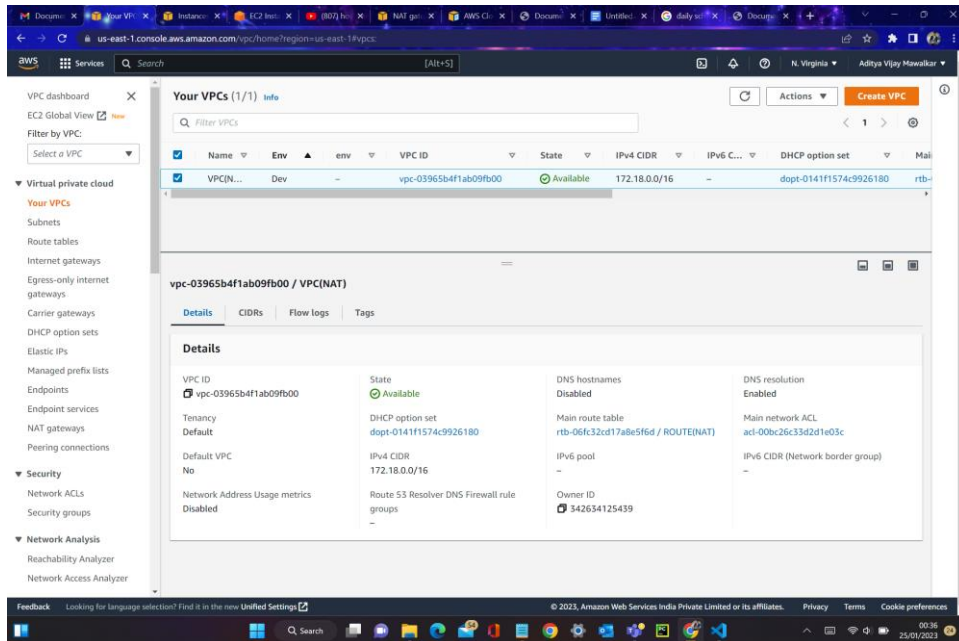


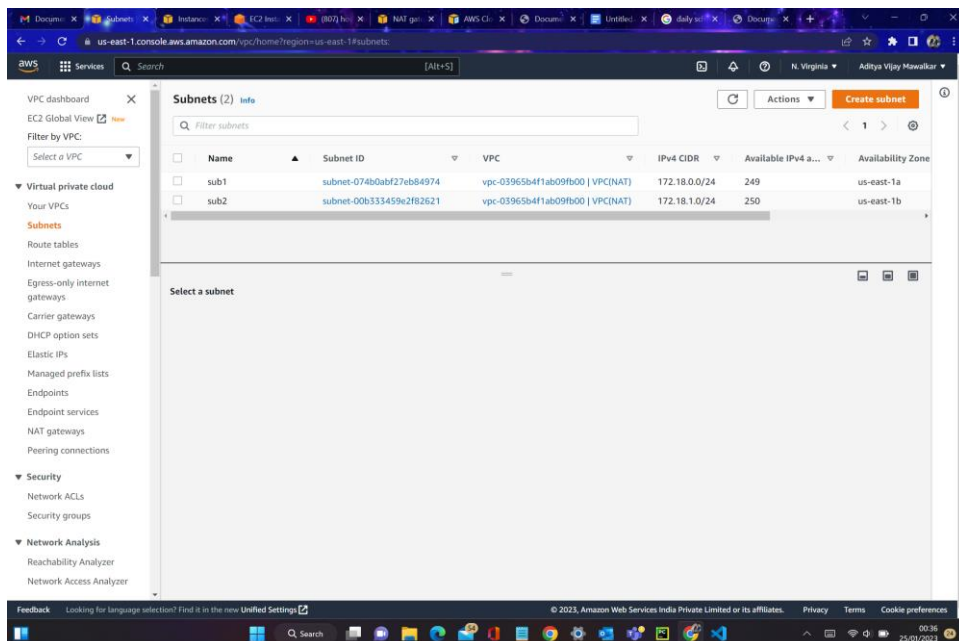
# NAT INSTANCE

## 1) Create a VPC.



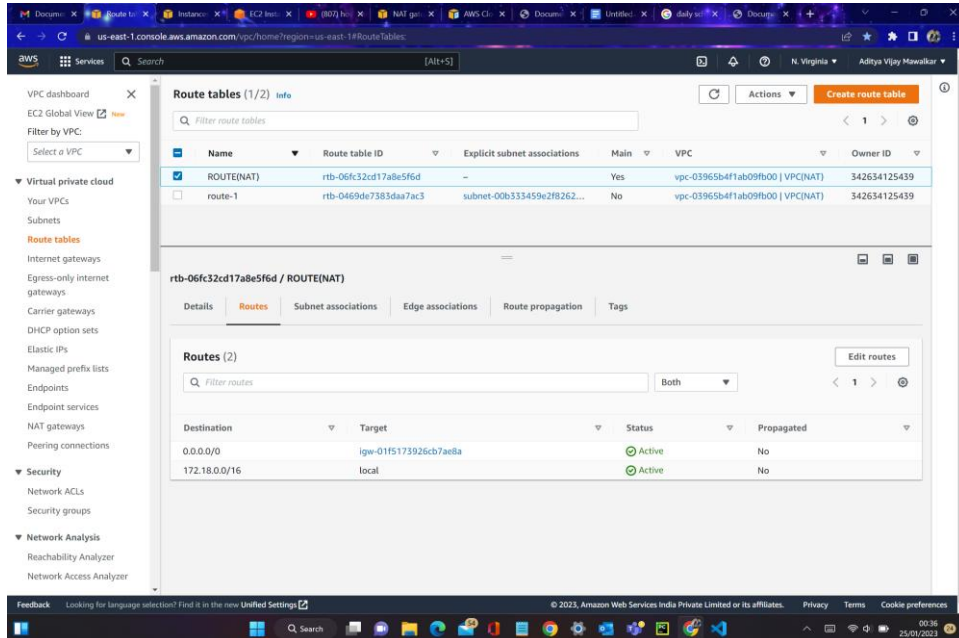
