

## Creating a custom VPC called owncloud-vpc

The screenshot displays the AWS Management Console VPC Dashboard. The left sidebar shows navigation options: VPC Dashboard, Filter by VPC, Virtual Private Cloud, Your VPCs, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Endpoints, Endpoint Services, NAT Gateways, Peering Connections, and Security. The main content area shows a list of VPCs with columns: Name, VPC ID, State, IPv4 CIDR, IPv6 CIDR, DHCP options set, Route table, and Network ACL. Two VPCs are listed: 'owncloud-vpc' (vpc-0723caf8b1f4cd471) and 'vpc-e9f9e992'. The 'owncloud-vpc' is selected, and its details are shown below, including the 'CIDR Blocks' tab with a table showing the CIDR block 10.0.0.0/16 is associated.

VPC Dashboard

Filter by VPC: Select a VPC

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Security

Create VPC Actions

Search VPCs and their properties

<< 1 to 2 of 2 VPCs >>

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Route table	Network ACL
owncloud-vpc	vpc-0723caf8b1f4cd471	available	10.0.0.0/16		dopt-918331ea	rtb-01f2184d8c...	acl-00bf2a67ed7a0a51
vpc-e9f9e992	vpc-e9f9e992	available	172.31.0.0/16		dopt-918331ea	rtb-d8b17fa7	acl-4dfd8137

vpc-0723caf8b1f4cd471 | owncloud-vpc

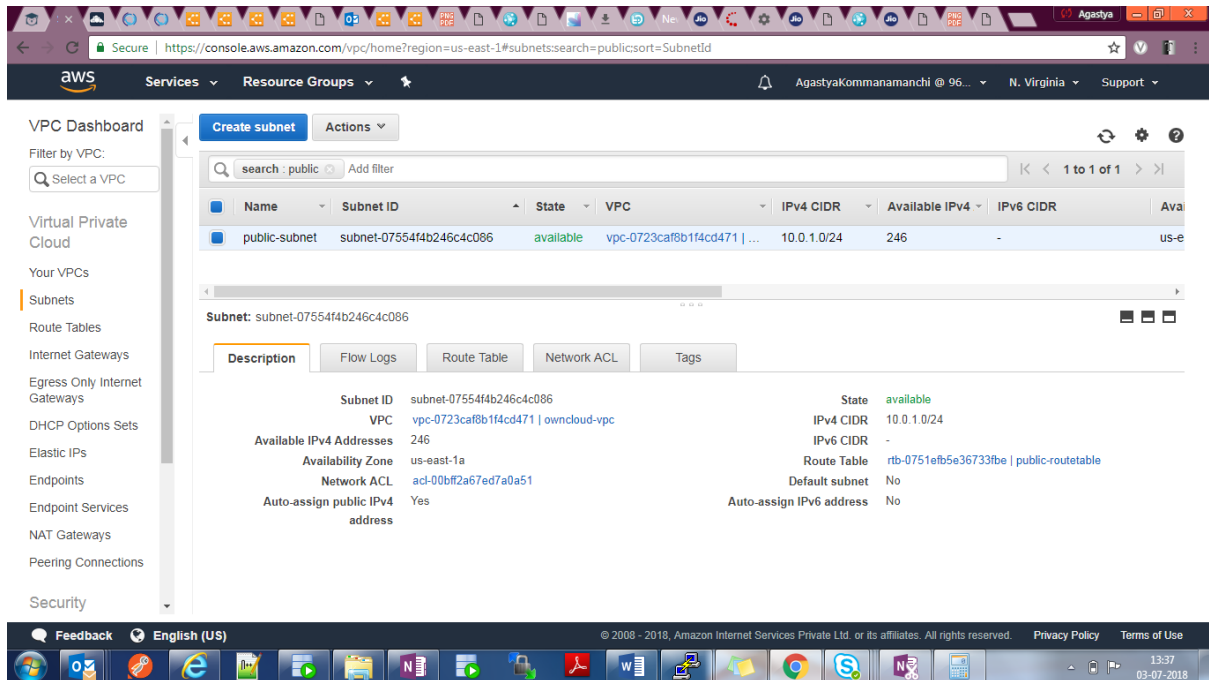
Summary CIDR Blocks Flow Logs Tags

CIDR	Status	Status Reason
10.0.0.0/16	associated	

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## Implement 2 different subnets (one public and the other private) in a custom VPC called owncloud-VPC

