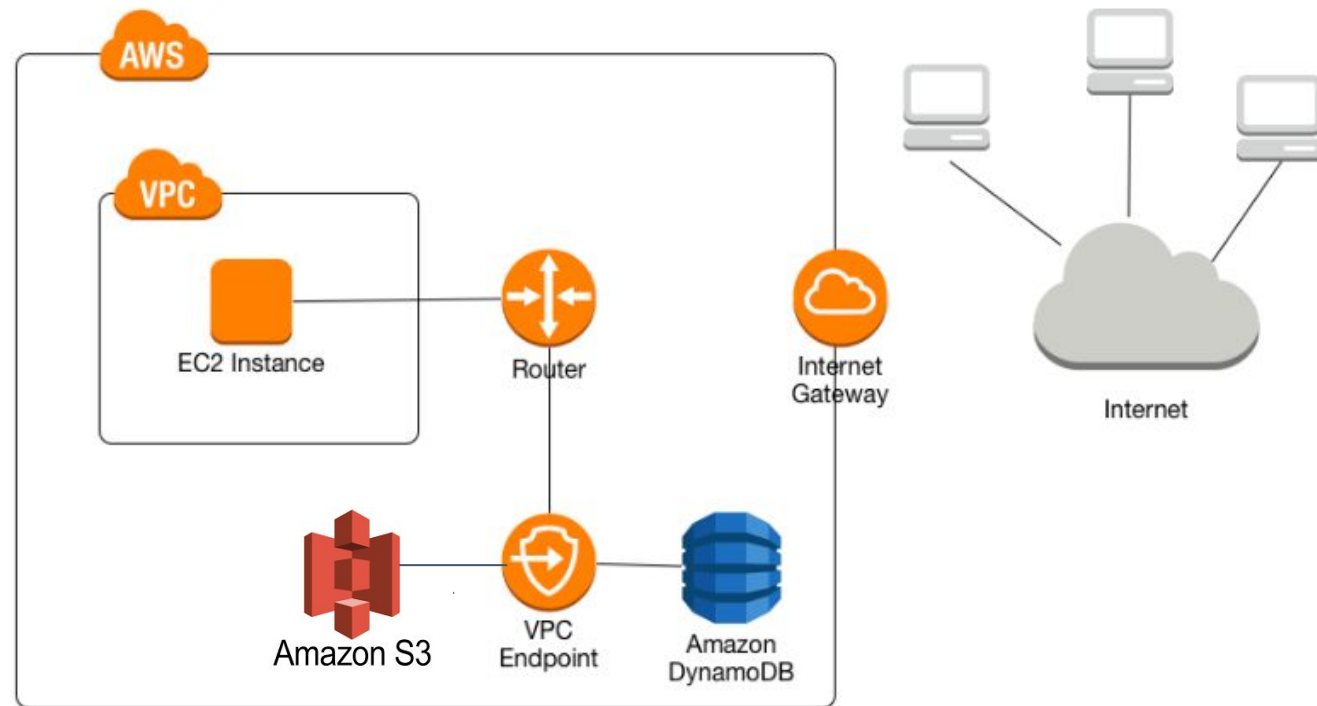


**services using HTTP
protocol**



Connectivity



Virtual Private Cloud (VPC) [Info](#)

VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-d8715da2) ▼

Only VPCs with a corresponding DB subnet group are listed.



After a database is created, you can't change the VPC selection.

▼ Additional connectivity configuration

Subnet group [Info](#)

DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.

default ▼

Publicly accessible [Info](#)

