**9 To Create your own VPC**

**AIM:** To setup own VPC in AWS account.

Amazon Virtual Private Cloud (Amazon VPC) lets you provision a logically isolated section of the Amazon Web Services (AWS) cloud where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways. You can use both IPv4 and IPv6 in your VPC for secure and easy access to resources and applications. You can easily customize the network configuration for your Amazon Virtual Private Cloud.

**PROCEDURE:**

1. Login to **AWS**
2. Once login into AWS successfully, click on “**Services”** at the upper left corner.
3. From the Services Tab →Select Networking & Content Delivery →Select VPC →then Select Your VPC → click on “Create VPC”.

**WATCH OUT:** There is a default VPC that has been created while your account is set up. A default VPC is ready for you to use. Now create a NEW VPC for experiment.

1. Specify your VPC Name and CIDR (Classless Inter-Domain Routing), Here we are using the followings:

VPC Name = HYDVPC

IPV4 CIDR = 192.168.0.0/16

1. Click on “Yes,Create” option
2. VPC is created, Review it.
3. As soon as we create VPC, aws will create the following:
   1. Route Table
   2. Network ACLs
   3. Security Group

**10& 11 To Create public & private subnet**

**AIM: Create public and private subnets under VPC.**

**PROCEDURE:**

1. Go to VPC Dashboard -🡪Select Subnets
2. Click on Create Subnet button
3. On Create Subnet, page:

Name tag: hyd-pub-subnet

VPC: HYDVPC

VPC CIDRs: 192.168.0.0/16

Availability Zone: No preferences

IPV4 CIDR block: 192.168.10.0/24

Click on Yes Create button

1. Verify🡪Hyd-pub-subnet got created under subnet list.
2. Repeat step 2
3. On Create Subnet, page:

Name tag: hyd-pvt-subnet

VPC: HYDVPC

VPC CIDRs: 192.168.0.0/16

Availability Zone: No preferences

IPV4 CIDR block: 192.168.20.0/24

Click on Yes Create button

1. Verify🡪Hyd-pvt-subnet got created under subnet list.

**12. Create an Internet gateway and attach to VPC**

**AIM: Create and attach Internet Gateway to created VPC.**

**PROCEDURE:**

1. Go to VPC Dashboard🡪 Internet Gateway
2. Click on Create Internet Gateway button
3. In Create Internet Gateway, box

Name tag🡪 HYDIGW

Click “Yes, Create”

1. Verify “HYDIGW” Under Internet Gateway with status “detached”.
2. Select HYDIGW Click “Attach to VPC”
3. In “Attach to VPC” box For

VPC -> HYDVPC

Click on “Yes, Attach” button

1. Verify “HYDIGW” Under Internet Gateway with status “attached” to HYDVPC.

**13.AIM: Create Pubic Routing Table, associate subnet and add routing rules**

**PROCEDURE:**

1. Go to VPC Dashboard🡪Route Table
2. Click on “Create Route Table” button.
3. In Create Route Table” box For

Name tag 🡪hyd-pub-route

VPC -> HYDVPC

Click on “Yes, Create” button

1. Verify “hyd-pub-route table” is created under route table.
2. Select “ hyd-pub-route” 🡪 Look bottom🡪Click on “Subnet Association” button
3. Click on Edit button-🡪Select checkbox of “hyd-pub-subnet” 🡪 192.168.10.0/24
4. Verify “hyd-pub-subnet” is associated with routing table“ hyd-pub-route”
5. Select “ hyd-pub-route” 🡪 Look bottom🡪Click on “Route” button
6. Click on Edit button🡪Click on” Add another route” button

Destination -> 0.0.0.0/0

Target ->select HYDIGW

Click on Save button

1. Verify Public route is added through internet gateway
2. Check Status “Active” under route button for added ones.

14. **AIM: Create Private Routing Table, associate subnet and add routing rules**

1. Go to VPC Dashboard🡪 Route Table
2. Click on “Create Route Table” button.
3. In Create Route Table” box For

Name tag 🡪hyd-pvt-route

VPC -> HYDVPC

Click on “Yes, Create” button

1. Verify “hyd-pvt-route table” is created under route table.
2. Select “ hyd-pvt-route” 🡪 Look bottom🡪Click on “Subnet Association” button
3. Click on Edit button-🡪Select checkbox of “hyd-pvt-subnet” 🡪 192.168.20.0/24
4. Verify “hyd-pvt-subnet” is associated with routing table “hyd-pvt-route”
5. Select “ hyd-pvt-route” 🡪 Look bottom🡪Click on “Route” button.
6. **Note:No need to add IGW in pvt route**

