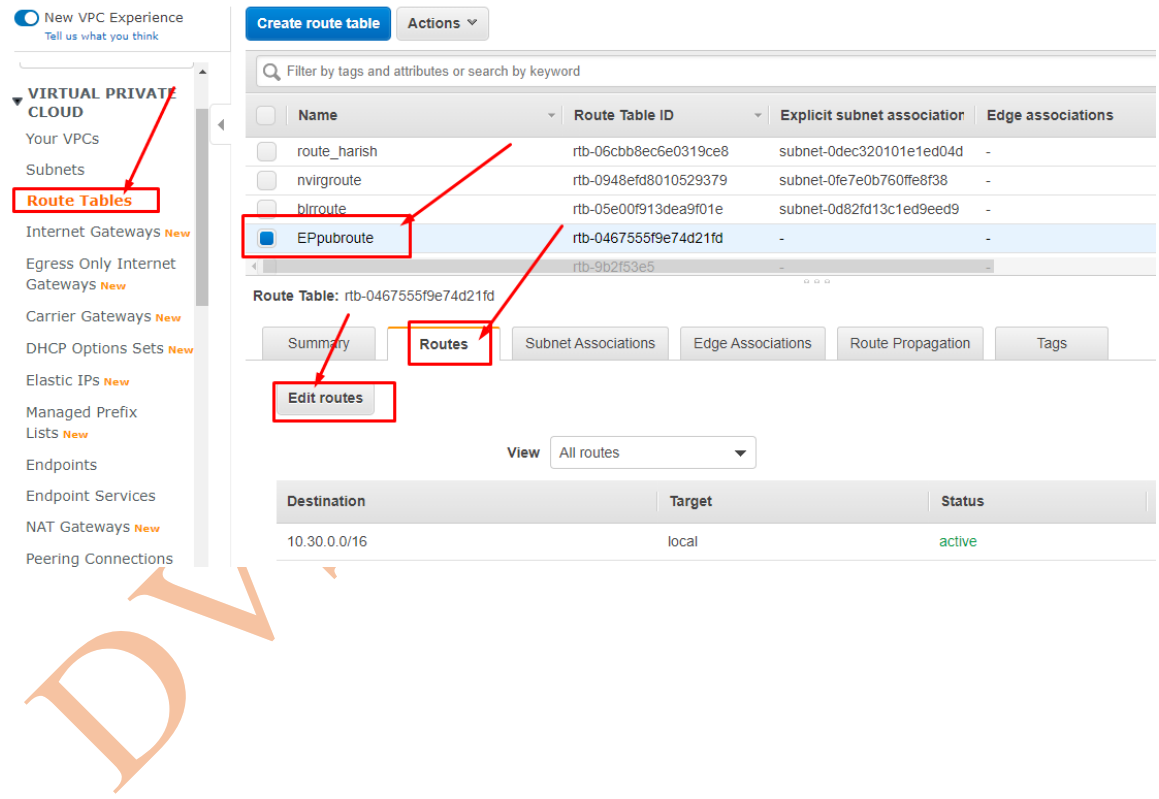
DVS Technologies Aws & Devops



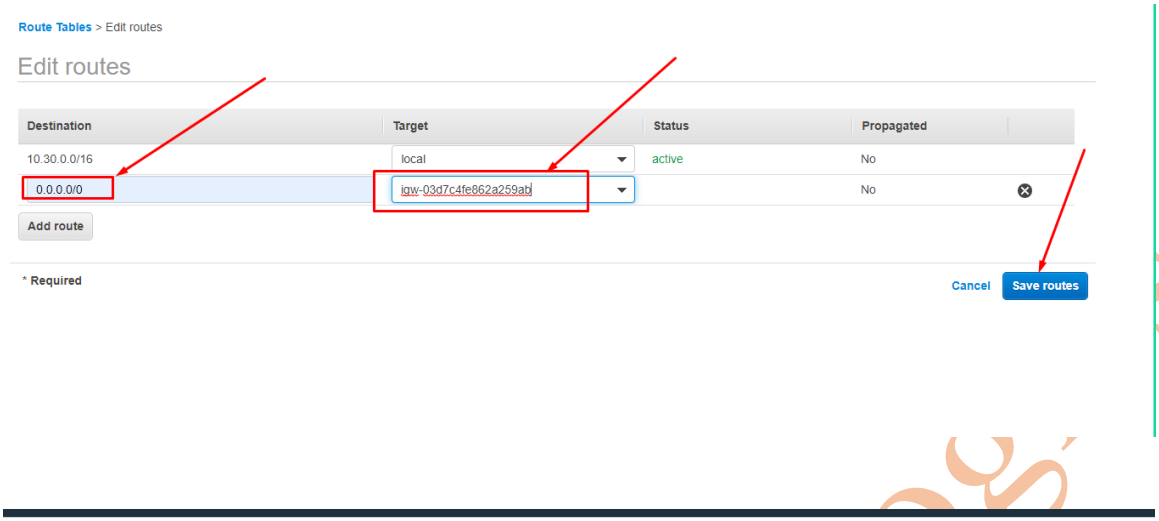


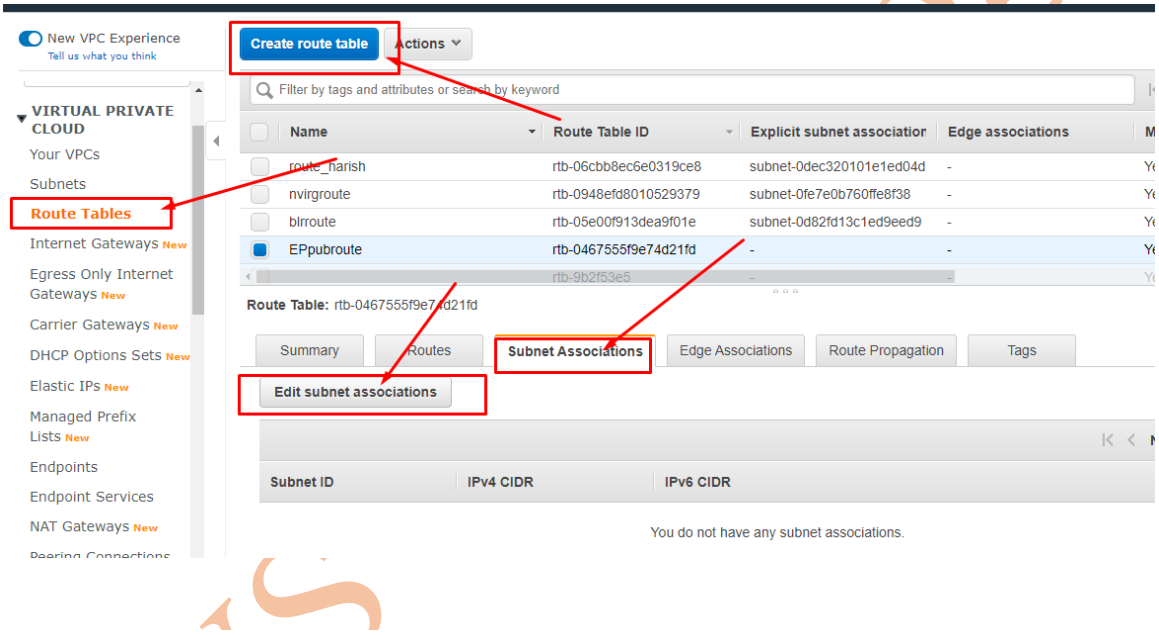
DVS Technologies Aws & Devops

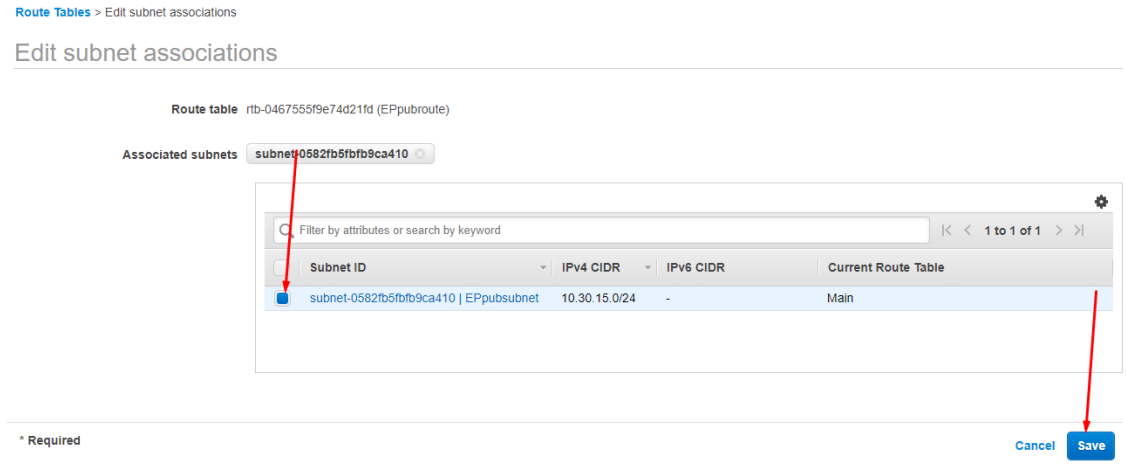




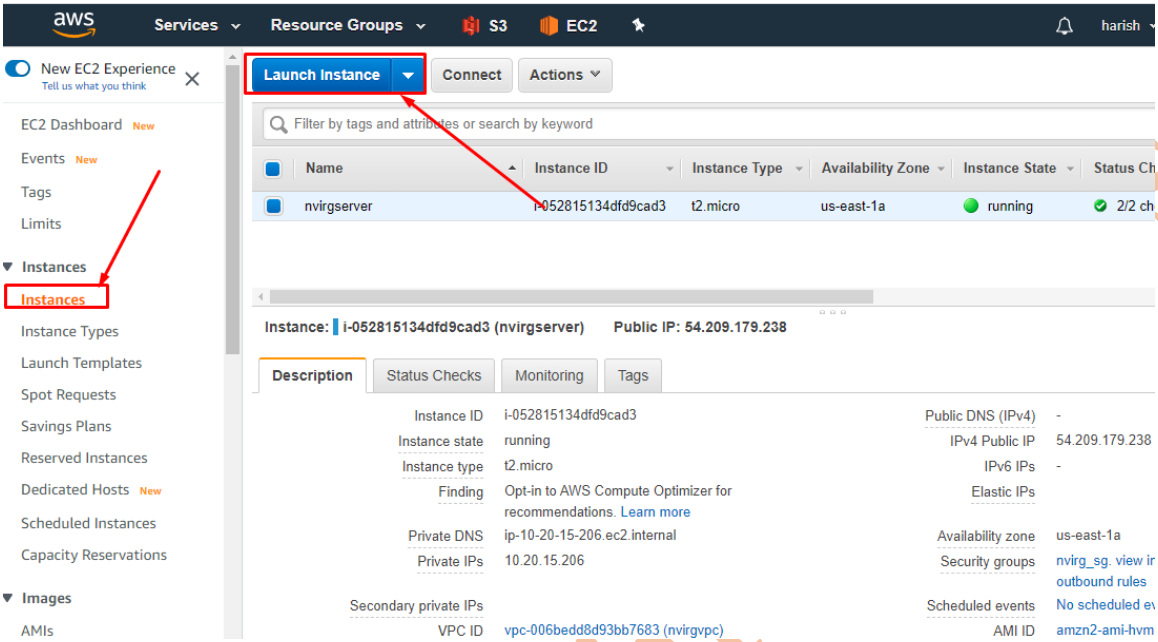
DVS Technologies Aws & Devops

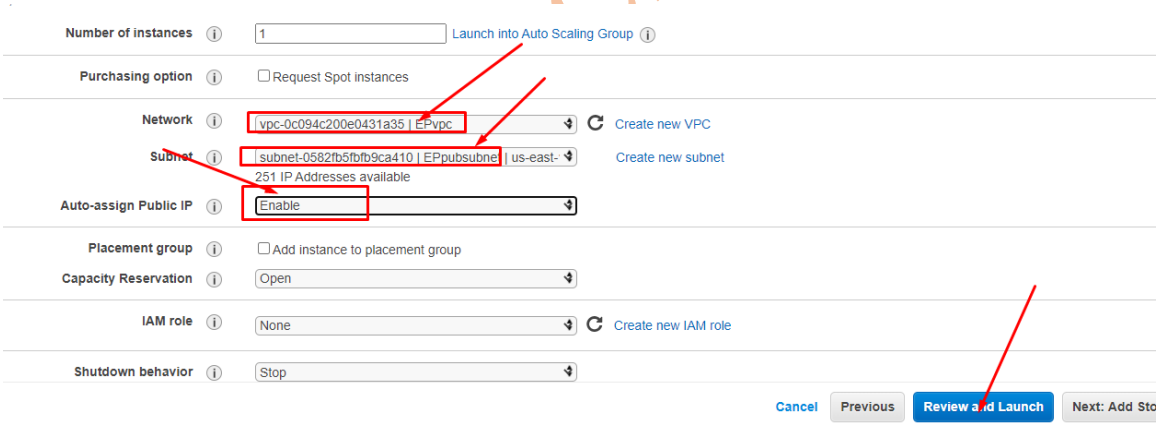




