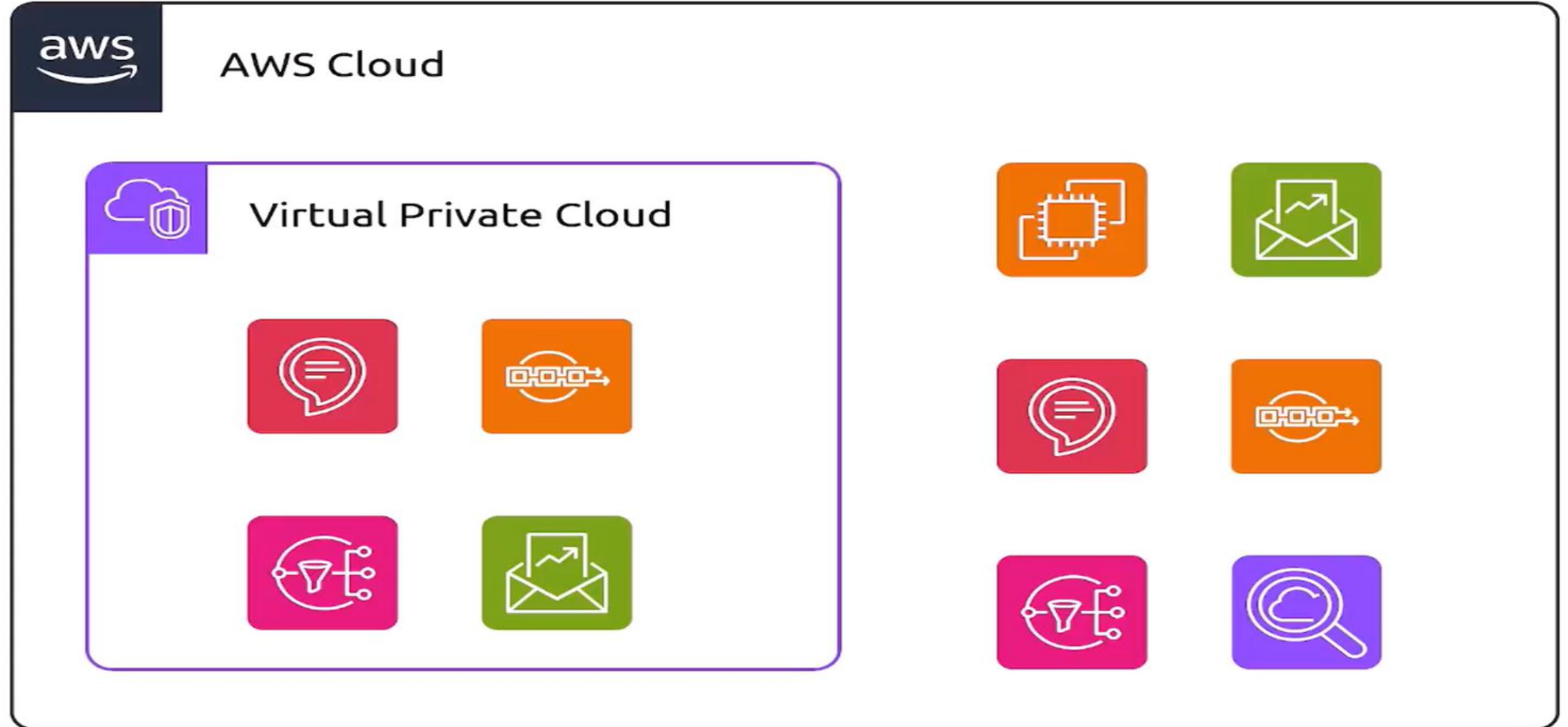


# Session 2

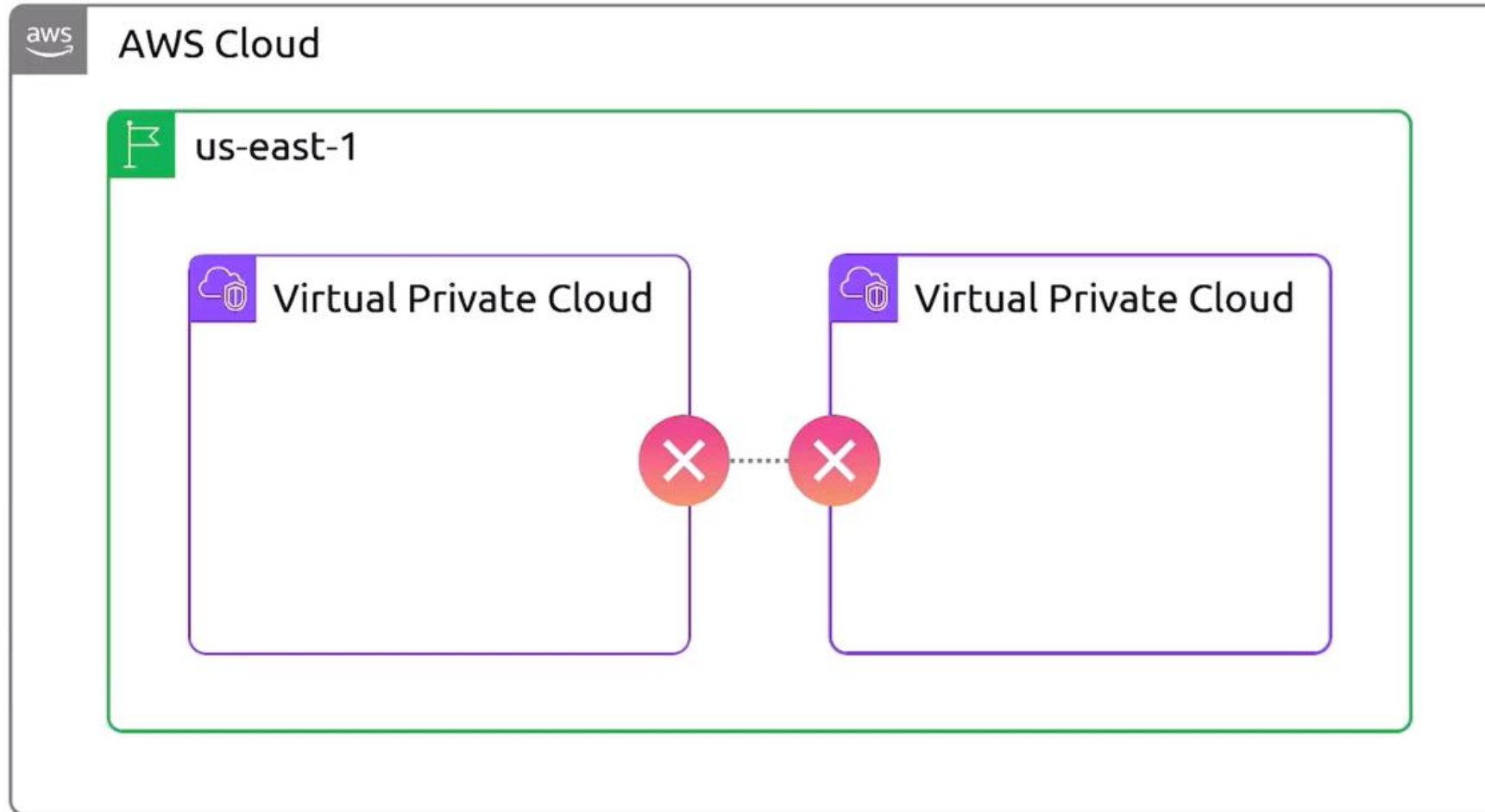
# VPC Basics

# What Is a VPC?

# What Is a VPC?



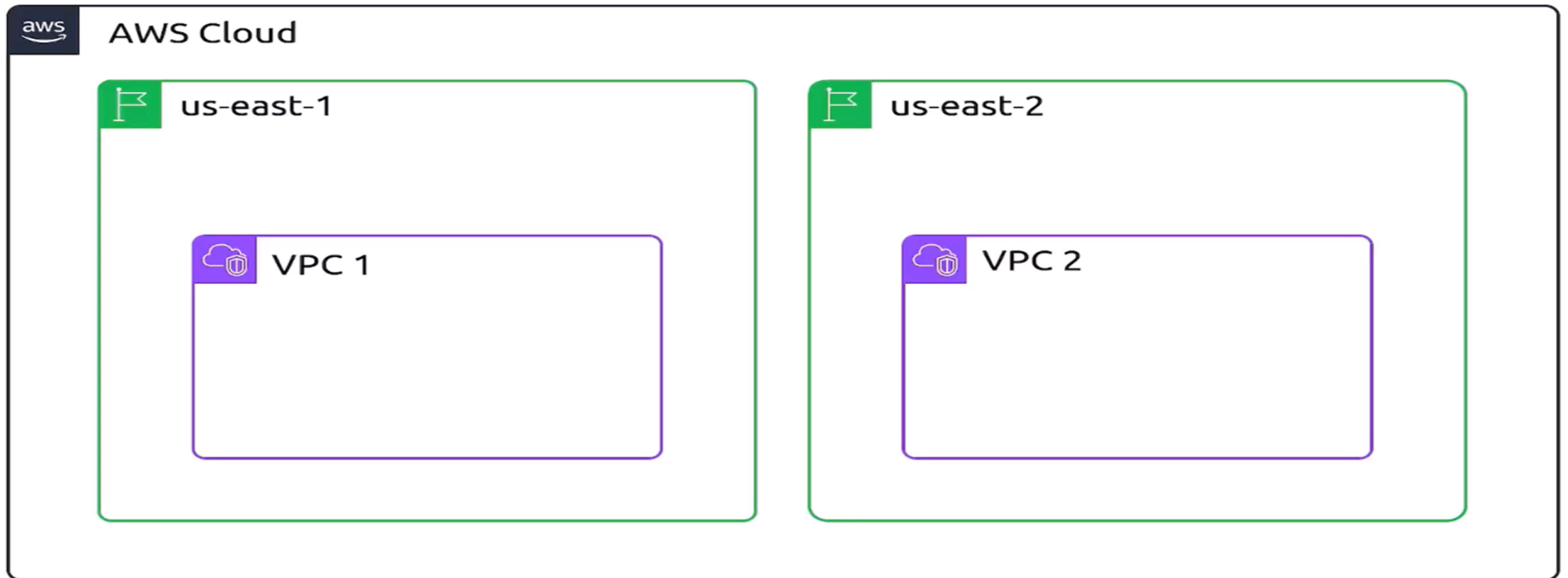
# VPC



VPC acts as a  
network boundary

# VPCs and Regions

A VPC is specific to a single region



# VPC

## CIDR: Classless Inter-Domain Routing



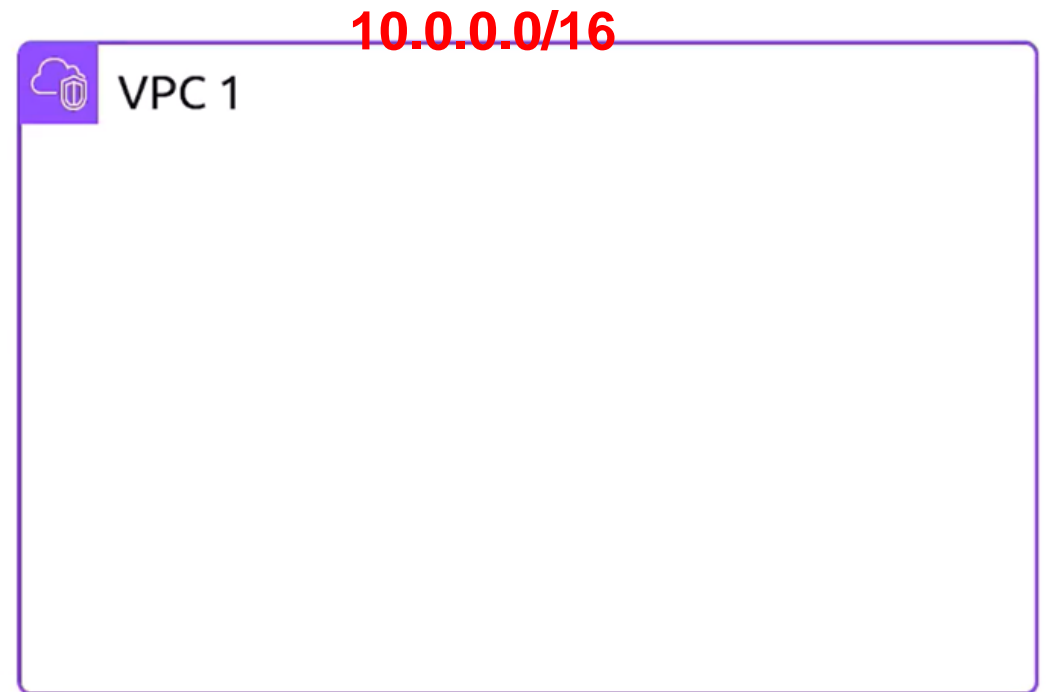
Every **VPC** has a range of IP addresses assigned to it called the **CIDR block**



A **CIDR** block defines the IP addresses that resources in the **VPC** can use



A **CIDR** block size can be anywhere from a **/16** to a **/28**



# VPC

## CIDR: Classless Inter-Domain Routing

RFC 1918 was used to create the standards by which networking equipment assigns [IP addresses](#) in a private network. A private network can use a single public IP address. The [RFC](#) reserves the following ranges of IP addresses that cannot be routed on the Internet:

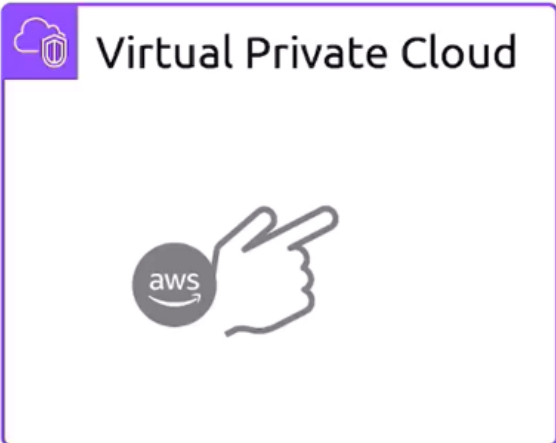
- 10.0.0.0 - 10.255.255.255 (10/8 prefix)
- 172.16.0.0 - 172.31.255.255 (172.16/12 prefix)
- 192.168.0.0 - 192.168.255.255 (192.168/16 prefix)



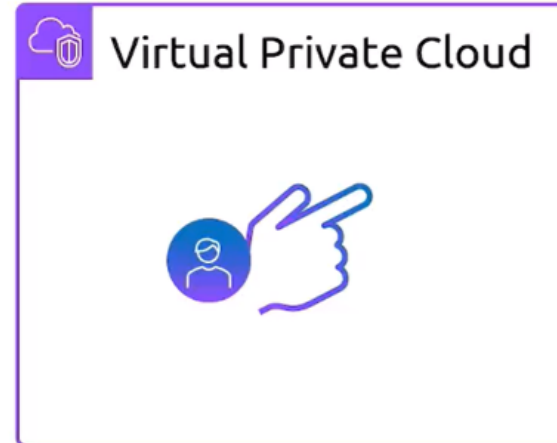
# VPC



Region

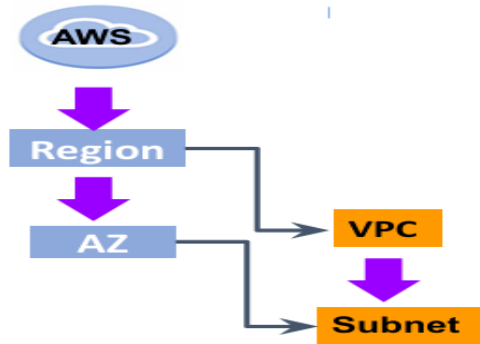


Default



Custom

# Subnet



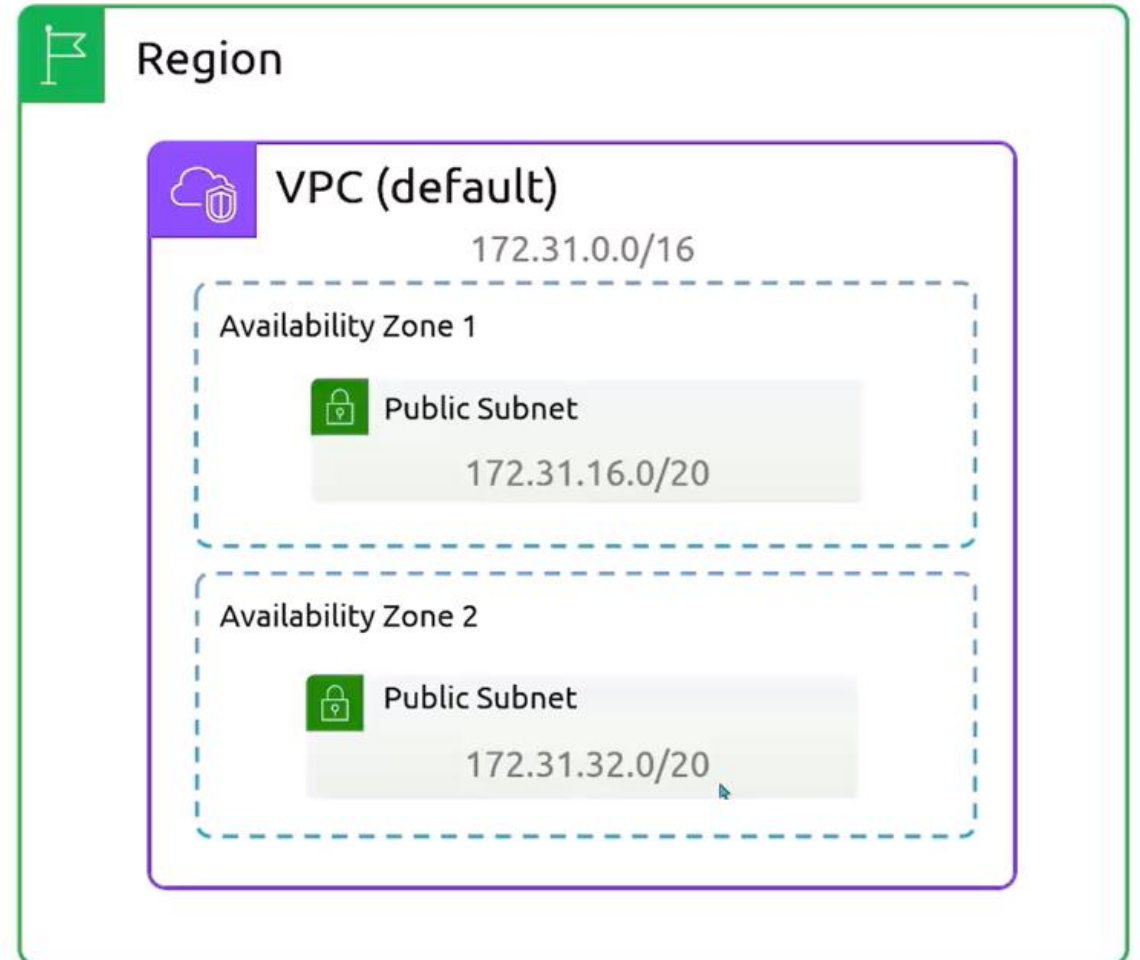
One default VPC per region



/16 IPv4 CIDR block 172.31.0.0/16  
(65,536 addresses)







/20 default subnet in each  
Availability Zone (4,096 addresses)