## 2) Create two subnets

- Sub1 = public subnet
- Sub2 = private subnet



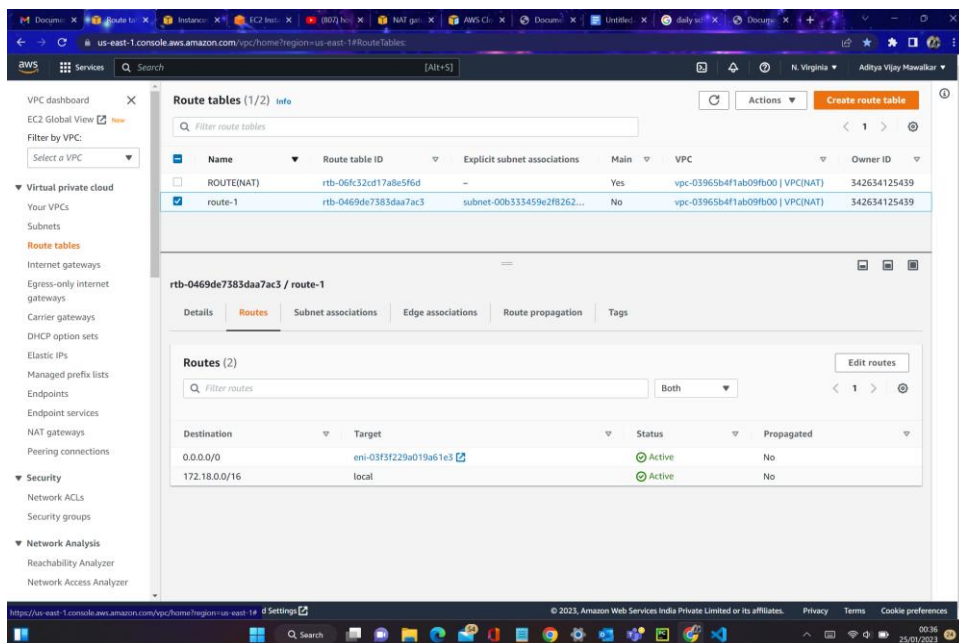
### 3) Default route table

- Add internet gateway to default route table.



