Advanced DevOps Experiment-1

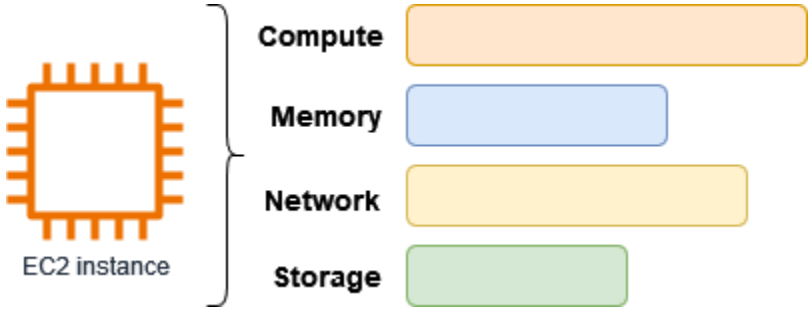
Sanket More
D15A 30

Aim: Using AWS CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.

Theory:-

Amazon Elastic Compute Cloud (Amazon EC2) provides on-demand, scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 reduces hardware costs so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. You can add capacity (scale up) to handle compute-heavy tasks, such as monthly or yearly processes, or spikes in website traffic. When usage decreases, you can reduce capacity (scale down) again.

An EC2 instance is a virtual server in the AWS Cloud. When you launch an EC2 instance, the instance type that you specify determines the hardware available to your instance. Each instance type offers a different balance of compute, memory, network, and storage resources. For more information, see the Amazon EC2 Instance Types Guide.



Features of Amazon EC2

Amazon EC2 provides the following high-level features:

Instances

Virtual servers.

Amazon Machine Images (AMIs)

Preconfigured templates for your instances that package the components you need for your server (including the operating system and additional software).

Instance types

Various configurations of CPU, memory, storage, networking capacity, and graphics hardware for your instances.

Amazon EBS volumes

Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS).

Instance store volumes

Storage volumes for temporary data that is deleted when you stop, hibernate, or terminate your instance.

Key pairs

Secure login information for your instances. AWS stores the public key and you store the private key in a secure place.

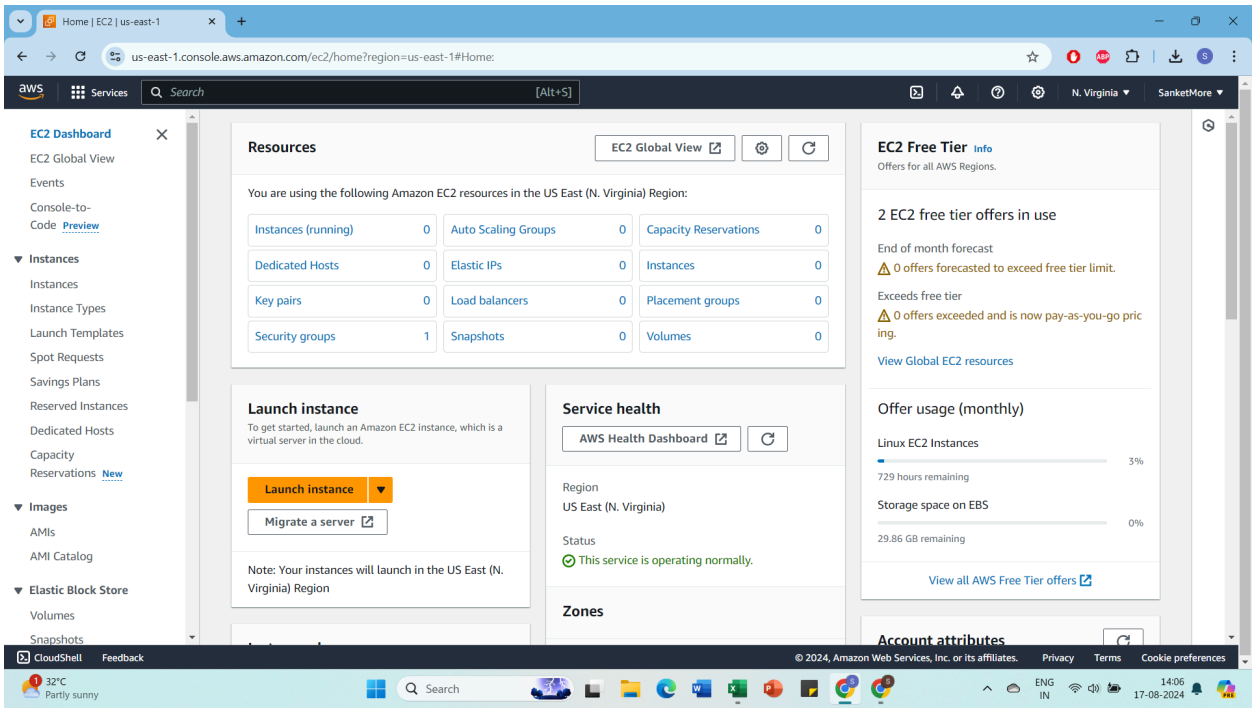
Security groups

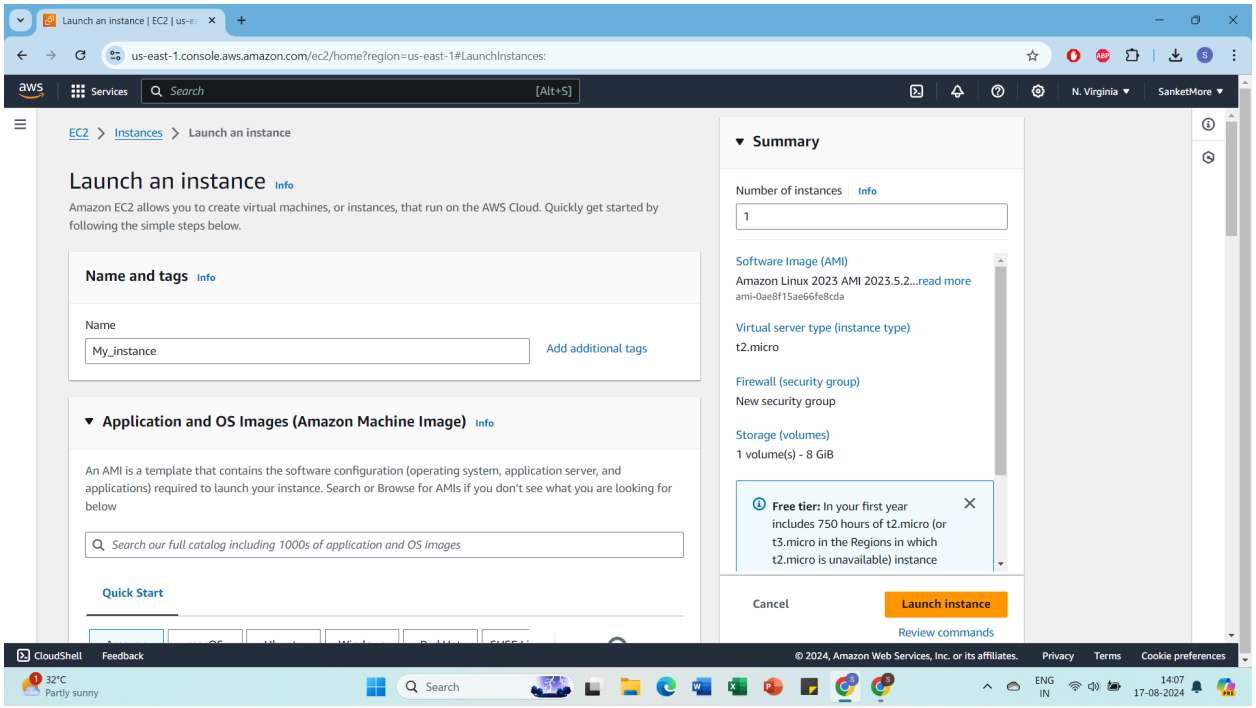
> A virtual firewall that allows you to specify the protocols, ports, and source IP ranges that can reach your instances, and the destination IP ranges to which your instances can connect.

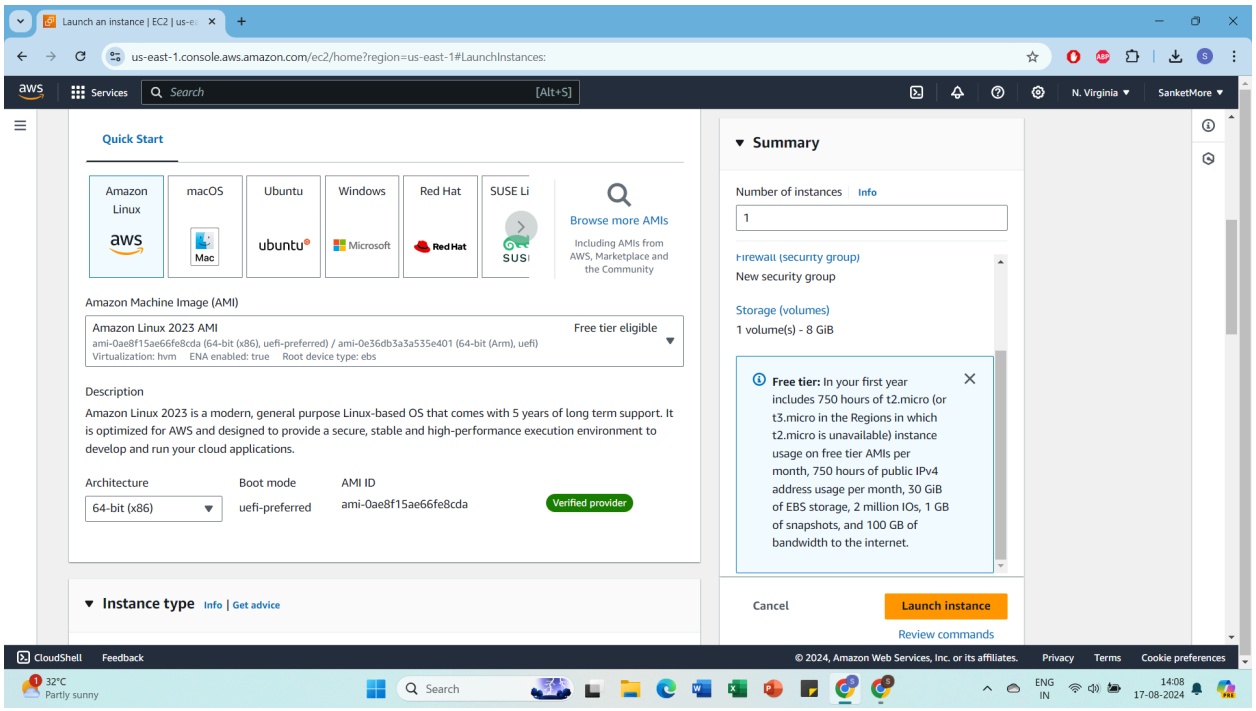
Amazon EC2 supports the processing, storage, and transmission of credit card data by a merchant or service provider, and has been validated as being compliant with Payment Card Industry (PCI) Data Security Standard (DSS). For more information about PCI DSS, including how to request a copy of the AWS PCI Compliance Package, see PCI DSS Level 1.

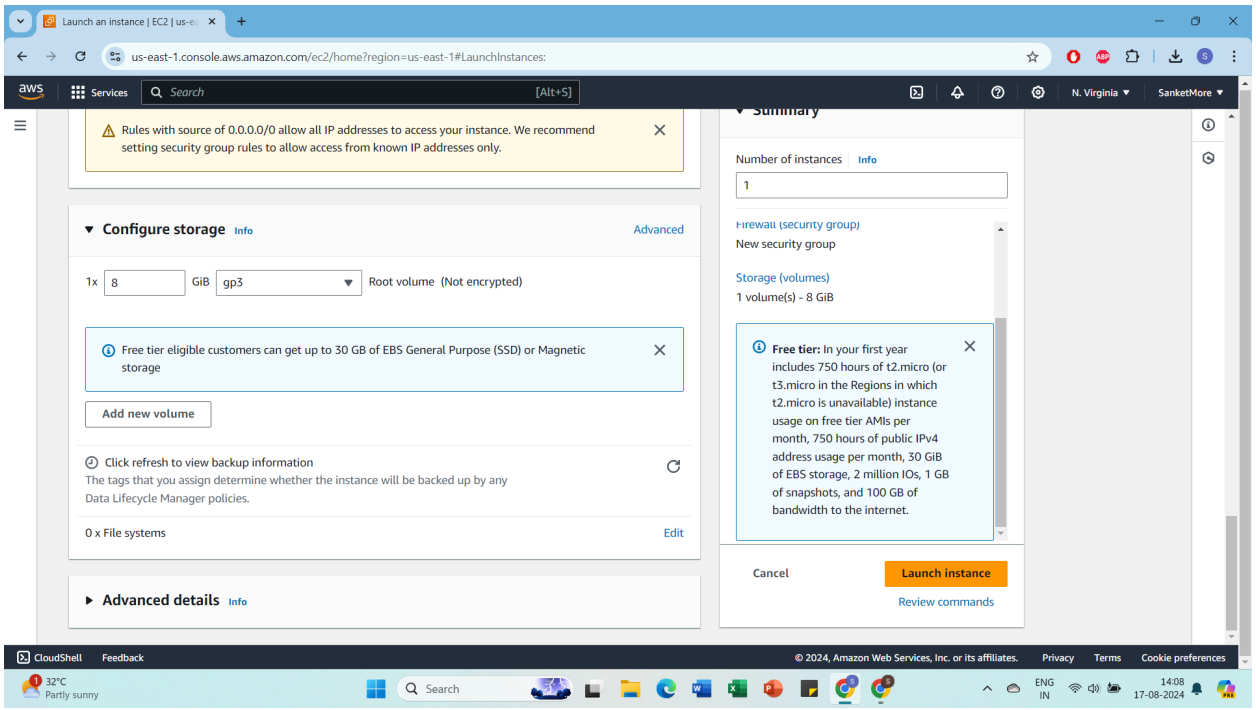
Implementation:-

EC2 Instance creation:




Launch an instance | EC2 | us-e
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Services
Search
[Alt+S]
N. Virginia
SanketMore
EC2 > Instances > Launch an instance
Launch an instance Info
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 Info
Name
My_instance
Add additional tags
Application and OS Images (Amazon Machine Image) Info
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 our full catalog including 1000s of application and OS images
Quick Start
Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2023 AMI 2023.5.2...read more
ami-0ae8f15ae66fe8cda
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
Cancel
Launch instance
Review commands
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
32°C
Partly sunny
Search
ENG
IN
14:07
17-08-2024


Launch an instance | EC2 | us-e
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Services
Search
[Alt+S]
N. Virginia
SanketMore
Quick Start
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
SUSE Li
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Amazon Linux 2023 AMI
ami-0ae8f15ae66fe8cda (64-bit (x86), uefi-preferred) / ami-0e36db3a3a535e401 (64-bit (Arm), uefi)
Virtualization: hvm ENA enabled: true Root device type: ebs
Free tier eligible
Description
Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.
Architecture
64-bit (x86)
Boot mode
uefi-preferred
AMI ID
ami-0ae8f15ae66fe8cda
Verified provider
Instance type Info | Get advice
Summary
Number of instances Info
1
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 IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Launch instance
Review commands
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
32°C
Partly sunny
Search
ENG
IN
14:08
17-08-2024


Launch an instance | EC2 | us-e
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
aws
Services
Search
[Alt+S]
N. Virginia
SanketMore
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.
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
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
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 IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Launch instance
Review commands
CloudShell
Feedback
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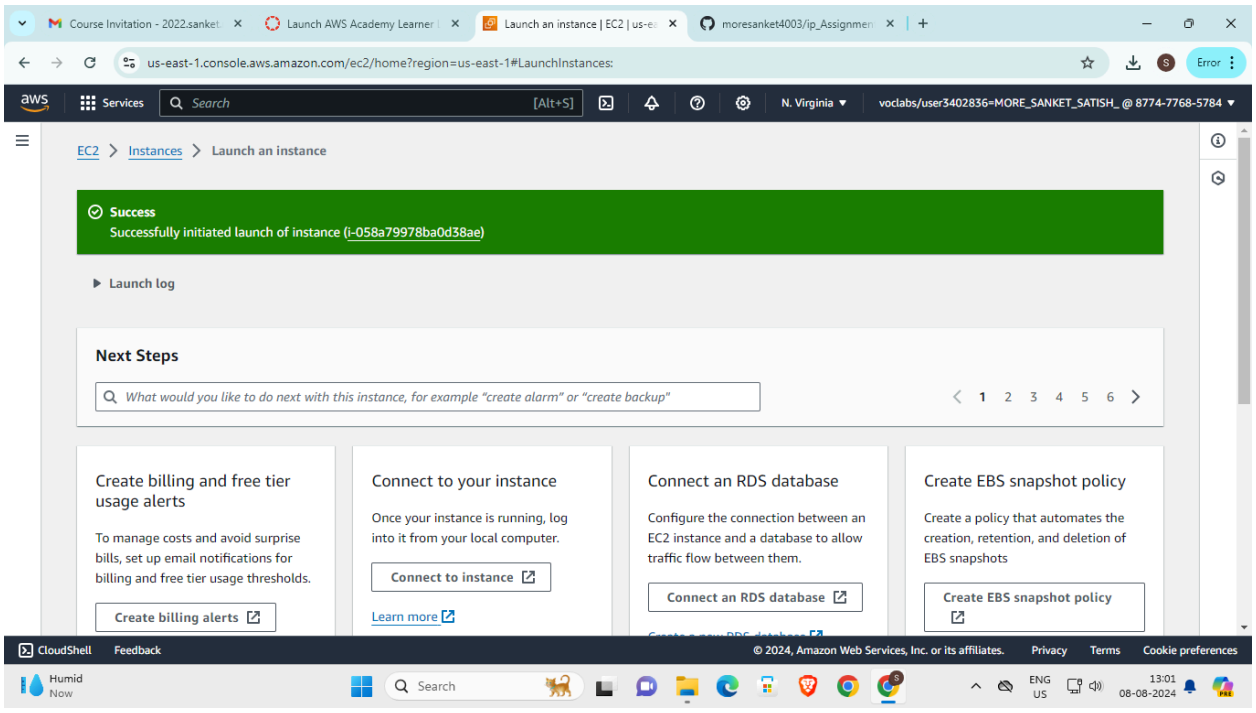
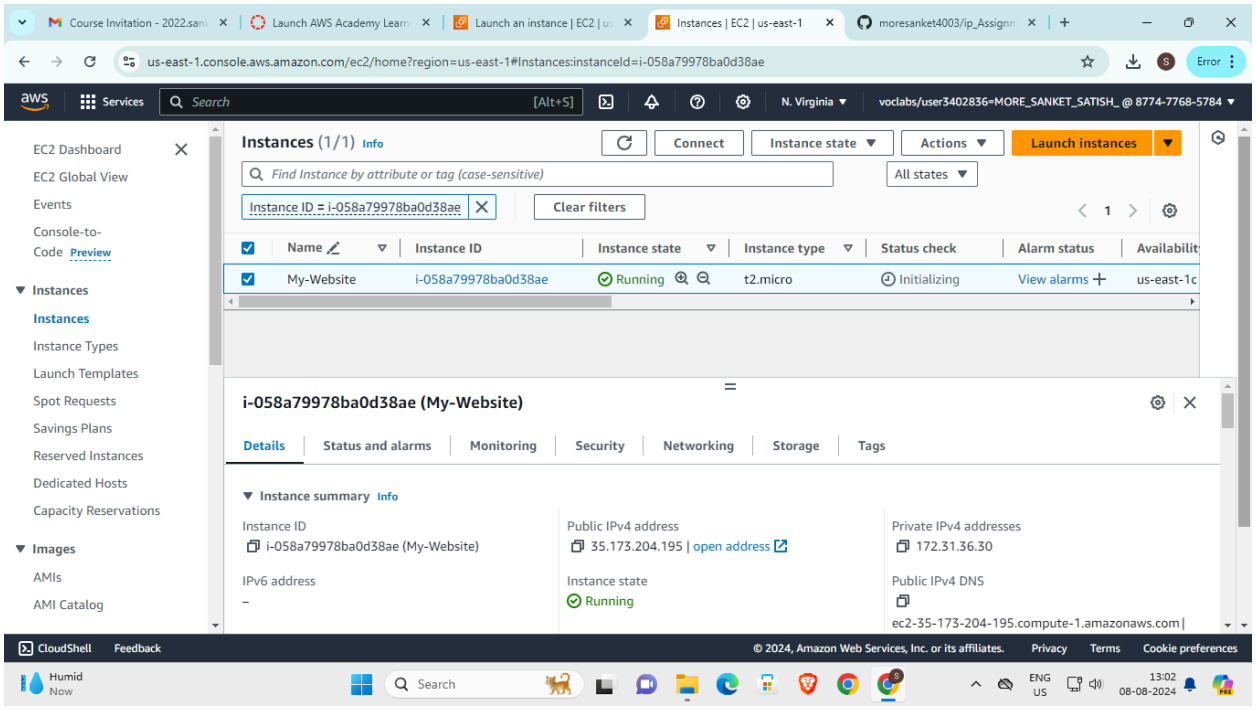
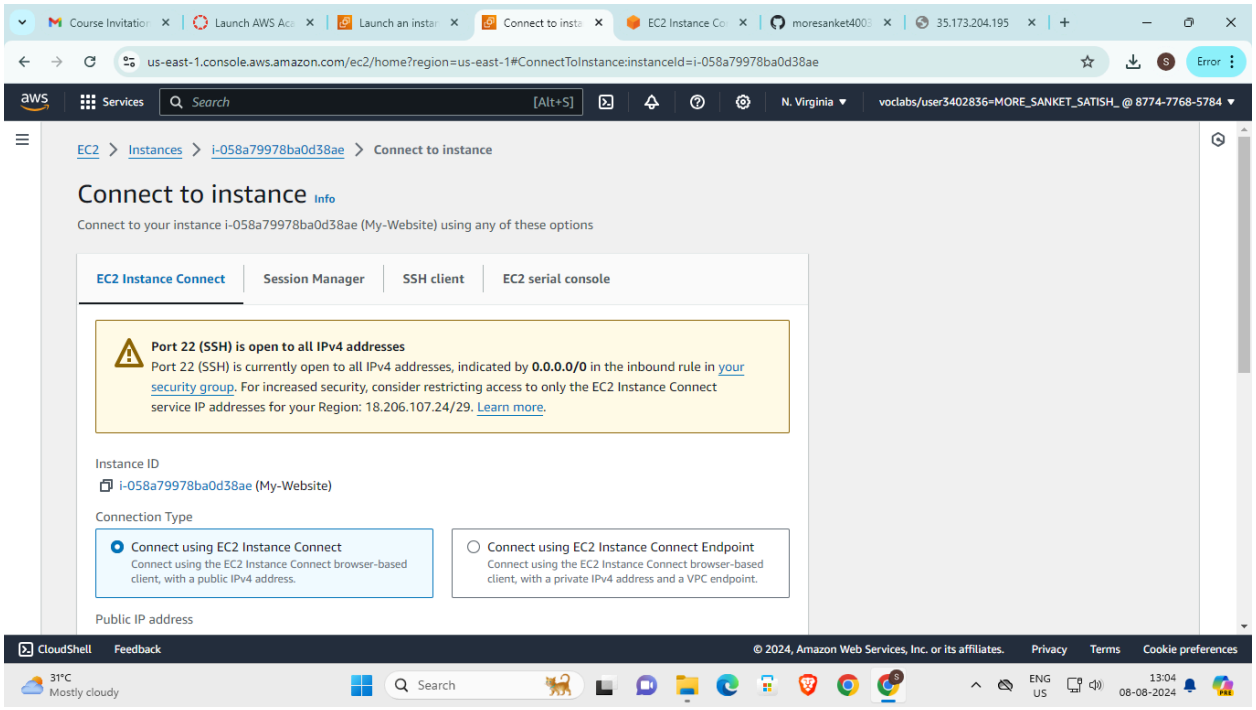
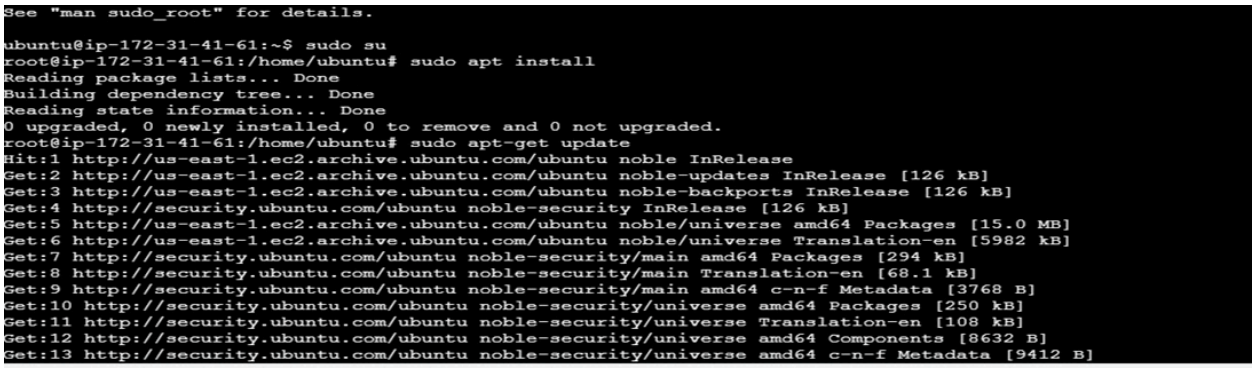
Privacy
Terms
Cookie preferences
32°C
Partly sunny
Search
ENG
IN
14:08
17-08-2024

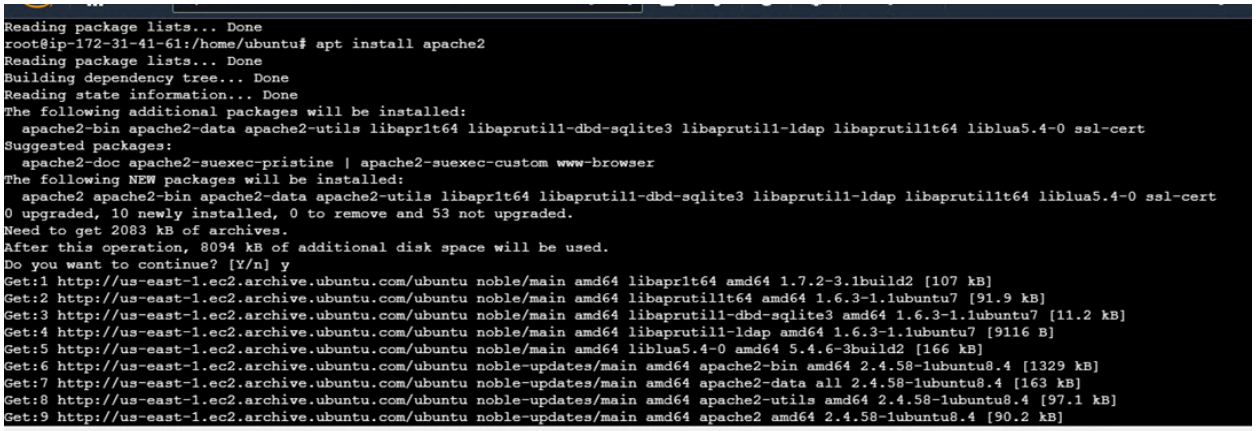

Course Invitation - 2022.sanket
Launch AWS Academy Learner
Launch an instance | EC2 | us-e
moresanket4003/ip_Assignmen
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
EC2 > Instances > Launch an instance
Success
Successfully initiated launch of instance (i-058a79978ba0d38ae)
Launch log
Next Steps
What would you like to do next with this instance, for example "create alarm" or "create backup"
1 2 3 4 5 6
Create billing and free tier usage alerts
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.
Create billing alerts
Connect to your instance
Once your instance is running, log into it from your local computer.
Connect to instance
Learn more
Connect an RDS database
Configure the connection between an EC2 instance and a database to allow traffic flow between them.
Connect an RDS database
Create EBS snapshot policy
Create a policy that automates the creation, retention, and deletion of EBS snapshots
Create EBS snapshot policy
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Humid
Now
Search
ENG
US
13:01
08-08-2024

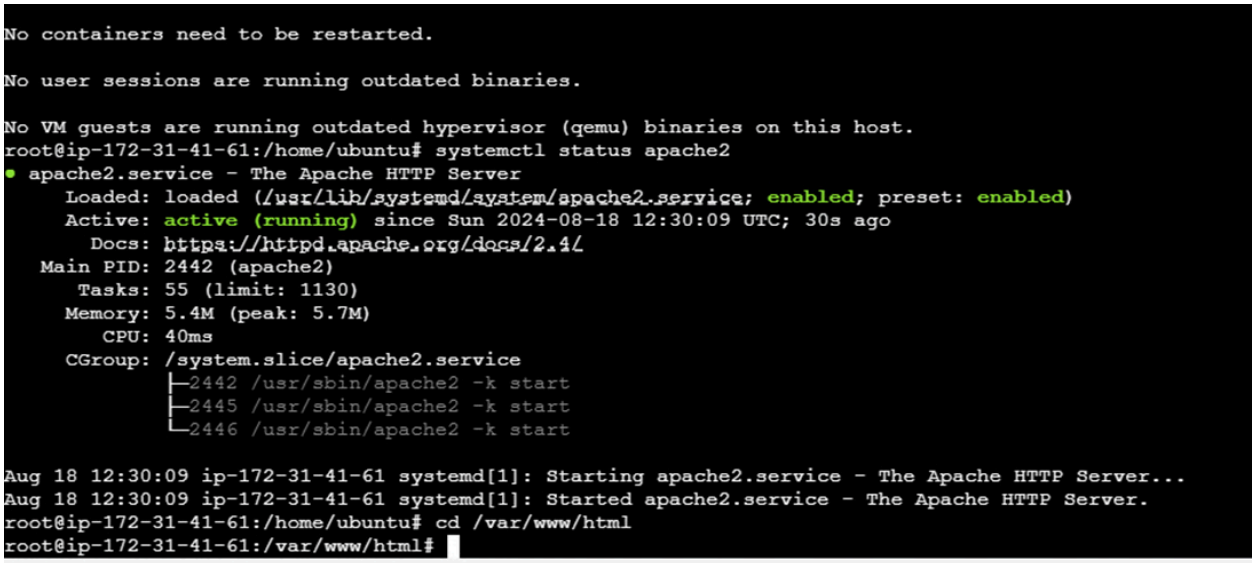

Instances | EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceId=i-058a79978ba0d38ae
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Instances (1/1) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance ID = i-058a79978ba0d38ae
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availabilit
My-Website
i-058a79978ba0d38ae
Running
t2.micro
Initializing
View alarms
us-east-1c
i-058a79978ba0d38ae (My-Website)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-058a79978ba0d38ae (My-Website)
Public IPv4 address
35.173.204.195 | open address
Private IPv4 addresses
172.31.36.30
IPv6 address
–
Instance state
Running
Public IPv4 DNS
ec2-35-173-204-195.compute-1.amazonaws.com |
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Humid
Now
Search
ENG
US
13:02
08-08-2024

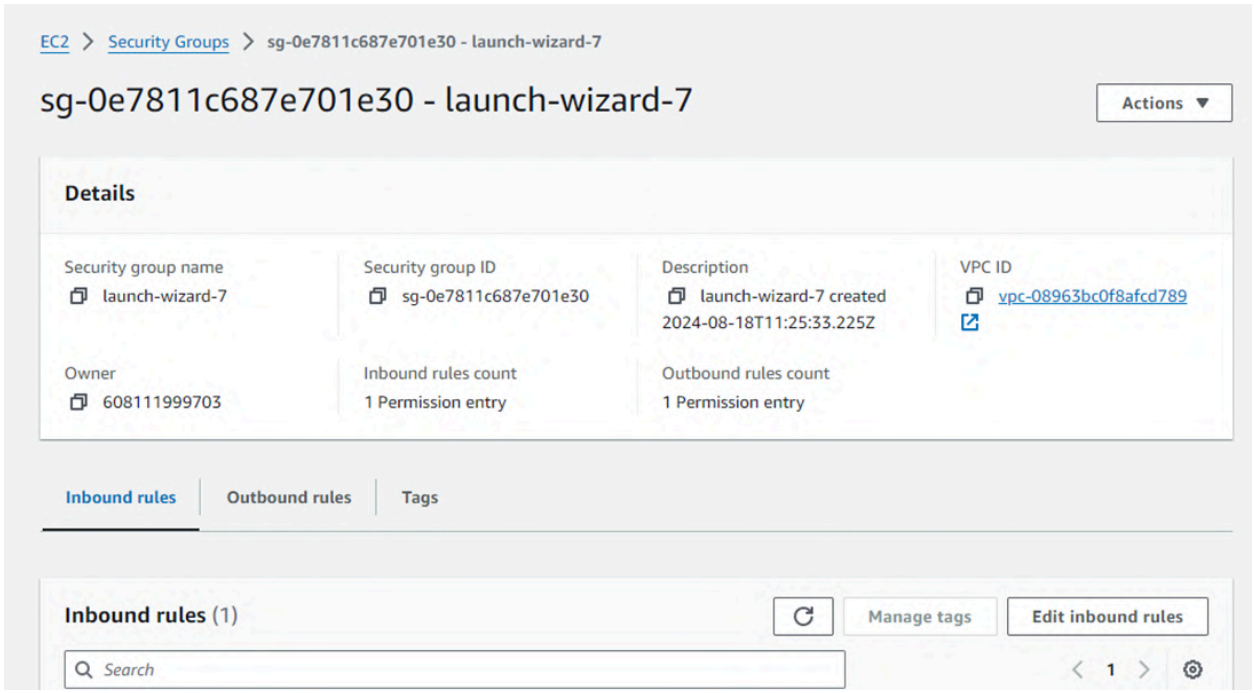

Connect to instance
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceId=i-058a79978ba0d38ae
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
EC2 > Instances > i-058a79978ba0d38ae > Connect to instance
Connect to instance Info
Connect to your instance i-058a79978ba0d38ae (My-Website) using any of these options
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Port 22 (SSH) is open to all IPv4 addresses
Port 22 (SSH) is currently open to all IPv4 addresses, indicated by 0.0.0.0/0 in the inbound rule in your security group. For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 18.206.107.24/29. Learn more.
Instance ID
i-058a79978ba0d38ae (My-Website)
Connection Type
Connect using EC2 Instance Connect
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.
Connect using EC2 Instance Connect Endpoint
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.
Public IP address
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
31°C
Mostly cloudy
Search
ENG
US
13:04
08-08-2024

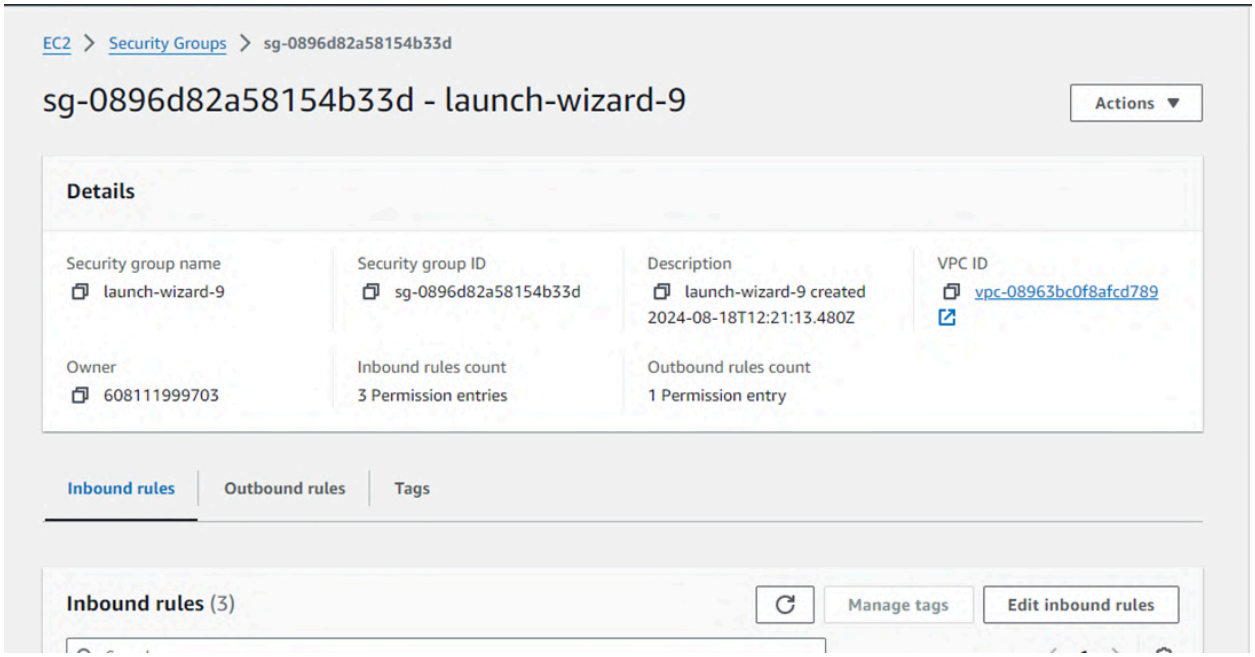
Static website hosting using EC2:-

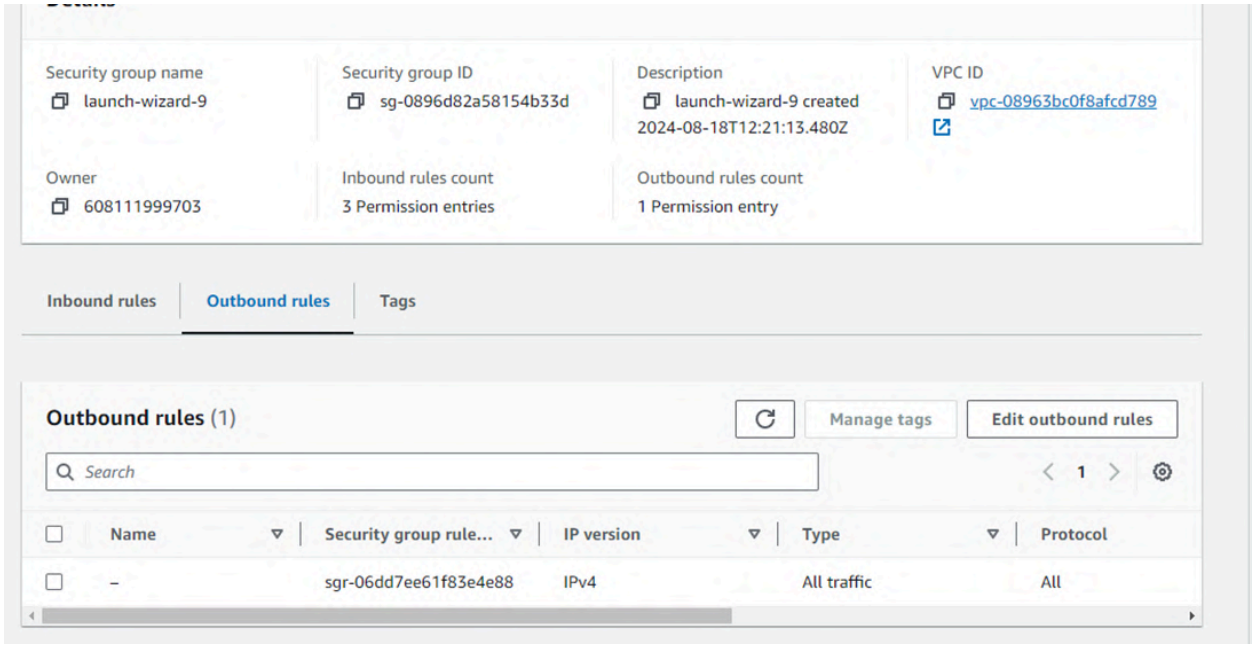


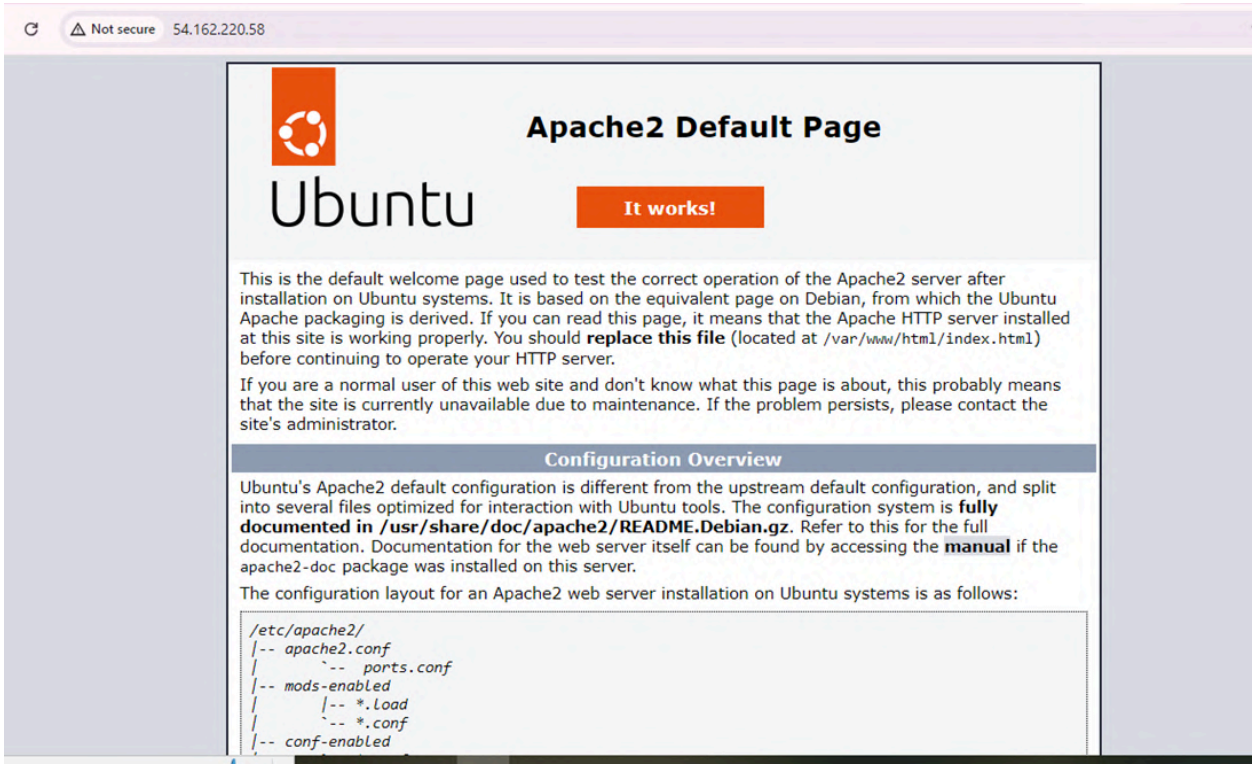




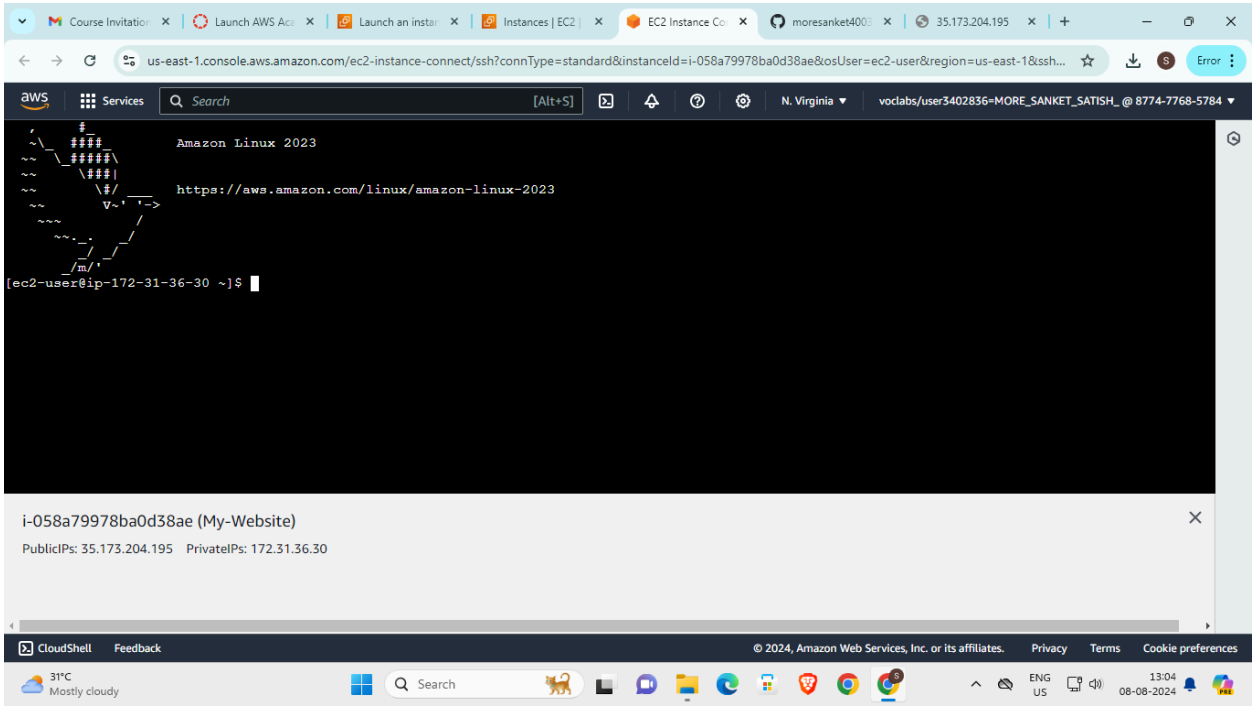

EC2 > Security Groups > sg-0e7811c687e701e30 - launch-wizard-7
sg-0e7811c687e701e30 - launch-wizard-7
Actions
Details
Security group name
launch-wizard-7
Security group ID
sg-0e7811c687e701e30
Description
launch-wizard-7 created 2024-08-18T11:25:33.225Z
VPC ID
vpc-08963bc0f8afcd789
Owner
608111999703
Inbound rules count
1 Permission entry
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Tags
Inbound rules (1)
Manage tags
Edit inbound rules
Search
1

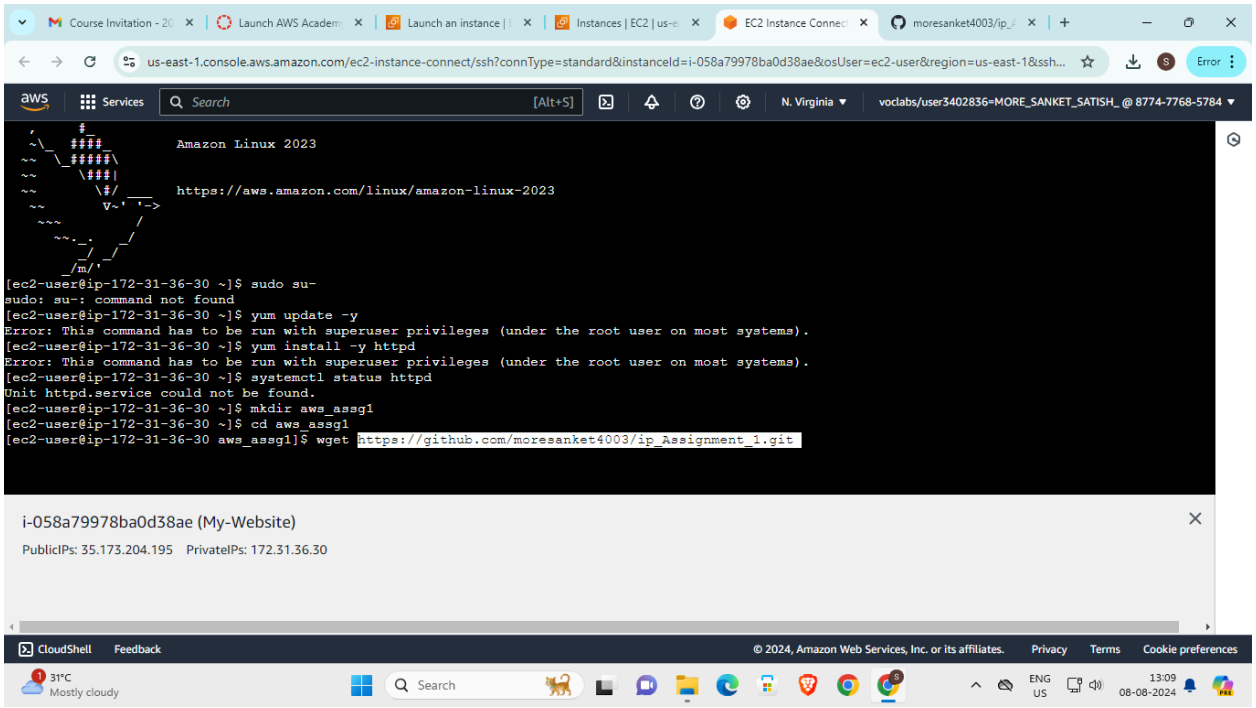

EC2 > Security Groups > sg-0896d82a58154b33d
sg-0896d82a58154b33d - launch-wizard-9
Actions
Details
Security group name
launch-wizard-9
Security group ID
sg-0896d82a58154b33d
Description
launch-wizard-9 created 2024-08-18T12:21:13.480Z
VPC ID
vpc-08963bc0f8afcd789
Owner
608111999703
Inbound rules count
3 Permission entries
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Tags
Inbound rules (3)
Manage tags
Edit inbound rules

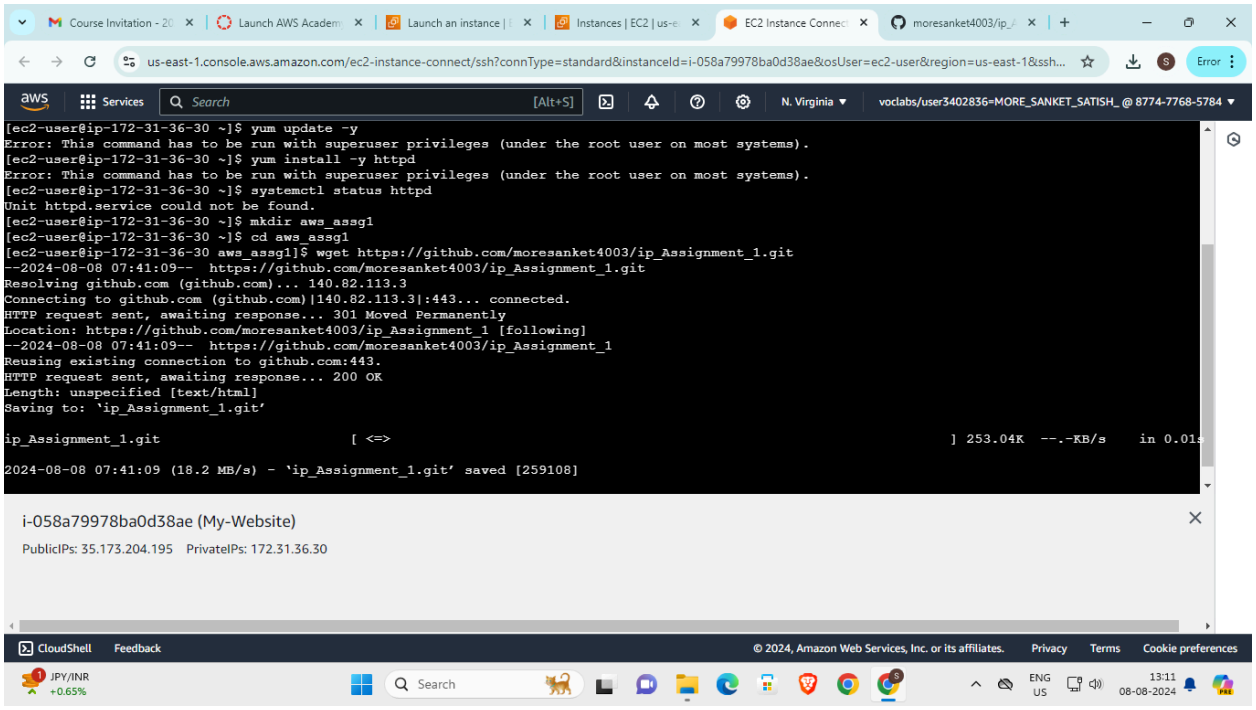

Security group name
launch-wizard-9
Security group ID
sg-0896d82a58154b33d
Description
launch-wizard-9 created 2024-08-18T12:21:13.480Z
VPC ID
vpc-08963bc0f8afcd789
Owner
608111999703
Inbound rules count
3 Permission entries
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Tags
Outbound rules (1)
Manage tags
Edit outbound rules
Search
1
Name
Security group rule...
IP version
Type
Protocol
–
sgr-06dd7ee61f83e4e88
IPv4
All traffic
All

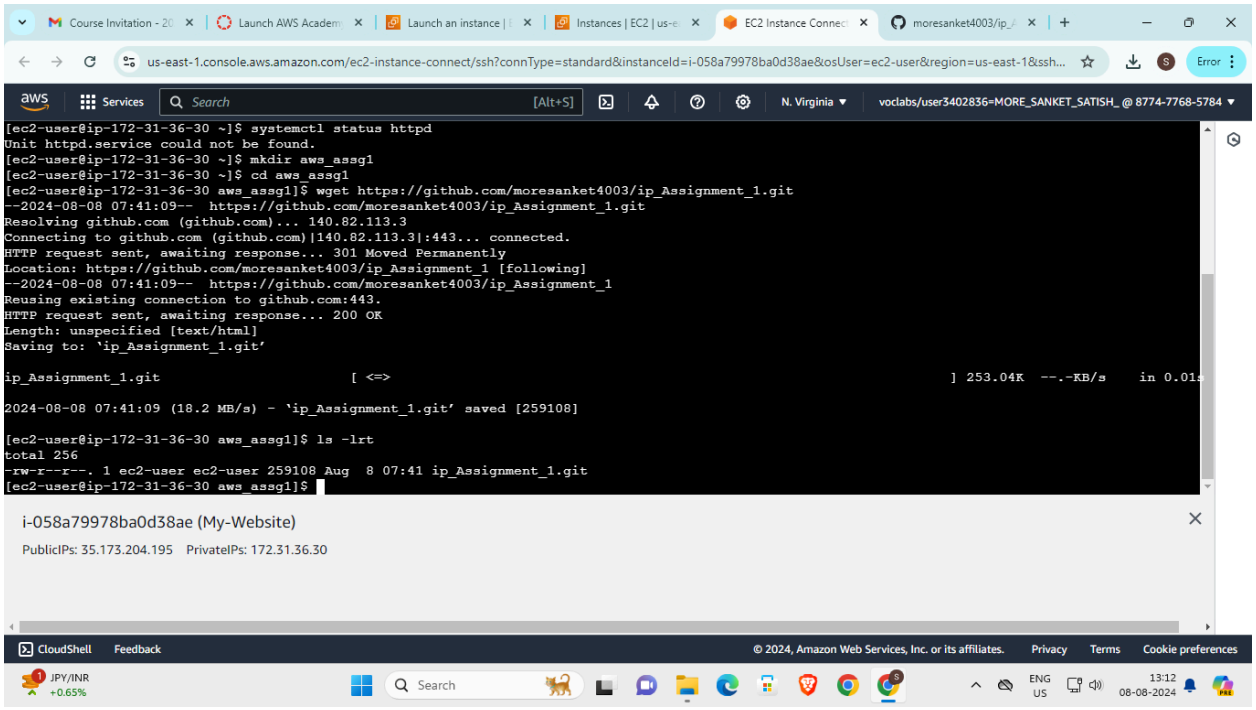

Not secure
54.162.220.58
Apache2 Default Page
Ubuntu
It works!
This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should replace this file (located at /var/www/html/index.html) before continuing to operate your HTTP server.
If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.
Configuration Overview
Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is fully documented in /usr/share/doc/apache2/README.Debian.gz. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the manual if the apache2-doc package was installed on this server.
The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:
/etc/apache2/
|-- apache2.conf
| `-- ports.conf
|-- mods-enabled
| |-- *.load
| `-- *.conf
|-- conf-enabled