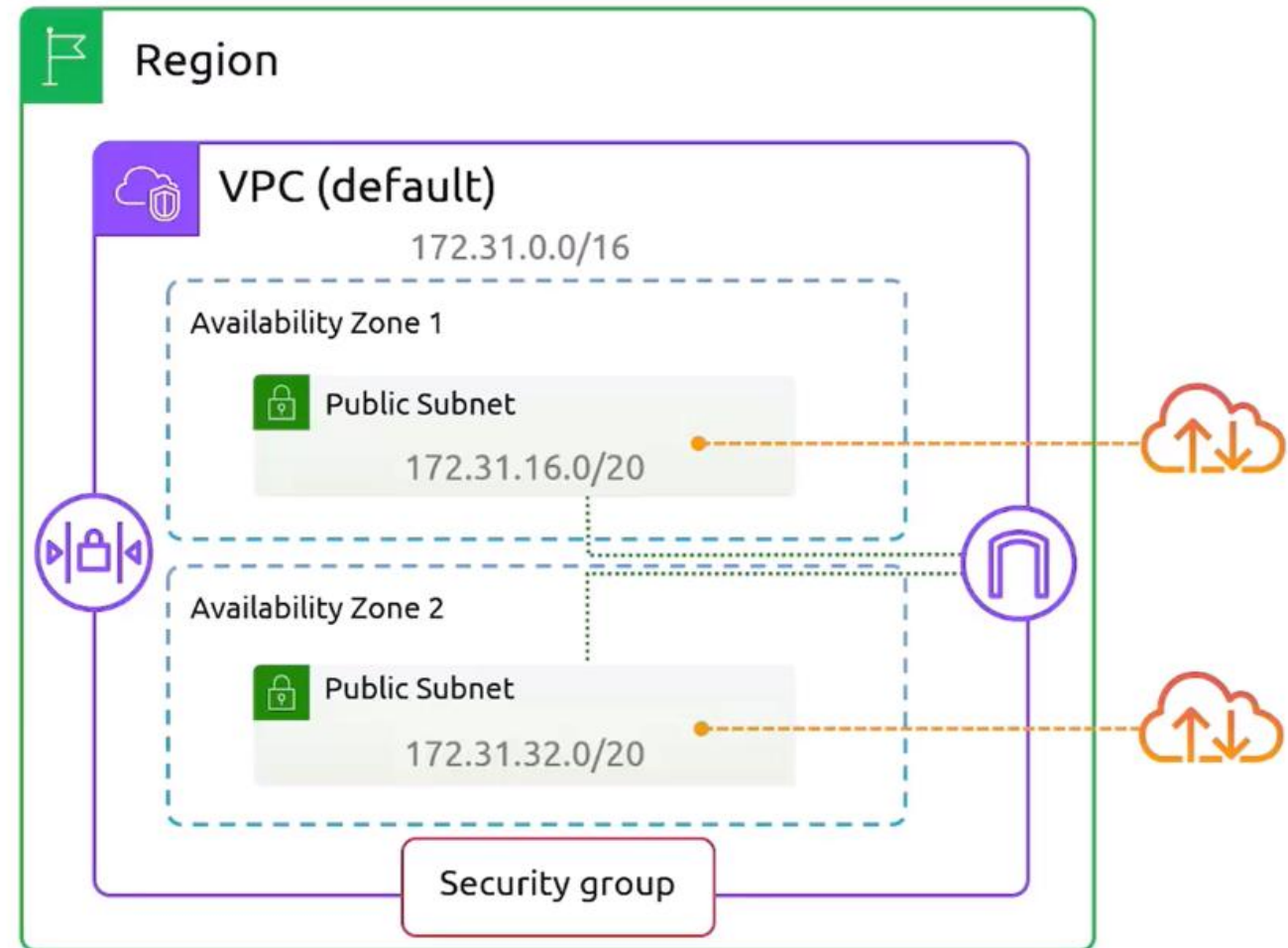


# Public/Private Subnet



# Default VPC

- 
 Internet gateway attached to the VPC
- 
 A route that points all traffic (0.0.0.0/0) to the internet gateway
- 
 Devices in these default subnets will be accessible from the internet
- 
 Default Security Group
- 
 Default Network Access Control List



# Internet Gateway

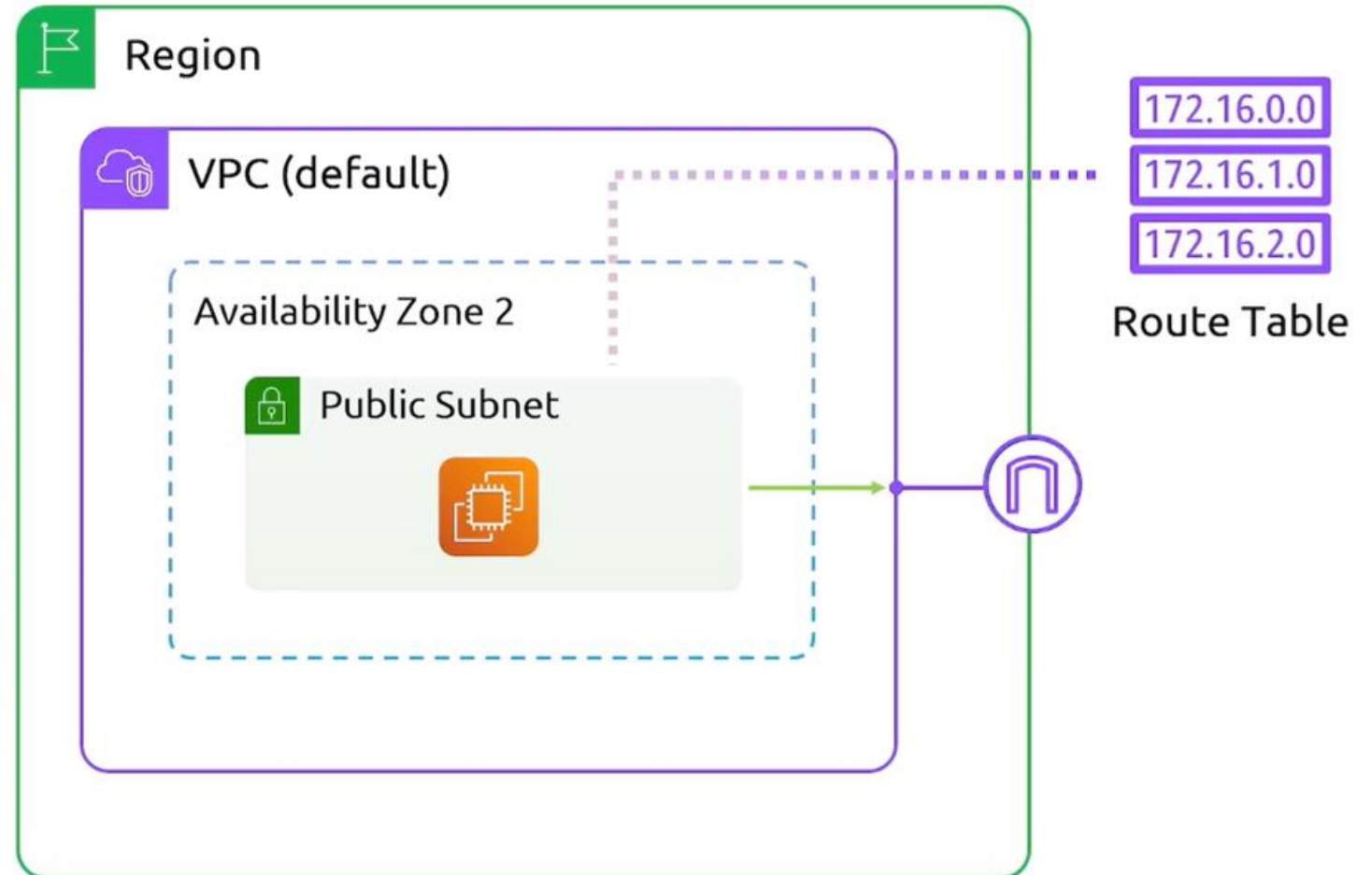
Create an Internet Gateway (IGW)