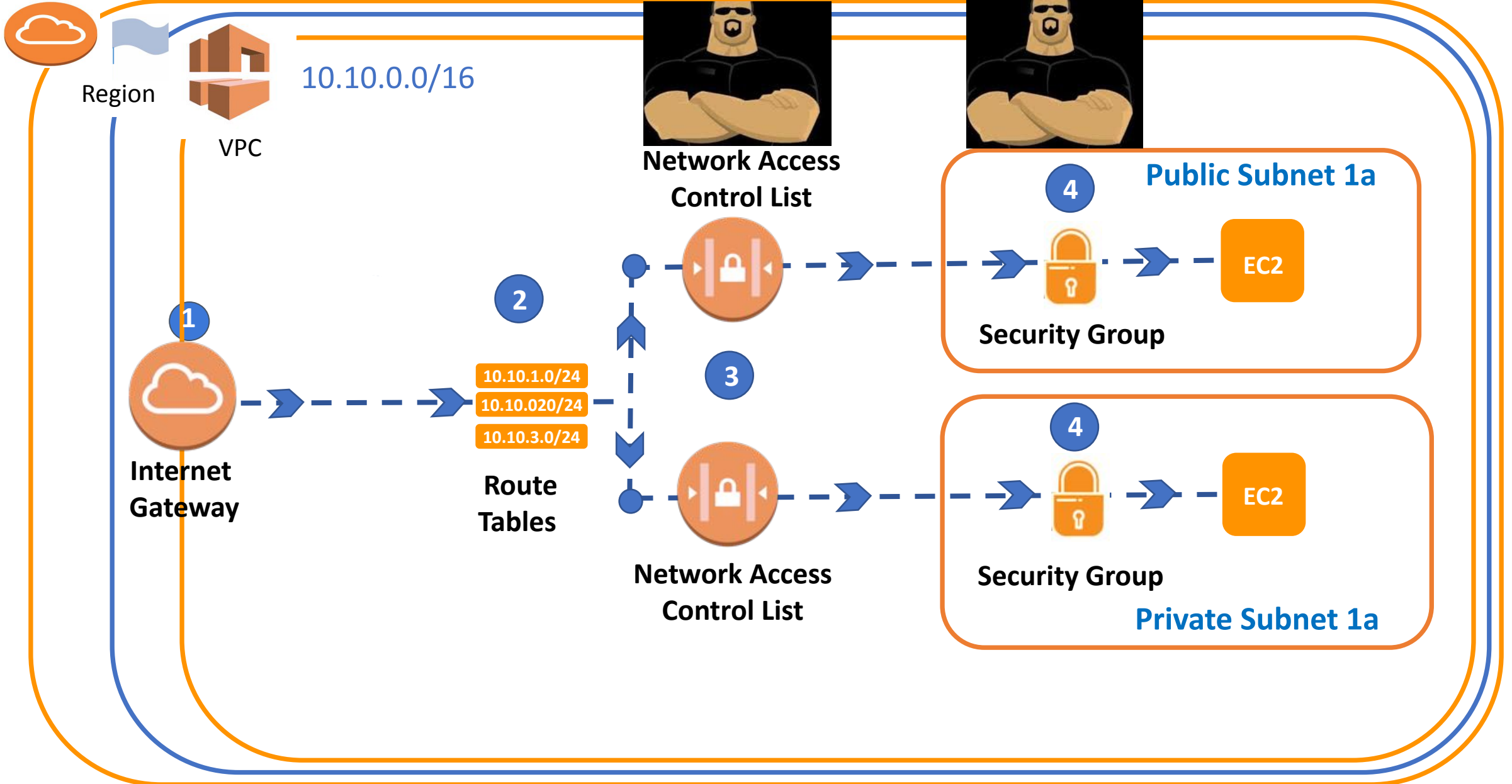
☒ Yes

Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.