15. **AIM: To launch Windows instance in Public subnet**

**PROCEDURE:**

1. AWS Console 🡪 Services🡪 EC2🡪 Click on Instance
2. Select IAM “**Microsoft windows server 2012 Base -ami-a1c1ddd8**” free tier eligible.
3. On the “Choose an Instance Type” 🡪Select “General purpose t2.micro”
4. Click on “Next Configure Instance Details” button
5. On the “Configure Instance Details” page

“Number of instances”🡪 1

“Network” 🡪 HYDVPC

“Subnet” 🡪hyd-pub-subnet

Auto-assign Public IP 🡪 Enable

Click on “Next: Add Storage” button

1. On the “Add storage” page Take default values
2. Click on “Next: Add tags” button🡪Click on “Add tag” button

For “Key”🡪Name

For Value🡪Winpubvm

Click on “Next:Configure Security Group”

1. On the “Configure security group” page take default values
2. Click on “Review and Launch”
3. Select “Create a new key pair”

“Key Pair name” 🡪winkey

1. Click on “Download Key Pair” button
2. Click on “Launch instance button”
3. Verify the instance is Running with added configuration.

16. **AIM:To launch Windows instance in private Subnet under your VPC**

**PROCEDURE:**

1. AWS Console 🡪 Services🡪 EC2🡪 Click on Instance
2. Select IAM “**Microsoft windows server 2012 Base -ami-a1c1ddd8**” free tier eligible.
3. On the “Choose an Instance Type” 🡪Select “General purpose t2.micro”
4. Click on “Next Configure Instance Details” button
5. On the “Configure Instance Details” page

“Number of instances”🡪 1

“Network” 🡪 HYDVPC

“Subnet” 🡪hyd-pvt-subnet

Auto-assign Public IP 🡪Disable

Click on “Next: Add Storage” button

1. On the “Add storage” page Take default values
2. Click on “Next: Add tags” button🡪Click on “Add tag” button

For “Key”🡪Name

For Value🡪Winpvtvm

Click on “Next:Configure Security Group”

1. On the “Configure security group” page take default values
2. Click on “Review and Launch”
3. Select “Choose an existing key pair”

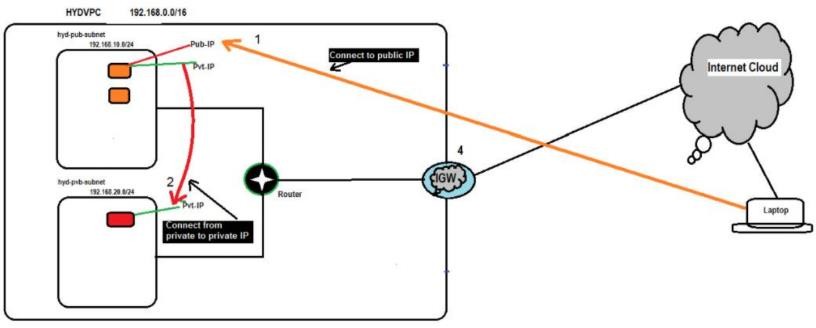
“Key Pair name” 🡪winkey

Select I acknowledge check box Click on “Launch Instance” button

1. Verify the instance is Running with added configuration.

**NOTE: Output shows that both instances in public & private subnet are running.**

**Now to connect an instance in private subnet first connect an instance in public network then from there connect to an instance in private subnet as shown in diagram**



**17. AIM: To Connect to Public subnet instance**

**PROCEDURE:**

1. First locate the public IP of a public instance.
2. Click on “Connect” button
3. Click on “Download Remote Desktop file” Click on “Get Password”
4. Provide the path of key file Click on Choose file button.
5. Select the key file Click on Open button.
6. Now click on “Decrypt Password” button
7. Verification:Password is generated copy in notepad Click on Close button
8. Double Click on RDP file
9. Click on “Connect” button

Windows Username -> Administrator

Password -> Paste the password

Click on OK button

1. Click on Yes button,for verification.
2. Now you are connected to Windows Public instance

NOTE: On Windows Desktop public and private both IP’s are displayed

**18. AIM: To connect to Private Subnet instance**

**PROCEDURE:**

1. Go to EC2 Dashboard Select private instance
2. Get the private IP of the instance
3. Click on Connect button
4. To get the password
5. Click on “Get Password” button
6. Click on “Decrypt Password”
7. Verify- IP and password of private subnet instance is provided
8. Now logging to public instance🡪Open Run 🡪type mstsc to connect to window private instance

Provide private instance

Private IP -> 192.168.20.87

Username -> Administrator

Password -> Go-,@17

1. Now Provide Username & password
2. Verification- Check private IP at Right top corner
3. Now you are connected to windows private instance

**NOTE: REFER LAB MANUAL FOR DETAIL SCREEN SHOTS**

**19: AIM To Connect Linux instance in private subnet**

**20: AIM: To Connect Linux instance in public subnet**

**REFER LAB MANUAL**