Attach IGW to VPC

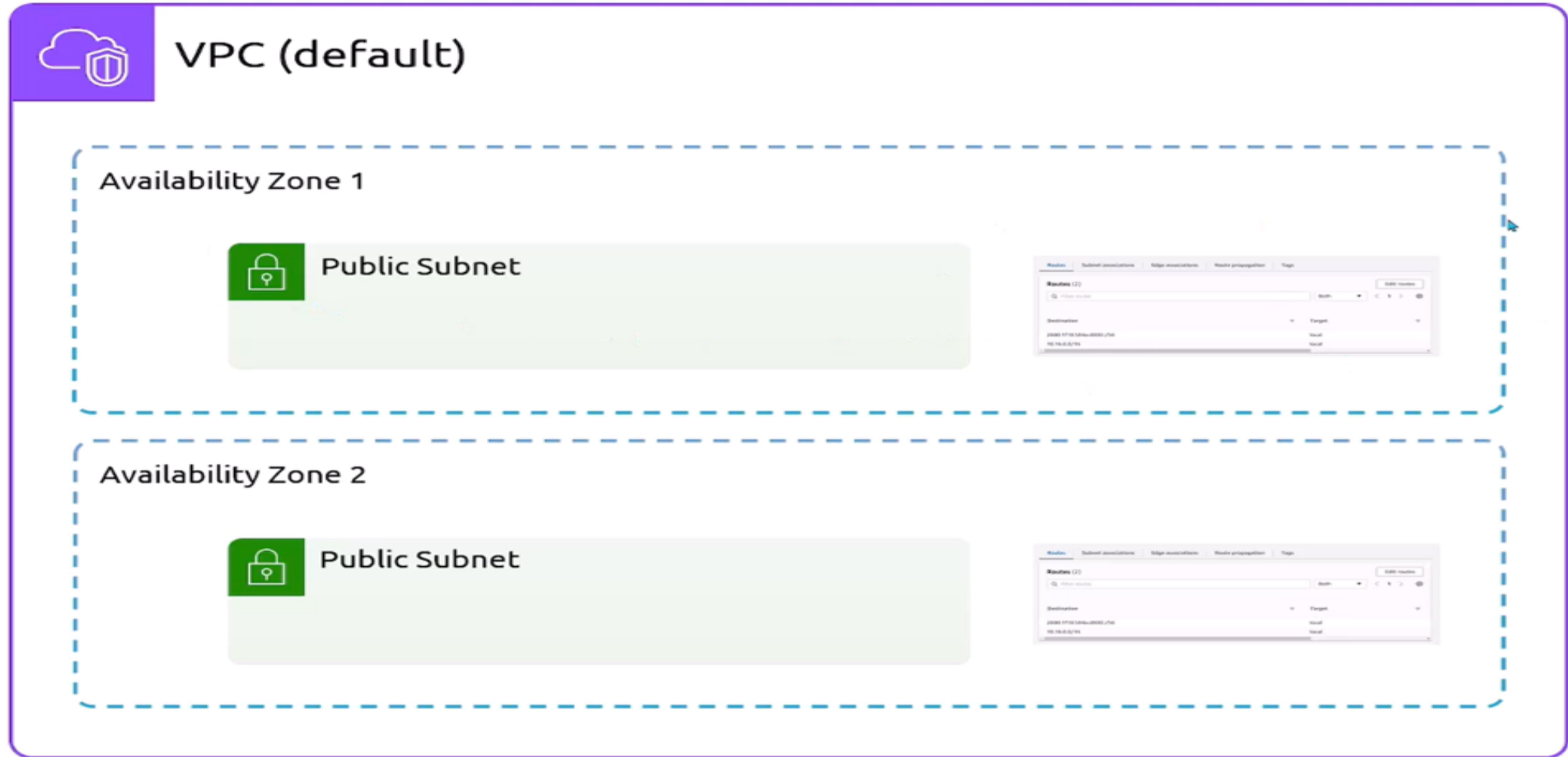
Create custom route table

Configure default route

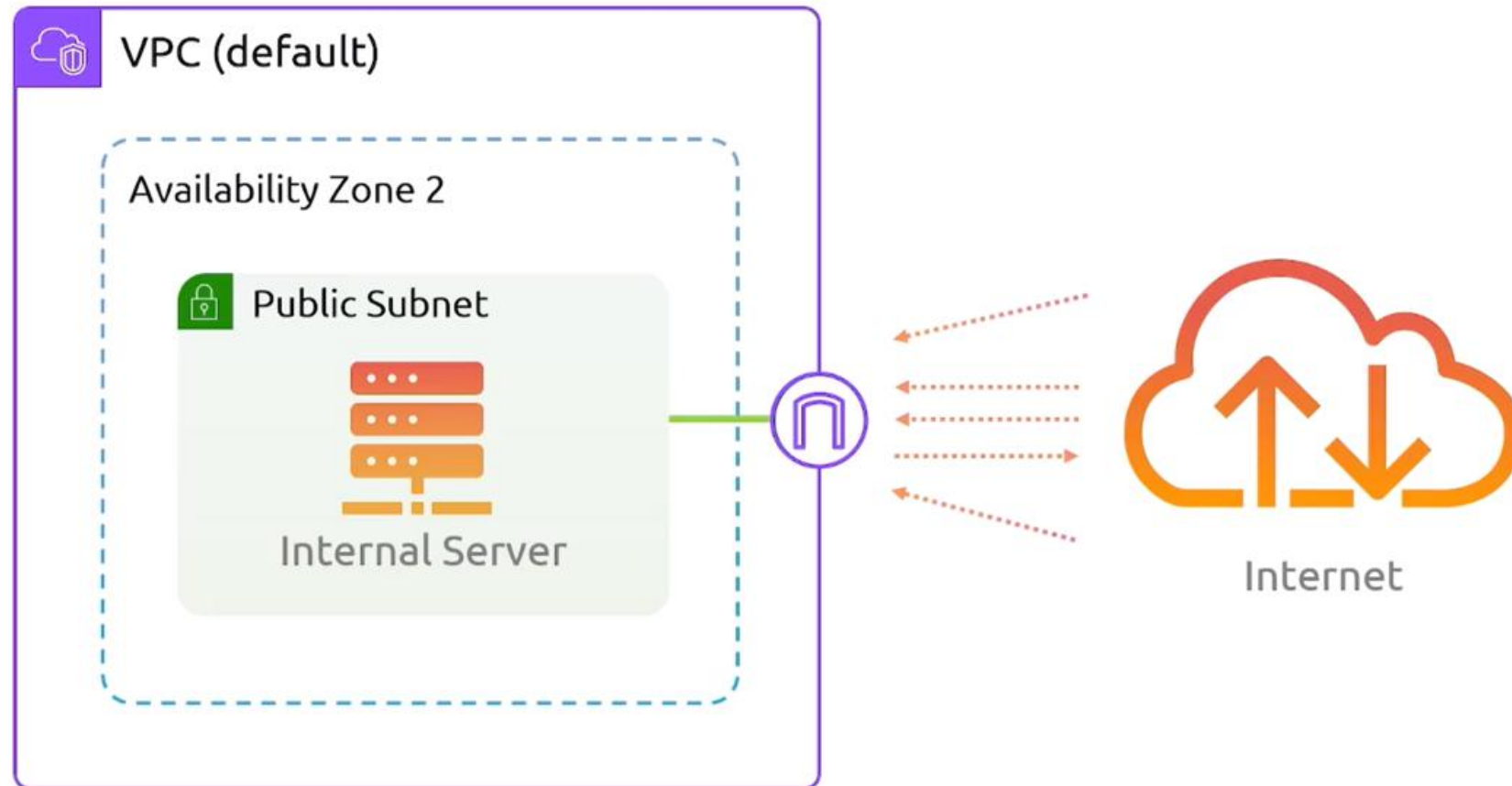
