DEVELOP A RESPONSIVE WEBSITE AND DEPLOY ON AWS

GUIDE BOOK

DR. SAW MYAT SANDAR

What is AWS Cloud?

AWS (Amazon Web Services) is a cloud computing platform.
The first product (S3) was released in 2006.
AWS has grown a lot since then in both size and product range.
It is, to date, the largest cloud provider in the world.

Why Learn AWS?

AWS is the largest of the cloud providers
AWS competence is popular in the job market
You can do most things in the AWS Cloud
Big community/support

What is the Client-Server Model?

The Client-Server model is about a client that interacts and makes requests to a computer server. A client is the way that the person interacts with the server.

What is Cloud Computing?

Cloud computing is a computing service made available over the internet.
Cloud computing is a pay-as-you-go model for delivering IT resources.
You pay only for what you use.

Deployment Models

There are three different kinds of deployment models:
Cloud-based
On-premises
Hybrid
The models are different ways of accessing compute services - over the internet, locally, or in a combination.

Cloud-Based Deployment

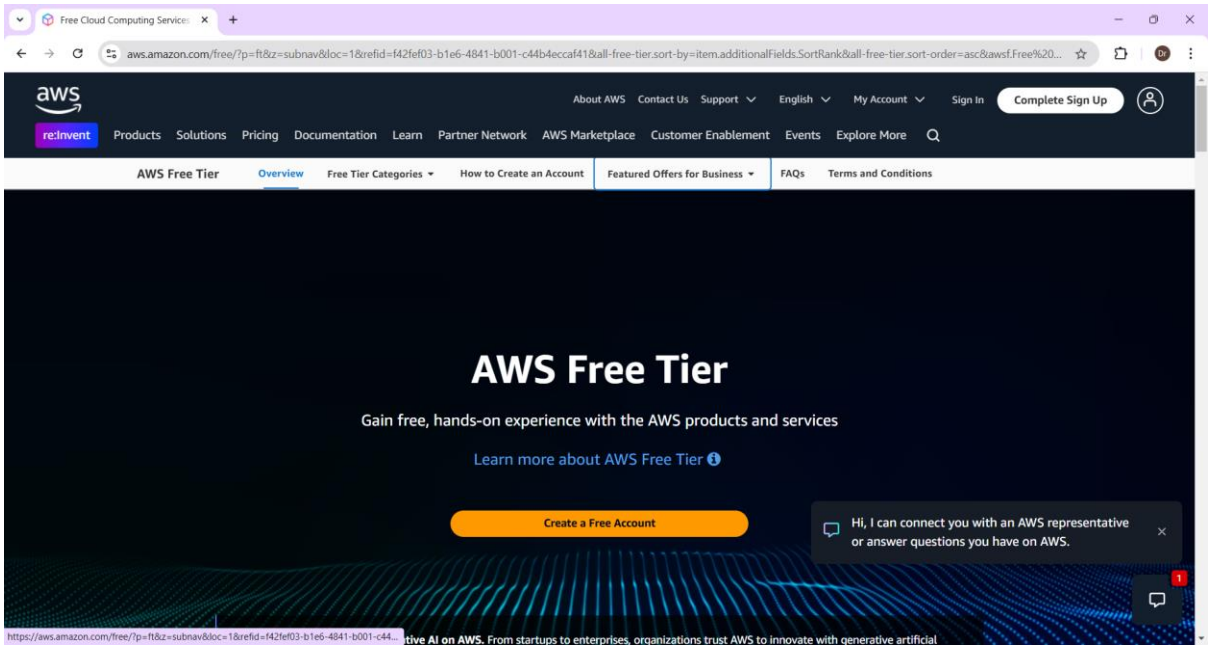
Everything runs in the cloud.
This model allows you to build new applications or move existing ones to the cloud.
There are different levels of services ranging from low to high.
The level of service has different requirements on your management, architecting, and infrastructure.
For example, a company might create an application consisting of virtual servers, databases, and networking components entirely based in the cloud.

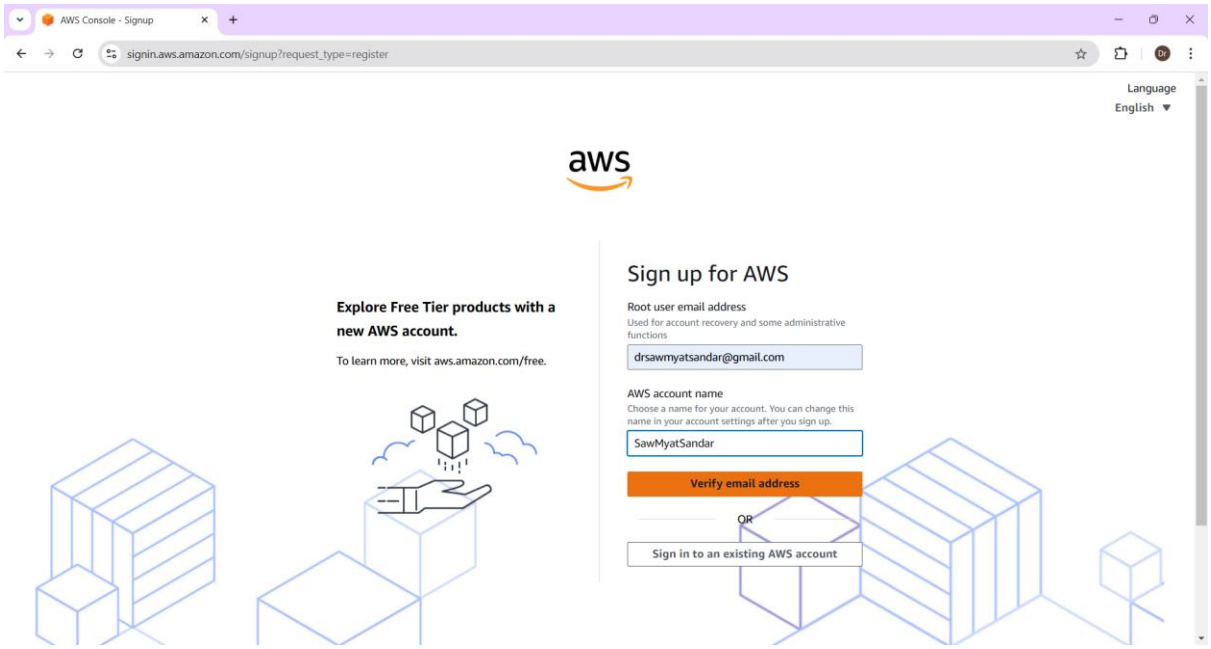
Create Free AWS account

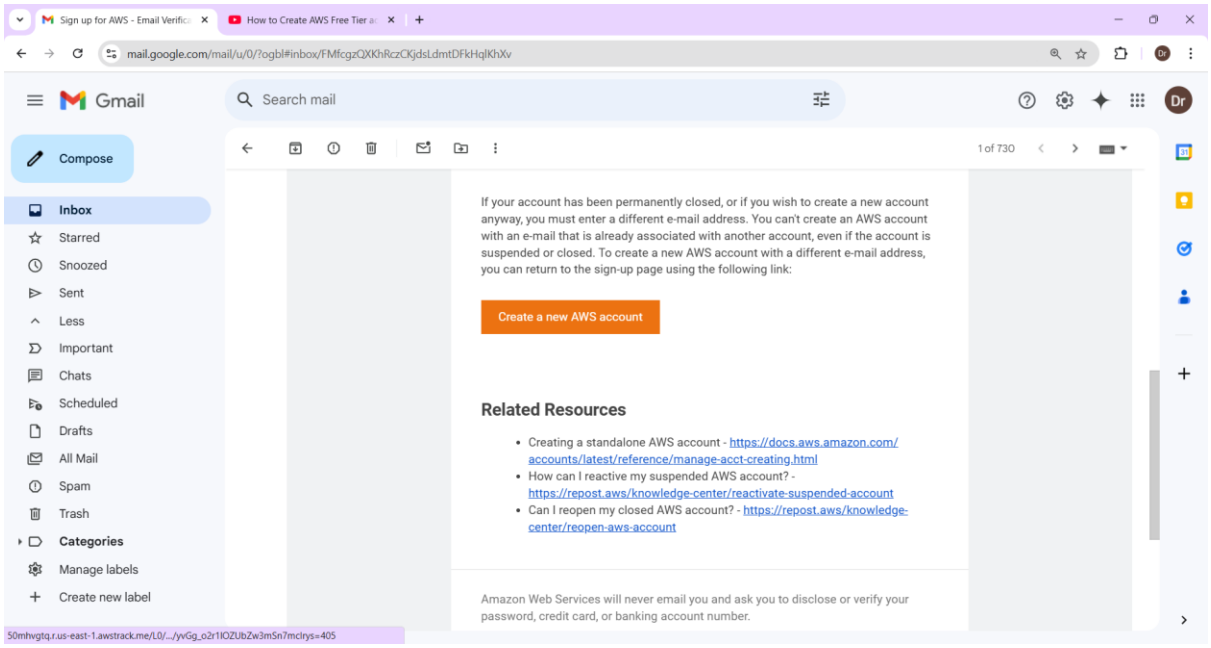
AWS offers a free tier, letting you explore and try out their services.

The free tier offers you limited use of services for free.

So let us get started with creating your free account!