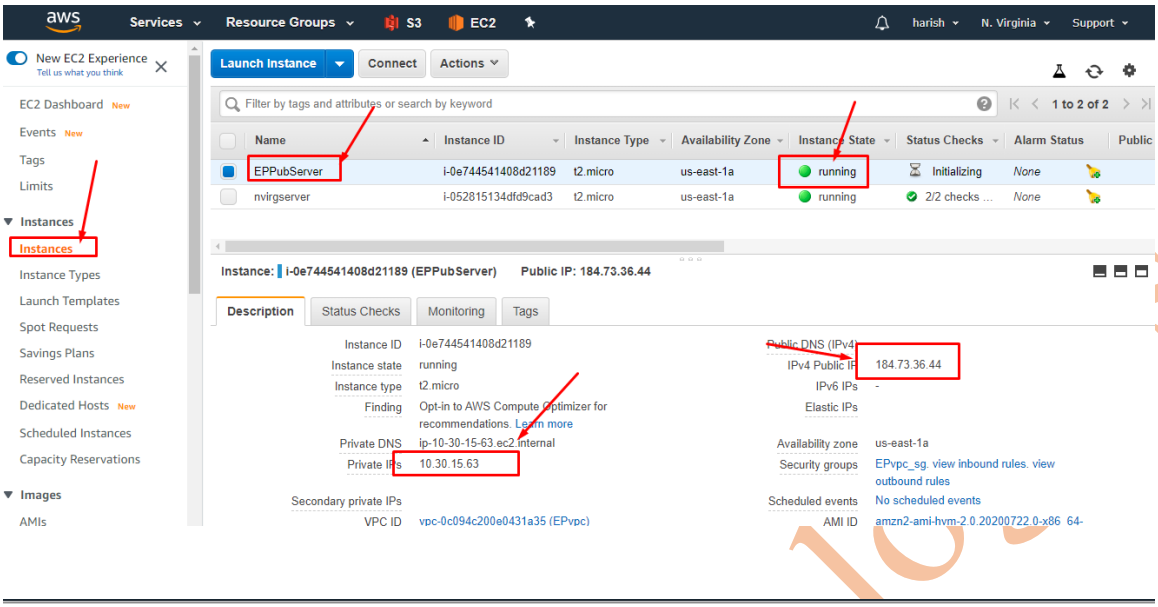


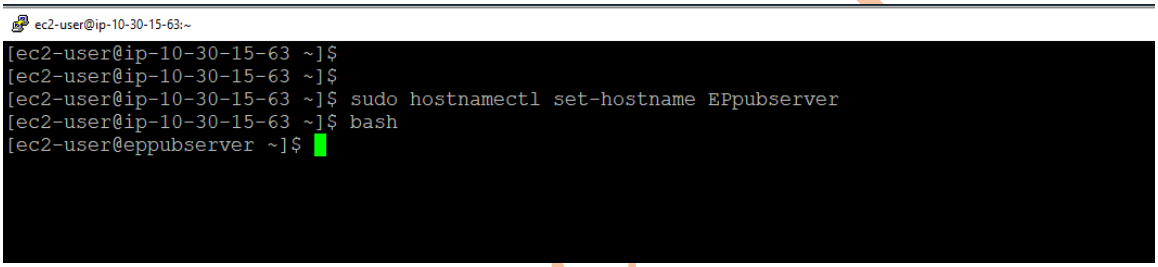
DVS Technologies Aws & Devops





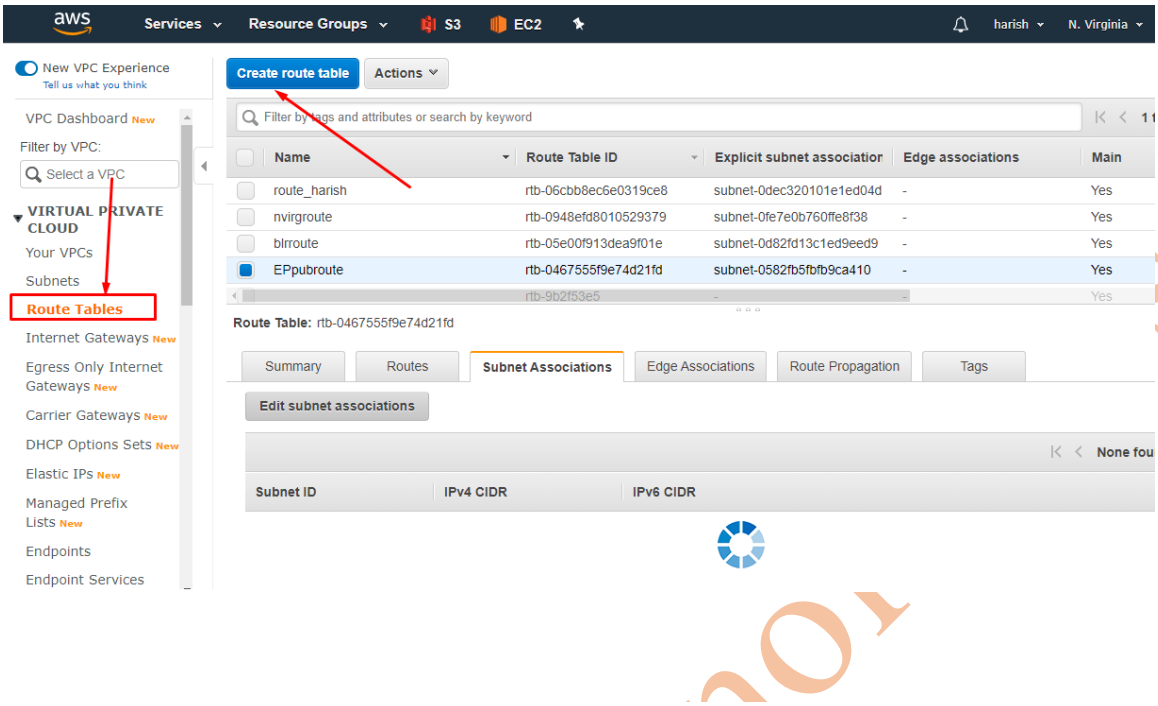
DVS Technologies Aws & Devops

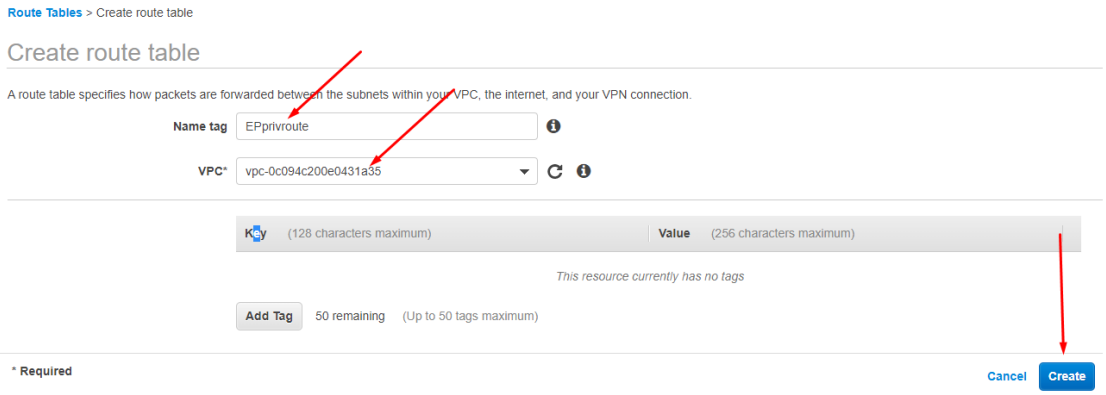




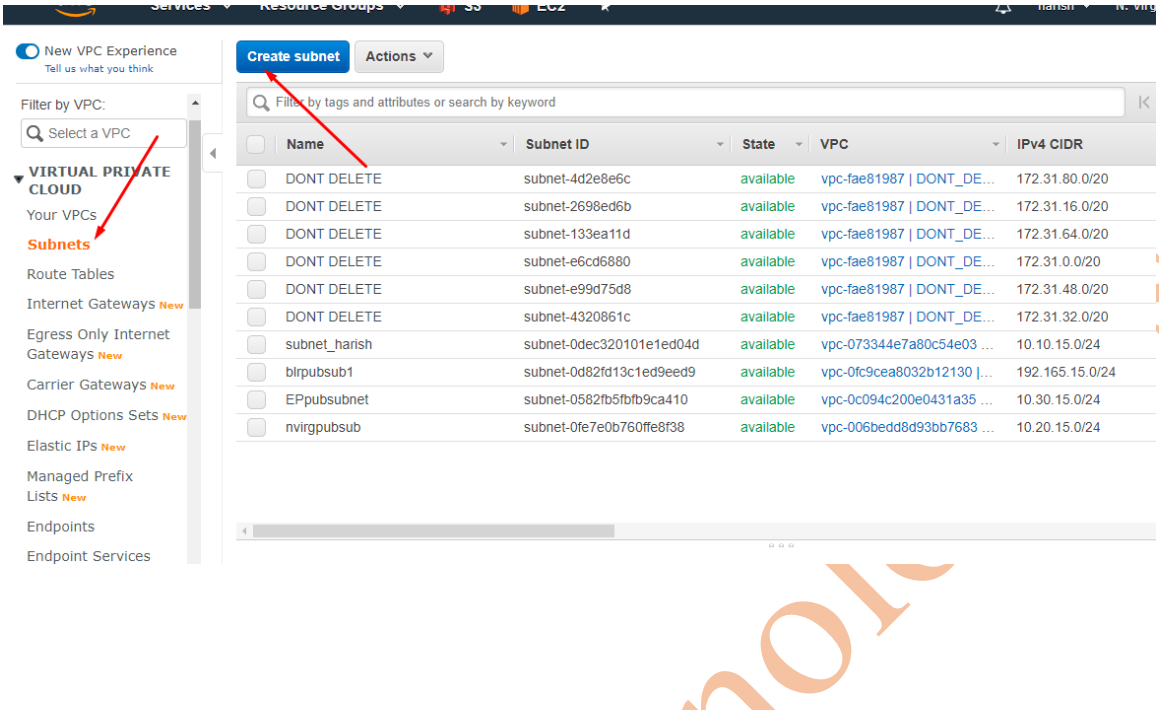
Let's Configure Private Section:

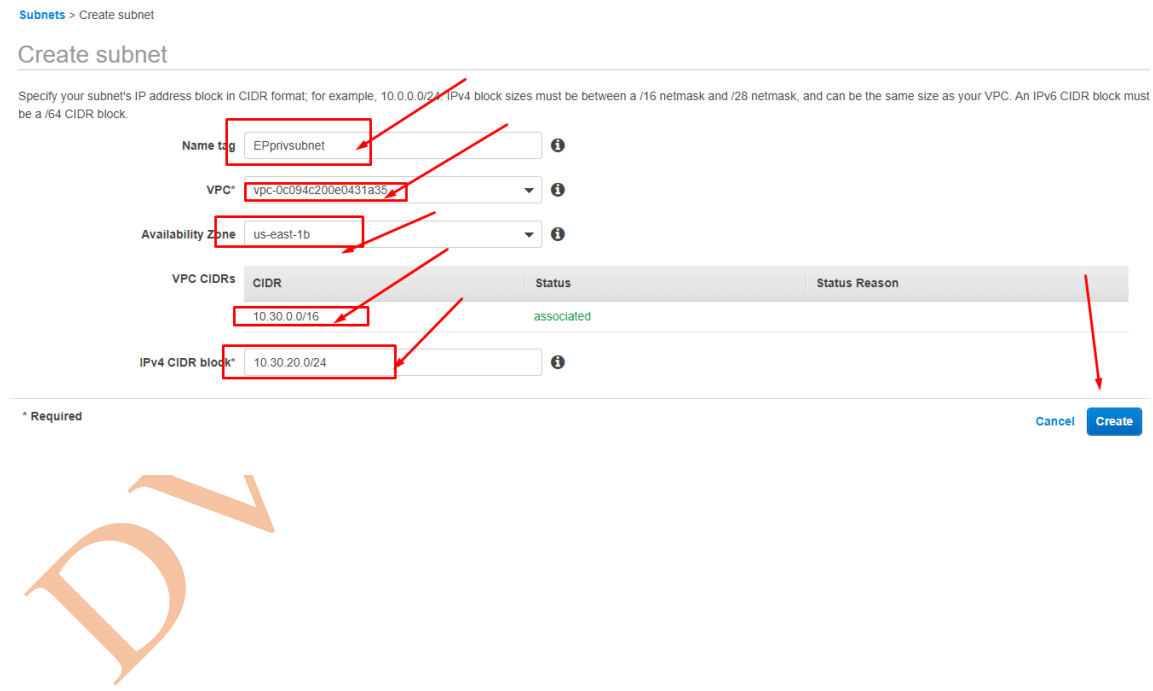
DVS Technologies Aws & Devops

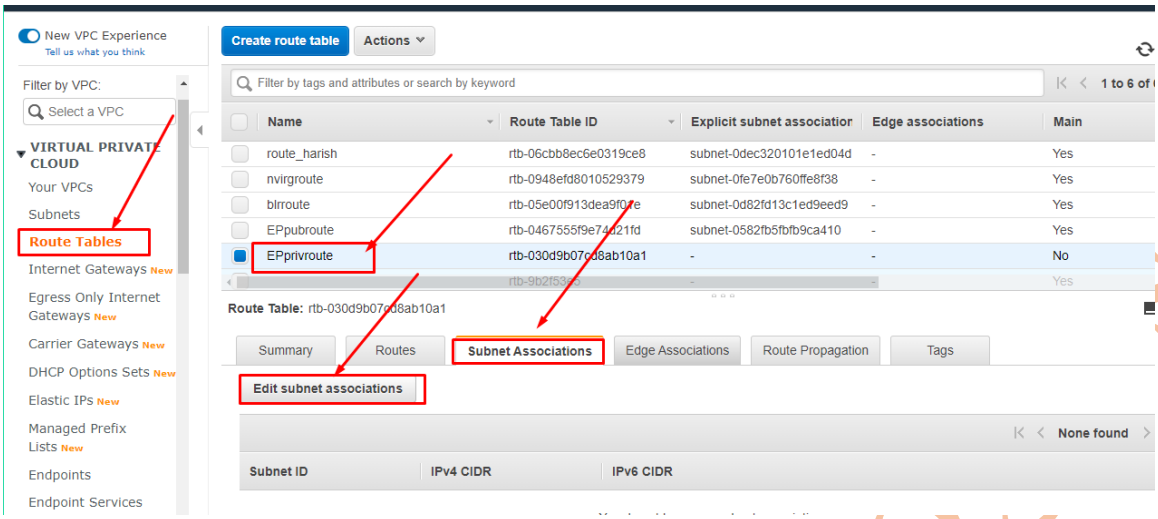


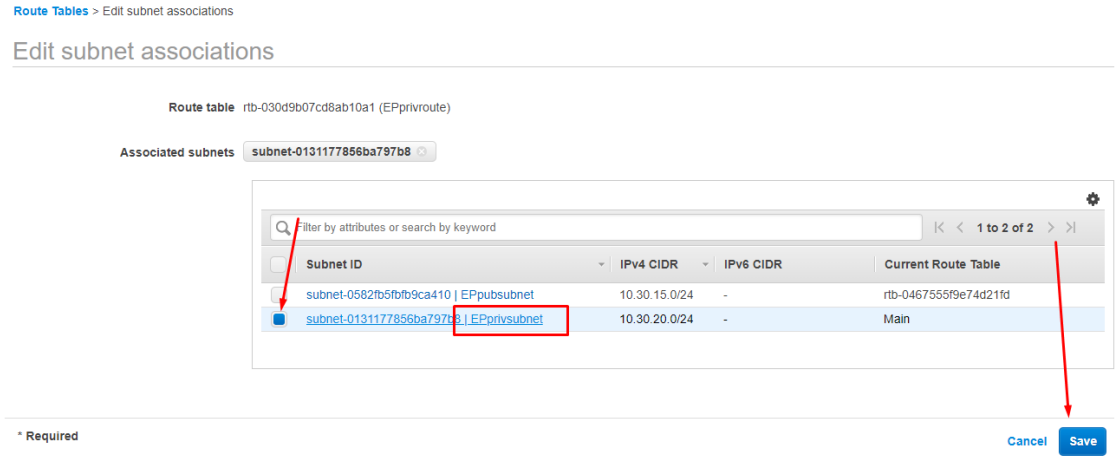


DVS Technologies Aws & Devops









Now let's create our Private Ec2 server:

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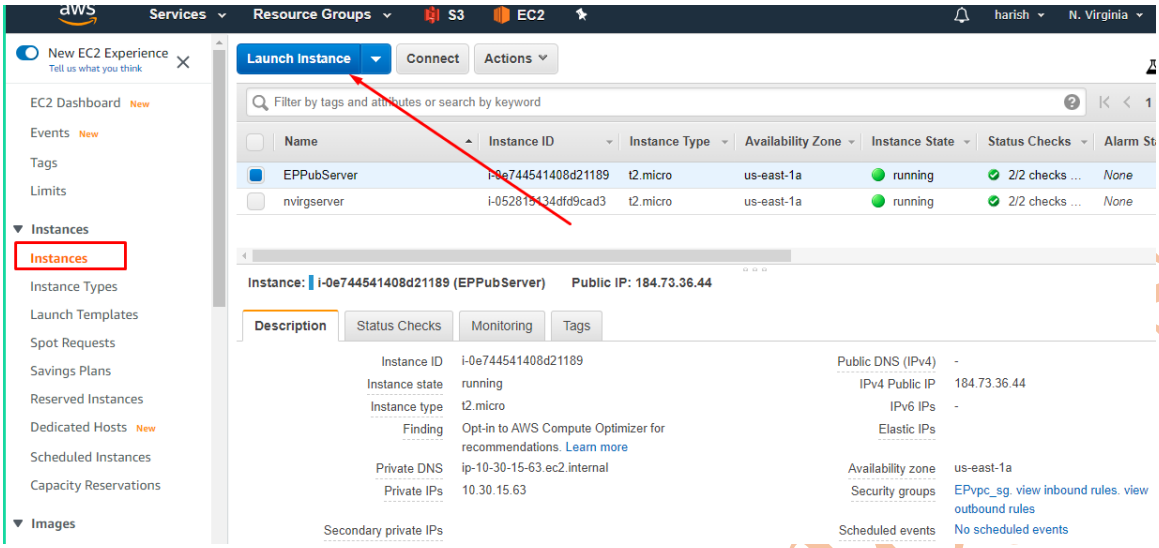
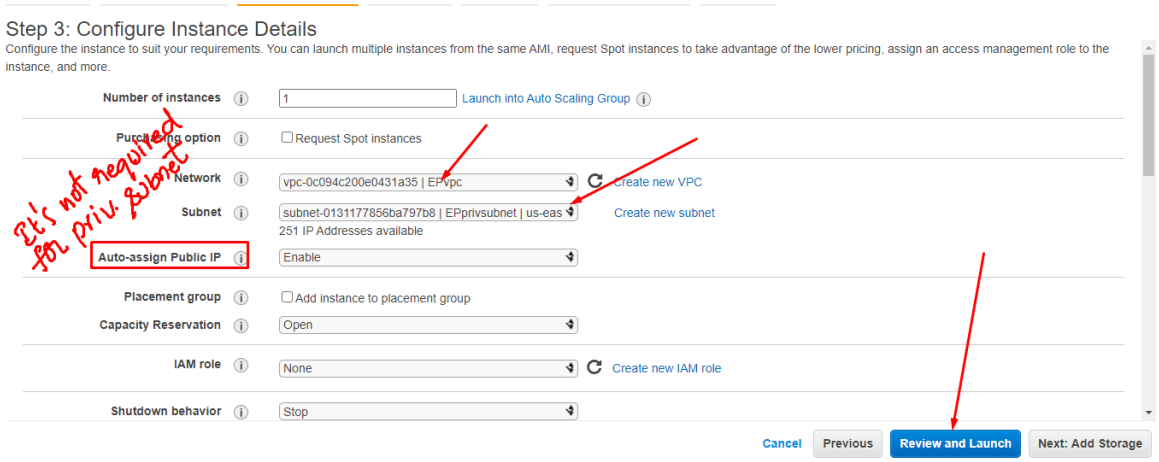
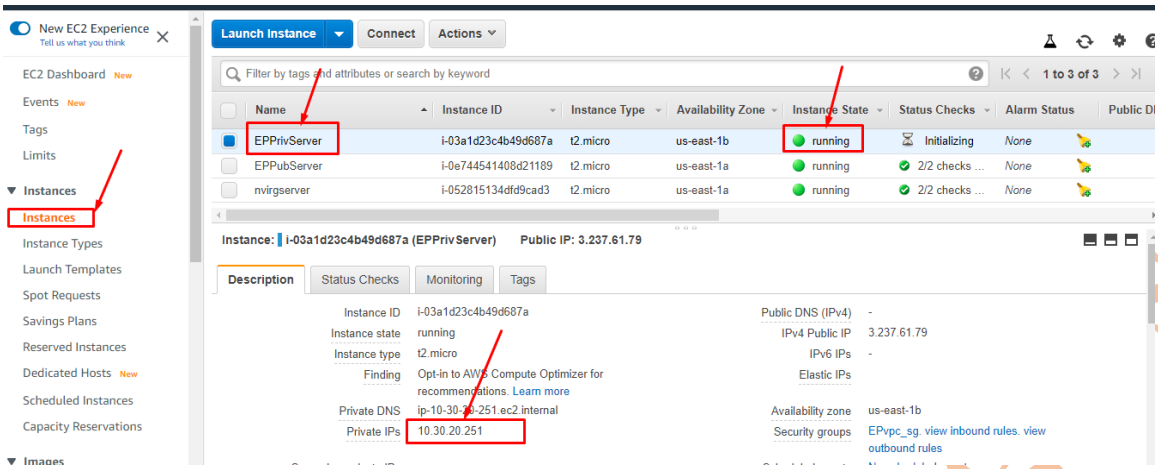
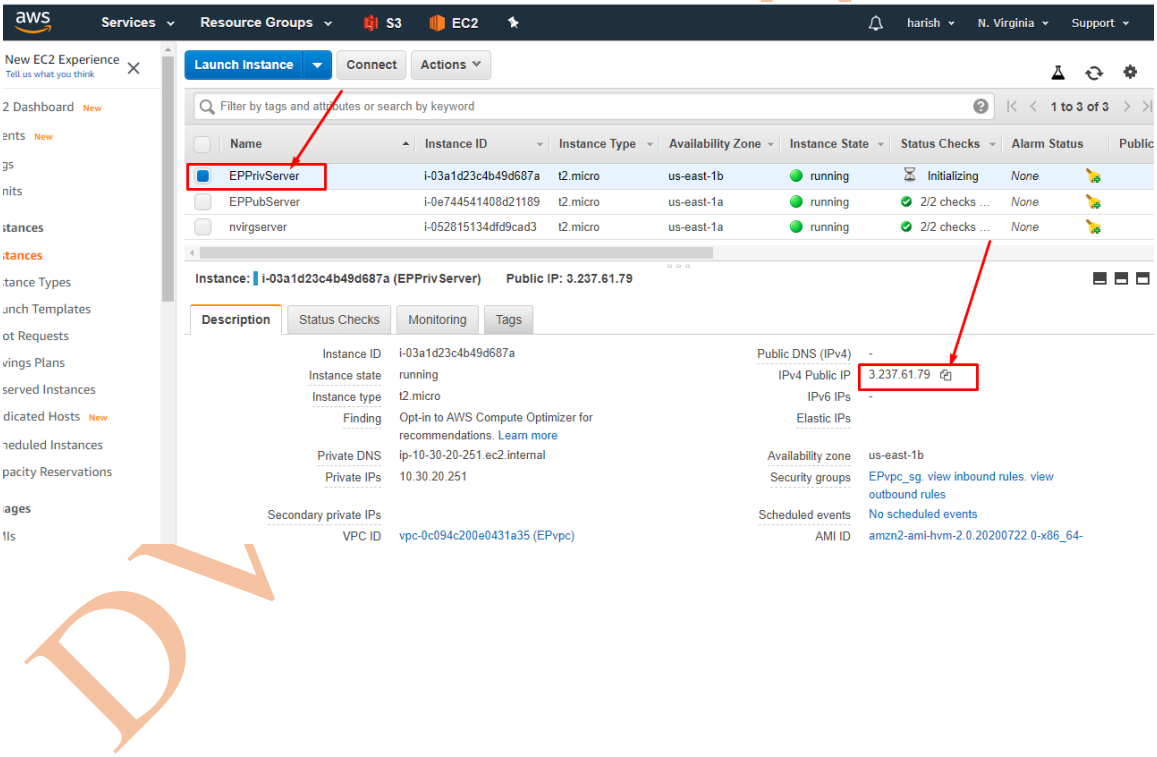