☐ No

RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

Cloud



65,536/256= 256 SUBNETS

VPC



10.0.0.0/**16**= 65,536 IPs in Range



Subnet-1

Subnet-2

Subnet-3



Subnet-256

10.0.**1**.0/24= 256 IPs

10.0.**2**.0/24= 256 IPs

10.0.**3**.0/24= 256 IPs

10.0.**255**.0/24= 256 IPs



10.0.**2**.0/32= 1 IP

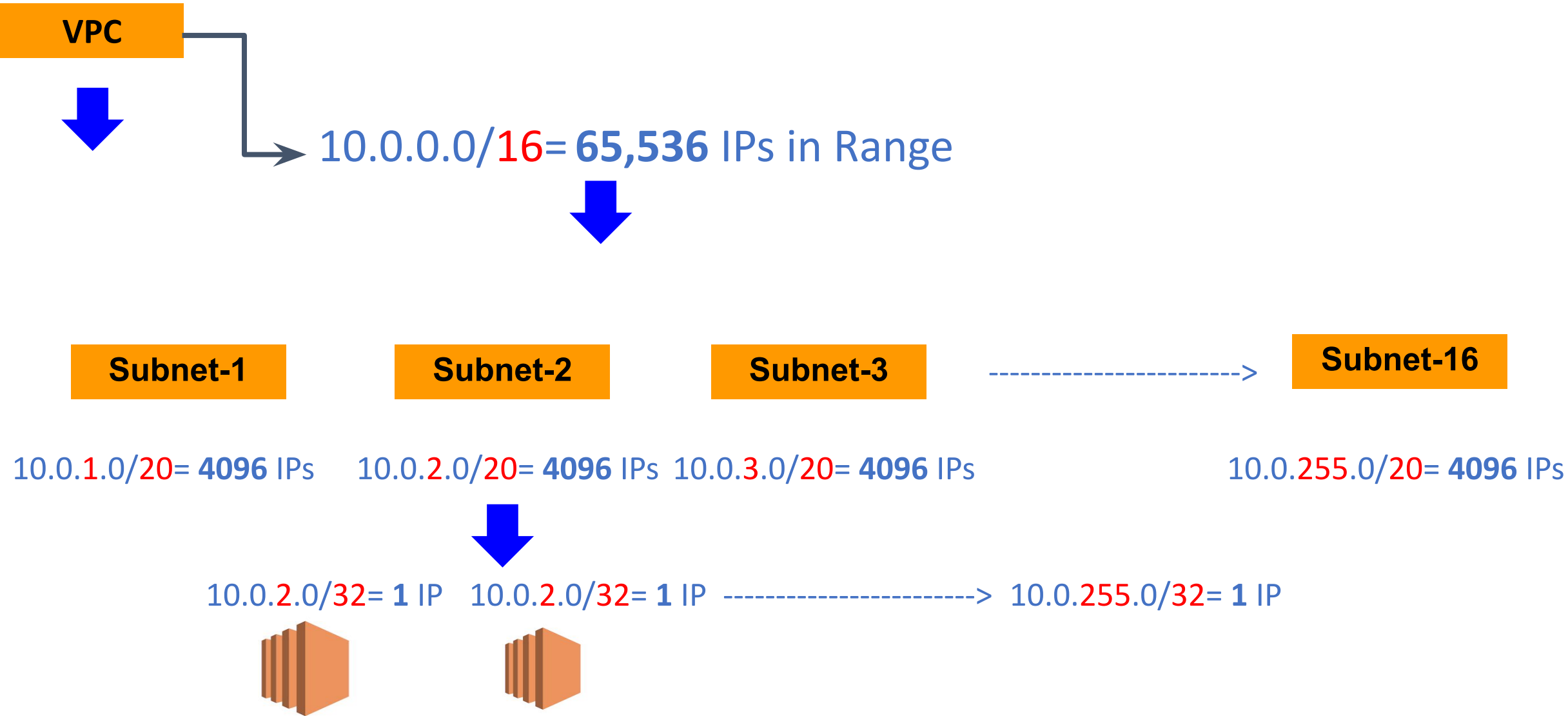


10.0.**2**.3/32= 1 IP



-----> 10.0.**255**.0/32= 1 IP

$65,536 / 4096 = 16 \text{ SUBNETS}$





Cloud



Region



Region : **N.Virginia**

CIDR : **10.7.0.0/16**



Internet Gateway

VPC=clarus-vpc-a