Associate subnet with route table



# Route Tables

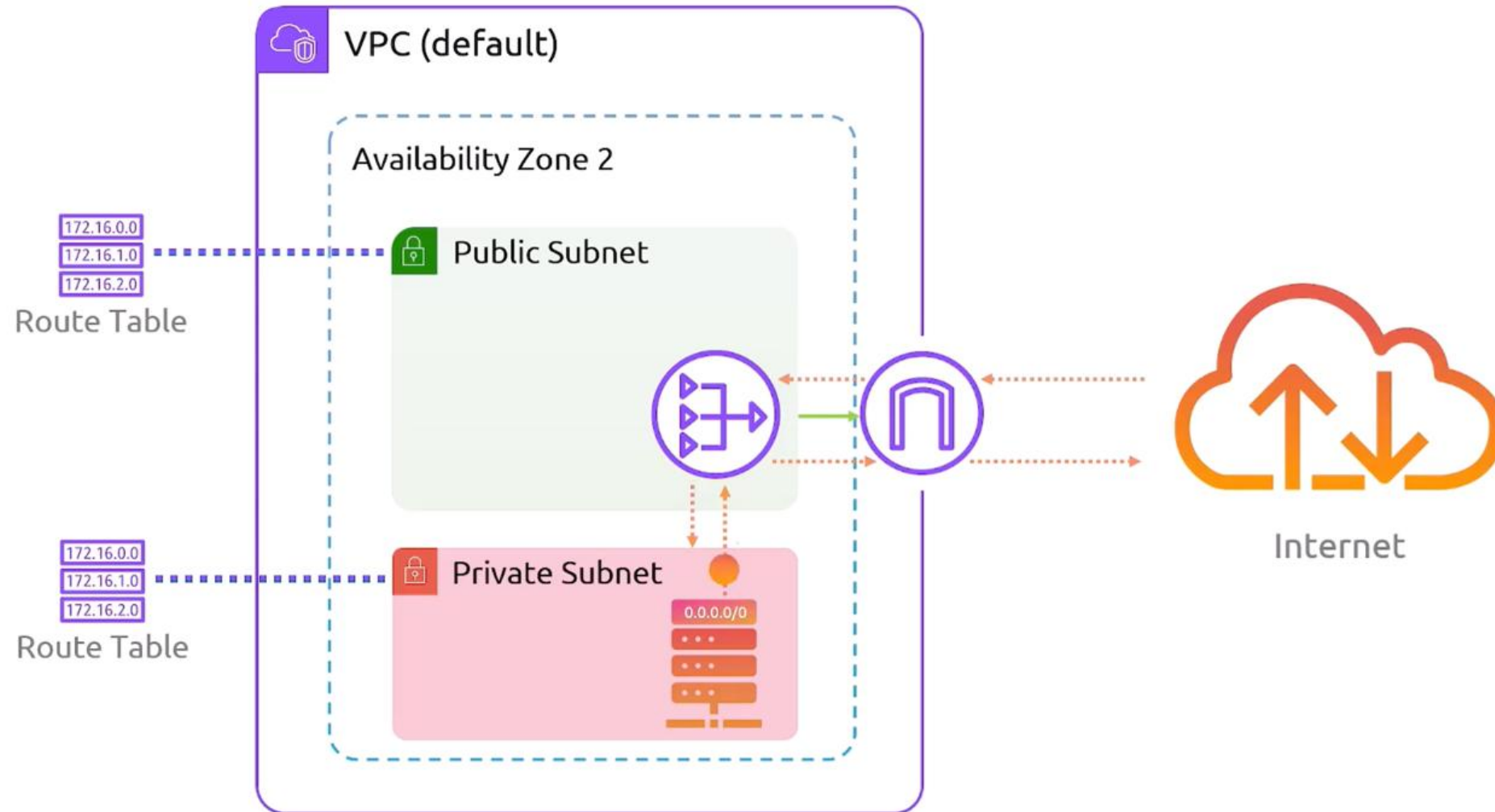


# NAT Gateway





# NAT Gateway