DYNAMIC HOSTING ON EC2:






Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connect
moresanket4003/ip_A
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
[ec2-user@ip-172-31-36-30 ~]$ yum update -y
Error: This command has to be run with superuser privileges (under the root user on most systems).
[ec2-user@ip-172-31-36-30 ~]$ yum install -y httpd
Error: This command has to be run with superuser privileges (under the root user on most systems).
[ec2-user@ip-172-31-36-30 ~]$ systemctl status httpd
Unit httpd.service could not be found.
[ec2-user@ip-172-31-36-30 ~]$ mkdir aws_assg1
[ec2-user@ip-172-31-36-30 ~]$ cd aws_assg1
[ec2-user@ip-172-31-36-30 aws_assg1]$ wget https://github.com/moresanket4003/ip_Assignment_1.git
--2024-08-08 07:41:09-- https://github.com/moresanket4003/ip_Assignment_1.git
Resolving github.com (github.com)... 140.82.113.3
Connecting to github.com (github.com)|140.82.113.3|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://github.com/moresanket4003/ip_Assignment_1 [following]
--2024-08-08 07:41:09-- https://github.com/moresanket4003/ip_Assignment_1
Reusing existing connection to github.com:443.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'ip_Assignment_1.git'
ip_Assignment_1.git [<=>] 253.04K --.-KB/s in 0.01s
2024-08-08 07:41:09 (18.2 MB/s) - 'ip_Assignment_1.git' saved [259108]
i-058a79978ba0d38ae (My-Website)
PublicIPs: 35.173.204.195 PrivateIPs: 172.31.36.30
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
JPY/INR
+0.65%
Search
ENG
US
13:11
08-08-2024


Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connect
moresanket4003/ip_A
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
[ec2-user@ip-172-31-36-30 ~]$ systemctl status httpd
Unit httpd.service could not be found.
[ec2-user@ip-172-31-36-30 ~]$ mkdir aws_assg1
[ec2-user@ip-172-31-36-30 ~]$ cd aws_assg1
[ec2-user@ip-172-31-36-30 aws_assg1]$ wget https://github.com/moresanket4003/ip_Assignment_1.git
--2024-08-08 07:41:09-- https://github.com/moresanket4003/ip_Assignment_1.git
Resolving github.com (github.com)... 140.82.113.3
Connecting to github.com (github.com)|140.82.113.3|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://github.com/moresanket4003/ip_Assignment_1 [following]
--2024-08-08 07:41:09-- https://github.com/moresanket4003/ip_Assignment_1
Reusing existing connection to github.com:443.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'ip_Assignment_1.git'
ip_Assignment_1.git [<=>] 253.04K --.-KB/s in 0.01s
2024-08-08 07:41:09 (18.2 MB/s) - 'ip_Assignment_1.git' saved [259108]
[ec2-user@ip-172-31-36-30 aws_assg1]$ ls -lrt
total 256
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
[ec2-user@ip-172-31-36-30 aws_assg1]$
i-058a79978ba0d38ae (My-Website)
PublicIPs: 35.173.204.195 PrivateIPs: 172.31.36.30
CloudShell
Feedback
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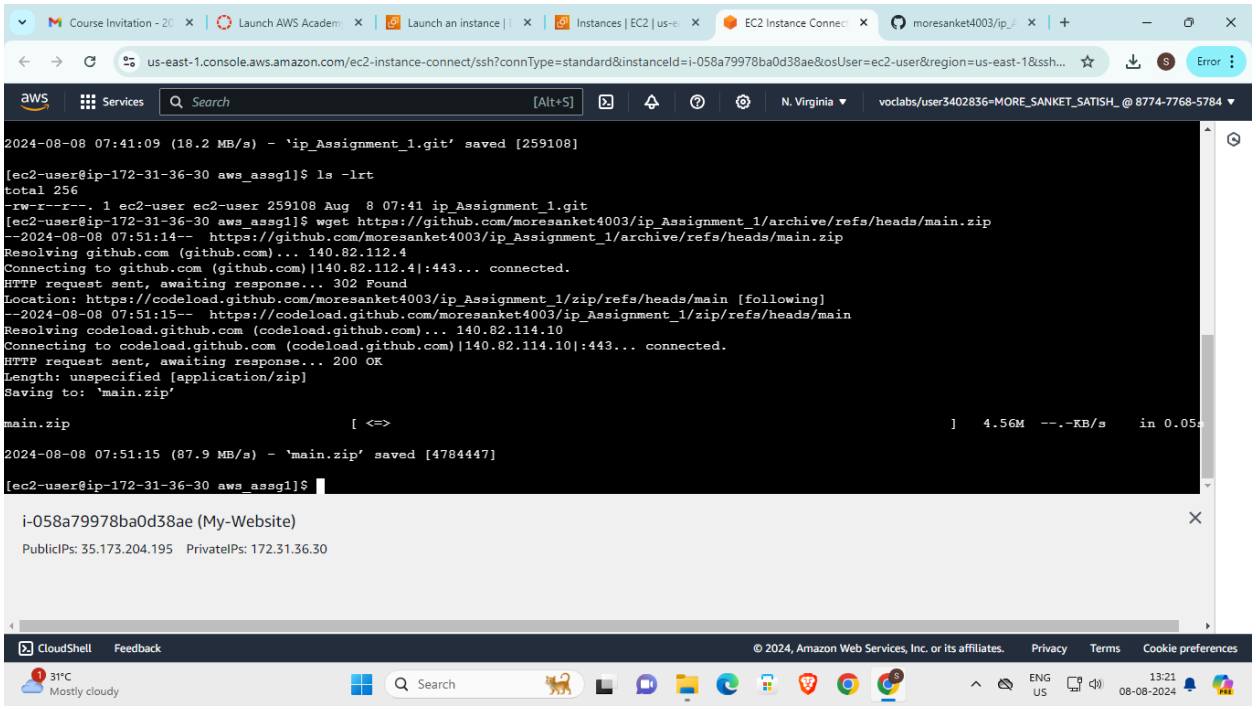
Cookie preferences
JPY/INR
+0.65%
Search
ENG
US
13:12
08-08-2024


Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connec
moresanket4003/ip_A
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
2024-08-08 07:41:09 (18.2 MB/s) - 'ip_Assignment_1.git' saved [259108]
[ec2-user@ip-172-31-36-30 aws_assg1]$ ls -lrt
total 256
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
[ec2-user@ip-172-31-36-30 aws_assg1]$ wget https://github.com/moresanket4003/ip_Assignment_1/archive/refs/heads/main.zip
--2024-08-08 07:51:14-- https://github.com/moresanket4003/ip_Assignment_1/archive/refs/heads/main.zip
Resolving github.com (github.com)... 140.82.112.4
Connecting to github.com (github.com)|140.82.112.4|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://codeload.github.com/moresanket4003/ip_Assignment_1/zip/refs/heads/main [following]
--2024-08-08 07:51:15-- https://codeload.github.com/moresanket4003/ip_Assignment_1/zip/refs/heads/main
Resolving codeload.github.com (codeload.github.com)... 140.82.114.10
Connecting to codeload.github.com (codeload.github.com)|140.82.114.10|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/zip]
Saving to: 'main.zip'
main.zip [<=>] 4.56M --.-KB/s in 0.05s
2024-08-08 07:51:15 (87.9 MB/s) - 'main.zip' saved [4784447]
[ec2-user@ip-172-31-36-30 aws_assg1]$
i-058a79978ba0d38ae (My-Website)
PublicIPs: 35.173.204.195 PrivateIPs: 172.31.36.30
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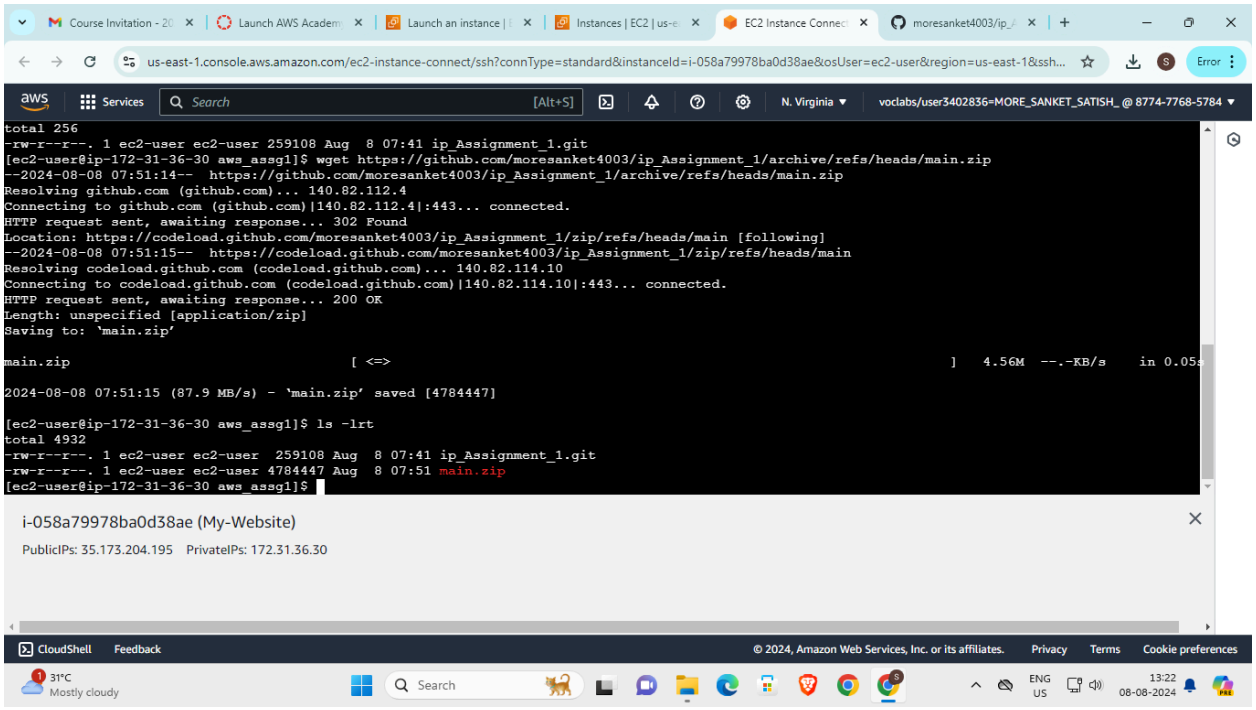
31°C
Mostly cloudy
Search
ENG
US
13:21
08-08-2024


Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connec
moresanket4003/ip_A
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
total 256
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
[ec2-user@ip-172-31-36-30 aws_assg1]$ wget https://github.com/moresanket4003/ip_Assignment_1/archive/refs/heads/main.zip
--2024-08-08 07:51:14-- https://github.com/moresanket4003/ip_Assignment_1/archive/refs/heads/main.zip
Resolving github.com (github.com)... 140.82.112.4
Connecting to github.com (github.com)|140.82.112.4|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://codeload.github.com/moresanket4003/ip_Assignment_1/zip/refs/heads/main [following]
--2024-08-08 07:51:15-- https://codeload.github.com/moresanket4003/ip_Assignment_1/zip/refs/heads/main
Resolving codeload.github.com (codeload.github.com)... 140.82.114.10
Connecting to codeload.github.com (codeload.github.com)|140.82.114.10|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/zip]
Saving to: 'main.zip'
main.zip [<=>] 4.56M --.-KB/s in 0.05s
2024-08-08 07:51:15 (87.9 MB/s) - 'main.zip' saved [4784447]
[ec2-user@ip-172-31-36-30 aws_assg1]$ ls -lrt
total 4932
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
-rw-r--r--. 1 ec2-user ec2-user 4784447 Aug 8 07:51 main.zip
[ec2-user@ip-172-31-36-30 aws_assg1]$
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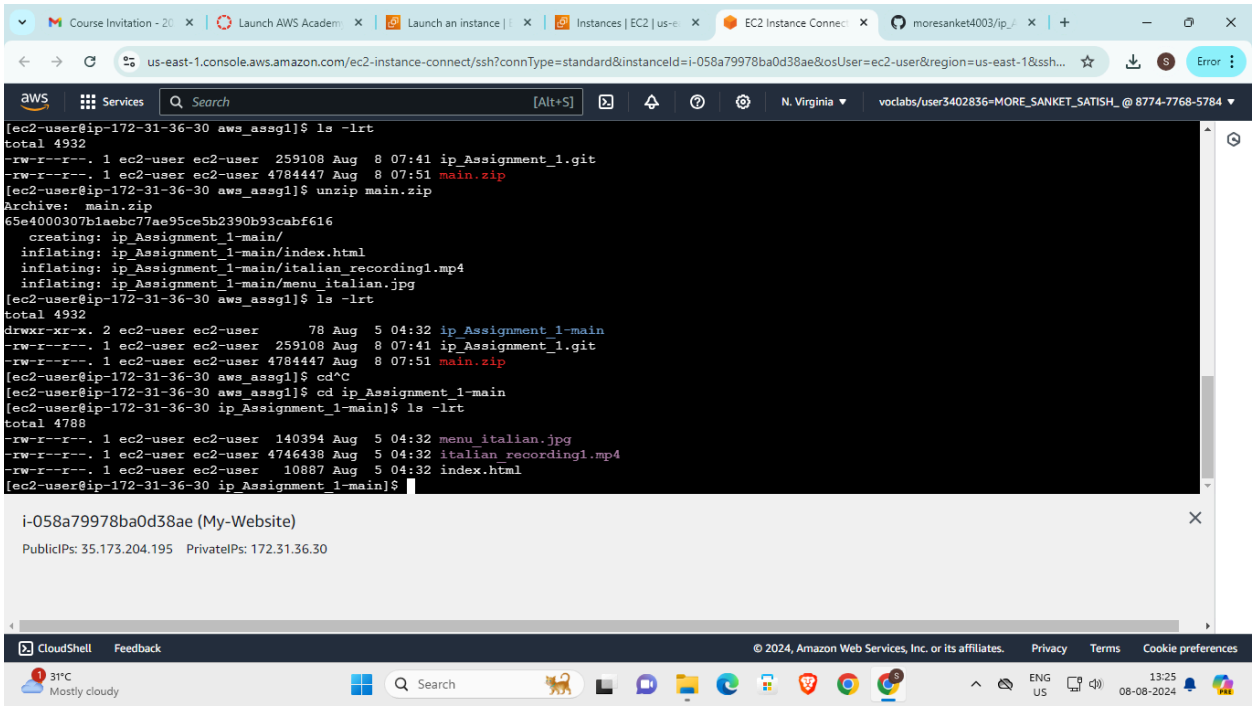
Search
ENG
US
13:22
08-08-2024


Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connec
moresanket4003/ip_
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
[ec2-user@ip-172-31-36-30 aws_assg1]$ ls -lrt
total 4932
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
-rw-r--r--. 1 ec2-user ec2-user 4784447 Aug 8 07:51 main.zip
[ec2-user@ip-172-31-36-30 aws_assg1]$ unzip main.zip
Archive: main.zip
65e4000307b1aebc77ae95ce5b2390b93cabf616
   creating: ip_Assignment_1-main/
  inflating: ip_Assignment_1-main/index.html
  inflating: ip_Assignment_1-main/italian_recording1.mp4
  inflating: ip_Assignment_1-main/menu_italian.jpg
[ec2-user@ip-172-31-36-30 aws_assg1]$ ls -lrt
total 4932
drwxr-xr-x. 2 ec2-user ec2-user   78 Aug 5 04:32 ip_Assignment_1-main
-rw-r--r--. 1 ec2-user ec2-user 259108 Aug 8 07:41 ip_Assignment_1.git
-rw-r--r--. 1 ec2-user ec2-user 4784447 Aug 8 07:51 main.zip
[ec2-user@ip-172-31-36-30 aws_assg1]$ cd^C
[ec2-user@ip-172-31-36-30 aws_assg1]$ cd ip_Assignment_1-main
[ec2-user@ip-172-31-36-30 ip_Assignment_1-main]$ ls -lrt
total 4788
-rw-r--r--. 1 ec2-user ec2-user 140394 Aug 5 04:32 menu_italian.jpg
-rw-r--r--. 1 ec2-user ec2-user 4746438 Aug 5 04:32 italian_recording1.mp4
-rw-r--r--. 1 ec2-user ec2-user   10887 Aug 5 04:32 index.html
[ec2-user@ip-172-31-36-30 ip_Assignment_1-main]$
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13:25
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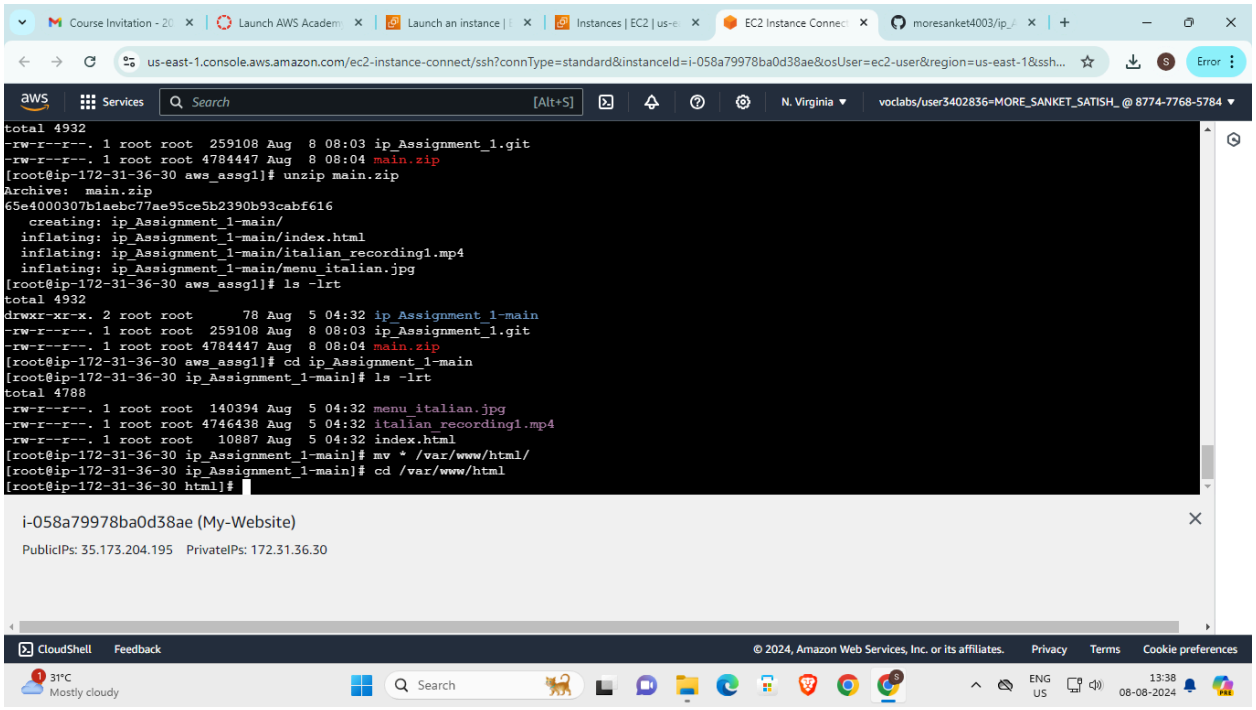
Course Invitation - 20
Launch AWS Academ
Launch an instance |
Instances | EC2 | us-e
EC2 Instance Connec
moresanket4003/ip_
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&ssh...
Error
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
total 4932
-rw-r--r--. 1 root root 259108 Aug 8 08:03 ip_Assignment_1.git
-rw-r--r--. 1 root root 4784447 Aug 8 08:04 main.zip
[root@ip-172-31-36-30 aws_assg1]# unzip main.zip
Archive: main.zip
65e4000307b1aebc77ae95ce5b2390b93cabf616
   creating: ip_Assignment_1-main/
  inflating: ip_Assignment_1-main/index.html
  inflating: ip_Assignment_1-main/italian_recording1.mp4
  inflating: ip_Assignment_1-main/menu_italian.jpg
[root@ip-172-31-36-30 aws_assg1]# ls -lrt
total 4932
drwxr-xr-x. 2 root root   78 Aug 5 04:32 ip_Assignment_1-main
-rw-r--r--. 1 root root 259108 Aug 8 08:03 ip_Assignment_1.git
-rw-r--r--. 1 root root 4784447 Aug 8 08:04 main.zip
[root@ip-172-31-36-30 aws_assg1]# cd ip_Assignment_1-main
[root@ip-172-31-36-30 ip_Assignment_1-main]# ls -lrt
total 4788
-rw-r--r--. 1 root root 140394 Aug 5 04:32 menu_italian.jpg
-rw-r--r--. 1 root root 4746438 Aug 5 04:32 italian_recording1.mp4
-rw-r--r--. 1 root root   10887 Aug 5 04:32 index.html
[root@ip-172-31-36-30 ip_Assignment_1-main]# mv * /var/www/html/
[root@ip-172-31-36-30 ip_Assignment_1-main]# cd /var/www/html
[root@ip-172-31-36-30 html]#
i-058a79978ba0d38ae (My-Website)
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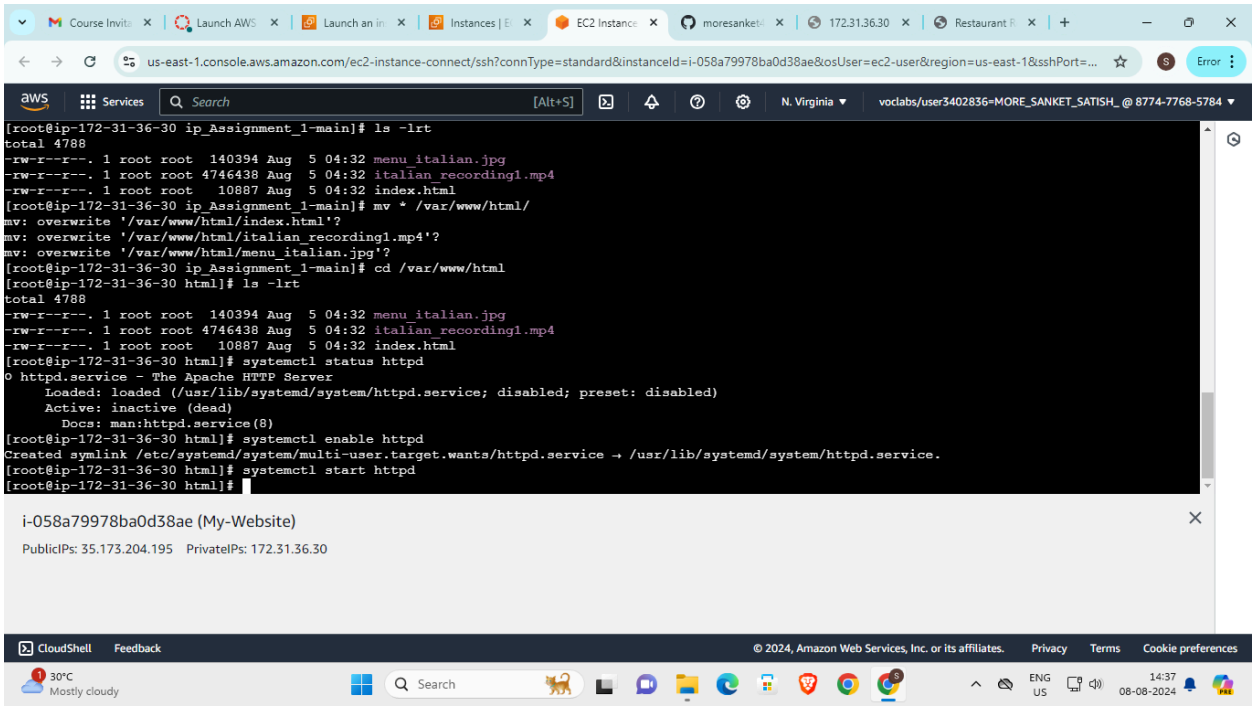
US
13:38
08-08-2024


us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-058a79978ba0d38ae&osUser=ec2-user&region=us-east-1&sshPort=...
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
[root@ip-172-31-36-30 ip_Assignment_1-main]# ls -lrt
total 4788
-rw-r--r--. 1 root root 140394 Aug 5 04:32 menu_italian.jpg
-rw-r--r--. 1 root root 4746438 Aug 5 04:32 italian_recording1.mp4
-rw-r--r--. 1 root root   10887 Aug 5 04:32 index.html
[root@ip-172-31-36-30 ip_Assignment_1-main]# mv * /var/www/html/
mv: overwrite '/var/www/html/index.html'?
mv: overwrite '/var/www/html/italian_recording1.mp4'?
mv: overwrite '/var/www/html/menu_italian.jpg'?
[root@ip-172-31-36-30 ip_Assignment_1-main]# cd /var/www/html
[root@ip-172-31-36-30 html]# ls -lrt
total 4788
-rw-r--r--. 1 root root 140394 Aug 5 04:32 menu_italian.jpg
-rw-r--r--. 1 root root 4746438 Aug 5 04:32 italian_recording1.mp4
-rw-r--r--. 1 root root   10887 Aug 5 04:32 index.html
[root@ip-172-31-36-30 html]# systemctl status httpd
o httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
     Active: inactive (dead)
       Docs: man:httpd.service(8)
[root@ip-172-31-36-30 html]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-36-30 html]# systemctl start httpd
[root@ip-172-31-36-30 html]#
i-058a79978ba0d38ae (My-Website)
PublicIPs: 35.173.204.195 PrivateIPs: 172.31.36.30
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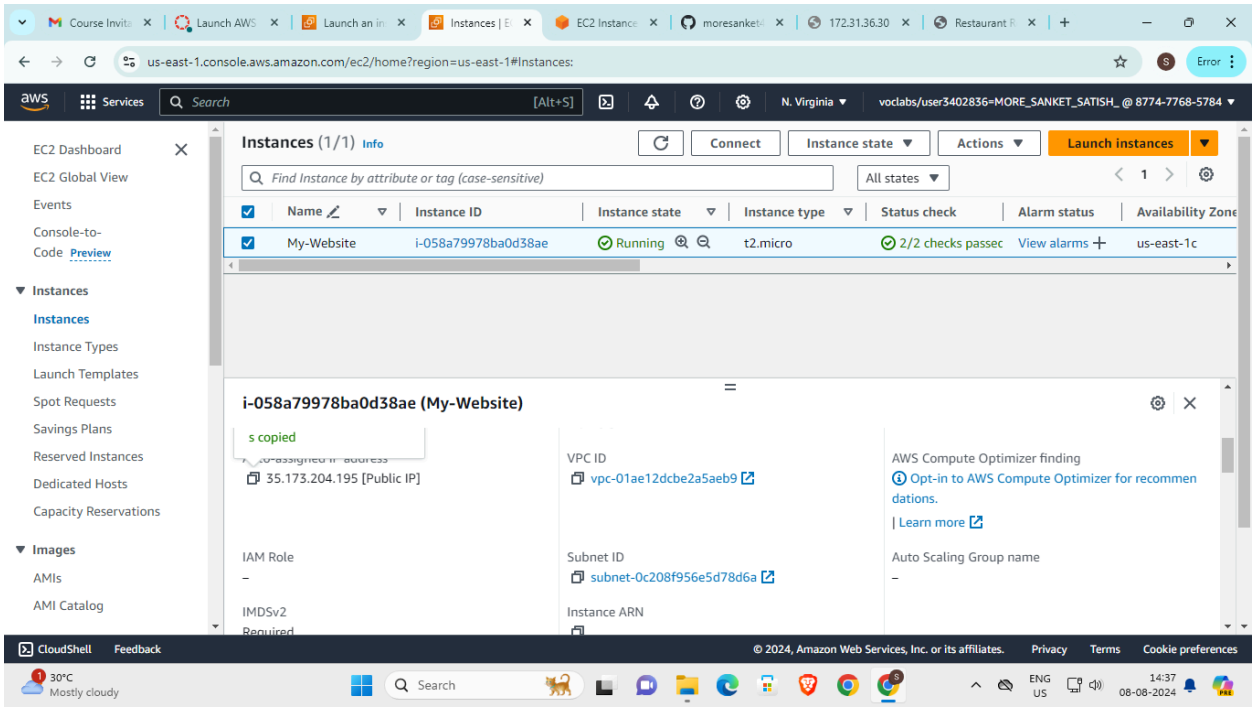
Search
ENG
US
14:37
08-08-2024


us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
Services
Search
[Alt+S]
N. Virginia
voclabs/user3402836=MORE_SANKET_SATISH_ @ 8774-7768-5784
EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Instances (1/1) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
My-Website
i-058a79978ba0d38ae
Running
t2.micro
2/2 checks passed
View alarms
us-east-1c
i-058a79978ba0d38ae (My-Website)
s copied
35.173.204.195 [Public IP]
VPC ID
vpc-01ae12dcbe2a5aeb9
AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations.
Learn more
IAM Role
–
Subnet ID
subnet-0c208f956e5d78d6a
Auto Scaling Group name
–
IMDSv2
Required
Instance ARN
CloudShell
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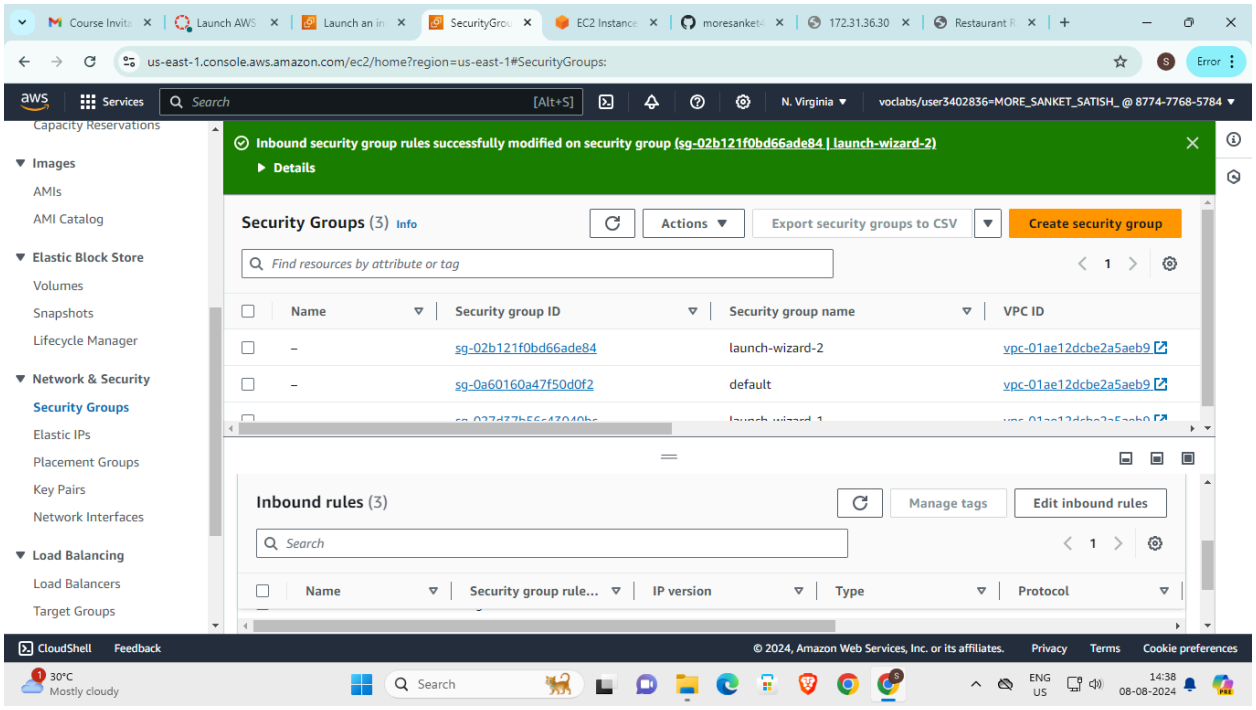
Search
ENG
US
14:37
08-08-2024


Inbound security group rules successfully modified on security group (sg-02b121f0bd66ade84 | launch-wizard-2)
Details
Security Groups (3) Info
Actions
Export security groups to CSV
Create security group
Find resources by attribute or tag
Name
Security group ID
Security group name
VPC ID
sg-02b121f0bd66ade84
launch-wizard-2
vpc-01ae12dcbe2a5aeb9
sg-0a60160a47f50d0f2
default
vpc-01ae12dcbe2a5aeb9
Inbound rules (3)
Manage tags
Edit inbound rules
Search
Name
Security group rule...
IP version
Type
Protocol
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups
CloudShell
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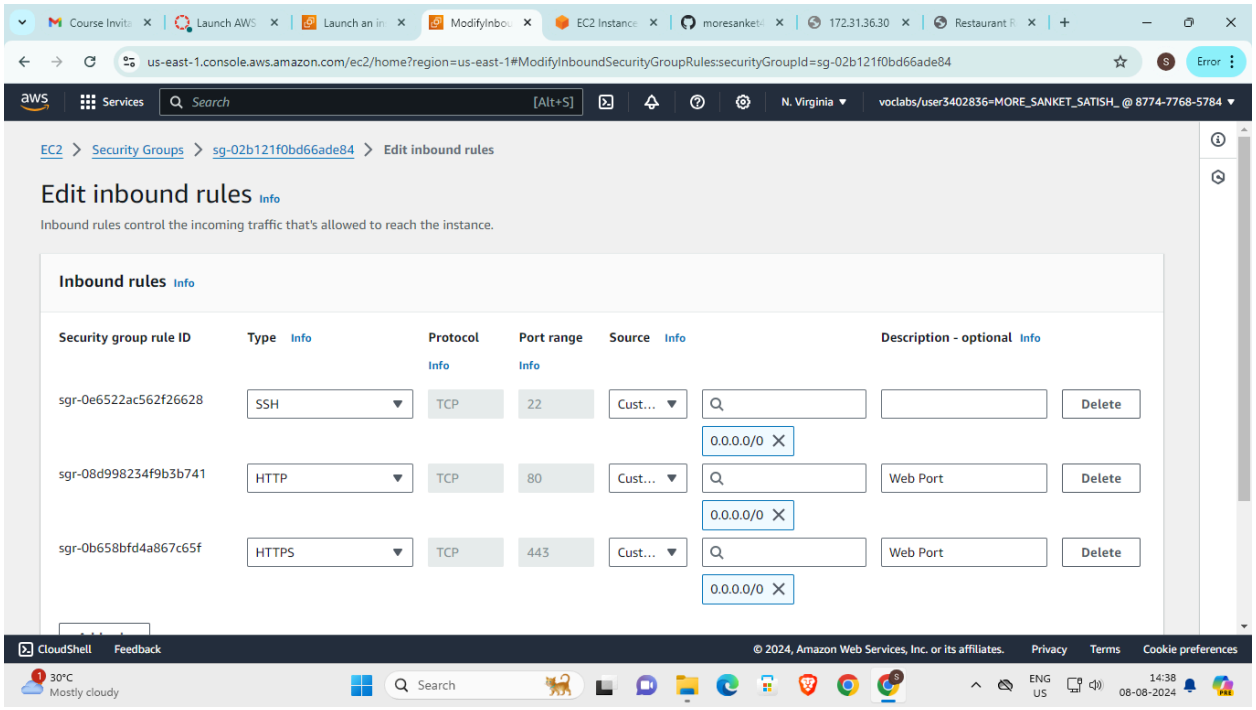
EC2 > Security Groups > sg-02b121f0bd66ade84 > Edit inbound rules
Edit inbound rules Info
Inbound rules control the incoming traffic that's allowed to reach the instance.
Inbound rules Info
Security group rule ID
Type Info
Protocol Info
Port range Info
Source Info
Description - optional Info
sgr-0e6522ac562f26628
SSH
TCP
22
Cust...
0.0.0.0/0
Delete
sgr-08d998234f9b3b741
HTTP
TCP
80
Cust...
0.0.0.0/0
Web Port
Delete
sgr-0b658bfd4a867c65f
HTTPS
TCP
443
Cust...
0.0.0.0/0
Web Port
Delete
CloudShell
Feedback
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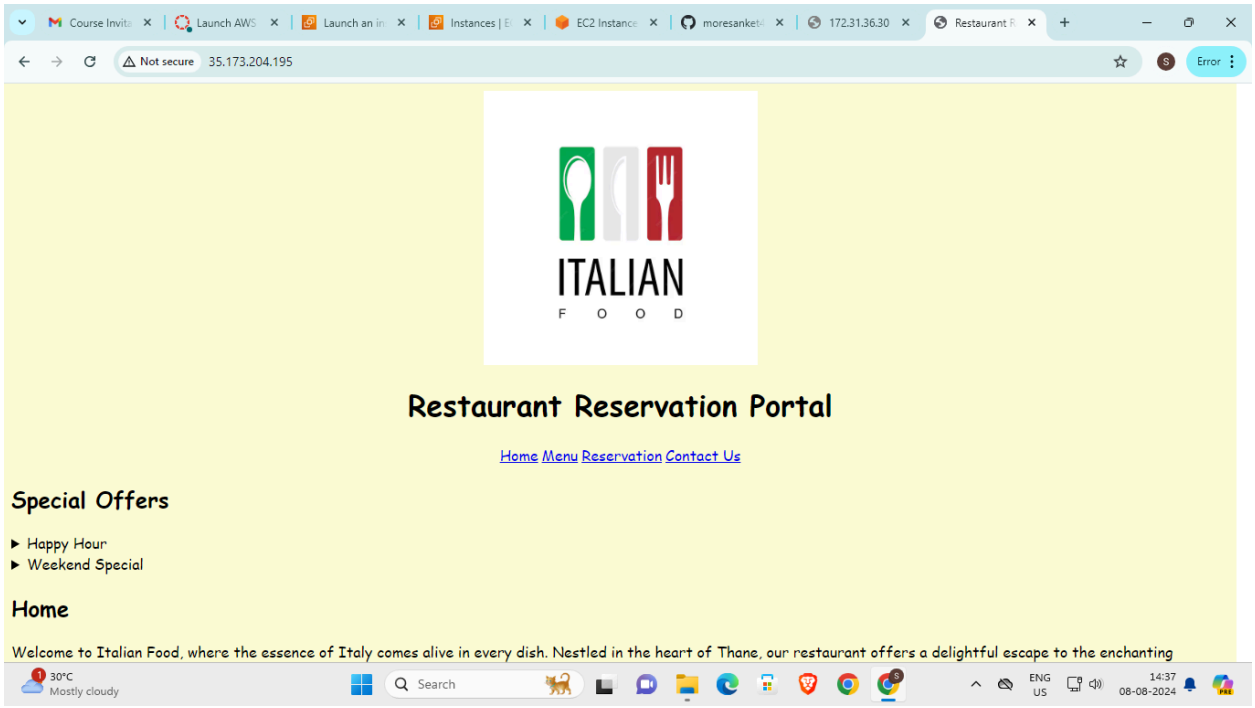
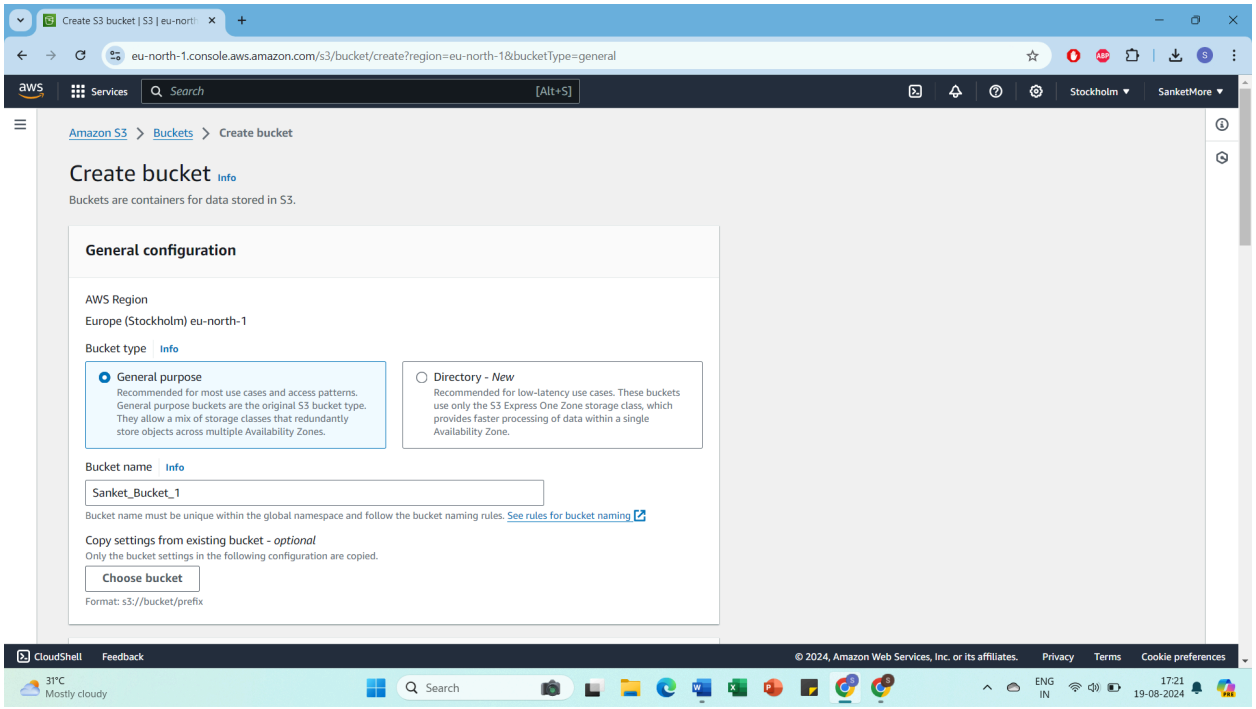
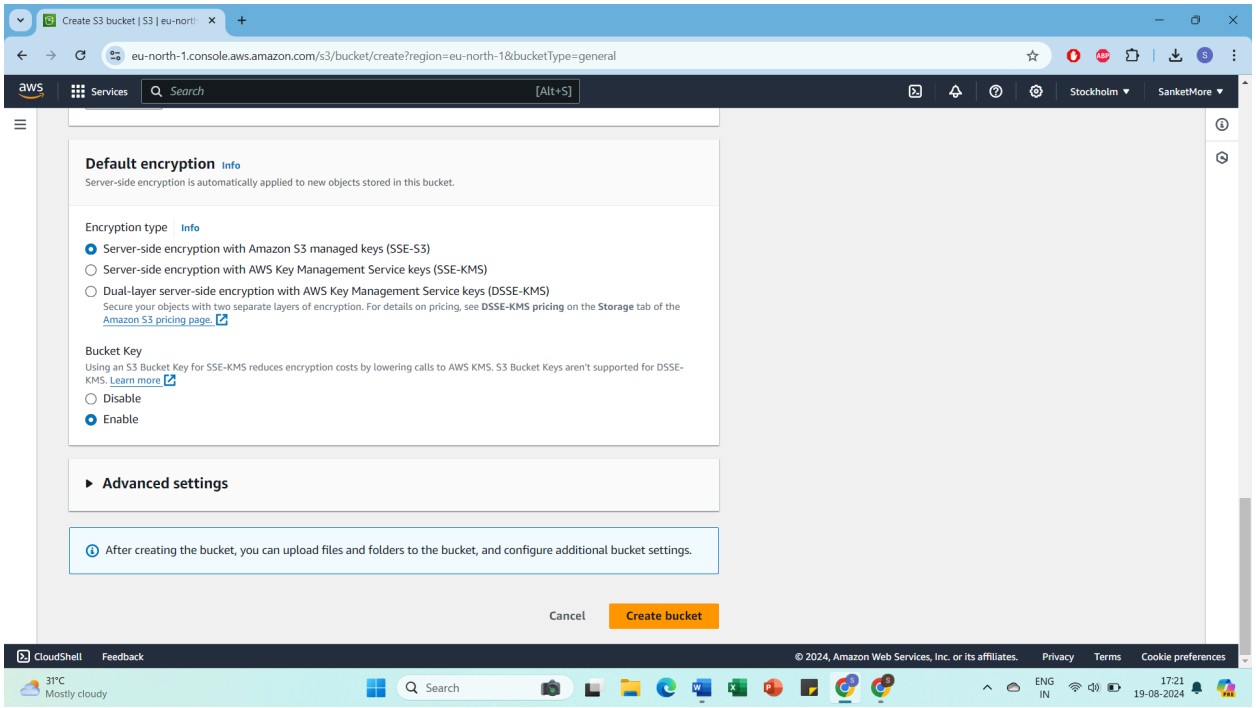
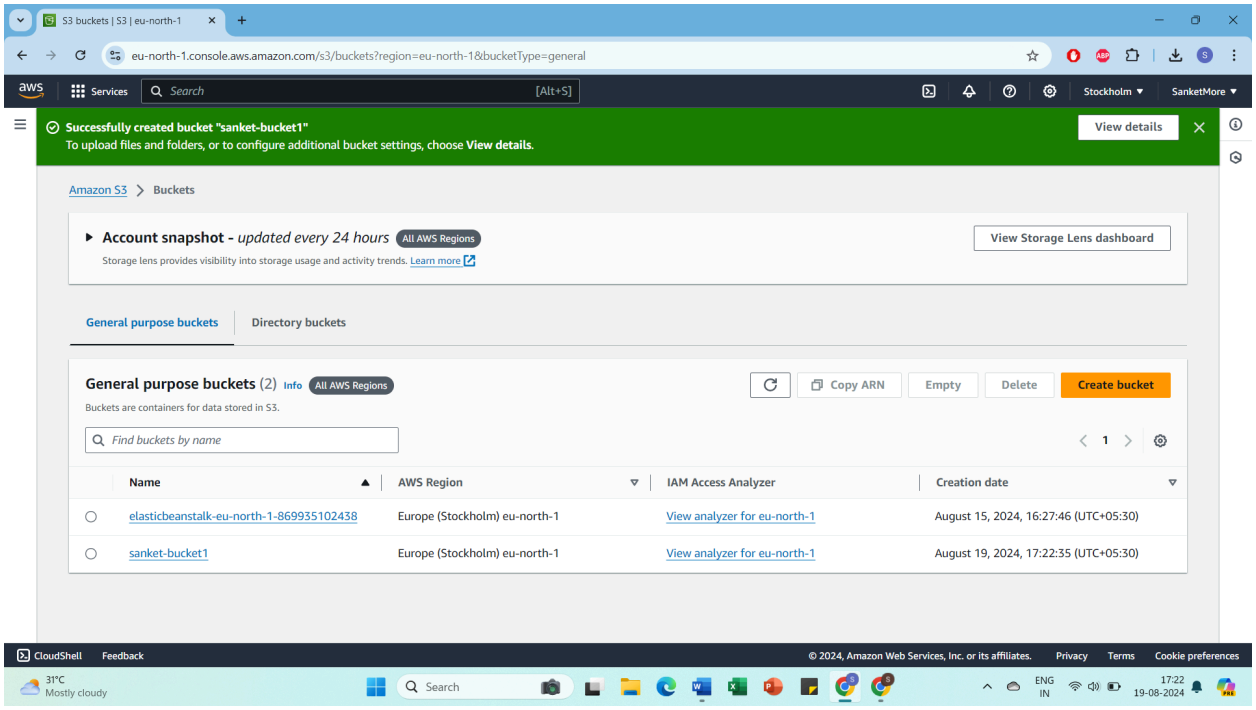

Not secure 35.173.204.195
Error
ITALIAN
F O O D
Restaurant Reservation Portal
Home Menu Reservation Contact Us
Special Offers
Happy Hour
Weekend Special
Home
Welcome to Italian Food, where the essence of Italy comes alive in every dish. Nestled in the heart of Thane, our restaurant offers a delightful escape to the enchanting
30°C
Mostly cloudy
Search
ENG
US
14:37
08-08-2024

STATIC WEBSITE HOSTING USING S3 BUCKET:






S3 buckets | S3 | eu-north-1
eu-north-1.console.aws.amazon.com/s3/buckets?region=eu-north-1&bucketType=general
Services
Search
[Alt+S]
Stockholm
SanketMore
Successfully created bucket "sanket-bucket1"
To upload files and folders, or to configure additional bucket settings, choose View details.
View details
Amazon S3 > Buckets
Account snapshot - updated every 24 hours
All AWS Regions
Storage lens provides visibility into storage usage and activity trends. Learn more
View Storage Lens dashboard
General purpose buckets
Directory buckets
General purpose buckets (2) Info
All AWS Regions
Buckets are containers for data stored in S3.
Copy ARN
Empty
Delete
Create bucket
Find buckets by name
Name
AWS Region
IAM Access Analyzer
Creation date
elasticbeanstalk-eu-north-1-869935102438
Europe (Stockholm) eu-north-1
View analyzer for eu-north-1
August 15, 2024, 16:27:46 (UTC+05:30)
sanket-bucket1
Europe (Stockholm) eu-north-1
View analyzer for eu-north-1
August 19, 2024, 17:22:35 (UTC+05:30)
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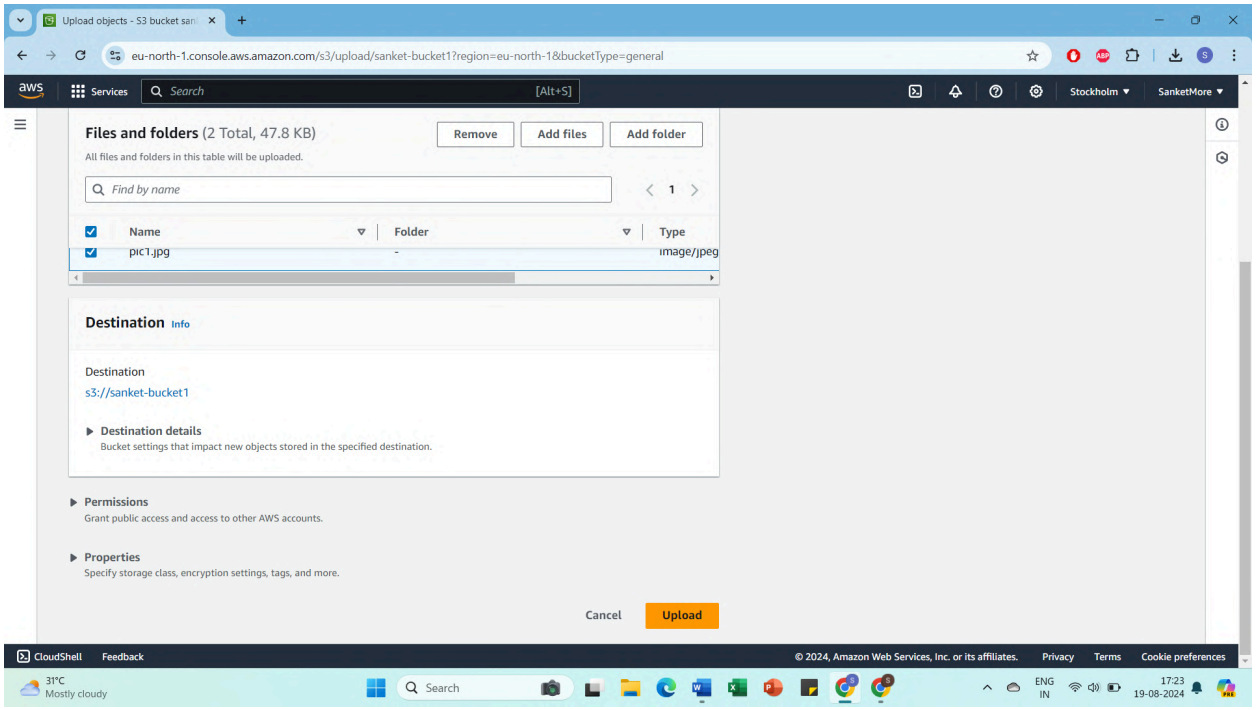
17:22
19-08-2024


Upload objects - S3 bucket san
eu-north-1.console.aws.amazon.com/s3/upload/sanket-bucket1?region=eu-north-1&bucketType=general
Services
Search
[Alt+S]
Stockholm
SanketMore
Files and folders (2 Total, 47.8 KB)
Remove
Add files
Add folder
All files and folders in this table will be uploaded.
Find by name
Name
Folder
Type
pic1.jpg
image/jpeg
Destination Info
Destination
s3://sanket-bucket1
Destination details
Bucket settings that impact new objects stored in the specified destination.
Permissions
Grant public access and access to other AWS accounts.
Properties
Specify storage class, encryption settings, tags, and more.
Cancel
Upload
CloudShell
Feedback
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Cookie preferences
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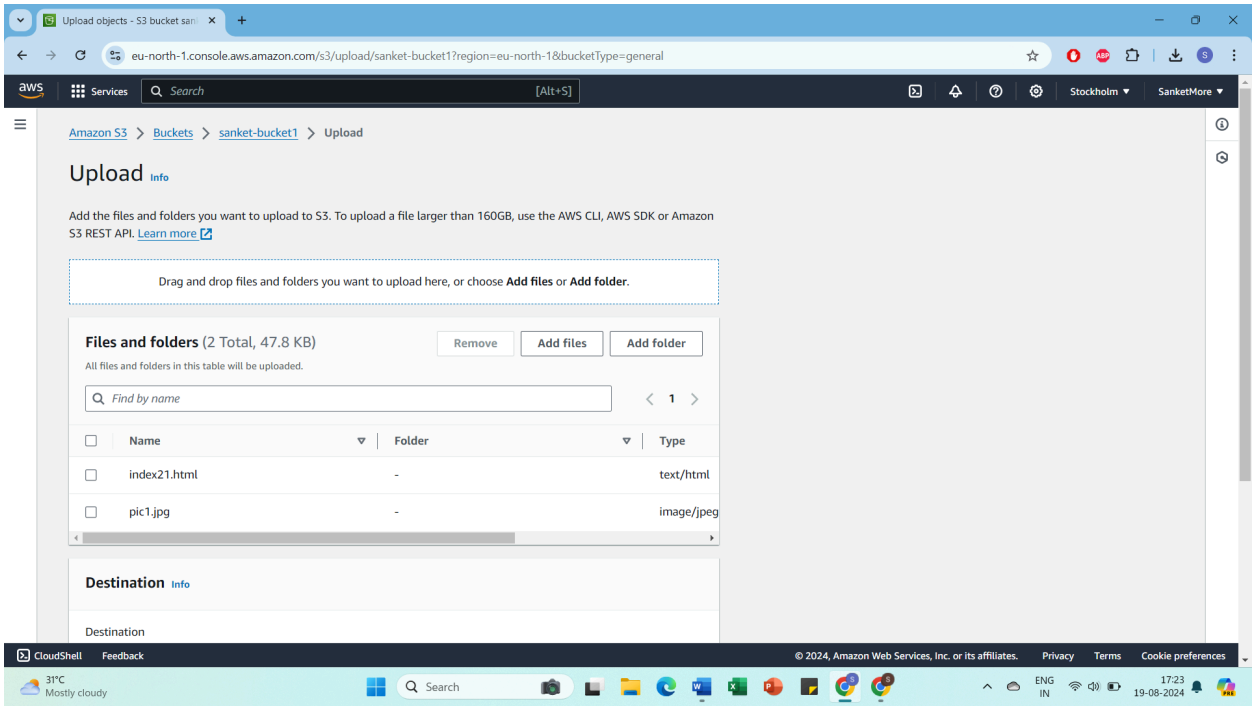
Search
ENG
IN
17:23
19-08-2024