Availability Zone 1-a

Availability Zone 1-b

Availability Zone 1-c

Public Subnet 1a

Public Subnet 1b

Public Subnet 1c

10.7.1.0/24

10.7.4.0/24

10.7.7.0/24

10.7.2.0/24

10.7.5.0/24

10.7.8.0/24

Private Subnet 1a

Private Subnet 1b

Private Subnet 1c

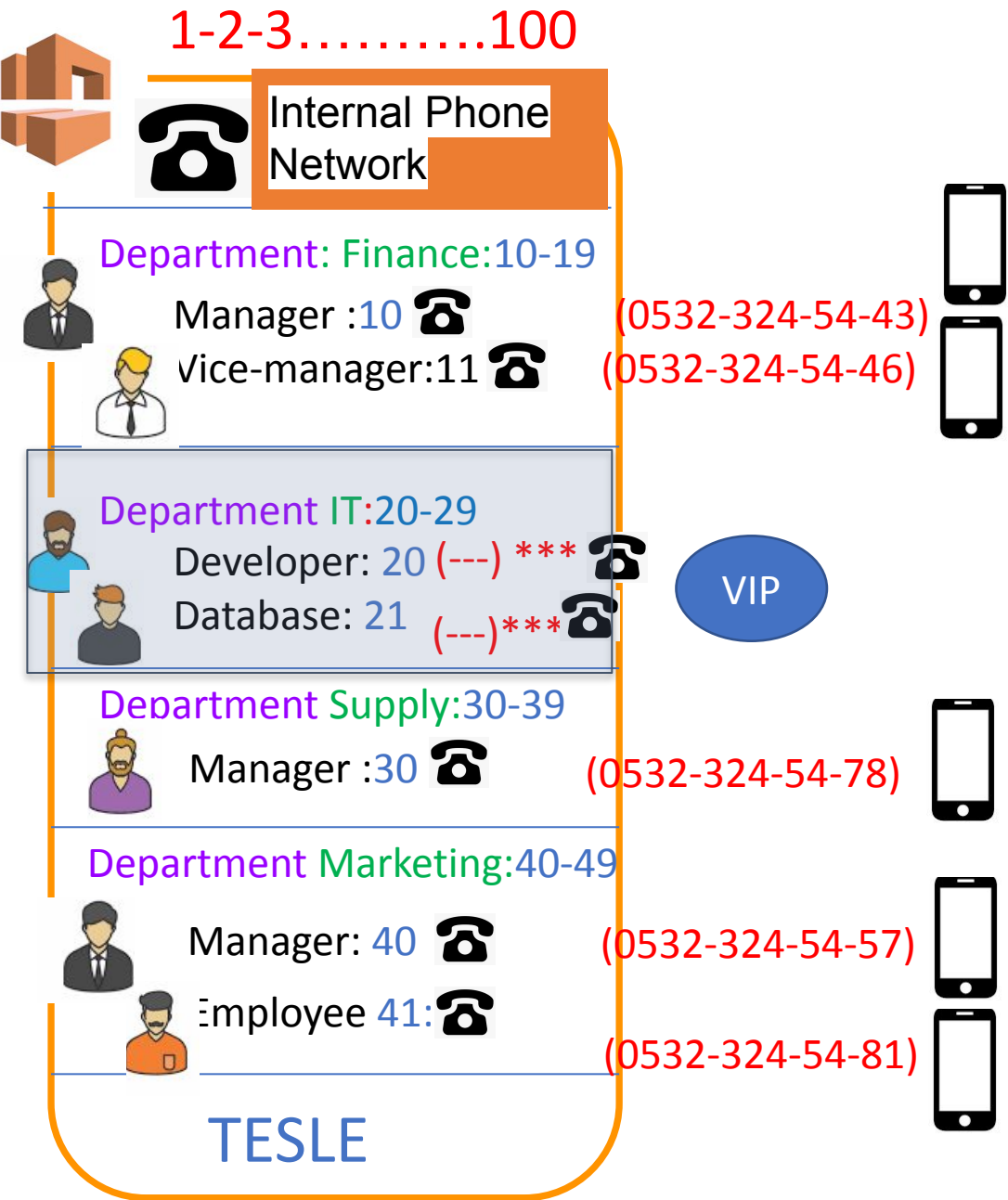
10.10.1.0/24
10.10.020/24
10.10.3.0/24

Route
Table

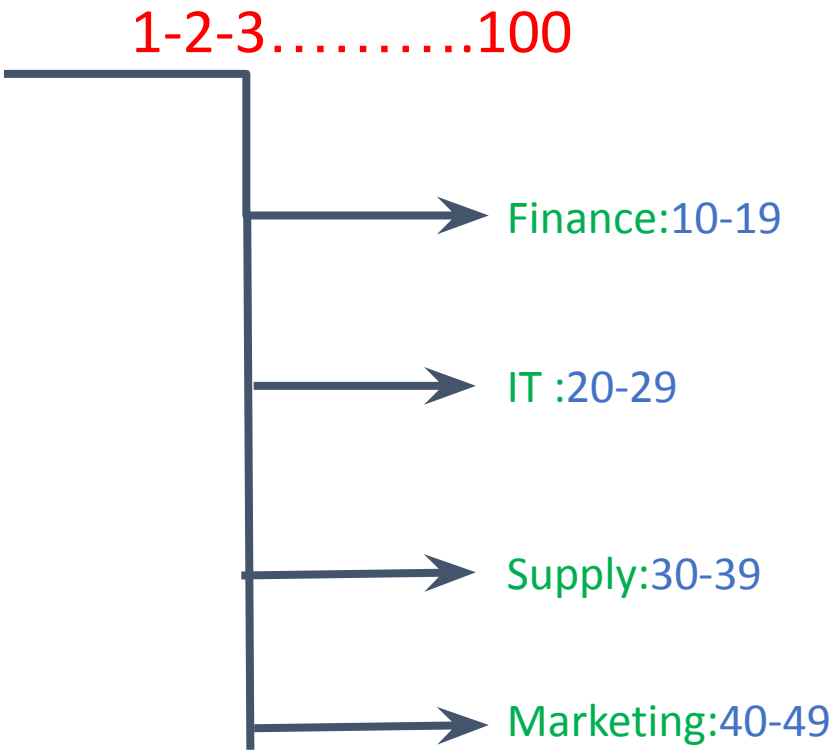
10.10.1.0/24
10.10.020/24
10.10.3.0/24

Route
Table

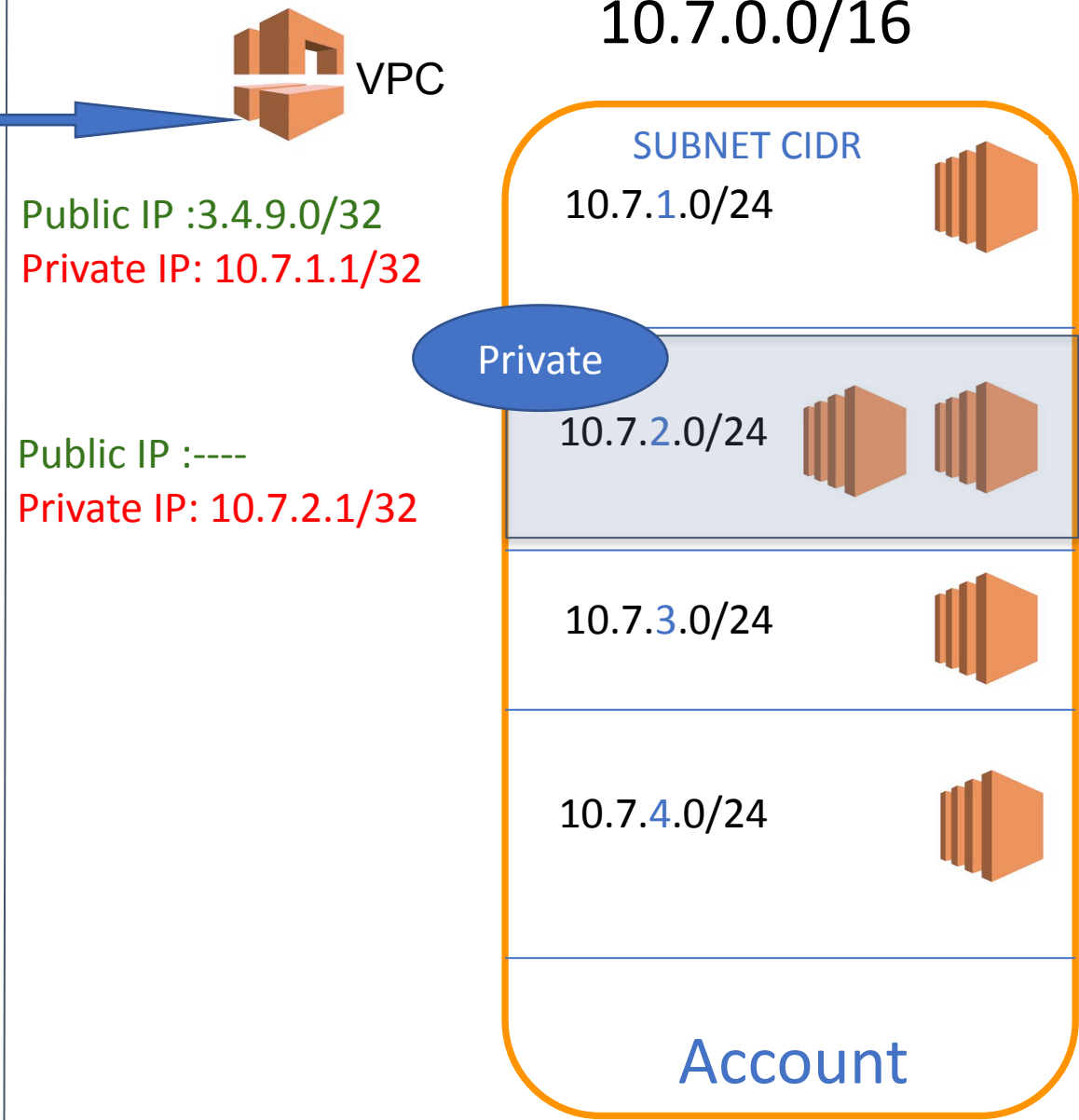
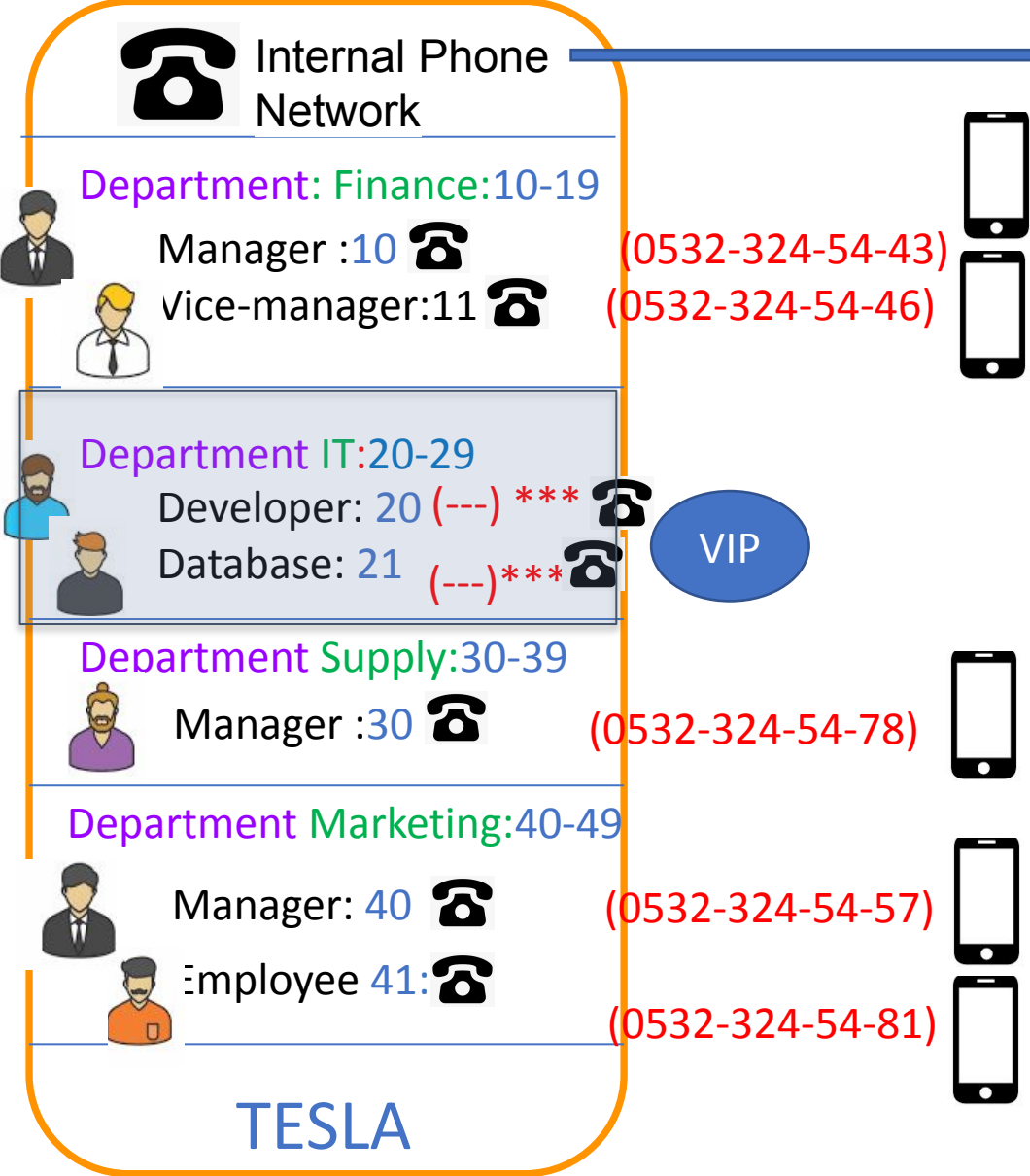
Internal Phone Number Range:



Internal Phone Number Range:



Internal Phone Number Range: → CIDR
1-2-3-4-5.....100 10.7.0.0/16

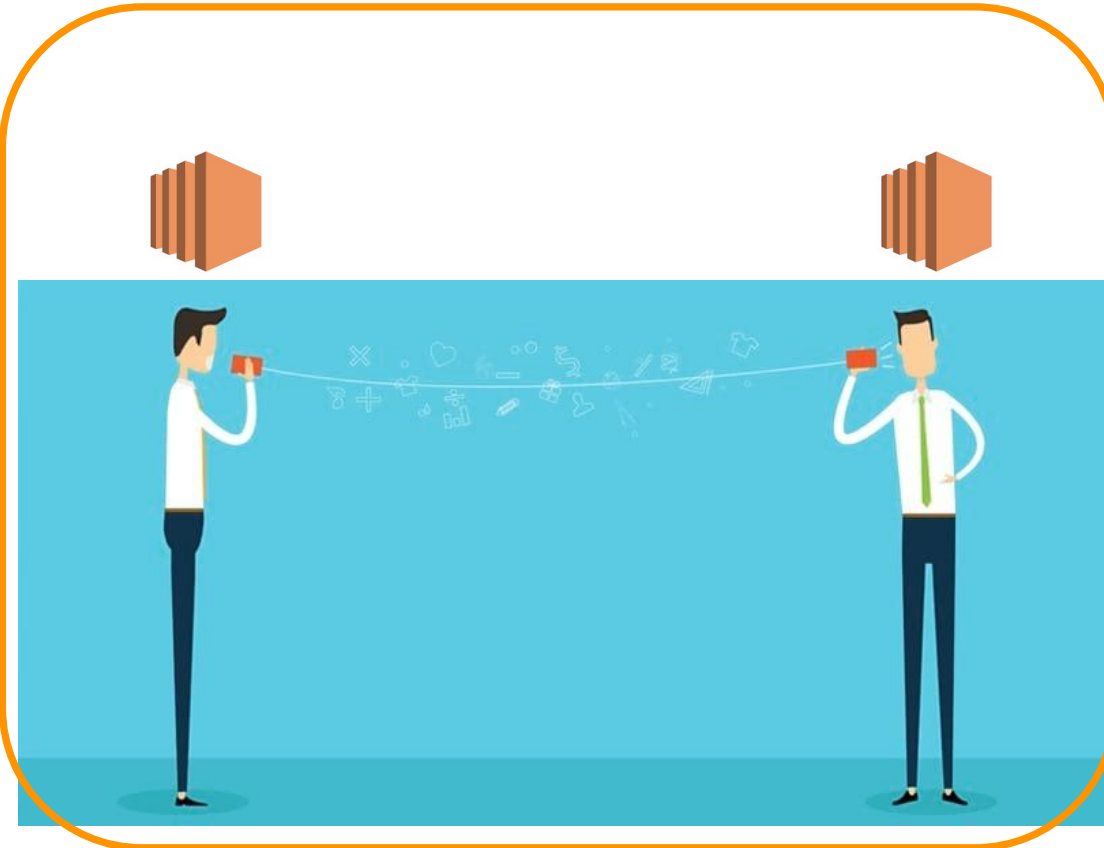


VPC CIDR Block

Labeling

Internal Communication

$10.7.0.0/16 = 65000 \text{ IP} = 65000$



How is it possible to use the same CIDR block for all of us?

SSN:01-A-2345-4563



SSN:02-C-98756H64

VPC 1=House 1



VPC 2=House 2



VPC CIDR IP POOL

10.7.0.0/16 = 65000 IP



AWS PUBLIC IP POOL



VPC



10.7.1.0/32

10.7.2.0/32

175.0.0.1/32



Private Subnet



Public Subnet

Create **VPC**

- Name tag: **clarus-vpc-a**

Create **IGW**

- IPv4 CIDR block: **10.7.0.0/16**

IGW Action Menu:
Attach IGW to VPC

Set the VPC Route Table:
00000:/0 > IGW

VPC Action Menu:
Edit DNS Hostname

Name Default Route Table: **default-labvpc**



Cloud



Region



VPC

10.10.0.0/16



Local



2



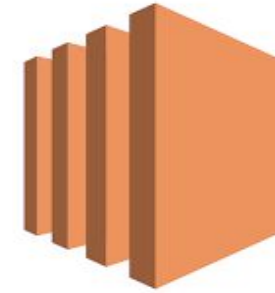
Internet
Gateway

10.10.1.0/24
10.10.020/24
10.10.3.0/24

Route
Tables



- Name tag: **clarus-vpc-a**
- IPv4 CIDR block: **10.7.0.0/16**



us-east-1a

- **public**
- clarus-az1a-public-subnet
- us-east-1a

10.7.1.36

10.7.1.0/24 10.7.1.85

- **private**
- clarus-az1a-private-subnet
- us-east-1a

10.7.2.76

10.7.2.0/24

Spare...

us-east-1a
10.7.3.0/24

us-east-1b

- **public**
- clarus-az1b-public-subnet
- us-east-1b

10.7.4.0/24

- **private**
- clarus-az1b-private-subnet
- us-east-1b

10.7.5.0/24

Spare...

us-east-1b
10.7.6.0/24

us-east-1c

- **public**
- clarus-az1c-public-subnet
- us-east-1c

10.7.7.0/24

- **private**
- clarus-az1c-private-subnet
- us-east-1c

10.7.8.0/24

Spare...