### Public Subnet:

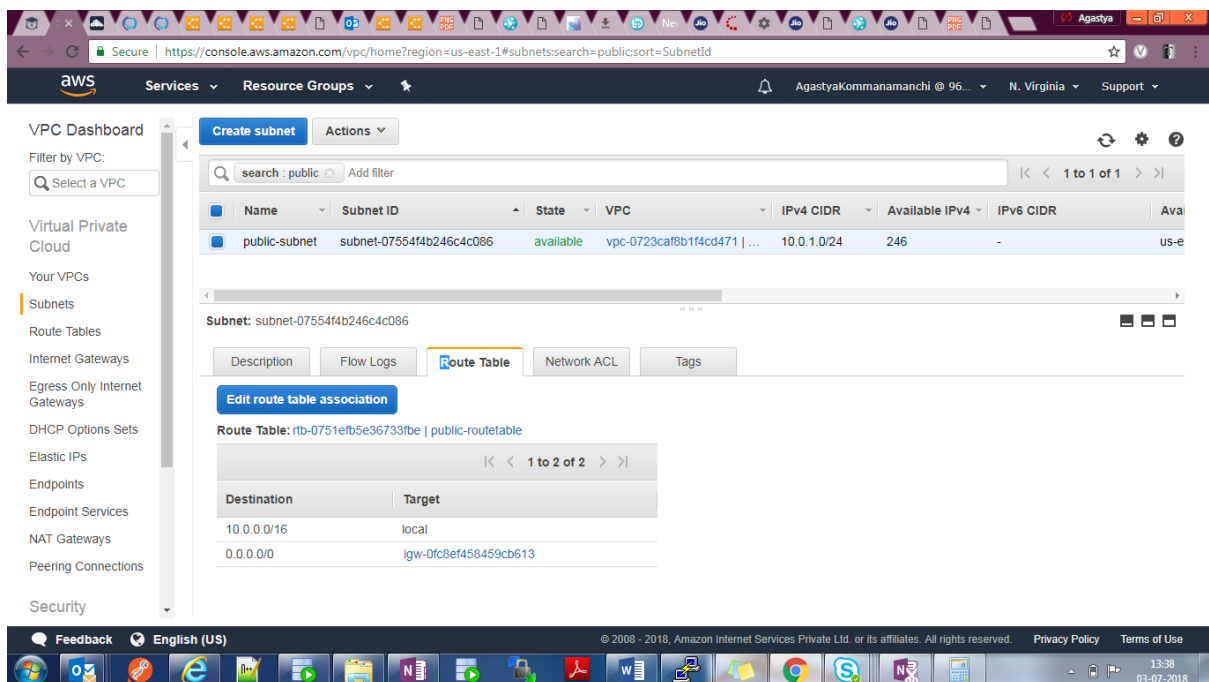


The screenshot shows the AWS VPC console interface. The left sidebar contains navigation links for VPC Dashboard, Virtual Private Cloud, Your VPCs, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Endpoints, Endpoint Services, NAT Gateways, Peering Connections, and Security. The main content area displays the details for the subnet 'subnet-07554f4b246c4c086'. The subnet is associated with the VPC 'vpc-0723caf8b1f4cd471 | owncloud-vpc' and is in the 'available' state. The IPv4 CIDR is '10.0.1.0/24' and the Available IPv4 addresses are 246. The subnet is located in the 'us-east-1a' Availability Zone. The Network ACL is 'acl-00b0f2a67ed7a0a51'. The subnet is configured with 'Auto-assign public IPv4 address' set to 'Yes' and 'Auto-assign IPv6 address' set to 'No'. The Route Table is 'rtb-0751efb5e36733f8e | public-routetable'.