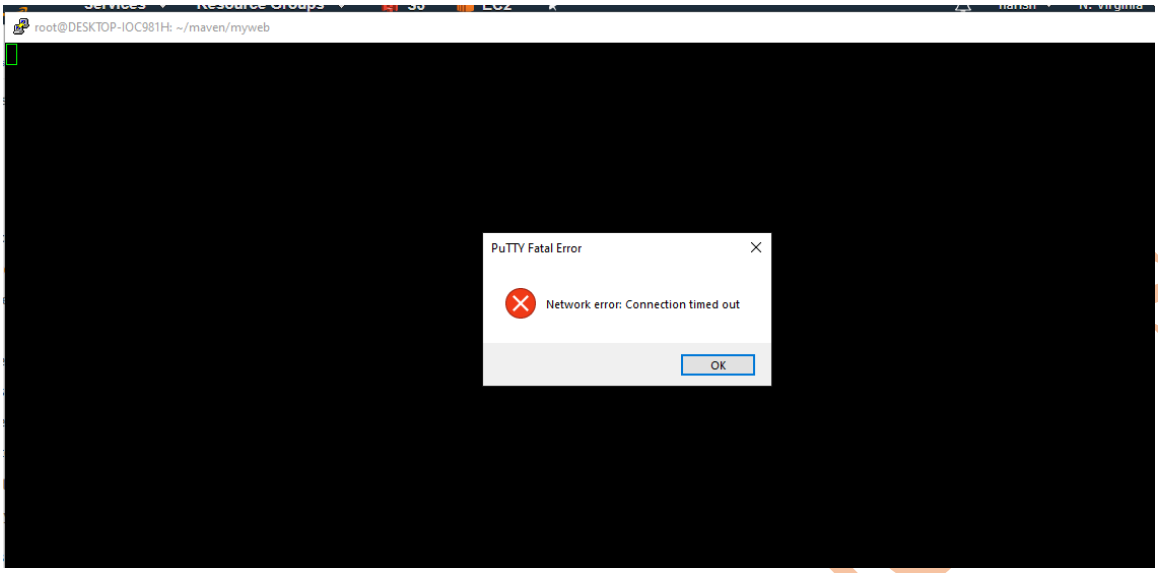


DVS Technologies Aws & Devops

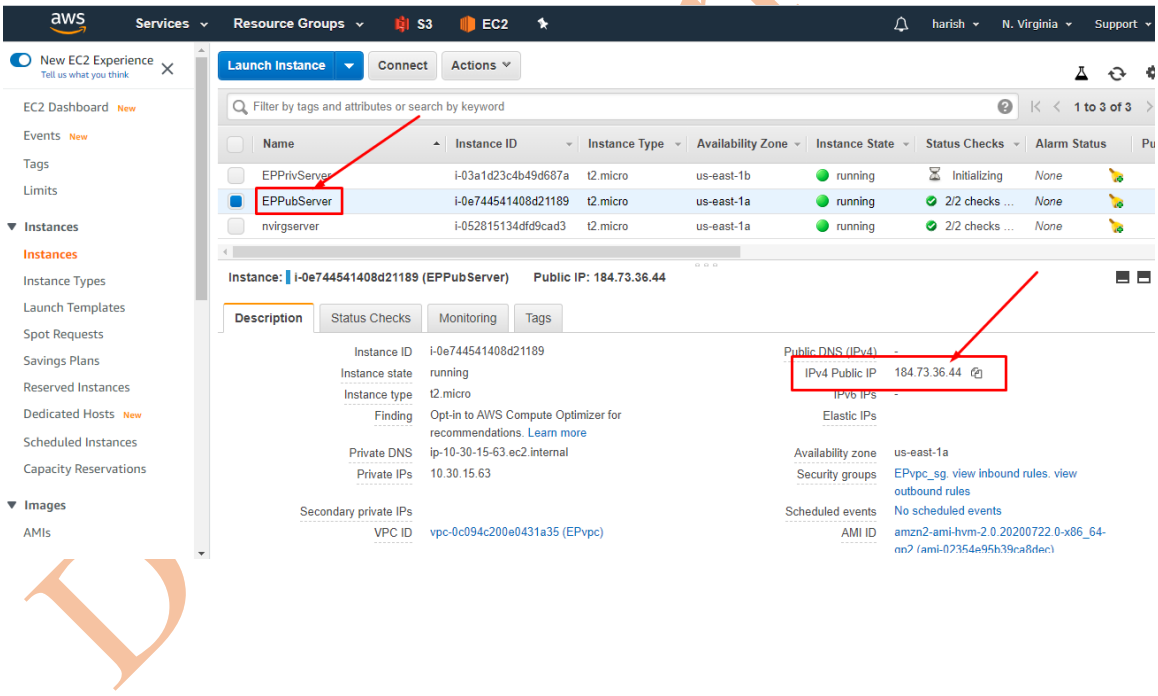


Logging in to Private Server:

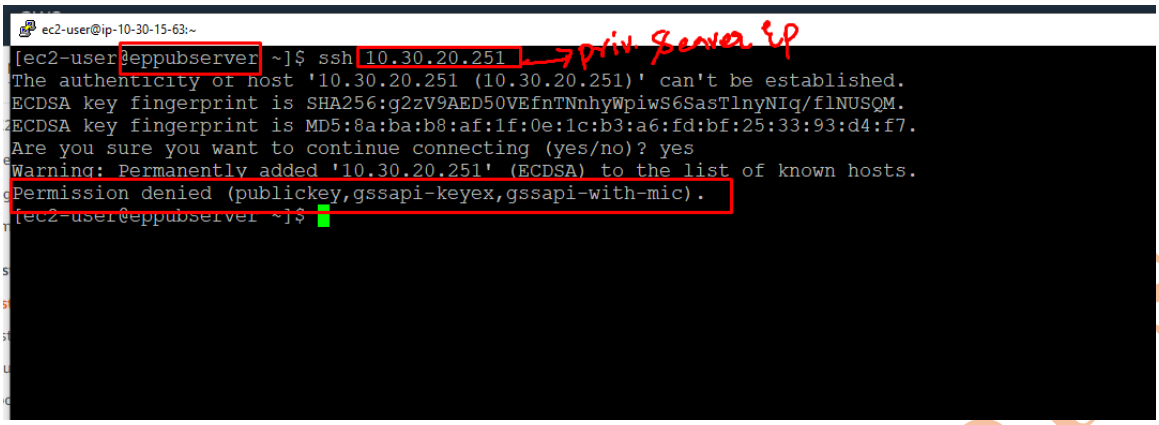


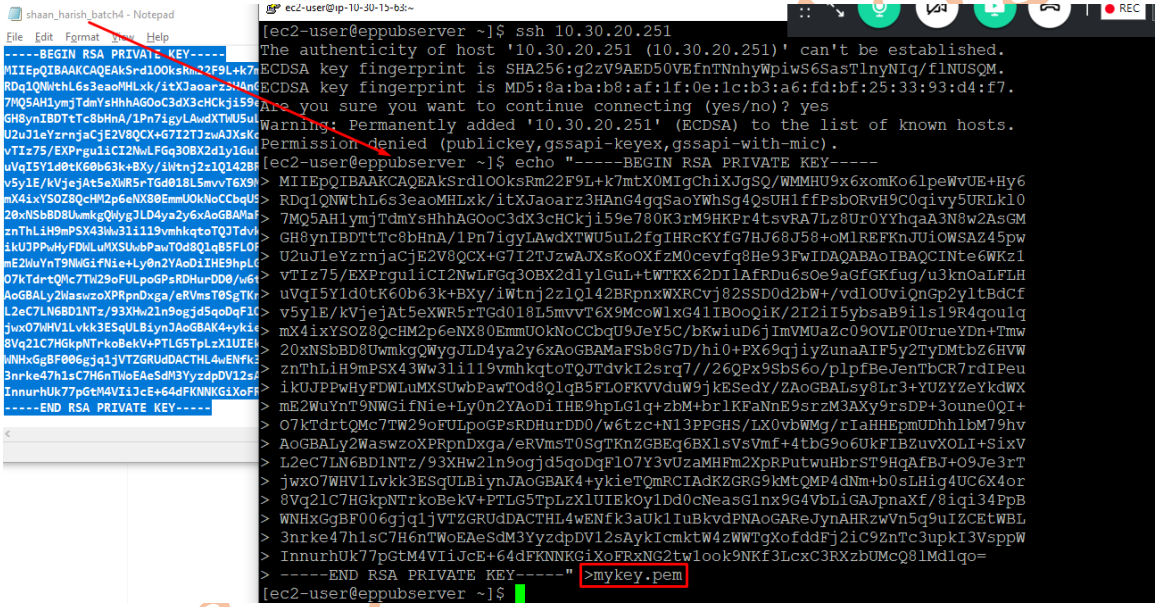


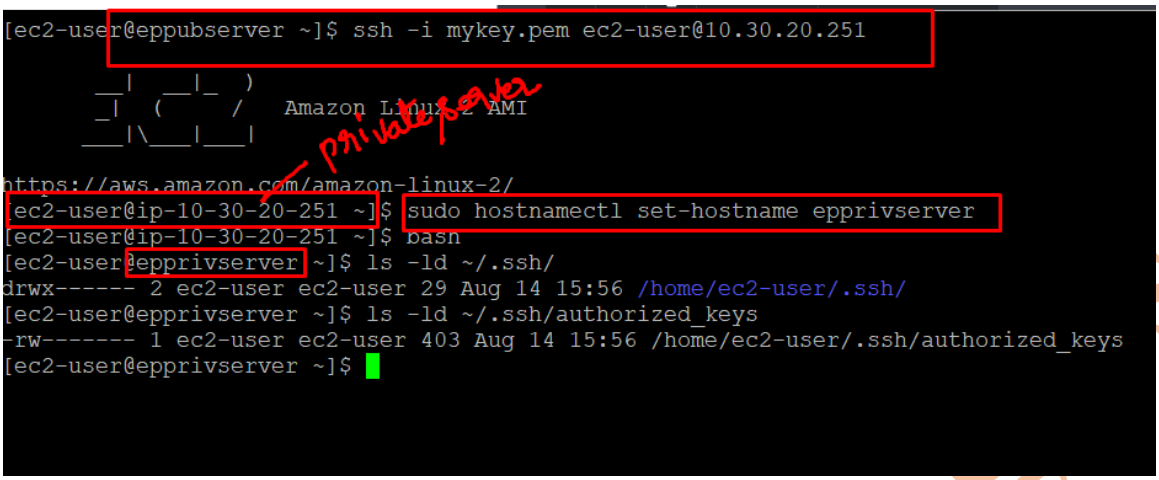
Perform the below to login to private server:

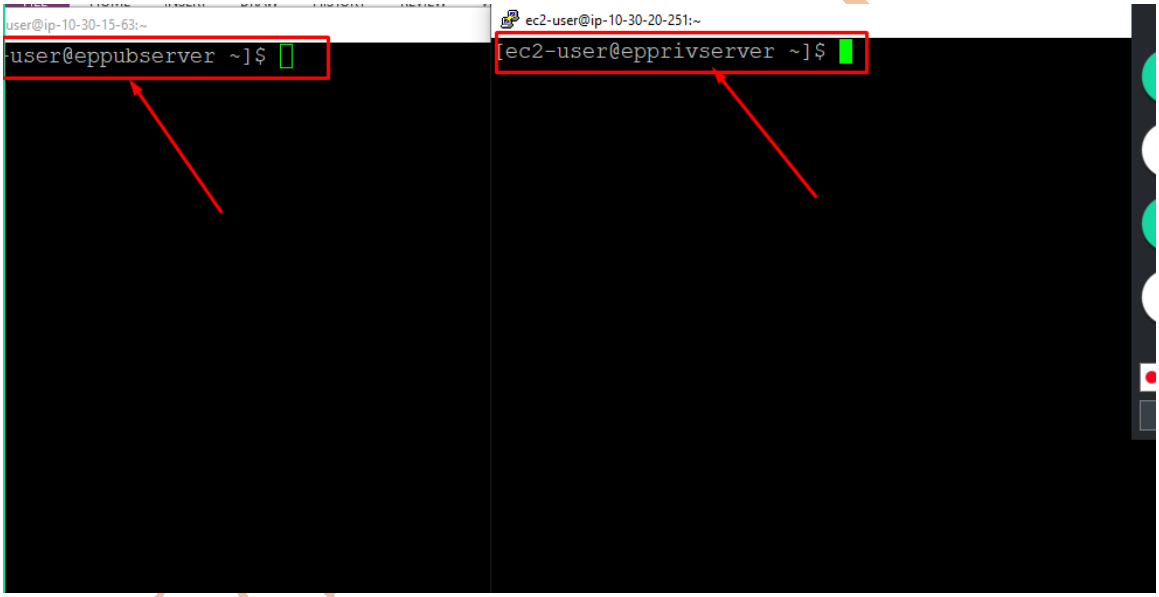


DVS Technologies Aws & Devops









Now let's configure AWS CLI on both the servers:

Generate AWS CLI Tokens:

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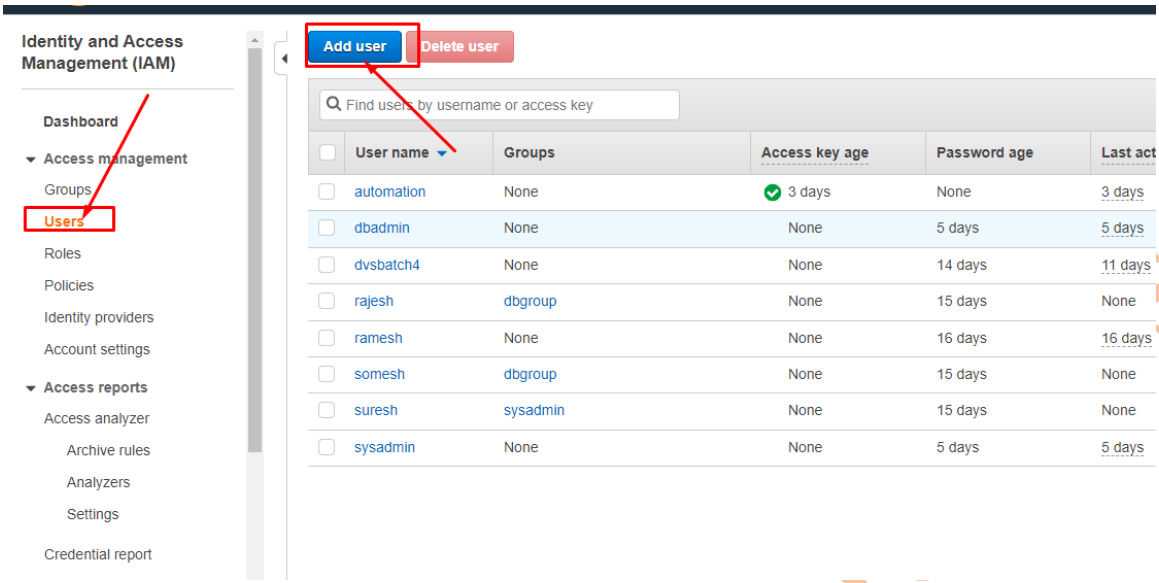
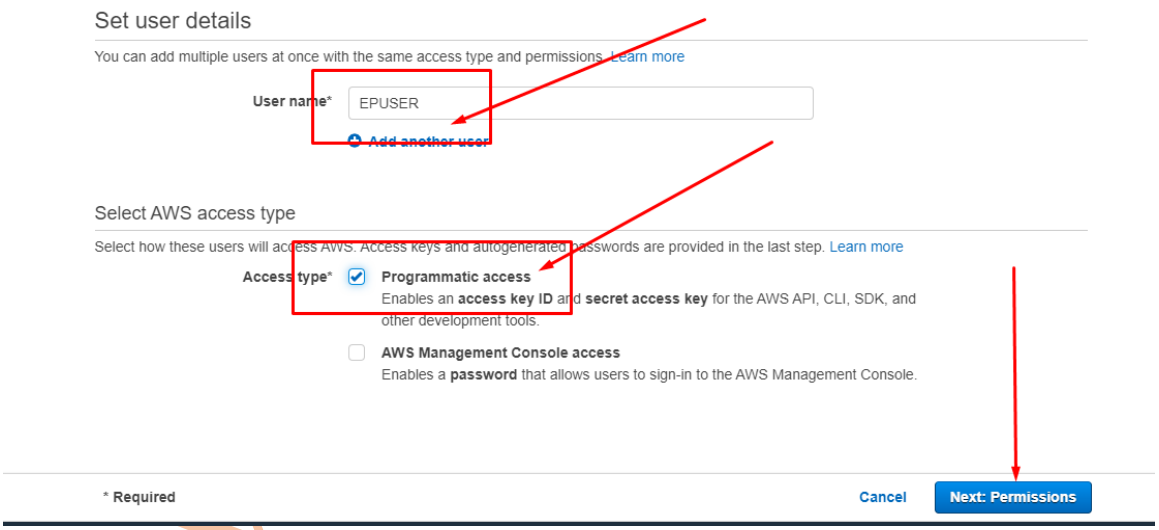
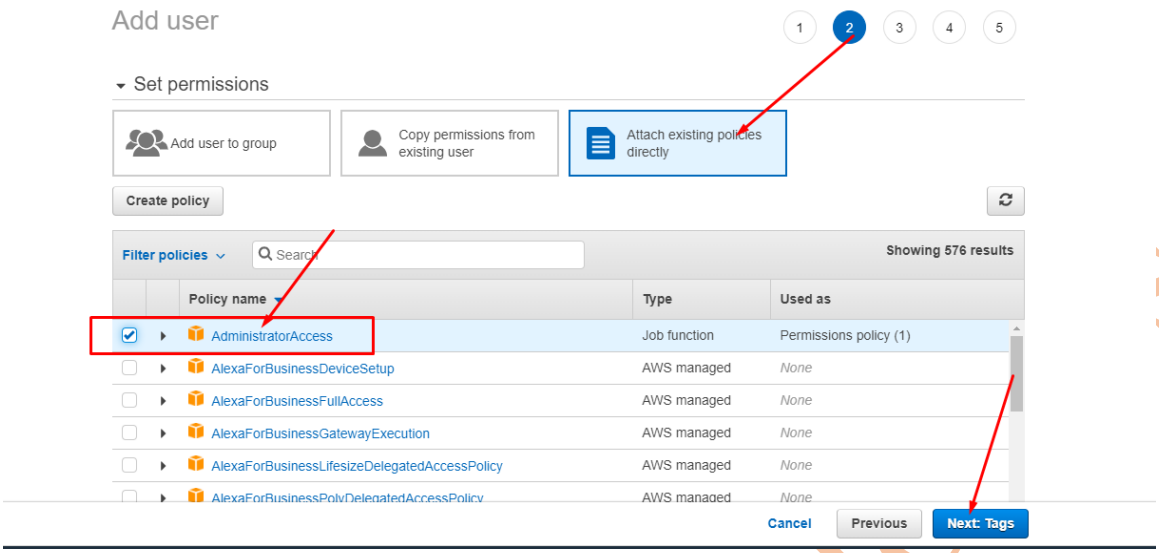
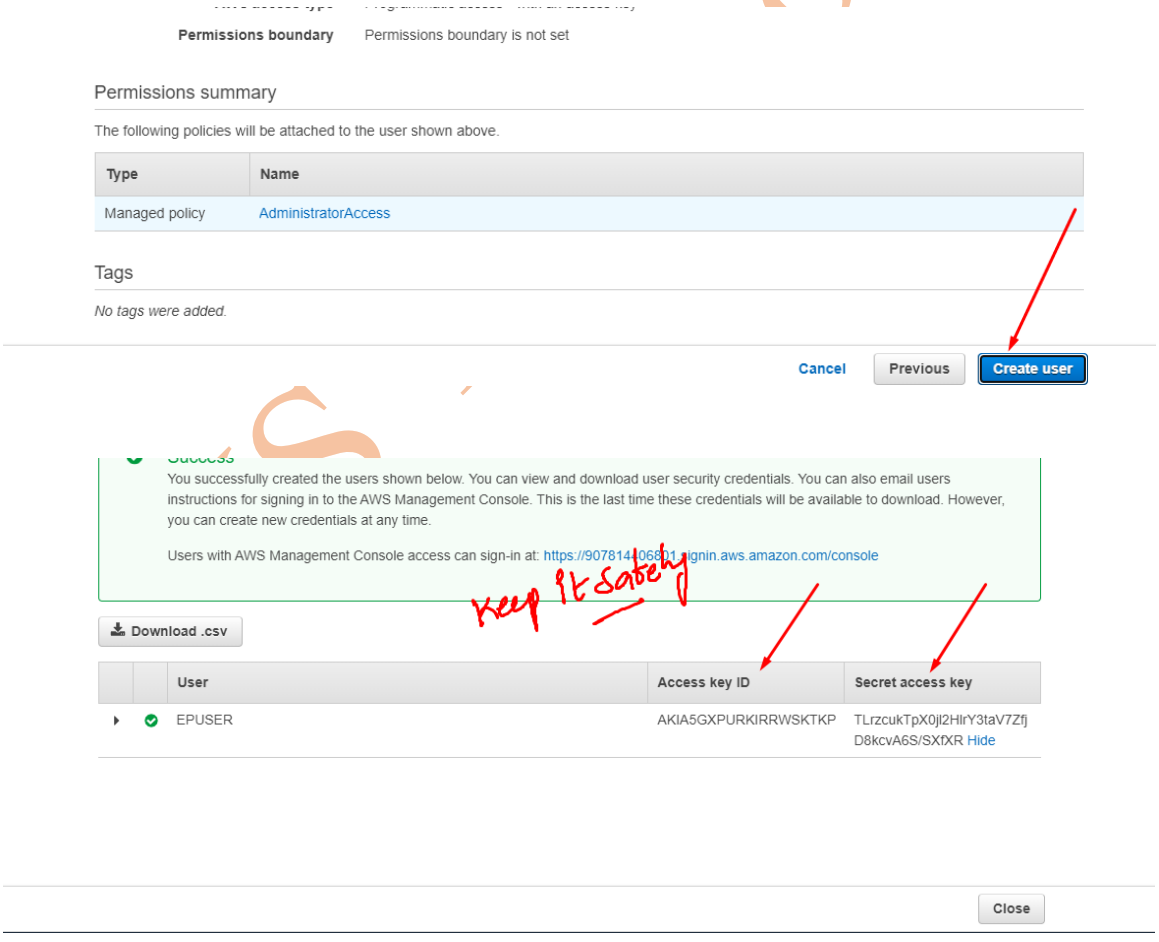