Upload objects - S3 bucket sanket-bucket1
eu-north-1.console.aws.amazon.com/s3/upload/sanket-bucket1?region=eu-north-1&bucketType=general
Services
Search
[Alt+S]
Stockholm
SanketMore
Amazon S3 > Buckets > sanket-bucket1 > Upload
Upload Info
Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. Learn more
Drag and drop files and folders you want to upload here, or choose Add files or Add folder.
Files and folders (2 Total, 47.8 KB)
Remove
Add files
Add folder
All files and folders in this table will be uploaded.
Find by name
1
Name
Folder
Type
index21.html
-
text/html
pic1.jpg
-
image/jpeg
Destination Info
Destination
CloudShell
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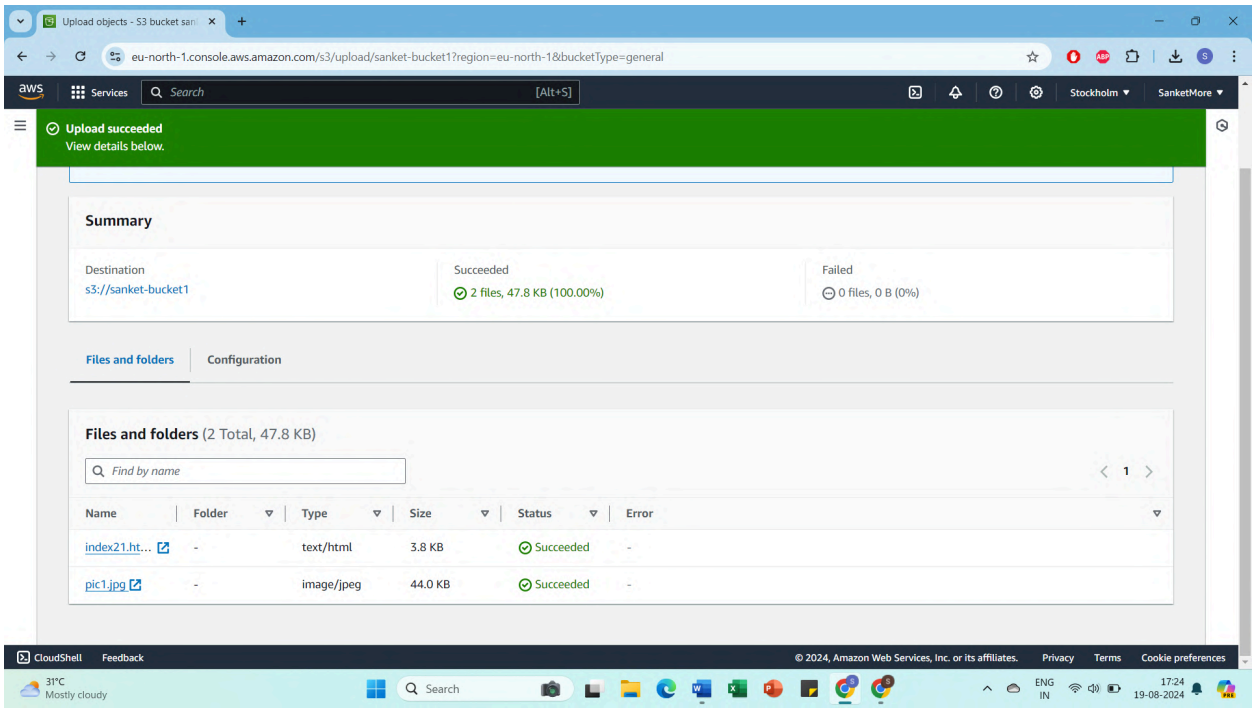
Search
ENG
IN
17:23
19-08-2024


Upload objects - S3 bucket sanket-bucket1
eu-north-1.console.aws.amazon.com/s3/upload/sanket-bucket1?region=eu-north-1&bucketType=general
Services
Search
[Alt+S]
Stockholm
SanketMore
Upload succeeded
View details below.
Summary
Destination
s3://sanket-bucket1
Succeeded
2 files, 47.8 KB (100.00%)
Failed
0 files, 0 B (0%)
Files and folders
Configuration
Files and folders (2 Total, 47.8 KB)
Find by name
1
Name
Folder
Type
Size
Status
Error
index21.ht...
-
text/html
3.8 KB
Succeeded
-
pic1.jpg
-
image/jpeg
44.0 KB
Succeeded
-
CloudShell
Feedback
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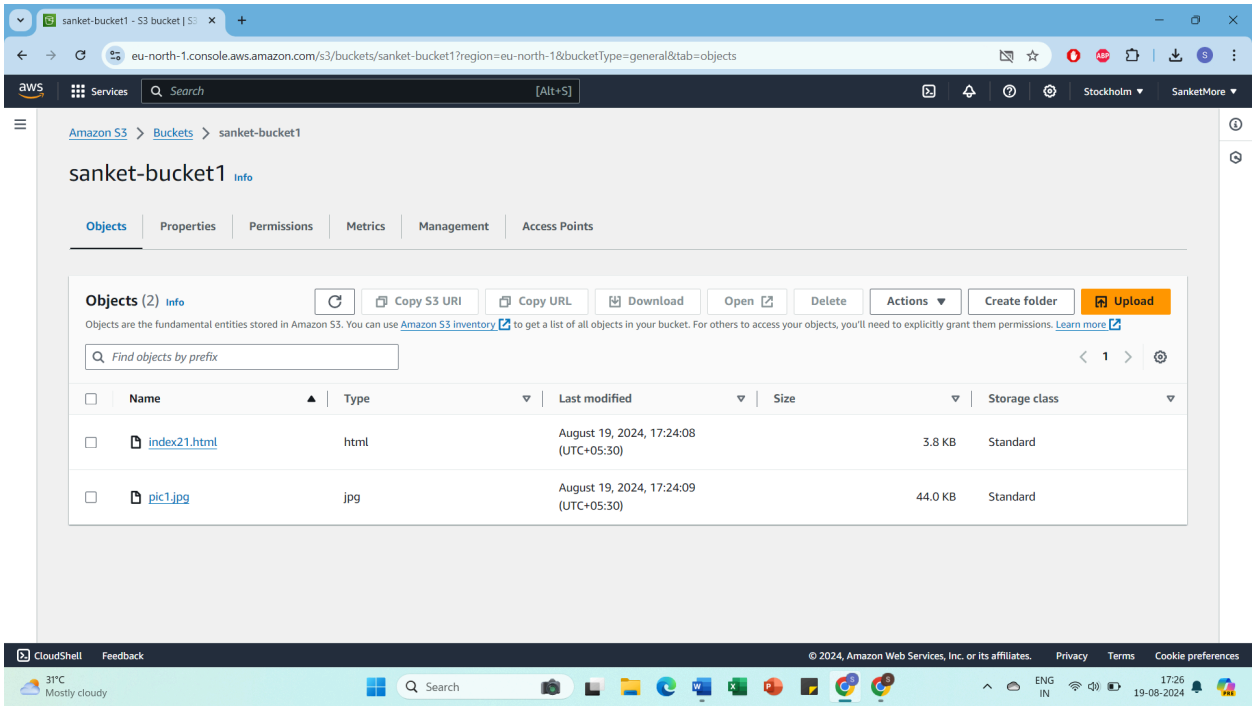
Privacy
Terms
Cookie preferences
31°C
Mostly cloudy
Search
ENG
IN
17:24
19-08-2024


sanket-bucket1 - S3 bucket | S3
eu-north-1.console.aws.amazon.com/s3/buckets/sanket-bucket1?region=eu-north-1&bucketType=general&tab=objects
Services
Search
[Alt+S]
Stockholm
SanketMore
Amazon S3 > Buckets > sanket-bucket1
sanket-bucket1 Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Objects (2) Info
Copy S3 URI
Copy URL
Download
Open
Delete
Actions
Create folder
Upload
Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more
Find objects by prefix
Name
Type
Last modified
Size
Storage class
index21.html
html
August 19, 2024, 17:24:08 (UTC+05:30)
3.8 KB
Standard
pic1.jpg
jpg
August 19, 2024, 17:24:09 (UTC+05:30)
44.0 KB
Standard
CloudShell
Feedback
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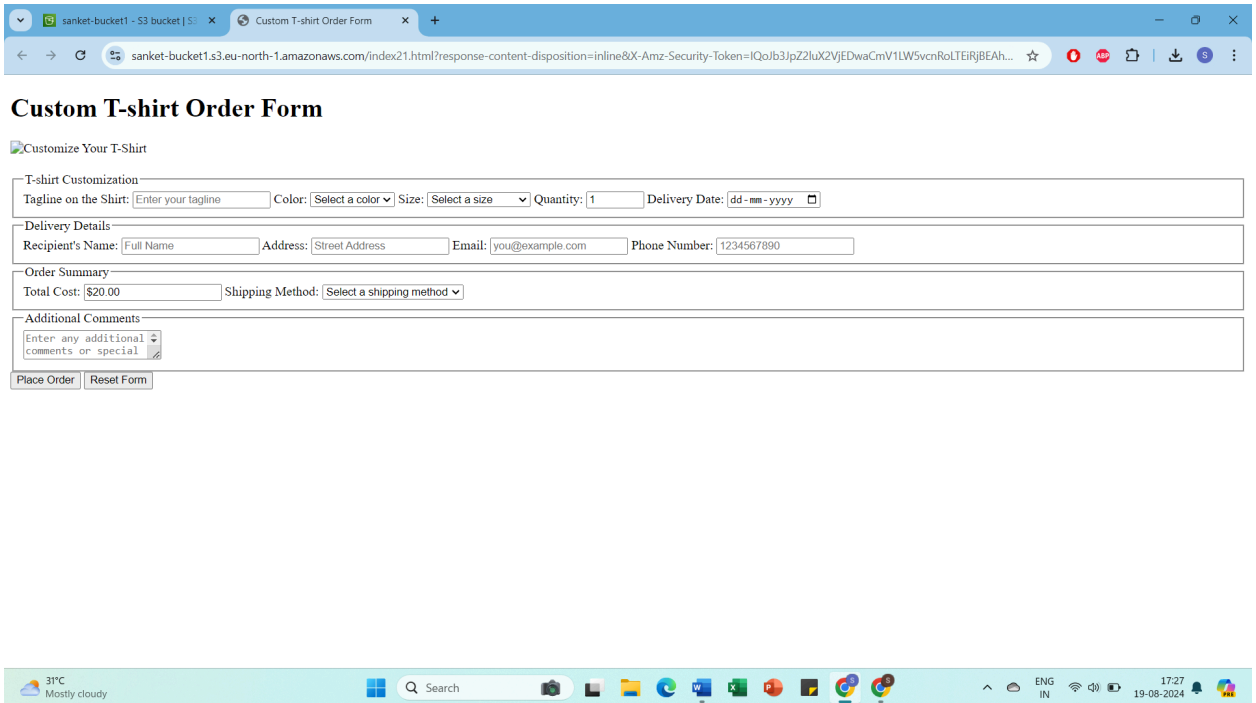
Privacy
Terms
Cookie preferences
31°C
Mostly cloudy
Search
ENG
IN
17:26
19-08-2024


sanket-bucket1 - S3 bucket | S3
Custom T-shirt Order Form
sanket-bucket1.s3.eu-north-1.amazonaws.com/index21.html?response-content-disposition=inline&X-Amz-Security-Token=IQoJb3JpZ2luX2VjEDwaCmV1LW5vcnRoLTEiRjBEAh...
Custom T-shirt Order Form
Customize Your T-Shirt
T-shirt Customization
Tagline on the Shirt: Enter your tagline
Color: Select a color
Size: Select a size
Quantity: 1
Delivery Date: dd-mm-yyyy
Delivery Details
Recipient's Name: Full Name
Address: Street Address
Email: you@example.com
Phone Number: 1234567890
Order Summary
Total Cost: $20.00
Shipping Method: Select a shipping method
Additional Comments
Enter any additional comments or special
Place Order
Reset Form
31°C
Mostly cloudy
Search
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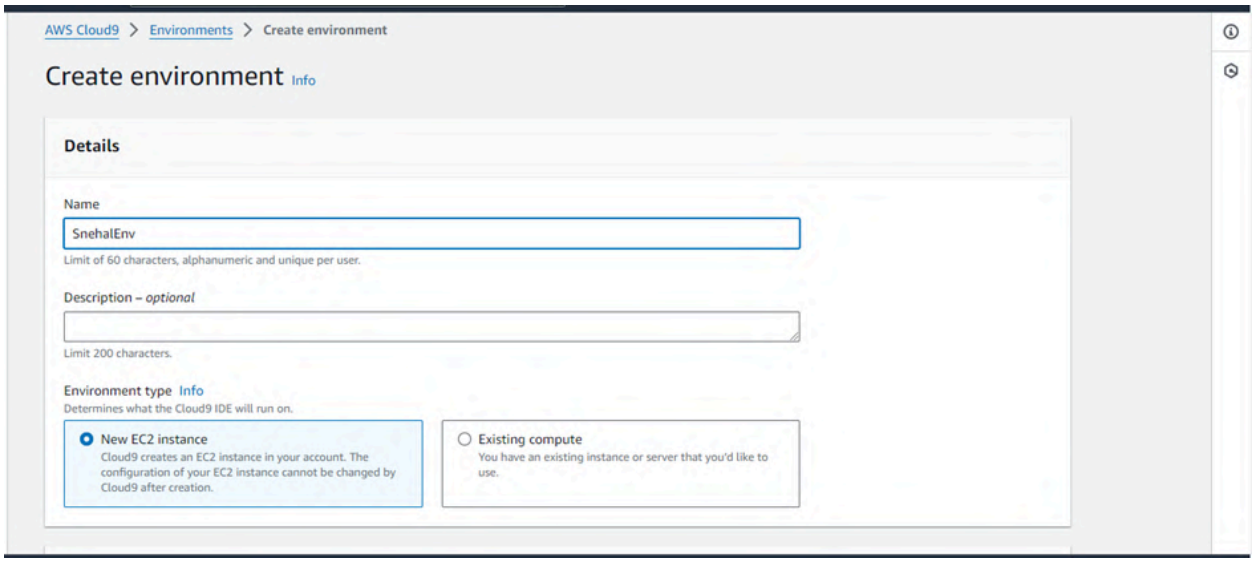
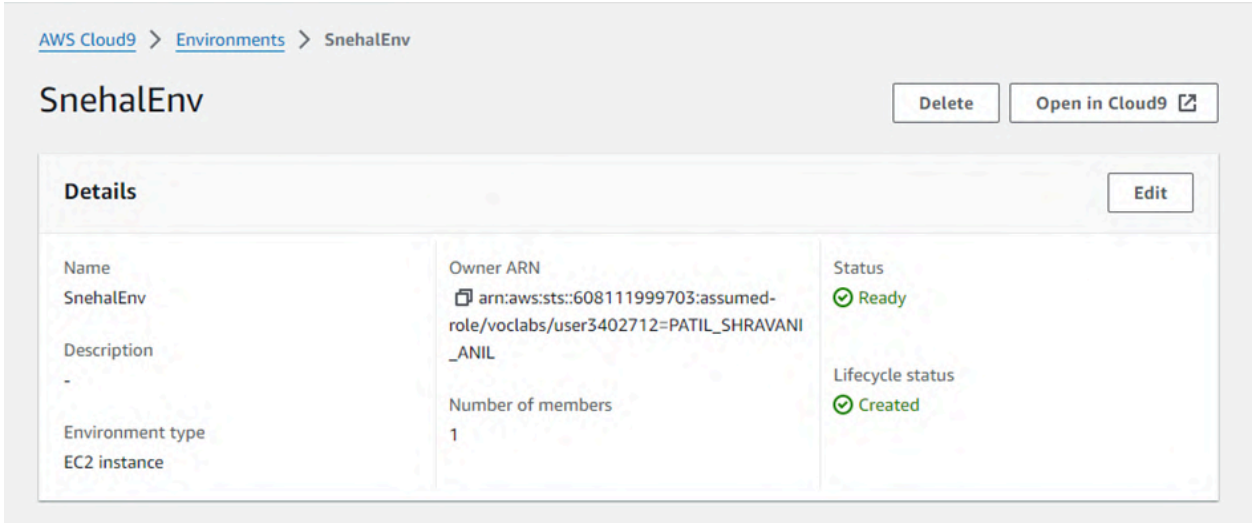
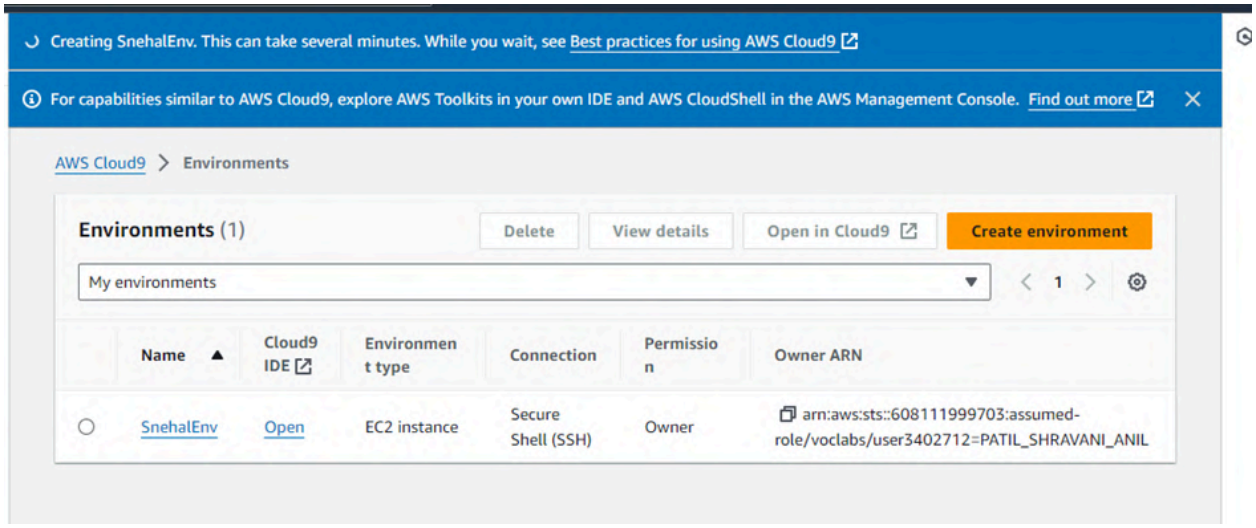
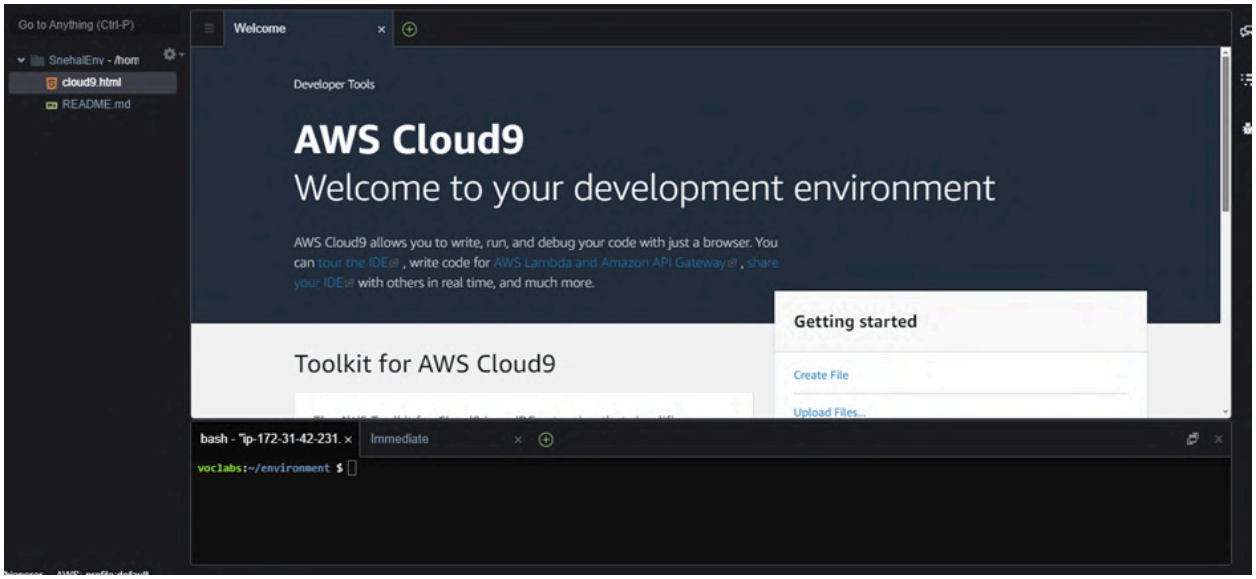
19-08-2024

CLOUD 9 HOSTING:






Creating SnehalEnv. This can take several minutes. While you wait, see Best practices for using AWS Cloud9
For capabilities similar to AWS Cloud9, explore AWS Toolkits in your own IDE and AWS CloudShell in the AWS Management Console. Find out more
AWS Cloud9 > Environments
Environments (1)
Delete
View details
Open in Cloud9
Create environment
My environments
1
Name
Cloud9 IDE
Environment type
Connection
Permission
Owner ARN
SnehalEnv
Open
EC2 instance
Secure Shell (SSH)
Owner
arn:aws:sts::608111999703:assumed-role/voclabs/user3402712=PATIL_SHRAVANI_ANIL


Go to Anything (Ctrl-P)
SnehalEnv - /hom
cloud9.html
README.md
Welcome
Developer Tools
AWS Cloud9
Welcome to your development environment
AWS Cloud9 allows you to write, run, and debug your code with just a browser. You can tour the IDE, write code for AWS Lambda and Amazon API Gateway, share your IDE with others in real time, and much more.
Getting started
Create File
Upload Files...
Toolkit for AWS Cloud9
bash - "ip-172-31-42-231.
Immediate
voclabs:~/environment $

User details

User name

Snehal

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ _ - (hyphen)

☑ Provide user access to the AWS Management Console - *optional*
If you're providing console access to a person, it's a best practice to manage their access in IAM Identity Center.

Console password

◉ Autogenerated password
You can view the password after you create the user.

○ Custom password
Enter a custom password for the user.

- Must be at least 8 characters long
- Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # $ % ^ & * ( ) _ + - (hyphen) = [ ] { } | '

Permissions options

◉ **Add user to group**
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

○ **Copy permissions**
Copy all group memberships, attached managed policies, and inline policies from an existing user.

○ **Attach policies directly**
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

Get started with groups
Create a group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more

Create group

▸ **Set permissions boundary - *optional***

Cancel | Previous | Next

Create user group

Create a user group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more

User group name

Enter a meaningful name to identify this group.

awsgrp

Maximum 128 characters. Use alphanumeric and '+=,.@-_' characters.

Permissions policies (952)

Create policy

Filter by Type

Search

All ty...

1 2 3 4 5 6 7 ... 48

Policy name	Type	Use...	Description
AdministratorAccess	AWS managed ...	Permis...	Provides full access to AWS services an...
AdministratorAcce...	AWS managed	None	Grants account administrative permiss...
AdministratorAcce...	AWS managed	None	Grants account administrative permiss...
AlexaForBusinessD...	AWS managed	None	Provide device setup access to AlexaFo...
AlexaForBusinessF...	AWS managed	None	Grants full access to AlexaForBusiness ...
AlexaForBusinessG...	AWS managed	None	Provide gateway execution access to A...
AlexaForBusinessLi...	AWS managed	None	Provide access to Lifesize AVS devices
AlexaForBusinessP...	AWS managed	None	Provide access to Poly AVS devices
AlexaForBusinessR...	AWS managed	None	Provide read only access to AlexaForB...
AmazonAPIGatewa...	AWS managed	None	Provides full access to create/edit/dele...

Cancel

Create user group

Advanced DevOps Experiment-2

Sanket More
D15A 30

Aim: Using AWS CodePipeline, deploy Sample Application on Elastic BeanStalk using AWS CodeDeploy.

Theory:-

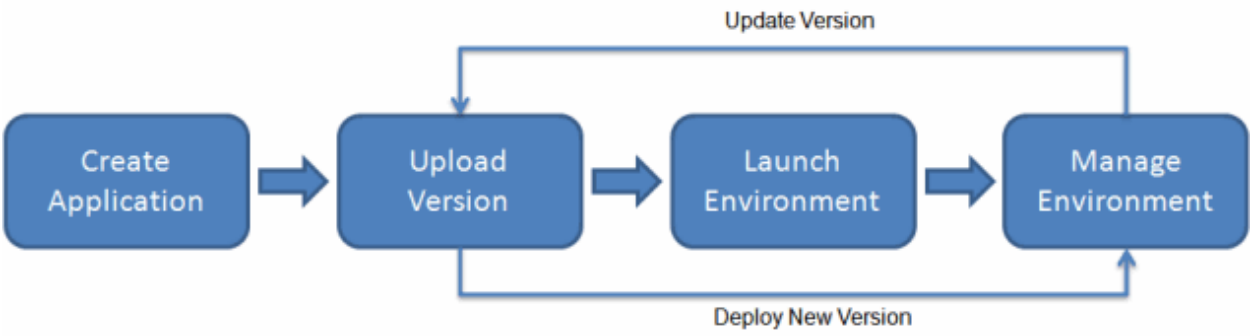
With Elastic Beanstalk you can quickly deploy and manage applications in the AWS Cloud without having to learn about the infrastructure that runs those applications. Amazon Web Services (AWS) comprises over one hundred services, each of which exposes an area of functionality. While the variety of services offers flexibility for how you want to manage your AWS infrastructure, it can be challenging to figure out which services to use and how to provision them. Elastic Beanstalk reduces management complexity without restricting choice or control. You simply upload your application, and Elastic Beanstalk automatically handles the details of capacity provisioning, load balancing, scaling, and application health monitoring.

Elastic Beanstalk supports applications developed in Go, Java, .NET, Node.js, PHP, Python, and Ruby. Elastic Beanstalk also supports Docker platforms. With Docker containers you can choose your own programming language and application dependencies that may not be supported by the other Elastic Beanstalk platforms. When you deploy your application, Elastic Beanstalk builds the selected supported platform version and provisions one or more AWS resources, such as Amazon EC2 instances, to run your application.

You can interact with Elastic Beanstalk by using the Elastic Beanstalk console, the AWS Command Line Interface (AWS CLI), or eb, a high-level CLI designed specifically for Elastic Beanstalk.

You can also perform most deployment tasks, such as changing the size of your fleet of Amazon EC2 instances or monitoring your application, directly from the Elastic Beanstalk web interface (console). To use Elastic Beanstalk, you create an application, upload an application version in the form of an application source bundle (for example, a Java .war file) to Elastic Beanstalk, and then provide some information about the application. Elastic Beanstalk automatically launches an environment and creates and configures the AWS resources needed to run your code. After

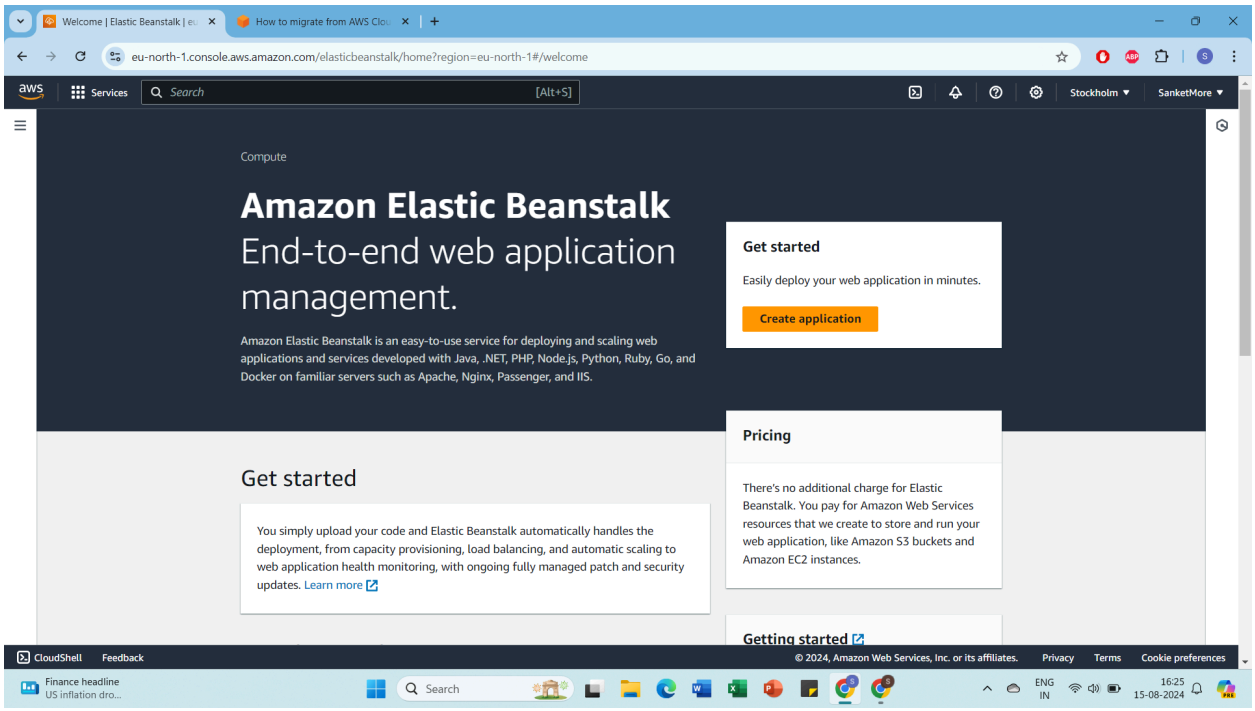
your environment is launched, you can then manage your environment and deploy new application versions. The following diagram illustrates the workflow of Elastic Beanstalk.

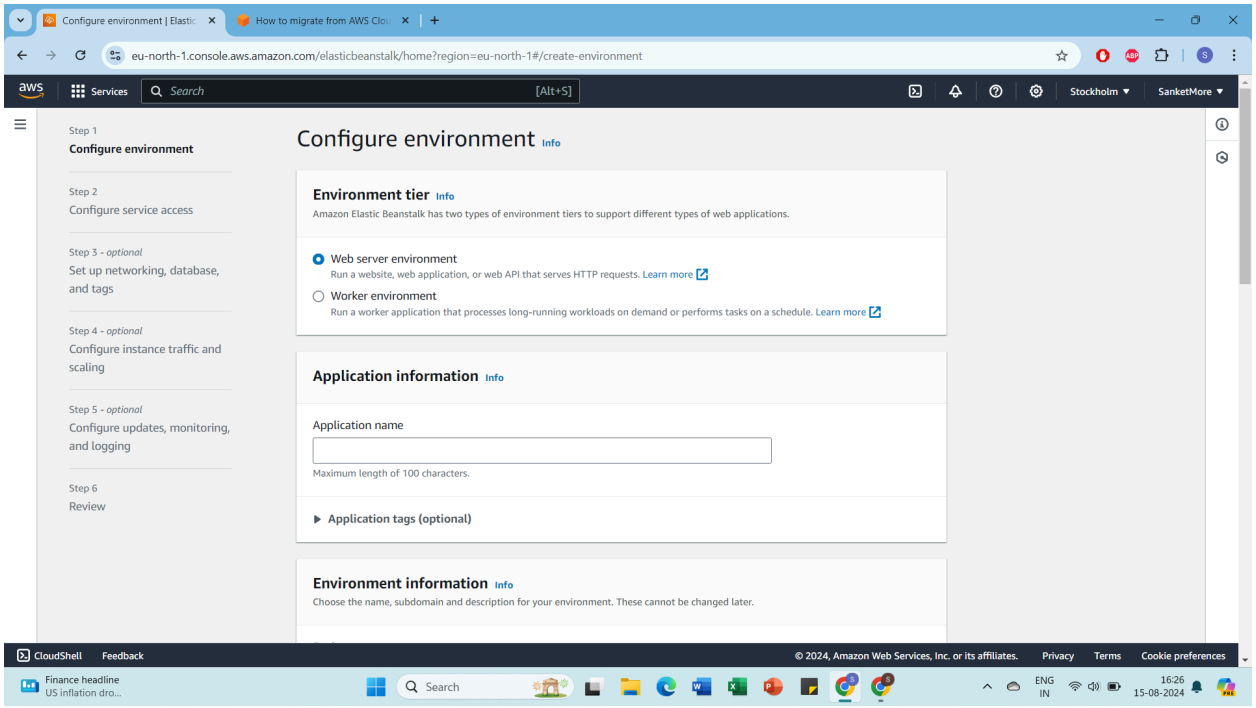


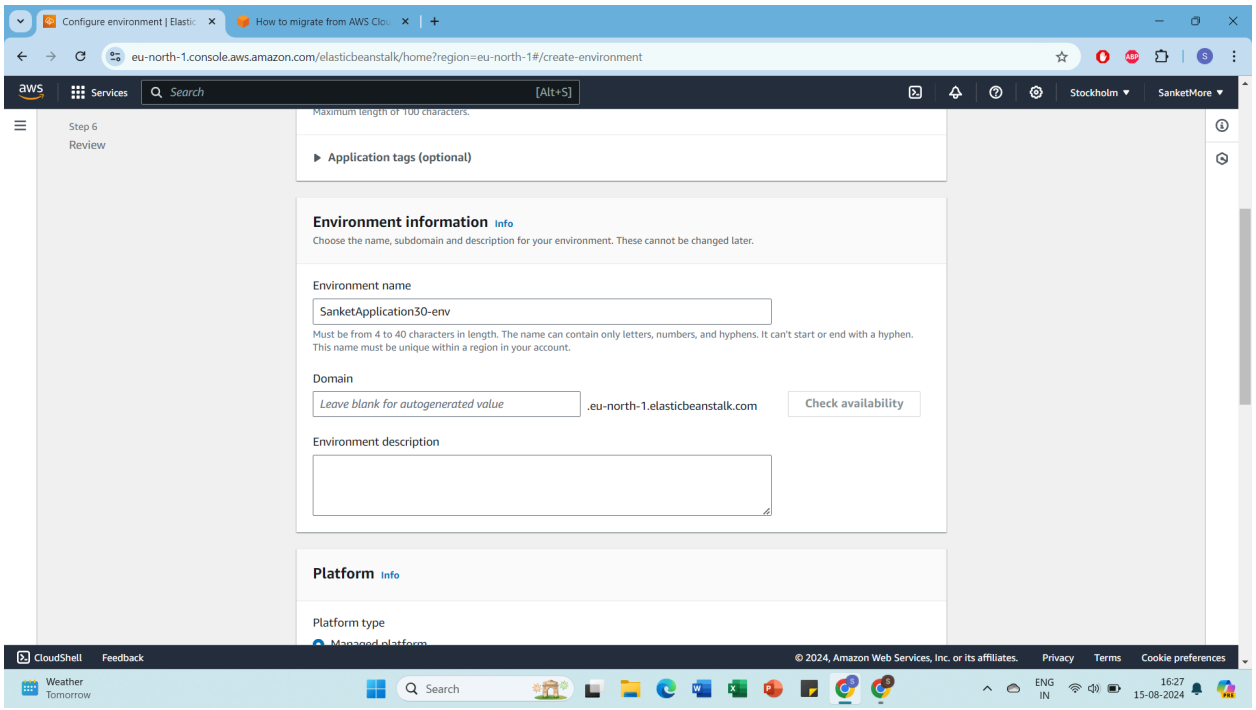
After you create and deploy your application, information about the application—including metrics, events, and environment status—is available through the Elastic Beanstalk console, APIs, or Command Line Interfaces, including the unified AWS CLI.

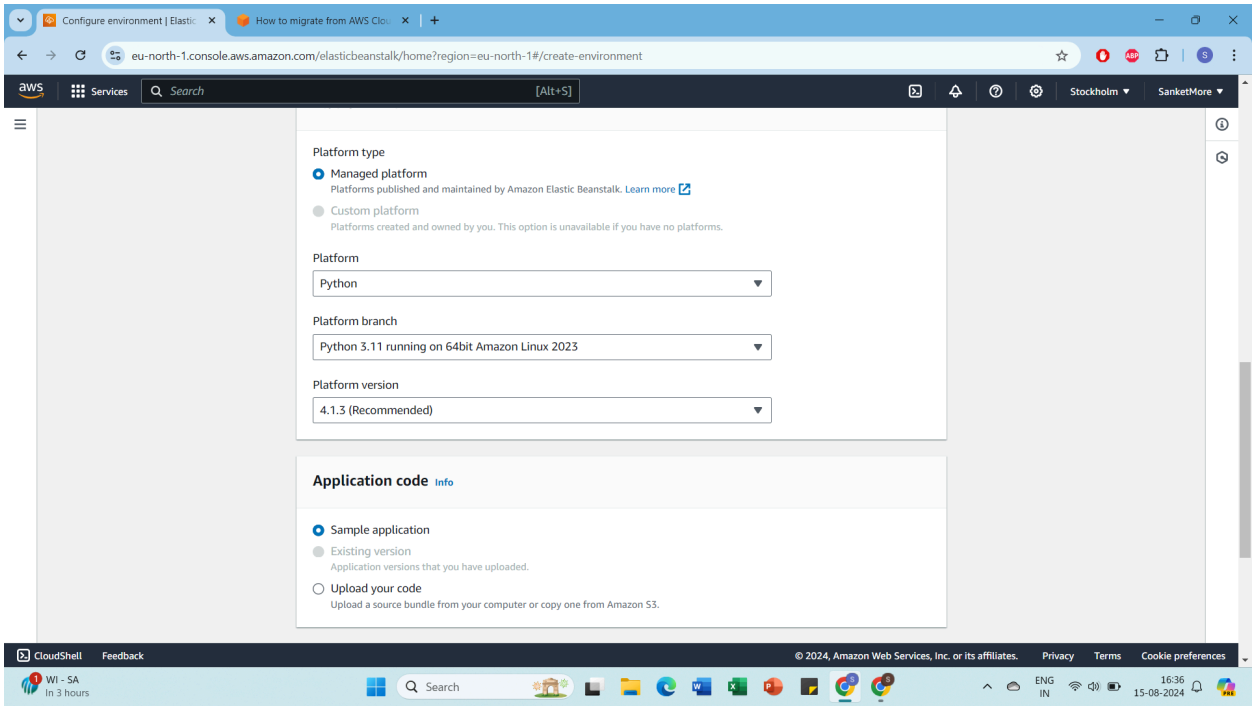
Implementation:-

Deploying basic web page on Elastic Beanstalk




Configure environment | Elastic
How to migrate from AWS Clou
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Configure environment Info
Environment tier Info
Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.
Web server environment
Run a website, web application, or web API that serves HTTP requests. Learn more
Worker environment
Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. Learn more
Application information Info
Application name
Maximum length of 100 characters.
Application tags (optional)
Environment information Info
Choose the name, subdomain and description for your environment. These cannot be changed later.
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Finance headline
US inflation dro...
Search
ENG
IN
16:26
15-08-2024


Configure environment | Elastic
How to migrate from AWS Clou
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 6
Review
Application tags (optional)
Environment information Info
Choose the name, subdomain and description for your environment. These cannot be changed later.
Environment name
SanketApplication30-env
Must be from 4 to 40 characters in length. The name can contain only letters, numbers, and hyphens. It can't start or end with a hyphen. This name must be unique within a region in your account.
Domain
Leave blank for autogenerated value
.eu-north-1.elasticbeanstalk.com
Check availability
Environment description
Platform Info
Platform type
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Weather
Tomorrow
Search
ENG
IN
16:27
15-08-2024


Configure environment | Elastic
How to migrate from AWS Clou
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Platform type
Managed platform
Platforms published and maintained by Amazon Elastic Beanstalk. Learn more
Custom platform
Platforms created and owned by you. This option is unavailable if you have no platforms.
Platform
Python
Platform branch
Python 3.11 running on 64bit Amazon Linux 2023
Platform version
4.1.3 (Recommended)
Application code Info
Sample application
Existing version
Application versions that you have uploaded.
Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.
CloudShell
Feedback
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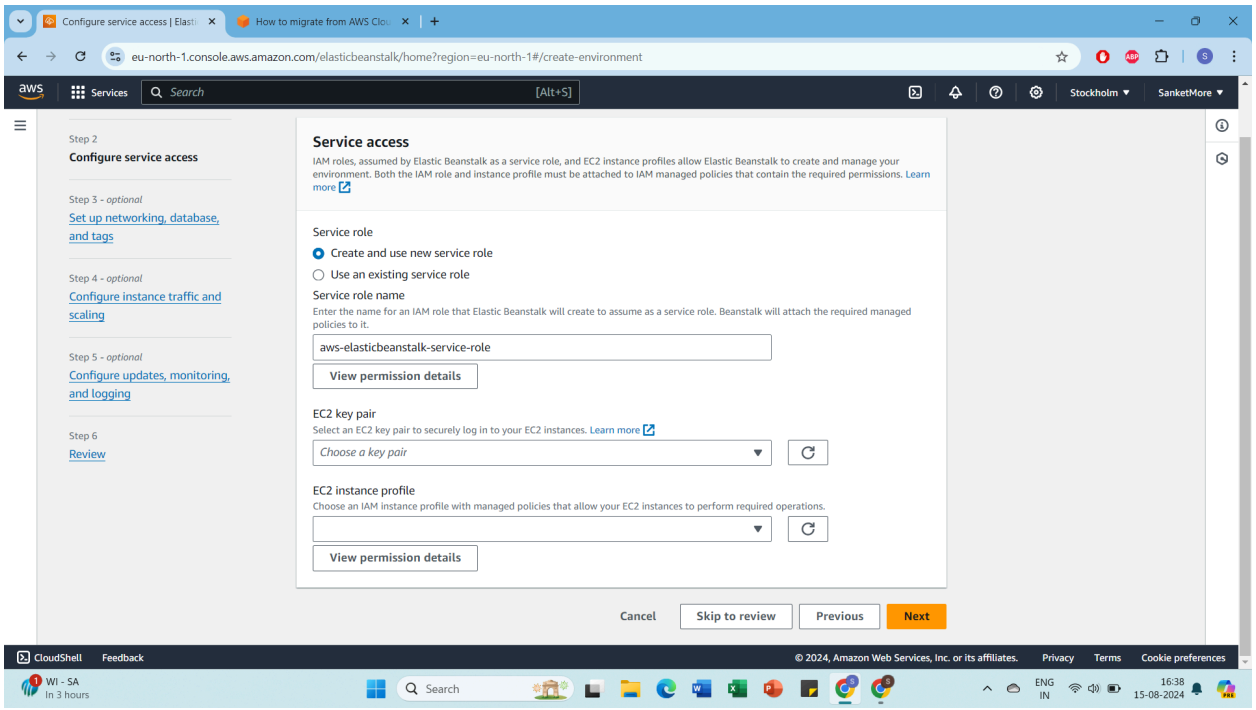
Privacy
Terms
Cookie preferences
WI - SA
In 3 hours
Search
ENG
IN
16:36
15-08-2024


Configure service access | Elasti
How to migrate from AWS Clou
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
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Stockholm
SanketMore
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Service access
IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. Learn more
Service role
Create and use new service role
Use an existing service role
Service role name
Enter the name for an IAM role that Elastic Beanstalk will create to assume as a service role. Beanstalk will attach the required managed policies to it.
aws-elasticbeanstalk-service-role
View permission details
EC2 key pair
Select an EC2 key pair to securely log in to your EC2 instances. Learn more
Choose a key pair
EC2 instance profile
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.
View permission details
Cancel
Skip to review
Previous
Next
CloudShell
Feedback
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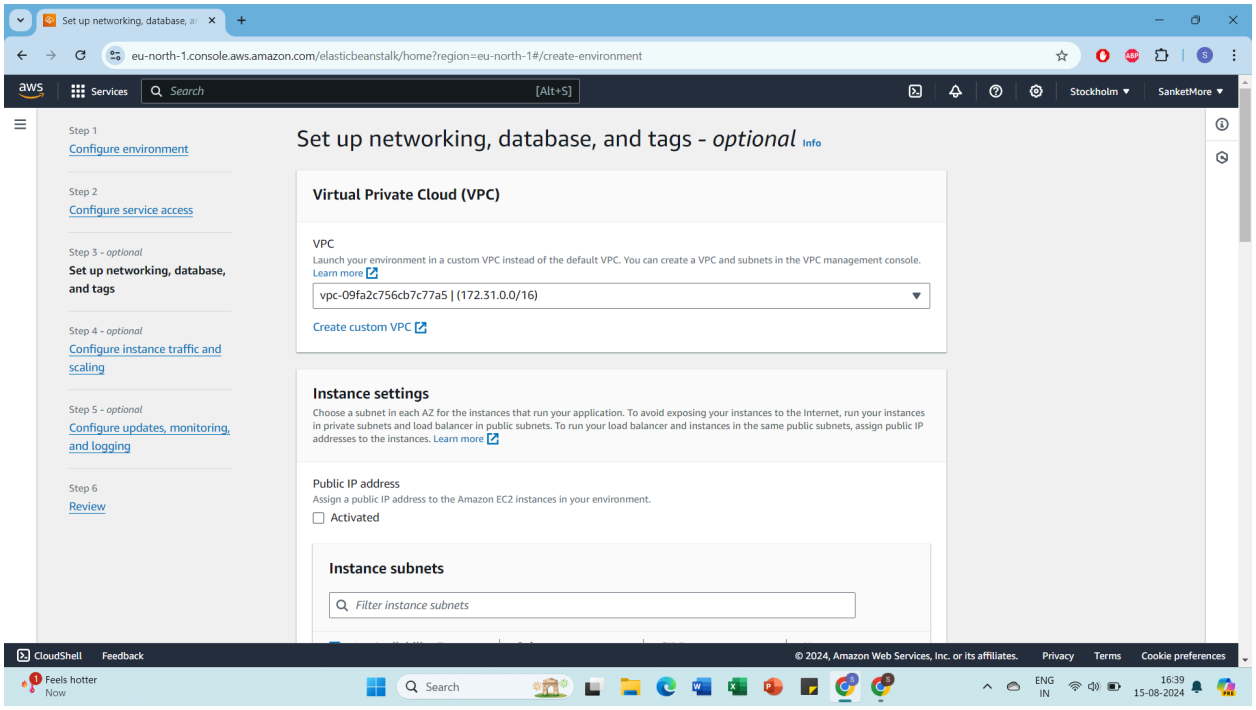
Privacy
Terms
Cookie preferences
WI - SA
In 3 hours
Search
ENG
IN
16:38
15-08-2024


Set up networking, database, and tags - optional Info
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Virtual Private Cloud (VPC)
VPC
Launch your environment in a custom VPC instead of the default VPC. You can create a VPC and subnets in the VPC management console.
Learn more
vpc-09fa2c756cb7c77a5 | (172.31.0.0/16)
Create custom VPC
Instance settings
Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances. Learn more
Public IP address
Assign a public IP address to the Amazon EC2 instances in your environment.
Activated
Instance subnets
Filter instance subnets
CloudShell
Feedback
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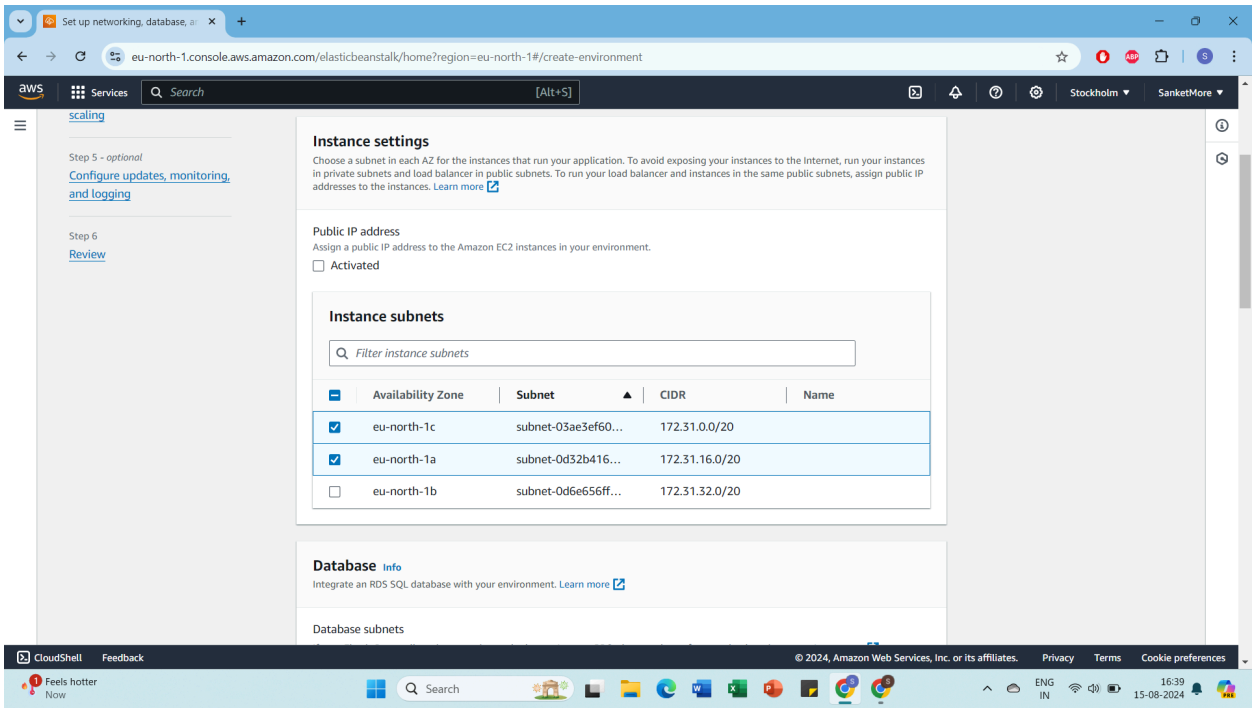
Privacy
Terms
Cookie preferences


scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Instance settings
Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances. Learn more
Public IP address
Assign a public IP address to the Amazon EC2 instances in your environment.
Activated
Instance subnets
Filter instance subnets
Availability Zone
Subnet
CIDR
Name
eu-north-1c
subnet-03ae3ef60...
172.31.0.0/20
eu-north-1a
subnet-0d32b416...
172.31.16.0/20
eu-north-1b
subnet-0d6e656ff...
172.31.32.0/20
Database Info
Integrate an RDS SQL database with your environment. Learn more
Database subnets
CloudShell
Feedback
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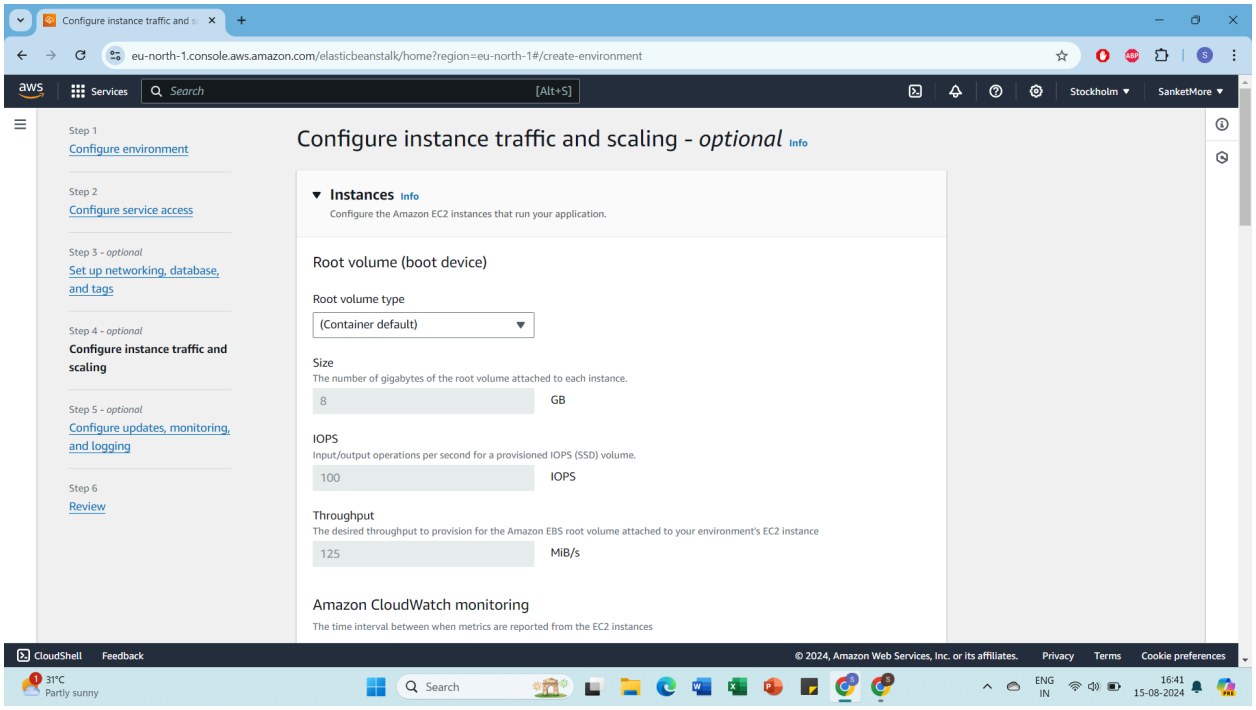
Configure instance traffic and scaling
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
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Stockholm
SanketMore
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Configure instance traffic and scaling - optional Info
Instances Info
Configure the Amazon EC2 instances that run your application.
Root volume (boot device)
Root volume type
(Container default)
Size
The number of gigabytes of the root volume attached to each instance.
8
GB
IOPS
Input/output operations per second for a provisioned IOPS (SSD) volume.
100
IOPS
Throughput
The desired throughput to provision for the Amazon EBS root volume attached to your environment's EC2 instance
125
MiB/s
Amazon CloudWatch monitoring
The time interval between when metrics are reported from the EC2 instances
CloudShell
Feedback
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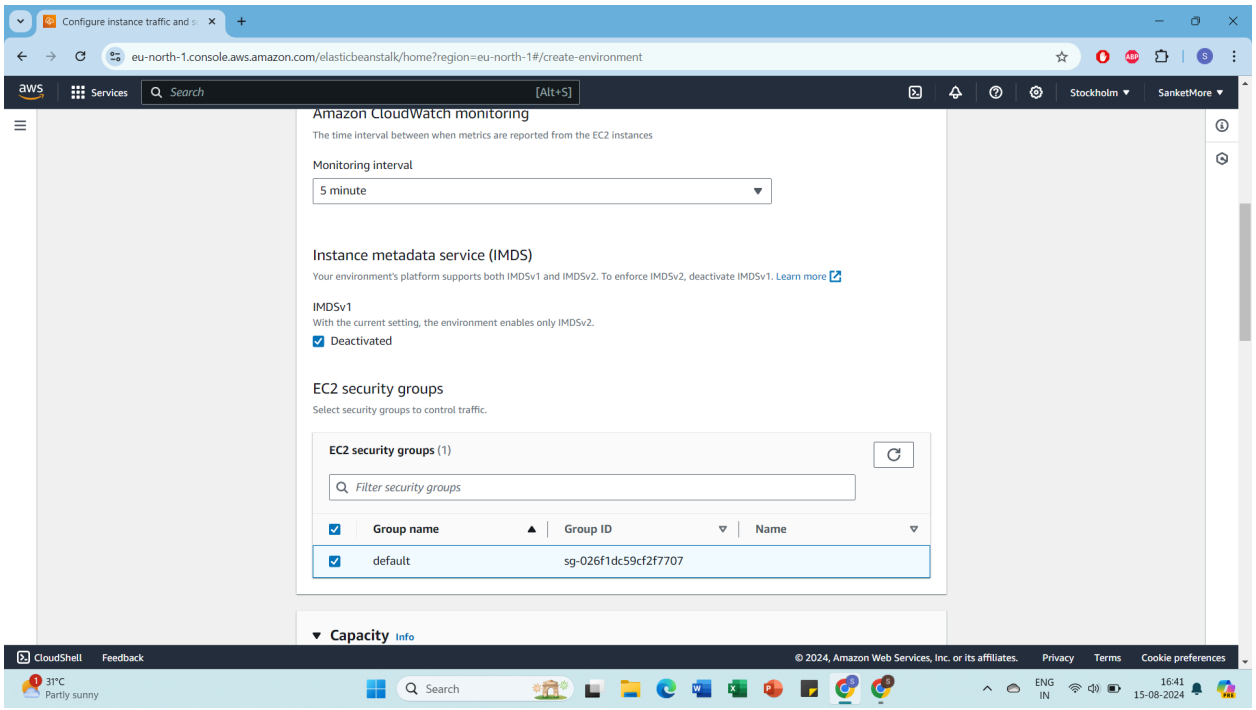
Privacy
Terms
Cookie preferences
31°C
Partly sunny
Search
ENG
IN
16:41
15-08-2024