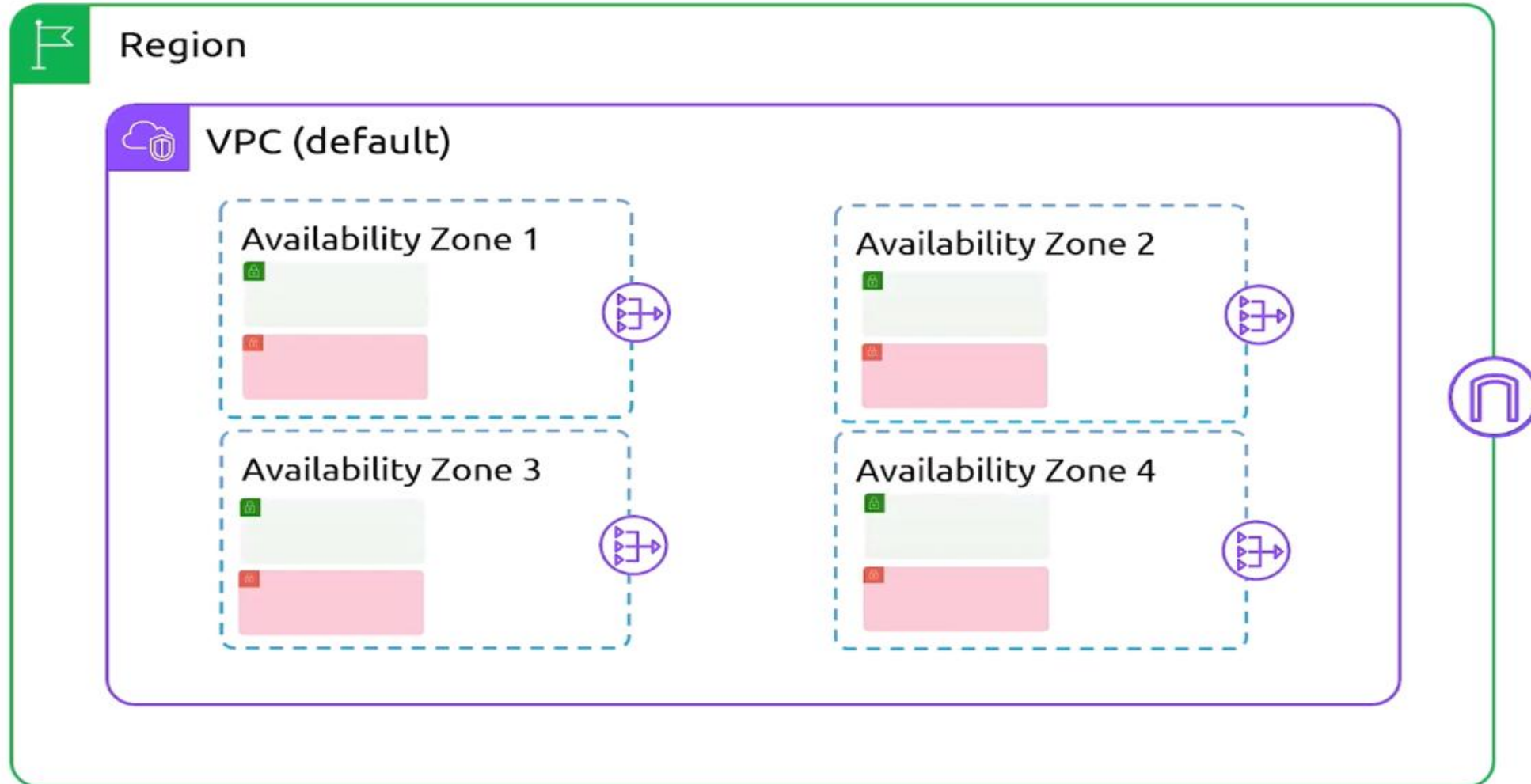
# NAT Gateway



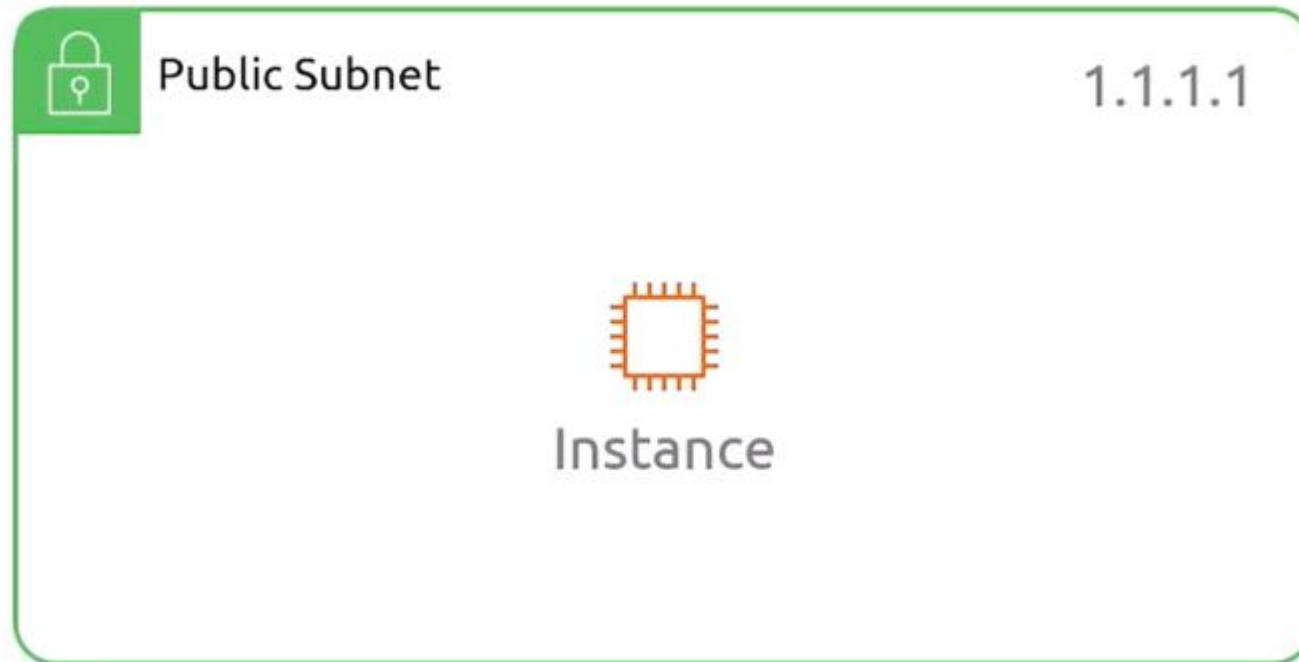
Charged per hour and per  
GB of data processed



