

Task – 14

Creating a VPC with internet gateway:

VPC > Your VPCs > Create VPC

Create VPC [Info](#)

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances. Mouse over a resource to highlight the related resources.

VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☐ VPC only ☒ VPC and more

Name tag auto-generation [Info](#)

Enter a value for the Name tag. This value will be used to auto-generate Name tags for all resources in the VPC.

☒ Auto-generate

IPv4 CIDR block [Info](#)

Determine the starting IP and the size of your VPC using CIDR notation.

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block ☐ Amazon-provided IPv6 CIDR block

Tenancy [Info](#)

Number of Availability Zones (AZs) [Info](#)

Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.

☐ 1 ☒ 2 ☐ 3

Preview

VPC [Show details](#)

Your AWS virtual network

myvpc-vpc

Subnets (4)

Subnets within this VPC

ap-south-1a

myvpc-subnet-public1-ap-south-1a

myvpc-subnet-private1-ap-south-1a

ap-south-1b

myvpc-subnet-public2-ap-south-1b

myvpc-subnet-private2-ap-south-

Route tables (3)

Route network traffic to resources

myvpc-rtb-public

myvpc-rtb-private1-ap-south-1a

myvpc-rtb-private2-ap-south-1b

Network connect

Connections to other netw

myvpc-igw

Customize AZs

Number of public subnets [Info](#)

The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the internet.

Number of private subnets [Info](#)

The number of private subnets to add to your VPC. Use private subnets to secure backend resources that don't need public access.

Customize subnets CIDR blocks

NAT gateways (\$) [Info](#)

Choose the number of Availability Zones (AZs) in which to create NAT gateways. Note that there is a charge for each NAT gateway

☒ None ☐ In 1 AZ ☐ 1 per AZ

VPC endpoints [Info](#)

Endpoints can help reduce NAT gateway charges and improve security by accessing S3 directly from the VPC. By default, full access policy is used. You can customize this policy at any time.

☒ None ☐ S3 Gateway

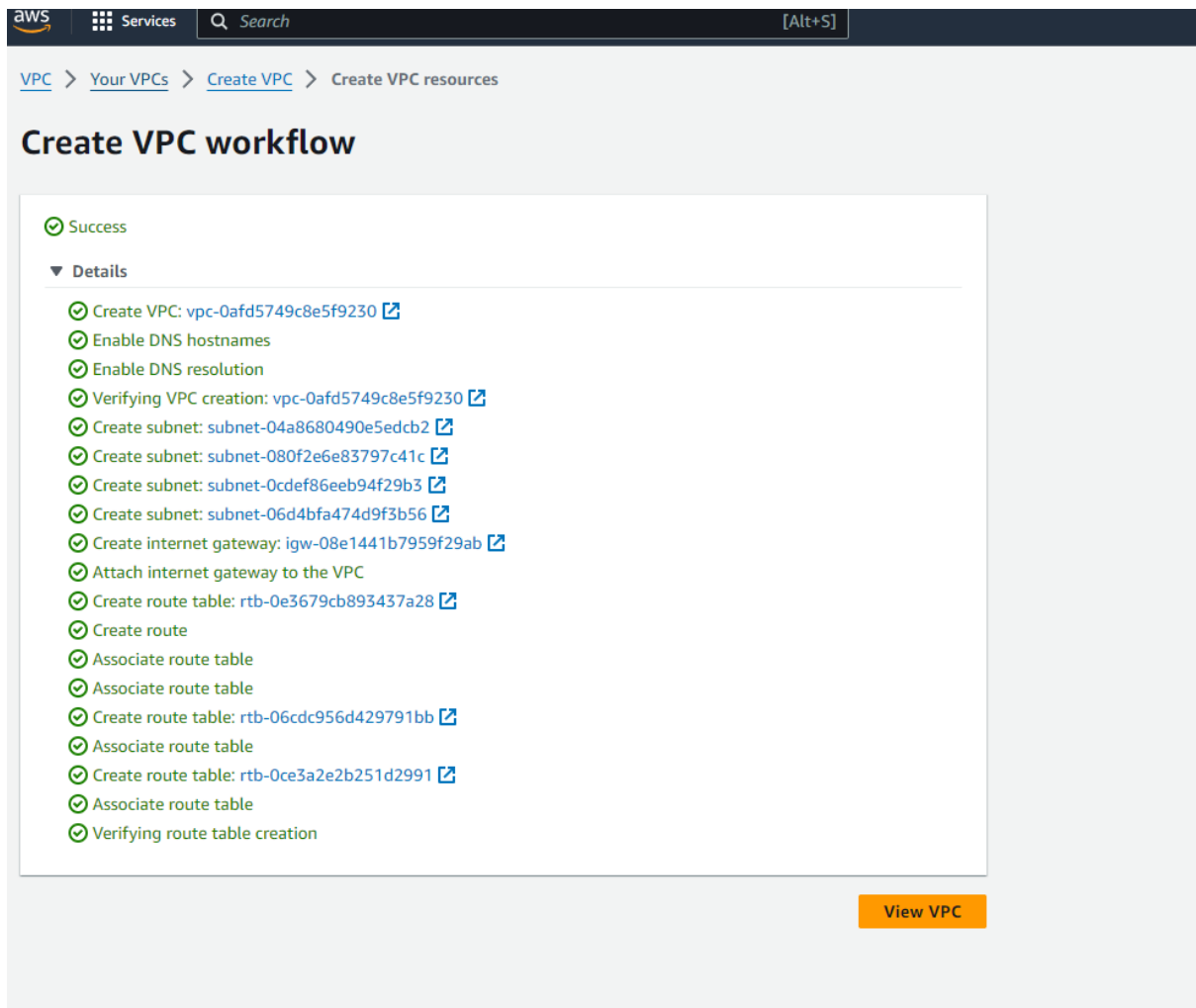
DNS options [Info](#)