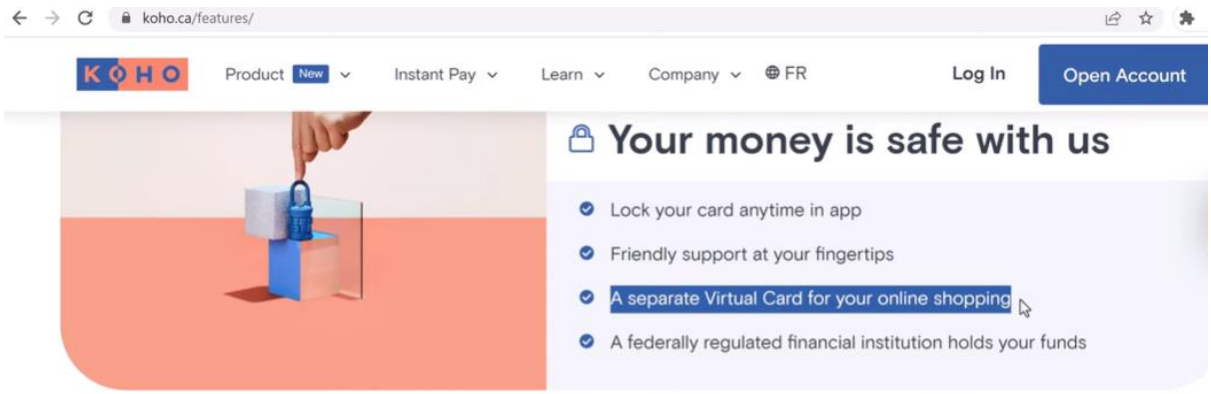


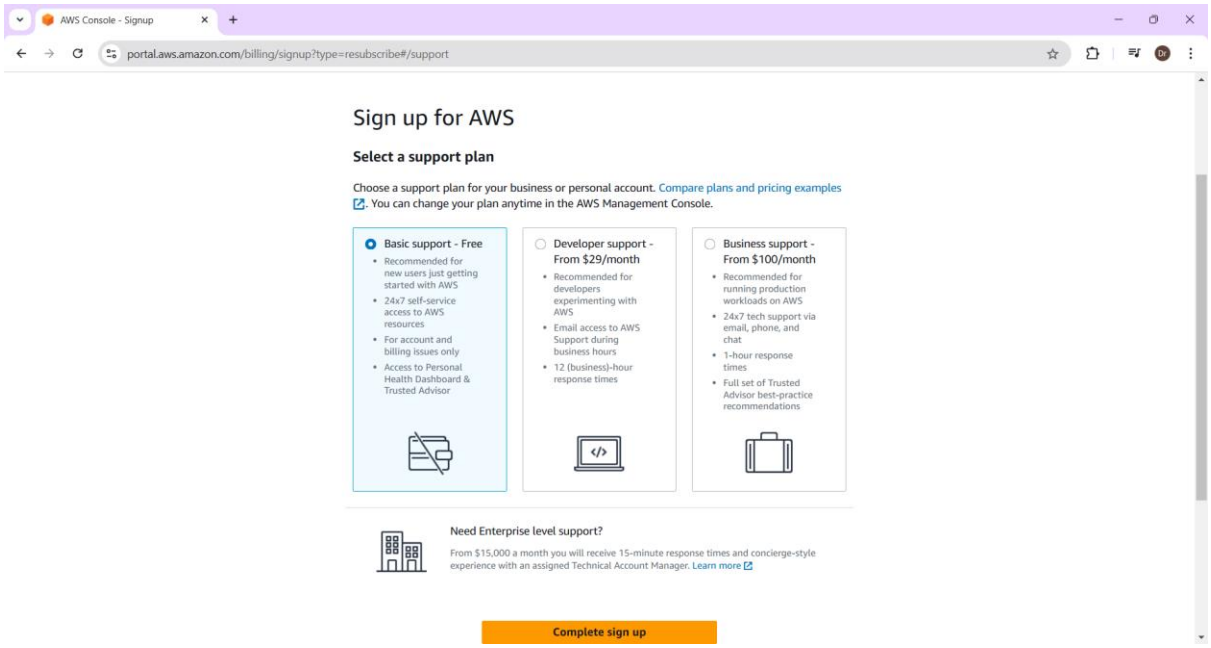


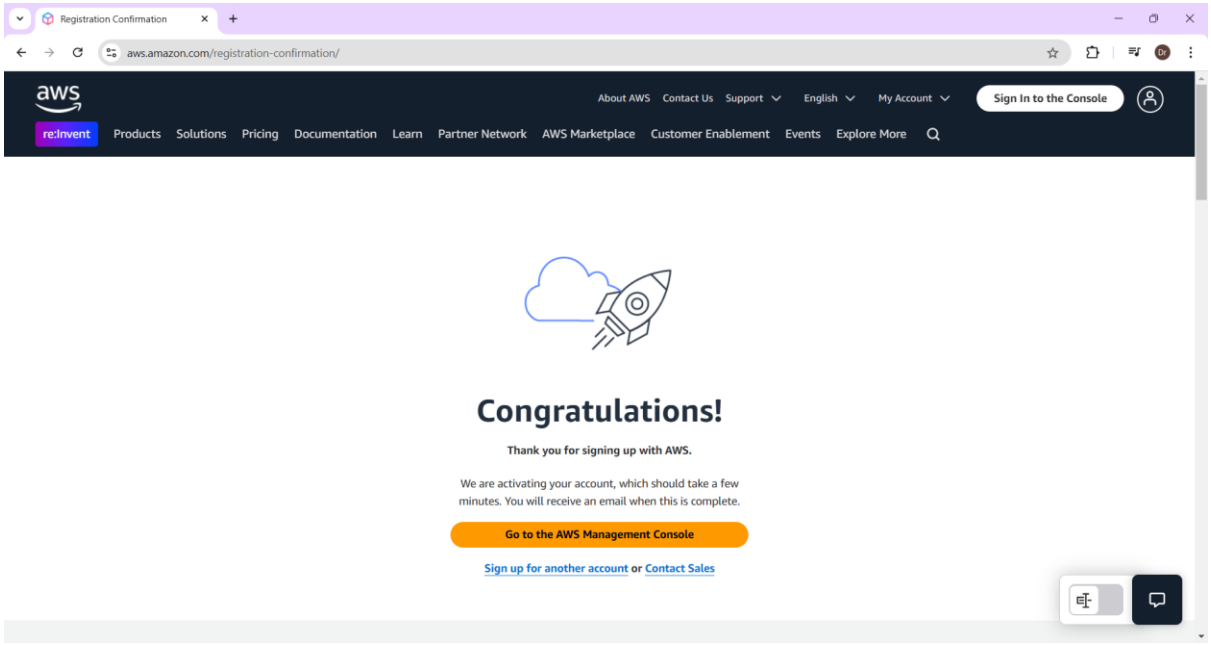


Visa card အဟောင်းကို အသုံးပြုနိုင်သလို Virtual Account ကို အသုံးပြုပြီးတော့လည်း ဖွင့်လို့ရပါတယ်။

Old Visa card or Virtual Account like KOHO can be used to create an AWS free account.

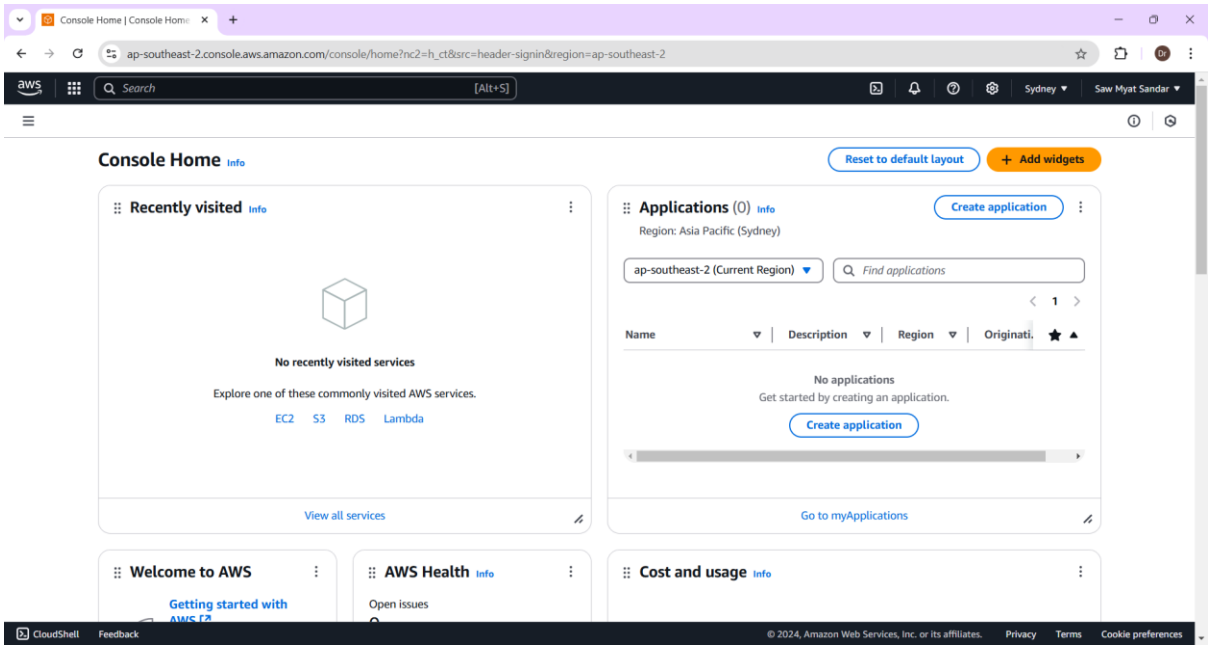



AWS Console - Signup
portal.aws.amazon.com/billing/signup?type=resubscribe#/support
Sign up for AWS
Select a support plan
Choose a support plan for your business or personal account. Compare plans and pricing examples. You can change your plan anytime in the AWS Management Console.
Basic support - Free
Recommended for new users just getting started with AWS
24x7 self-service access to AWS resources
For account and billing issues only
Access to Personal Health Dashboard & Trusted Advisor
Developer support - From $29/month
Recommended for developers experimenting with AWS
Email access to AWS Support during business hours
12 (business)-hour response times
Business support - From $100/month
Recommended for running production workloads on AWS
24x7 tech support via email, phone, and chat
1-hour response times
Full set of Trusted Advisor best-practice recommendations
Need Enterprise level support?
From $15,000 a month you will receive 15-minute response times and concierge-style experience with an assigned Technical Account Manager. Learn more
Complete sign up


Registration Confirmation
aws.amazon.com/registration-confirmation/
aws
About AWS
Contact Us
Support
English
My Account
Sign In to the Console
re:Invent
Products
Solutions
Pricing
Documentation
Learn
Partner Network
AWS Marketplace
Customer Enablement
Events
Explore More
Congratulations!
Thank you for signing up with AWS.
We are activating your account, which should take a few minutes. You will receive an email when this is complete.
Go to the AWS Management Console
Sign up for another account or Contact Sales

AWS Console

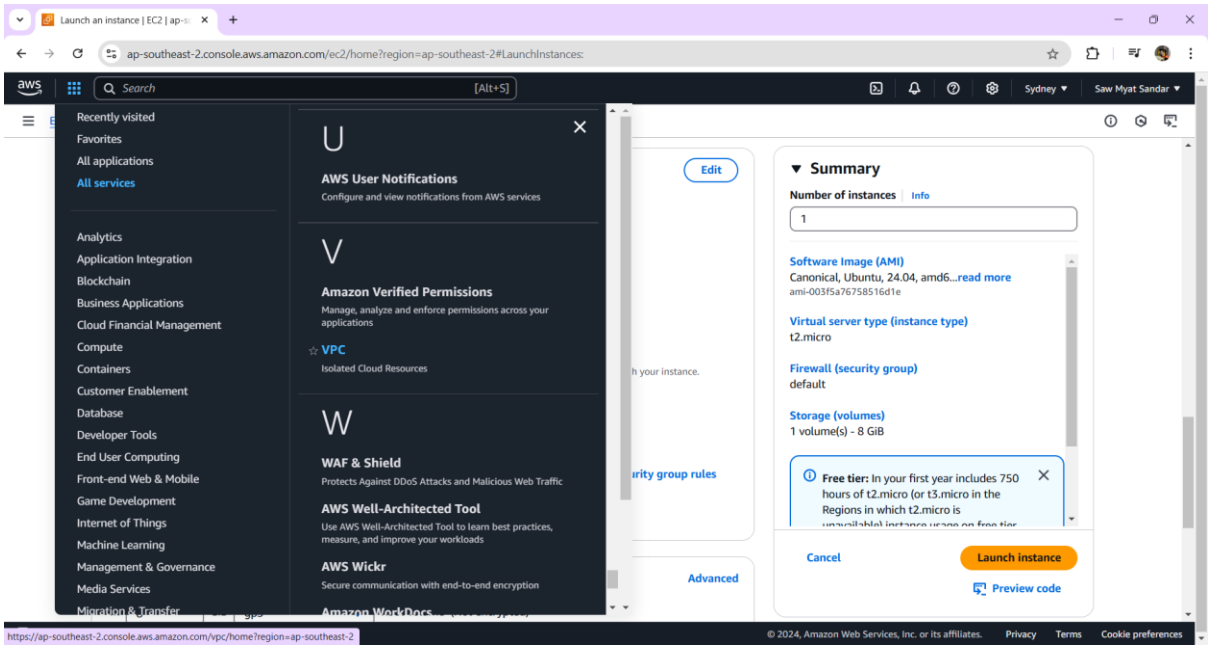
https://ap-southeast-2.console.aws.amazon.com/console/home?nc2=h_ct&src=header-signin&region=ap-southeast-2



