**VPC ( VIRTUAL PRIVATE CLOUD ) :**

video 3 --> 50:00

>> Till now we created default security group incase if we want to create own security group based on the range in that scenario we will use VPC.

>> By default each and every account one security group will be there

**THEORY :**

>> we have total four classes in ip address like 192.168.33.10 but here we can change class c and class d

>> first we have to create VPC after that we have to create subnets in availability zone

>>First i i have to create VPC after that i will take two availability zone like **AZ-1 AZ-2** and inside the availability zone i will create two subnets like **subnet-1 subnet-2** ( take one subnet as public and one is private ) private means same organization only can access it

>> Now i will assign ip range for subnets

**In AZ-1**

subnet-1 is public ip address is 10.81.1.0/24

subnet-2 is private ip address is 10.81.2.0/24 ------>outside people can not connect

same ip address we can not give it will not accept

**In AZ-2**

subnet-1 is public ip address is 10.81.3.0/24

subnet-2 is private ip address is 10.81.4.0/24

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NOW login to AWS account

services ----> search VPC

>>dont click on start VPC window , click on VPC or your it will be left side

**enter VPC NAME** : devops-testvpc

**IPV4 cidr BLOCK :** 10.81.0.0/16 -------------> here range we need to specify

Classless Inter-Domain Routing (CIDR)

**click on create**

**>>VPC will be created**

**>> Now select subnets and click on create subnets ,**

**enter subnet name :** subne1-public

VPC: devops-test-vpc ---------> select VPC what you have created

it means subnet1 is creating within the VPC

>> AVAILABILITY ZONE

select availability zone , in which AZ subnet needs to be create

AVAILABILITY ZONE : us-east-fa

**IPV4 CIDR block :** 10.81.1.0/24 ------------> we have to give subnet range

click on yes,create

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>> Now again i have to create subnet-2

name : subnet1-private

vpc : 10.01.0.0/16

availability zone : us-east-fa

ipv4 :10.81.2.0/24

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create subnet2 in another availability zone

**enter subnet name :** subne2-public

VPC : devops-test-vpc ---------> select VPC what you have created

it means subnet1 is creating within the VPC

>> AVAILABILITY ZONE

select availability zone , in which AZ subnet needs to be create

AVAILABILITY ZONE : us-east-fb

ipv4 : 10.81.3.0/24

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**enter subnet name :** subne2-private

VPC : devops-test-vpc ---------> select VPC what you have created

it means subnet1 is creating within the VPC

>> AVAILABILITY ZONE

select availability zone , in which AZ subnet needs to be create

AVAILABILITY ZONE : us-east-fb

ipv4 : 10.81.3.0/24

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**NOW I HAVE TO CREATE ROUTE TABLE :**

**WHAT IS ROUTER :**

>> Why we are using ROUTER is all subnets to connect internally or communicate internally we are creating router.

>>Once we create ROUTER then we have to create IGW ( INTERNET GATE WAY )

>> Why we have to create IGW is if we create IGW anyone (public) can access your servers

**HOW TO CREATE ROUTE TABLE :**

Left side you can see the option like route table click on that and select create a route table

Now enter route table name

**Name tag: Route-1**

**VPC: devops-test-vpc ----------> select vpc which you have created**

click on **yes,create**

**>> Once we created router after that we have to create IGW ( internet gate way )**

**HOW TO CREATE IGW :**

left side IGW option will be there , click on that

**Name tag : IGW-1**

click on **tes,create**

i created IGW now what i have to do is i have to connect that IGW to VPC

**HOW TO ATTACH IGW TO VPC :**

select IGW-1 goto actions click on attach vpc and select vpc ( which you have created ) after that click on attach

>>Now come back to route table , already we created one route table once we select that down side you can see one option that **ROUTES** click on routes and click on edit router after that click on add another route why because we have to attach to IGW

destination Target

0.0.0.0./0 select IGW-1

Now click on save it

**>>Once we connect router with VPC whatever the subnets we created inside the VPC all subnets will be connected to router.**

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**SERVICES ----->EC2------>LAUNCH INSTANCE**

**select one instance**

>> While we are launching the instance at the third step ( Configure instance ) we have to select network here select VPC ( which you have created ) here total four subnets will be displayed select anyone subnet ( subnet1-public )

at the 6th step **Configure Security Group**

here **assign a security group** : click on create new or if you have to created already then click on select an existing security group

here we have to enable the port numbers

click on EC2 , now instance is launching , private ips :

>> to create own network we are using VPC

**HOW TO DELETE :**

**how to delete VPC**

**select VPC go to actions and click on delete VPC ----> yes , delete**