us-east-1c
10.7.9.0/24

1- All Subnets are associated with
Default Route Table **Implicitly**

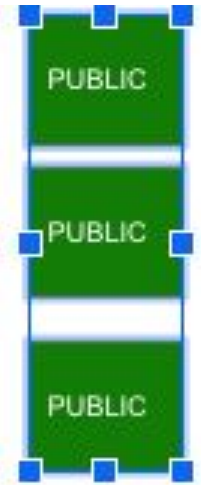
Conclusion

2- By default all subnets are
PUBLIC !!!!! a.Local
b.0000/0 >>>>IGW

Current= 6 Public
Desired= 3 Public 3 Private

Option-1

DEFAULT RT



PRIVATE RT

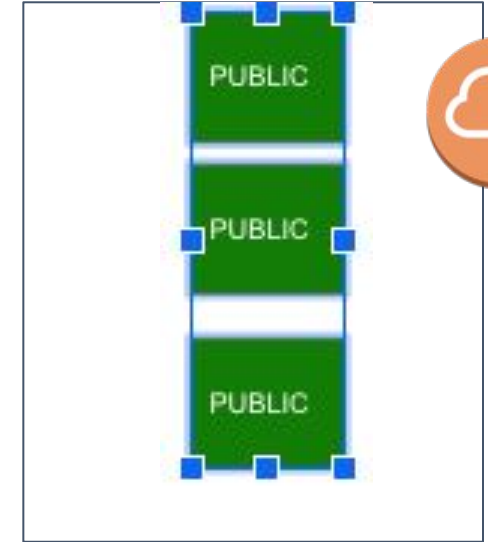


Option-2

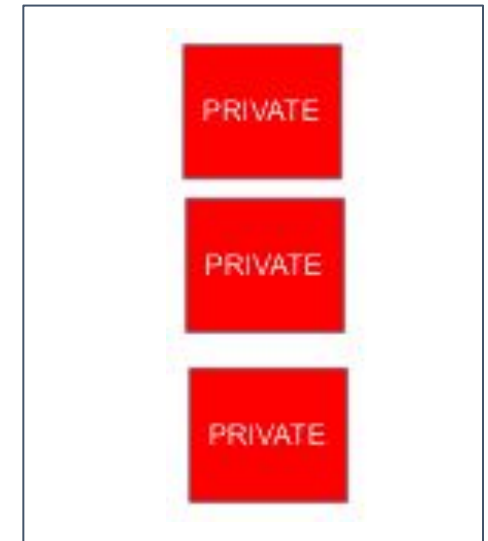
DEFAULT RT



PUBLIC RT



PRIVATE RT



Public Route Table Steps

Create a new Route Table
for Public Subnets

Associate 3 Public Subnets
with Public Route Table

Set Routes: a.Local
b.0000/0 >>>>IGW

Modify Auto-Assign IP
Settings-Subnet Action
Menu-Edit subnet settings

Default Route Table of VPC
3 Public Subnets
Internet Connectivity



Create 3 Public and
3 Private Subnets



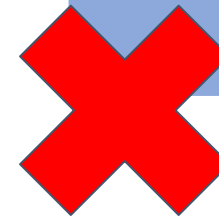
Private Route Table Steps

a.Local

Create a new Route Table
for Private Subnets

Associate 3 Private Subnets
with Private Route Table

Route Table of Private
3 Private Subnets
Internet Connectivity

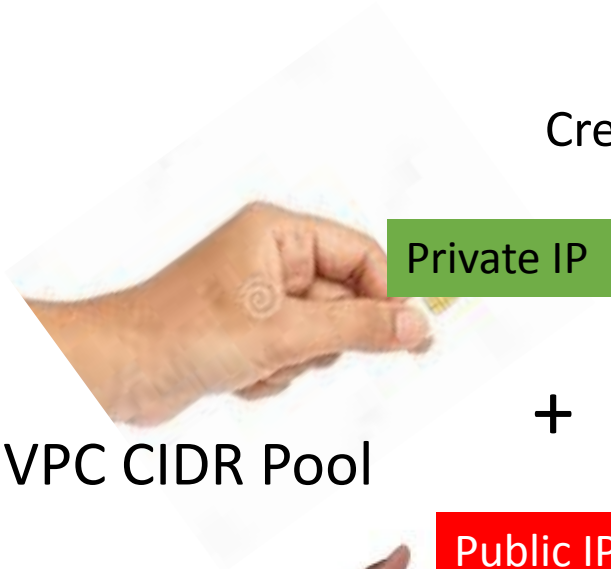


Launching an Instance



Create in Public Subnet

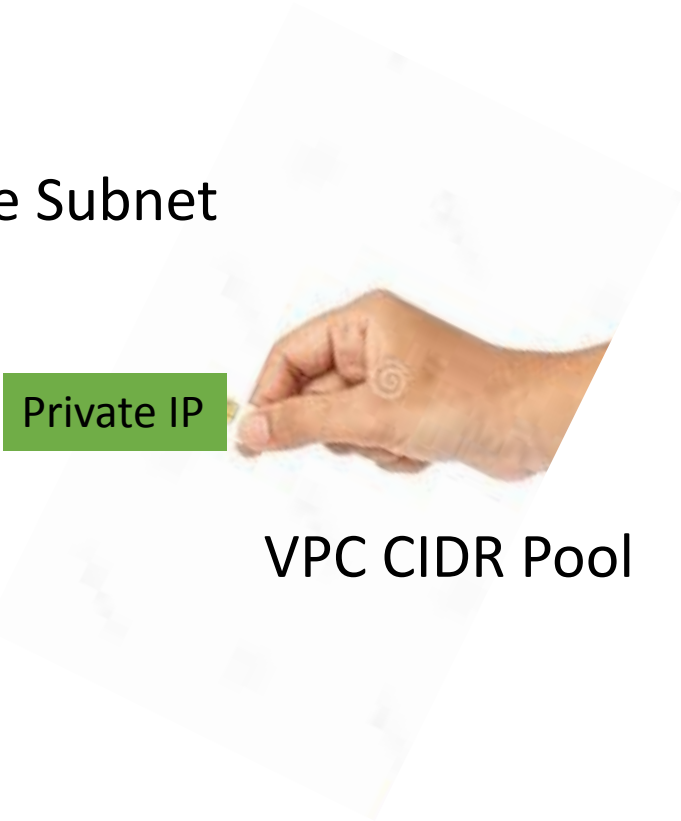
Create in Private Subnet



+



(Auto Assign IP)





Route Tables



Private Subnets
Internet Connectivity

Public Subnets
Internet Connectivity