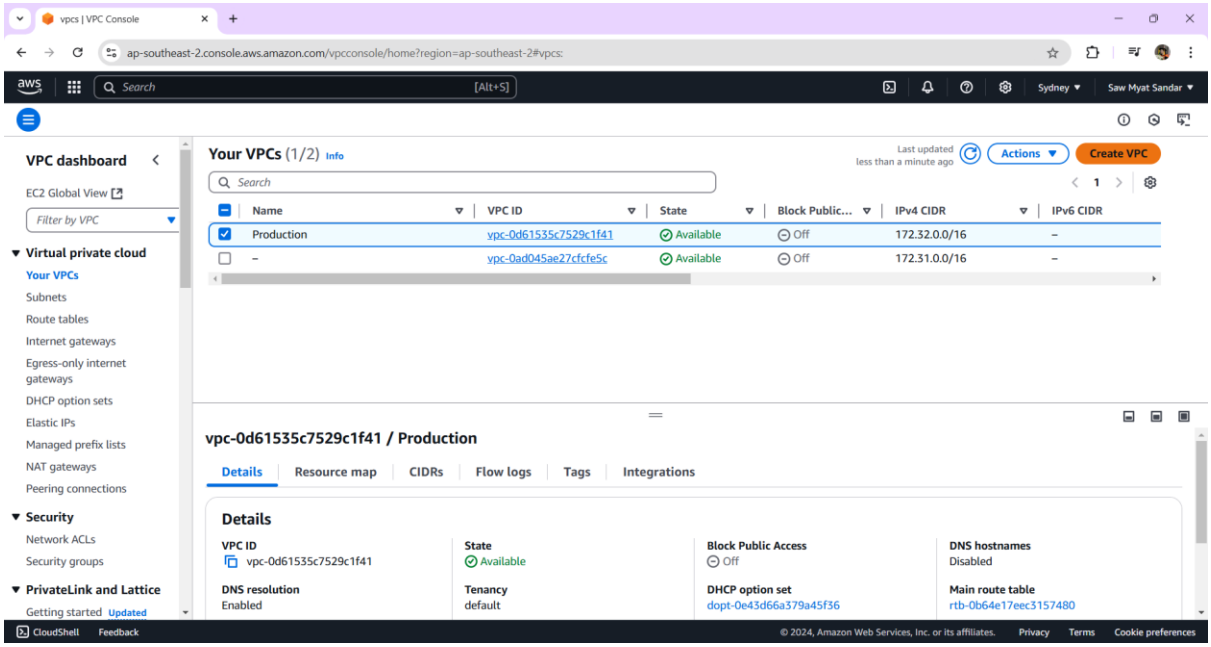
AWS VPC

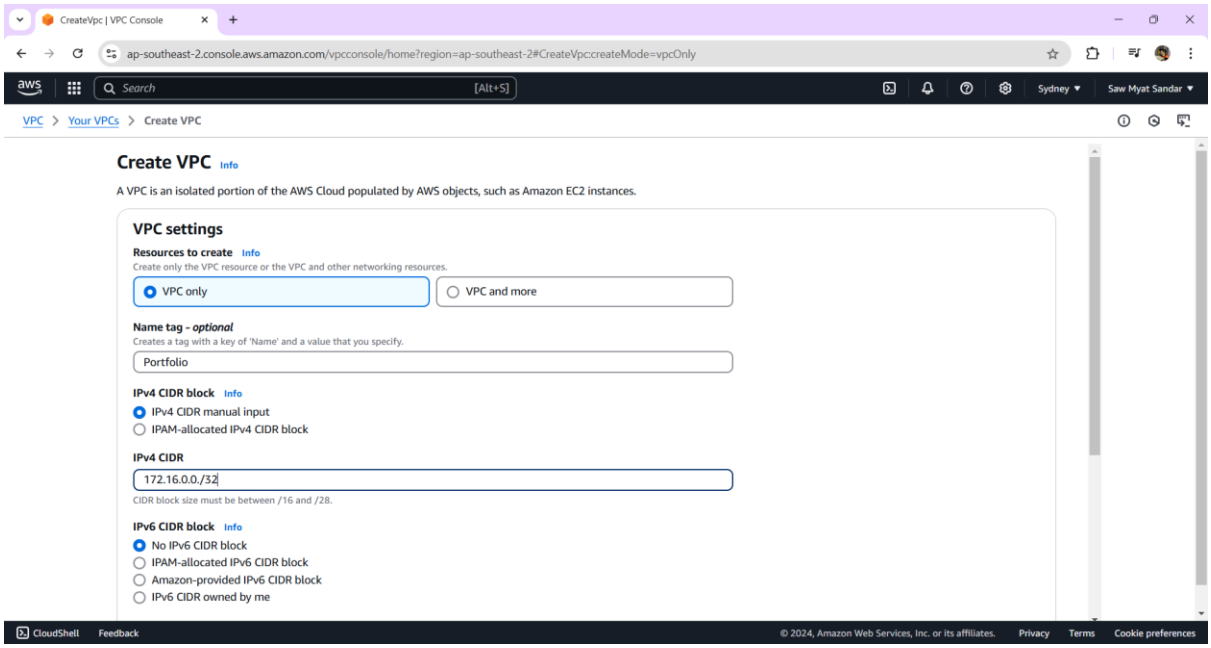
VPC is Virtual Private Cloud

1. VPC
2. Internet Gateway
3. Subnet
4. Route Table

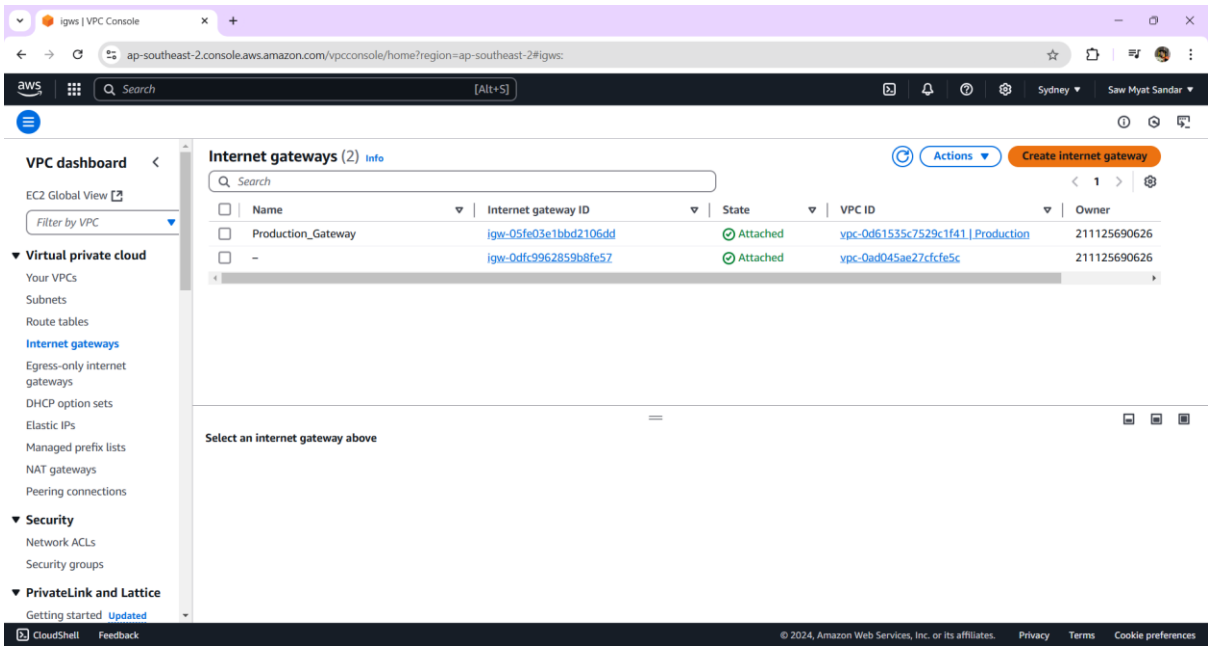


Your VPC

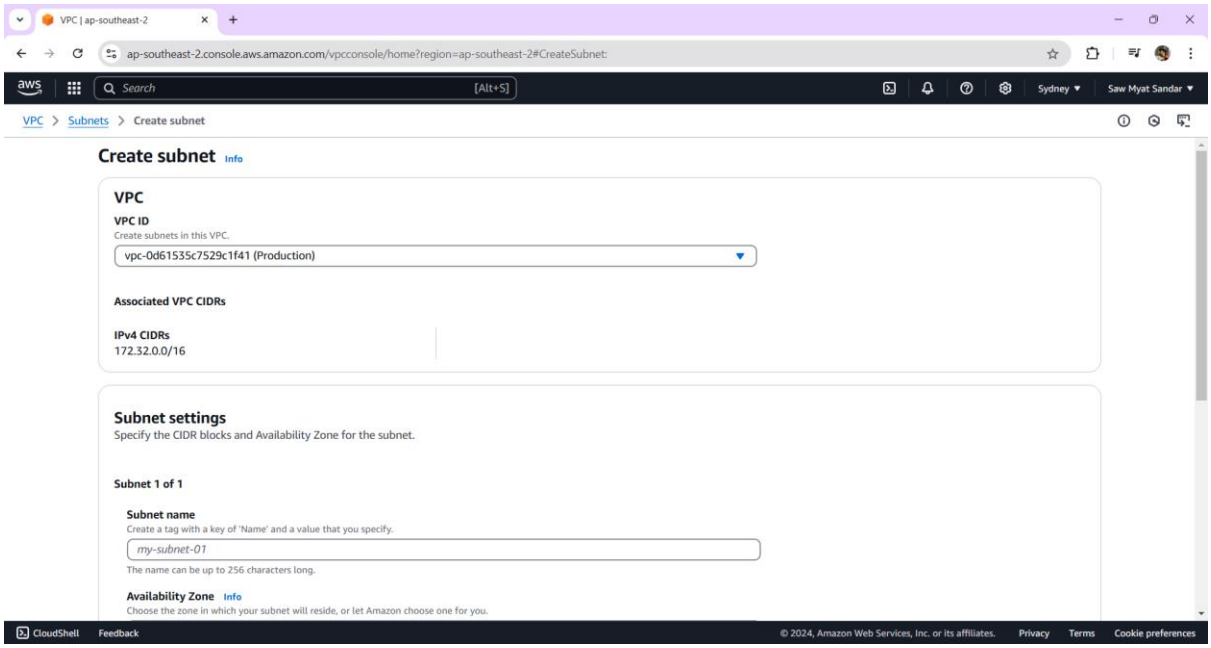




Internet Gateway



Subnet


VPC | ap-southeast-2
ap-southeast-2.console.aws.amazon.com/vpcconsole/home?region=ap-southeast-2#CreateSubnet:
Search [Alt+S]
Sydney
Saw Myat Sandar
VPC > Subnets > Create subnet
Create subnet Info
VPC
VPC ID
Create subnets in this VPC.
vpc-0d61535c7529c1f41 (Production)
Associated VPC CIDRs
IPv4 CIDRs
172.32.0.0/16
Subnet settings
Specify the CIDR blocks and Availability Zone for the subnet.
Subnet 1 of 1
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-subnet-01
The name can be up to 256 characters long.
Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
CloudShell
Feedback
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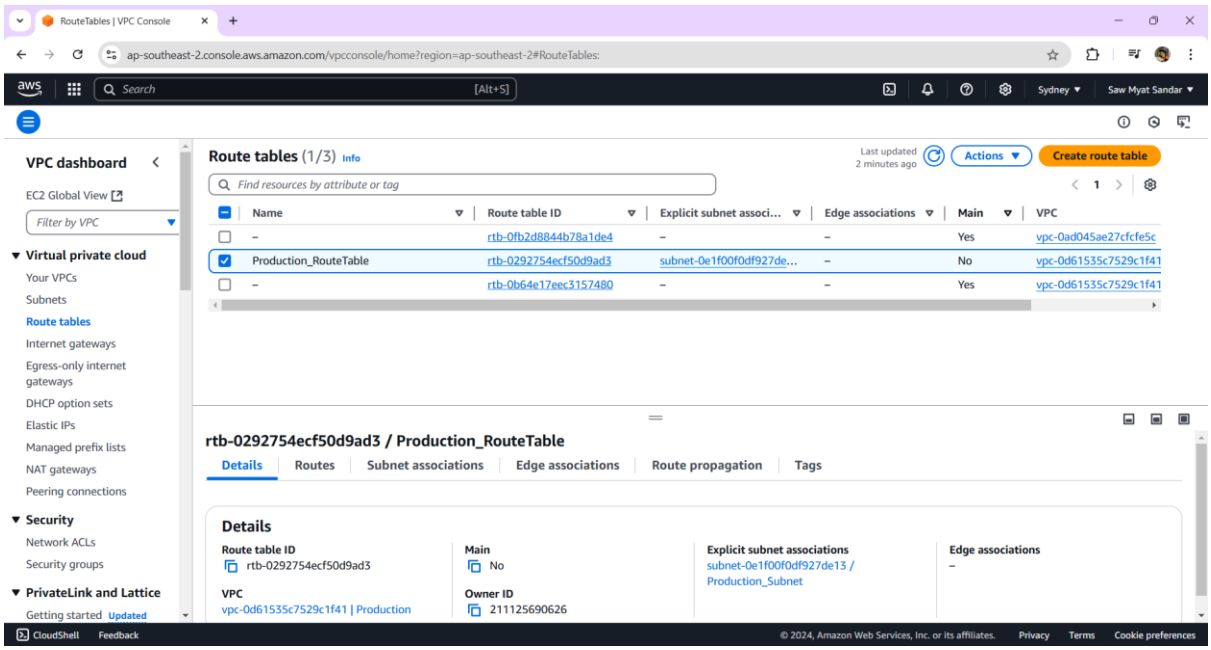
Route Table


RouteTables | VPC Console
ap-southeast-2.console.aws.amazon.com/vpcconsole/home?region=ap-southeast-2#RouteTables:
Search [Alt+S]
Sydney
Saw Myat Sandar