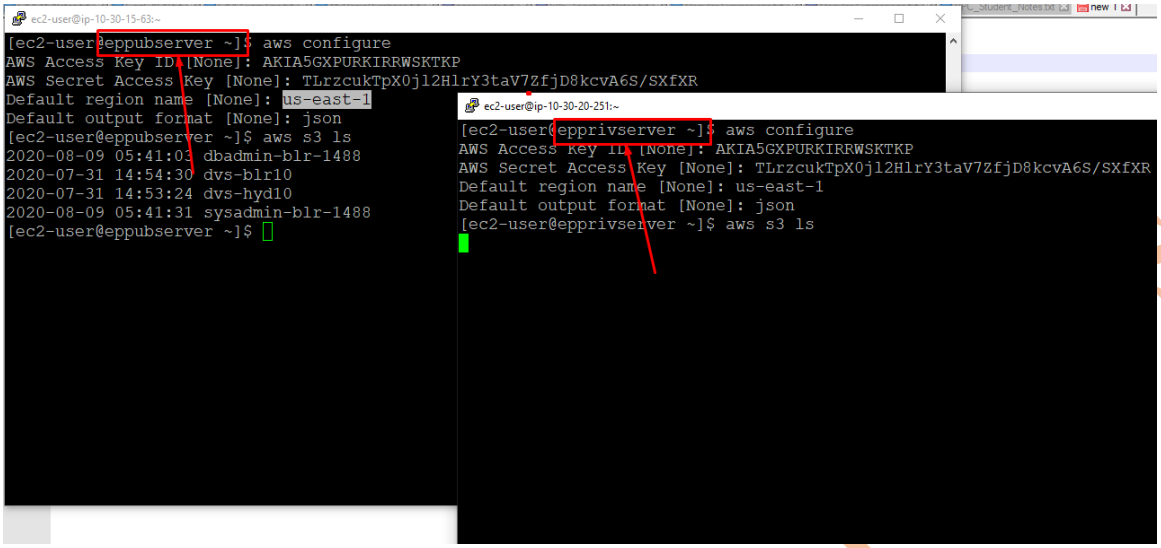


DVS Technologies Aws & Devops

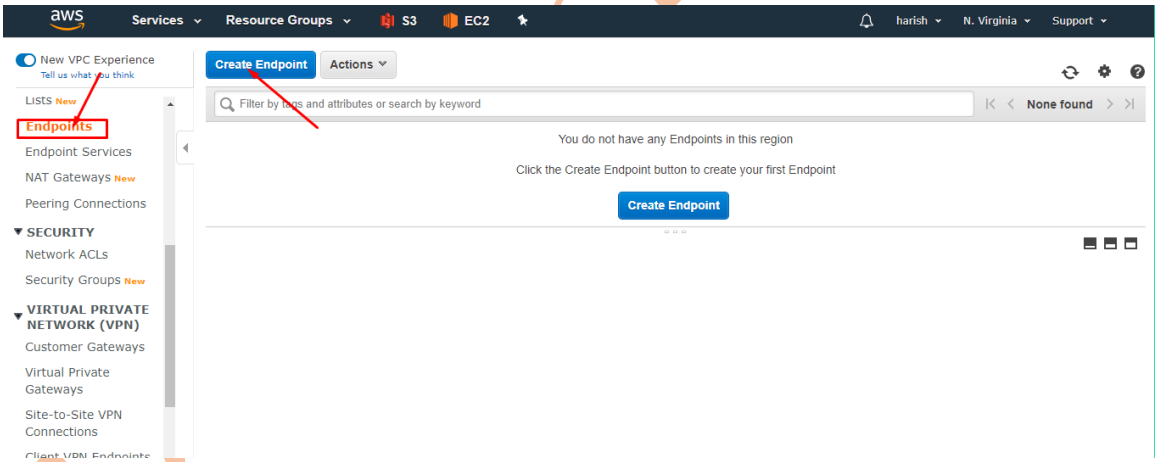




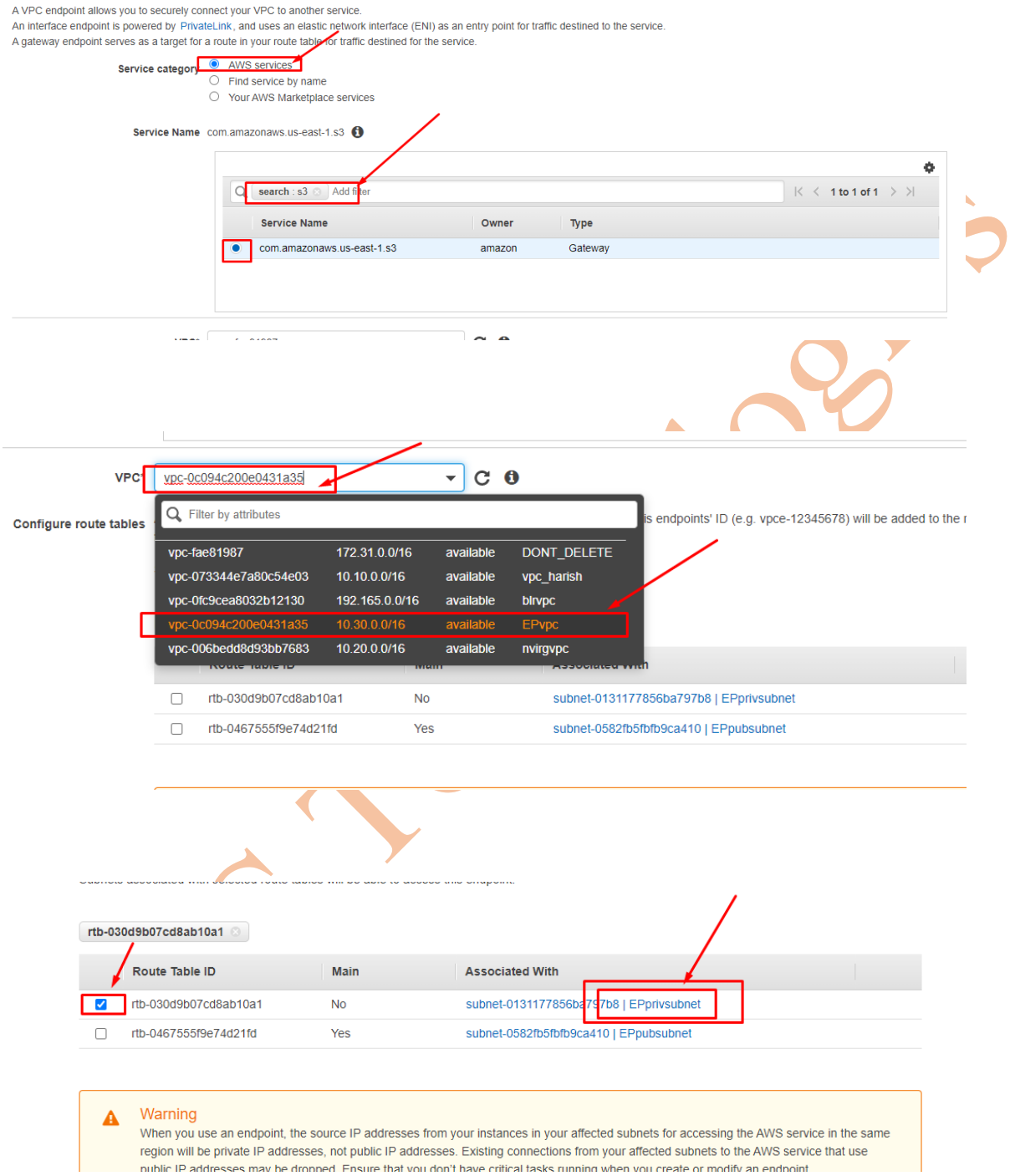
DVS Technologies Aws & Devops



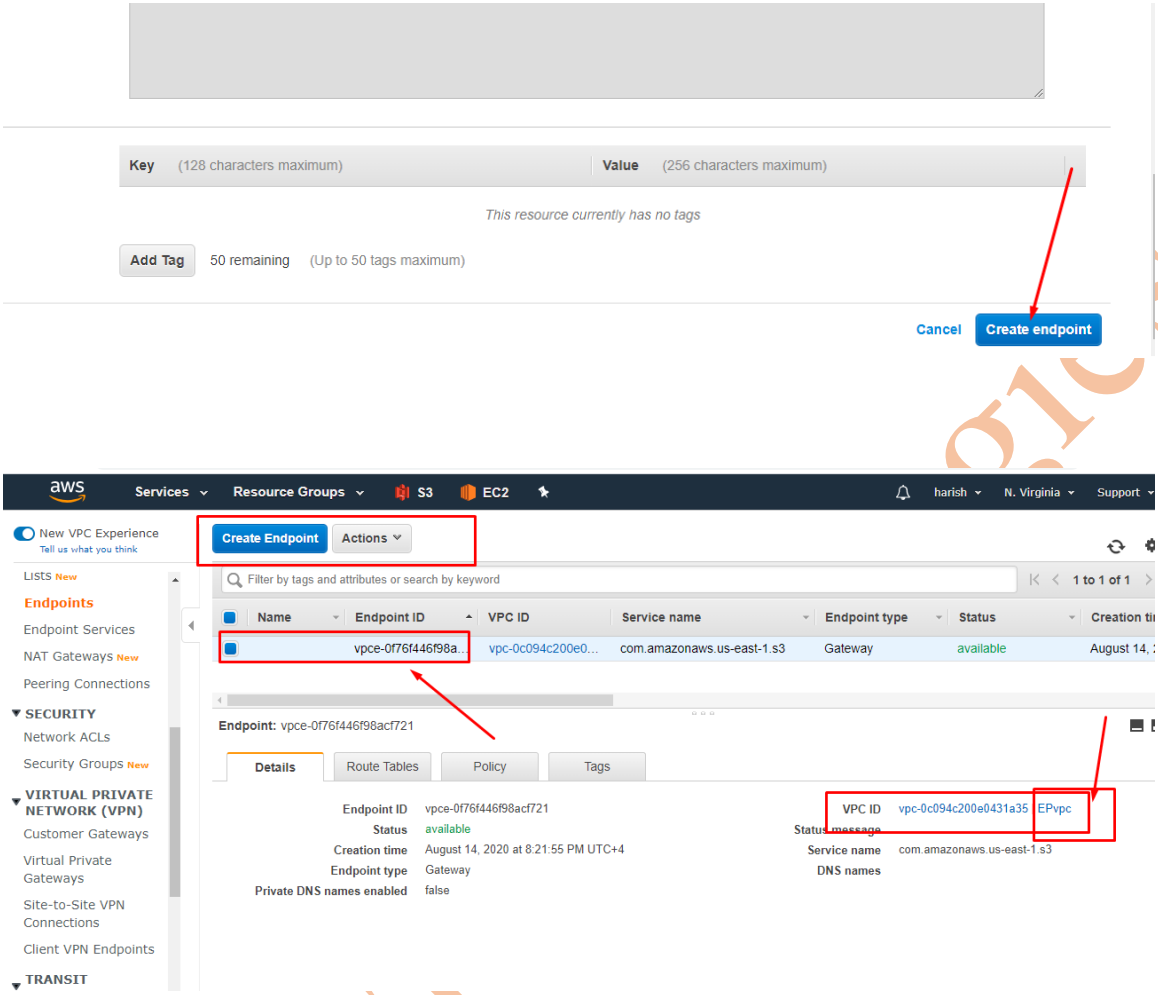
If you observer above we are not getting response from my AWS S3. This is because of Internete connectivity. In order to resolve this we are going to configure our ENDPONIT for private subnet.



DVS Technologies Aws & Devops



DVS Technologies Aws & Devops



DVS Technologies Aws & Devops