Configure instance traffic and scaling
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Amazon CloudWatch monitoring
The time interval between when metrics are reported from the EC2 instances
Monitoring interval
5 minute
Instance metadata service (IMDS)
Your environment's platform supports both IMDSv1 and IMDSv2. To enforce IMDSv2, deactivate IMDSv1. Learn more
IMDSv1
With the current setting, the environment enables only IMDSv2.
Deactivated
EC2 security groups
Select security groups to control traffic.
EC2 security groups (1)
Filter security groups
Group name
Group ID
Name
default
sg-026f1dc59cf2f7707
Capacity Info
CloudShell
Feedback
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Privacy
Terms
Cookie preferences
31°C
Partly sunny
Search
ENG
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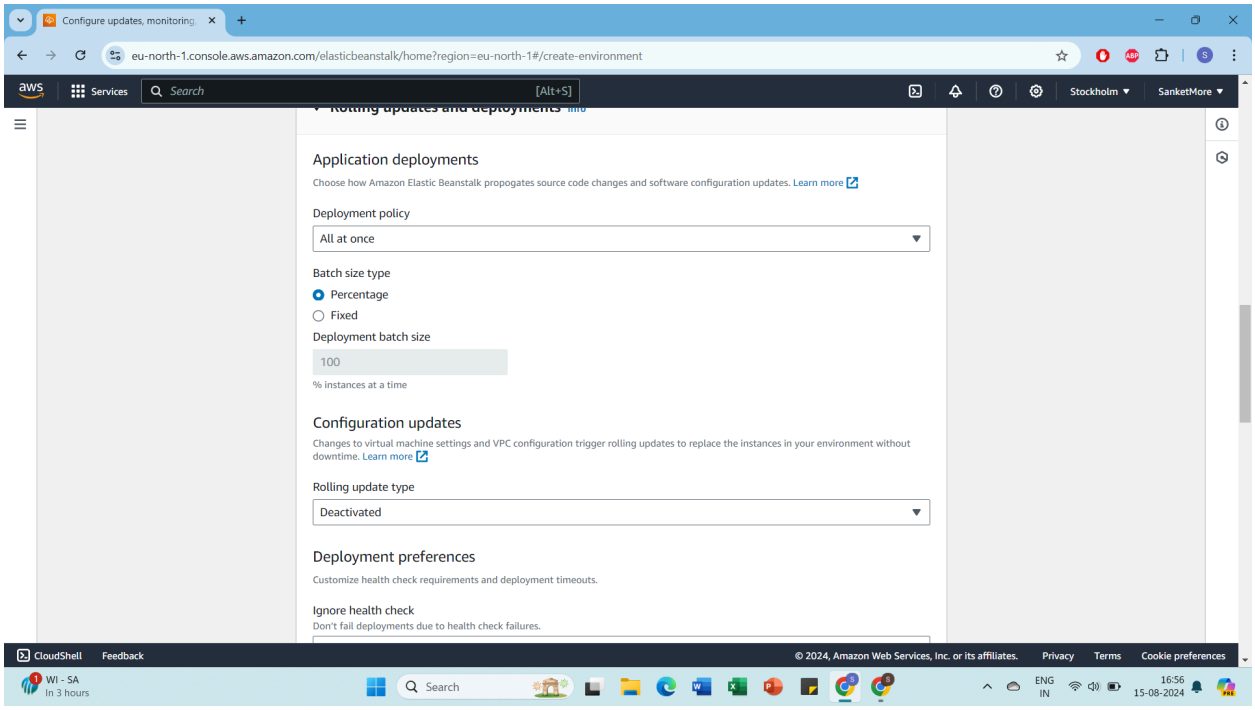
16:41
15-08-2024


Configure updates, monitoring
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Application deployments
Choose how Amazon Elastic Beanstalk propogates source code changes and software configuration updates. Learn more
Deployment policy
All at once
Batch size type
Percentage
Fixed
Deployment batch size
100
% instances at a time
Configuration updates
Changes to virtual machine settings and VPC configuration trigger rolling updates to replace the instances in your environment without downtime. Learn more
Rolling update type
Deactivated
Deployment preferences
Customize health check requirements and deployment timeouts.
Ignore health check
Don't fail deployments due to health check failures.
CloudShell
Feedback
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Privacy
Terms
Cookie preferences
WI - SA
In 3 hours
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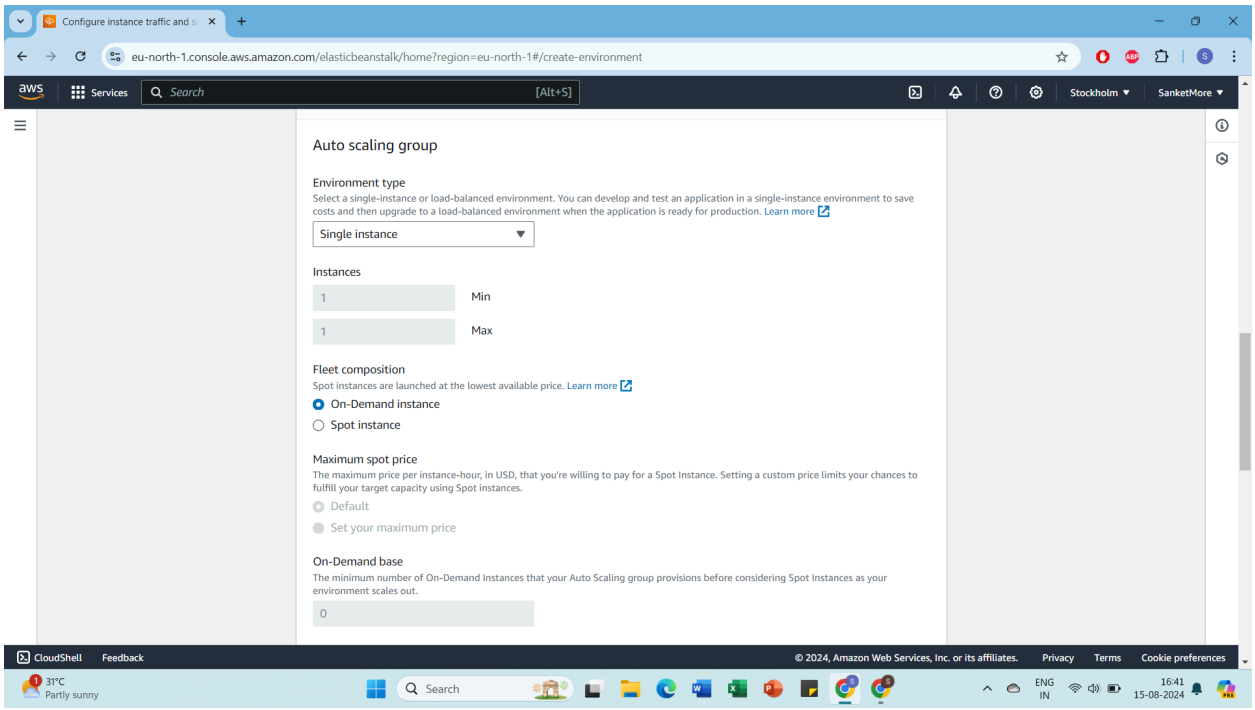
ENG
IN
16:56
15-08-2024


Configure instance traffic and s
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Auto scaling group
Environment type
Select a single-instance or load-balanced environment. You can develop and test an application in a single-instance environment to save costs and then upgrade to a load-balanced environment when the application is ready for production. Learn more
Single instance
Instances
1
Min
1
Max
Fleet composition
Spot instances are launched at the lowest available price. Learn more
On-Demand instance
Spot instance
Maximum spot price
The maximum price per instance-hour, in USD, that you're willing to pay for a Spot Instance. Setting a custom price limits your chances to fulfill your target capacity using Spot instances.
Default
Set your maximum price
On-Demand base
The minimum number of On-Demand Instances that your Auto Scaling group provisions before considering Spot Instances as your environment scales out.
0
CloudShell
Feedback
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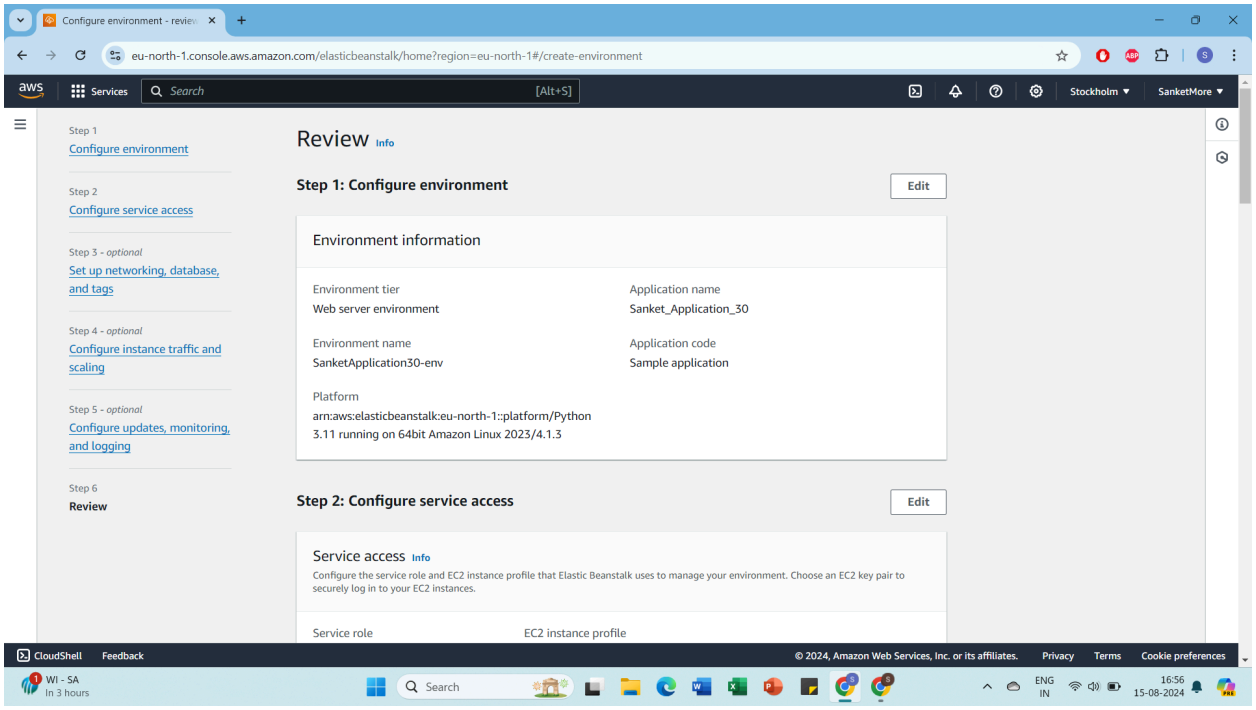
31°C
Partly sunny
Search
ENG
IN
16:41
15-08-2024


Configure environment - review
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Review Info
Step 1: Configure environment
Edit
Environment information
Environment tier
Web server environment
Application name
Sanket_Application_30
Environment name
SanketApplication30-env
Application code
Sample application
Platform
arn:aws:elasticbeanstalk:eu-north-1::platform/Python 3.11 running on 64bit Amazon Linux 2023/4.1.3
Step 2: Configure service access
Edit
Service access Info
Configure the service role and EC2 instance profile that Elastic Beanstalk uses to manage your environment. Choose an EC2 key pair to securely log in to your EC2 instances.
Service role
EC2 instance profile
CloudShell
Feedback
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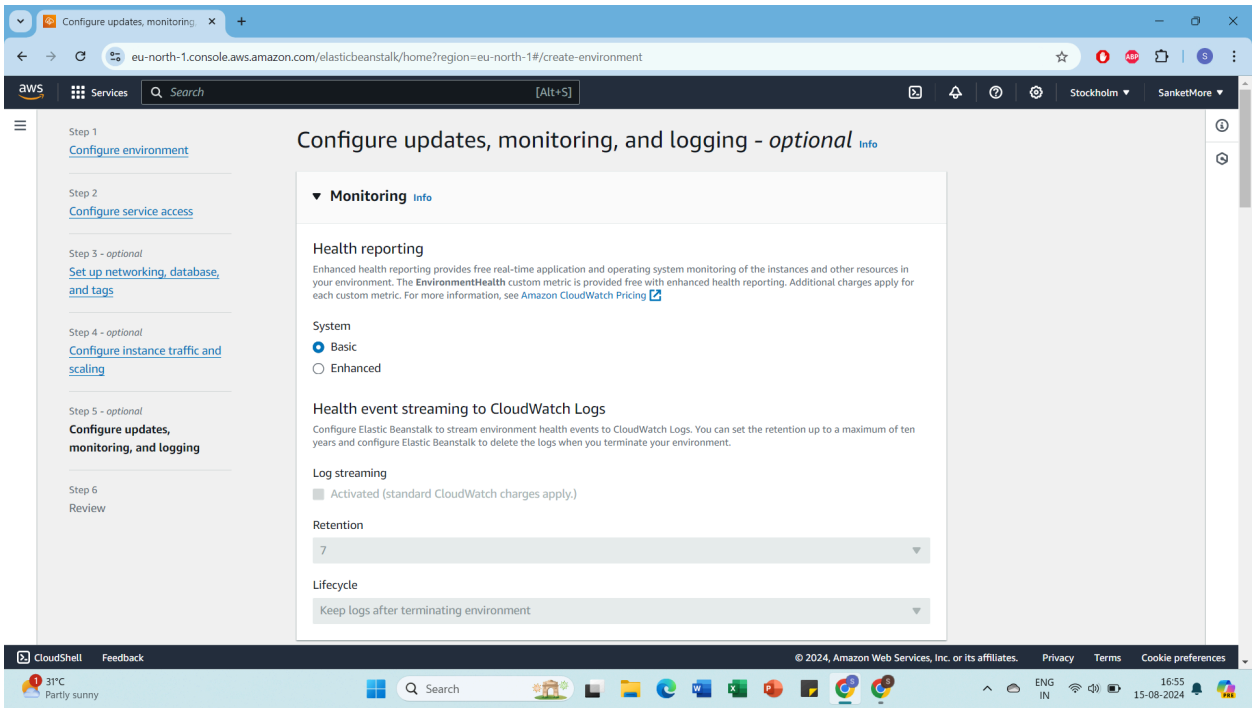
Cookie preferences
WI - SA
In 3 hours
Search
ENG
IN
16:56
15-08-2024


Configure updates, monitoring
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 1
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Configure updates, monitoring, and logging - optional Info
Monitoring Info
Health reporting
Enhanced health reporting provides free real-time application and operating system monitoring of the instances and other resources in your environment. The EnvironmentHealth custom metric is provided free with enhanced health reporting. Additional charges apply for each custom metric. For more information, see Amazon CloudWatch Pricing
System
Basic
Enhanced
Health event streaming to CloudWatch Logs
Configure Elastic Beanstalk to stream environment health events to CloudWatch Logs. You can set the retention up to a maximum of ten years and configure Elastic Beanstalk to delete the logs when you terminate your environment.
Log streaming
Activated (standard CloudWatch charges apply.)
Retention
7
Lifecycle
Keep logs after terminating environment
CloudShell
Feedback
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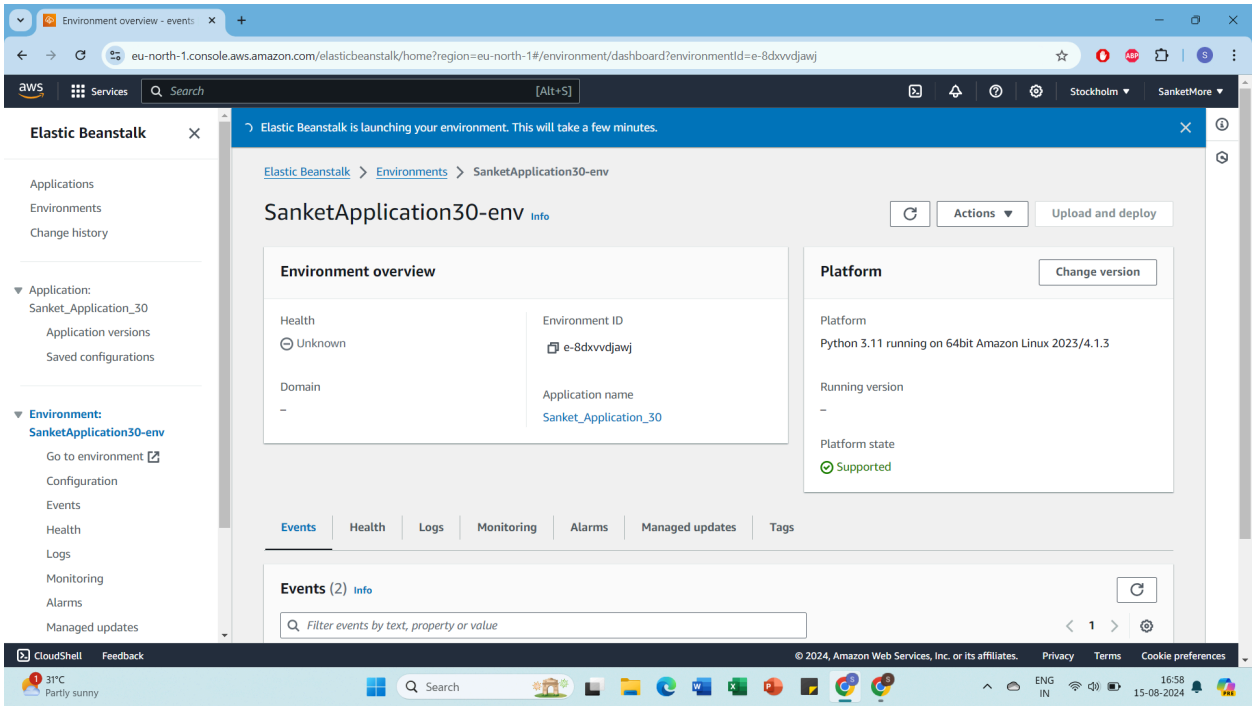
Terms
Cookie preferences
31°C
Partly sunny
Search
ENG
IN
16:55
15-08-2024


Environment overview - events
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/environment/dashboard?environmentId=e-8dxvvdjawj
Services
Search
[Alt+S]
Stockholm
SanketMore
Elastic Beanstalk
Elastic Beanstalk is launching your environment. This will take a few minutes.
Applications
Environments
Change history
Application: Sanket_Application_30
Application versions
Saved configurations
Environment: SanketApplication30-env
Go to environment
Configuration
Events
Health
Logs
Monitoring
Alarms
Managed updates
Elastic Beanstalk > Environments > SanketApplication30-env
SanketApplication30-env Info
Actions
Upload and deploy
Environment overview
Health
Unknown
Environment ID
e-8dxvvdjawj
Domain
-
Application name
Sanket_Application_30
Platform
Change version
Platform
Python 3.11 running on 64bit Amazon Linux 2023/4.1.3
Running version
-
Platform state
Supported
Events
Health
Logs
Monitoring
Alarms
Managed updates
Tags
Events (2) Info
Filter events by text, property or value
CloudShell
Feedback
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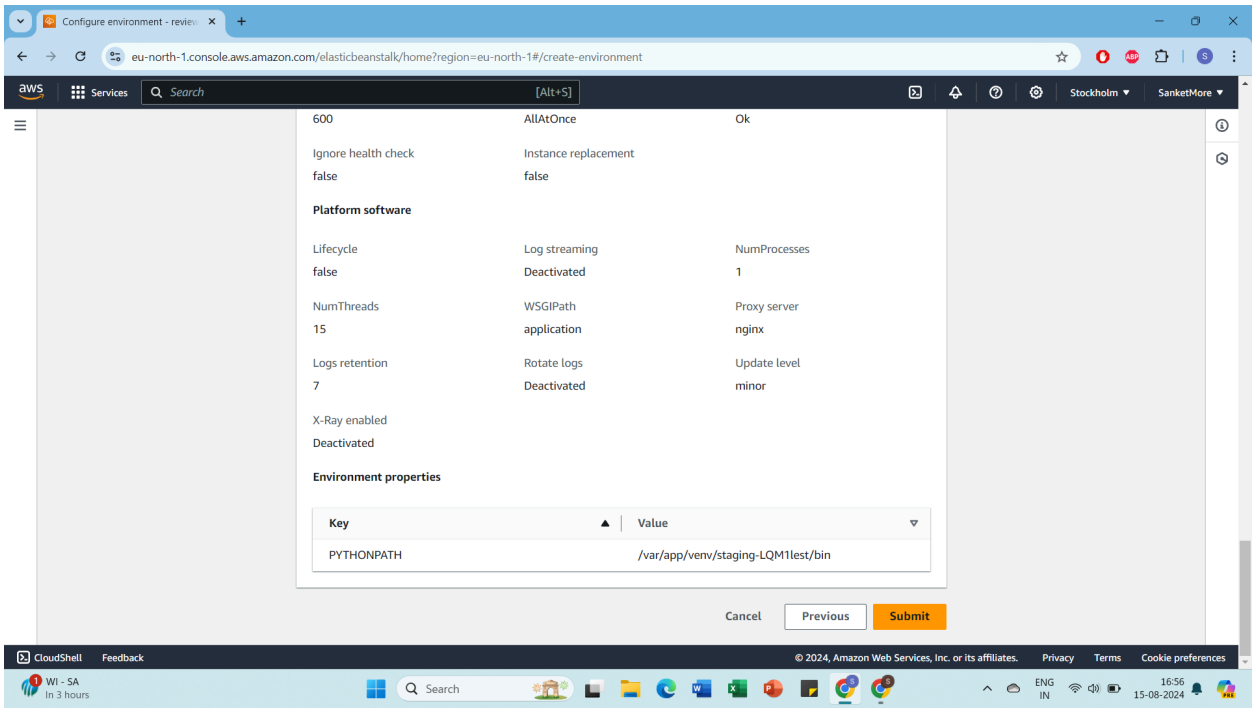
Cookie preferences
31°C
Partly sunny
ENG
IN
16:58
15-08-2024


Configure environment - review
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
600
AllAtOnce
Ok
Ignore health check
false
Instance replacement
false
Platform software
Lifecycle
false
Log streaming
Deactivated
NumProcesses
1
NumThreads
15
WSGIPath
application
Proxy server
nginx
Logs retention
7
Rotate logs
Deactivated
Update level
minor
X-Ray enabled
Deactivated
Environment properties
Key
Value
PYTHONPATH
/var/app/venv/staging-LQM1lest/bin
Cancel
Previous
Submit
CloudShell
Feedback
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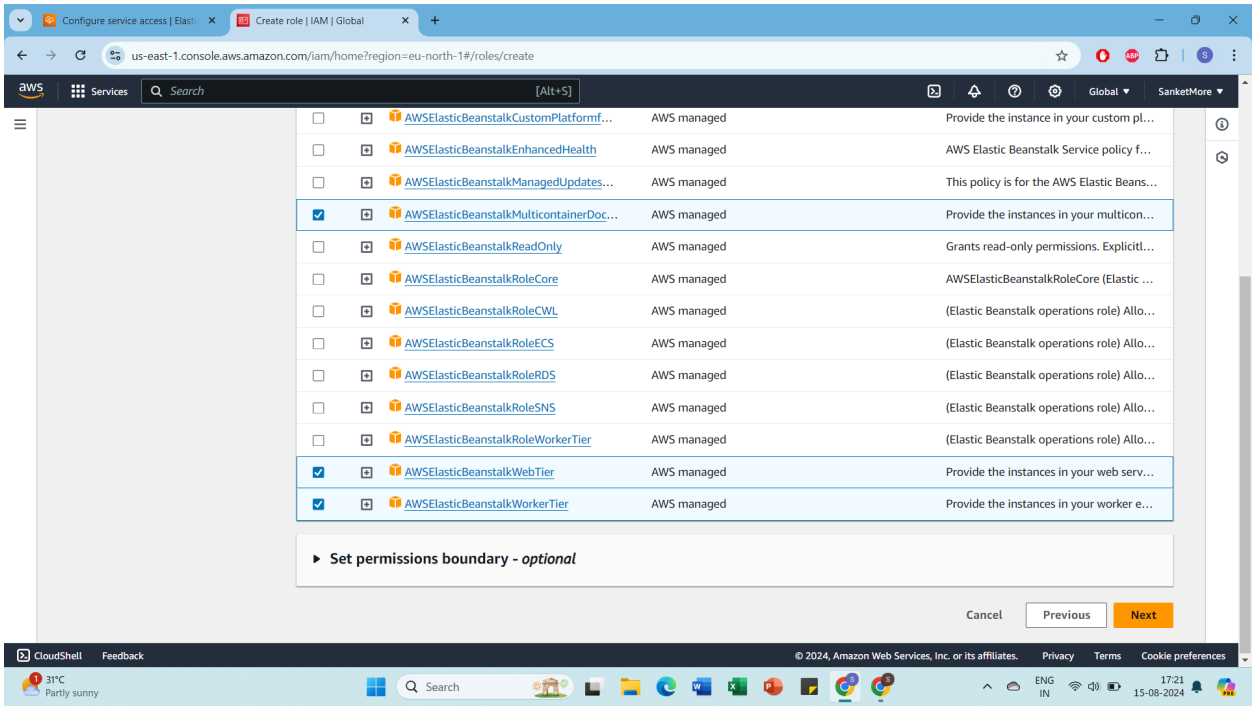
Cookie preferences
WI - SA
In 3 hours
ENG
IN
16:56
15-08-2024


Configure service access | Elasti
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iam/home?region=eu-north-1#/roles/create
Services
Search
[Alt+S]
Global
SanketMore
AWSElasticBeanstalkCustomPlatformf... AWS managed Provide the instance in your custom pl...
AWSElasticBeanstalkEnhancedHealth AWS managed AWS Elastic Beanstalk Service policy f...
AWSElasticBeanstalkManagedUpdates... AWS managed This policy is for the AWS Elastic Beans...
AWSElasticBeanstalkMulticontainerDoc... AWS managed Provide the instances in your multicon...
AWSElasticBeanstalkReadOnly AWS managed Grants read-only permissions. Explicitl...
AWSElasticBeanstalkRoleCore AWS managed AWSElasticBeanstalkRoleCore (Elastic ...
AWSElasticBeanstalkRoleCWL AWS managed (Elastic Beanstalk operations role) Allo...
AWSElasticBeanstalkRoleECS AWS managed (Elastic Beanstalk operations role) Allo...
AWSElasticBeanstalkRoleRDS AWS managed (Elastic Beanstalk operations role) Allo...
AWSElasticBeanstalkRoleSNS AWS managed (Elastic Beanstalk operations role) Allo...
AWSElasticBeanstalkRoleWorkerTier AWS managed (Elastic Beanstalk operations role) Allo...
AWSElasticBeanstalkWebTier AWS managed Provide the instances in your web serv...
AWSElasticBeanstalkWorkerTier AWS managed Provide the instances in your worker e...
Set permissions boundary - optional
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31°C
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Search
ENG
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17:21
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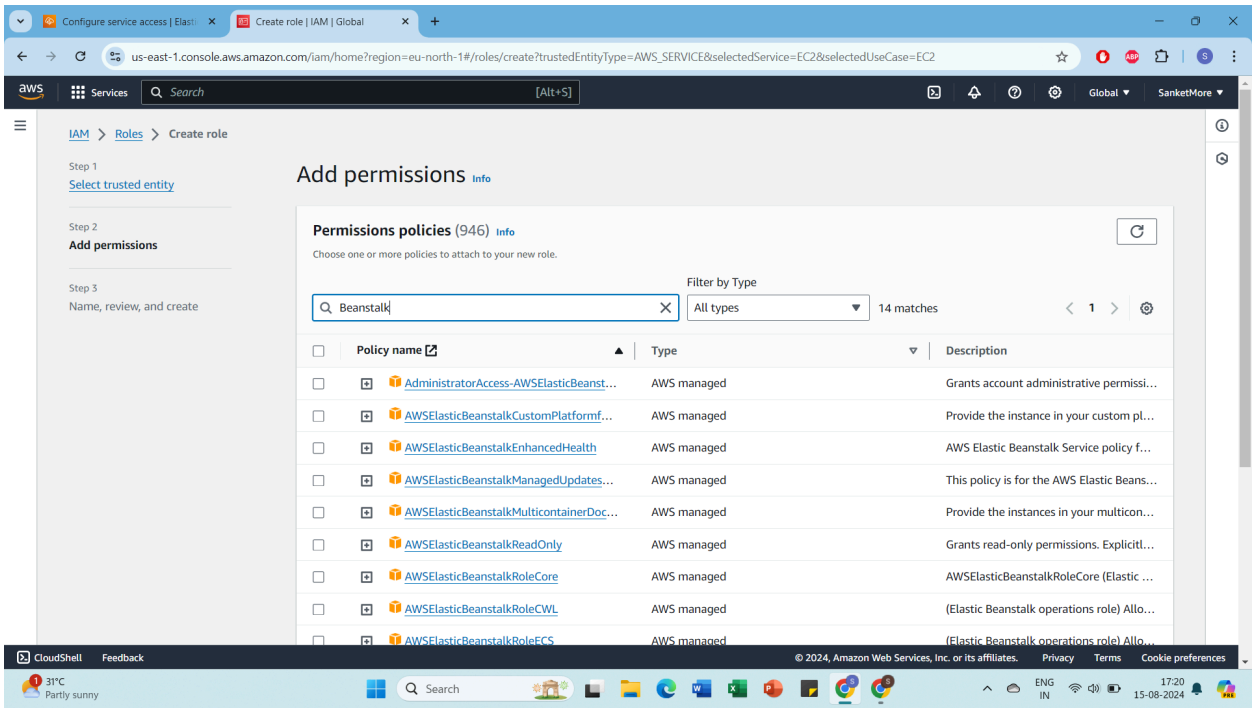
Configure service access | Elasti
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iam/home?region=eu-north-1#/roles/create?trustedEntityType=AWS_SERVICE&selectedService=EC2&selectedUseCase=EC2
Services
Search
[Alt+S]
Global
SanketMore
IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Add permissions Info
Permissions policies (946) Info
Choose one or more policies to attach to your new role.
Filter by Type
Beanstalk
All types
14 matches
Policy name
Type
Description
AdministratorAccess-AWSElasticBeanst... AWS managed Grants account administrative permissi...
AWSElasticBeanstalkCustomPlatformf... AWS managed Provide the instance in your custom pl...
AWSElasticBeanstalkEnhancedHealth AWS managed AWS Elastic Beanstalk Service policy f...
AWSElasticBeanstalkManagedUpdates... AWS managed This policy is for the AWS Elastic Beans...
AWSElasticBeanstalkMulticontainerDoc... AWS managed Provide the instances in your multicon...
AWSElasticBeanstalkReadOnly AWS managed Grants read-only permissions. Explicitl...
AWSElasticBeanstalkRoleCore AWS managed AWSElasticBeanstalkRoleCore (Elastic ...
AWSElasticBeanstalkRoleCWL AWS managed (Elastic Beanstalk operations role) Allo...
CloudShell
Feedback
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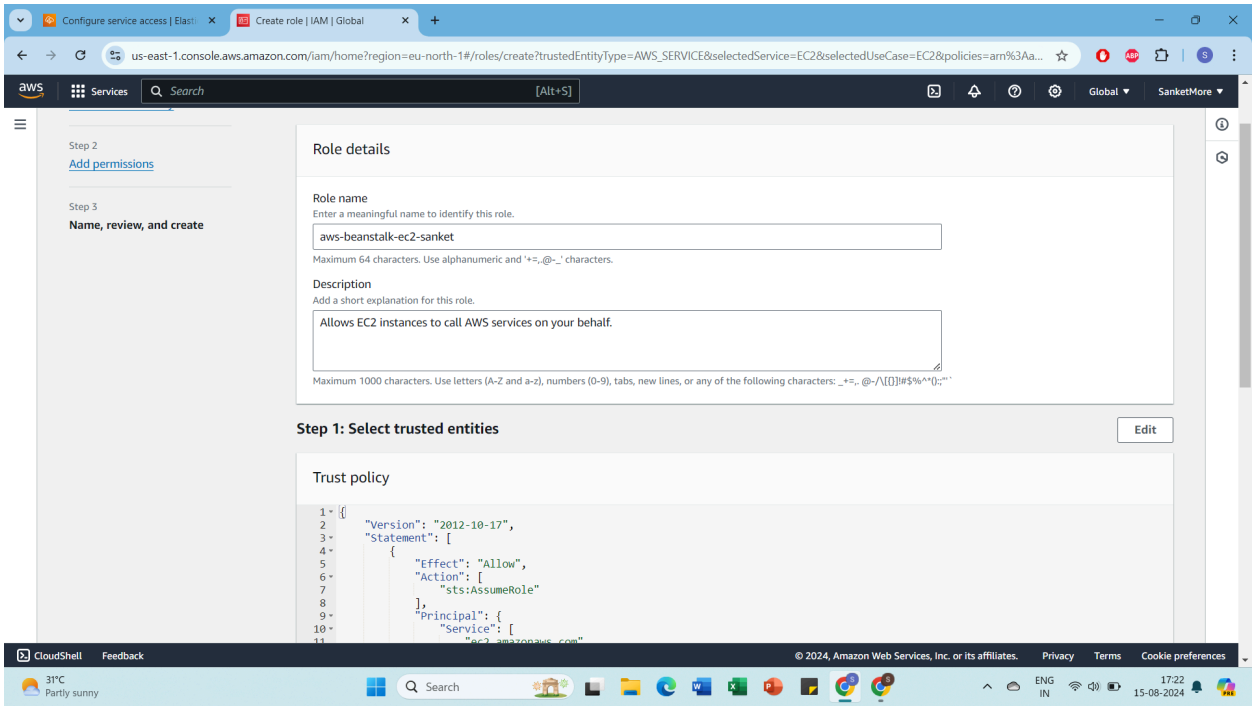
Terms
Cookie preferences
31°C
Partly sunny
Search
ENG
IN
17:20
15-08-2024


Configure service access | Elasti
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iam/home?region=eu-north-1#/roles/create?trustedEntityType=AWS_SERVICE&selectedService=EC2&selectedUseCase=EC2&policies=arn%3Aa...
Services
Search
[Alt+S]
Global
SanketMore
Step 2
Add permissions
Step 3
Name, review, and create
Role details
Role name
Enter a meaningful name to identify this role.
aws-beanstalk-ec2-sanket
Maximum 64 characters. Use alphanumeric and '+=,.@-_' characters.
Description
Add a short explanation for this role.
Allows EC2 instances to call AWS services on your behalf.
Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=,. @-/\[{}]!#$%^*();"'`
Step 1: Select trusted entities
Edit
Trust policy
{
"Version": "2012-10-17",
"Statement": [
{
"Effect": "Allow",
"Action": [
"sts:AssumeRole"
],
"Principal": {
"Service": [
CloudShell
Feedback
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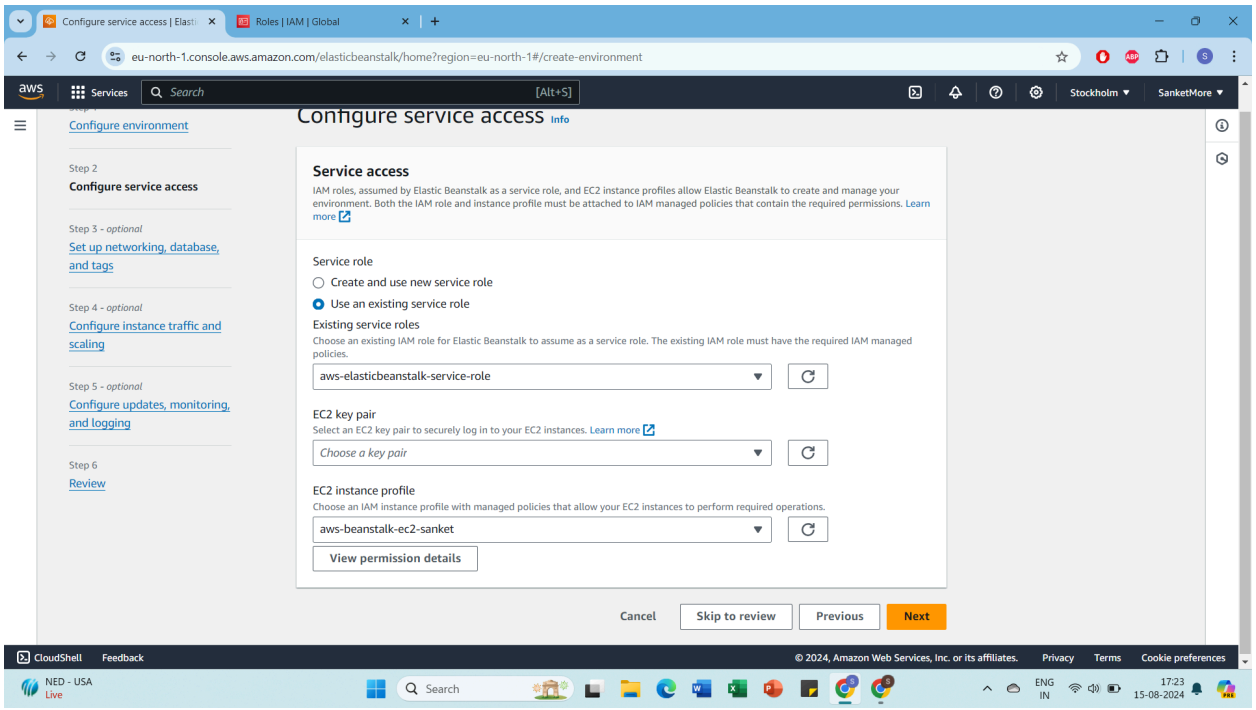
Cookie preferences
31°C
Partly sunny
Search
ENG
IN
17:22
15-08-2024


Configure service access | Elasti
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/create-environment
Services
Search
[Alt+S]
Stockholm
SanketMore
Configure environment
Step 2
Configure service access
Step 3 - optional
Set up networking, database, and tags
Step 4 - optional
Configure instance traffic and scaling
Step 5 - optional
Configure updates, monitoring, and logging
Step 6
Review
Configure service access Info
Service access
IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. Learn more
Service role
Create and use new service role
Use an existing service role
Existing service roles
Choose an existing IAM role for Elastic Beanstalk to assume as a service role. The existing IAM role must have the required IAM managed policies.
aws-elasticbeanstalk-service-role
EC2 key pair
Select an EC2 key pair to securely log in to your EC2 instances. Learn more
Choose a key pair
EC2 instance profile
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.
aws-beanstalk-ec2-sanket
View permission details
Cancel
Skip to review
Previous
Next
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Feedback
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Privacy
Terms
Cookie preferences
NED - USA
Live
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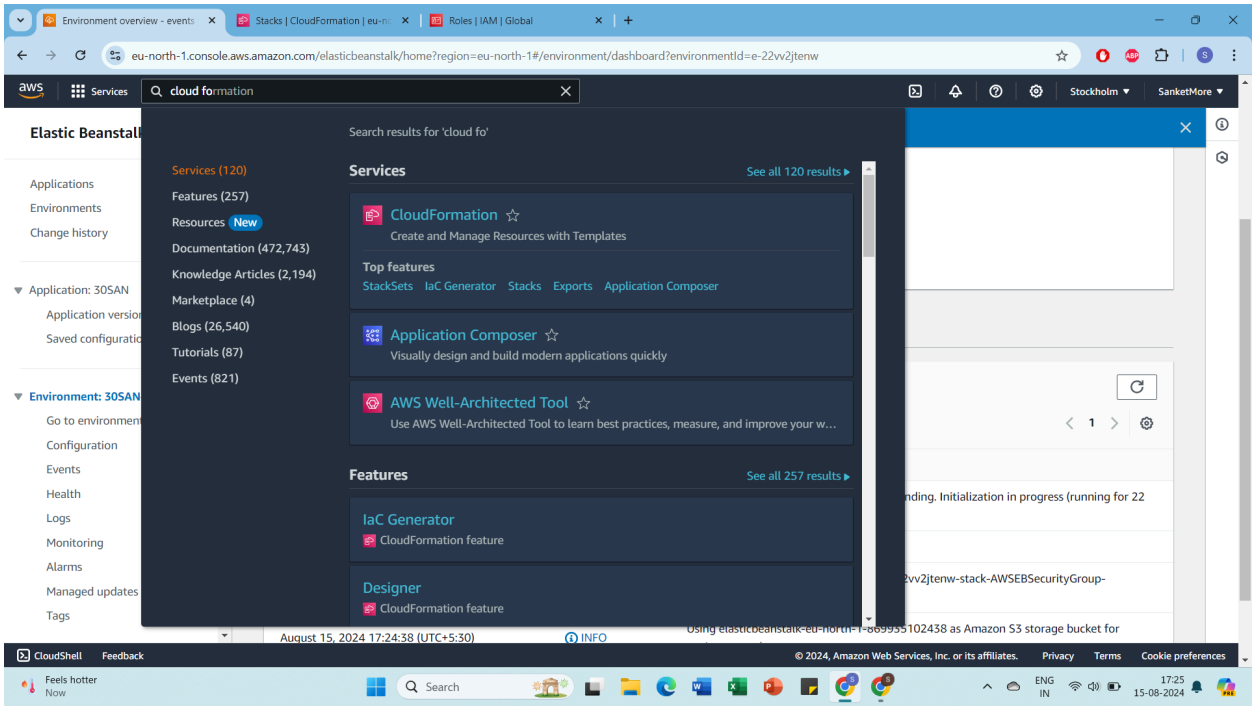
17:23
15-08-2024


Environment overview - events
Stacks | CloudFormation | eu-north-1
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/environment/dashboard?environmentId=e-22vv2jtenw
Services
cloud formation
Stockholm
SanketMore
Elastic Beanstalk
Applications
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Change history
Application: 30SAN
Application version
Saved configuration
Environment: 30SAN
Go to environment
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Health
Logs
Monitoring
Alarms
Managed updates
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Search results for 'cloud fo'
Services (120)
Features (257)
Resources New
Documentation (472,743)
Knowledge Articles (2,194)
Marketplace (4)
Blogs (26,540)
Tutorials (87)
Events (821)
Services
See all 120 results
CloudFormation
Create and Manage Resources with Templates
Top features
StackSets
IaC Generator
Stacks
Exports
Application Composer
Application Composer
Visually design and build modern applications quickly
AWS Well-Architected Tool
Use AWS Well-Architected Tool to learn best practices, measure, and improve your w...
Features
See all 257 results
IaC Generator
CloudFormation feature
Designer
CloudFormation feature
nding. Initialization in progress (running for 22
2vv2jtenw-stack-AWSEBSecurityGroup-
August 15, 2024 17:24:38 (UTC+5:30)
INFO
CloudShell
Feedback
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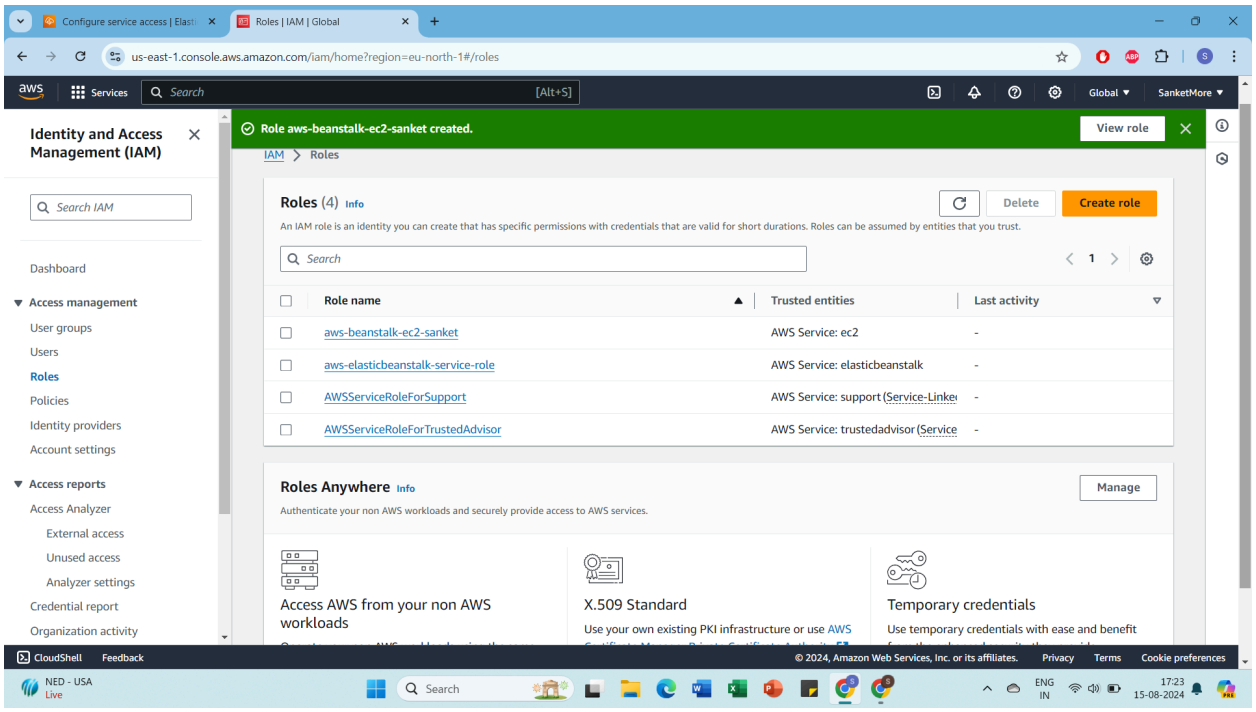
Cookie preferences
Feels hotter
Now
Search
ENG
IN
17:25
15-08-2024


Configure service access | Elasti
Roles | IAM | Global
us-east-1.console.aws.amazon.com/iam/home?region=eu-north-1#/roles
Services
Search
[Alt+S]
Global
SanketMore
Identity and Access Management (IAM)
Search IAM
Dashboard
Access management
User groups
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Roles
Policies
Identity providers
Account settings
Access reports
Access Analyzer
External access
Unused access
Analyzer settings
Credential report
Organization activity
Role aws-beanstalk-ec2-sanket created.
View role
IAM > Roles
Roles (4) Info
An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.
Delete
Create role
Search
Role name
Trusted entities
Last activity
aws-beanstalk-ec2-sanket
AWS Service: ec2
aws-elasticbeanstalk-service-role
AWS Service: elasticbeanstalk
AWSServiceRoleForSupport
AWS Service: support (Service-Linke
AWSServiceRoleForTrustedAdvisor
AWS Service: trustedadvisor (Service
Roles Anywhere Info
Authenticate your non AWS workloads and securely provide access to AWS services.
Manage
Access AWS from your non AWS workloads
X.509 Standard
Use your own existing PKI infrastructure or use AWS
Temporary credentials
Use temporary credentials with ease and benefit
CloudShell
Feedback
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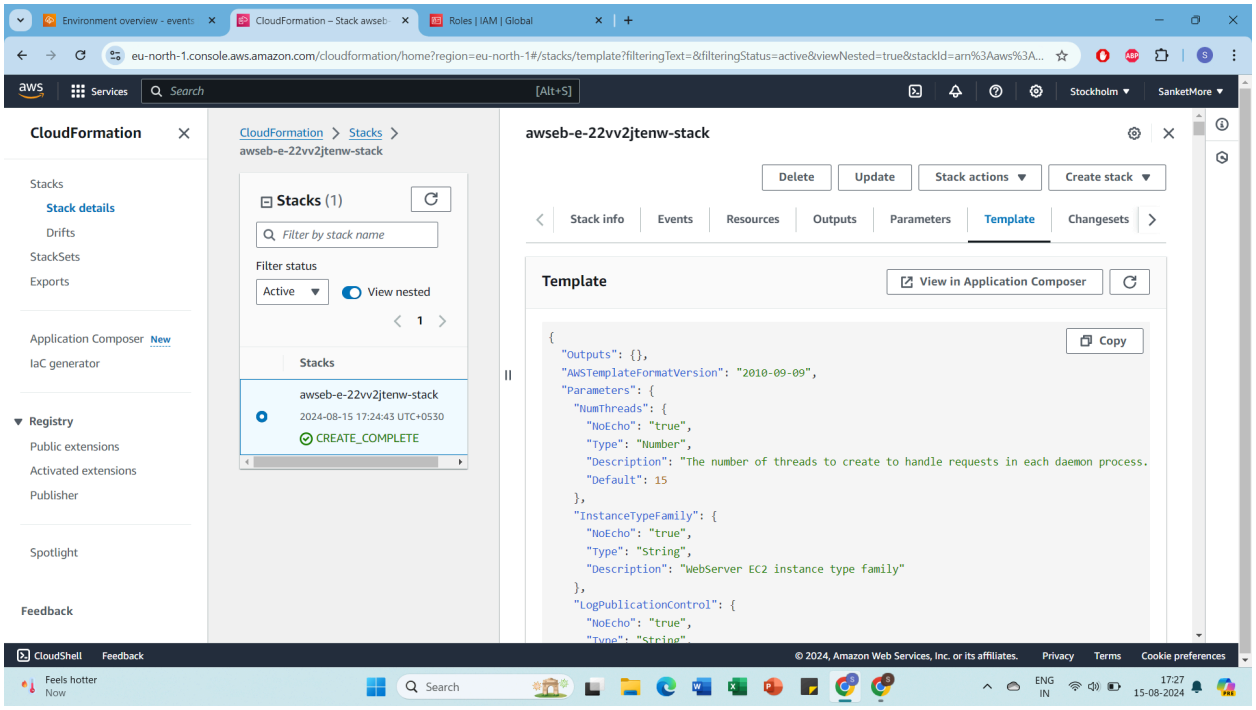
Terms
Cookie preferences
NED - USA
Live
Search
ENG
IN
17:23
15-08-2024


CloudFormation
Stacks
Stack details
Drifts
StackSets
Exports
Application Composer New
IaC generator
Registry
Public extensions
Activated extensions
Publisher
Spotlight
Feedback
CloudFormation > Stacks >
awseb-e-22vv2jtenw-stack
Stacks (1)
Filter by stack name
Filter status
Active
View nested
Stacks
awseb-e-22vv2jtenw-stack
2024-08-15 17:24:43 UTC+0530
CREATE_COMPLETE
awseb-e-22vv2jtenw-stack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Changesets
Template
View in Application Composer
Copy
{
"Outputs": {},
"AWSTemplateFormatVersion": "2010-09-09",
"Parameters": {
"NumThreads": {
"NoEcho": "true",
"Type": "Number",
"Description": "The number of threads to create to handle requests in each daemon process.
"Default": 15
},
"InstanceTypeFamily": {
"NoEcho": "true",
"Type": "String",
"Description": "WebServer EC2 instance type family"
},
"LogPublicationControl": {
"NoEcho": "true",
"Type": "String"
CloudShell
Feedback
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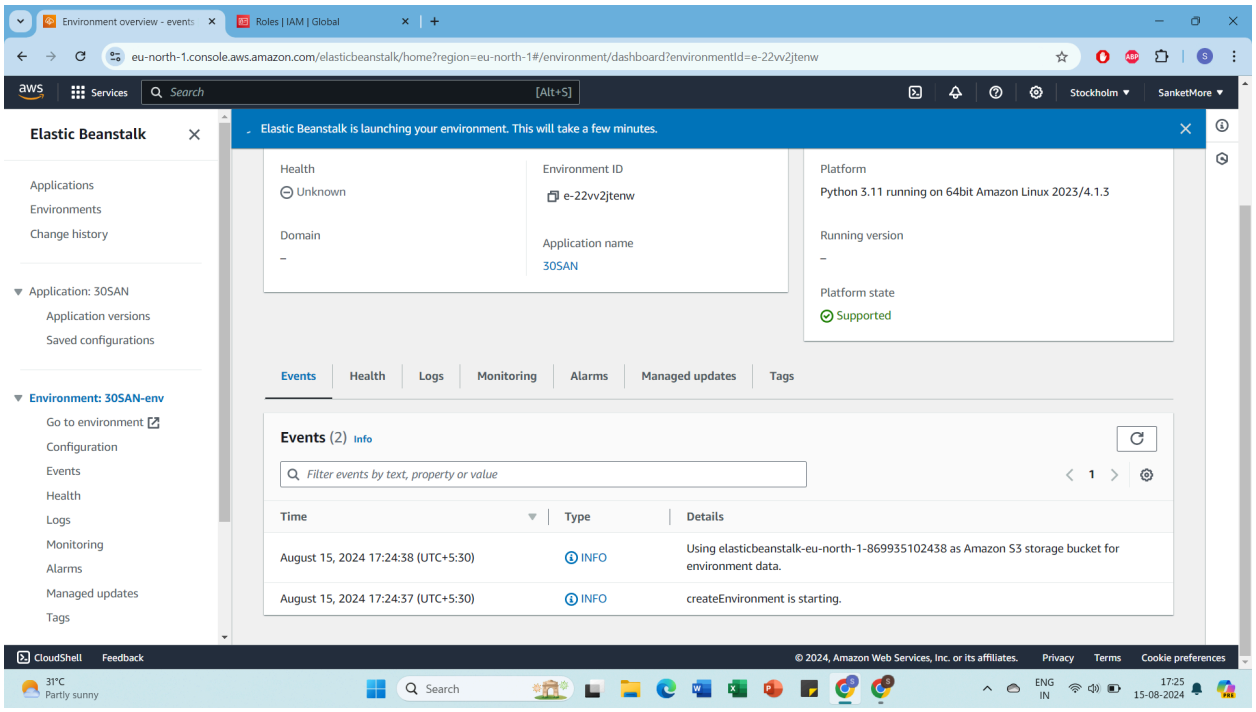
Elastic Beanstalk
Applications
Environments
Change history
Application: 30SAN
Application versions
Saved configurations
Environment: 30SAN-env
Go to environment
Configuration
Events
Health
Logs
Monitoring
Alarms
Managed updates
Tags
Elastic Beanstalk is launching your environment. This will take a few minutes.
Health
Unknown
Environment ID
e-22vv2jtenw
Domain
-
Application name
30SAN
Platform
Python 3.11 running on 64bit Amazon Linux 2023/4.1.3
Running version
-
Platform state
Supported
Events
Health
Logs
Monitoring
Alarms
Managed updates
Tags
Events (2) Info
Filter events by text, property or value
Time
Type
Details
August 15, 2024 17:24:38 (UTC+5:30)
INFO
Using elasticbeanstalk-eu-north-1-869935102438 as Amazon S3 storage bucket for environment data.
August 15, 2024 17:24:37 (UTC+5:30)
INFO
createEnvironment is starting.
CloudShell
Feedback
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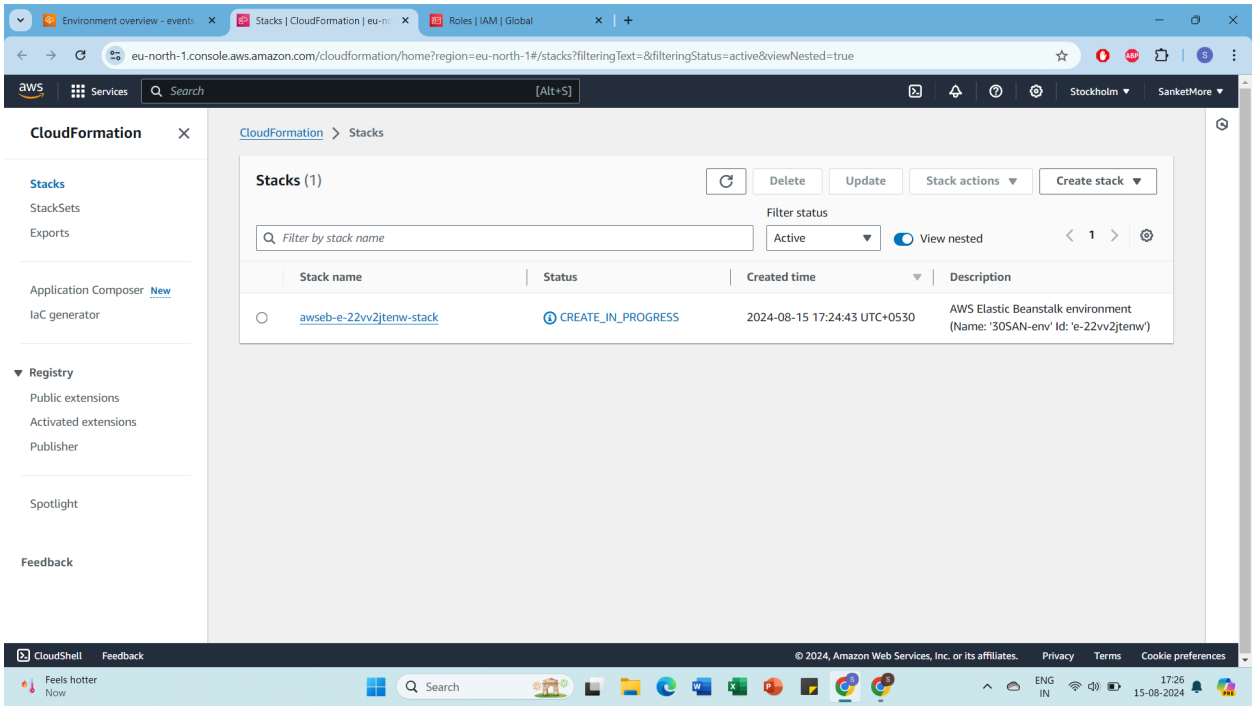
Cookie preferences