VPC dashboard
EC2 Global View
Filter by VPC
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only internet gateways
DHCP option sets
Elastic IPs
Managed prefix lists
NAT gateways
Peering connections
Security
Network ACLs
Security groups
PrivateLink and Lattice
Getting started Updated
Route tables (1/3) Info
Last updated 2 minutes ago
Actions
Create route table
Find resources by attribute or tag
Name
Route table ID
Explicit subnet associ...
Edge associations
Main
VPC
rtb-0fb2d8844b78a1de4 – – Yes vpc-0ad045ae27cfcfe5c
Production_RouteTable rtb-0292754ecf50d9ad3 subnet-0e1f00f0df927de... – No vpc-0d61535c7529c1f41
rtb-0b64e17eec3157480 – – Yes vpc-0d61535c7529c1f41
rtb-0292754ecf50d9ad3 / Production_RouteTable
Details
Routes
Subnet associations
Edge associations
Route propagation
Tags
Details
Route table ID
rtb-0292754ecf50d9ad3
Main
No
Explicit subnet associations
subnet-0e1f00f0df927de13 / Production_Subnet
Edge associations
–
VPC
vpc-0d61535c7529c1f41 | Production
Owner ID
211125690626
CloudShell
Feedback
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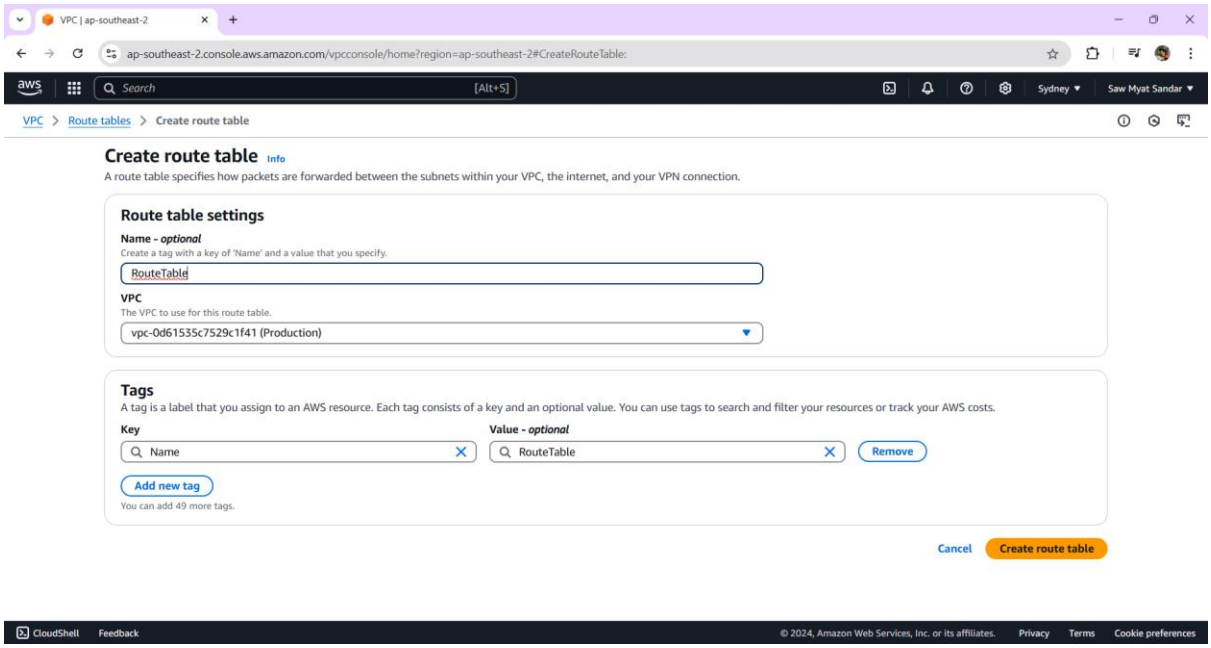
Privacy
Terms
Cookie preferences