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Availability Zone
public-subnet	subnet-07554f4b246c4c086	available	vpc-0723caf8b1f4cd471   ...	10.0.1.0/24	246	-	us-east-1a

**Subnet: subnet-07554f4b246c4c086**

Property	Value
Subnet ID	subnet-07554f4b246c4c086
VPC	vpc-0723caf8b1f4cd471   owncloud-vpc
State	available
IPv4 CIDR	10.0.1.0/24
IPv6 CIDR	-
Available IP Addresses	246
Availability Zone	us-east-1a
Network ACL	acl-00b0f2a67ed7a0a51
Route Table	rtb-0751efb5e36733f8e   public-routetable
Default subnet	No
Auto-assign public IPv4 address	Yes
Auto-assign IPv6 address	No



The screenshot shows the AWS VPC console interface, specifically the 'Route Table' tab for the subnet 'subnet-07554f4b246c4c086'. The route table is associated with the VPC 'vpc-0723caf8b1f4cd471 | owncloud-vpc' and is in the 'available' state. The route table is configured with two routes: one for the destination '10.0.0.0/16' with the target 'local', and another for the destination '0.0.0.0/0' with the target 'lgw-0fc8ef458459cb613'.

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Availability Zone
public-subnet	subnet-07554f4b246c4c086	available	vpc-0723caf8b1f4cd471   ...	10.0.1.0/24	246	-	us-east-1a

**Subnet: subnet-07554f4b246c4c086**

**Route Table: rtb-0751efb5e36733f8e | public-routetable**

Destination	Target
10.0.0.0/16	local
0.0.0.0/0	lgw-0fc8ef458459cb613

## Private Subnet:

The screenshot displays the AWS Management Console interface for a Private Subnet. The top navigation bar shows the user is logged in as 'AgastyaKommanamanchi' in the 'N. Virginia' region. The left sidebar contains various AWS services, with 'Subnets' highlighted under the 'Virtual Private Cloud' section. The main content area shows a list of subnets with a search filter set to 'private'. A table lists the subnets, with the selected subnet 'private-subnet' (ID: subnet-0d06dbcb14540df27) highlighted. Below the table, the 'Description' tab for this subnet is active, showing details such as Subnet ID, VPC, State, Available IPv4 Addresses, Availability Zone, Network ACL, Auto-assign public IPv4 address, IPv4 CIDR, IPv6 CIDR, Route Table, Default subnet, and Auto-assign IPv6 address.

**VPC Dashboard**

Filter by VPC:

Virtual Private Cloud

Your VPCs

**Subnets**

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Security

**Create subnet** **Actions**

search: private Add filter

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Ava
private-subnet	subnet-0d06dbcb14540df27	available	vpc-0723caf8b1f4cd471   ...	10.0.2.0/24	248	-	us-e

**Subnet: subnet-0d06dbcb14540df27**

**Description** **Flow Logs** **Route Table** **Network ACL** **Tags**

Subnet ID: subnet-0d06dbcb14540df27 State: available

VPC: vpc-0723caf8b1f4cd471 | owncloud-vpc IPv4 CIDR: 10.0.2.0/24

Available IPv4 Addresses: 248 IPv6 CIDR: -

Availability Zone: us-east-1b Route Table: rtb-01f2184d8cd820d1c

Network ACL: acl-00bfb2a67ed7a0a51 Default subnet: No

Auto-assign public IPv4 address: No Auto-assign IPv6 address: No

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## Internet Gateway:

The screenshot shows the AWS VPC console interface. The left sidebar contains navigation links for VPC Dashboard, Virtual Private Cloud, Your VPCs, Subnets, Route Tables, Internet Gateways (highlighted), Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Endpoints, Endpoint Services, NAT Gateways, Peering Connections, and Security. The main content area displays the 'Internet gateway: igw-0fc8ef458459cb613'. A table lists the gateway with columns: Name (public-igw), ID (igw-0fc8ef458459cb613), State (attached), and VPC (vpc-0723caf8b1f4...). Below the table, the 'Description' tab is active, showing the gateway's ID and state. The 'Tags' tab is also visible. The top navigation bar includes 'Services', 'Resource Groups', and user information. The bottom status bar shows the date and time.