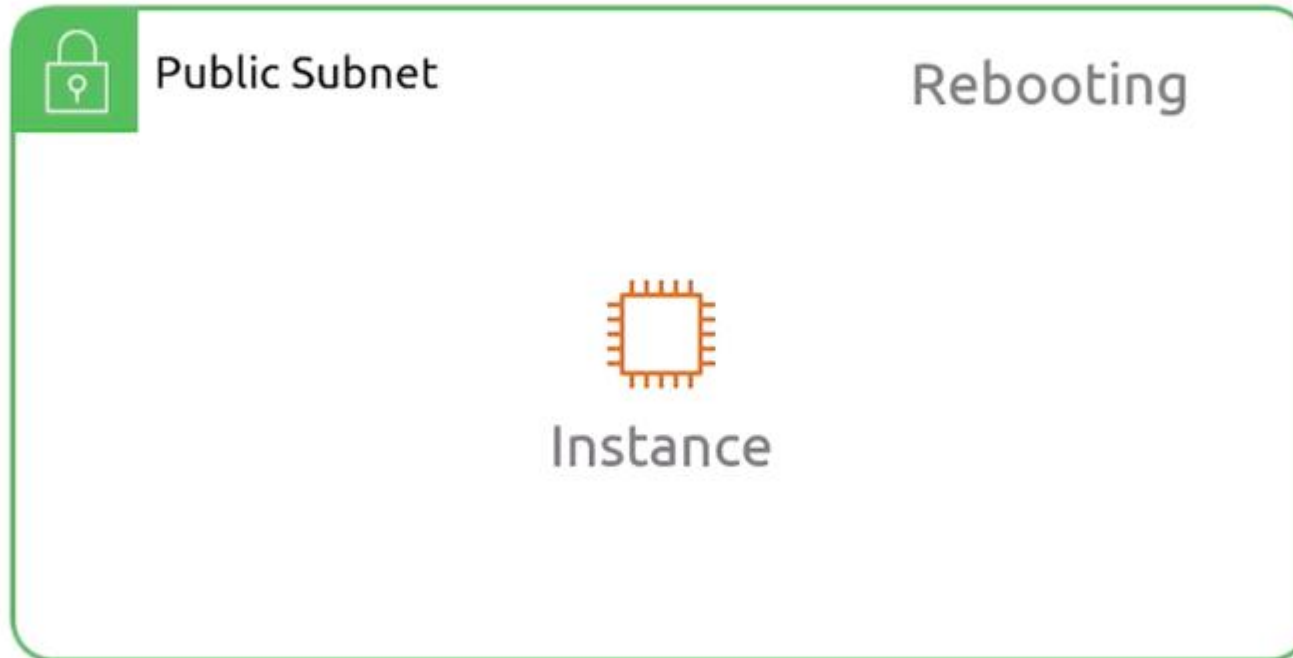
# NAT Gateway



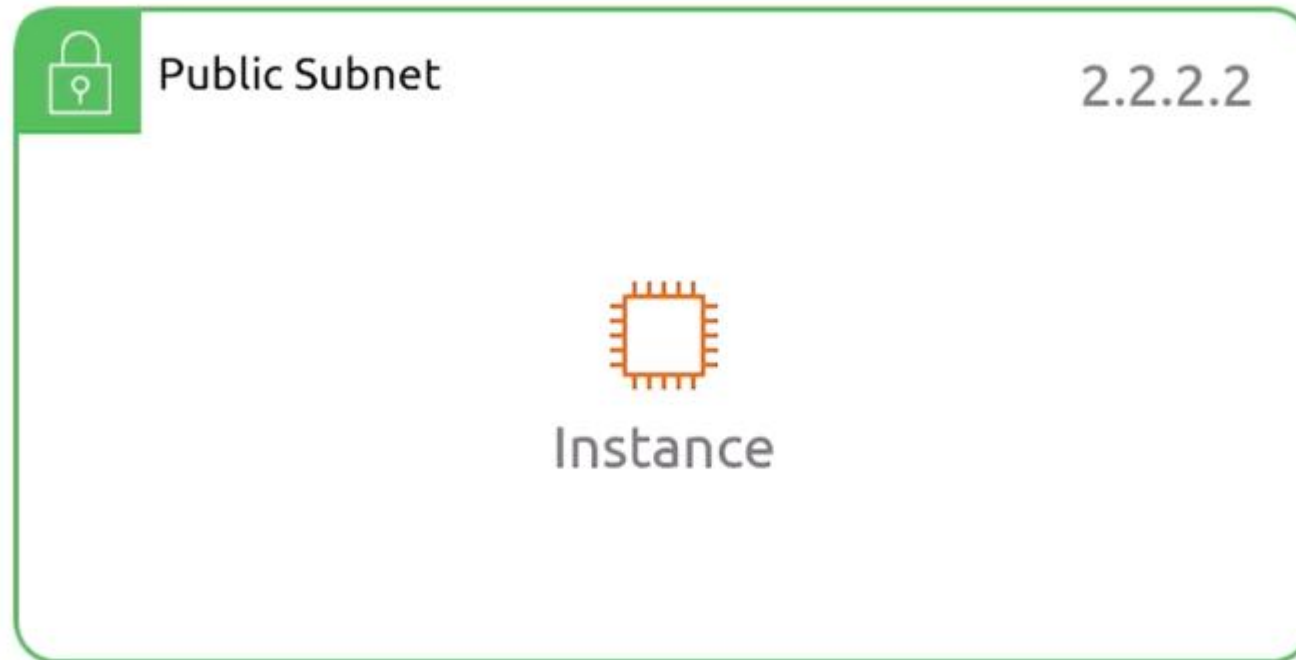
# Elastic IPs



# Elastic IPs



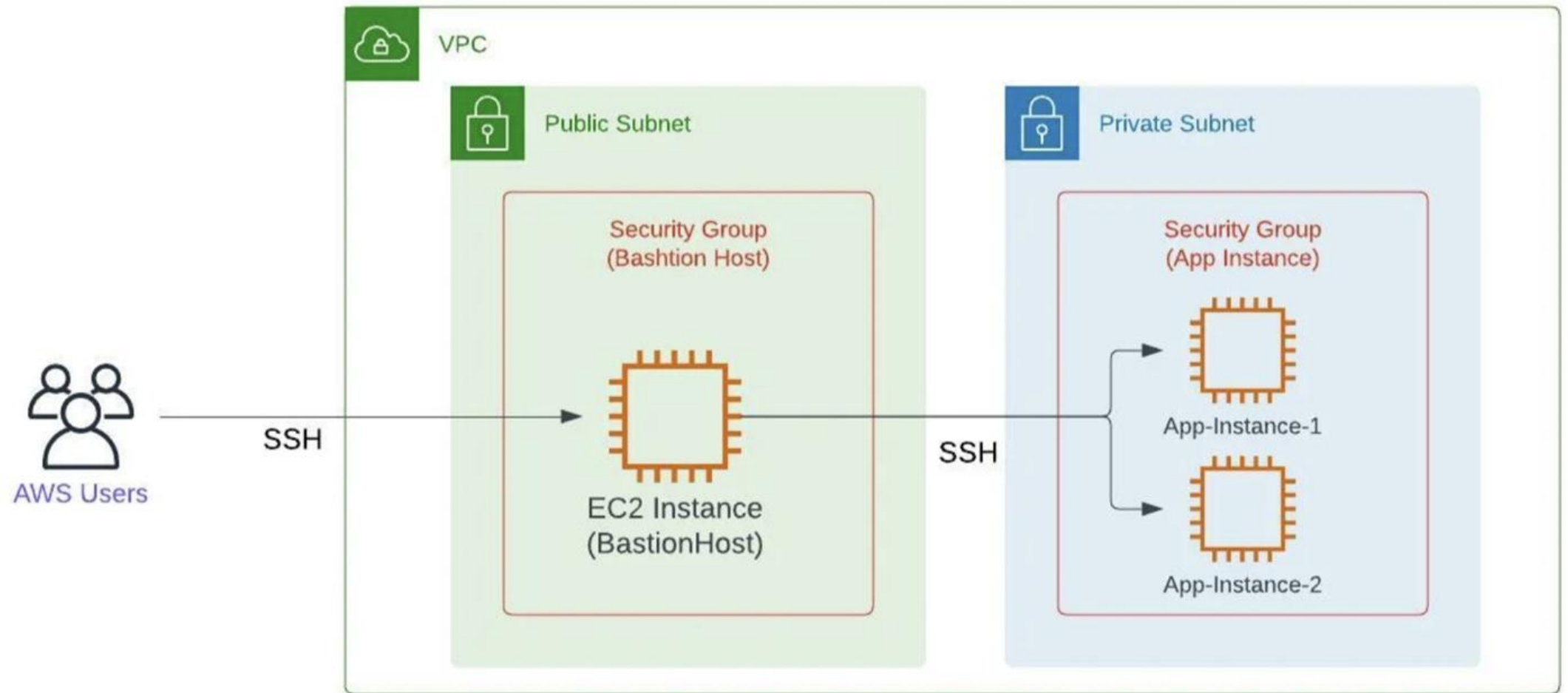
# Elastic IPs



# Elastic IPs



# Bastion Host



**THANKS FOR LISTENING**