VPC | ap-southeast-2
ap-southeast-2.console.aws.amazon.com/vpcconsole/home?region=ap-southeast-2#CreateRouteTable:
Search [Alt+S]
Sydney
Saw Myat Sandar
VPC > Route tables > Create route table
Create route table Info
A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.
Route table settings
Name - optional
Create a tag with a key of 'Name' and a value that you specify.
RouteTable
VPC
The VPC to use for this route table.
vpc-0d61535c7529c1f41 (Production)
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.
Key
Value - optional
Name
RouteTable
Remove
Add new tag
You can add 49 more tags.
Cancel
Create route table
CloudShell
Feedback
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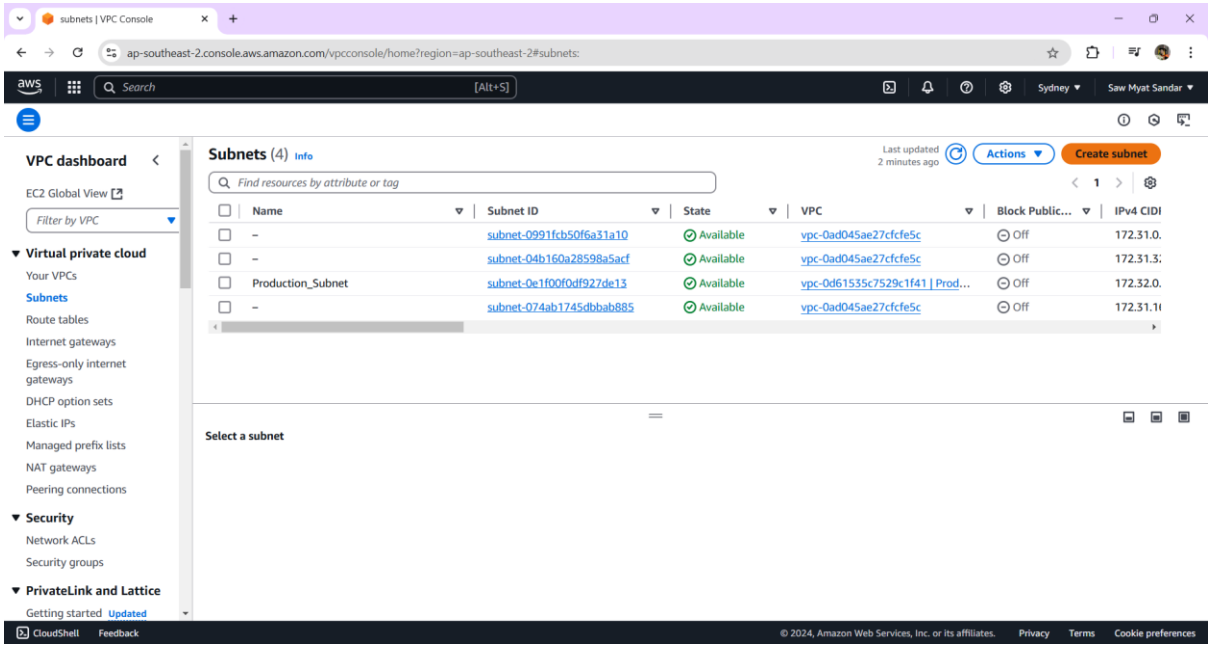
subnets | VPC Console
ap-southeast-2.console.aws.amazon.com/vpcconsole/home?region=ap-southeast-2#subnets:
Search [Alt+S]
Sydney
Saw Myat Sandar
VPC dashboard
EC2 Global View
Filter by VPC
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only internet gateways
DHCP option sets
Elastic IPs
Managed prefix lists
NAT gateways
Peering connections
Security
Network ACLs
Security groups
PrivateLink and Lattice
Getting started Updated
Subnets (4) Info
Last updated 2 minutes ago
Actions
Create subnet
Find resources by attribute or tag
Name
Subnet ID
State
VPC
Block Public...
IPv4 CIDI
subnet-0991fcb50f6a31a10 Available vpc-0ad045ae27cfcfe5c Off 172.31.0.
subnet-04b160a28598a5acf Available vpc-0ad045ae27cfcfe5c Off 172.31.3.
Production_Subnet subnet-0e1f00f0df927de13 Available vpc-0d61535c7529c1f41 | Prod... Off 172.32.0.
subnet-074ab1745dbbab885 Available vpc-0ad045ae27cfcfe5c Off 172.31.1
Select a subnet
CloudShell
Feedback
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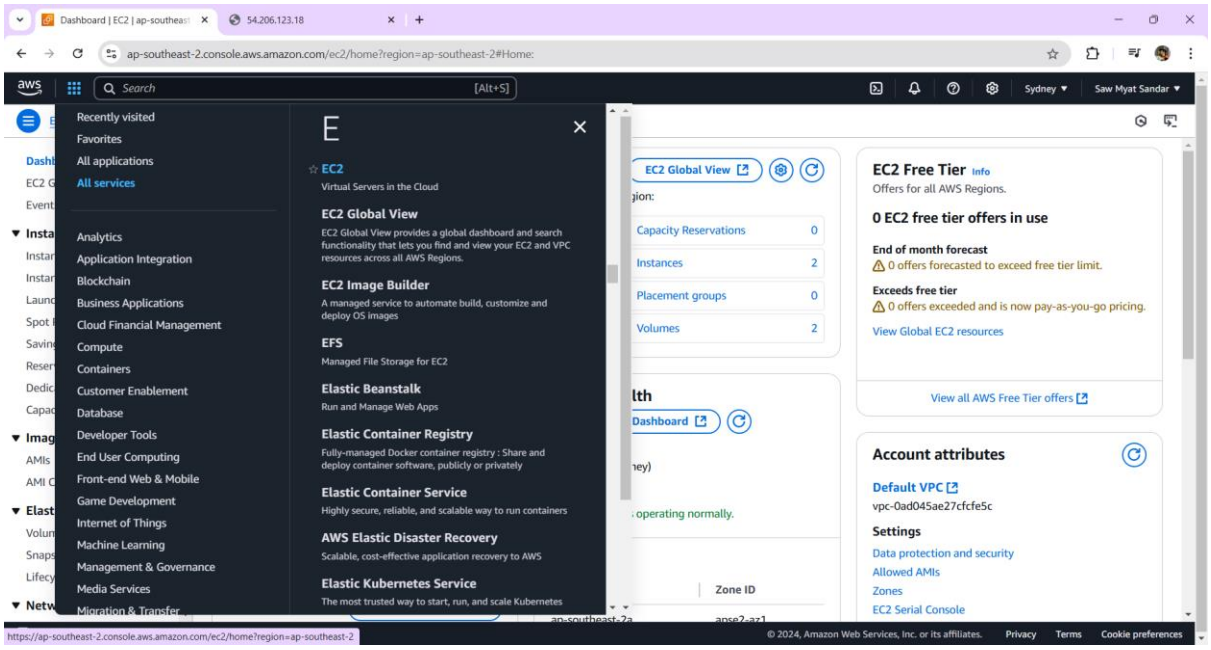
AWS EC2

C2 is a virtual server in the AWS Cloud.

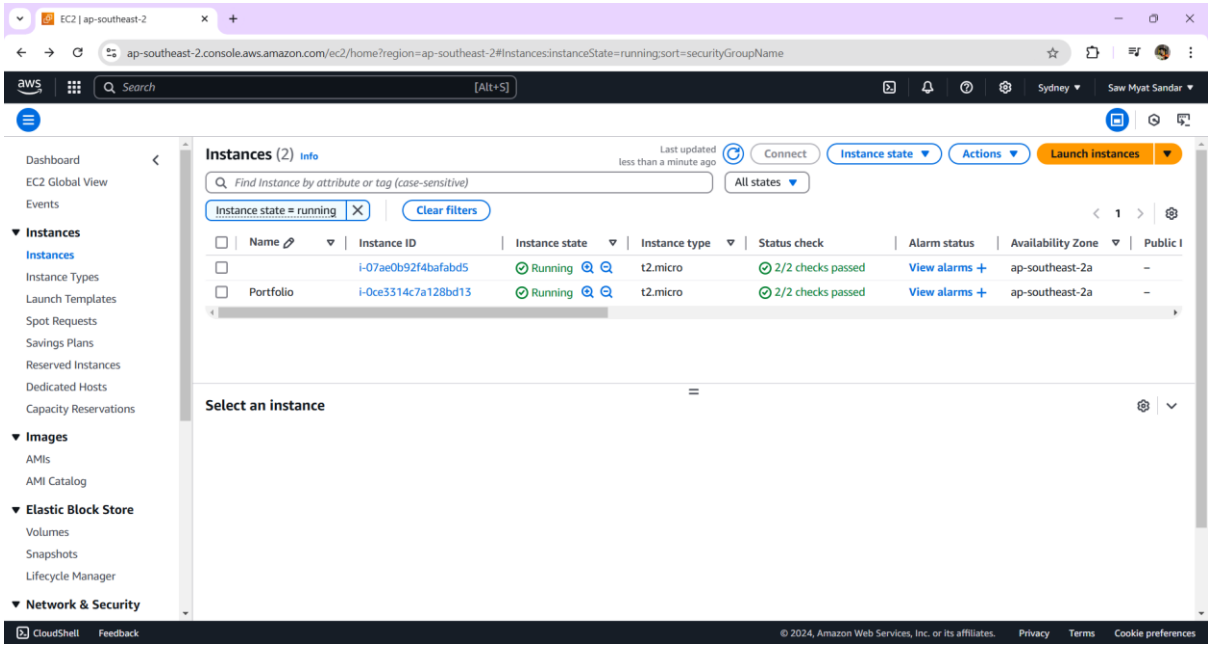
AWS EC2 is short for AWS Elastic Cloud Compute.

It makes scaling of capacity up and down easy.

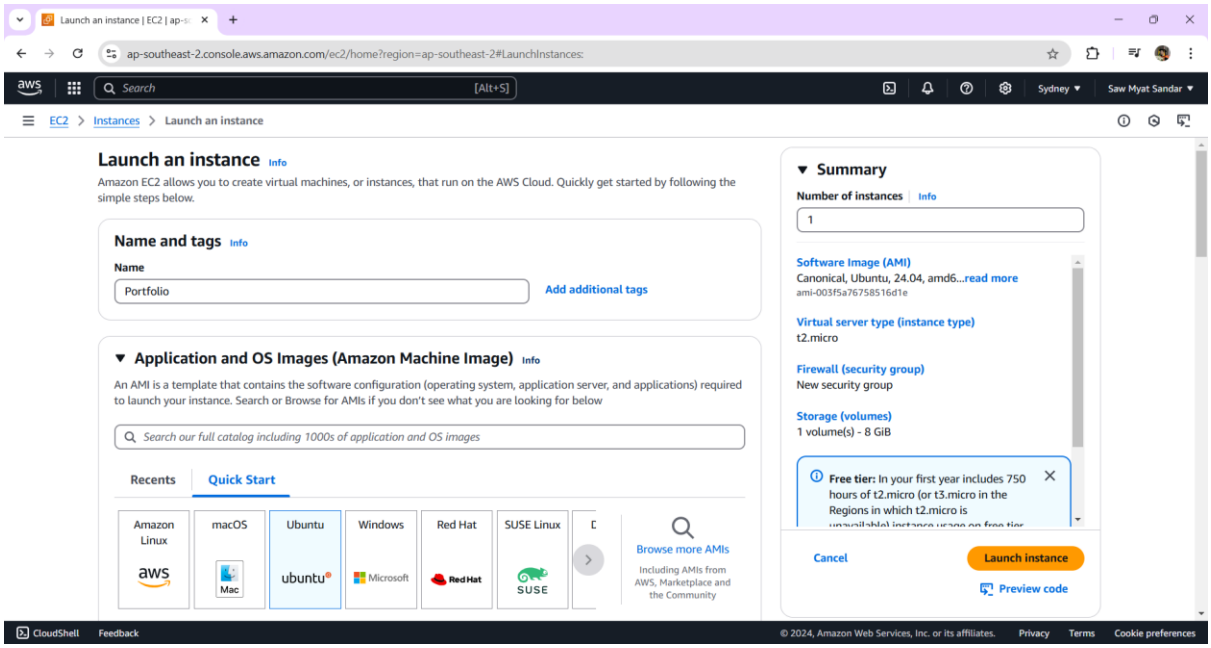


Create Instance

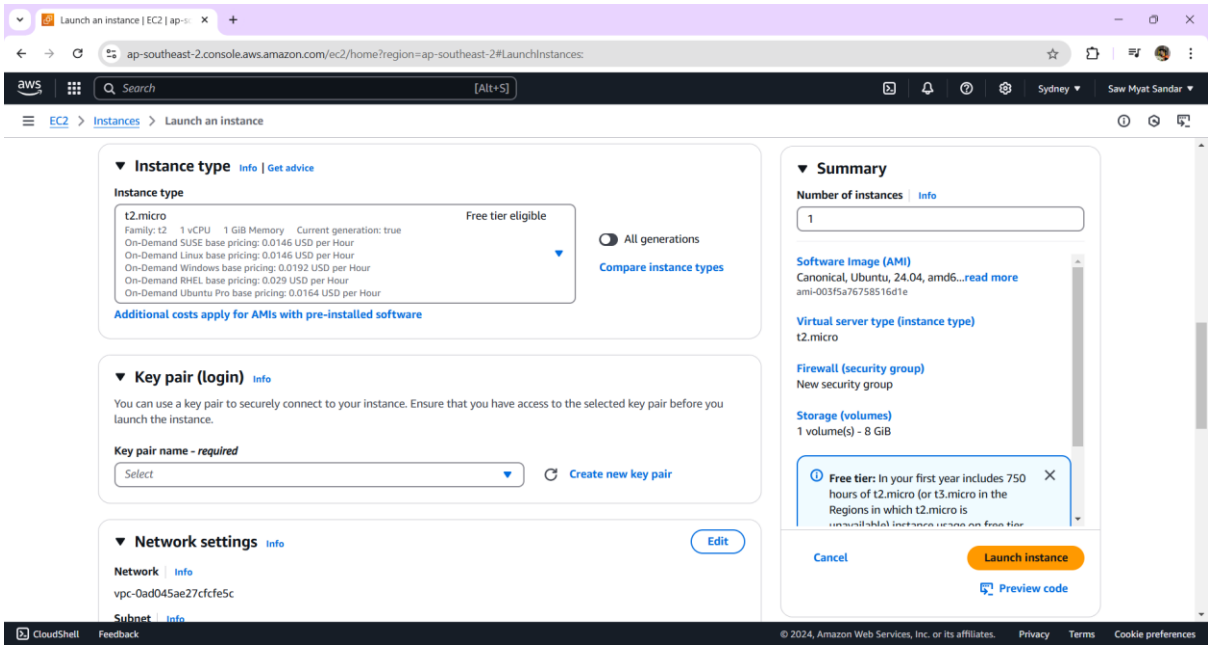
Select the Instances under the Services of AWS console.