Name	ID	State	VPC
public-igw	igw-0fc8ef458459cb613	attached	vpc-0723caf8b1f4...

Internet gateway: igw-0fc8ef458459cb613

**Description** | Tags

ID: igw-0fc8ef458459cb613  
State: attached  
Attached VPC ID: vpc-0723caf8b1f4cd471 | owncloud-vpc

## NAT Gateway:

The screenshot shows the AWS VPC console interface for a NAT Gateway. The left sidebar is the same as the previous screenshot, with 'NAT Gateways' highlighted. The main content area displays the 'NAT Gateway: nat-06789d0ce474280df'. A table lists the gateway with columns: Name, NAT Gateway ID, Status, Status Message, Elastic IP Address, Private IP Address, Network Interface, and VPC. Below the table, the 'Details' tab is active, showing the gateway's ID, status, and associated resources. The 'Monitoring' and 'Tags' tabs are also visible. The top navigation bar and bottom status bar are consistent with the previous screenshot.

Name	NAT Gateway ID	Status	Status Message	Elastic IP Address	Private IP Address	Network Interface	VPC
	nat-06789d0ce47...	available	-	35.170.88.179	10.0.1.33	eni-5a3f8bf9	vpc-0723...

NAT Gateway: nat-06789d0ce474280df

**Details** | Monitoring | Tags

NAT Gateway ID: nat-06789d0ce474280df  
Status: available  
Status Message: -  
Elastic IP Address: 35.170.88.179  
Private IP Address: 10.0.1.33  
Network Interface ID: eni-5a3f8bf9  
VPC: vpc-0723caf8b1f4cd471 | owncloud-vpc  
Subnet: subnet-07554f4b246c4c086 | public-subnet  
Created: July 1, 2018 at 8:22:30 PM UTC+5:30  
Deleted: -

## Main Route Table for VPC- owncloud

The screenshot shows the AWS VPC console interface. The left sidebar contains navigation links for VPC Dashboard, Virtual Private Cloud, Your VPCs, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Endpoints, Endpoint Services, NAT Gateways, Peering Connections, and Security. The main content area displays the 'Route Tables' page for the 'owncloud-vpc'. A table lists three route tables: 'rtb-01f2184d8cd820d1c' (0 Subnets, Yes, Main), 'public-routetable' (1 Subnet, No), and 'rtb-d8b17fa7' (0 Subnets, Yes). The 'rtb-01f2184d8cd820d1c' route table is selected, and its 'Routes' tab is active. The 'Routes' table shows two entries: a local route for '10.0.0.0/16' and a NAT route for '0.0.0.0/0' pointing to 'nat-08789d0ce474280df'. The bottom of the screen shows the Windows taskbar with various application icons and the system clock.

Name	Route Table ID	Explicitly Associated	Main	VPC
rtb-01f2184d8cd820d1c	rtb-01f2184d8cd820d1c	0 Subnets	Yes	vpc-0723caf8b1f4cd471   owncloud-vpc
public-routetable	rtb-0751efb5e3673...	1 Subnet	No	vpc-0723caf8b1f4cd471   owncloud-vpc
rtb-d8b17fa7	rtb-d8b17fa7	0 Subnets	Yes	vpc-e9f9be992

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	nat-08789d0ce474280df	Active	No