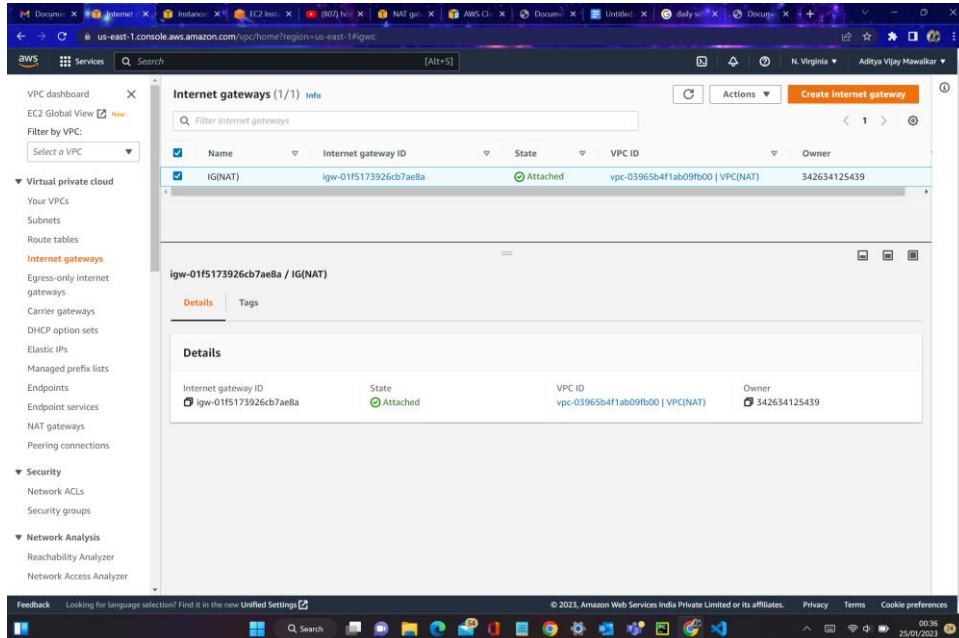
### 4) Create new route table.

- Add 2<sup>nd</sup> subnet in this route table.
- Add Nat instance in this route table.

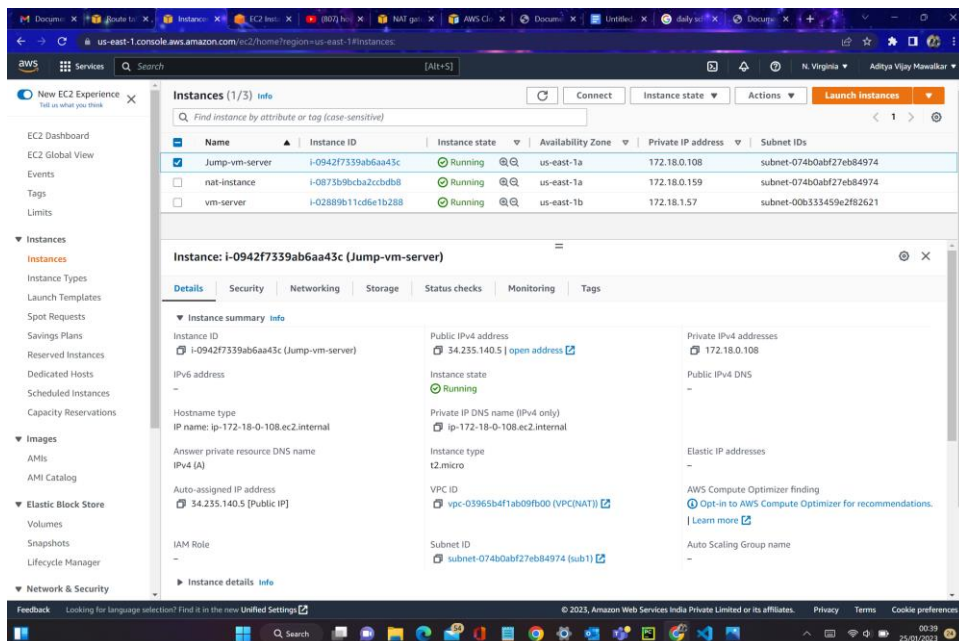


## 5) Create an internet gateway and attach to the VPC.

- Add this internet gateway to default route table.