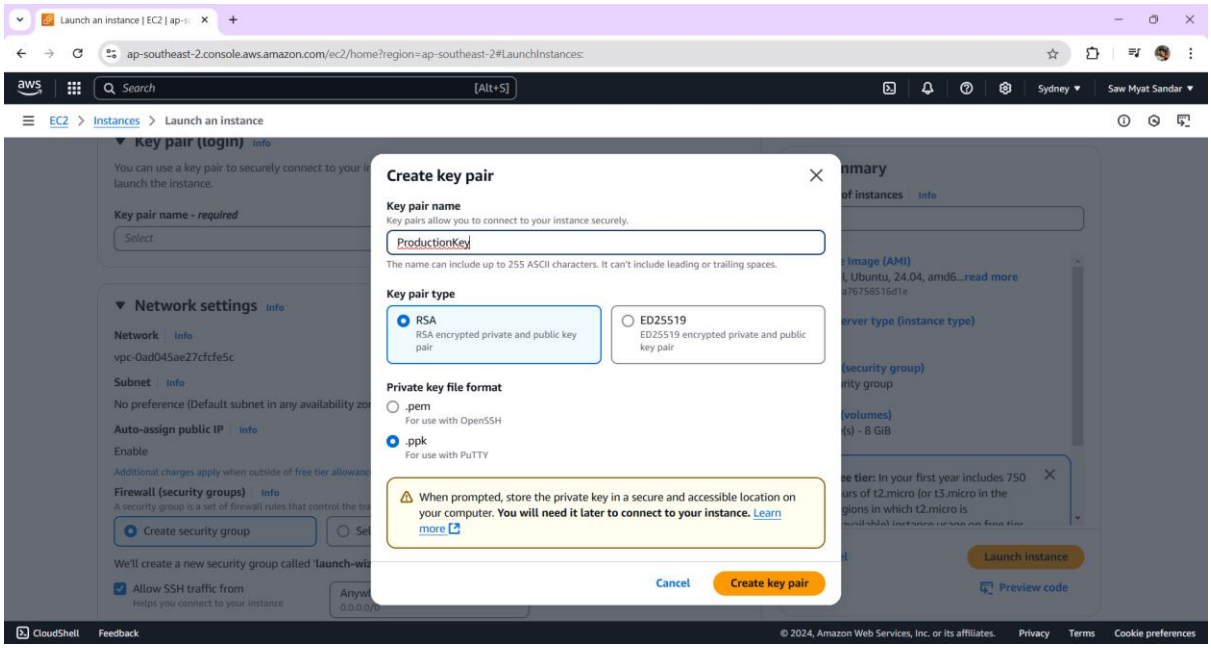
Click ‘Launch instance’ to create a new instance.



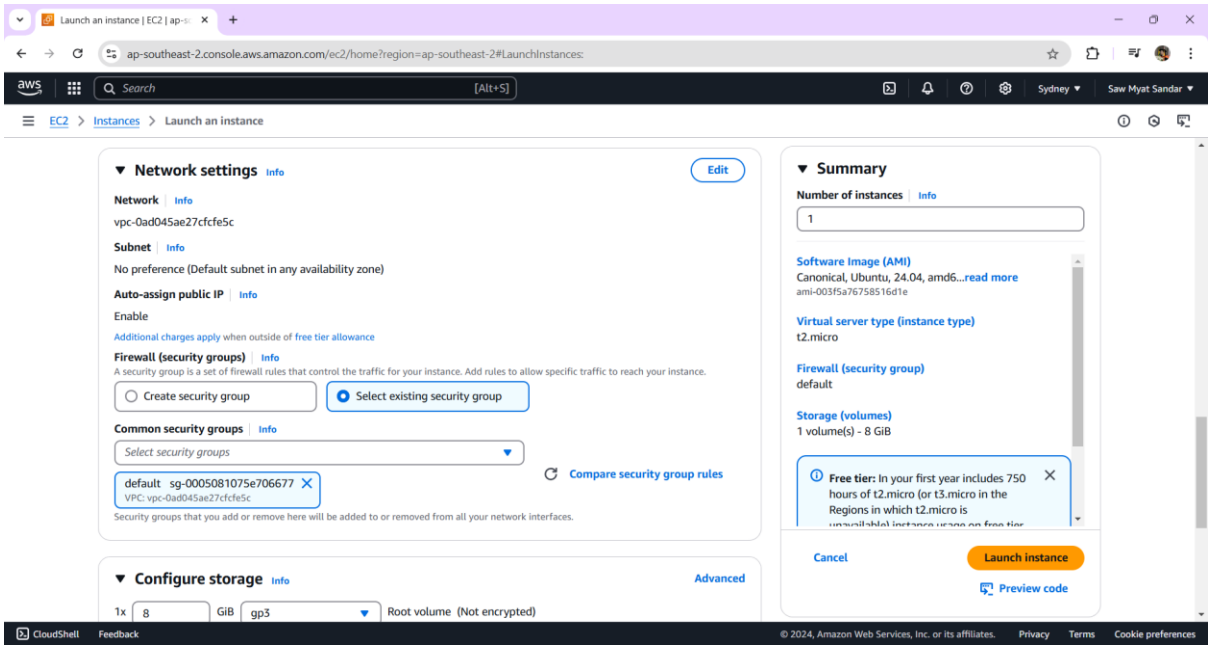
Type the name such as 'Portfolio' and select Ubuntu to create a Linux server.

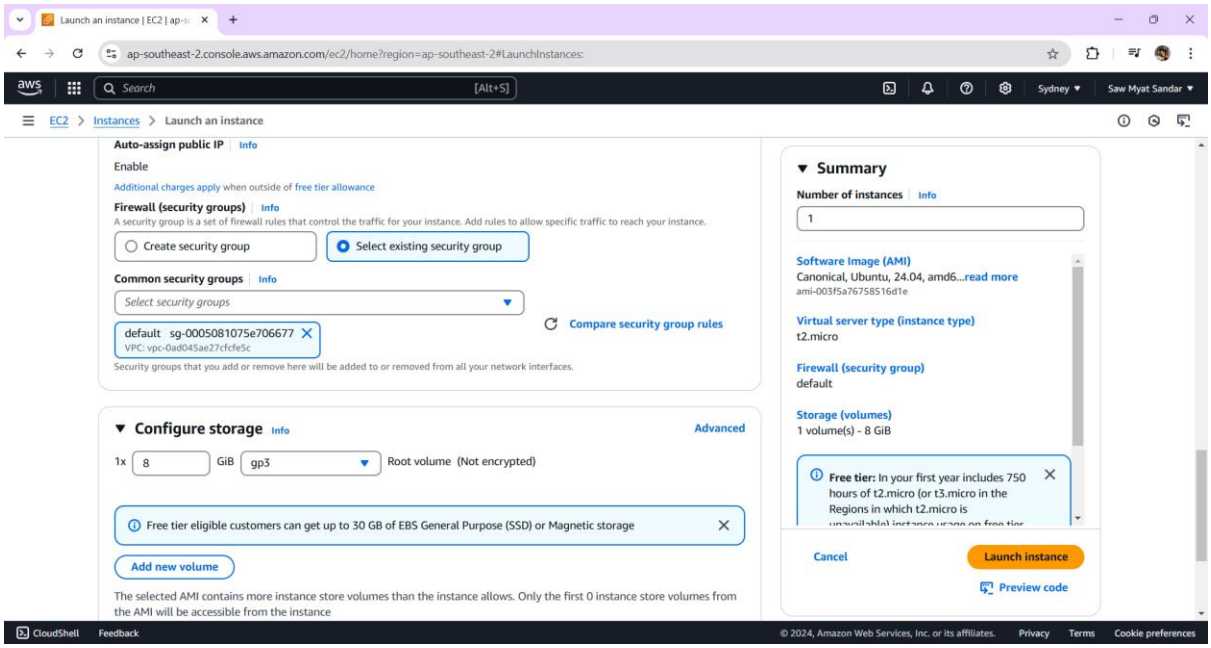


Select 'Free tier eligible' for free version and create new key pair.



Select Security Group. If you have already created a new security group, select existing security group.



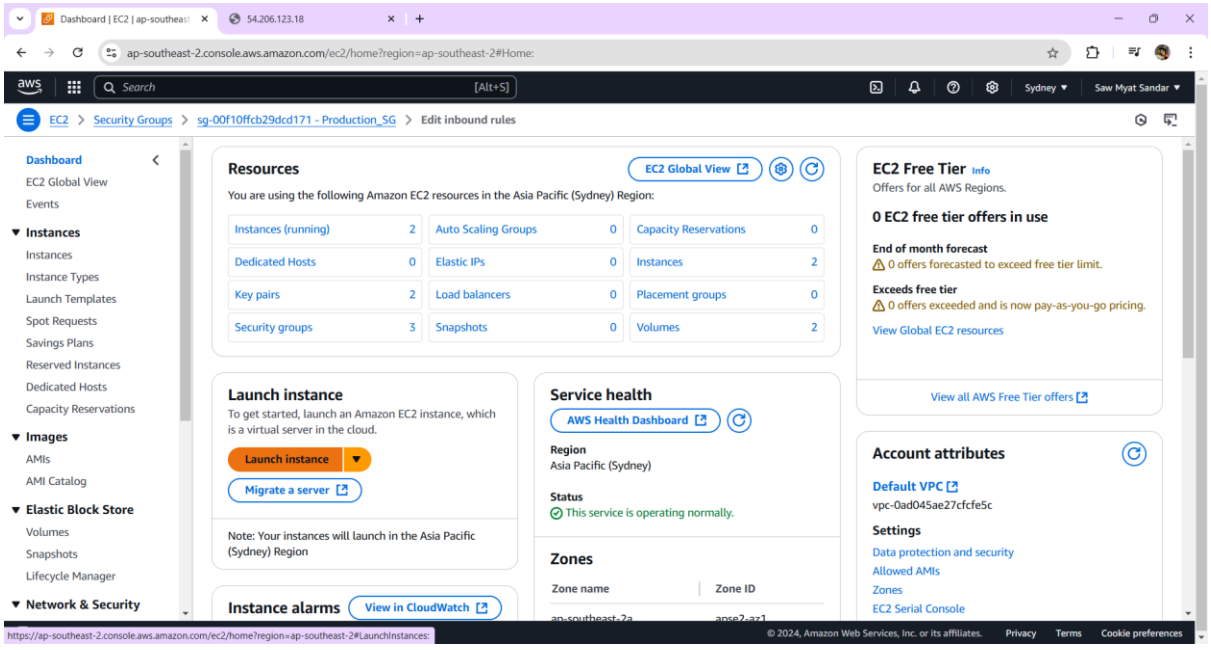


The most important thing is you need to select ‘Enable’ in Auto-assign public IP.

