

3. Create a VPC with 6 subnets across 3 different AZs. Each AZ should have a public and a private subnet.

Deliverable :- aws cli command shell script

Creating a VPC:

```
ubuntu@ip-172-31-41-189:~$ aws ec2 create-vpc --cidr-block 10.0.0.0/16
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
```

An error occurred (VpcLimitExceeded) when calling the CreateVpc operation: The maximum number of VPCs has been reached.

Using an existing vpc as we can't create any more VPCs

VPC ID: vpc-069e748a5ac66b87c

Creating subnets in different AZs:

```
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1a --cidr-block 10.0.7.0/24
```

```
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
```

```
{
  "Subnet": {
    "AvailabilityZone": "us-east-1a",
    "AvailabilityZoneId": "use1-az2",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.7.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "pending",
    "SubnetId": "subnet-02520747c9bc0b34a",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-02520747c9bc0b34a"
  }
}
```

```
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1a --cidr-block 10.0.8.0/24
```

```
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
```

```
{
  "Subnet": {
    "AvailabilityZone": "us-east-1a",
    "AvailabilityZoneId": "use1-az2",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.8.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "pending",
    "SubnetId": "subnet-022a71aedfc1c043e",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
```

```

    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-022a71aedfc1c043e"
  }
}
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1b --cidr-block 10.0.9.0/24
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "Subnet": {
    "AvailabilityZone": "us-east-1b",
    "AvailabilityZoneId": "use1-az4",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.9.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "pending",
    "SubnetId": "subnet-0fb566404e06eb7cb",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-0fb566404e06eb7cb"
  }
}
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1b --cidr-block 10.0.10.0/24
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "Subnet": {
    "AvailabilityZone": "us-east-1b",
    "AvailabilityZoneId": "use1-az4",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.10.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "pending",
    "SubnetId": "subnet-04405bfc9c43d9021",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-04405bfc9c43d9021"
  }
}
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1c --cidr-block 10.0.11.0/24
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "Subnet": {
    "AvailabilityZone": "us-east-1c",
    "AvailabilityZoneId": "use1-az6",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.11.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,

```

```

    "State": "pending",
    "SubnetId": "subnet-0e5679e085dba34f1",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-0e5679e085dba34f1"
  }
}
ubuntu@ip-172-31-41-189:~$ aws ec2 create-subnet --vpc-id vpc-069e748a5ac66b87c --availability-zone
us-east-1c --cidr-block 10.0.12.0/24
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
RequestsDependencyWarning)
{
  "Subnet": {
    "AvailabilityZone": "us-east-1c",
    "AvailabilityZoneId": "use1-az6",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.12.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "pending",
    "SubnetId": "subnet-04d297c358eda1bf4",
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:488599217855:subnet/subnet-04d297c358eda1bf4"
  }
}
ubuntu@ip-172-31-41-189:~$

```

Making 1 subnet public from each AZ:

- Creating Internet Gateway:

```

ubuntu@ip-172-31-41-189:~$ aws ec2 create-internet-gateway
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
RequestsDependencyWarning)

```

An error occurred (InternetGatewayLimitExceeded) when calling the CreateInternetGateway operation: The maximum number of internet gateways has been reached.

Since maximum number of internet gateways has been reached, we'll use an existing IG.

- Creating a route table:

```

ubuntu@ip-172-31-41-189:~$ aws ec2 create-route-table --vpc-id vpc-069e748a5ac66b87c
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
RequestsDependencyWarning)
{
  "RouteTable": {
    "Associations": [],
    "PropagatingVgws": [],
    "RouteTableId": "rtb-08c651ee5ee1c814f",
    "Routes": [
      {
        "DestinationCidrBlock": "10.0.0.0/16",
        "GatewayId": "local",

```

```

        "Origin": "CreateRouteTable",
        "State": "active"
    }
],
    "Tags": [],
    "VpcId": "vpc-069e748a5ac66b87c",
    "OwnerId": "488599217855"
}
}

```

- Configuring the newly created route table:

GATEWAY:

```

ubuntu@ip-172-31-41-189:~$ aws ec2 create-route --route-table-id rtb-08c651ee5ee1c814f --destination-
cidr-block 0.0.0.0/0 --gateway-id igw-0533b92926552129d
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "Return": true
}

```

PUBLIC SUBNETS:

```

ubuntu@ip-172-31-41-189:~$ aws ec2 associate-route-table --subnet-id subnet-02520747c9bc0b34a --
route-table-id rtb-08c651ee5ee1c814f
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "AssociationId": "rtbassoc-065d17a5f92c13cc1"
}
ubuntu@ip-172-31-41-189:~$ aws ec2 associate-route-table --subnet-id subnet-0fb566404e06eb7cb --
route-table-id rtb-08c651ee5ee1c814f
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "AssociationId": "rtbassoc-04cf1f59c8ac1ec87"
}
ubuntu@ip-172-31-41-189:~$ aws ec2 associate-route-table --subnet-id subnet-0e5679e085dba34f1 --
route-table-id rtb-08c651ee5ee1c814f
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "AssociationId": "rtbassoc-0c94a11fb1218a2ff"
}
ubuntu@ip-172-31-41-189:~$

```

PRIVATE SUBNETS:

```

ubuntu@ip-172-31-41-189:~$ aws ec2 associate-route-table --subnet-id subnet-022a71aedfc1c043e --
route-table-id rtb-0841d774ca6aff074
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!
  RequestsDependencyWarning)
{
  "AssociationId": "rtbassoc-0e86f155a35d38be9"
}
ubuntu@ip-172-31-41-189:~$ aws ec2 associate-route-table --subnet-id subnet-04405bfc9c43d9021 --
route-table-id rtb-0841d774ca6aff074

```

/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!

RequestsDependencyWarning)

{

"AssociationId": "rtbassoc-0d6e17aefb56fa349"

}

ubuntu@ip-172-31-41-189:~\$ **aws ec2 associate-route-table --subnet-id subnet-04d297c358eda1bf4 --
route-table-id rtb-0841d774ca6aff074**

/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning: urllib3 (1.25.3) or
chardet (3.0.4) doesn't match a supported version!

RequestsDependencyWarning)

{

"AssociationId": "rtbassoc-0e8aec2144aadd56"

}

ubuntu@ip-172-31-41-189:~\$