## 6) Create an public instance (JUMP-VM-SERVER).



## 7) Create a NAT instance.

The screenshot displays the AWS Management Console interface. On the left, the navigation pane shows the 'Instances' section selected. The main content area shows a table of instances with the following data:

Name	Instance ID	Instance state	Availability Zone	Private IP address	Subnet IDs
Jump-vm-server	i-0942f7339ab6aa43c	Running	us-east-1a	172.18.0.108	subnet-074b0abf27eb84974
nat-instance	i-0875b9bcb2ccdbd8	Running	us-east-1a	172.18.0.159	subnet-074b0abf27eb84974
vm-server	i-02889b11cd6e1b288	Running	us-east-1b	172.18.1.57	subnet-00b33459e2f82621

The 'nat-instance' is selected, and its details are shown in the 'Instance: i-0875b9bcb2ccdbd8 (nat-instance)' panel. The details include:

- Instance summary:** Instance ID, Instance type (t2.micro), VPC ID (vpc-03965b4f1ab09fb00), Subnet ID (subnet-074b0abf27eb84974).
- Network:** Public IPv4 address (34.207.59.67), Private IPv4 addresses (172.18.0.159), Elastic IP addresses (none).
- Security:** IAM Role (none).
- Storage:** Auto-assigned IP address (34.207.59.67 [Public IP]).
- Status checks:** All checks are passing.
- Monitoring:** CloudWatch metrics are available.
- Tags:** No tags are present.

## 8) Create a private instance (VM-SERVER).

The screenshot displays the AWS Management Console interface. On the left, the navigation pane shows the 'Instances' section selected. The main content area shows a table of instances with the following data:

Name	Instance ID	Instance state	Availability Zone	Private IP address	Subnet IDs
Jump-vm-server	i-0942f7339ab6aa43c	Running	us-east-1a	172.18.0.108	subnet-074b0abf27eb84974
nat-instance	i-0875b9bcb2ccdbd8	Running	us-east-1a	172.18.0.159	subnet-074b0abf27eb84974
vm-server	i-02889b11cd6e1b288	Running	us-east-1b	172.18.1.57	subnet-00b33459e2f82621

The 'vm-server' is selected, and its details are shown in the 'Instance: i-02889b11cd6e1b288 (vm-server)' panel. The details include:

- Instance summary:** Instance ID, Instance type (t2.micro), VPC ID (vpc-03965b4f1ab09fb00), Subnet ID (subnet-00b33459e2f82621).
- Network:** Public IPv4 address (none), Private IPv4 addresses (172.18.1.57), Elastic IP addresses (none).
- Security:** IAM Role (none).
- Storage:** Auto-assigned IP address (none).
- Status checks:** All checks are passing.
- Monitoring:** CloudWatch metrics are available.
- Tags:** No tags are present.

## 9) Select NAT instance

- Go to action select networking
- Then select change source and destination check
- Then stop the source and destination checking and save

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and the user's name 'Aditya Vijay Mawalkar'. The left sidebar contains navigation links for EC2 Dashboard, Global View, Events, Tags, Limits, Instances, Images, Elastic Block Store, and Network & Security. The main content area displays the 'Instances (1/3)' list. The 'nat-instance' is selected, and the 'Networking' tab is active. The 'Change source/destination check' option is highlighted in the 'Actions' menu. Below the instance list, the 'Instance summary' for 'i-0873b9bcb2ccdbd8 (nat-instance)' is shown, including details like Instance ID, IP addresses, Hostname type, and VPC ID. A modal dialog titled 'Change Source / destination check' is open, explaining the purpose of the check and providing options to 'Stop' or 'Save' the configuration.

**Instances (1/3)**

Name	Instance ID	Instance state	Availability Zone	Private IP address
Jump-vm-server	i-0942f7339ab6aa45c	Running	us-east-1a	172.18.0.108
nat-instance	i-0873b9bcb2ccdbd8	Running	us-east-1a	172.18.0.159
vm-server	i-02889b11c6fe1b288	Running	us-east-1a	172.18.0.157

**Instance: i-0873b9bcb2ccdbd8 (nat-instance)**

**Instance summary**

Instance ID: i-0873b9bcb2ccdbd8 (nat-instance)  
IPV6 address: -  
Hostname type: IP name: ip-172-18-0-159.ec2.internal  
Answer private resource DNS name: IPv4 (A)  
Auto-assigned IP address: 34.207.59.67 [Public IP]  
IAM Role: -

Public IPv4 address: 34.207.59.67 | [open address](#)  
Instance state: Running  
Private IP DNS name (IPv4 only): ip-172-18-0-159.ec2.internal  
Instance type: t2.micro  
VPC ID: vpc-03965b4f1ab09fb00 (VPC(NAT))  
Subnet ID: subnet-074b0abf27eb84974 (sub1)