Number of instances is 1.

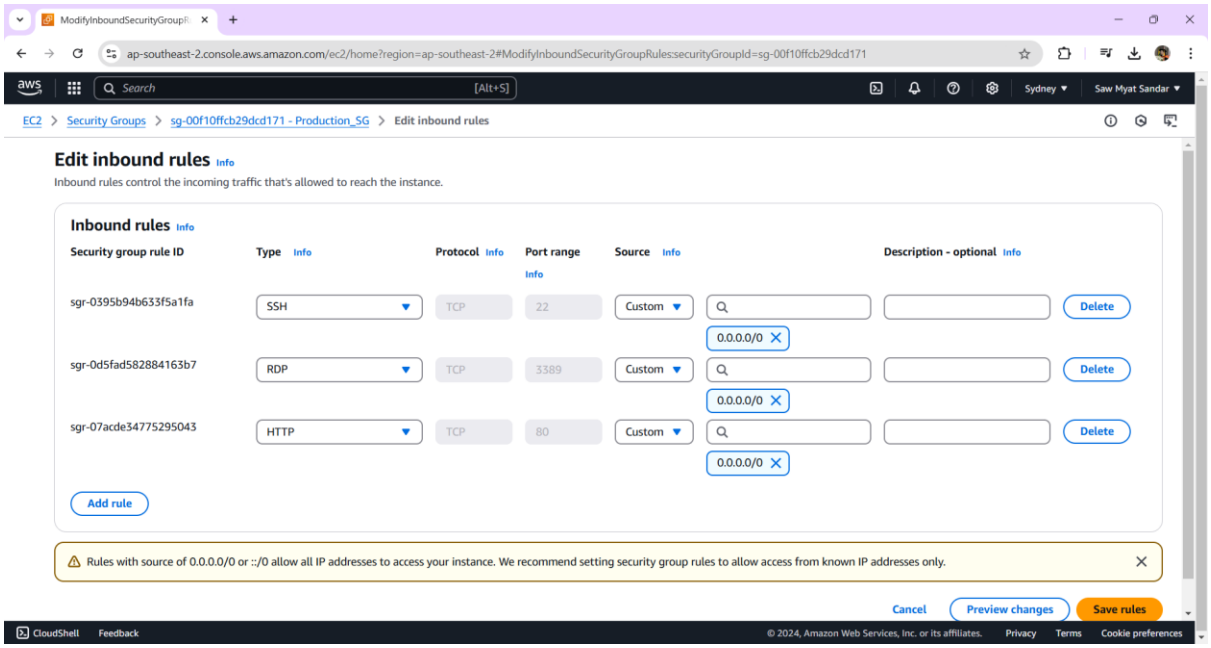
You do not need to change Configure storage. Check your configuration again and click ‘Launch instance’.

After that you need to change ‘Security Groups Inbound Rules’



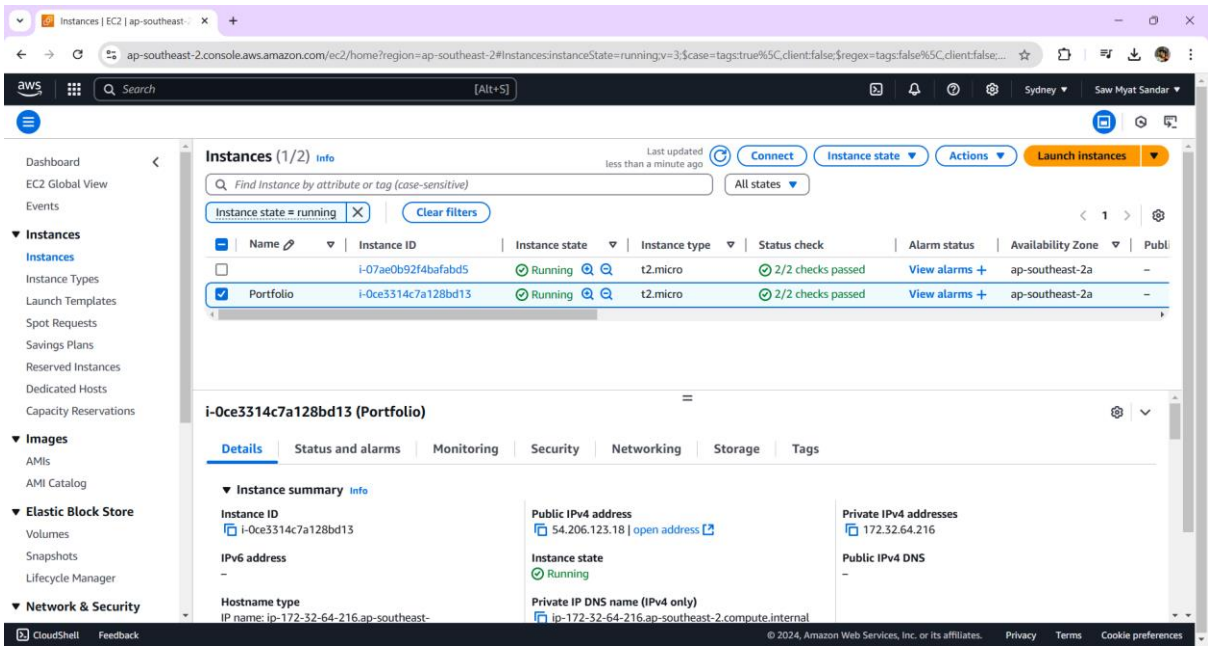
Security Groups Inbound Rules

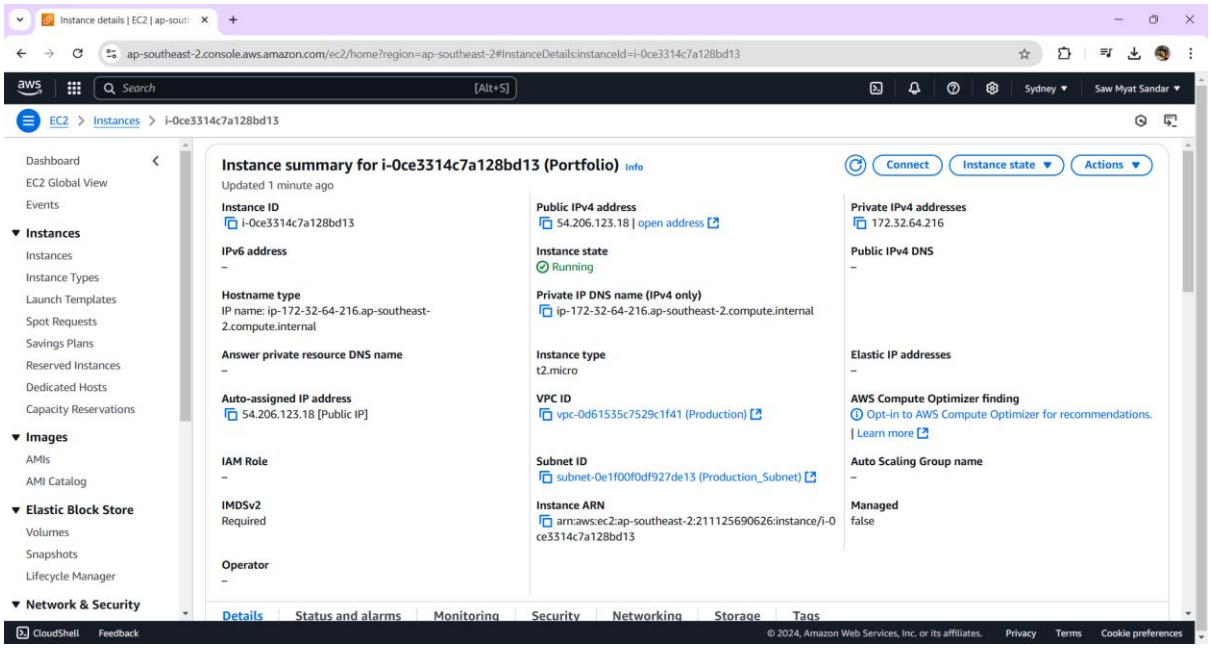
Inbound Rules



After changing the inbound rules, the status check shows 2/2 checks passed as shown below.