Environment overview - events
Stacks | CloudFormation | eu-north-1
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/cloudformation/home?region=eu-north-1#/stacks?filteringText=&filteringStatus=active&viewNested=true
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[Alt+S]
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Create stack
Filter by stack name
Filter status
Active
View nested
Stack name
Status
Created time
Description
awseb-e-22vv2jtenw-stack
CREATE_IN_PROGRESS
2024-08-15 17:24:43 UTC+0530
AWS Elastic Beanstalk environment (Name: '30SAN-env' Id: 'e-22vv2jtenw')
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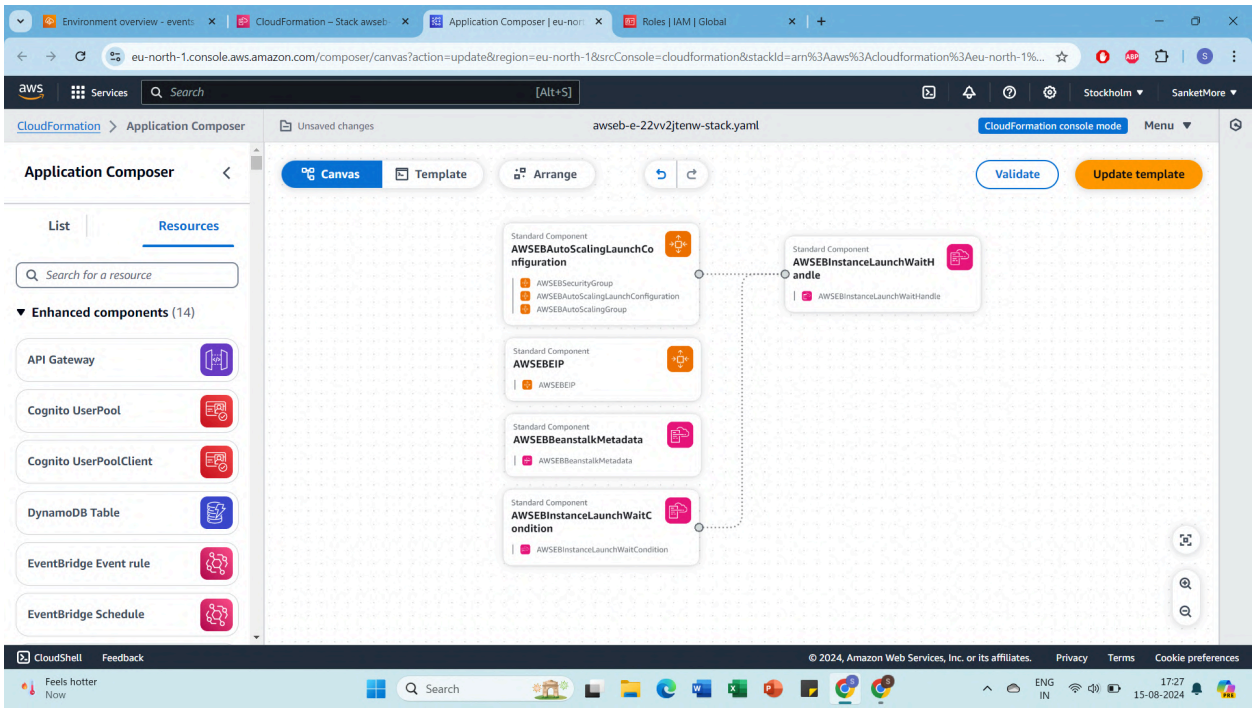
Feels hotter
Now
Search
ENG
IN
17:26
15-08-2024


Environment overview - events
CloudFormation – Stack awseb
Application Composer | eu-north-1
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/composer/canvas?action=update&region=eu-north-1&srcConsole=cloudformation&stackId=arn%3Aaws%3Acloudformation%3Aeu-north-1%...
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CloudFormation > Application Composer
Unsaved changes
awseb-e-22vv2jtenw-stack.yaml
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API Gateway
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Cognito UserPoolClient
DynamoDB Table
EventBridge Event rule
EventBridge Schedule
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AWSEBAutoScalingLaunchConfiguration
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AWSEBInstanceLaunchWaitHandle
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AWSEBEIP
AWSEBEIP
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AWSEBBeanstalkMetadata
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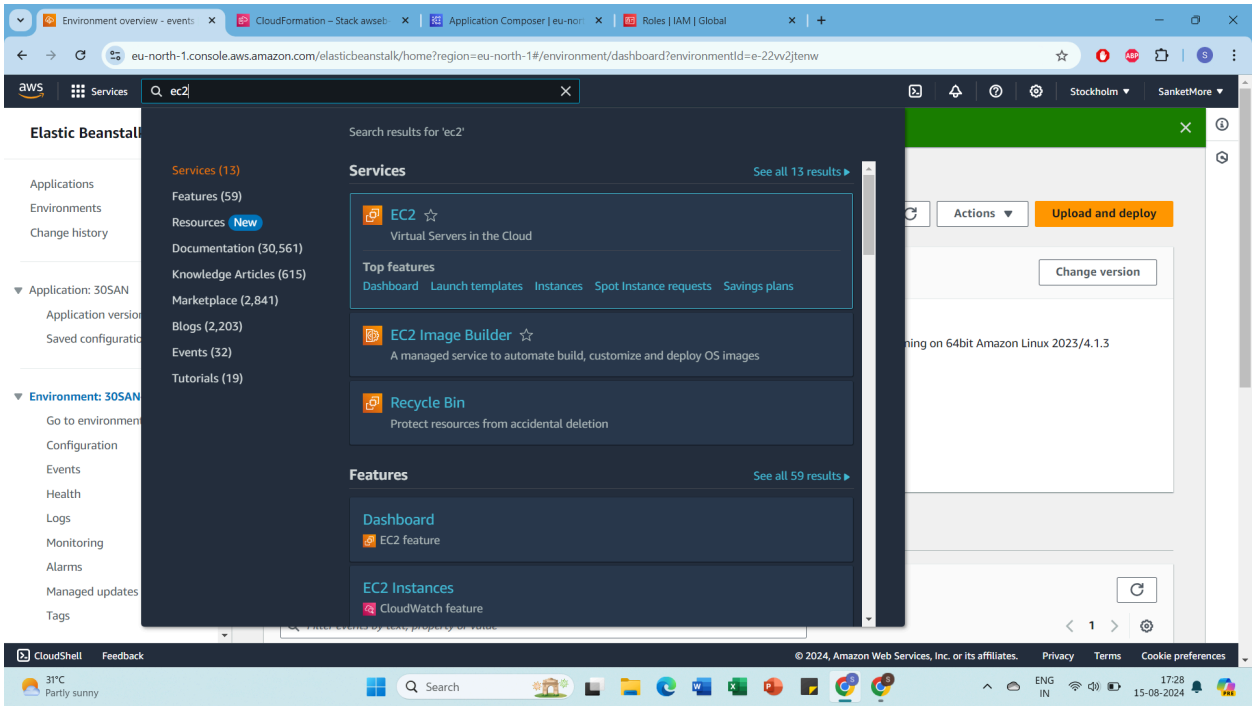
Environment overview - events
CloudFormation – Stack awseb
Application Composer | eu-north
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/elasticbeanstalk/home?region=eu-north-1#/environment/dashboard?environmentId=e-22vv2jtenw
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Knowledge Articles (615)
Marketplace (2,841)
Blogs (2,203)
Events (32)
Tutorials (19)
Services
See all 13 results
EC2
Virtual Servers in the Cloud
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Spot Instance requests
Savings plans
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A managed service to automate build, customize and deploy OS images
Recycle Bin
Protect resources from accidental deletion
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See all 59 results
Dashboard
EC2 feature
EC2 Instances
CloudWatch feature
Actions
Upload and deploy
Change version
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CloudShell
Feedback
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31°C
Partly sunny
Search
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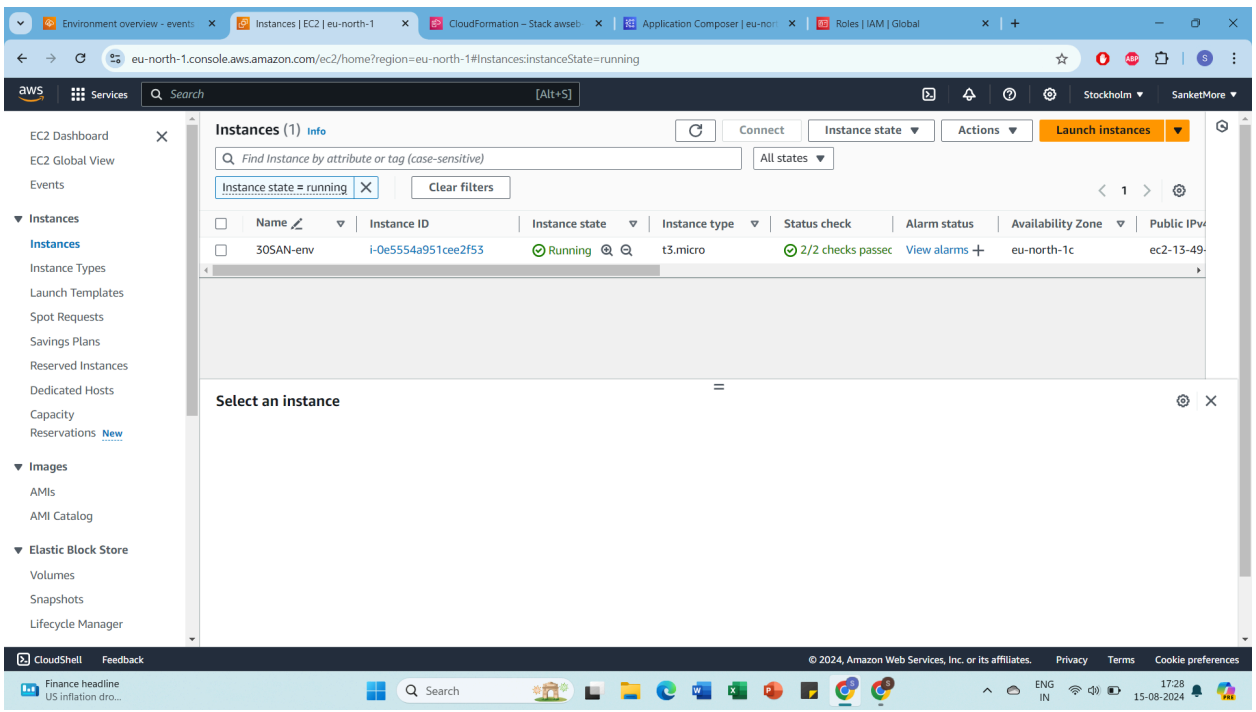
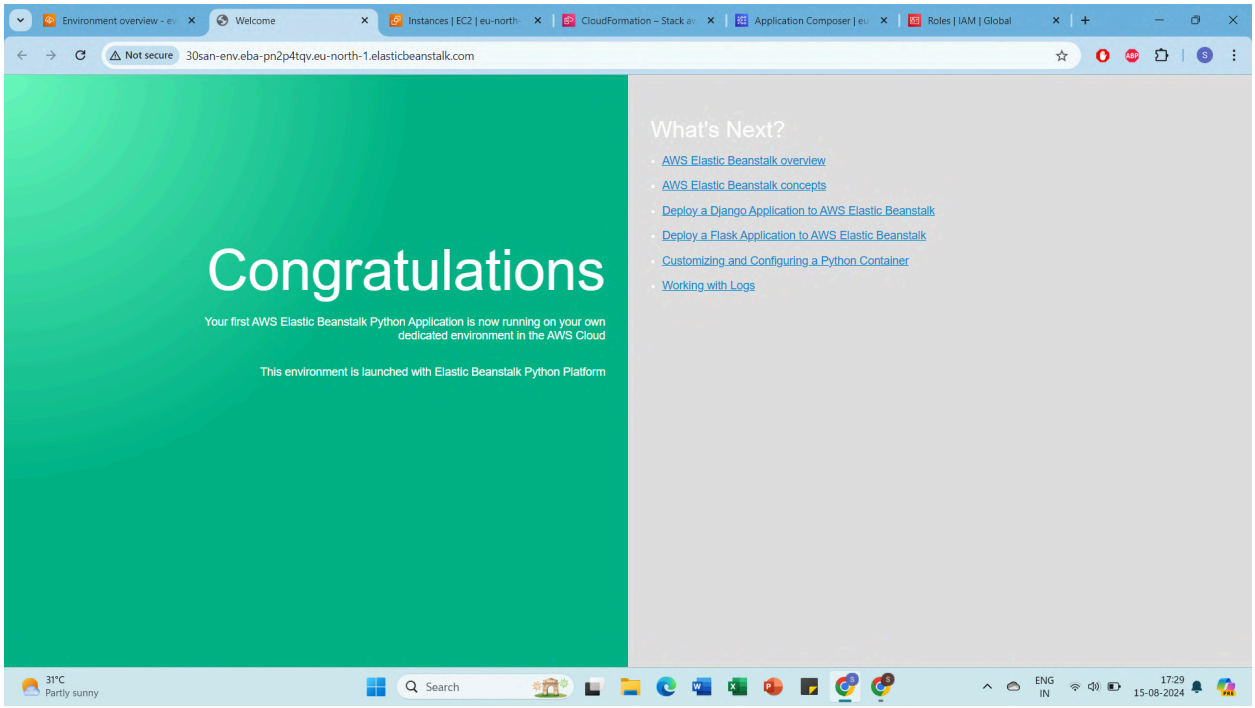
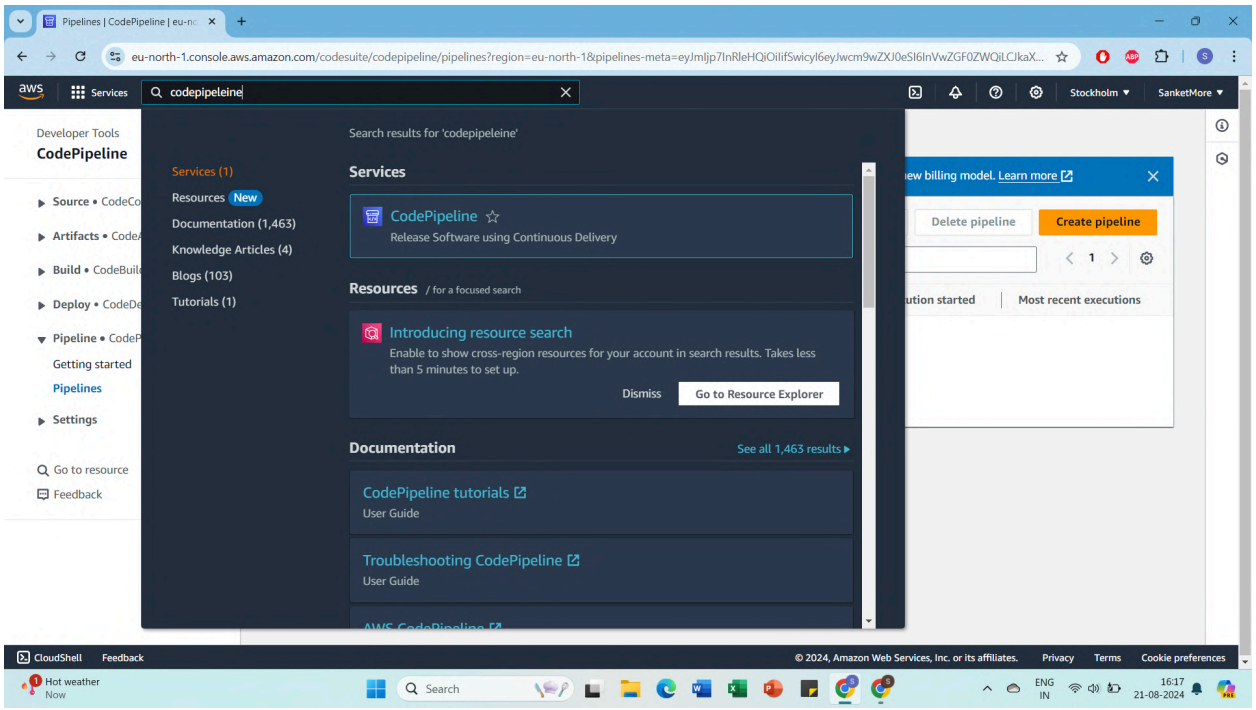
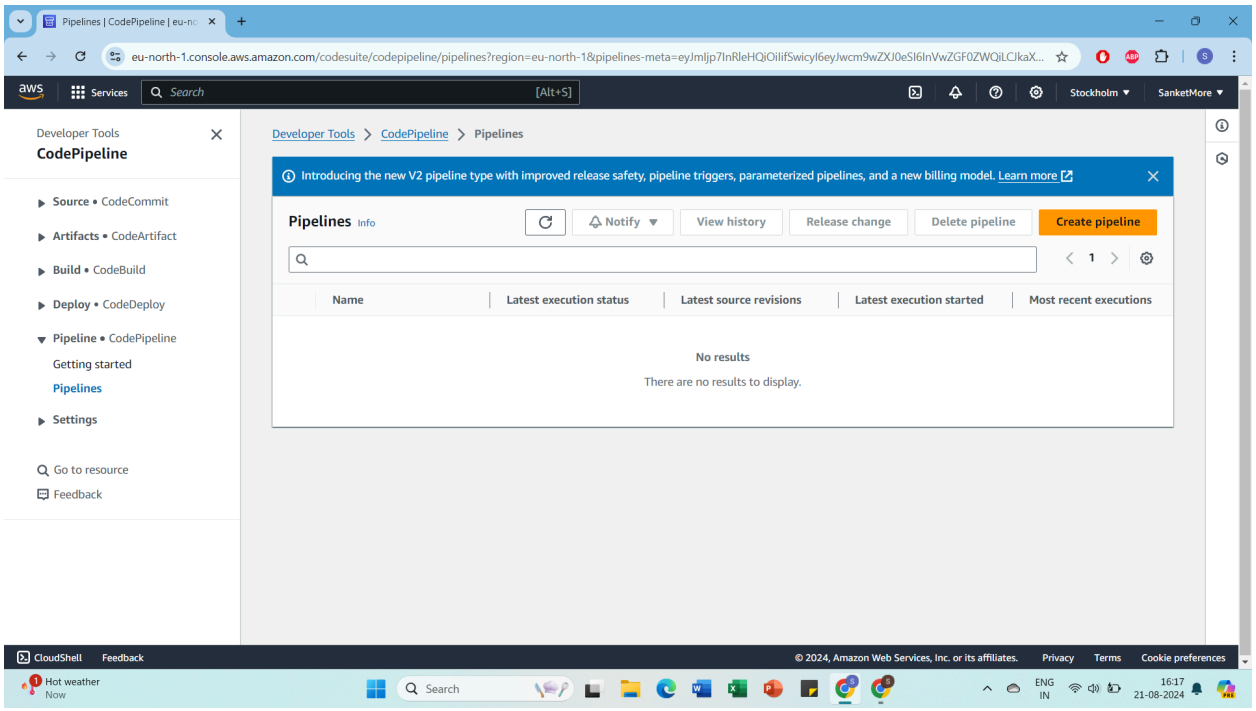
17:28
15-08-2024

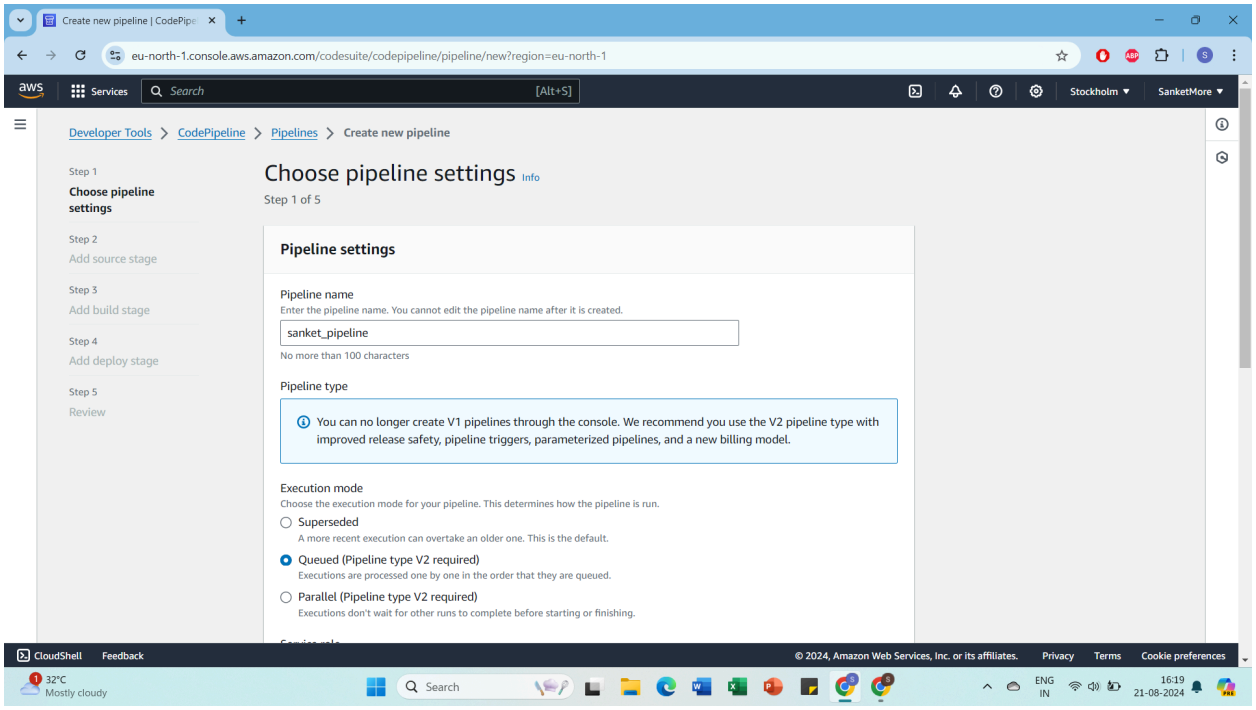

Environment overview - events
Instances | EC2 | eu-north-1
CloudFormation – Stack awseb
Application Composer | eu-north
Roles | IAM | Global
eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:instanceState=running
aws
Services
Search
[Alt+S]
Stockholm
SanketMore
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations New
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Instances (1) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4
30SAN-env
i-0e5554a951cee2f53
Running
t3.micro
2/2 checks passed
View alarms
eu-north-1c
ec2-13-49-
Select an instance
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Finance headline
US inflation dro...
Search
ENG
IN
17:28
15-08-2024


Environment overview - ev
Welcome
Instances | EC2 | eu-north
CloudFormation – Stack av
Application Composer | eu
Roles | IAM | Global
Not secure
30san-env.eba-pn2p4tqv.eu-north-1.elasticbeanstalk.com
Congratulations
Your first AWS Elastic Beanstalk Python Application is now running on your own dedicated environment in the AWS Cloud
This environment is launched with Elastic Beanstalk Python Platform
What's Next?
AWS Elastic Beanstalk overview
AWS Elastic Beanstalk concepts
Deploy a Django Application to AWS Elastic Beanstalk
Deploy a Flask Application to AWS Elastic Beanstalk
Customizing and Configuring a Python Container
Working with Logs
31°C
Partly sunny
Search
ENG
IN
17:29
15-08-2024

Code Deployment using Codepipeline:






Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
Services
Search
[Alt+S]
Stockholm
SanketMore
Developer Tools > CodePipeline > Pipelines > Create new pipeline
Step 1
Choose pipeline settings
Step 2
Add source stage
Step 3
Add build stage
Step 4
Add deploy stage
Step 5
Review
Choose pipeline settings Info
Step 1 of 5
Pipeline settings
Pipeline name
Enter the pipeline name. You cannot edit the pipeline name after it is created.
sanket_pipeline
No more than 100 characters
Pipeline type
You can no longer create V1 pipelines through the console. We recommend you use the V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model.
Execution mode
Choose the execution mode for your pipeline. This determines how the pipeline is run.
Superseded
A more recent execution can overtake an older one. This is the default.
Queued (Pipeline type V2 required)
Executions are processed one by one in the order that they are queued.
Parallel (Pipeline type V2 required)
Executions don't wait for other runs to complete before starting or finishing.
CloudShell
Feedback
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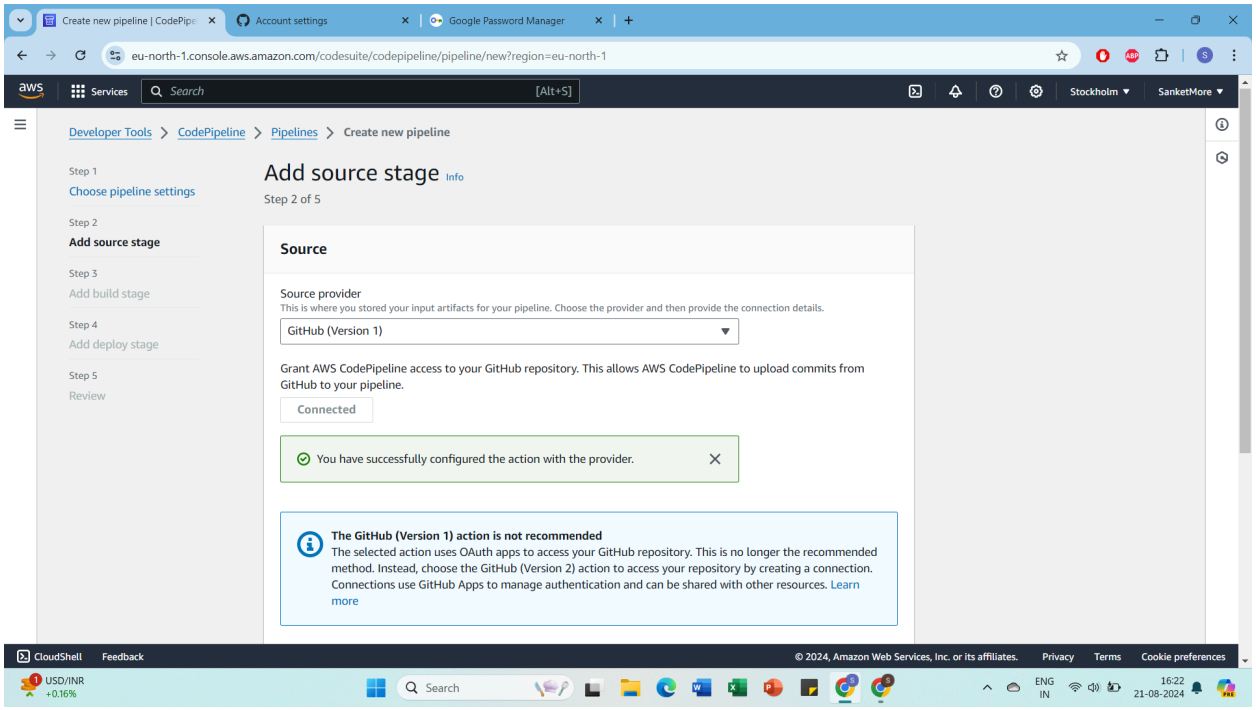
Privacy
Terms
Cookie preferences
32°C
Mostly cloudy
Search
ENG
IN
16:19
21-08-2024


Create new pipeline | CodePipe
Account settings
Google Password Manager
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
Services
Search
[Alt+S]
Stockholm
SanketMore
Developer Tools > CodePipeline > Pipelines > Create new pipeline
Step 1
Choose pipeline settings
Step 2
Add source stage
Step 3
Add build stage
Step 4
Add deploy stage
Step 5
Review
Add source stage Info
Step 2 of 5
Source
Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.
GitHub (Version 1)
Grant AWS CodePipeline access to your GitHub repository. This allows AWS CodePipeline to upload commits from GitHub to your pipeline.
Connected
You have successfully configured the action with the provider.
The GitHub (Version 1) action is not recommended
The selected action uses OAuth apps to access your GitHub repository. This is no longer the recommended method. Instead, choose the GitHub (Version 2) action to access your repository by creating a connection. Connections use GitHub Apps to manage authentication and can be shared with other resources. Learn more
CloudShell
Feedback
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Privacy
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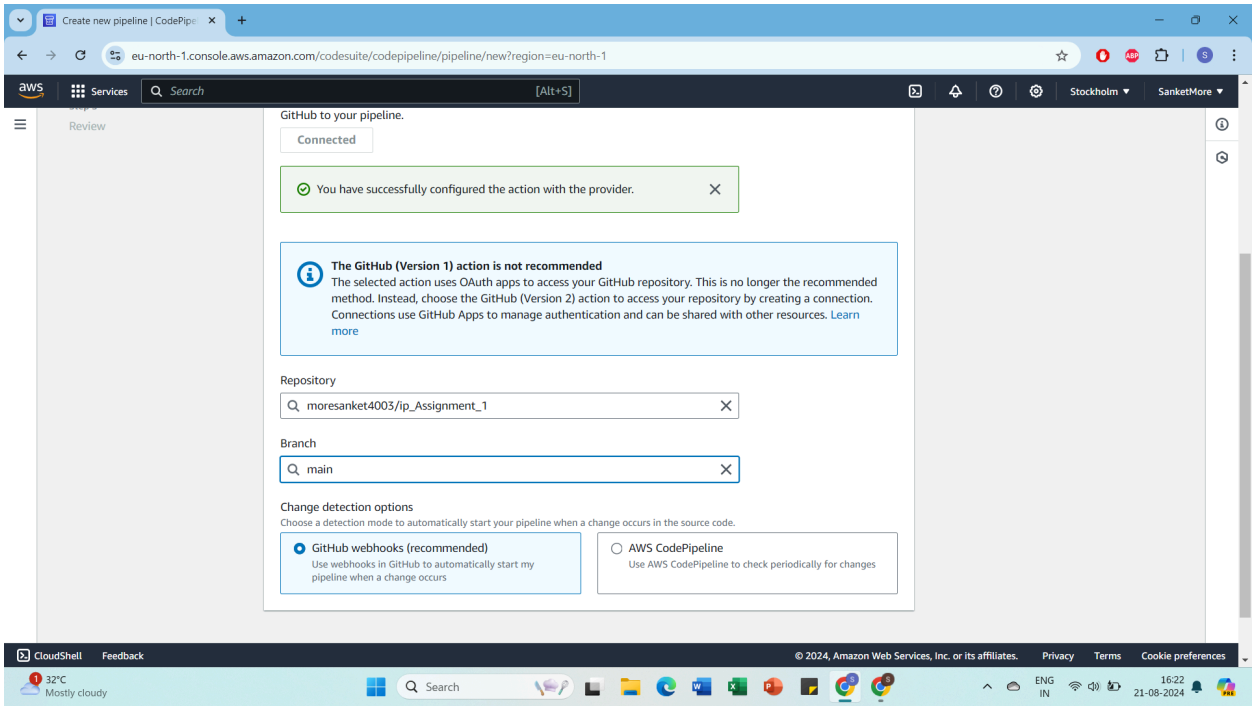
Cookie preferences
USD/INR
+0.16%
Search
ENG
IN
16:22
21-08-2024


Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
Services
Search
[Alt+S]
Stockholm
SanketMore
Review
GitHub to your pipeline.
Connected
You have successfully configured the action with the provider.
The GitHub (Version 1) action is not recommended
The selected action uses OAuth apps to access your GitHub repository. This is no longer the recommended method. Instead, choose the GitHub (Version 2) action to access your repository by creating a connection. Connections use GitHub Apps to manage authentication and can be shared with other resources. Learn more
Repository
moresanket4003/ip_Assignment_1
Branch
main
Change detection options
Choose a detection mode to automatically start your pipeline when a change occurs in the source code.
GitHub webhooks (recommended)
Use webhooks in GitHub to automatically start my pipeline when a change occurs
AWS CodePipeline
Use AWS CodePipeline to check periodically for changes
CloudShell
Feedback
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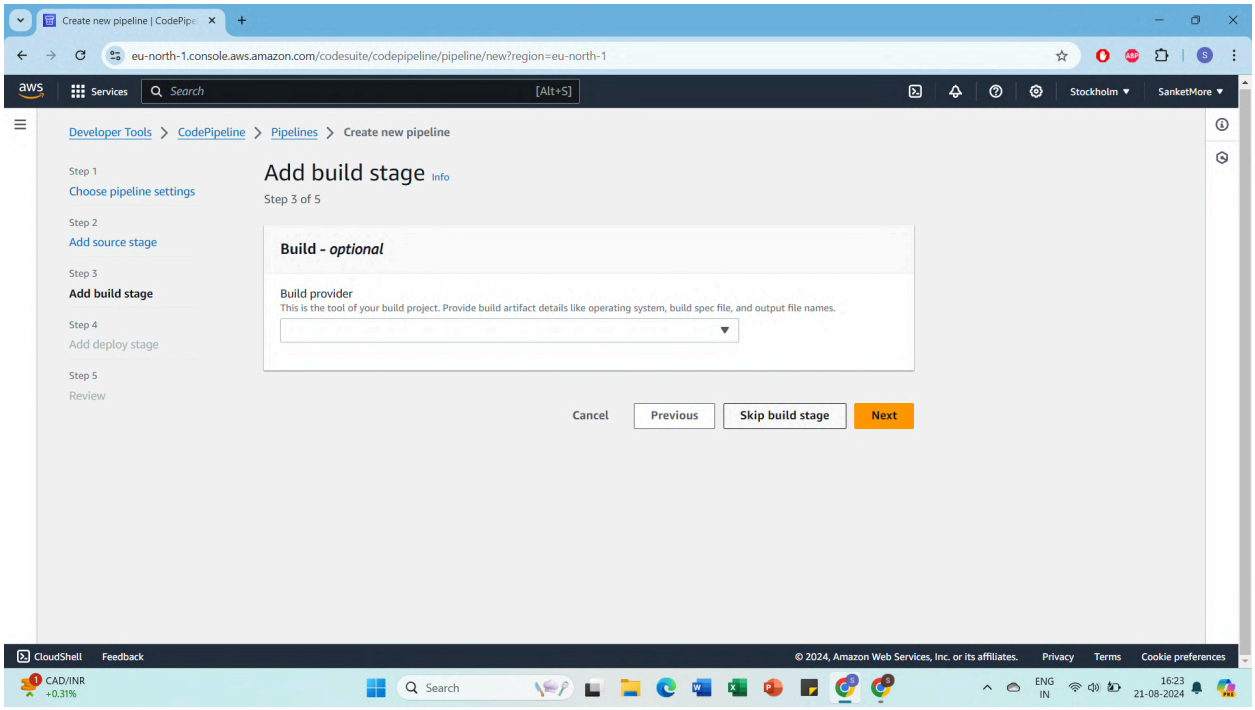
Terms
Cookie preferences
32°C
Mostly cloudy
Search
ENG
IN
16:22
21-08-2024


Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
Services
Search
[Alt+S]
Stockholm
SanketMore
Developer Tools
CodePipeline
Pipelines
Create new pipeline
Step 1
Choose pipeline settings
Step 2
Add source stage
Step 3
Add build stage
Step 4
Add deploy stage
Step 5
Review
Add build stage
Info
Step 3 of 5
Build - optional
Build provider
This is the tool of your build project. Provide build artifact details like operating system, build spec file, and output file names.
Cancel
Previous
Skip build stage
Next
CloudShell
Feedback
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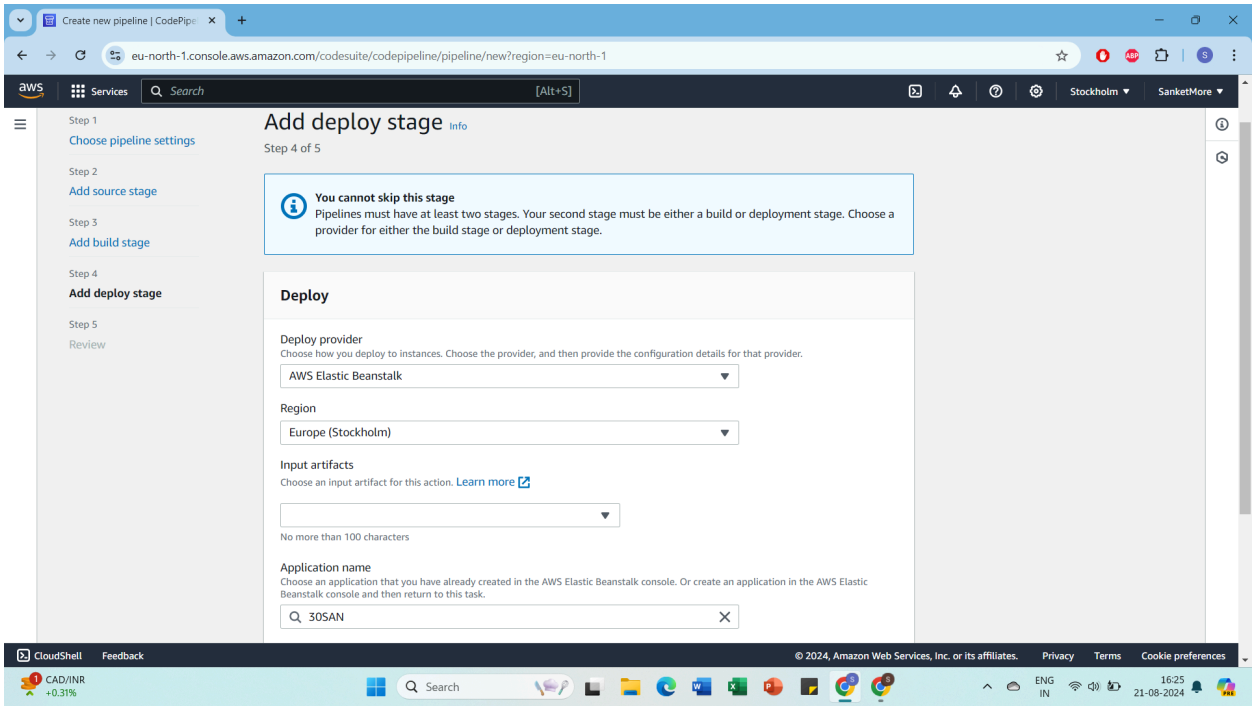
Privacy
Terms
Cookie preferences
CAD/INR
+0.31%
Search
ENG
IN
16:23
21-08-2024


Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
aws
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 1
Choose pipeline settings
Step 2
Add source stage
Step 3
Add build stage
Step 4
Add deploy stage
Step 5
Review
Add deploy stage Info
Step 4 of 5
You cannot skip this stage
Pipelines must have at least two stages. Your second stage must be either a build or deployment stage. Choose a provider for either the build stage or deployment stage.
Deploy
Deploy provider
Choose how you deploy to instances. Choose the provider, and then provide the configuration details for that provider.
AWS Elastic Beanstalk
Region
Europe (Stockholm)
Input artifacts
Choose an input artifact for this action. Learn more
No more than 100 characters
Application name
Choose an application that you have already created in the AWS Elastic Beanstalk console. Or create an application in the AWS Elastic Beanstalk console and then return to this task.
30SAN
CloudShell
Feedback
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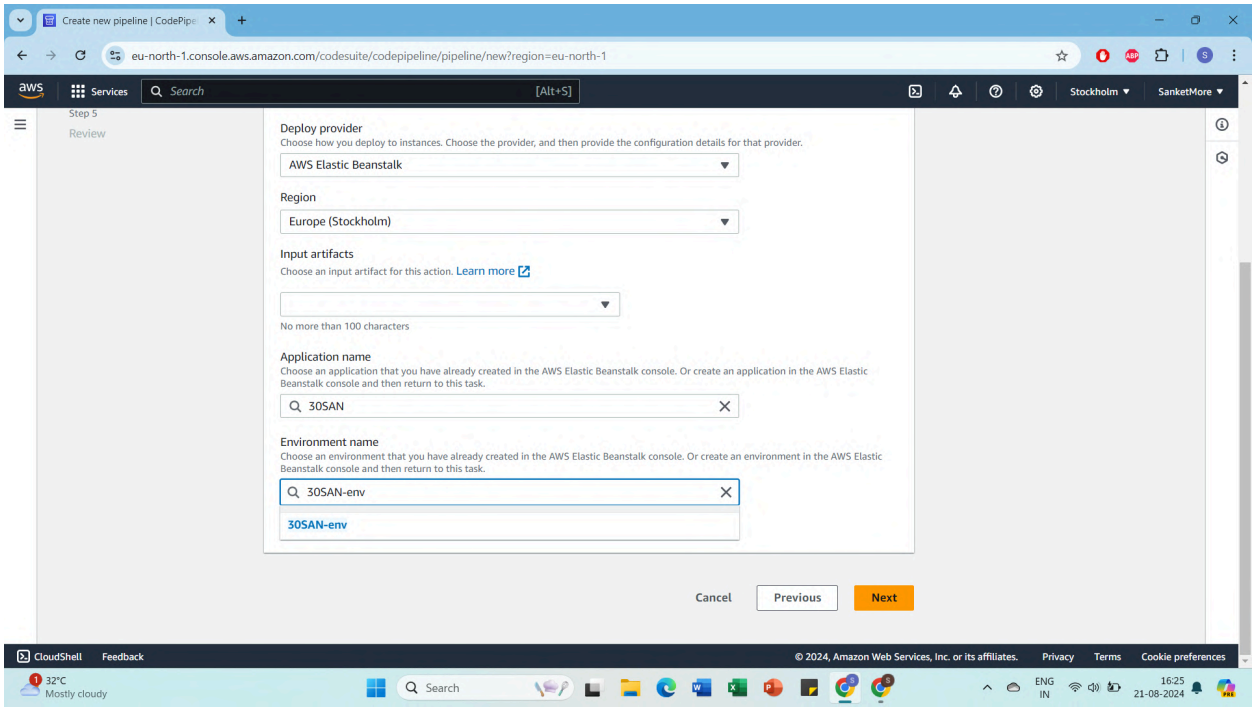
Privacy
Terms
Cookie preferences
CAD/INR
+0.31%
Search
ENG
IN
16:25
21-08-2024


Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
aws
Services
Search
[Alt+S]
Stockholm
SanketMore
Step 5
Review
Deploy provider
Choose how you deploy to instances. Choose the provider, and then provide the configuration details for that provider.
AWS Elastic Beanstalk
Region
Europe (Stockholm)
Input artifacts
Choose an input artifact for this action. Learn more
No more than 100 characters
Application name
Choose an application that you have already created in the AWS Elastic Beanstalk console. Or create an application in the AWS Elastic Beanstalk console and then return to this task.
30SAN
Environment name
Choose an environment that you have already created in the AWS Elastic Beanstalk console. Or create an environment in the AWS Elastic Beanstalk console and then return to this task.
30SAN-env
30SAN-env
Cancel
Previous
Next
CloudShell
Feedback
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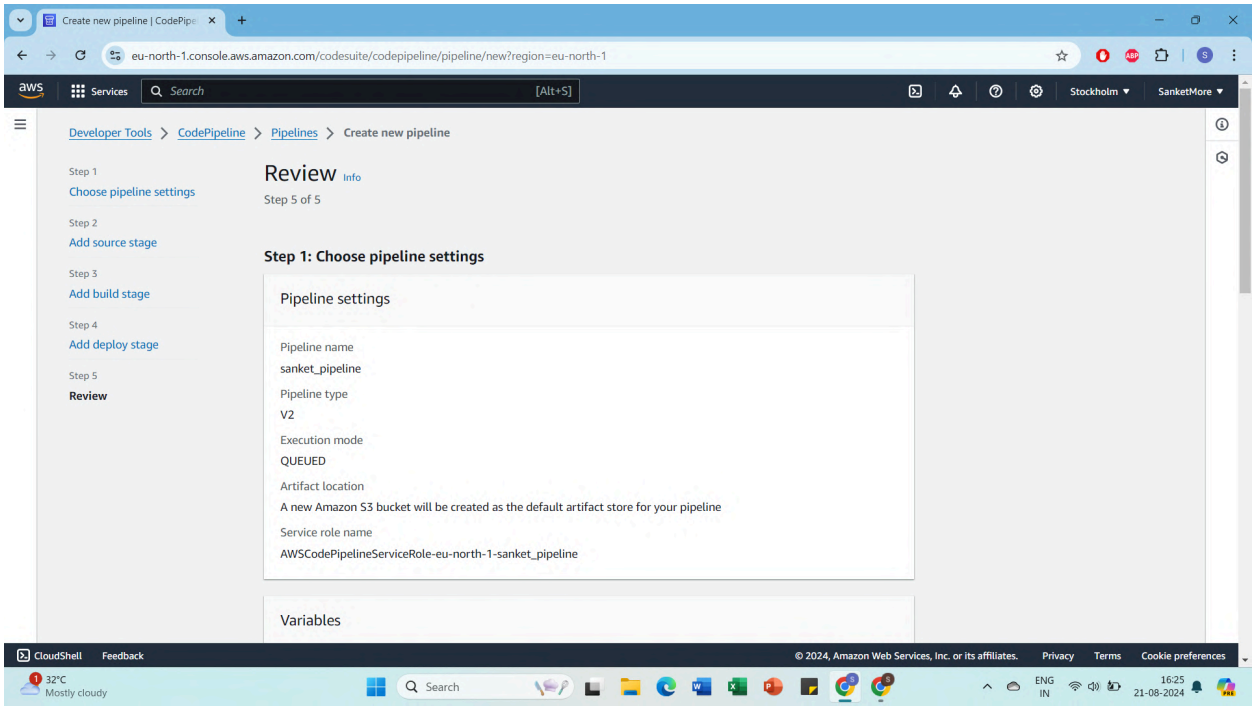
Privacy
Terms
Cookie preferences
32°C
Mostly cloudy
Search
ENG
IN
16:25
21-08-2024


Create new pipeline | CodePipe
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipeline/new?region=eu-north-1
aws
Services
Search
[Alt+S]
Stockholm
SanketMore
Developer Tools > CodePipeline > Pipelines > Create new pipeline
Step 1
Choose pipeline settings
Step 2
Add source stage
Step 3
Add build stage
Step 4
Add deploy stage
Step 5
Review
Review Info
Step 5 of 5
Step 1: Choose pipeline settings
Pipeline settings
Pipeline name
sanket_pipeline
Pipeline type
V2
Execution mode
QUEUED
Artifact location
A new Amazon S3 bucket will be created as the default artifact store for your pipeline
Service role name
AWSCodePipelineServiceRole-eu-north-1-sanket_pipeline
Variables
CloudShell
Feedback
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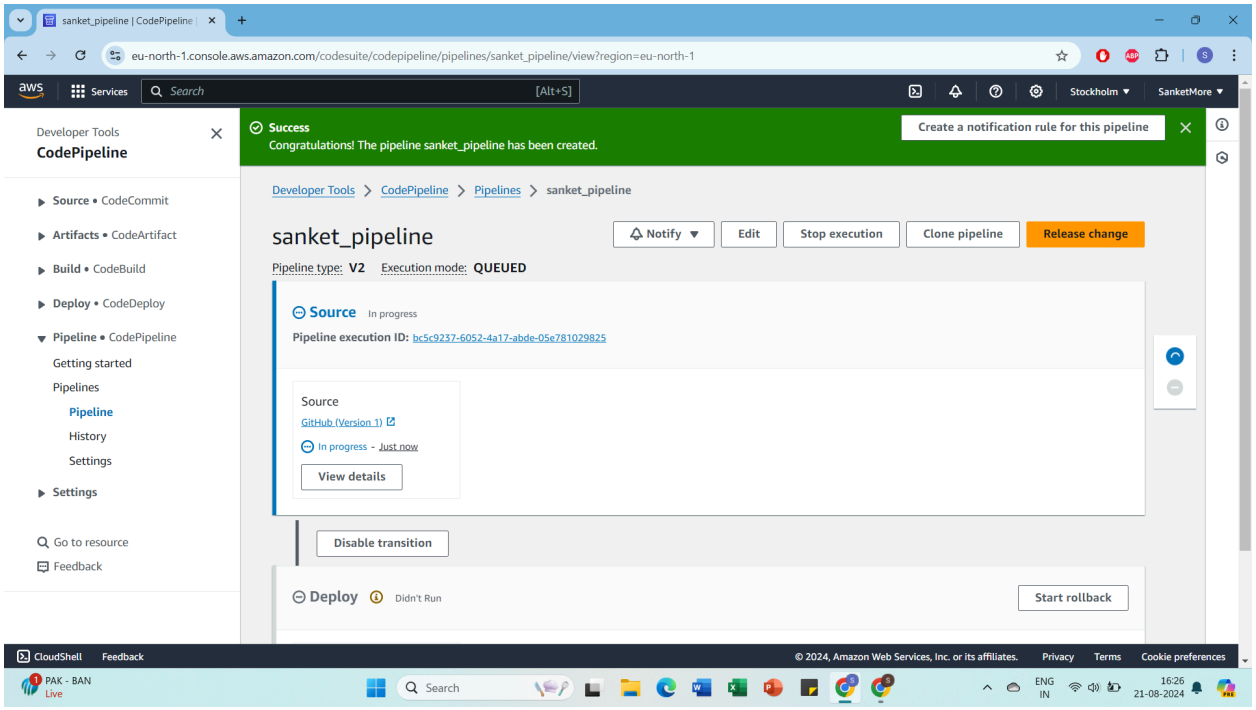
Privacy
Terms
Cookie preferences
32°C
Mostly cloudy
Search
ENG
IN
16:25
21-08-2024


sanket_pipeline | CodePipeline
eu-north-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/sanket_pipeline/view?region=eu-north-1
aws
Services
Search
[Alt+S]
Stockholm
SanketMore
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Success
Congratulations! The pipeline sanket_pipeline has been created.
Create a notification rule for this pipeline
Developer Tools > CodePipeline > Pipelines > sanket_pipeline
sanket_pipeline
Notify
Edit
Stop execution
Clone pipeline
Release change
Pipeline type: V2
Execution mode: QUEUED
Source
In progress
Pipeline execution ID: bc5c9237-6052-4a17-abde-05e781029825
Source
GitHub (Version 1)
In progress - Just now
View details
Disable transition
Deploy
Didn't Run
Start rollback
CloudShell
Feedback
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Terms
Cookie preferences
PAK - BAN
Live
Search
ENG
IN
16:26
21-08-2024

Restaurant Reservation Portal

Home Menu Reservation Contact Us

Special Offers

- Happy Hour
- Weekend Special

Home

Welcome to Italian Food, where the essence of Italy comes alive in every dish. Nestled in the heart of Thane, our restaurant offers a delightful escape to the enchanting landscapes and rich culinary traditions of Italy. From our handmade pasta to our wood-fired pizzas, each meal is crafted with passion, using the freshest ingredients and time-honored recipes passed down through generations. Whether you're enjoying a romantic dinner, a family gathering, or a special celebration, La Dolce Vita promises an unforgettable dining experience filled with warmth, flavor, and Italian hospitality. Buon Appetito!