## EC2 : Public Instance – for Application

The screenshot shows the AWS EC2 console interface. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Reports, Limits, INSTANCES, Launch Templates, Spot Requests, Reserved Instances, Dedicated Hosts, Scheduled Instances, IMAGES, AMIs, Bundle Tasks, ELASTIC BLOCK STORE, Volumes, Snapshots, and NETWORK & SECURITY. The main content area displays the 'Instances' page, showing a list of instances. The instance 'agastyia-own...' is selected, and its details are shown in the 'Description' tab. The details include Instance ID, Instance state, Instance type, Elastic IPs, Availability zone, Security groups, Scheduled events, AMI ID, Platform, IAM role, Key pair name, Public DNS (IPv4), IPv4 Public IP, IPv6 IPs, Private DNS, Private IPs, Secondary private IPs, VPC ID, Subnet ID, Network interfaces, Source/dest. check, and T2 Unlimited. The bottom of the screen shows the Windows taskbar with various application icons and the system clock.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4
agastyia-own...	i-0ed7c537e1e85ede5	t2.micro	us-east-1a	running	2/2 checks ...	Loading...	ec2-54-91-98-63 comp...	54.9

Property	Value
Instance ID	i-0ed7c537e1e85ede5
Instance state	running
Instance type	t2.micro
Elastic IPs	-
Availability zone	us-east-1a
Security groups	default, owncloud-security, view inbound rules, view outbound rules
Scheduled events	No scheduled events
AMI ID	ubuntu/images/hvm-ssd/ubuntu-xenial-16.04-amd64-server-20180522 (ami-a4dc46db)
Platform	-
IAM role	-
Key pair name	owncloud
Public DNS (IPv4)	ec2-54-91-98-63.compute-1.amazonaws.com
IPv4 Public IP	54.91.98.63
IPv6 IPs	-
Private DNS	ip-10-0-1-83.ec2.internal
Private IPs	10.0.1.83
Secondary private IPs	-
VPC ID	vpc-0723caf8b1f4cd471
Subnet ID	subnet-07554f4b246c4c086
Network interfaces	eth0
Source/dest. check	True
T2 Unlimited	Disabled

## EC2 : Private Instance – for Database

The screenshot shows the AWS Management Console interface. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Reports, Limits, INSTANCES, IMAGES, ELASTIC BLOCK STORE, and NETWORK & SECURITY. The main content area displays the details for an EC2 instance named 'mydbserver' (Instance ID: i-0e8a28659213c25c1). The instance is running in the us-east-1b Availability Zone. The private IP address is 10.0.2.75. The instance is associated with the VPC ID vpc-0723caf8b1f4cd471 and Subnet ID subnet-0d06dbcb14540df27. The instance is running on the Ubuntu 16.04 AMI.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4
mydbserver	i-0e8a28659213c25c1	t2.micro	us-east-1b	running	2/2 checks ...	Loading...		

Instance: i-0e8a28659213c25c1 (mydbserver) Private IP: 10.0.2.75

Description		Status Checks	Monitoring	Tags
Instance ID	i-0e8a28659213c25c1	Public DNS (IPv4)	-	
Instance state	running	IPv4 Public IP	-	
Instance type	t2.micro	IPv6 IPs	-	
Elastic IPs		Private DNS	ip-10-0-2-75.ec2.internal	
Availability zone	us-east-1b	Private IPs	10.0.2.75	
Security groups	allow-publicsubnet-traffic, view inbound rules, view outbound rules	Secondary private IPs		
Scheduled events	No scheduled events	VPC ID	vpc-0723caf8b1f4cd471	
AMI ID	ubuntu/images/hvm-ssd/ubuntu-xenial-16.04-amd64-server-20180522 (ami-a4dc46db)	Subnet ID	subnet-0d06dbcb14540df27	
Platform	-	Network interfaces	eth0	
IAM role	-	Source/dest. check	True	

## Security Groups:

For Public Subnet (allow HTTP and SSH)