54.206.123.18




Instance details | EC2 | ap-south
ap-southeast-2.console.aws.amazon.com/ec2/home?region=ap-southeast-2#InstanceDetails:instanceId=i-0ce3314c7a128bd13
Search
[Alt+S]
Sydney
Saw Myat Sandar
EC2 > Instances > i-0ce3314c7a128bd13
Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Instance summary for i-0ce3314c7a128bd13 (Portfolio) Info
Updated 1 minute ago
Connect
Instance state
Actions
Instance ID
i-0ce3314c7a128bd13
IPv6 address
–
Hostname type
IP name: ip-172-32-64-216.ap-southeast-2.compute.internal
Answer private resource DNS name
–
Auto-assigned IP address
54.206.123.18 [Public IP]
IAM Role
–
IMDSv2
Required
Operator
–
Public IPv4 address
54.206.123.18 | open address
Instance state
Running
Private IP DNS name (IPv4 only)
ip-172-32-64-216.ap-southeast-2.compute.internal
Instance type
t2.micro
VPC ID
vpc-0d61535c7529c1f41 (Production)
Subnet ID
subnet-0e1f00f0df927de13 (Production_Subnet)
Instance ARN
arn:aws:ec2:ap-southeast-2:211125690626:instance/i-0ce3314c7a128bd13
Private IPv4 addresses
172.32.64.216
Public IPv4 DNS
–
Elastic IP addresses
–
AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations. | Learn more
Auto Scaling Group name
–
Managed
false
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
CloudShell
Feedback
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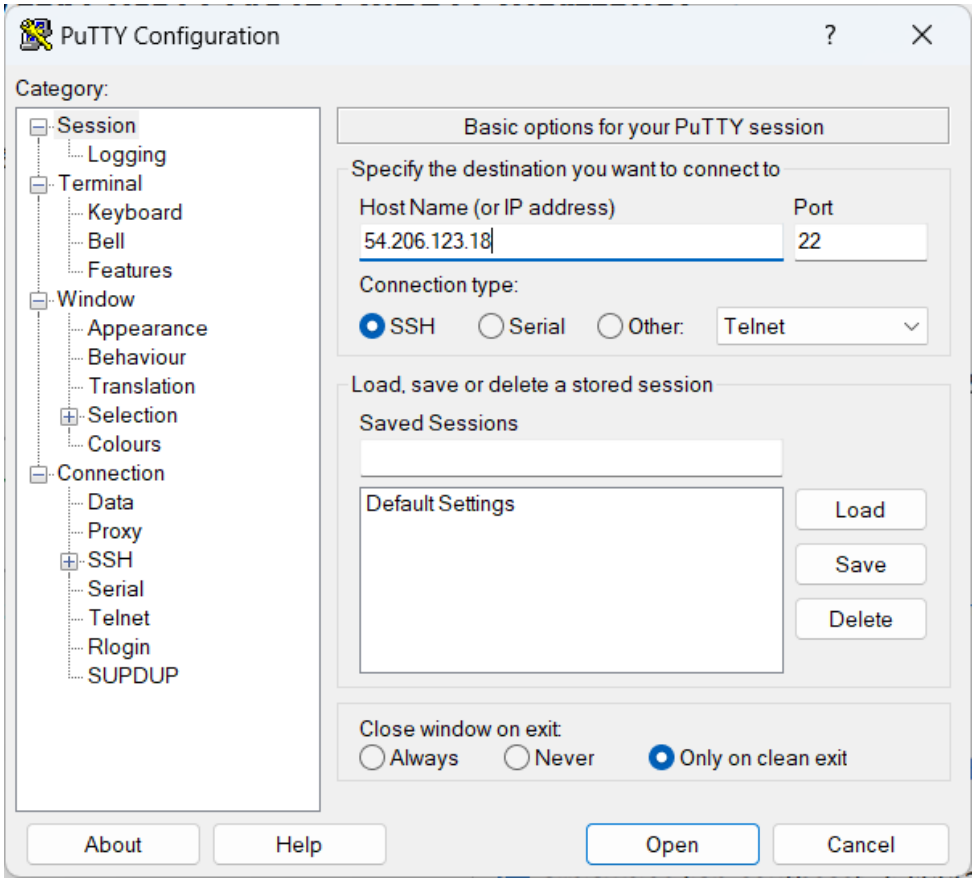
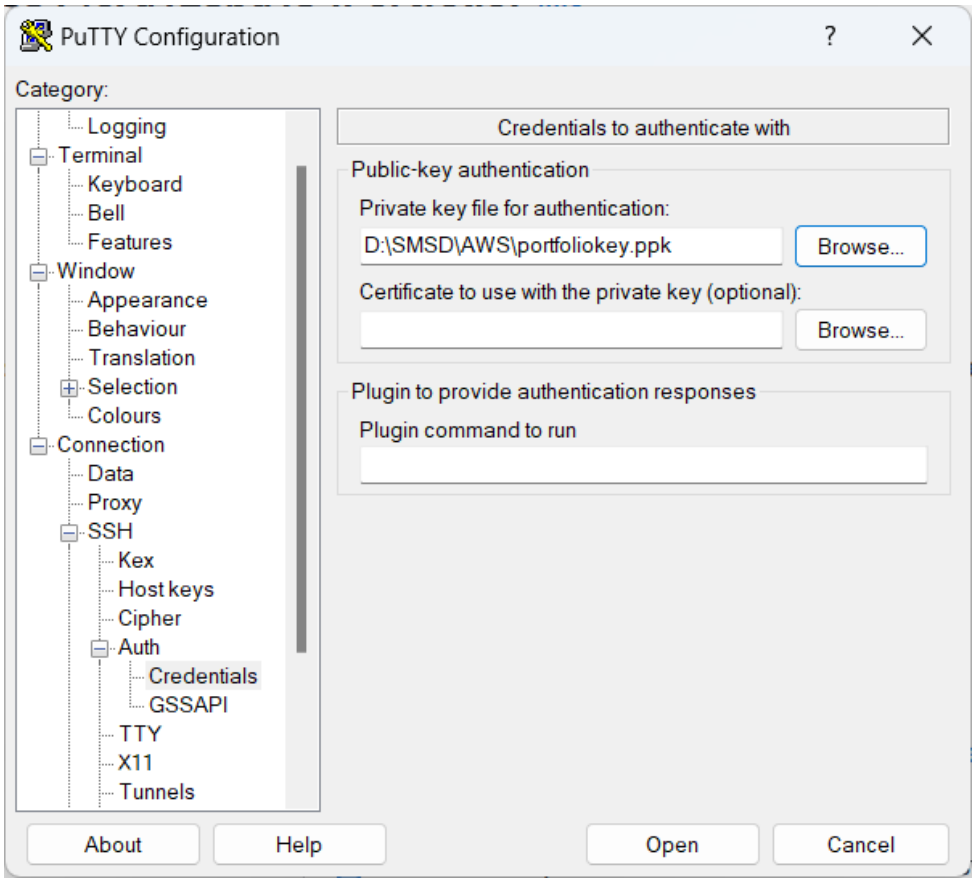
Login or Connect Using Putty





Commands in Putty

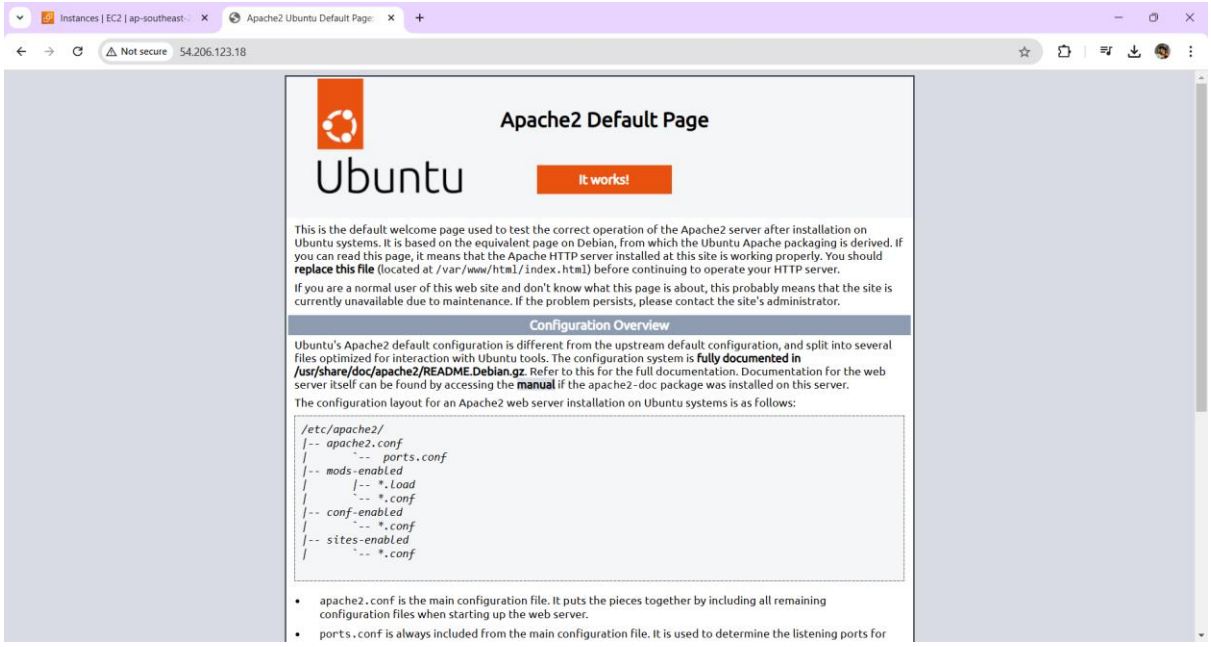
login as: ubuntu

ubuntu@linuxserver:~$ sudo su

root@linuxserver:/home/ubuntu# apt-get update && apt-get upgrade -y

root@linuxserver:/home/ubuntu# apt-get install apache2 -y

http://54.206.123.18/



root@ip-172-32-64-216:/home/ubuntu# cd /var/www

root@ip-172-32-64-216:/var/www# cd html/

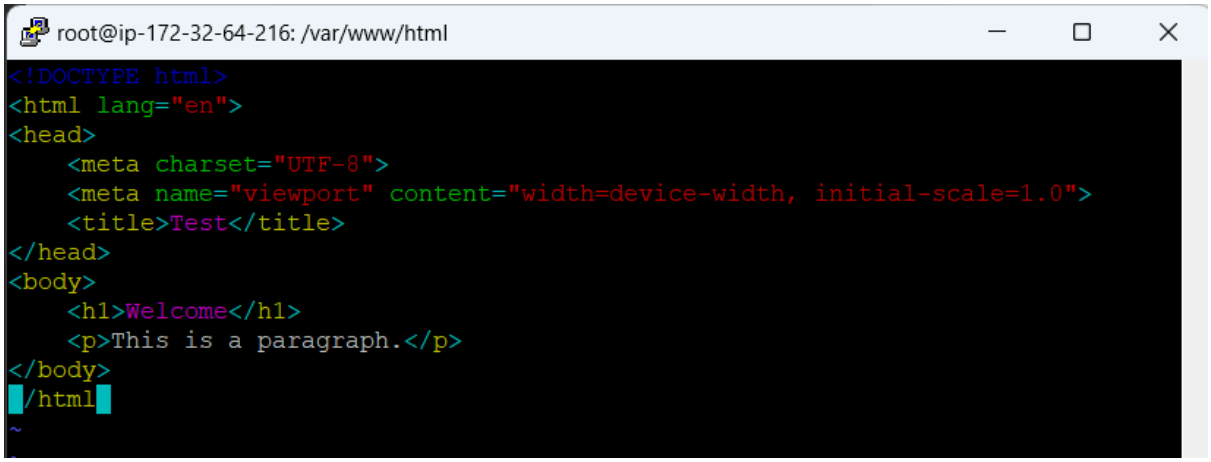
root@ip-172-32-64-216:/var/www/html# ls

root@ip-172-32-64-216:/var/www/html# vim index.html

copy the following code, go to putty and click “I” and right click on mouse.

Type :wq to save and exit

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Test</title>
</head>
<body>
    <h1>Welcome</h1>
    <p>This is a paragraph.</p>
</body>
</html>
```



root@ip-172-32-64-216:/var/www/html# vim index.html

:wq

root@ip-172-32-64-216:/var/www/html# etc/init.d/apache2 restart

Refresh the browser