☒ Enable DNS hostnames ☒ Enable DNS resolution

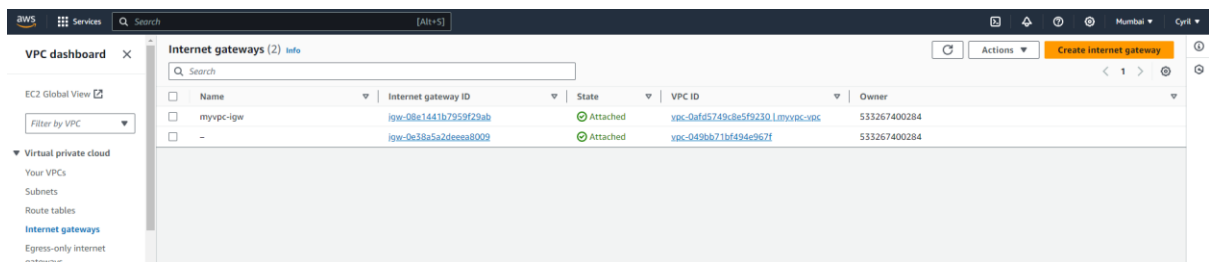
Additional tags

Cancel

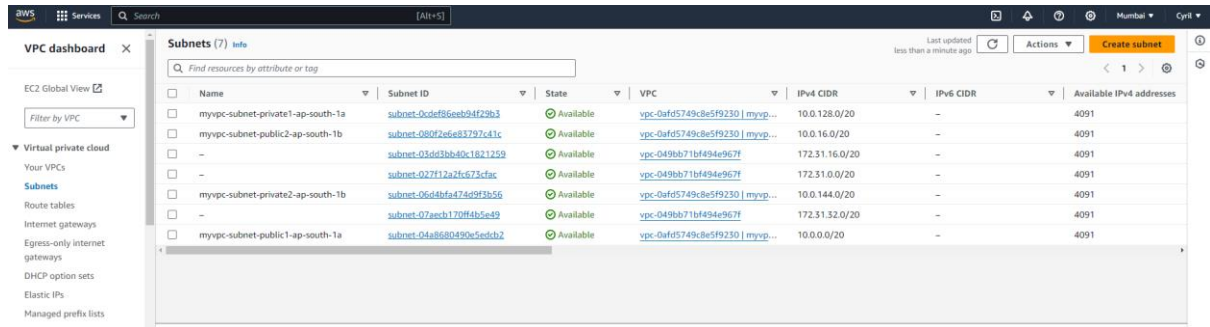
Create VPC



Created Internet Gateway:



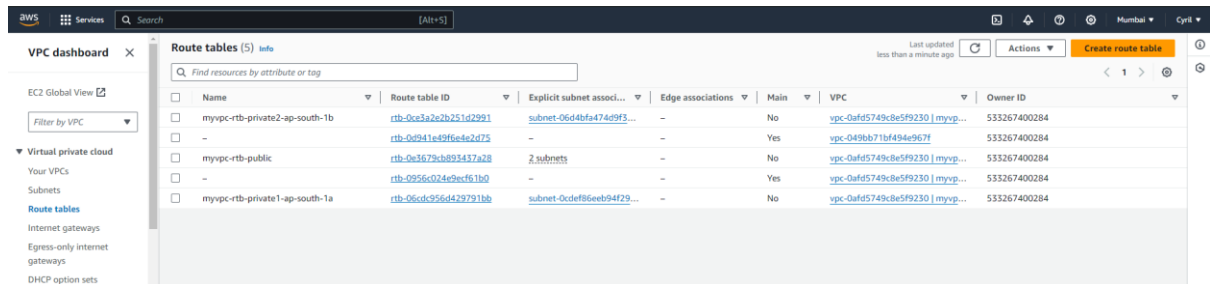
Public and Private Subnets:



The screenshot shows the AWS VPC console with the 'Subnets (7)' page. The table lists subnets with their names, IDs, states, VPCs, and IP ranges. The subnets are categorized into private and public subnets.

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	Available IPv4 addresses
myvpc-subnet-private1-ap-south-1a	subnet-0cdef86eeb94f29b3	Available	vpc-0afdc5749c8e5f9230 myvp...	10.0.128.0/20	-	4091
myvpc-subnet-public2-ap-south-1b	subnet-080f2ede83797c41c	Available	vpc-0afdc5749c8e5f9230 myvp...	10.0.16.0/20	-	4091
-	subnet-03d43b40c1821259	Available	vpc-049bb71bf494e967f	172.31.16.0/20	-	4091
-	subnet-027f12a2f673c4ac	Available	vpc-049bb71bf494e967f	172.31.0.0/20	-	4091
myvpc-subnet-private2-ap-south-1b	subnet-06d4bfa474d9f3b56	Available	vpc-0afdc5749c8e5f9230 myvp...	10.0.144.0/20	-	4091
-	subnet-07aeb1708f4b5e49	Available	vpc-049bb71bf494e967f	172.31.32.0/20	-	4091
myvpc-subnet-public1-ap-south-1a	subnet-04a8680490e5edcb2	Available	vpc-0afdc5749c8e5f9230 myvp...	10.0.0.0/20	-	4091

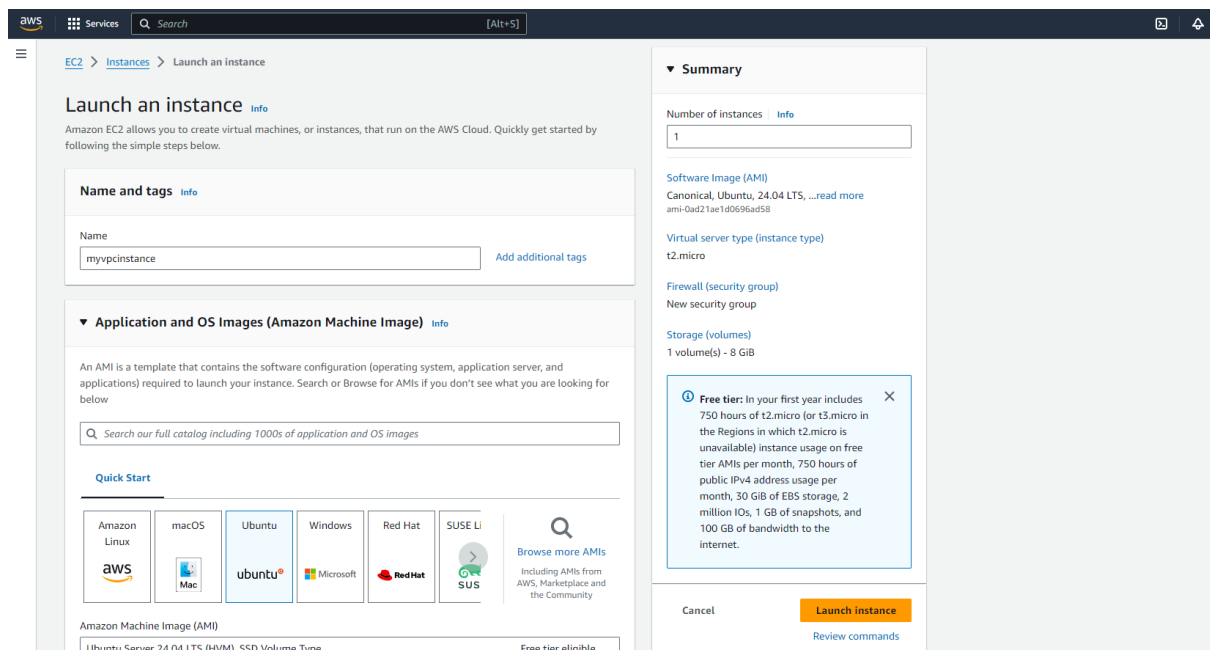
Route Table:



The screenshot shows the AWS VPC console with the 'Route tables (5)' page. The table lists route tables with their names, IDs, explicit subnet associations, edge associations, main status, VPCs, and owner IDs.

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
myvpc-rtb-private2-ap-south-1b	rtb-0ce3a2e2b251d2991	subnet-06d4bfa474d9f3...	-	No	vpc-0afdc5749c8e5f9230 myvp...	533267400284
-	rtb-0a941e49f6e4e2c75	-	-	Yes	vpc-049bb71bf494e967f	533267400284
myvpc-rtb-public	rtb-0e3679cb893437a28	2 subnets	-	No	vpc-0afdc5749c8e5f9230 myvp...	533267400284
-	rtb-0956c024e9ecf51b0	-	-	Yes	vpc-0afdc5749c8e5f9230 myvp...	533267400284
myvpc-rtb-private1-ap-south-1a	rtb-06cd956d429791bb	subnet-0cdef86eeb94f29...	-	No	vpc-0afdc5749c8e5f9230 myvp...	533267400284

Creating a EC2 instance using the created VPC and public subnet:



The screenshot shows the AWS EC2 console 'Launch an instance' page. The page includes a summary of the instance configuration and a list of available Amazon Machine Images (AMIs).

Launch an instance

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags

Name: myvpcinstance

Application and OS Images (Amazon Machine Image)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search: Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux

Summary

Number of instances: 1

Software Image (AMI): Canonical, Ubuntu, 24.04 LTS, ...read more

Virtual server type (instance type): t2.micro

Firewall (security group): New security group

Storage (volumes): 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Launch instance

Services

Search

[Alt+S]

Anywhere

Add CIDR, prefix list or security group

e.g. SSH for admin desktop

0.0.0.0/0

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Add security group rule

Advanced network configuration

Configure storage

Info

Advanced

1x 8 GiB gp3 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems

Edit

Advanced details

Info

Summary

Number of instances

Info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04 LTS, ...read more

ami-0ad21ae1d0696ad58

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Review commands

Connecting remotely to the Created Instance:

```
ubuntu@ip-10-0-6-117: ~  
  
cyril@CYRIL MINGW64 ~/OneDrive/Desktop/.pem  
$ chmod 400 "mypem.pem"  
  
cyril@CYRIL MINGW64 ~/OneDrive/Desktop/.pem  
$ ssh -i "mypem.pem" ubuntu@ec2-43-205-231-46.ap-south-1.compute.amazonaws.com  
The authenticity of host 'ec2-43-205-231-46.ap-south-1.compute.amazonaws.com (43.205.231.46)' can't be established.  
ED25519 key fingerprint is SHA256:jd1RFDtuYBQH3X10FaId7TaUoVfTs7mEi4PFA2H8.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'ec2-43-205-231-46.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.  
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1009-aws x86_64)  
  
 * Documentation:  https://help.ubuntu.com  
 * Management:    https://landscape.canonical.com  
 * Support:       https://ubuntu.com/pro  
  
System information disabled due to load higher than 1.0  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
ubuntu@ip-10-0-6-117:~$
```