

Step 1:-

create a VPC-

The screenshot shows the AWS Management Console interface for creating a new VPC. The breadcrumb navigation at the top reads 'VPC > Your VPCs > Create VPC'. The main heading is 'Create VPC' with an 'Info' link. Below this, a descriptive sentence states: 'A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.' The 'VPC settings' section contains the following options:

- Resources to create:** Two radio buttons are present: 'VPC only' (which is selected) and 'VPC and more'.
- Name tag - optional:** A text input field containing the value 'my-vpc-01'. A small note indicates it creates a tag with a key of 'Name' and a value that you specify.
- IPv4 CIDR block:** Two radio buttons are present: 'IPv4 CIDR manual input' (selected) and 'IPAM-allocated IPv4 CIDR block'.
- IPv4 CIDR:** A text input field containing '10.0.0.0/24'. A note below states: 'CIDR block size must be between /16 and /28.'
- IPv6 CIDR block:** Two radio buttons are present: 'No IPv6 CIDR block' (selected) and 'IPAM-allocated IPv6 CIDR block'.

The footer of the console shows 'CloudShell', 'Feedback', and copyright information for 2025.

Step 2:-

Create 2 subnets one public and private, set CIDR values with caution as we need to communicate outside the region so the CDIR/IP's should never overlap each other.

The screenshot shows the AWS Management Console interface for creating a new subnet. The breadcrumb navigation at the top reads 'VPC > Subnets > Create subnet'. The main heading is 'Create subnet' with an 'Info' link. The form is divided into two main sections:

- VPC:** A section titled 'VPC ID' with the instruction 'Create subnets in this VPC.' It features a dropdown menu currently showing 'Select a VPC'.
- Subnet settings:** A section titled 'Subnet settings' with the instruction 'Specify the CIDR blocks and Availability Zone for the subnet.' It includes a note: 'Select a VPC first to create new subnets.' and a button labeled 'Add new subnet'.

At the bottom right of the form, there are two buttons: 'Cancel' and 'Create subnet'.

The footer of the console shows 'CloudShell', 'Feedback', and copyright information for 2025.

Step 3:-

Create a Internet Gateway and attach to the user created VPC.

The screenshot shows the AWS Management Console interface for creating an internet gateway. The breadcrumb navigation at the top reads 'VPC > Internet gateways > Create internet gateway'. The main heading is 'Create internet gateway' with an 'Info' link. Below this is a descriptive sentence: 'An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.' The form is divided into two sections: 'Internet gateway settings' and 'Tags - optional'. In the 'Internet gateway settings' section, there is a 'Name tag' field with the value 'my-internet-gateway' entered. The 'Tags - optional' section includes a description of tags and an 'Add new tag' button. At the bottom right of the form, there are 'Cancel' and 'Create internet gateway' buttons. The footer of the console shows 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc.

Step 4:-

Create a NGW(Nat-gateway), while creating attach the NGW to public subnet. Allocate elastic Ip to NGW always while creating.

The screenshot shows the AWS Management Console interface for creating a NAT gateway. The breadcrumb navigation at the top reads 'VPC > NAT gateways > Create NAT gateway'. The main heading is 'Create NAT gateway' with an 'Info' link. Below this is a descriptive sentence: 'A highly available, managed Network Address Translation (NAT) service that instances in private subnets can use to connect to services in other VPCs, on-premises networks, or the internet.' The form is divided into two sections: 'NAT gateway settings' and 'Additional settings'. In the 'NAT gateway settings' section, there is a 'Name - optional' field with the value 'my-nat-gateway-01' entered. Below this is a 'Subnet' dropdown menu with the value 'Select a subnet' selected. The 'Connectivity type' section has two radio buttons: 'Public' (selected) and 'Private'. The 'Elastic IP allocation ID' section has a dropdown menu with the value 'Select an Elastic IP' selected and an 'Allocate Elastic IP' button. At the bottom of the form, there is an 'Additional settings' section with an 'Info' link. The footer of the console shows 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc.