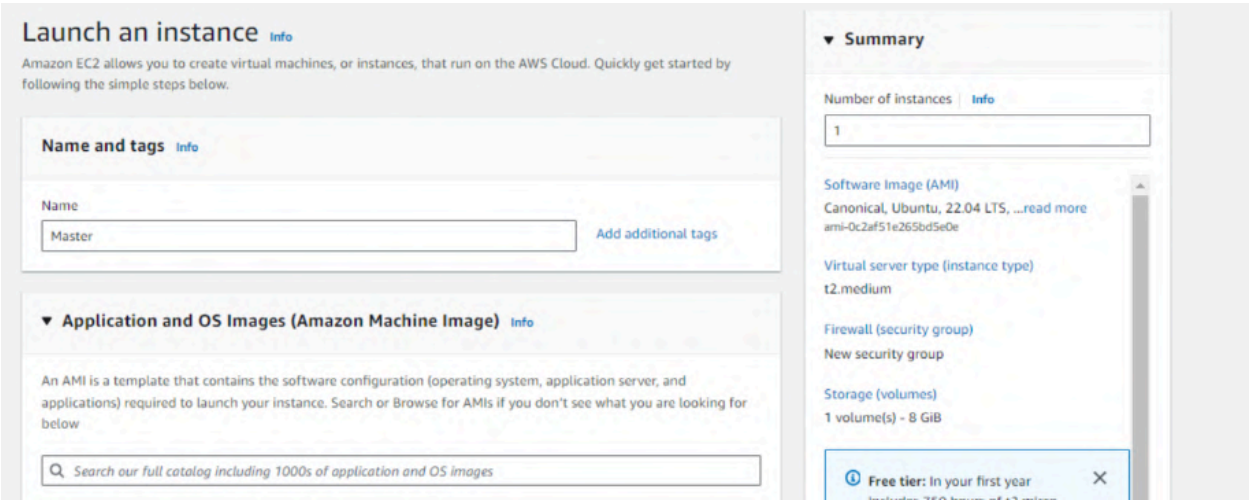
Advanced DevOps Experiment - 3

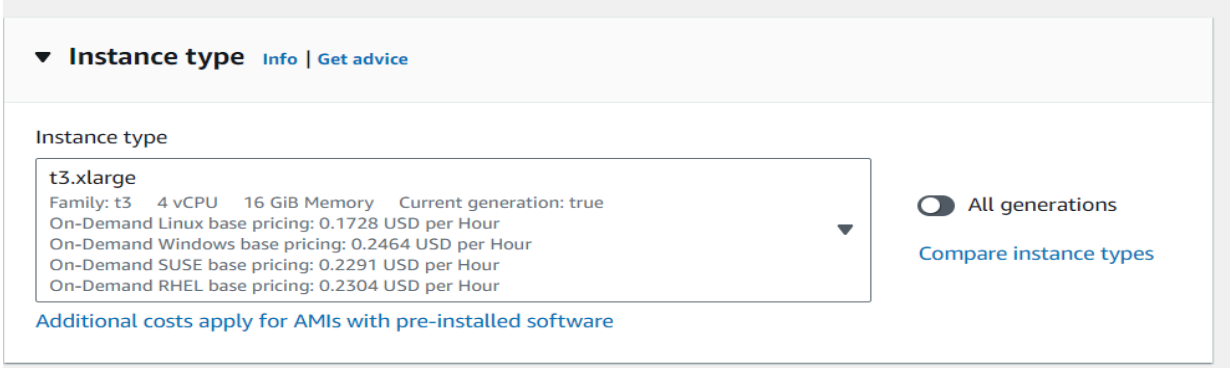
Sanket More
D15A 30

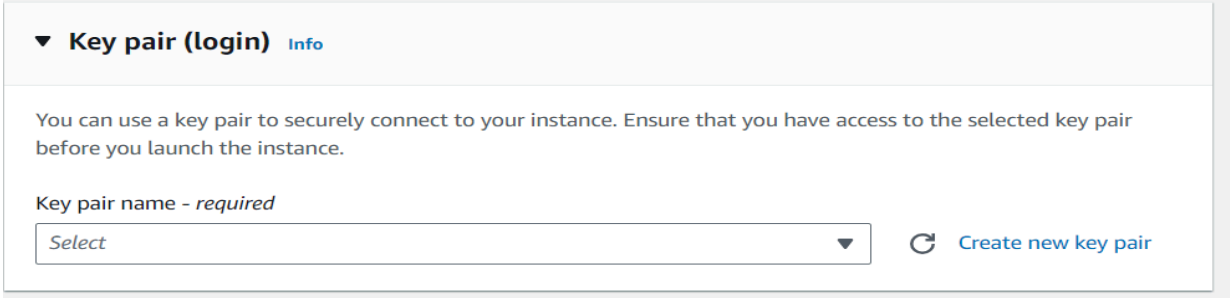
Aim : To understand the Kubernetes Cluster Architecture, install and Spin Up a Kubernetes Cluster on Linux Machines/Cloud Platforms.

Implementation:-

Creating Instance using Amazon Linux







Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

two-tier-app-k8s

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

- (•) RSA — RSA encrypted private and public key pair
- ( ) ED25519 — ED25519 encrypted private and public key pair

Private key file format

- (•) .pem — For use with OpenSSH
- ( ) .ppk — For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on

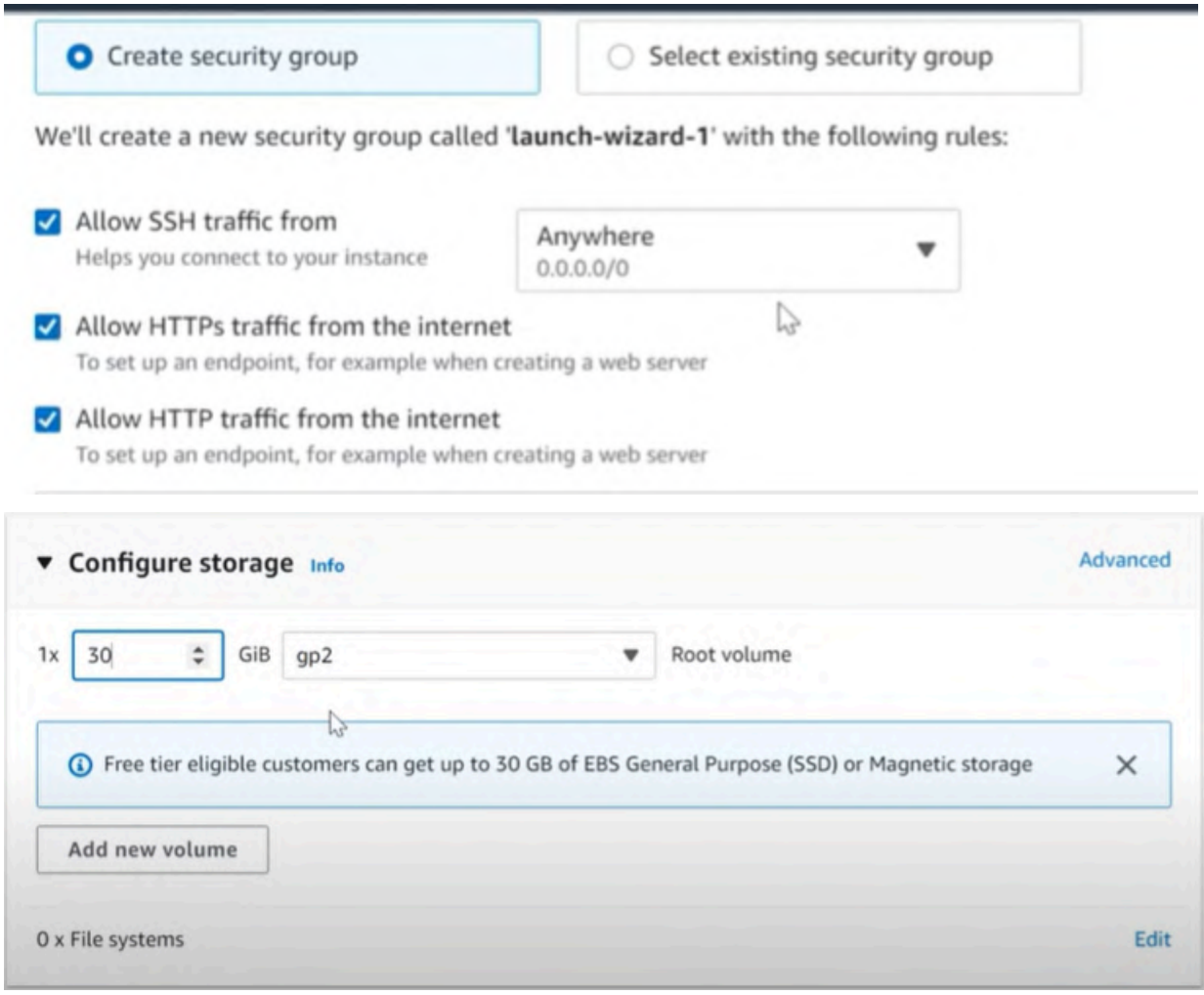
Cancel | Create key pair

Instances (4) Info

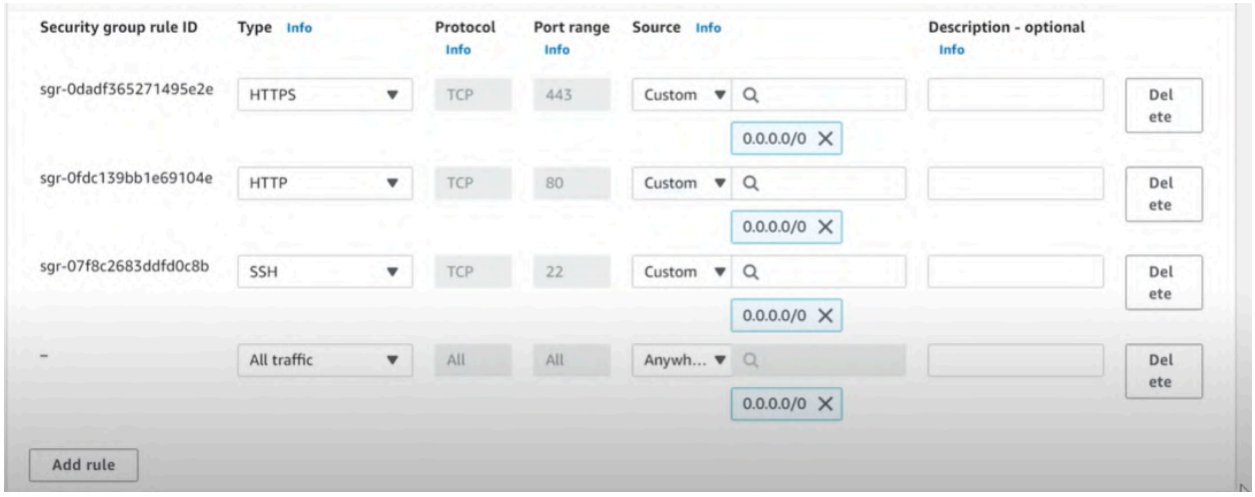
Last updated less than a minute ago | Connect | Instance state | Actions | Launch instances

Find Instance by attribute or tag (case-sensitive) | All states | 1

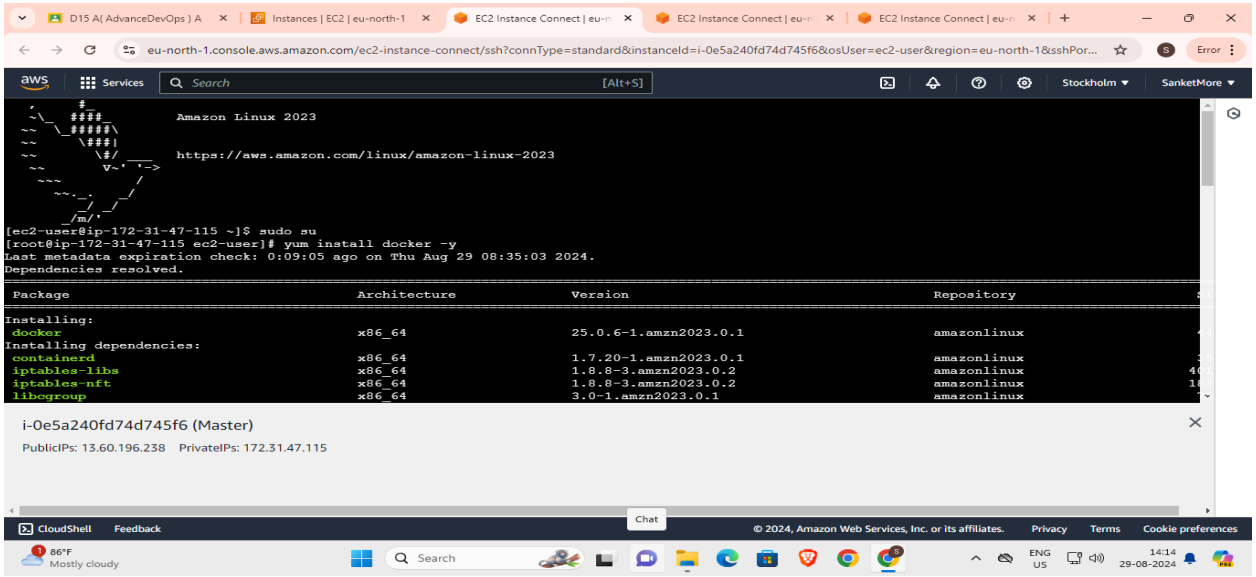
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
30SAN-env	i-06dae01fd646e93ba	Running	t3.micro	3/3 checks passed	View alarms	eu-north-1a	ec2-13-49-
Master	i-05e71d31a2d0b9a11	Stopped	t3.xlarge	-	View alarms	eu-north-1a	-
node1	i-0065bd5c032d2fda0	Stopped	t3.xlarge	-	View alarms	eu-north-1b	-
node2	i-095cb5930eba6bee4	Stopped	t3.xlarge	-	View alarms	eu-north-1b	-

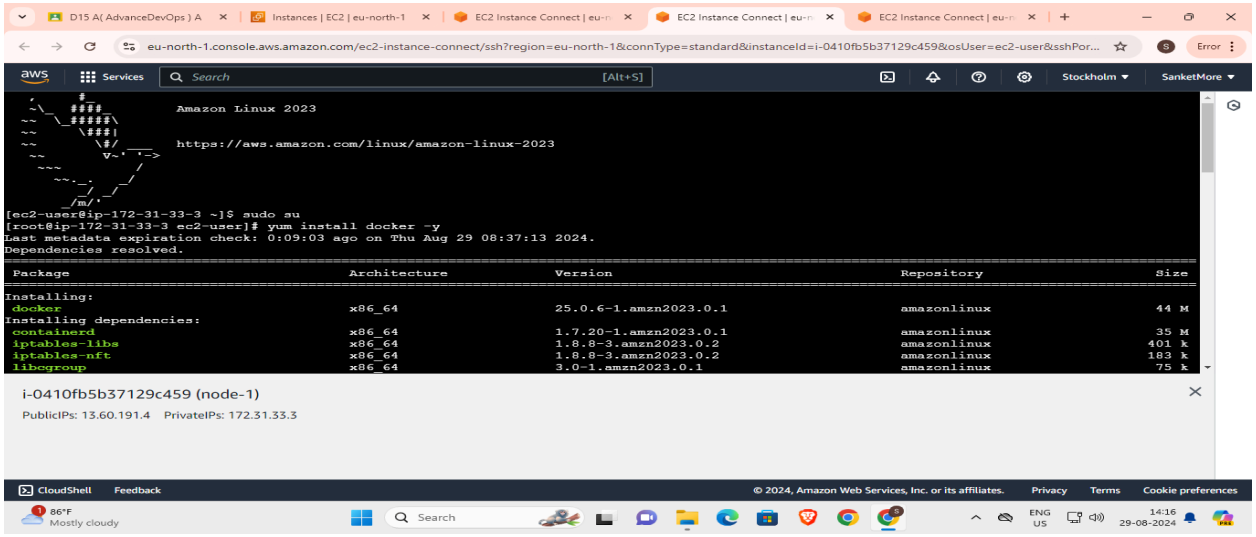


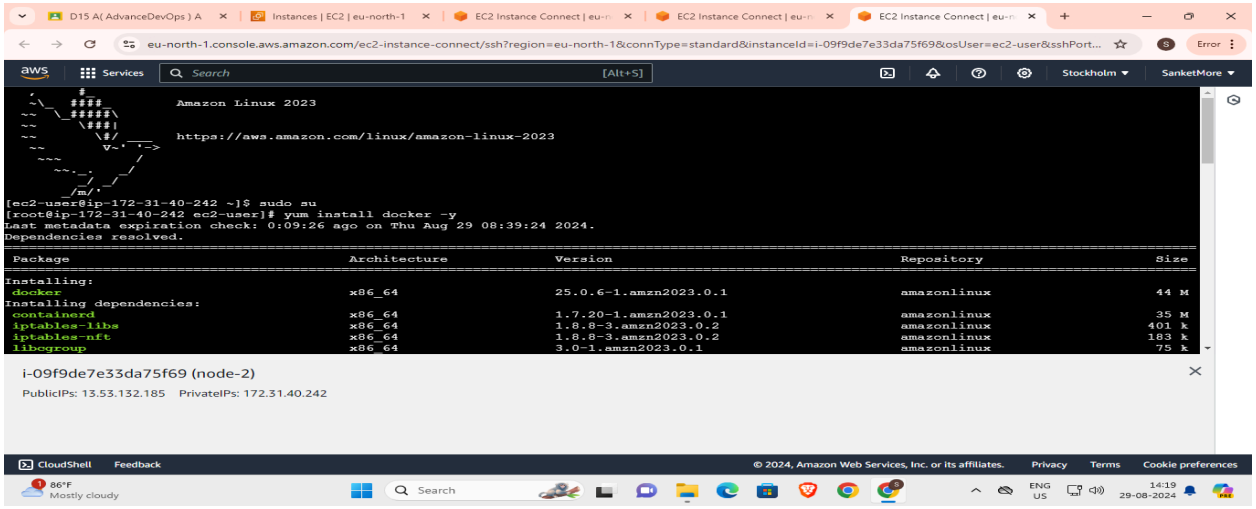
Add rules of 'All traffic' to your instances



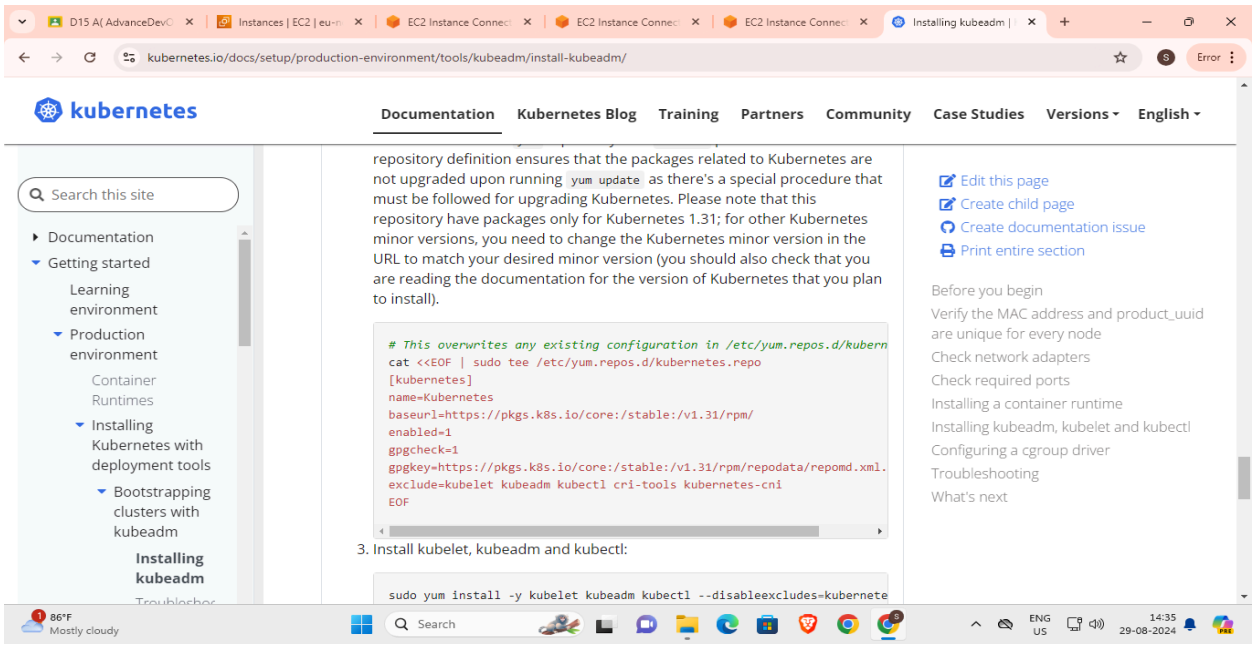
Installing Docker:-







Installing Kubernetes:-




```
[root@ip-172-31-47-115 ec2-user]# cat <<EOF | sudo tee /etc/yum.repos.d/kubernetes.repo
[kubernetes]
name=Kubernetes
baseurl=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/
enabled=1
gpgcheck=1
gpgkey=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/repodata/repomd.xml.key
exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni
EOF
[kubernetes]
name=Kubernetes
baseurl=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/
enabled=1
gpgcheck=1
gpgkey=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/repodata/repomd.xml.key
exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni
[root@ip-172-31-47-115 ec2-user]# sudo yum install -y kubelet kubeadm kubectl --disableexcludes=kubernetes
Kubernetes                                                                    16 kB/s | 6.5 kB     00:00
Dependencies resolved.
```

```
Complete!
[root@ip-172-31-47-115 ec2-user]# sudo systemctl enable --now kubelet
Created symlink /etc/systemd/system/multi-user.target.wants/kubelet.service → /usr/lib/systemd/system/kubelet.service.
[root@ip-172-31-47-115 ec2-user]#
```

i-0e5a240fd74d745f6 (Master)

PublicIPs: 13.60.196.238 PrivateIPs: 172.31.47.115

```
Installed:
  conntrack-tools-1.4.6-2.amzn2023.0.2.x86_64                  cri-tools-1.31.1-150500.1.1.x86_64
  kubeadm-1.31.0-150500.1.1.x86_64                             kubectl-1.31.0-150500.1.1.x86_64
  kubelet-1.31.0-150500.1.1.x86_64                             kubernetes-cni-1.5.0-150500.2.1.x86_64
  libnetfilter_cthelper-1.0.0-21.amzn2023.0.2.x86_64           libnetfilter_cttimeout-1.0.0-19.amzn2023.0.2.x86_64
  libnetfilter_queue-1.0.5-2.amzn2023.0.2.x86_64               socat-1.7.4.2-1.amzn2023.0.2.x86_64

Complete!
[root@ip-172-31-33-3 ec2-user]# sudo systemctl enable --now kubelet
Created symlink /etc/systemd/system/multi-user.target.wants/kubelet.service → /usr/lib/systemd/system/kubelet.service.
[root@ip-172-31-33-3 ec2-user]#
```

i-0410fb5b37129c459 (node-1)

PublicIPs: 13.60.191.4 PrivateIPs: 172.31.33.3

```
Installed:
  conntrack-tools-1.4.6-2.amzn2023.0.2.x86_64                  cri-tools-1.31.1-150500.1.1.x86_64
  kubeadm-1.31.0-150500.1.1.x86_64                             kubectl-1.31.0-150500.1.1.x86_64
  kubelet-1.31.0-150500.1.1.x86_64                             kubernetes-cni-1.5.0-150500.2.1.x86_64
  libnetfilter_cthelper-1.0.0-21.amzn2023.0.2.x86_64           libnetfilter_cttimeout-1.0.0-19.amzn2023.0.2.x86_64
  libnetfilter_queue-1.0.5-2.amzn2023.0.2.x86_64               socat-1.7.4.2-1.amzn2023.0.2.x86_64

Complete!
[root@ip-172-31-40-242 ec2-user]# sudo systemctl enable --now kubelet
Created symlink /etc/systemd/system/multi-user.target.wants/kubelet.service → /usr/lib/systemd/system/kubelet.service.
[root@ip-172-31-40-242 ec2-user]#
```

i-09f9de7e33da75f69 (node-2)

PublicIPs: 13.53.132.185 PrivateIPs: 172.31.40.242

Initializing Kubeadm:-

```
[root@ip-172-31-37-74 ec2-user]# kubeadm init
[init] Using Kubernetes version: v1.31.0
[preflight] Running pre-flight checks
        [WARNING FileExisting-tc]: tc not found in system path
[preflight] Pulling images required for setting up a Kubernetes cluster
[preflight] This might take a minute or two, depending on the speed of your internet connection
[preflight] You can also perform this action beforehand using 'kubeadm config images pull'
W0911 06:06:02.983804    2545 checks.go:846] detected that the sandbox image "registry.k8s.io/pause:3.8" of t
y kubeadm.It is recommended to use "registry.k8s.io/pause:3.10" as the CRI sandbox image.
[certs] Using certificateDir folder "/etc/kubernetes/pki"
[certs] Generating "ca" certificate and key
[certs] Generating "apiserver" certificate and key
```

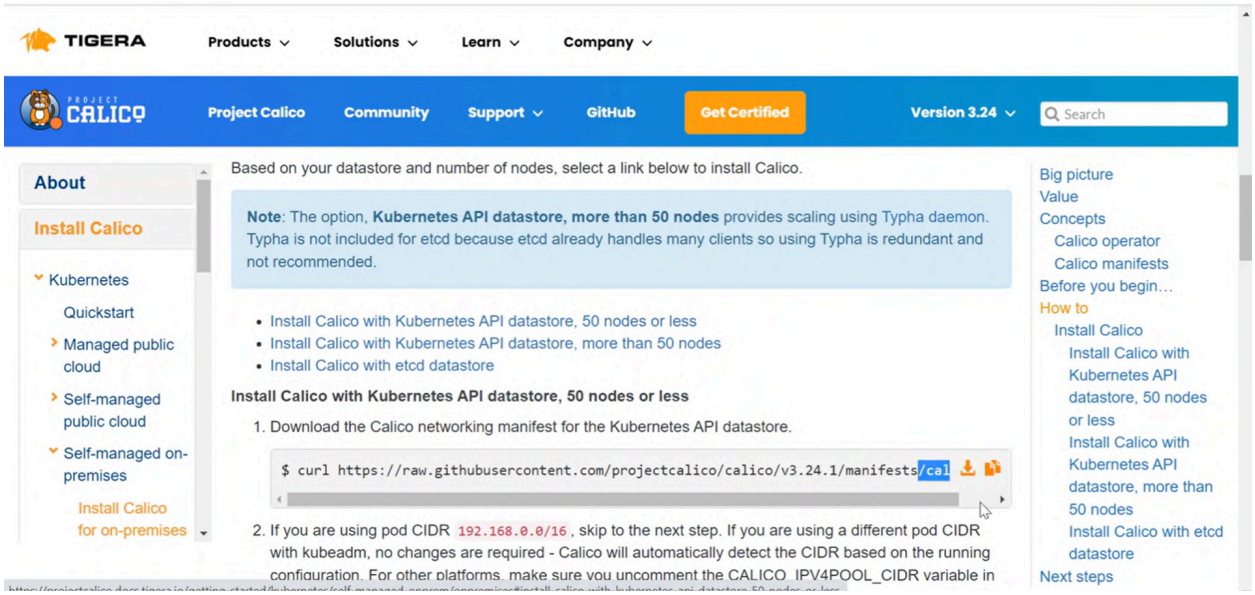
```
Your Kubernetes control-plane has initialized successfully!

To start using your cluster, you need to run the following as a regular user:

  mkdir -p $HOME/.kube
  sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
  sudo chown $(id -u):$(id -g) $HOME/.kube/config

Alternatively, if you are the root user, you can run:

  export KUBECONFIG=/etc/kubernetes/admin.conf

You should now deploy a pod network to the cluster.
Run "kubectl apply -f [podnetwork].yaml" with one of the options listed at:
  https://kubernetes.io/docs/concepts/cluster-administration/addons/

Then you can join any number of worker nodes by running the following on each as root:

kubeadm join 172.31.25.144:6443 --token kw6rp8.mi1vmqzveqzzeifs \
        --discovery-token-ca-cert-hash sha256:e2285a0bb9324e4ebd564331961c506c7c8172e4639c81d5d89c86a47f0ad842
[root@ip-172-31-25-144 ec2-user]#
```

```
[root@master ~]#  mkdir -p $HOME/.kube
[root@master ~]#  sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
[root@master ~]# sudo chown $(id -u):$(id -g) $HOME/.kube/config
[root@master ~]# export KUBECONFIG=/etc/kubernetes/admin.conf
```

Creating the kubernetes nodes by copying the link in the workers:-

```
[root@worker ~]# systemctl enable docker
[root@worker ~]# systemctl enable kubelet
Created symlink from /etc/systemd/system/multi-user.target.wants/kubelet.service to /usr/lib/systemd/system/kubelet.service.
[root@worker ~]# systemctl restart docker kubelet
[root@worker ~]# kubeadm join 172.31.46.167:6443 --token d47j51.2ejotl12hbxm5tys \
>         --discovery-token-ca-cert-hash sha256:a5511cfbd8b2b8bd69f15e7ad4247c34e1e2218b448a3a36509c0bb15b6f8d43
```

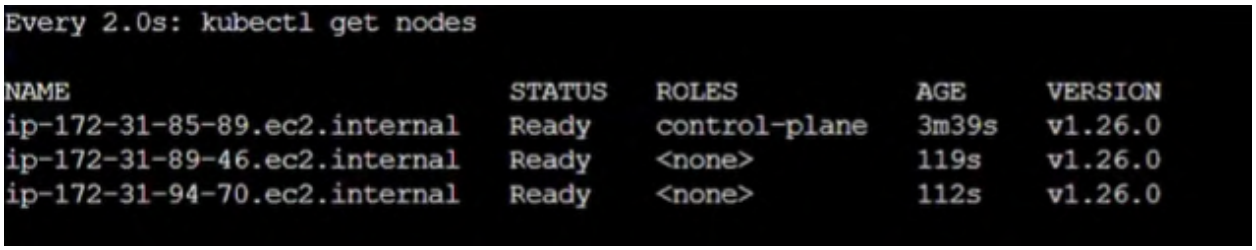
Installing the Calico file:-




```
[root@master ~]# curl https://raw.githubusercontent.com/projectcalico/calico/v3.24.1/manifests/calico.yaml -O
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  229k  100  229k    0     0   175k      0  0:00:01  0:00:01 --:--:--  176k
[root@master ~]#
[root@master ~]# kubectl apply -f calico.yaml
poddisruptionbudget.policy/calico-kube-controllers created
serviceaccount/calico-kube-controllers created
serviceaccount/calico-node created
configmap/calico-config created
customresourcedefinition.apiextensions.k8s.io/bgpconfigurations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/bgppeers.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/blockaffinities.crd.projectcalico.org created
```

```
Every 2.0s: kubectl get pods -A

NAMESPACE     NAME                                       READY   STATUS              RESTARTS   AGE
kube-system   calico-kube-controllers-58dbc876ff-nnprd   0/1     ContainerCreating   0          29s
kube-system   calico-node-bs95w                          0/1     Init:2/3            0          29s
kube-system   calico-node-hplqt                          0/1     Init:2/3            0          29s
kube-system   coredns-565d847f94-prsps                   0/1     ContainerCreating   0          6m7s
kube-system   coredns-565d847f94-qrg48                   0/1     ContainerCreating   0          6m6s
kube-system   etcd-master                                1/1     Running             0          6m14s
kube-system   kube-apiserver-master                      1/1     Running             0          6m12s
kube-system   kube-controller-manager-master             1/1     Running             0          6m11s
kube-system   kube-proxy-v2kxq                           1/1     Running             0          2m31s
kube-system   kube-proxy-w8nn7                           1/1     Running             0          6m7s
kube-system   kube-scheduler-master                      1/1     Running             0          6m13s
```

Nodes Created:



ADVANCE DEVOPS EXP 4

Sanket More
D15A 30

Aim: To install Kubectl and execute Kubectl commands to manage the Kubernetes cluster and deploy Your First Kubernetes Application.

Step 1: Install Kubectl on Ubuntu

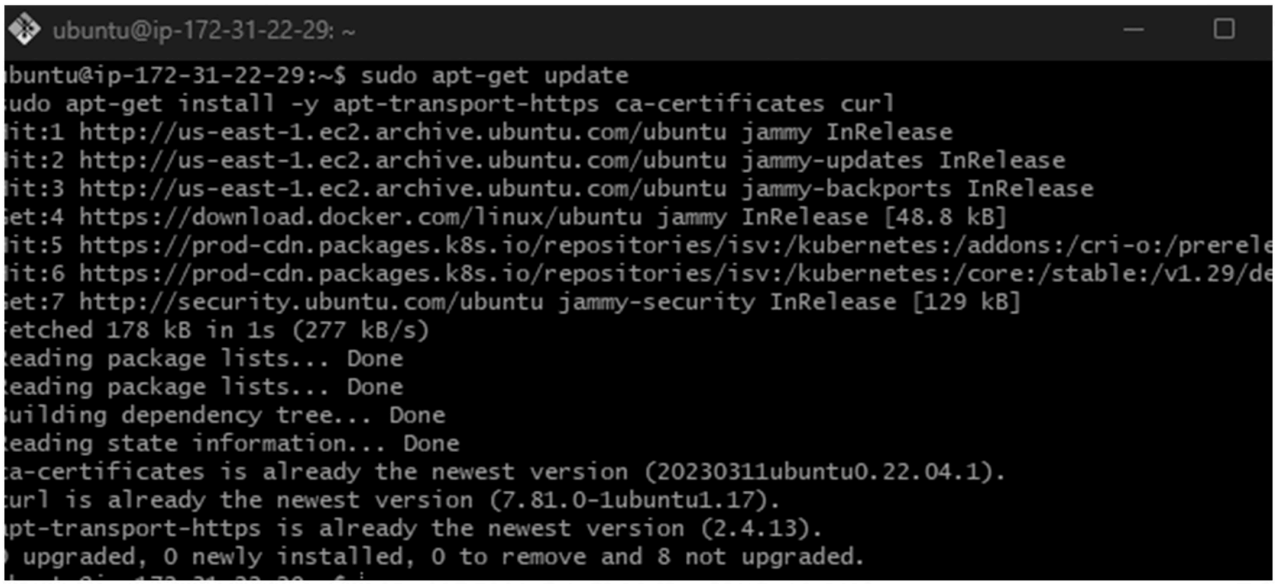
1.1 Add Kubernetes APT repository

First, add the Kubernetes repository to your system.

1. **Install prerequisites:**

   sudo apt-get update

   sudo apt-get install -y apt-transport-https ca-certificates curl



2. **Add the GPG key for Kubernetes:**

sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg https://packages.cloud.google.com/apt/doc/apt-key.gpg

3. **Add the Kubernetes repository:**

echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/ kubernetes-focal main" | sudo tee /etc/apt/sources.list.d/kubernetes.list

```
ubuntu@ip-172-31-22-29:~$  echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring
.gpg]  https://apt.kubernetes.io/ kubernetes-focal main" | sudo tee /etc/apt/sources.list.d/ku
bernetes.list
deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg]  https://apt.kubernetes.io/
 kubernetes-focal main
```

1.2 **Install**

kubectl Now install

kubectl: sudo

apt-get update

sudo apt-get install -y kubectl

```
ubuntu@ip-172-31-22-29:~$ sudo apt-get update
sudo apt-get install -y kubectl
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://download.docker.com/linux/ubuntu jammy InRelease
Hit:6 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/addons:/cri-o:/prerelease:/main/deb  InRelease
Ign:7 https://packages.cloud.google.com/apt kubernetes-focal InRelease
Err:8 https://packages.cloud.google.com/apt kubernetes-focal Release
  404  Not Found [IP: 172.253.62.138 443]
Reading package lists... Done
E: The repository 'https://apt.kubernetes.io kubernetes-focal Release' does not have a Release file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
kubectl is already the newest version (1.29.0-1.1).
0 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
```

Verify the installation(extra):

kubectl version --client

```
ubuntu@ip-172-31-22-29:~$ kubectl version --client
Client Version: v1.29.0
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
```

Step 2: Deploying Your Application on Kubernetes

2.1 Set up Kubernetes Cluster

1. If you haven't already set up a Kubernetes cluster (e.g., with kubeadm), use minikube or any managed Kubernetes service (like EKS, GKE, etc.) to get a cluster running.
2. Once your cluster is ready, verify the

   nodes: kubectl get nodes

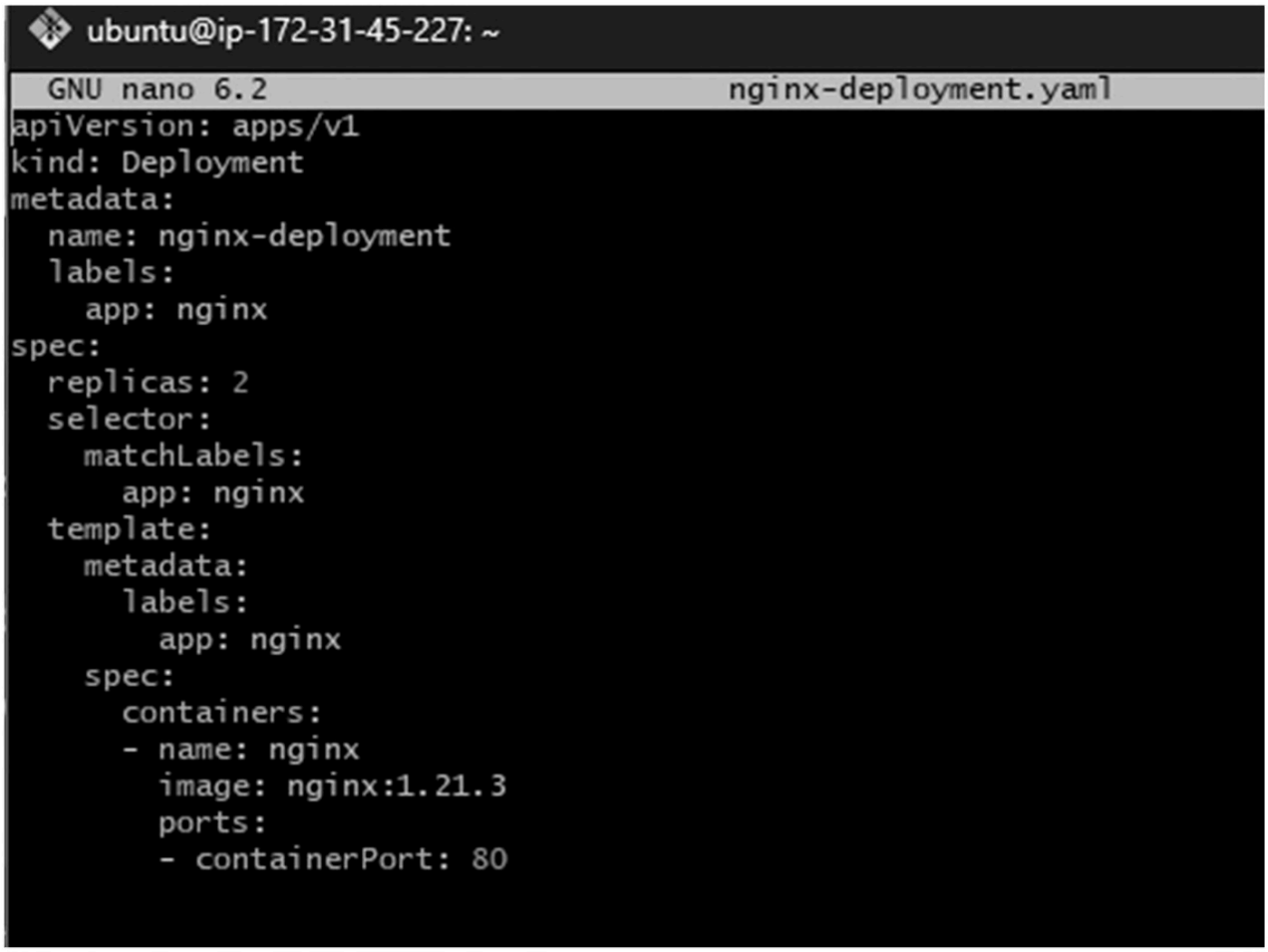
```
ubuntu@ip-172-31-45-227:~$ kubectl get nodes
NAME               STATUS   ROLES           AGE     VERSION
ip-172-31-43-211   Ready    <none>          50s     v1.29.0
ip-172-31-45-13    Ready    <none>          34s     v1.29.0
ip-172-31-45-227   Ready    control-plane   5m17s   v1.29.0
ubuntu@ip-172-31-45-227:~$
```

Step 3:**Create the Deployment YAML file**

a) Create the YAML file: Use a text editor to create a file named nginx-deployment.yaml

```
ubuntu@ip-172-31-45-227:~$ nano nginx-deployment.yaml
```

b) Add the Deployment Configuration: Copy and paste the following YAML content into the file. Save and exit the editor (Press Ctrl+X, then Y, and Enter).

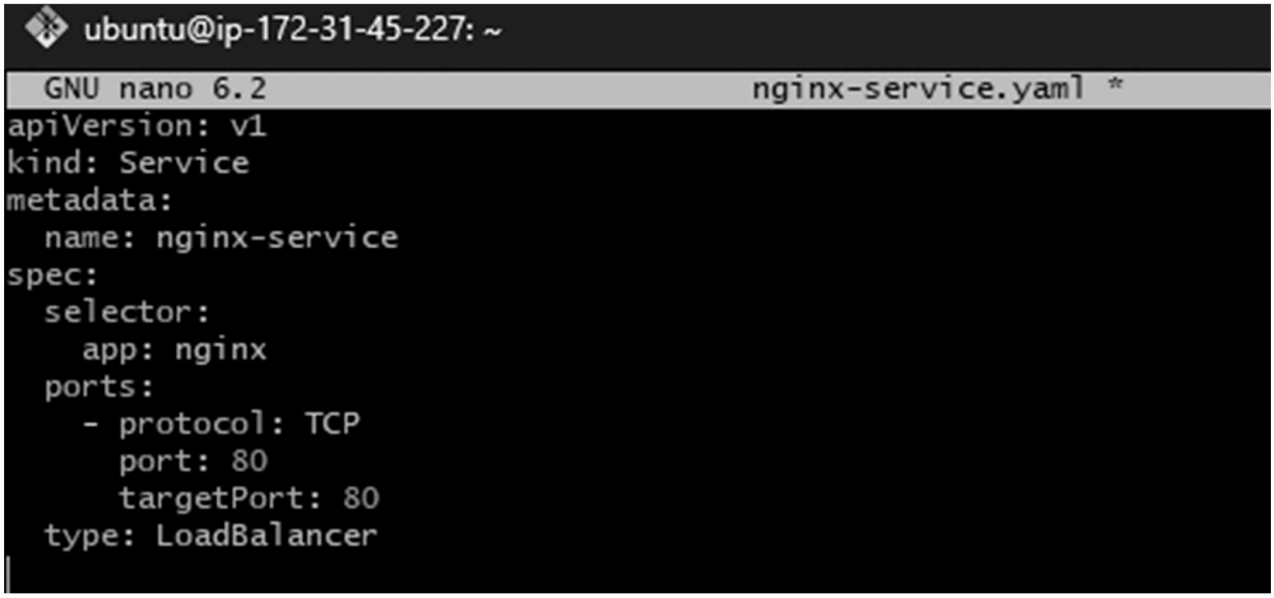


Step 4:Create the Service YAML File

a) Create the YAML File: Create another file named nginx-service.yaml

```
ubuntu@ip-172-31-45-227:~$ nano nginx-service.yaml
```

b) Add the Service Configuration: Copy and paste the following YAML content into the
file given below



Step 5:Apply the YAML Files

a) Deploy the Application: Use kubectl to create the Deployment and Service from the YAML files.

```
ubuntu@ip-172-31-45-227:~$ kubectl apply -f nginx-deployment.yaml
kubectl apply -f nginx-service.yaml
deployment.apps/nginx-deployment created
service/nginx-service created
```

b) Verify the Deployment: Check the status of your Deployment,Pods and Services.

```
ubuntu@ip-172-31-45-227:~$ kubectl get deployments
kubectl get pods
kubectl get services
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   2/2     2            2           40s
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deployment-6b4d6fdbf-6k84m    1/1     Running   0          40s
nginx-deployment-6b4d6fdbf-9d8j6    1/1     Running   0          40s
NAME            TYPE           CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes      ClusterIP      10.96.0.1        <none>        443/TCP        40m
nginx-service   LoadBalancer   10.106.182.152   <pending>     80:32317/TCP   40s
```

Describe the deployment(Extra)

```
ubuntu@ip-172-31-45-227:~$ kubectl get deployments
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   1/1     1            1           14h
ubuntu@ip-172-31-45-227:~$ kubectl describe deployment
Name:                   nginx-deployment
Namespace:              default
CreationTimestamp:      Wed, 11 Sep 2024 17:16:17 +0000
Labels:                 <none>
Annotations:            deployment.kubernetes.io/revision: 2
Selector:               app=nginx
Replicas:               1 desired | 1 updated | 1 total | 1 available | 0 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=nginx
  Containers:
   nginx:
    Image:        nginx:latest
    Port:         80/TCP
    Host Port:    0/TCP
    Environment:  <none>
    Mounts:
      /usr/share/nginx/html from website-volume (rw)
  Volumes:
   website-volume:
    Type:      ConfigMap (a volume populated by a ConfigMap)
    Name:      nginx-website
    Optional:  false
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets:  nginx-deployment-6b4d6fdbf (0/0 replicas created)
NewReplicaSet:   nginx-deployment-776b8fd845 (1/1 replicas created)
Events:          <none>
```

Step 6:Ensure Service is Running

6.1 **Verify Service**: Run the following command to check the services running in your cluster:

kubectl get service

```
ubuntu@ip-172-31-45-227:~$ kubectl get service
NAME            TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes      ClusterIP   10.96.0.1        <none>        443/TCP        16h
nginx           NodePort    10.106.0.176     <none>        80:32618/TCP   76m
nginx-service   NodePort    10.106.182.152   <none>        80:30007/TCP   15h
nginx2          NodePort    10.99.32.156     <none>        80:31421/TCP   8s
```

Step 7:Forward the Service Port to Your Local Machine

kubectl port-forward allows you to forward a port from your local machine to a port on a service running in the Kubernetes cluster.

1. **Forward the Service Port**: Use the following command to forward a local port to the service's target port.

   kubectl port-forward service/<service-name> <local-port>:<service-port>

```
ubuntu@ip-172-31-45-227:~$ kubectl port-forward service/nginx-service 8080:80
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
```

This command will forward local port 8080 on your machine to port 80 of the service nginx-service running inside the cluster.

2. This means port forwarding is now active, and any traffic to localhost:8080 will be routed to the nginx-service on port 80.

```
ubuntu@ip-172-31-45-227:~$ kubectl port-forward service/nginx-service 8080:80
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
^Cubuntu@ip-172-31-45-227:~kubectl port-forward service/nginx-service 8081:8080
Forwarding from 127.0.0.1:8081 -> 80
Forwarding from [::1]:8081 -> 80
^Cubuntu@ip-172-31-45-227:~$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deployment-776b8fd845-k9cx4   1/1     Running   0          113m
ubuntu@ip-172-31-45-227:~$ kubectl logs nginx-deployment-776b8fd845-k9cx4
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2024/09/12 06:35:51 [notice] 1#1: using the "epoll" event method
2024/09/12 06:35:51 [notice] 1#1: nginx/1.27.1
2024/09/12 06:35:51 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2024/09/12 06:35:51 [notice] 1#1: OS: Linux 6.5.0-1022-aws
2024/09/12 06:35:51 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2024/09/12 06:35:51 [notice] 1#1: start worker processes
2024/09/12 06:35:51 [notice] 1#1: start worker process 24
2024/09/12 06:35:51 [notice] 1#1: start worker process 25
```

Step 8: Access the Application Locally

1. **Open a Web Browser**: Now open your web browser and go to the following URL:

   http://localhost:8080

You should see the application (in this case, Nginx) that you have deployed running in the Kubernetes cluster, served locally via port 8080.

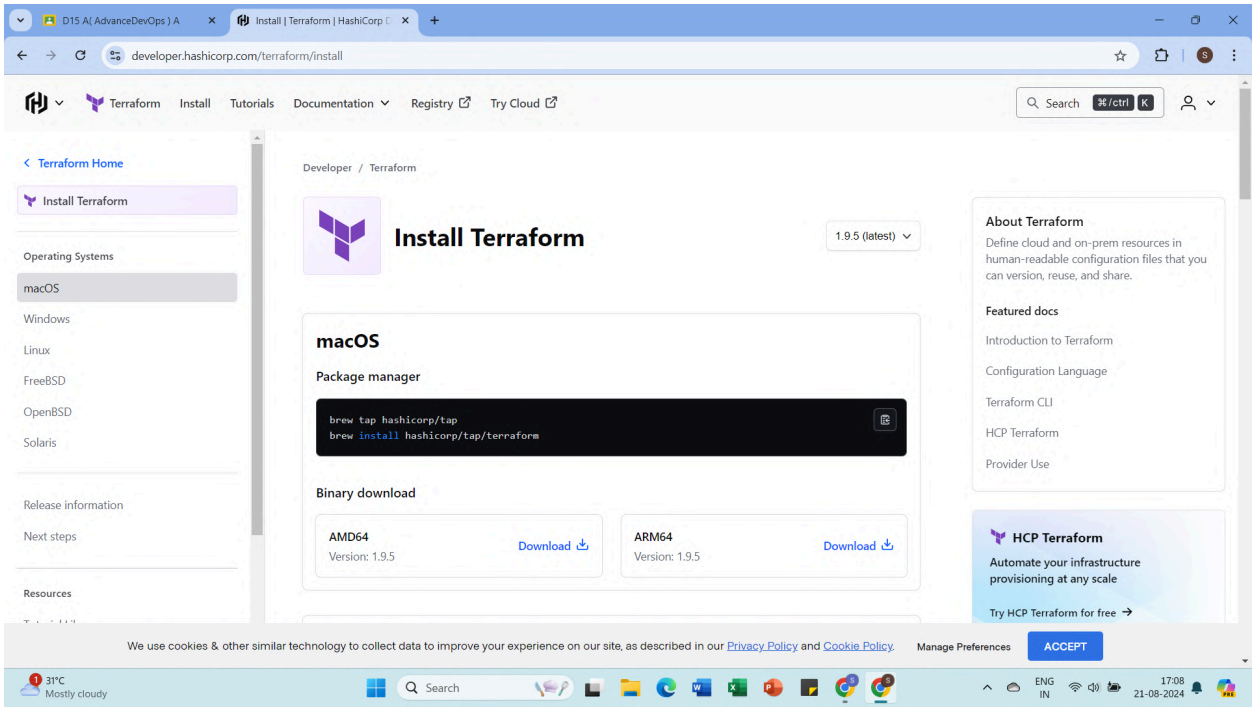
In case the port 8080 is unavailable, try using a different port like 8081

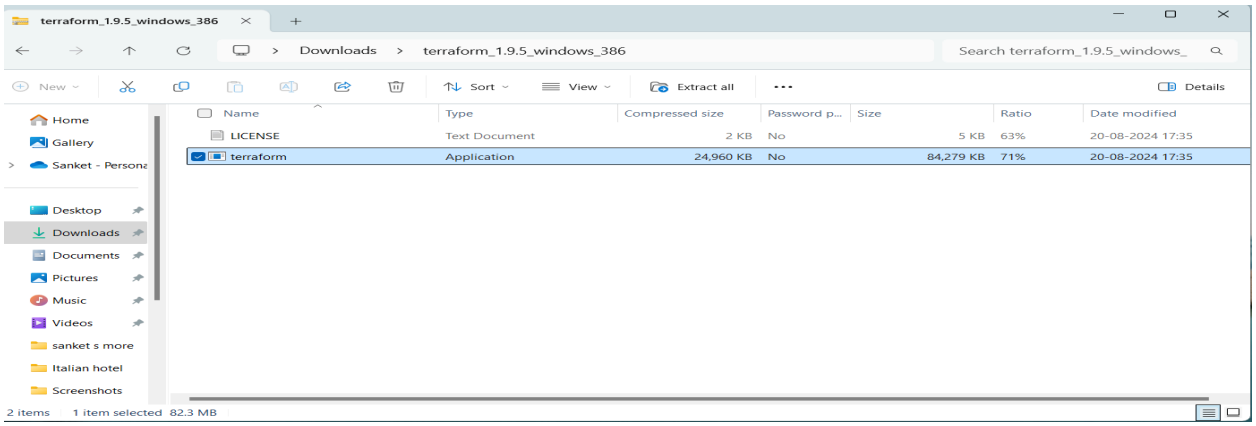
Advanced DevOps Experiment-5

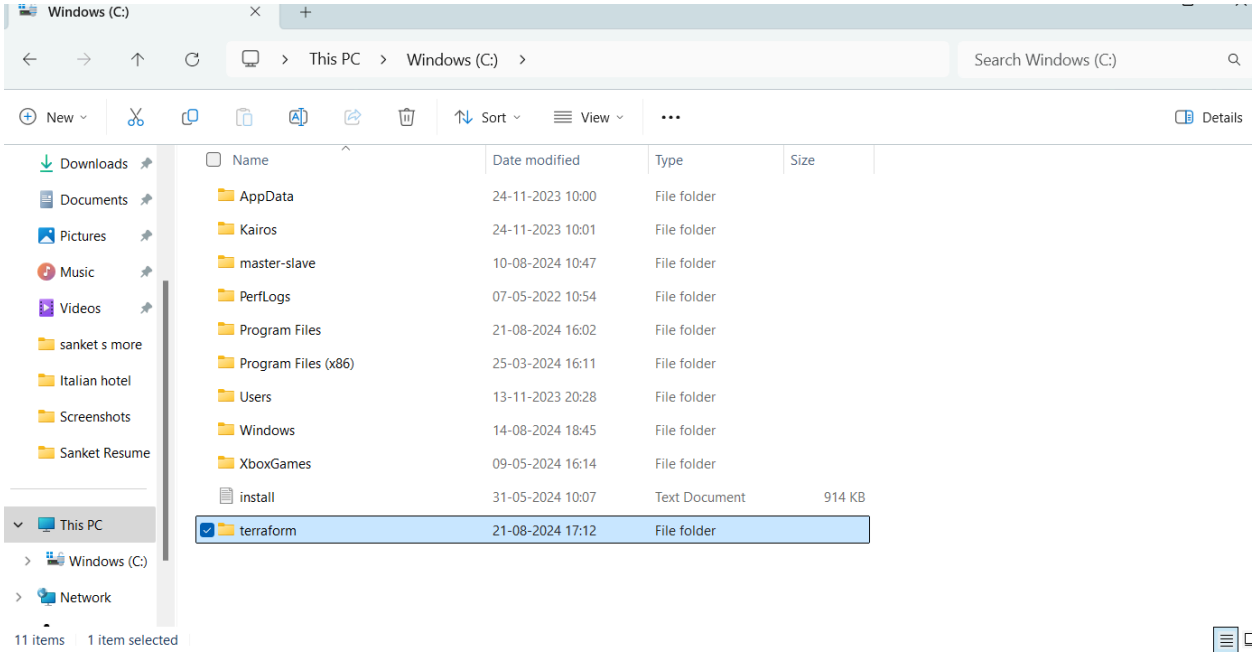
Sanket More
D15A 30

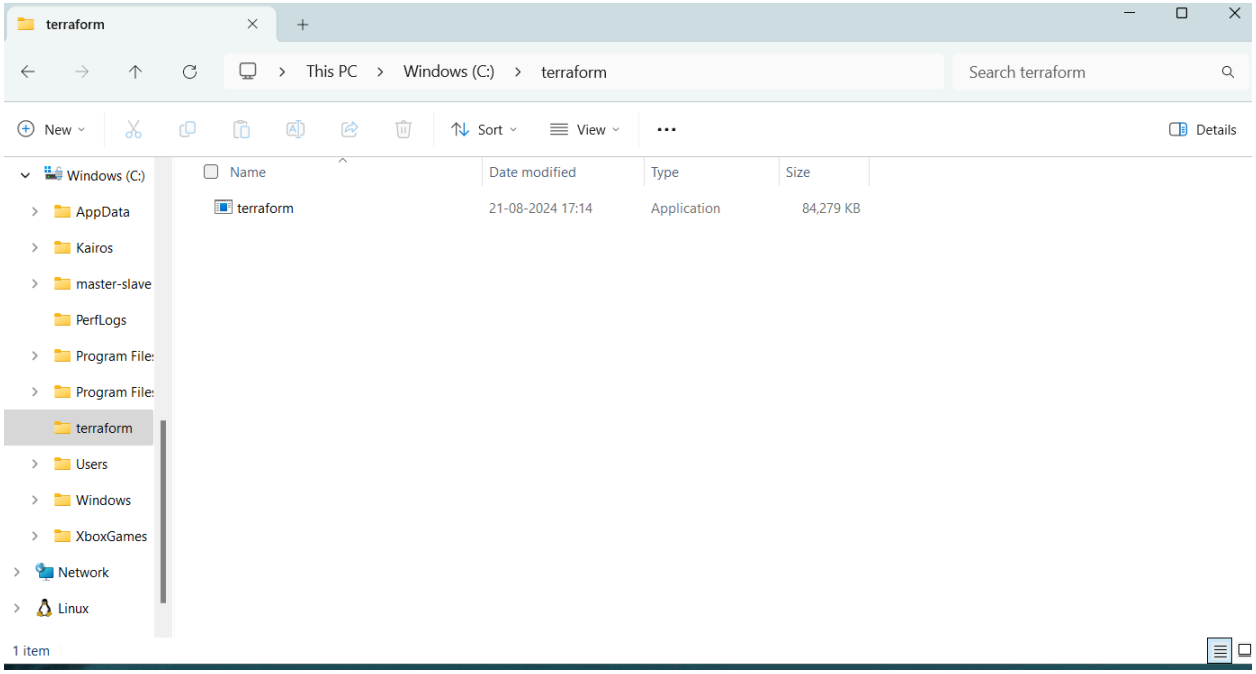
Aim: To understand terraform lifecycle, core concepts/terminologies and install it on a Linux Machine and Windows.