Private IPv4 addresses: 172.18.0.159  
Public IPv4 DNS: -  
Elastic IP addresses: -  
AWS Compute Optimizer finding: [Opt-in to AWS Compute Optimizer for recommendations.](#) | [Learn more](#)  
Auto Scaling Group name: -

**Change Source / destination check**

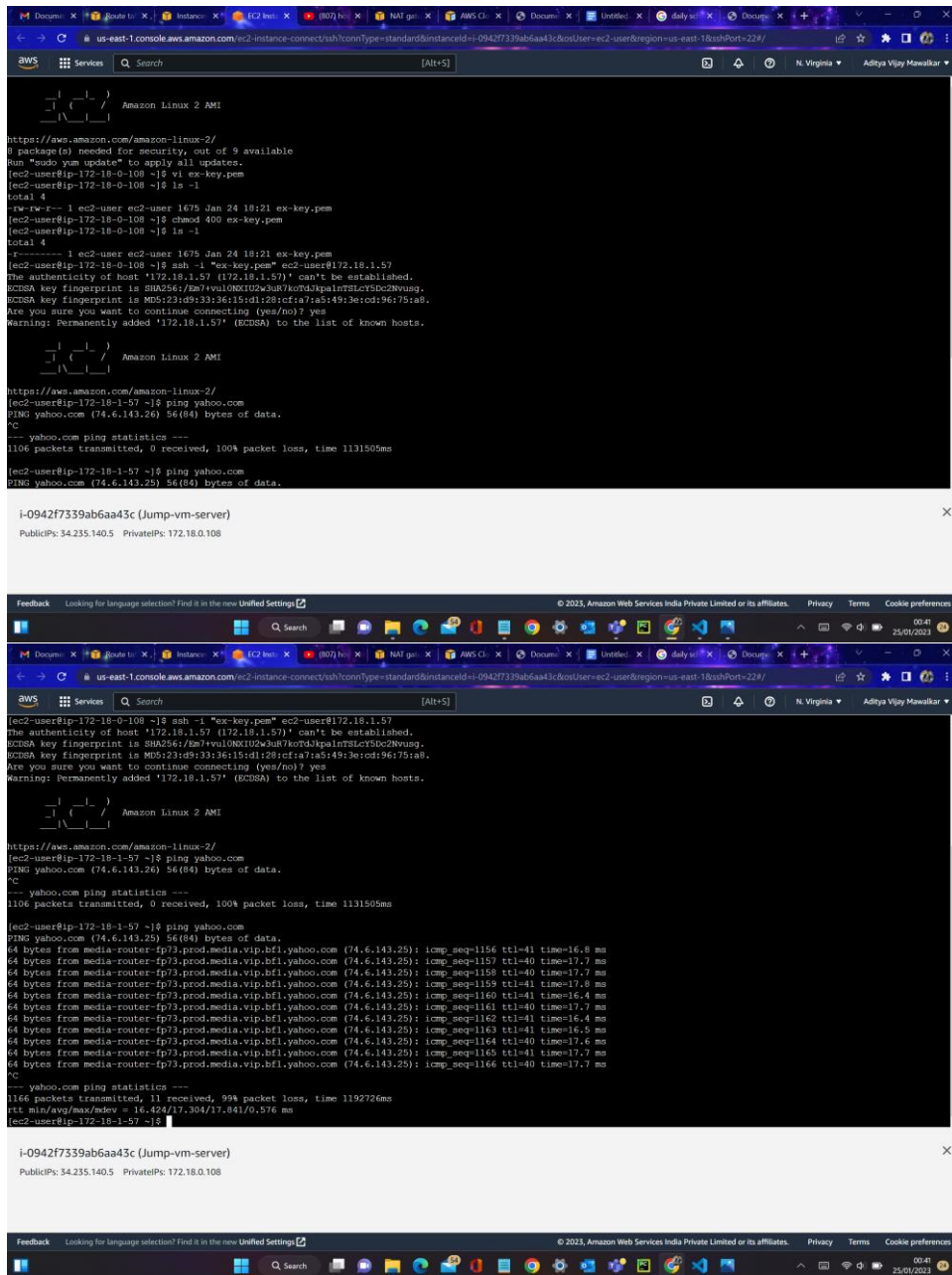
The source / destination check ensures that the instance is the source or destination of all the traffic it sends and receives. Each EC2 instance performs source and destination checks by default. [Learn more](#)