Step 5:- Creating Route Tables

- 1- Create route table, one public and other private.
- 2- Add internet gateway to public route.
- 3- Add Nat-gateway to private route.
- 4- Edit subnet association of public route to public subnet.
- 5- Edit subnet association of private route to private subnet.

The screenshot shows the 'Create route table' page in the AWS Management Console. The page has a dark header with the AWS logo, a search bar, and navigation icons. Below the header, there's a breadcrumb trail: 'VPC > Route tables > Create route table'. The main content area is titled 'Create route table' with a sub-header 'Route table settings'. It includes a text input for 'Name - optional' with the value 'my-route-table-01', a dropdown for 'VPC' with the text 'Select a VPC', and a section for 'Tags' with an 'Add new tag' button. At the bottom right, there are 'Cancel' and 'Create route table' buttons. The footer contains 'CloudShell', 'Feedback', and copyright information.

Step 6:- Creating two Ec2 instances.

- 1- Create one public ec2 instance in one AZ(availability zones), the security group should be all traffic.
- 2- Create another private ec2 instance in other AZ, security group should be same which is used in public instance.

The screenshot shows the 'Instances' page in the AWS Management Console. The page has a dark header with the AWS logo, a search bar, and navigation icons. Below the header, there's a breadcrumb trail: 'EC2 > Instances'. The main content area is titled 'Instances' with a sub-header 'Info'. It includes a search bar, a table with columns 'Name', 'Instance ID', 'Instance state', 'Instance type', 'Status check', 'Alarm status', and 'Availability Zone'. The table is empty, and there's a 'Launch instances' button. A red box highlights the 'Launch instances' button in the top right corner. The footer contains 'CloudShell', 'Feedback', and copyright information.

Step 7:- Create VPC Peering

- 1- Create VPC peering between two regions one will be requester and other will be receiver.
- 2- Add the details through the form and create VPC peering.
- 3- A VPC peering can be done in-
 - 1- Same region same account
 - 2- Different region same account
 - 3- Different region different account.

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EC2 VPC S3 IAM

VPC > Peering connections > Create peering connection

Select a local VPC to peer with

VPC ID (Requester)

Select a VPC

Select another VPC to peer with

Account

☒ My account

☐ Another account

Region

☒ This Region (ap-south-1)

☐ Another Region

VPC ID (Acceptor)

Select a VPC

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Add new tag

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NOW FOR CONNECTING PUBLIC INSTANCE TO PRIVATE INSTANCE OF DIFFERENT REGIONS-

- 1- IN THE PUBLIC ROUTE TABLE, WE NEED TO ADD BOTH THE IP'S OF THE INSTANCES CREATED IN DIFFERENT REGION
Ex- PUBLIC INSTANCE IN MUMBAI REGION WANTS TO CONNECT WITH THE PRIVATE INSTANCE CREATED IN NORTH VIRGINIA.
- 2- SO INORDER TO ESTABLISH THEIR CONNECTION FIRSTLY WE ADD IP'S OF BOTH THE INSTANCES IN PUBLIC AND PRIVATE ROUTES OF MUMBAI REGIONS, FOLLOW THE IMAGE BELOW FOR THE SEQUENCE TO ADD ROUTE FOR THE IP'S.
- 3- WHILE ADDING THE ROUTE SELECT PEERING CONNECTION OPTION AND ADD VPC PEERING ID WHICH WE HAVE CREATED EARLIER.

aws

Search

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EC2

VPC

S3

IAM

VPC > Route tables > rtb-00efbe22b2d7e5ec2 > Edit routes

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Edit routes

Destination	Target	Status	Propagated
172.31.0.0/16	local	Active	No
0.0.0.0/0	local		
	Internet Gateway	Active	No
10.10.2.0/24	igw-0c713d8fb662ed67b		
	Peering Connection		No
	pcx-		

Add route

Cancel Preview Save changes

CloudShell

Feedback

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