**HOW TO CREATE VPC**

Create vpc

Vpc setting-resoucer to create-{ select vpc only}

Name of vpc – {}

Select ipv4cidr block – {ipv4 cidr manual input}

Ipv4 cidr – {172.20.0.0/20}

Ipv6 cidr block – { no ipv6 cidr block}

Tenancy – {default}

Create vpc

**RANGES to create vpc and subnet**

[ vpc ( 172.20.0.0/20) ]

**Subnet range**

My public subnet1-[172.20.0.0/24] (AZ – 1a)

My public subnet2-[172.20.1.0/24] (AZ – 1b)

My private subnet1-[172.20.2.0/24] (AZ – 1c)

My private subnet2-[172.20.3.0/24] (AZ – 1d)

**NOTE** :- **AFTER CREATING A VPC WE HAVE TO CREATE SUBNET**

STEP FOR CREATING SUBNET

CREATE SUBNET

Vpc ID – { select your created vpc}

**Subnet settings**

Subnet name – {my-public-subnet1}

Availability zone – {us-1a}

Ipv4 cidr block – { 172.20.0.0/24}

**Add subnet**

Subnet name – {public-subnet-2}

Availability zone –{us -1b}

Ipv4 cidr block – {172.20.1.0/24}

**Add subnet**

Subnet name – {private-subnet-1}

Availability zone – {us -1c}

Ipv4 cidr block – {172.20.2.0/24}

**Add subnet**

Subnet name – {private-subnet2}

Availability zone – {us -1d}

Ipv4 cidr block – {172.20.3.0/24}

**Create subnet**

**Note** :- now if you want to make your subnet public,

So for that we have to follow below steps

Steps

First we have to select subnet (which we want to make public)

Then click on {action} – {edit subnet setting}

Go to auto-assign IP setting

* ENABLE AUTO-ASSING PUBLIC IPV4 ADDRESS

**SAVE**

**Note :- 1) if we want public IP in your instance ,so select created public subnet.**

**2) once you create instance then it will show public as well as private Ip**

**3) if you want private IP in your instance ,so select created private subnet.**

**4) Here you can see only private IP.**

Now we have to launch instances using created vpc & subnets

1} Launch instance – { my-private-instance}-{select keypairs} {ssh-http}

Network setting

Select your created vpc

Select your created subnet - {private subnet}

{Launch instance}

2} Launch instance – { my-public-instance}-{select keypairs} {ssh-http}

Network setting

Select your created vpc

Select your created subnet - { public subnet}

{Launch instance}

Now try to take ssh of your public instance ,but it will not get connected.

Because we has not created {internet gateways} – {route table}

**Internet gateways**

**Create internet gateway**

Internet gateway settings

Name tag –{ my-first-igw}

Create internet gateway

Then select your created internet gateway

Go to {action} – {attach to vpc}

Select your created vpc

**Attach internet gateways**

Now go to **ROUTE TABLES**

AND go inside your created internet gateway

Routes

Edit routes

Add routes – destination {0.0.0.0/0}, - target { internet gateway},

**Save change**

**Now try to take ssh of your public IP instance**

**NAT GATEWAYS**

Now we have to get access of private IP with the help of NET GATEWAYS

Create vpc

Create subnet

Launch two instances

1 give public subnet

2 give private subnet

Create internet gateways

Create route tables

Create NAT GATEWAYS

**Steps to create NAT GATEWAYS**

Create NAT gateways

Name - {my-first-nat}

Subnet –{ select public subnet}

Connectivity type –{ public}

Elastic IP allocation ID - click on {allocate Elastic IP} – it will create automatically

**Create NAT gateway**

Then go to route table

And your nat-route table is created by default

Now click on your created by default nat-route table

Now go to subnet associations

Edit subnet association

Select your private subnet

Save association

Now go to route {0.0.0.0/0}-{nat gateway}

**Save change**

Now go to mobaXterm and take ssh of first instance (public)

sudo –i

upload a created keypair

ssh –i /home/ec2-user/suchi-key.pem(keypair name) [ec2-user@172.20.2.246](mailto:ec2-user@172.20.2.246) – (private IP of your private “second instance”)

ping 8.8.8.8