Instance ID: i-0873b9bcb2ccdbd8 (nat-instance)  
Network interface: eni-03f3f229a019a61e3  
Source / destination checking: ☒ Stop  
☐ Stop

[Cancel](#) [Save](#)



## 10) Connecting to private instance through public subnet and ping yahoo.com



```
us-east-1:console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0942f733bab6aa43c&osUser=ec2-user&region=us-east-1&sshPort=22/

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
0 package(s) needed for security, out of 9 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-18-0-108 ~]$ vi ex-key.pem
[ec2-user@ip-172-18-0-108 ~]$ ls -l
total 4
-rw-r--r-- 1 ec2-user ec2-user 1675 Jan 24 18:21 ex-key.pem
[ec2-user@ip-172-18-0-108 ~]$ chmod 400 ex-key.pem
[ec2-user@ip-172-18-0-108 ~]$ ls -l
total 4
-rw-r--r-- 1 ec2-user ec2-user 1675 Jan 24 18:21 ex-key.pem
[ec2-user@ip-172-18-0-108 ~]$ ssh -i "ex-key.pem" ec2-user@172.18.1.57
The authenticity of host '172.18.1.57 (172.18.1.57)' can't be established.
ECDSA key fingerprint is SHA256:/Bw7vulONkU02w3u87koTj3paltTSLc5Dc2Nvuug.
ECDSA key fingerprint is MD5:23:d9:33:36:15:d1:28:cfa7:a5:49:3e:cd:96:75:a8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.18.1.57' (ECDSA) to the list of known hosts.

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-18-1-57 ~]$ ping yahoo.com
PING yahoo.com (74.6.143.26) 56(84) bytes of data.
^C
--- yahoo.com ping statistics ---
1106 packets transmitted, 0 received, 100% packet loss, time 1131505ms

[ec2-user@ip-172-18-1-57 ~]$ ping yahoo.com
PING yahoo.com (74.6.143.25) 56(84) bytes of data.

i-0942f733bab6aa43c (Jump-vm-server)
PublicIp: 34.235.140.5 PrivateIp: 172.18.0.108

Feedback Looking for language selection? Find it in the new Unified Settings
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us-east-1:console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0942f733bab6aa43c&osUser=ec2-user&region=us-east-1&sshPort=22/

[ec2-user@ip-172-18-0-108 ~]$ ssh -i "ex-key.pem" ec2-user@172.18.1.57
The authenticity of host '172.18.1.57 (172.18.1.57)' can't be established.
ECDSA key fingerprint is SHA256:/Bw7vulONkU02w3u87koTj3paltTSLc5Dc2Nvuug.
ECDSA key fingerprint is MD5:23:d9:33:36:15:d1:28:cfa7:a5:49:3e:cd:96:75:a8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.18.1.57' (ECDSA) to the list of known hosts.

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-18-1-57 ~]$ ping yahoo.com
PING yahoo.com (74.6.143.26) 56(84) bytes of data.
^C
--- yahoo.com ping statistics ---
1106 packets transmitted, 0 received, 100% packet loss, time 1131505ms

[ec2-user@ip-172-18-1-57 ~]$ ping yahoo.com
PING yahoo.com (74.6.143.25) 56(84) bytes of data.
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1156 ttl=41 time=16.8 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1157 ttl=40 time=17.7 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1158 ttl=40 time=17.7 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1159 ttl=41 time=17.8 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1160 ttl=41 time=16.4 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1161 ttl=40 time=17.7 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1162 ttl=41 time=16.4 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1163 ttl=41 time=16.5 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1164 ttl=40 time=17.6 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1165 ttl=41 time=17.7 ms
64 bytes from media-router-fp73.prod.media.vip.bf1.yahoo.com (74.6.143.25): icmp_seq=1166 ttl=40 time=17.7 ms
^C
--- yahoo.com ping statistics ---
1166 packets transmitted, 11 received, 99% packet loss, time 1192726ms
rtt min/avg/max/mdev = 16.424/17.304/17.841/0.576 ms
[ec2-user@ip-172-18-1-57 ~]$
```