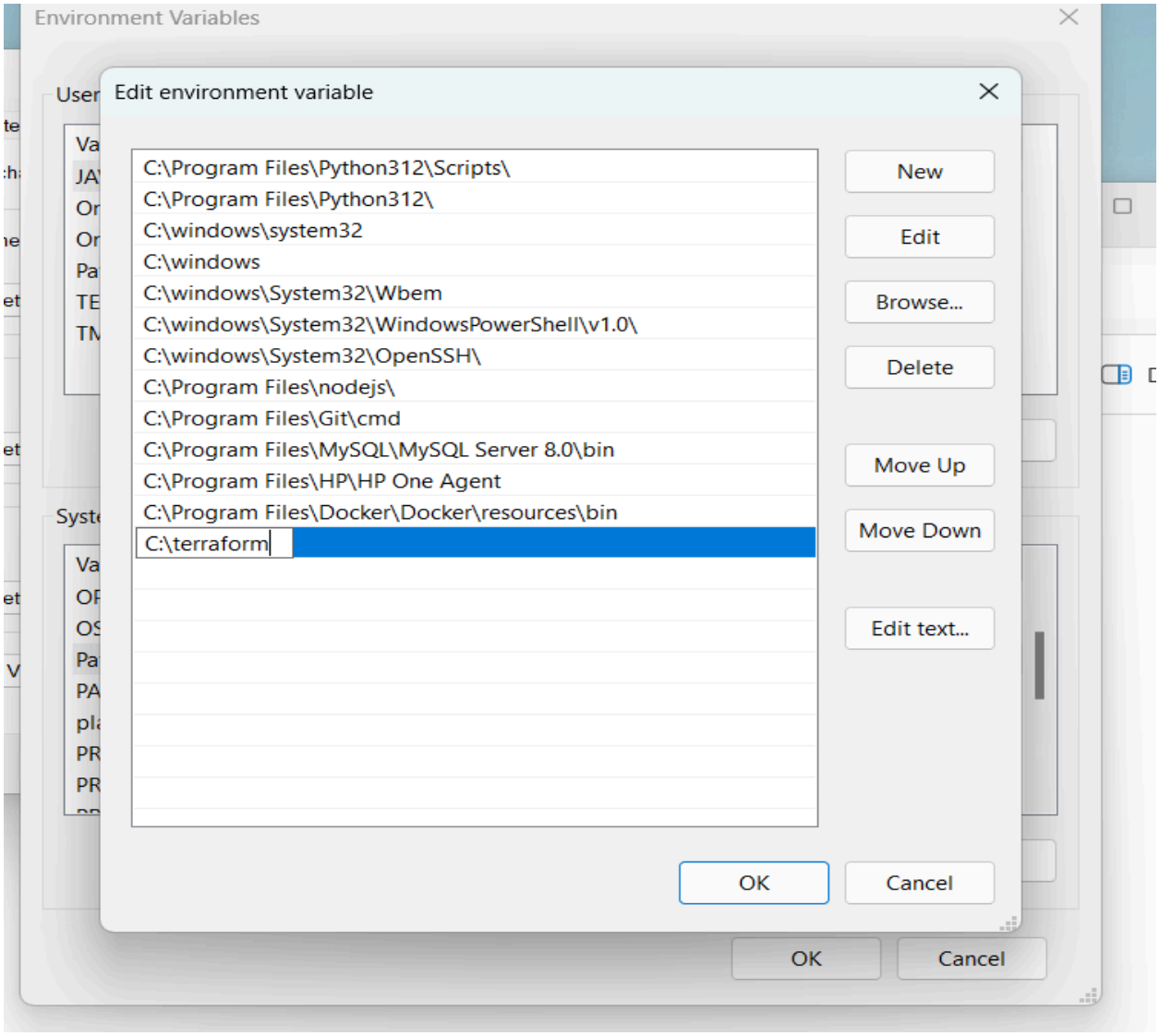
Implementation:-






Windows (C:)
This PC
Windows (C:)
Search Windows (C:)
New
Sort
View
Details
Downloads
Documents
Pictures
Music
Videos
sanket s more
Italian hotel
Screenshots
Sanket Resume
This PC
Windows (C:)
Network
Name
Date modified
Type
Size
AppData 24-11-2023 10:00 File folder
Kairos 24-11-2023 10:01 File folder
master-slave 10-08-2024 10:47 File folder
PerfLogs 07-05-2022 10:54 File folder
Program Files 21-08-2024 16:02 File folder
Program Files (x86) 25-03-2024 16:11 File folder
Users 13-11-2023 20:28 File folder
Windows 14-08-2024 18:45 File folder
XboxGames 09-05-2024 16:14 File folder
install 31-05-2024 10:07 Text Document 914 KB
terraform 21-08-2024 17:12 File folder
11 items
1 item selected


terraform
This PC
Windows (C:)
terraform
Search terraform
New
Sort
View
Details
Windows (C:)
AppData
Kairos
master-slave
PerfLogs
Program Files
Program Files
terraform
Users
Windows
XboxGames
Network
Linux
Name
Date modified
Type
Size
terraform 21-08-2024 17:14 Application 84,279 KB
1 item




```
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Sanket More>terraform --version
Terraform v1.9.5
on windows_386

C:\Users\Sanket More>
```

AdvDevOps Lab 6

Sanket More
D15A 30

Aim :To Build, change, and destroy AWS / GCP /Microsoft Azure/ DigitalOcean infrastructure Using Terraform. (S3 bucket or Docker) fdp.

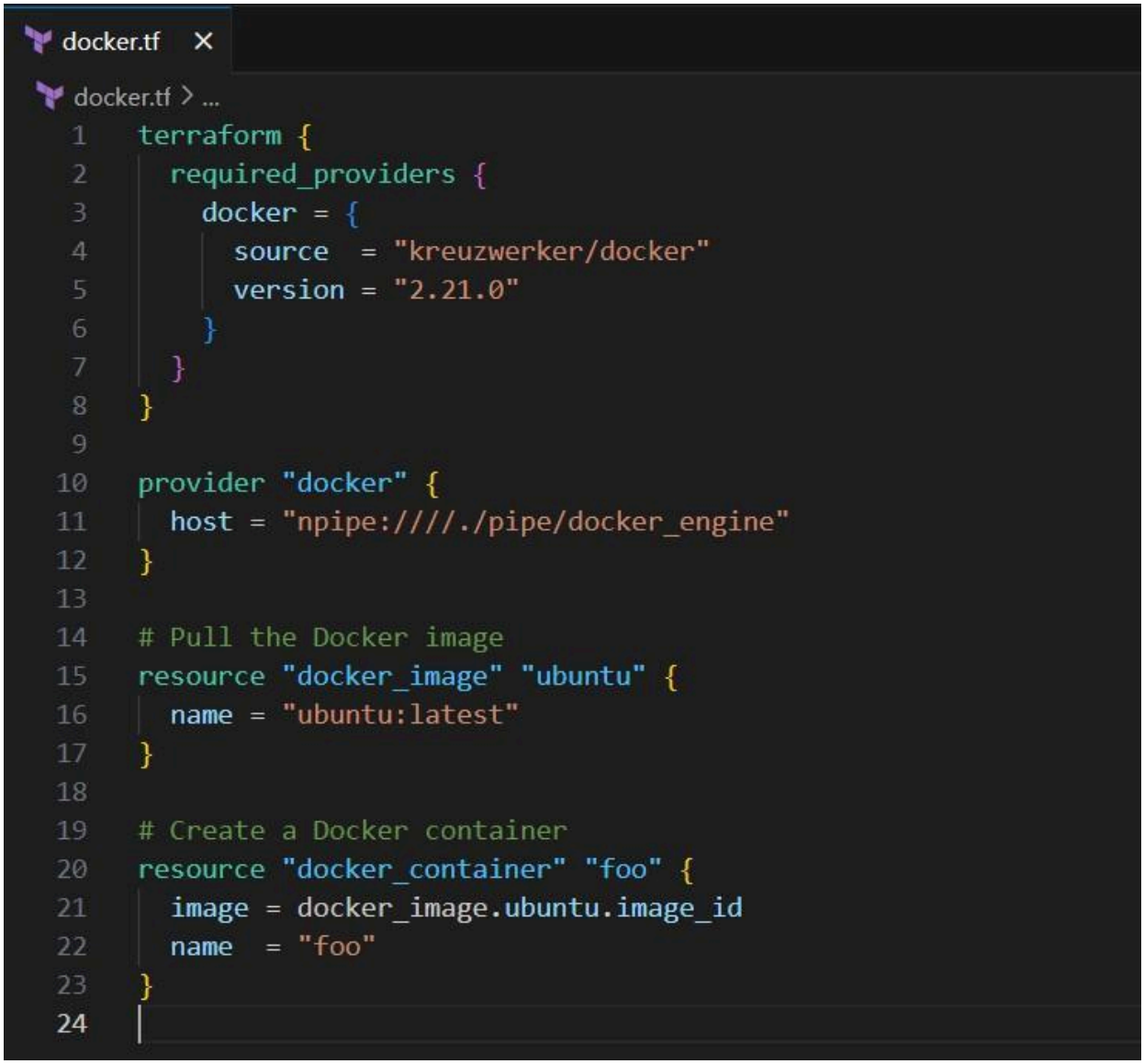
Part A: Creating docker image using terraform

1. Install docker

```
C:\Users\Sanket More>docker

Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Common Commands:
  run         Create and run a new container from an image
  exec        Execute a command in a running container
  ps          List containers
  build       Build an image from a Dockerfile
  pull        Download an image from a registry
  push        Upload an image to a registry
  images      List images
  login       Log in to a registry
  logout      Log out from a registry
  search      Search Docker Hub for images
  version     Show the Docker version information
  info        Display system-wide information

Management Commands:
  builder     Manage builds
  buildx*     Docker Buildx
  checkpoint  Manage checkpoints
  compose*    Docker Compose
  container   Manage containers
  context     Manage contexts
```

```
C:\Users\Sanket More>docker --version
Docker version 27.0.3, build 7d4bcd8
```

2. Create a new folder Docker, inside it, create a file docker.tf



3. Terraform init

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts>cd Docker

C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>terraform init
Initializing the backend...
Initializing provider plugins...
- Finding kreuzwerker/docker versions matching "2.21.0"...
- Installing kreuzwerker/docker v2.21.0...
- Installed kreuzwerker/docker v2.21.0 (self-signed, key ID BD080C4571C6104C)
Partner and community providers are signed by their developers.
If you'd like to know more about provider signing, you can read about it here:
https://www.terraform.io/docs/cli/plugins/signing.html
Terraform has created a lock file .terraform.lock.hcl to record the provider
selections it made above. Include this file in your version control repository
so that Terraform can guarantee to make the same selections by default when
you run "terraform init" in the future.

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
```

4. Terraform plan

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>terraform plan

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with
following symbols:
  + create

Terraform will perform the following actions:

  # docker_container.foo will be created
  + resource "docker_container" "foo" {
      + attach           = false
      + bridge           = (known after apply)
      + command          = (known after apply)
      + container_logs   = (known after apply)
      + entrypoint       = (known after apply)
      + env              = (known after apply)
      + exit_code        = (known after apply)
      + gateway          = (known after apply)
      + hostname         = (known after apply)
      + id               = (known after apply)
      + image            = (known after apply)
      + init             = (known after apply)
      + ip_address       = (known after apply)
      + ip_prefix_length = (known after apply)
      + ipc_mode         = (known after apply)
      + log_driver       = (known after apply)
```

```
      + start             = true
      + stdin_open        = false
      + stop_signal       = (known after apply)
      + stop_timeout      = (known after apply)
      + tty               = false

      + healthcheck (known after apply)

      + labels (known after apply)
    }

  # docker_image.ubuntu will be created
  + resource "docker_image" "ubuntu" {
      + id          = (known after apply)
      + image_id    = (known after apply)
      + latest      = (known after apply)
      + name        = "ubuntu:latest"
      + output      = (known after apply)
      + repo_digest = (known after apply)
    }

Plan: 2 to add, 0 to change, 0 to destroy.

───────────────────────────────────────────────────────────────────────────────

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if yo
u run "terraform apply" now.
```

5. Check docker images before applying

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
react-img    latest    619c9b7a9ac5   2 weeks ago   320MB

C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>
```

6. Terraform apply

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>terraform apply
docker_image.ubuntu: Refreshing state... [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubun
tu:latest]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the
following symbols:
  + create

Terraform will perform the following actions:

  # docker_container.foo will be created
  + resource "docker_container" "foo" {
      + attach           = false
      + bridge           = (known after apply)
      + command          = [
          + "tail",
          + "-f",
          + "/dev/null",
        ]
      + container_logs   = (known after apply)
      + entrypoint       = (known after apply)
```

```
      + logs             = false
      + must_run         = true
      + name             = "foo"
      + network_data     = (known after apply)
      + read_only        = false
      + remove_volumes   = true
      + restart          = "no"
      + rm               = false
      + runtime          = (known after apply)
      + security_opts    = (known after apply)
      + shm_size         = (known after apply)
      + start            = true
      + stdin_open       = false
      + stop_signal      = (known after apply)
      + stop_timeout     = (known after apply)
      + tty              = false

      + healthcheck (known after apply)

      + labels (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

docker_container.foo: Creating...
docker_container.foo: Creation complete after 1s [id=af0512641b95dfece26fa5f29deafb8a8d56bd8b9878a246f46bd694e961e5b5]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>
```

7. Docker images after apply

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
react-img    latest    619c9b7a9ac5   2 weeks ago   320MB
ubuntu       latest    edbfe74c41f8   3 weeks ago   78.1MB
```

8. Terraform destroy

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>terraform destroy
docker_image.ubuntu: Refreshing state... [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubun
tu:latest]
docker_container.foo: Refreshing state... [id=af0512641b95dfece26fa5f29deafb8a8d56bd8b9878a246f46bd694e961e5b5]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the
following symbols:
  - destroy

Terraform will perform the following actions:

  # docker_container.foo will be destroyed
  - resource "docker_container" "foo" {
      - attach            = false -> null
      - command           = [
          - "tail",
          - "-f",
          - "/dev/null",
        ] -> null
      - cpu_shares        = 0 -> null
      - dns               = [] -> null
      - dns_opts          = [] -> null
      - dns_search        = [] -> null
      - entrypoint        = [] -> null
      - env               = [] -> null
      - gateway           = "172.17.0.1" -> null
      - group_add         = [] -> null
      - hostname          = "af0512641b95" -> null
      - id                = "af0512641b95dfece26fa5f29deafb8a8d56bd8b9878a246f46bd694e961e5b5" -> null
      - image             = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598a" -> null
      - init              = false -> null
      - ip_address        = "172.17.0.2" -> null
      - ip_prefix_length  = 16 -> null
      - ipc_mode          = "private" -> null
      - links             = [] -> null
      - log_driver        = "json-file" -> null
```

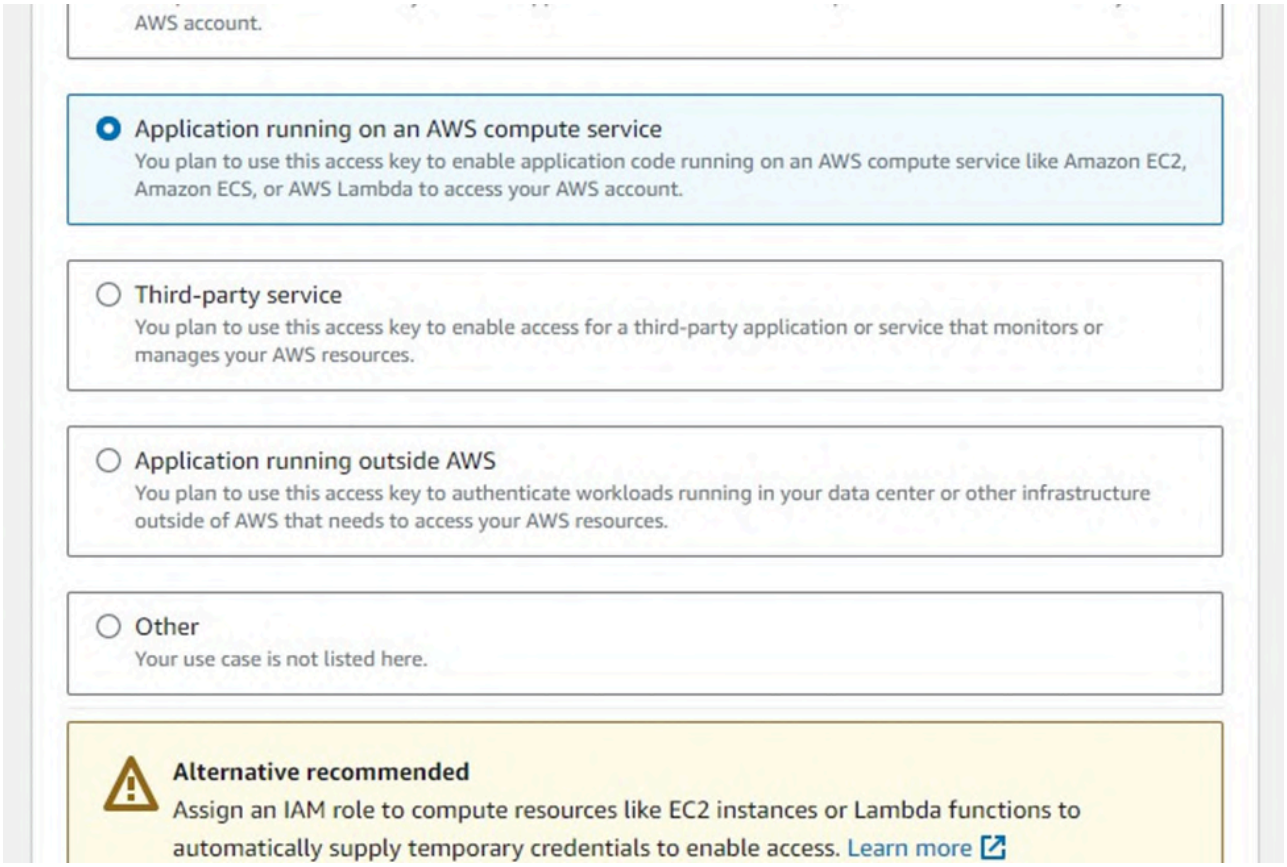
```
  # docker_image.ubuntu will be destroyed
  - resource "docker_image" "ubuntu" {
      - id          = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubuntu:latest" -> null
      - image_id    = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598a" -> null
      - latest      = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598a" -> null
      - name        = "ubuntu:latest" -> null
      - repo_digest = "ubuntu@sha256:8a37d68f4f73ebf3d4efafbcf66379bf3728902a8038616808f04e34a9ab63ee" -> null
    }

Plan: 0 to add, 0 to change, 2 to destroy.

Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value: yes

docker_container.foo: Destroying... [id=af0512641b95dfece26fa5f29deafb8a8d56bd8b9878a246f46bd694e961e5b5]
docker_container.foo: Destruction complete after 1s
docker_image.ubuntu: Destroying... [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubuntu:lat
est]
docker_image.ubuntu: Destruction complete after 0s

Destroy complete! Resources: 2 destroyed.

C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>
```

9. Docker images after apply

```
C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
react-img    latest    619c9b7a9ac5   2 weeks ago   320MB

C:\Users\siddi\OneDrive\Desktop\lab-works\terraform_scripts\Docker>
```

Part B:Terraform and S3 -

Step 1: Create access keys and secret key for IAM user



Step 2 : Type below code in main.tf in editor for aws and terraform connection and

environment creation .

Code -

```
terraform {
required_providers {
aws = {
source = "hashicorp/aws"
version = "~> 5.0"
}
}
}
# Configure the AWS Provider
provider "aws" {
region = "us-east-1"
```

access_key = ""

secret_key = ""

}

resource "aws_s3_bucket" "bucket" {

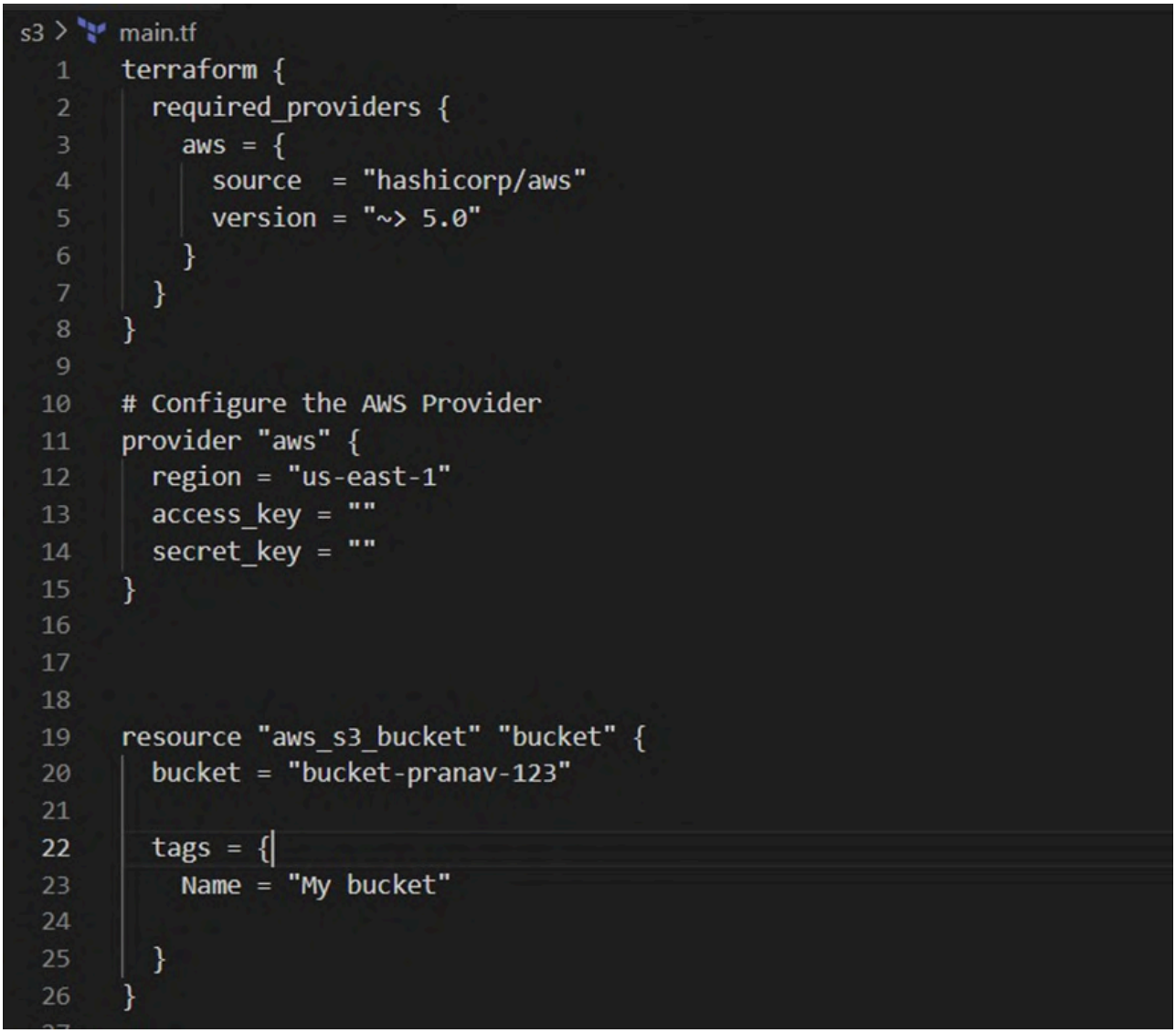
bucket = "bucket-pranav-123"

tags = {

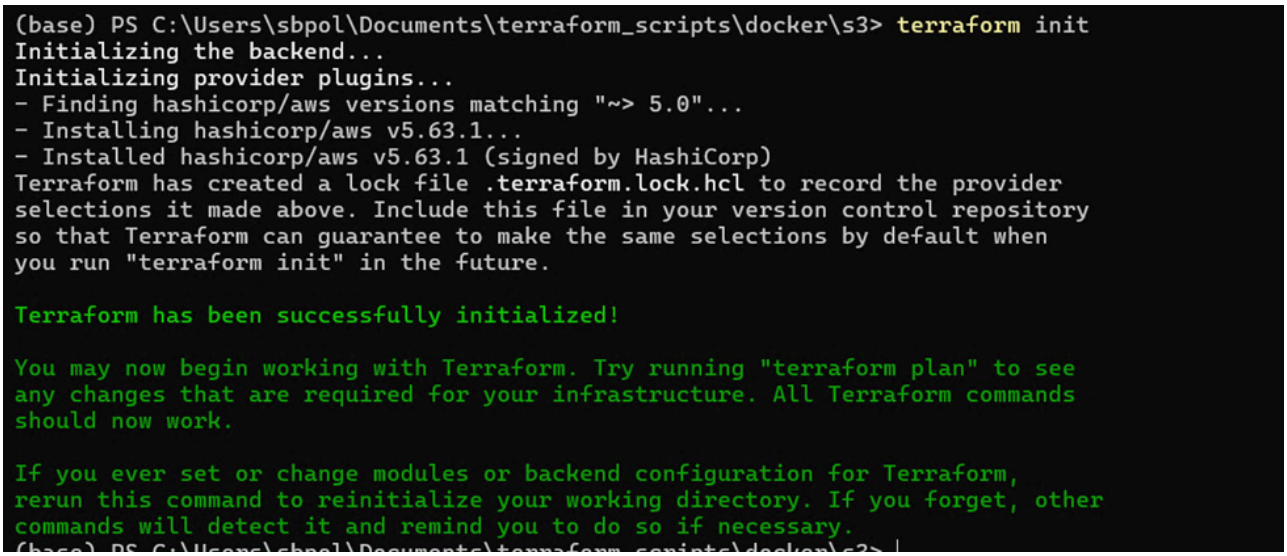
Name = "My bucket"

}

}

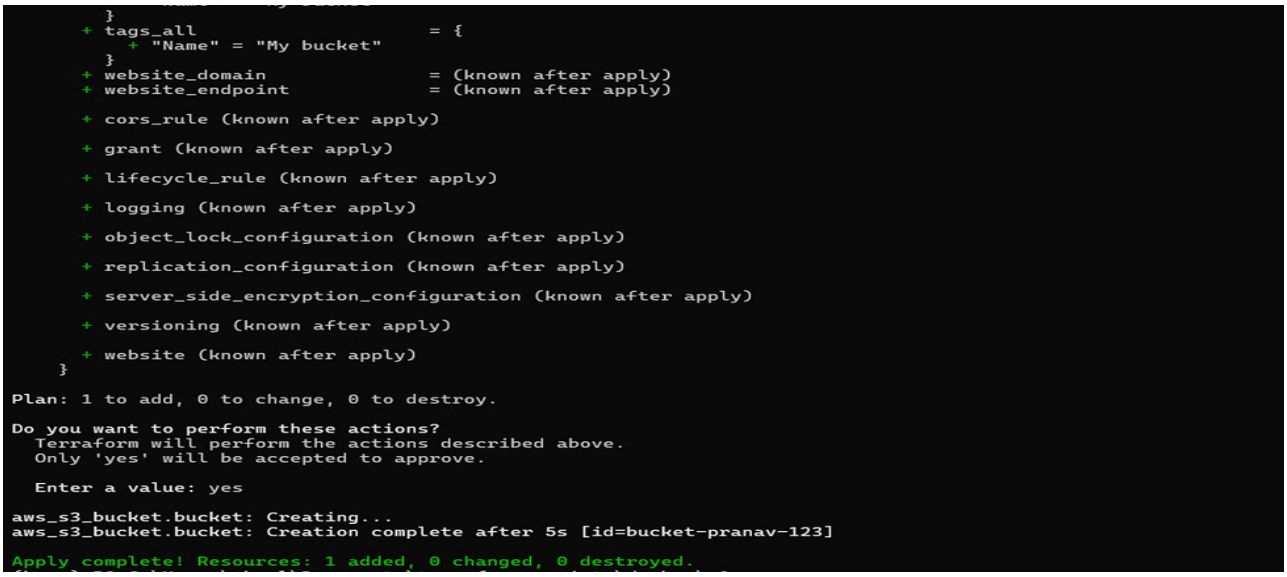


Step 3 : Type terraform init command in powershell.



Step 4 : Type terraform plan command in powershell.

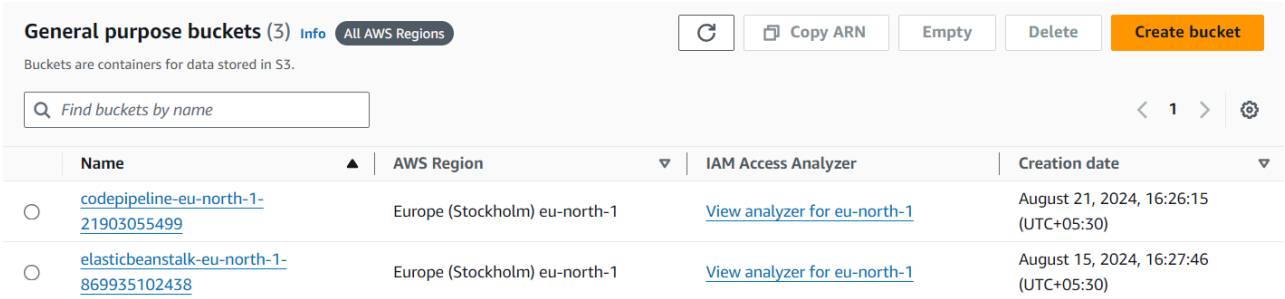
Step 5 : Type terraform apply command in powershell.



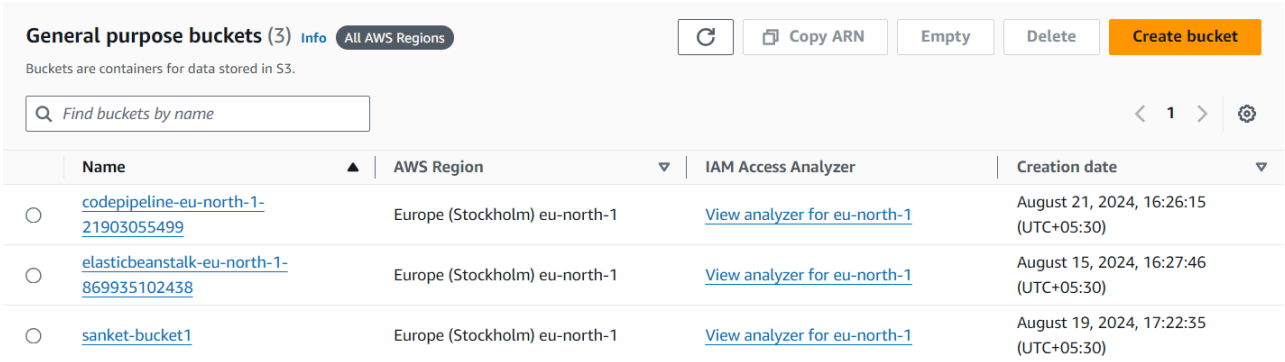
}
+ tags_all = {
+ "Name" = "My bucket"
}
+ website_domain = (known after apply)
+ website_endpoint = (known after apply)
+ cors_rule (known after apply)
+ grant (known after apply)
+ lifecycle_rule (known after apply)
+ logging (known after apply)
+ object_lock_configuration (known after apply)
+ replication_configuration (known after apply)
+ server_side_encryption_configuration (known after apply)
+ versioning (known after apply)
+ website (known after apply)
}
Plan: 1 to add, 0 to change, 0 to destroy.
Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.
Enter a value: yes
aws_s3_bucket.bucket: Creating...
aws_s3_bucket.bucket: Creation complete after 5s [id=bucket-pranav-123]
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Step 6 : AWS s3 before and after the bucket creation using terraform.

BEFORE -



AFTER -



Step 7 : Upload file to the bucket using terraform .

CODE -

terraform {

required_providers {

aws = {

source = "hashicorp/aws"

version = "~> 5.0"}}}

Configure the AWS Provider

provider "aws" {

region = "us-east-1"

access_key = ""

secret_key = ""}resource "aws_s3_bucket" "bucket" {

bucket = "bucket-pranav-123"

tags = {

Name = "My bucket"}}

resource "aws_s3_bucket_object" "file" {

bucket = aws_s3_bucket.bucket.id

key = "hello.txt"

source = "C:/Users/sbpol/Documents/terraform_scripts/docker/s3/hello.txt"}

```
resource "aws_s3_bucket" "bucket" {
  bucket = "bucket-pranav-123"

  tags = {
    Name = "My bucket"

  }
}

resource "aws_s3_bucket_object" "file" {
  bucket = aws_s3_bucket.bucket.id
  key    = "hello.txt"
  source = "C:/Users/sbpol/Documents/terraform_scripts/docker/s3/hello.txt"

}
```

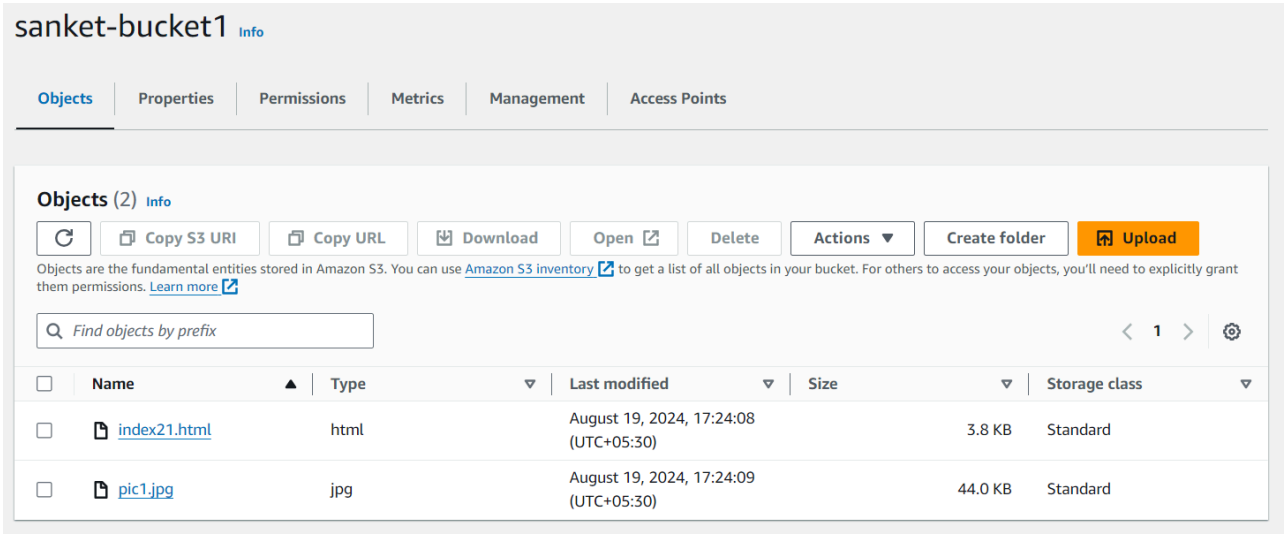
Step 8 : Terraform plan and apply command to apply the changes for file .

```
(base) PS C:\Users\sbpol\Documents\terraform_scripts\docker\s3> terraform plan
aws_s3_bucket.bucket: Refreshing state... [id=bucket-pranav-123]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following
  + create

Terraform will perform the following actions:

  # aws_s3_bucket_object.file will be created
  + resource "aws_s3_bucket_object" "file" {
      + acl                    = "private"
      + arn                    = (known after apply)
      + bucket                 = "bucket-pranav-123"
      + bucket_key_enabled     = (known after apply)
      + content_type           = (known after apply)
      + etag                   = (known after apply)
      + force_destroy          = false
      + id                     = (known after apply)
      + key                    = "hello.txt"
      + kms_key_id             = (known after apply)
      + server_side_encryption = (known after apply)
      + source                 = "C:/Users/sbpol/Documents/terraform_scripts/docker/s3/hello.txt"
      + storage_class          = (known after apply)
      + tags_all               = (known after apply)
      + version_id             = (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.

  Warning: Deprecated Resource

    with aws_s3_bucket_object.file,
    on main.tf line 28, in resource "aws_s3_bucket_object" "file":
    28: resource "aws_s3_bucket_object" "file" {

  use the aws_s3_object resource instead

  (and one more similar warning elsewhere)
```

```
Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" no
(base) PS C:\Users\sbpol\Documents\terraform_scripts\docker\s3> terraform apply
aws_s3_bucket.bucket: Refreshing state... [id=bucket-pranav-123]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

  # aws_s3_bucket_object.file will be created
  + resource "aws_s3_bucket_object" "file" {
      + acl                    = "private"
      + arn                    = (known after apply)
      + bucket                 = "bucket-pranav-123"
      + bucket_key_enabled     = (known after apply)
      + content_type           = (known after apply)
      + etag                   = (known after apply)
      + force_destroy          = false
      + id                     = (known after apply)
      + key                    = "hello.txt"
      + kms_key_id             = (known after apply)
      + server_side_encryption = (known after apply)
      + source                 = "C:/Users/sbpol/Documents/terraform_scripts/docker/s3/hello.txt"
      + storage_class          = (known after apply)
      + tags_all               = (known after apply)
      + version_id             = (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.

  Warning: Deprecated Resource

    with aws_s3_bucket_object.file,
    on main.tf line 28, in resource "aws_s3_bucket_object" "file":
    28: resource "aws_s3_bucket_object" "file" {

  use the aws_s3_object resource instead

  (and one more similar warning elsewhere)
```

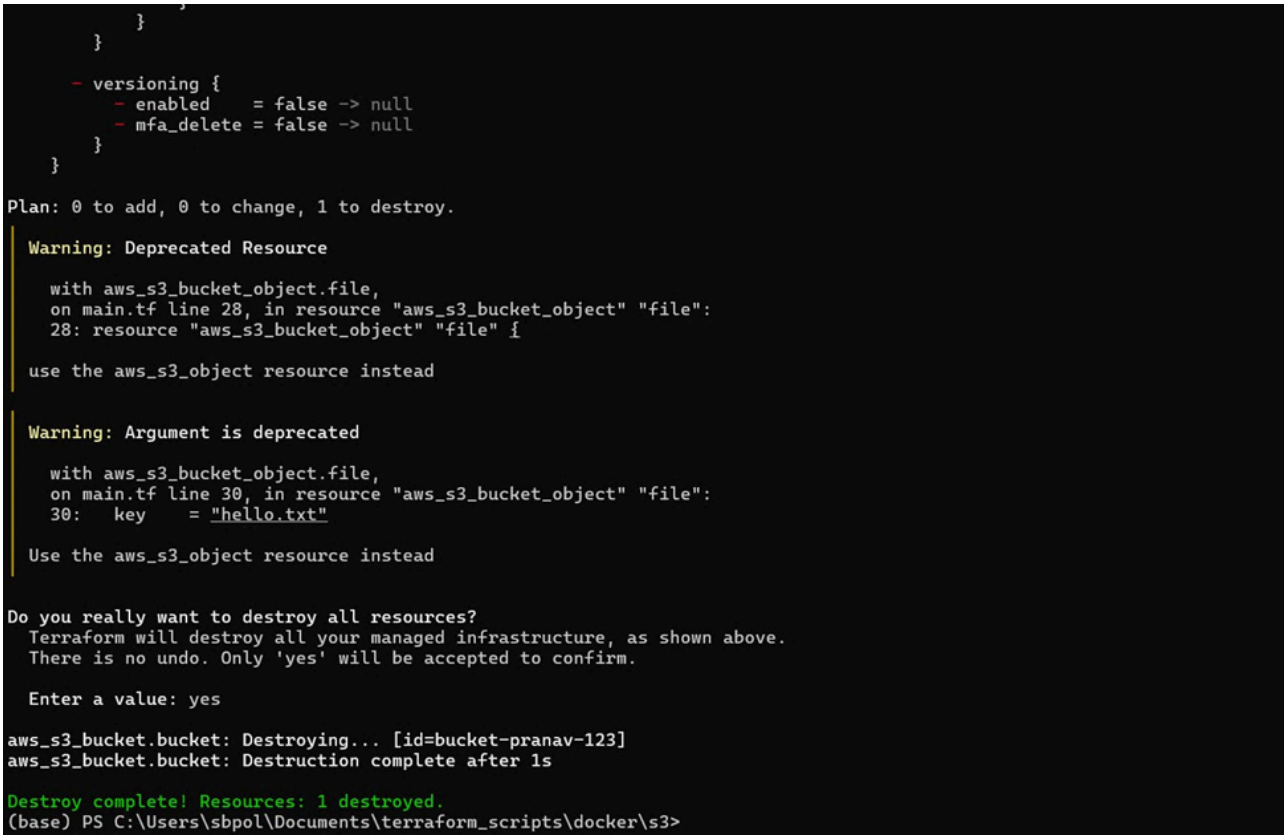
```
Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

aws_s3_bucket_object.file: Creating...
aws_s3_bucket_object.file: Creation complete after 1s [id=hello.txt]

  Warning: Deprecated Resource

    with aws_s3_bucket_object.file,
    on main.tf line 28, in resource "aws_s3_bucket_object" "file":
    28: resource "aws_s3_bucket_object" "file" {

  use the aws_s3_object resource instead


  Warning: Argument is deprecated

    with aws_s3_bucket_object.file,
    on main.tf line 29, in resource "aws_s3_bucket_object" "file":
    29:   bucket = aws_s3_bucket.bucket.id

  Use the aws_s3_object resource instead

  (and one more similar warning elsewhere)


Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
(base) PS C:\Users\sbpol\Documents\terraform_scripts\docker\s3>
```

Step 9 : s3 bucket before and after execution of upload



Step 10 : Terraform destroy command to destroy the s3 bucket.

```
(base) PS C:\Users\sbpol\Documents\terraform_scripts\docker\s3> terraform destroy
aws_s3_bucket.bucket: Refreshing state... [id=bucket-pranav-123]
aws_s3_bucket_object.file: Refreshing state... [id=hello.txt]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
  - destroy

Terraform will perform the following actions:

  # aws_s3_bucket.bucket will be destroyed
  - resource "aws_s3_bucket" "bucket" {
      - arn                         = "arn:aws:s3:::bucket-pranav-123" -> null
      - bucket                      = "bucket-pranav-123" -> null
      - bucket_domain_name          = "bucket-pranav-123.s3.amazonaws.com" -> null
      - bucket_regional_domain_name = "bucket-pranav-123.s3.us-east-1.amazonaws.com" -> null
      - force_destroy               = false -> null
      - hosted_zone_id              = "Z3AQBSTGFYJSTF" -> null
      - id                          = "bucket-pranav-123" -> null
      - object_lock_enabled         = false -> null
      - region                      = "us-east-1" -> null
      - request_payer               = "BucketOwner" -> null
      - tags                        = {
          - "Name" = "My bucket"
        } -> null
      - tags_all                    = {
          - "Name" = "My bucket"
        } -> null
        # (3 unchanged attributes hidden)

      - grant {
          - id          = "10def03d73e09d8adda11bfe68e632f70a83a37758b74ea6e933dafd0250c850" -> null
          - permissions = [
              - "FULL_CONTROL",
            ] -> null
          - type        = "CanonicalUser" -> null
            # (1 unchanged attribute hidden)
        }

      - server_side_encryption_configuration {
```



```
            }
        }

      - versioning {
          - enabled    = false -> null
          - mfa_delete = false -> null
        }
    }

Plan: 0 to add, 0 to change, 1 to destroy.

  Warning: Deprecated Resource

    with aws_s3_bucket_object.file,
    on main.tf line 28, in resource "aws_s3_bucket_object" "file":
    28: resource "aws_s3_bucket_object" "file" {

  use the aws_s3_object resource instead

  Warning: Argument is deprecated

    with aws_s3_bucket_object.file,
    on main.tf line 30, in resource "aws_s3_bucket_object" "file":
    30:   key    = "hello.txt"

  Use the aws_s3_object resource instead


Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value: yes

aws_s3_bucket.bucket: Destroying... [id=bucket-pranav-123]
aws_s3_bucket.bucket: Destruction complete after 1s

Destroy complete! Resources: 1 destroyed.
(base) PS C:\Users\sbpol\Documents\terraform_scripts\docker\s3>
```

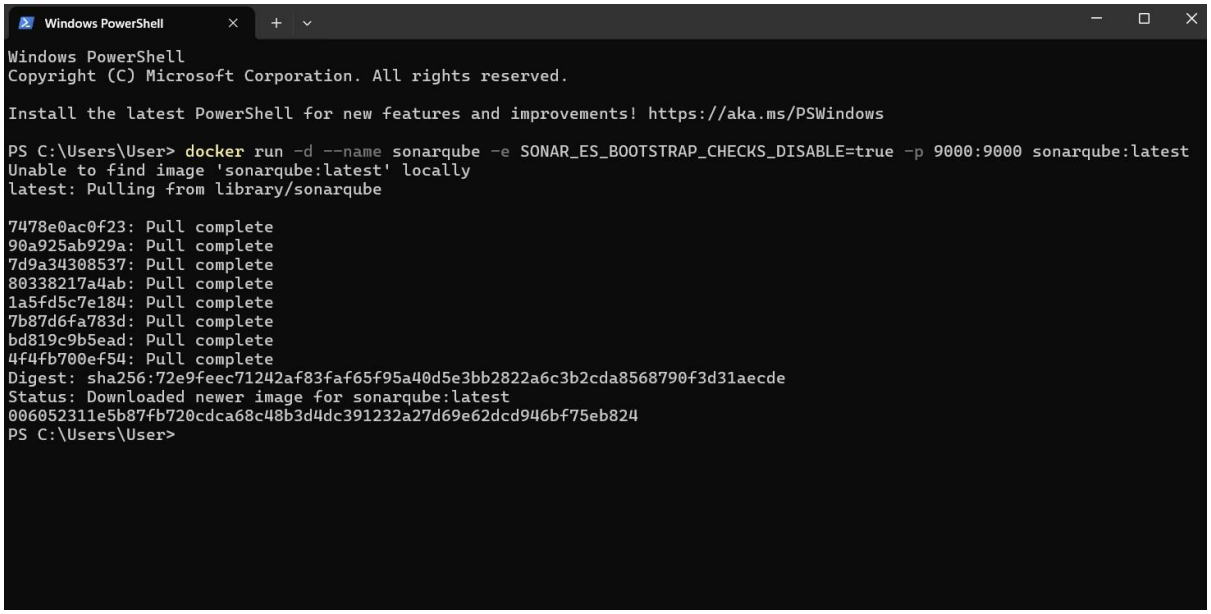
EXPERIMENT 7

Sanket More

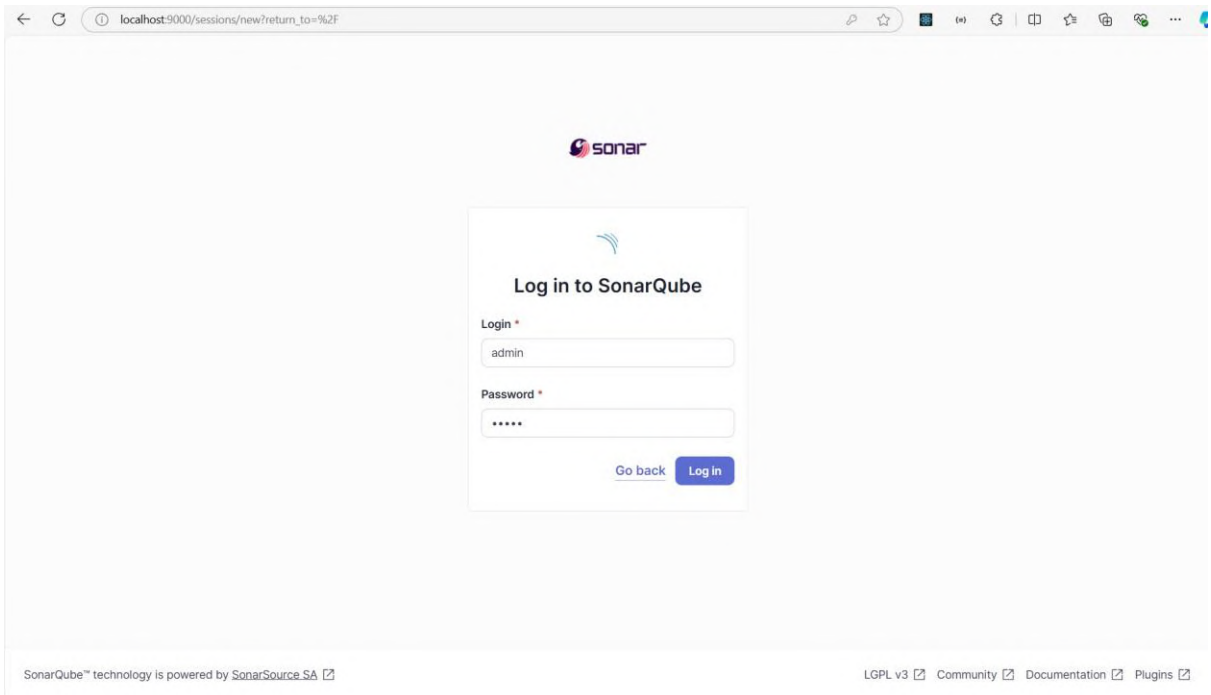
D15A 30

Aim: To understand Static Analysis SAST process and learn to integrate Jenkins SAST to SonarQube/GitLab.

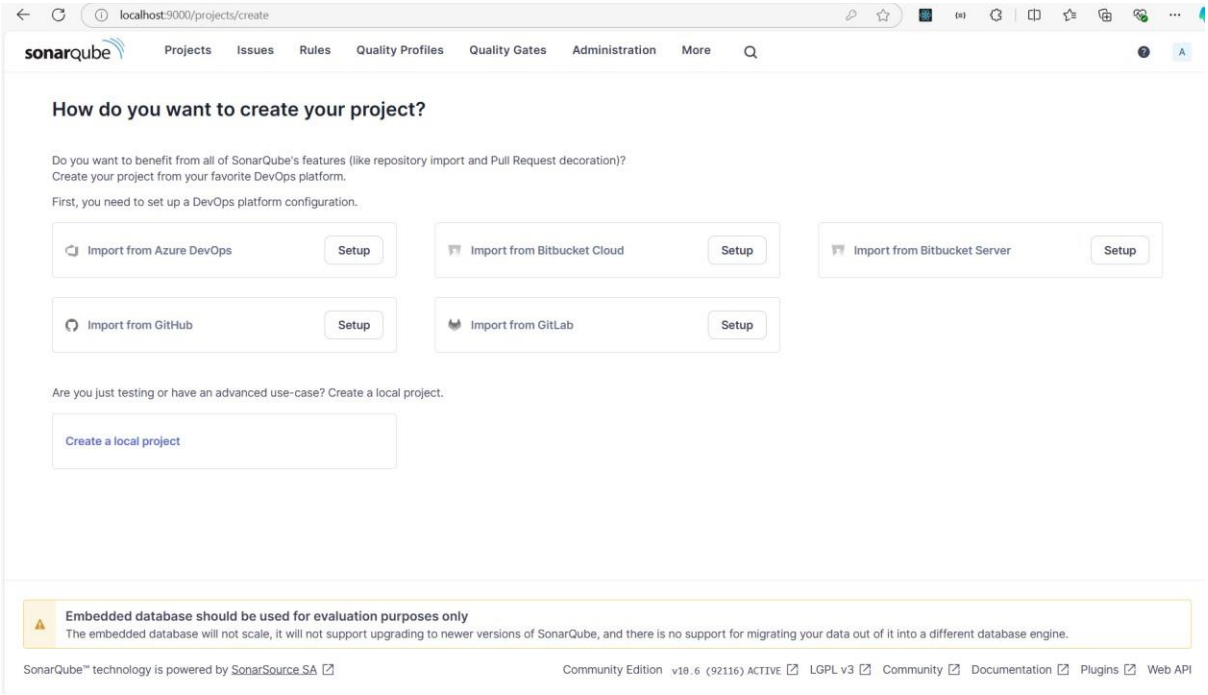
Step 1: Open Windows PowerShell and run the following command –
docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
WARNING: Run the following command only once

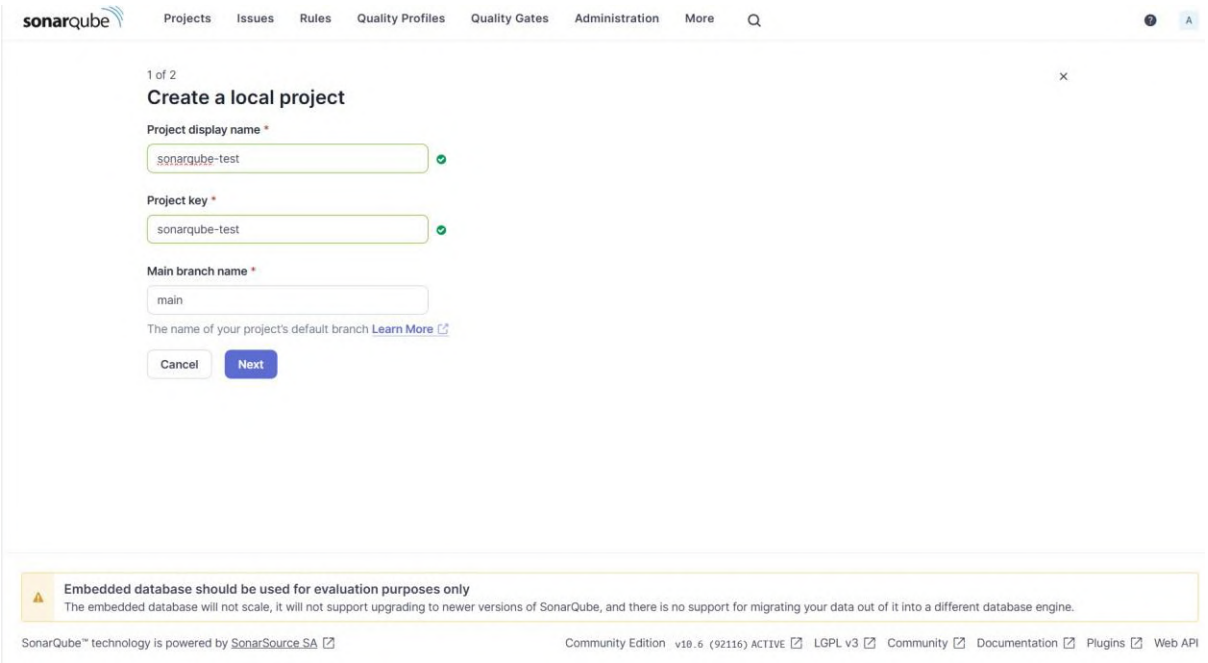


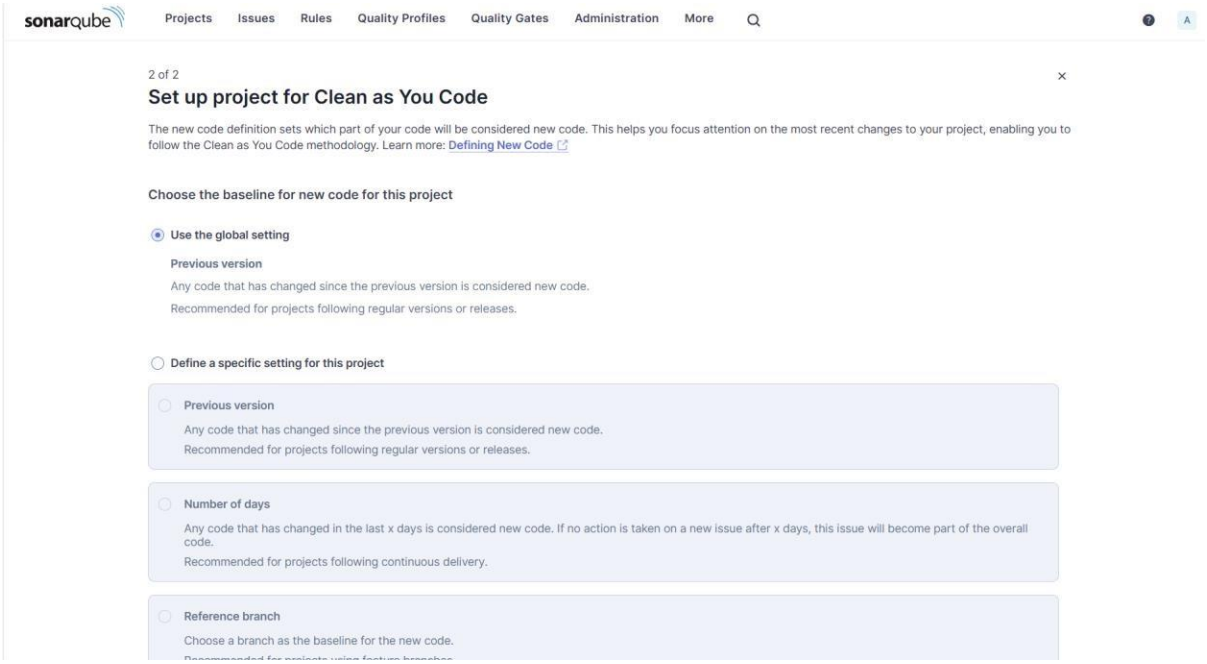
Step 2: Visit http://localhost:9000/ to open SonarQube. Login with username: admin and password: admin.