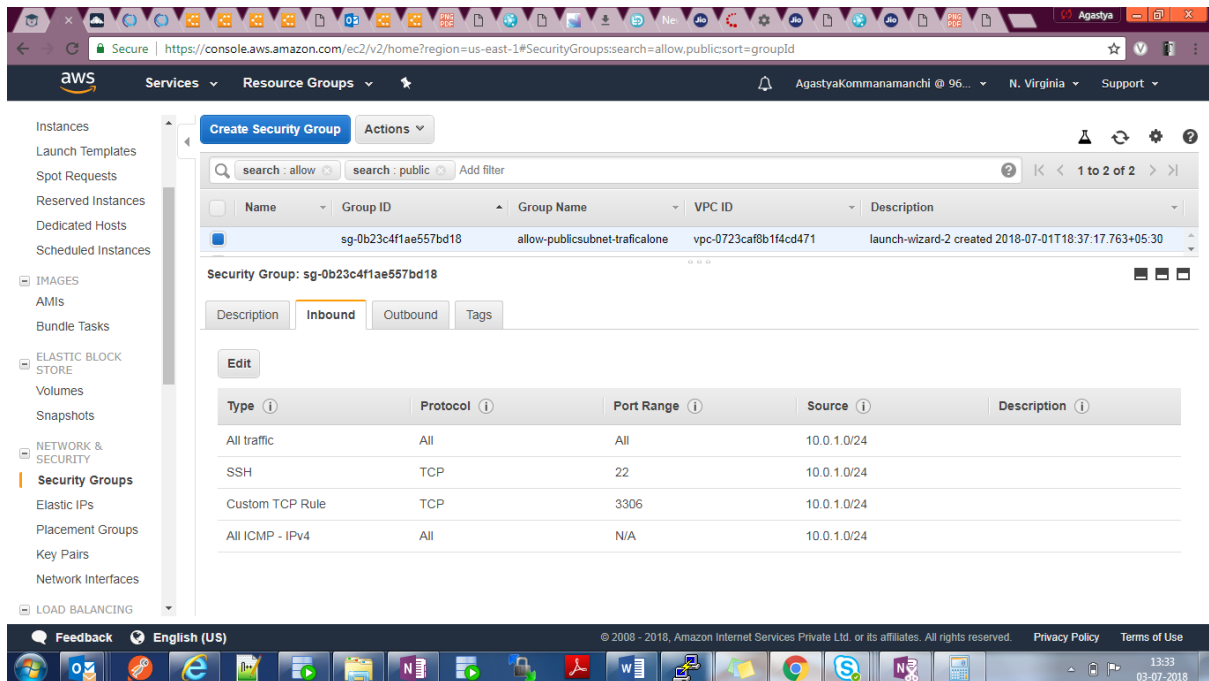
The screenshot shows the AWS Management Console interface. The left sidebar contains navigation links for INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, and LOAD BALANCING. The main content area displays the details for a Security Group named 'owncloud-security' (Group ID: sg-0879d8daeb506fae2). The security group is associated with the VPC ID vpc-0723caf8b1f4cd471. The security group has two inbound rules: HTTP (TCP, Port Range 80, Source 0.0.0.0/0) and SSH (TCP, Port Range 22, Source 0.0.0.0/0).

Name	Group ID	Group Name	VPC ID	Description
owncloud-security	sg-0879d8daeb506fae2	owncloud-security	vpc-0723caf8b1f4cd471	80nand 22

