#### VPC -Scenario-1

- 1. Create VPC for "10.20.0.0/20" for 300 IP's per Network and Consecutive 6 networks. (6 Subnets)
- 2. Create Internet Gateway and attach it to YOUR VPC.
- 3. Add below Routing entries in the Routing Table.
  - a. "0.0.0.0/0" 2 "I.G that has been created".
  - b. "::/0" 2 "I.G that has been created".
- 4. Create EC2 instance and ENABLE both "Public IPV4" and "Public IP v6".
- 5. Create an "New" key for this instance.
- 6. Access the EC2 Instance via internet (SSH, as it would be an linux machine)

Solution: On AWS CLI Command Sequence

Note:-- Please make a note of , VPC-ID, Subnet-ID, Routing-table-ID, Internet-Gateway-ID,

1. aws ec2 create-vpc --cidr-block 10.20.0.0/20 --amazon-provided-ipv6-cidr-block

### Output:



aws ec2 describe-vpcs --vpc-ids vpc-XXXXXXXXXXXXXXX → will give the details of the IPv6 that is assigned.

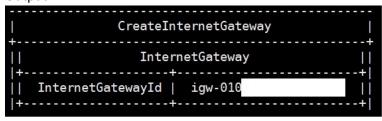
## **'Output:**

```
CreateSubnet
                        Subnet
AssignIpv6AddressOnCreation
AvailabilityZone
                                us-east-la
AvailableIpAddressCount
                                507
CidrBlock
                                10.20.0.0/23
DefaultForAz
                                False
MapPublicIpOnLaunch
                                False
State
                                pending
SubnetId
                                subnet-02a
                                vpc-0a40fd
VpcId
              Ipv6CidrBlockAssociationSet
 AssociationId |
                  subnet-cidr-assoc-00591da9a1f4ca9b6
                  2600:1f18:448f:6b00::/64
 Ipv6CidrBlock |
                  Ipv6CidrBlockState
                    associating
  State
```

#### Similarly Create 5 more subnets

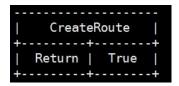
- 3. aws ec2 create-internet-gateway

#### Output:

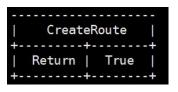


3.2 aws ec2 attach-internet-gateway --internet-gateway-id igw-0105e7d41e5XXXXXX --vpc-id vpc-0a40fd2844ffbXXXX

```
4.1 aws ec2 create-route --destination-cidr-block 0.0.0.0/0 -- gateway-id igw-0105e7d41e58XXXXX --route-table-id rtb-0613fa3d649aXXXXX
```



4.1 aws ec2 create-route --destination-ipv6-cidr-block ::/0 --gateway-id igw-0105e7d41e58XXXXX --route-table-id rtb-0613fa3d649aXXXXX



- 5.0 Add subnet attribute to enable, Auto-assign IPv6 and IPv4, below are the commands respectively
- a. aws ec2 modify-subnet-attribute --subnet-id subnet-02a7734fecf9XXXXX --assign-ipv6-address-on-creation
- **b.** aws ec2 modify-subnet-attribute --subnet-id subnet-02a7734fecf9XXXXX --map-public-ip-on-launch
- 6.1 Create security group on the VPC

aws ec2 create-security-group --description SSH-port --group-name SSH-port --vpc-id vpc-0a40fd2844ffXXXXX

```
output:
{
    "GroupId": "sg-02733e1b625ed1a67"
}
```

6.2 Assign rules to the security group

#### 7.0 Create the EC2 instance

Output:

DescribeInstances	
Reservations	
OwnerId      ReservationId    +	766476266373    r-0bba3a1a1abdc2a77
Instances	
	0       x86_64
Ebs0ptimized     EnaSupport	False       True
Hypervisor     ImageId     InstanceId	xen   ami-b70554c8       i-034d152
InstanceType     KeyName     LaunchTime	t2.micro       b16-key1       2018-08-10T05:31:28.000Z
PrivateDnsName     PrivateIpAddress     PublicDnsName	ip-10-20-0-179.ec2.internal       10.20.0.179
PublicIpAddress     RootDeviceName	107.23.
RootDeviceType     SourceDestCheck     StateTransitionReason	ebs       True     
SubnetId     VirtualizationType     VpcId	subnet-02a7734fecf9b4b4a       hvm       vpc-0a40fd2:
++        BlockDeviceMappings	
+      DeviceName	++      /dev/xvda

To delete the Complete Setup

1. delete the instance

aws ec2 terminate-instances --instance-ids i-03cef0d6afe8XXXXX

2. Delete the security group

aws ec2 delete-security-group --group-id sg-02733e1b625XXXXX

3. Remove the routing table entry for default routes

aws ec2 delete-route --route-table-id rtb-0613fa3d649XXXXXX --destination-cidr-block 0.0.0.0/0 aws ec2 delete-route --route-table-id rtb-0613fa3d649XXXXXX --destination-ipv6-cidr-block ::/0

4. Detach the VPC from internet-Gateway

aws ec2 detach-internet-gateway --internet-gateway-id igw-0105e7d41e5XXXXXX --vpc-id vpc-0a40fd2844fXXXXXX

5. Delete the Internet-Gateway

aws ec2 delete-internet-gateway --internet-gateway-id igw-0105e7d41e5XXXXXX

6. Delete the subnets

aws ec2 delete-subnet --subnet-id subnet-02a7734fecfXXXXXX - ALL The 6 subnets to be Deleted.

# 7. Delete the VPC

aws ec2 delete-vpc --vpc-id vpc-0a40fd2844fXXXXXX