Security Group: sg-0879d8daeb506fae2

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	

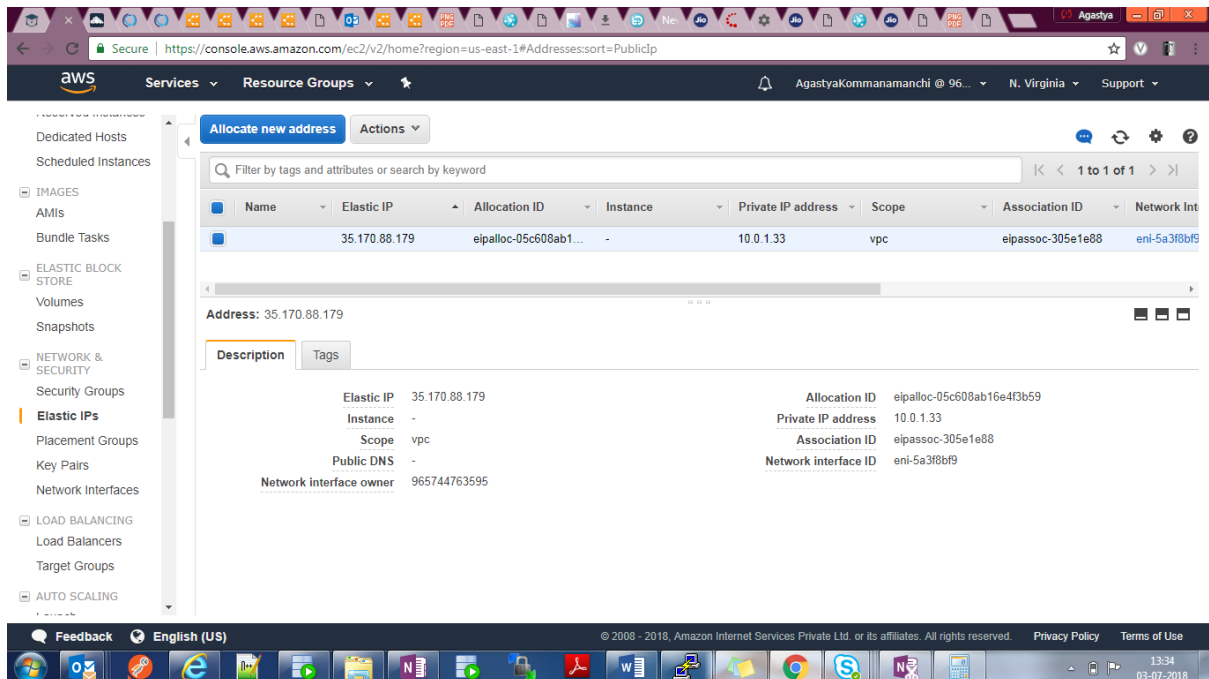
## For Private Subnet (allow traffic from Public Subnet)



The screenshot shows the AWS Management Console interface for the 'Security Groups' page. The left sidebar lists various AWS services, with 'Security Groups' highlighted under the 'NETWORK & SECURITY' section. The main content area shows the details for the security group 'sg-0b23c4f1ae557bd18'. The 'Inbound' tab is selected, displaying a table of inbound rules. The rules are as follows:

Type	Protocol	Port Range	Source	Description
All traffic	All	All	10.0.1.0/24	
SSH	TCP	22	10.0.1.0/24	
Custom TCP Rule	TCP	3306	10.0.1.0/24	
All ICMP - IPv4	All	N/A	10.0.1.0/24	

## Elastic IP:



The screenshot shows the AWS Management Console interface for the 'Elastic IPs' page. The left sidebar lists various AWS services, with 'Elastic IPs' highlighted under the 'NETWORK & SECURITY' section. The main content area shows the details for the Elastic IP address '35.170.88.179'. The 'Description' tab is selected, displaying the following information:

Property	Value
Elastic IP	35.170.88.179
Instance	-
Scope	vpc
Public DNS	-
Network interface owner	965744763595
Allocation ID	eipalloc-05c608ab16e4f3b59
Private IP address	10.0.1.33
Association ID	eipassoc-305e1e88
Network interface ID	eni-5a3f8bf9

## Default Route table for VPC with entry of NAT gateway

The screenshot shows the AWS Management Console interface. The left sidebar contains the 'VPC Dashboard' with various navigation links. The 'Route Tables' link is highlighted. The main content area shows a list of route tables. The selected route table, 'rtb-01f2184d8cd820d1c', is shown in detail with the 'Routes' tab selected. The 'Routes' tab displays a table with two routes:

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	natt-08789d0ce474280df	Active	No

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock indicating 13:40 on 03-07-2018.