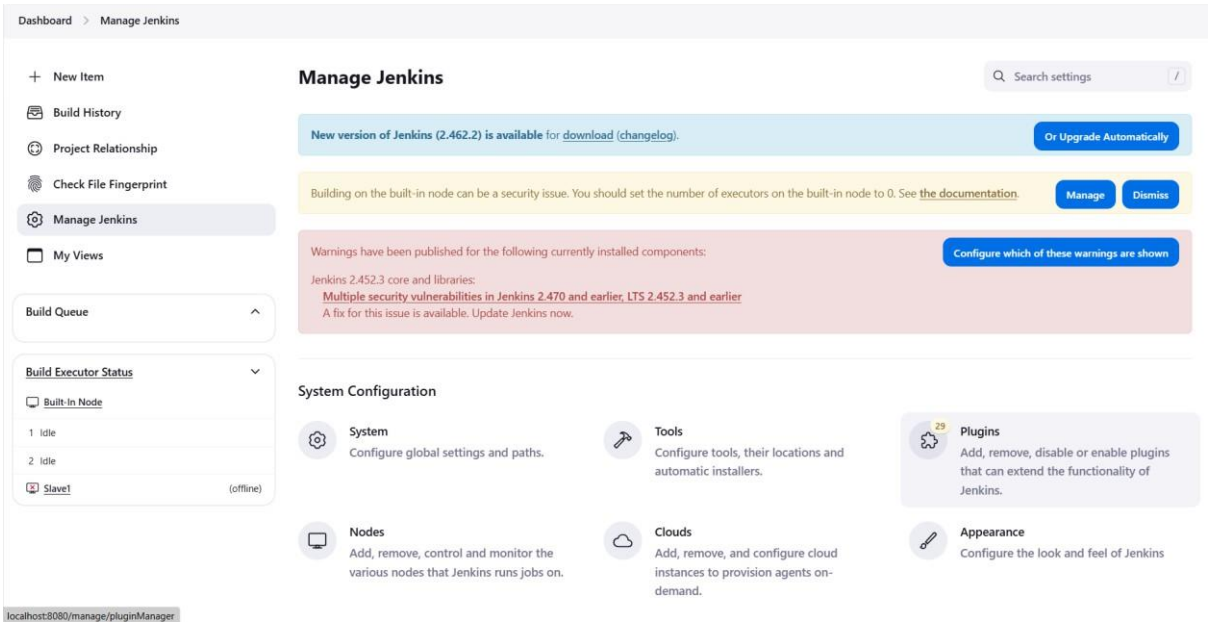
Step 3: Click on create a local project and name the project as sonarqube-test and key as sonarqube-test and click on the next button. In the next step select the “Use the global setting” option and click on create project.

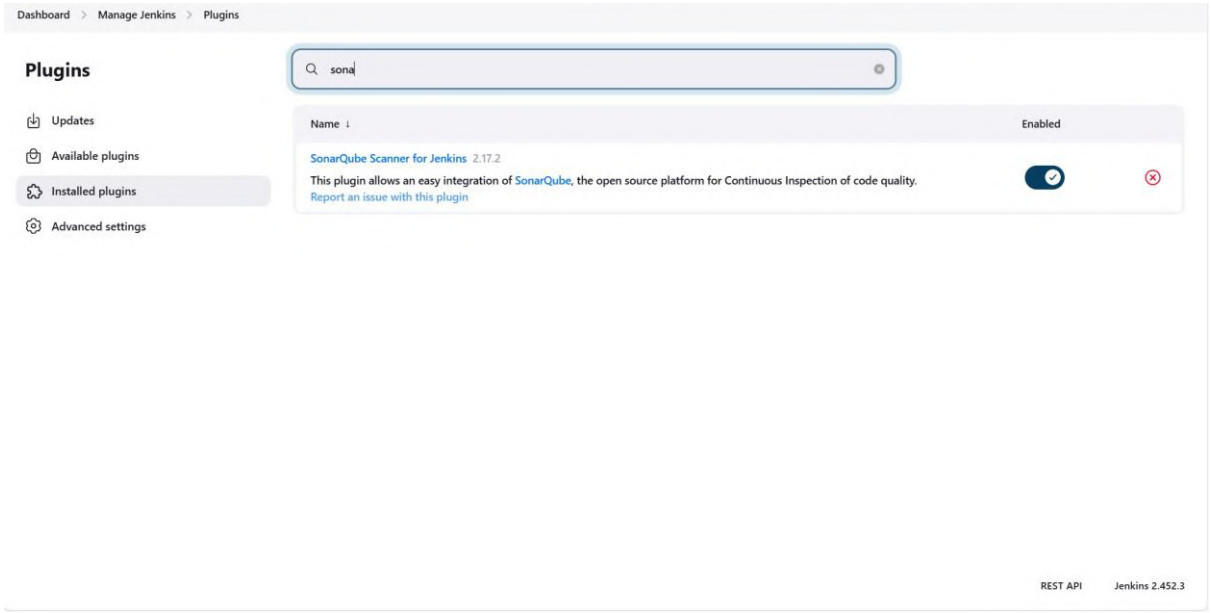

localhost:9000/projects/create
sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
How do you want to create your project?
Do you want to benefit from all of SonarQube's features (like repository import and Pull Request decoration)?
Create your project from your favorite DevOps platform.
First, you need to set up a DevOps platform configuration.
Import from Azure DevOps
Setup
Import from Bitbucket Cloud
Setup
Import from Bitbucket Server
Setup
Import from GitHub
Setup
Import from GitLab
Setup
Are you just testing or have an advanced use-case? Create a local project.
Create a local project
Embedded database should be used for evaluation purposes only
The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.
SonarQube™ technology is powered by SonarSource SA
Community Edition v10.6 (92116) ACTIVE
LGPL v3
Community
Documentation
Plugins
Web API


sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
1 of 2
Create a local project
Project display name *
sonarqube-test
Project key *
sonarqube-test
Main branch name *
main
The name of your project's default branch Learn More
Cancel
Next
Embedded database should be used for evaluation purposes only
The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.
SonarQube™ technology is powered by SonarSource SA
Community Edition v10.6 (92116) ACTIVE
LGPL v3
Community
Documentation
Plugins
Web API

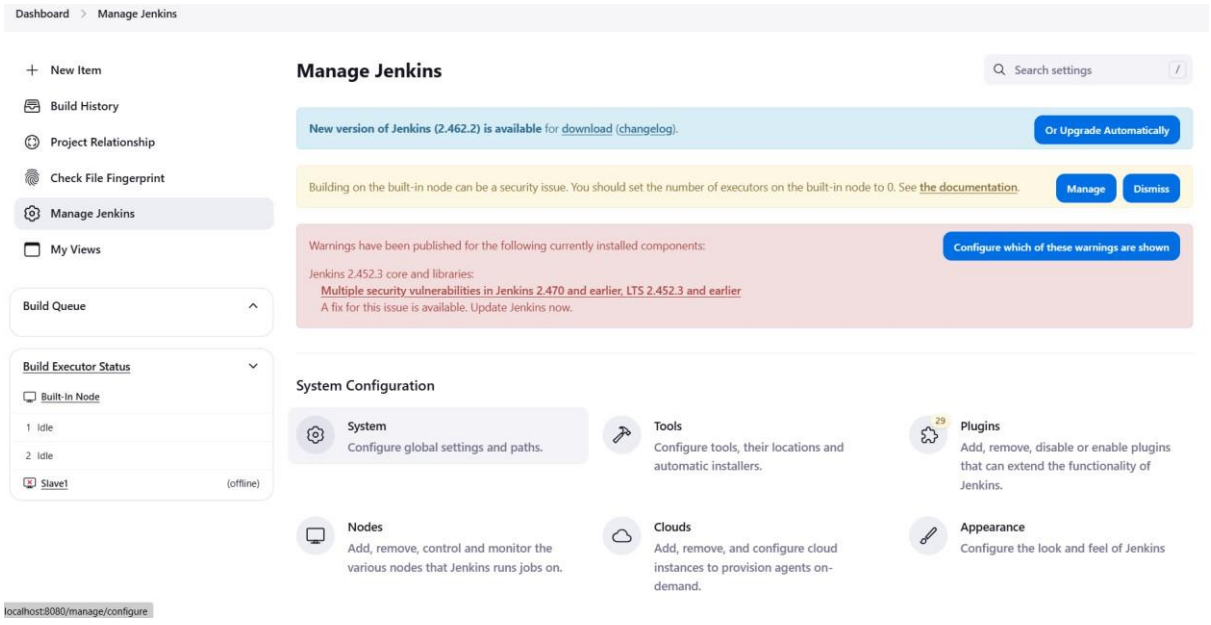


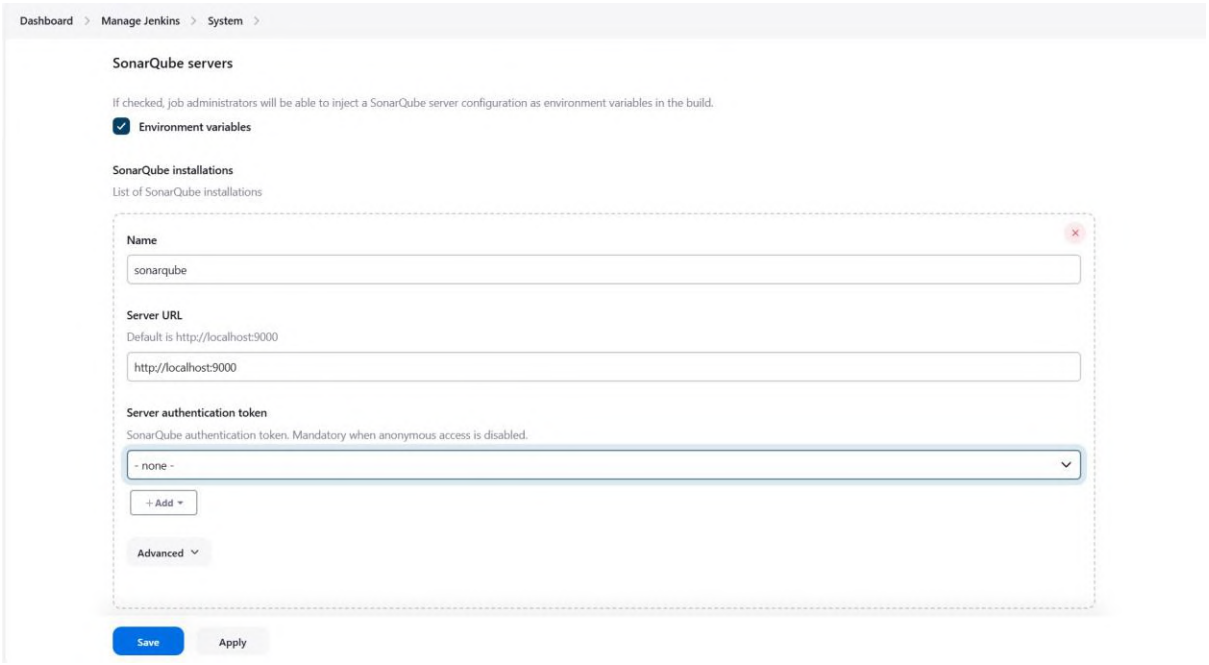
Step 4: Open Jenkins using http://localhost:8080/ and select Manage Jenkins, then select the Plugins and select available plugins from sidebar and search for SonarQube Scanner and install it. Once installed you can view the installed plugin in installed plugins section in sidebar.



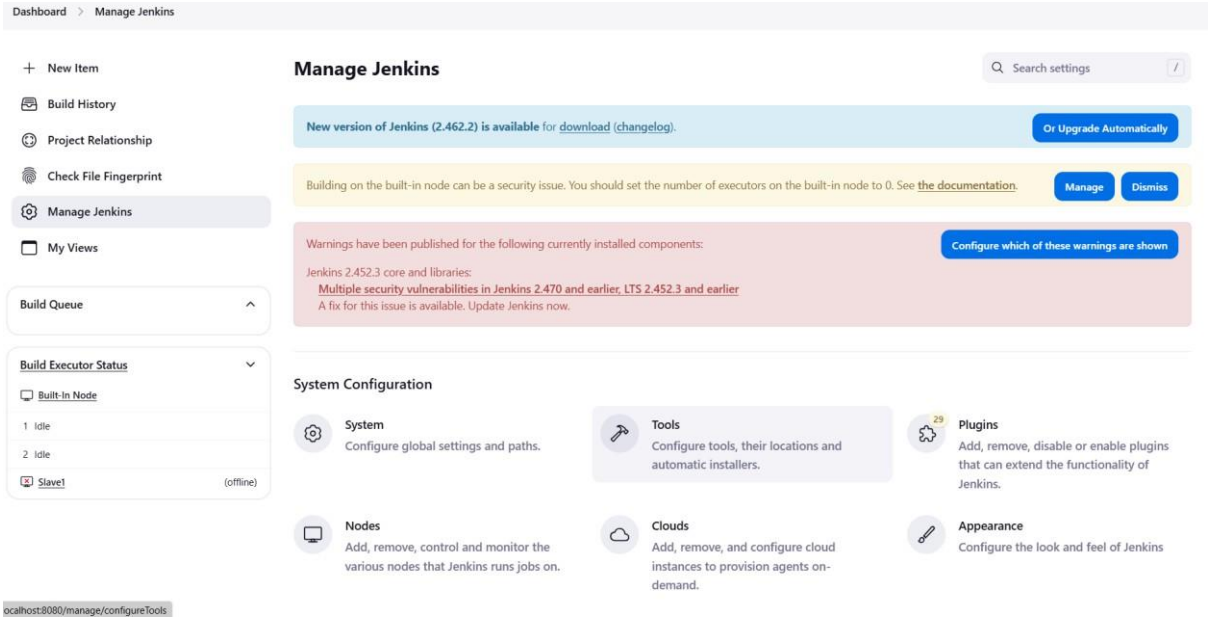


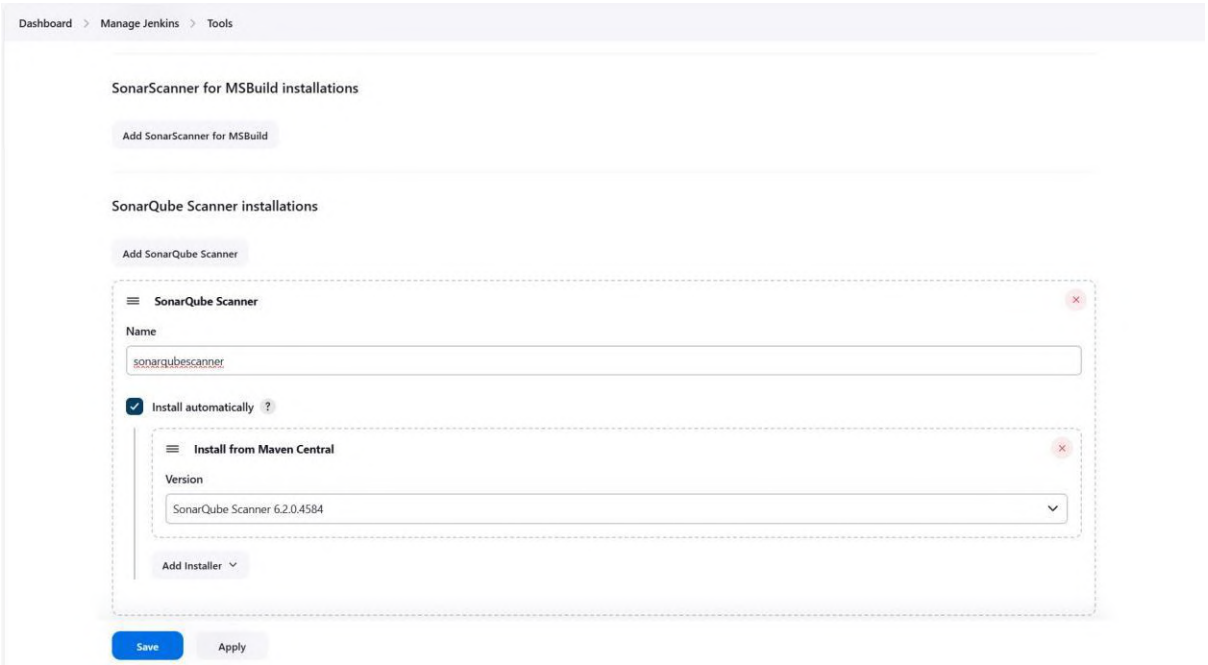
Step 5: Select Manage Jenkins, then select the System and then scroll down to SonarQube Server. Name the server as sonarqube and set the server url as http://localhost:9000/ then click on save.



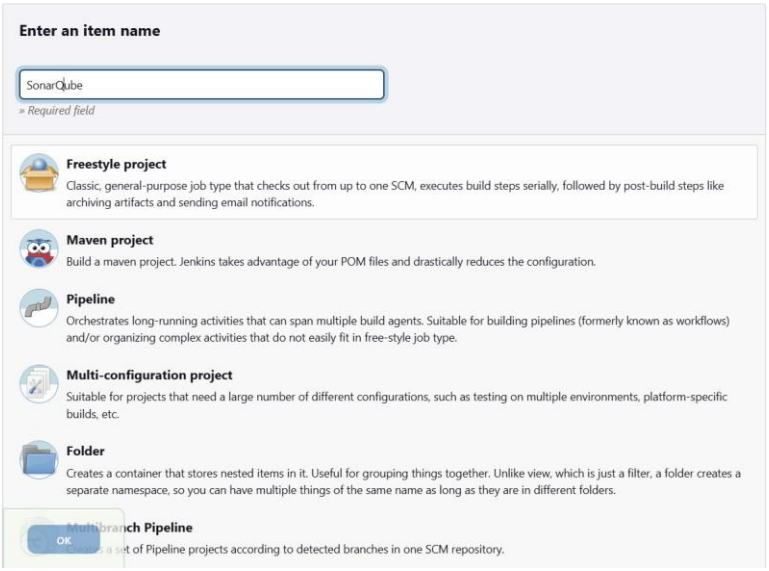


Step 6: Go to Jenkins Dashboard and select Manage Jenkins, then select the Tools and then scroll down to SonarQube Scanner installations. Name the sonarqube scanner as sonarqubescanner and select install automatically then click on save.

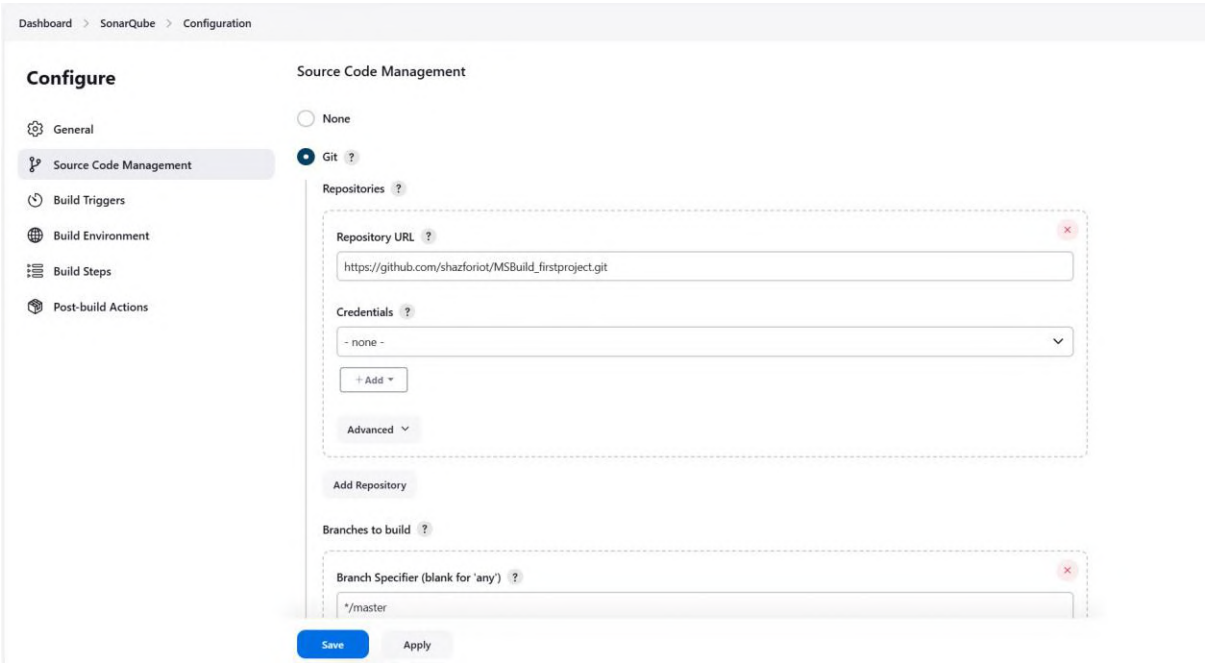




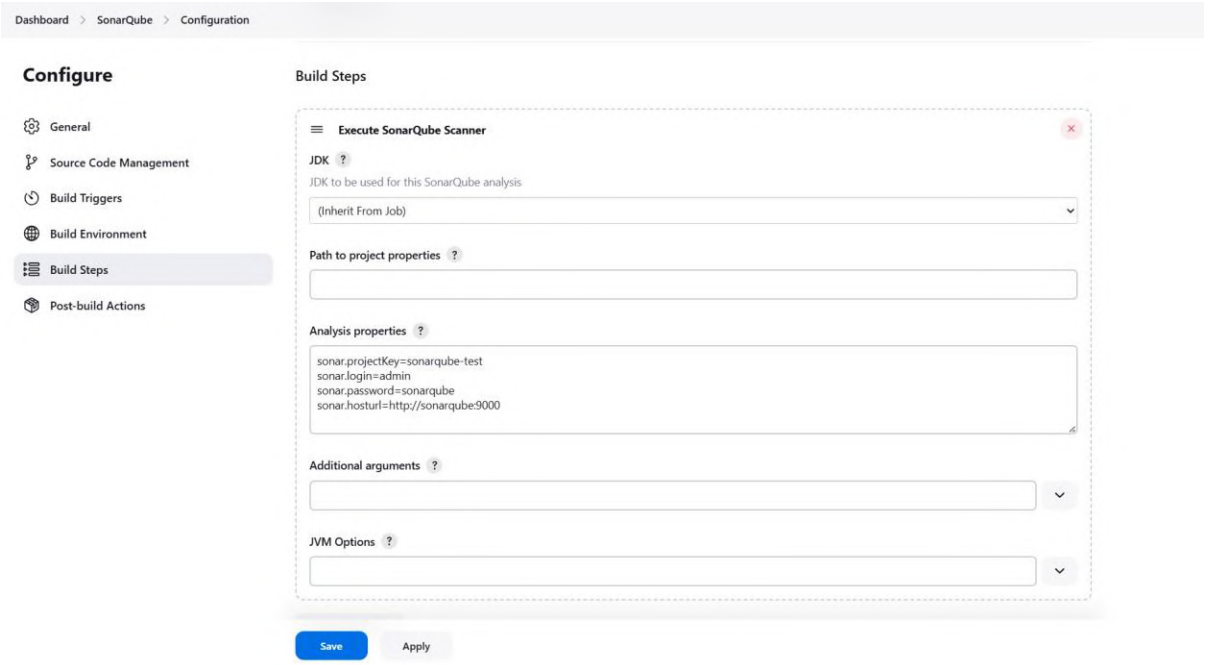
Step 7: Go to Jenkins dashboard and click on New Item and select Freestyle project and name it as SonarQube and then click on ok.

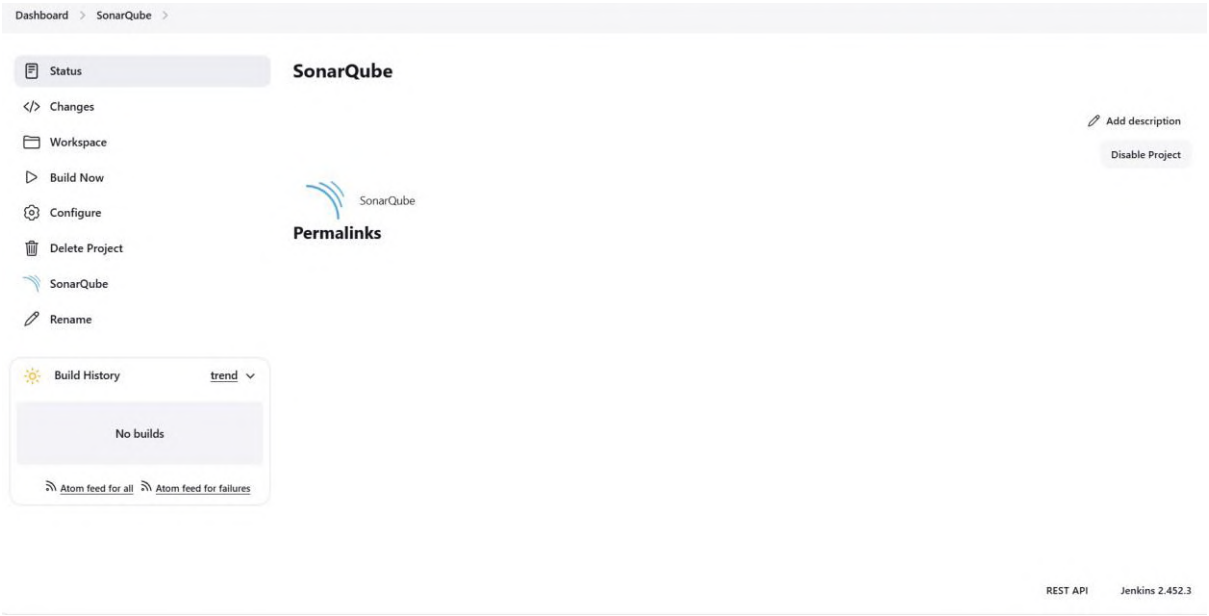


Step 8: For configuration, Select git and paste the following git repository in the repository url.
https://github.com/shazforiot/MSBuild_firstproject
This is a simple Hello world project

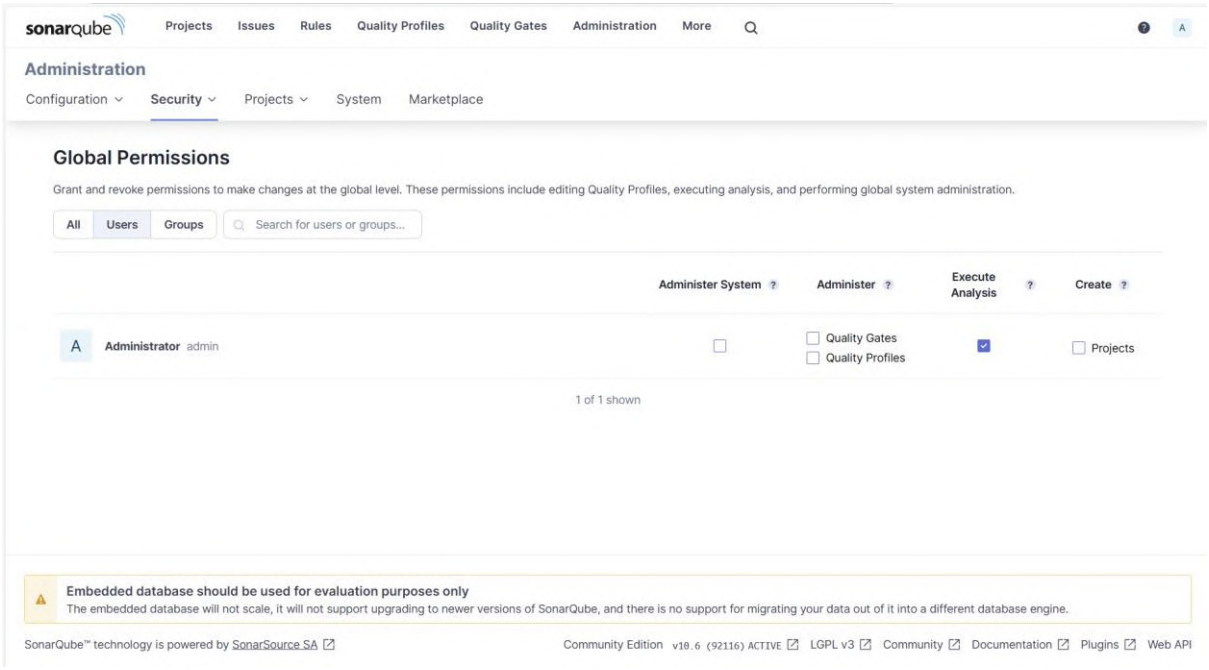


Step 9: Under the Build steps select "Execute SonarQube Scanner" option and under Analysis Properties write the following -
sonar.projectKey=sonarqube-test
sonar.login=admin
sonar.password=sonarqube
sonar.hosturl=http://sonarqube:9000 Then
click on the save button.

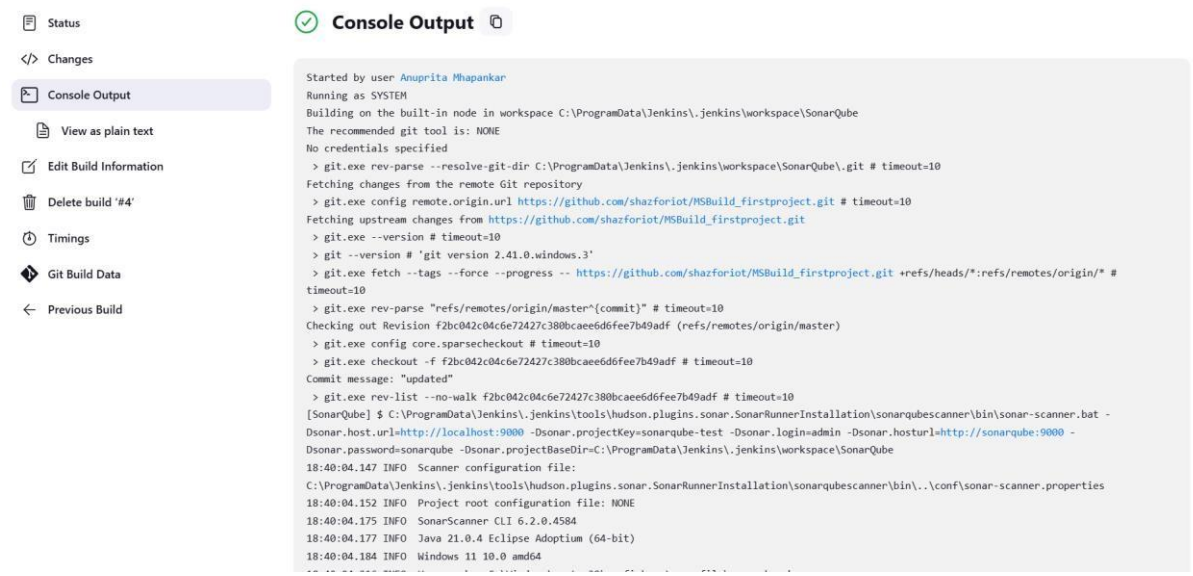


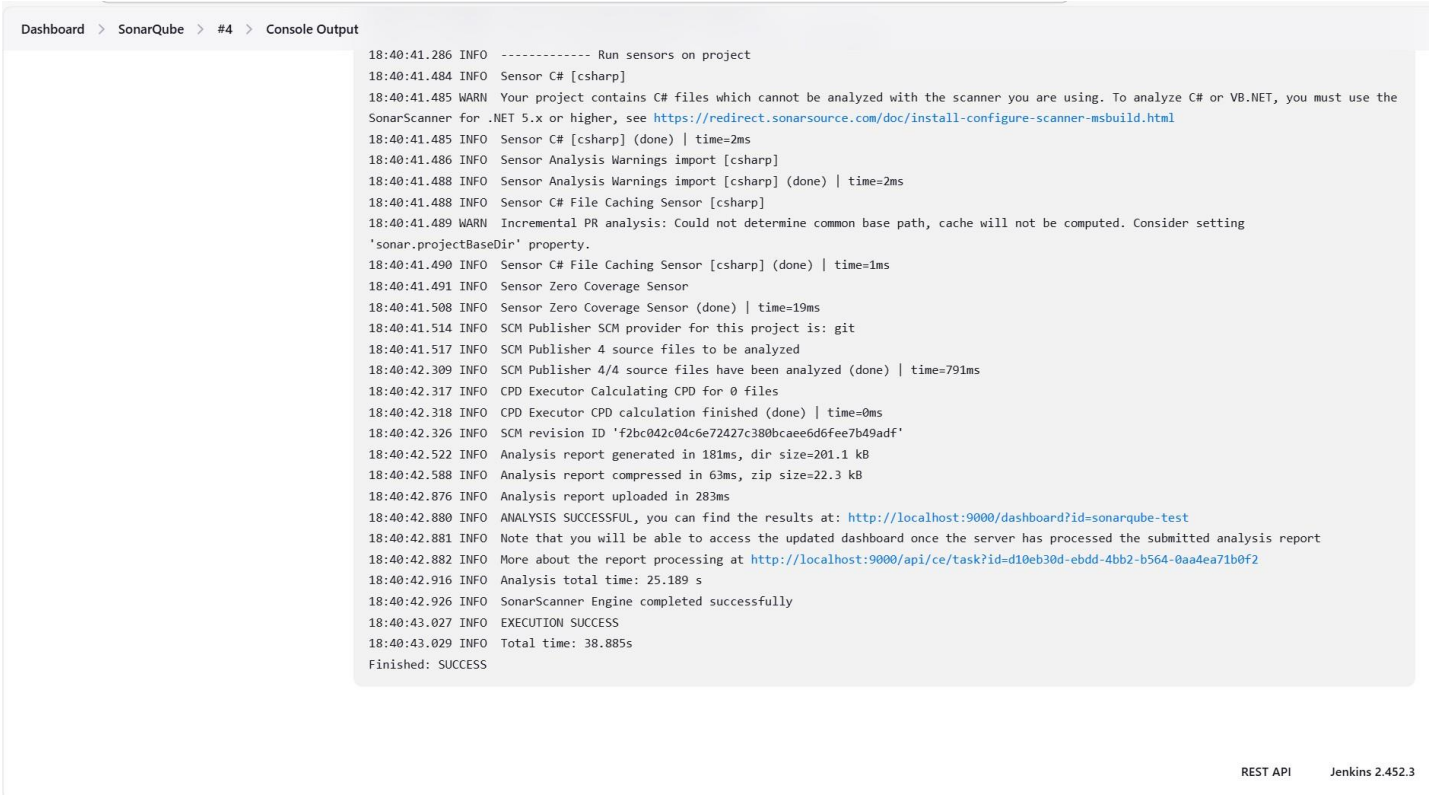


Step 10: Visit http://localhost:9000/admin/permissions and select the Users tab and for Administrator select the checkbox Execute Analysis.

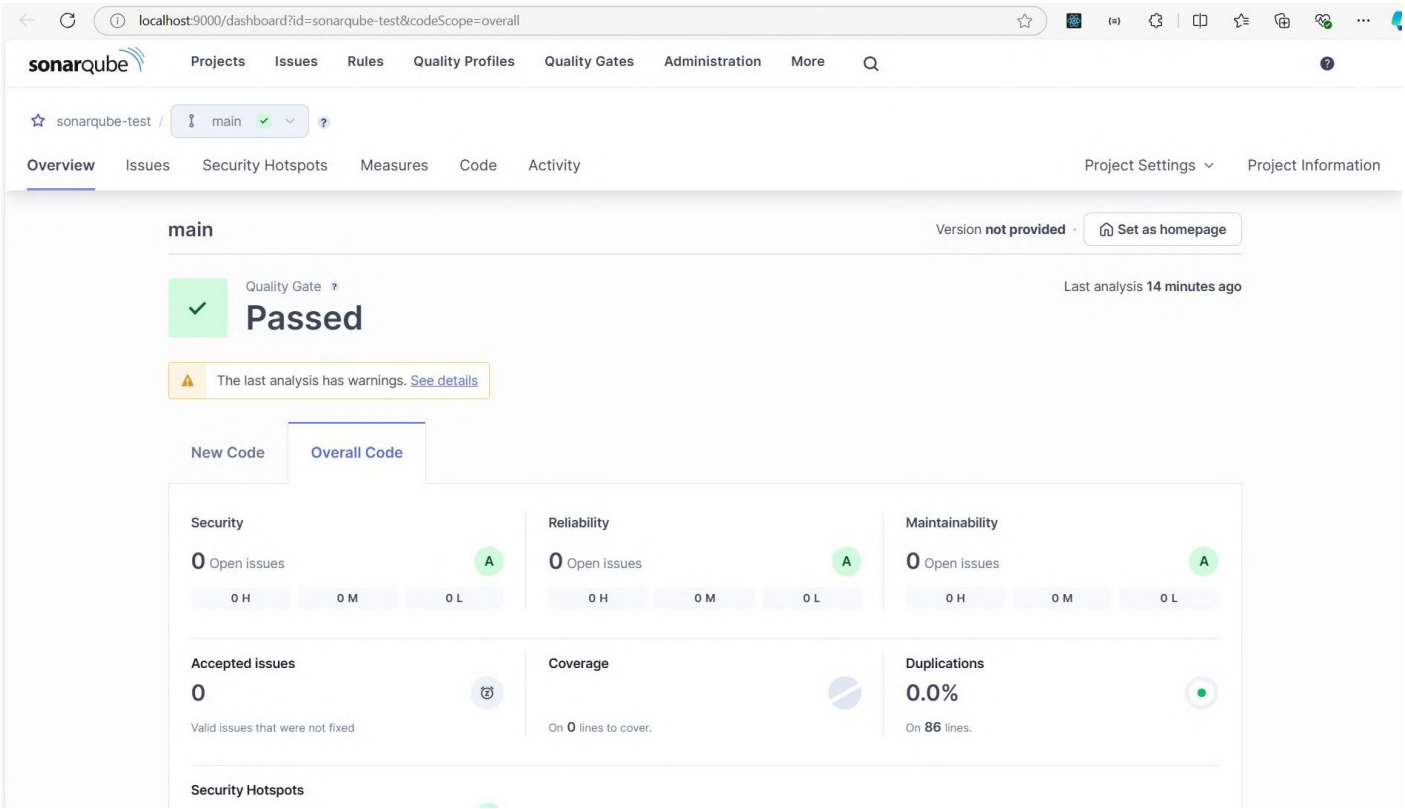


Step 11: Now, come back to Jenkins and click on Build Now. The build is success.





Step 12: Visit the following URL to see the result - http://localhost:9000/dashboard?id=sonarqube-test&codeScope=overall

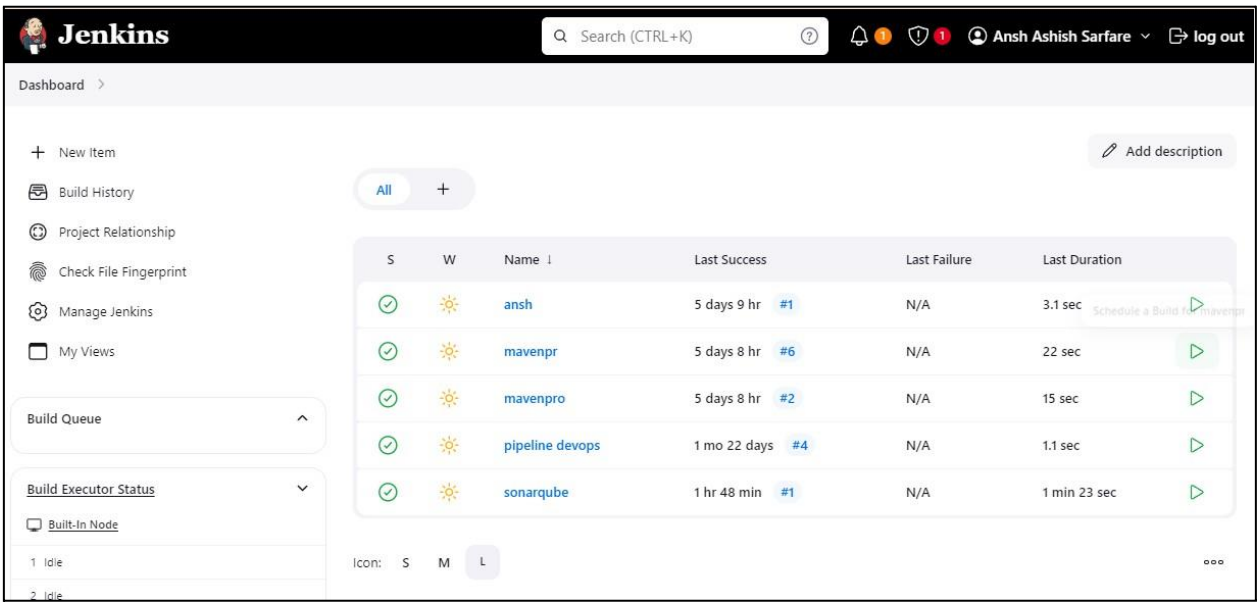

localhost:9000/dashboard?id=sonarqube-test&codeScope=overall
sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
sonarqube-test
main
Overview
Issues
Security Hotspots
Measures
Code
Activity
Project Settings
Project Information
main
Version not provided
Set as homepage
Quality Gate
Passed
Last analysis 14 minutes ago
The last analysis has warnings. See details
New Code
Overall Code
Security
0 Open issues
A
0 H
0 M
0 L
Reliability
0 Open issues
A
0 H
0 M
0 L
Maintainability
0 Open issues
A
0 H
0 M
0 L
Accepted issues
0
Valid issues that were not fixed
Coverage
On 0 lines to cover.
Duplications
0.0%
On 86 lines.
Security Hotspots

ADVANCE DEVOPS EXP-8

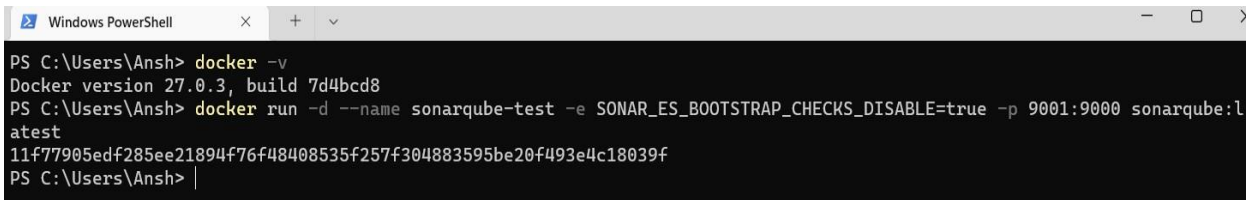
Sanket More
D15A 30

Aim: Create a Jenkins CICD Pipeline with SonarQube / GitLab Integration to perform a static analysis of the code to detect bugs, code smells, and security vulnerabilities on a sample Web / Java / Python application.

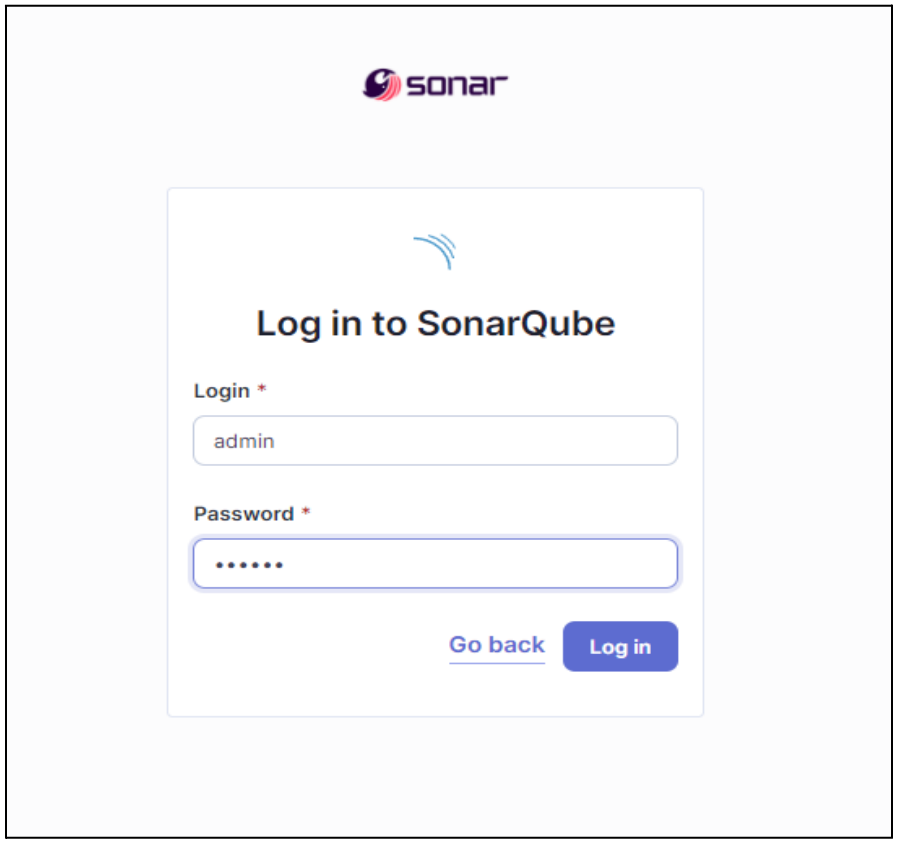
Step-1: Open up Jenkins Dashboard on localhost, port 8080 or whichever port it is atfor you.



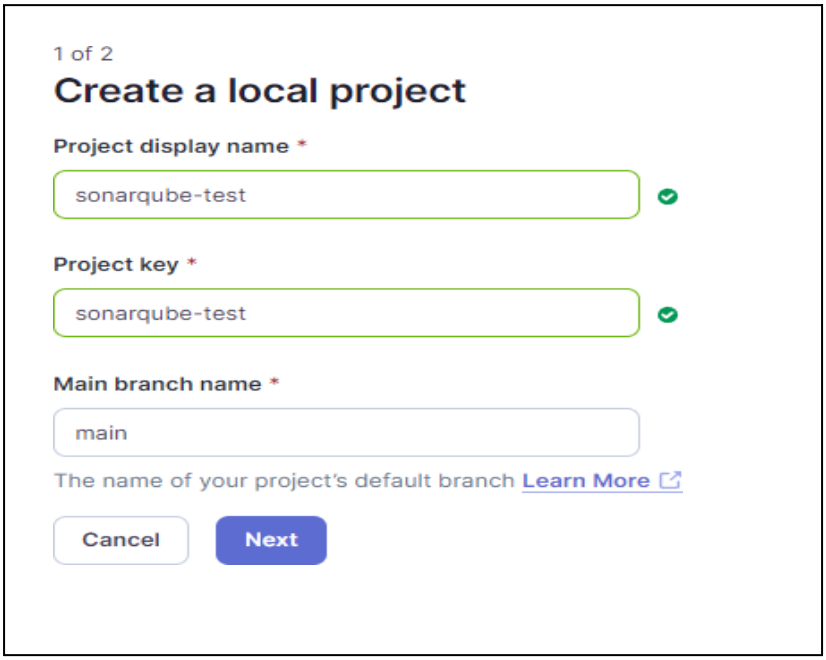
Step-2: Run SonarQube in a Docker container using this command :- a]docker -vb]
docker run -d --name sonarqube-test -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9001:9000 sonarqube:latest



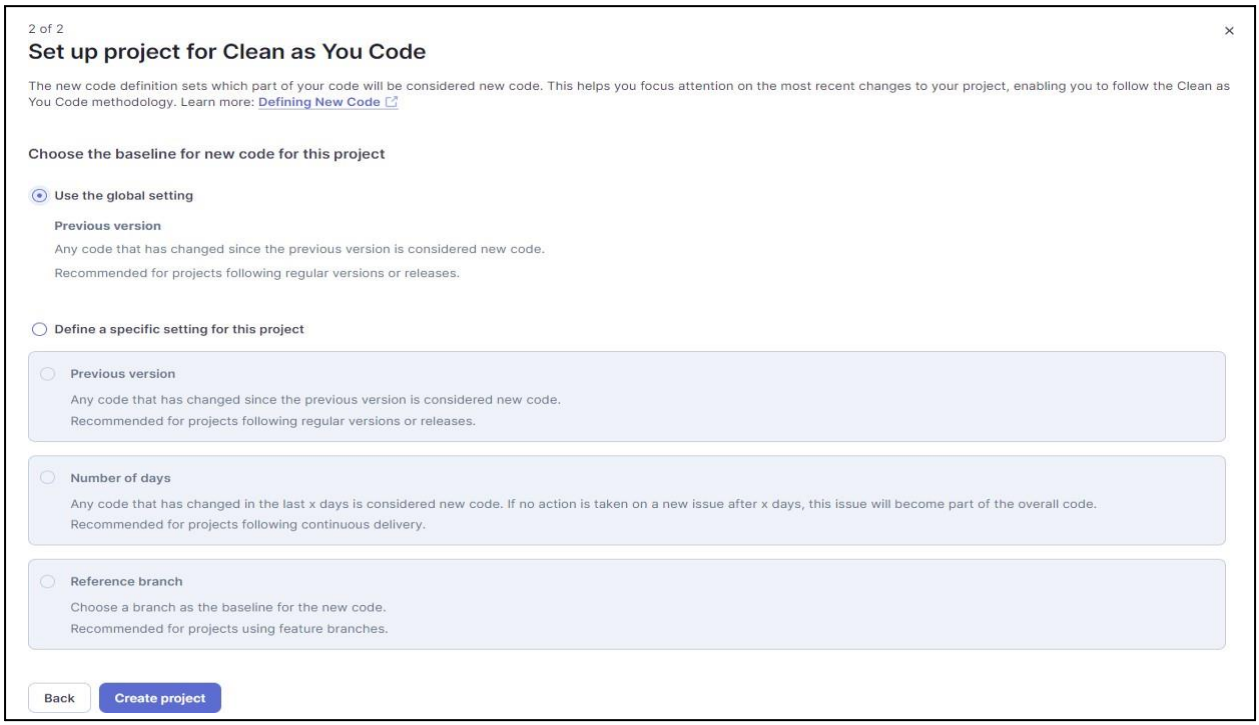
Step-3: Once the container is up and running, you can check the status of SonarQubeat localhost port 9001. The login id is “admin” and the password is also “ansh16”.



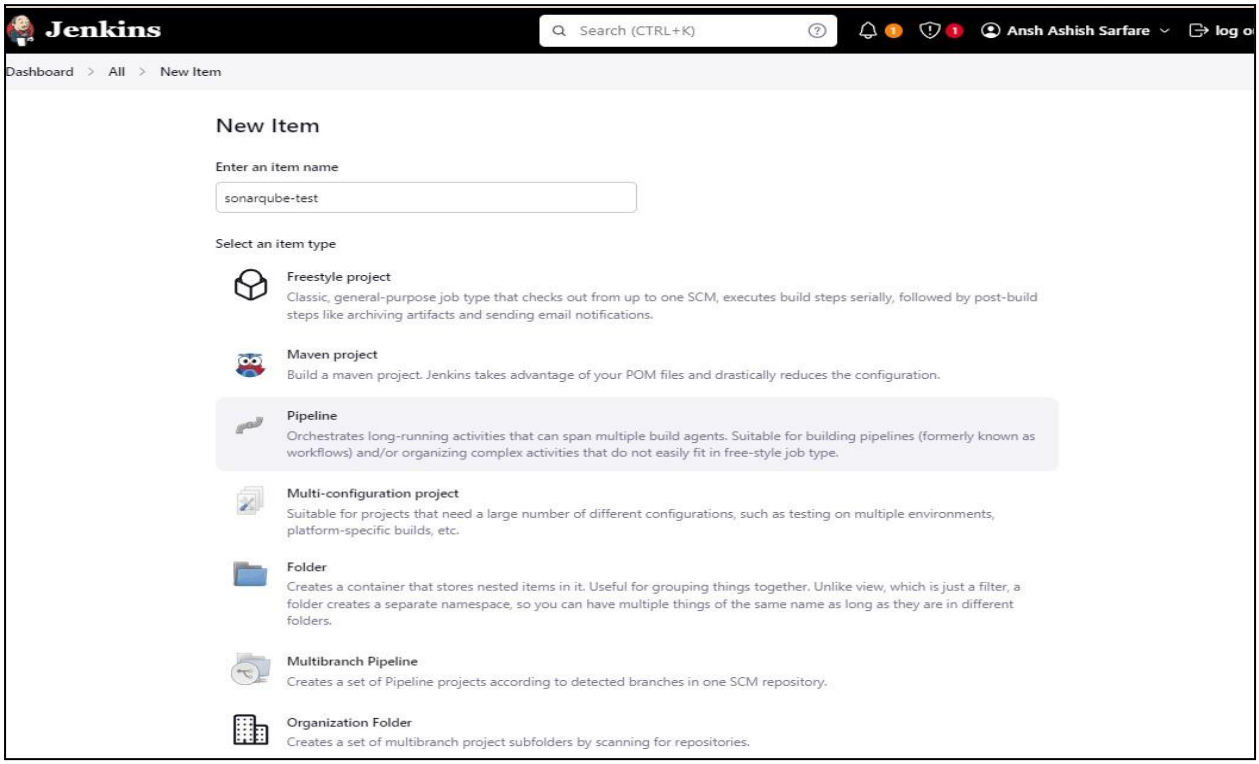
Step-4: Create a local project in SonarQube with the name sonarqube-test.



Step-5: Setup the project and come back to Jenkins Dashboard.



Step-6: Create a New Item in Jenkins, choose Pipeline.

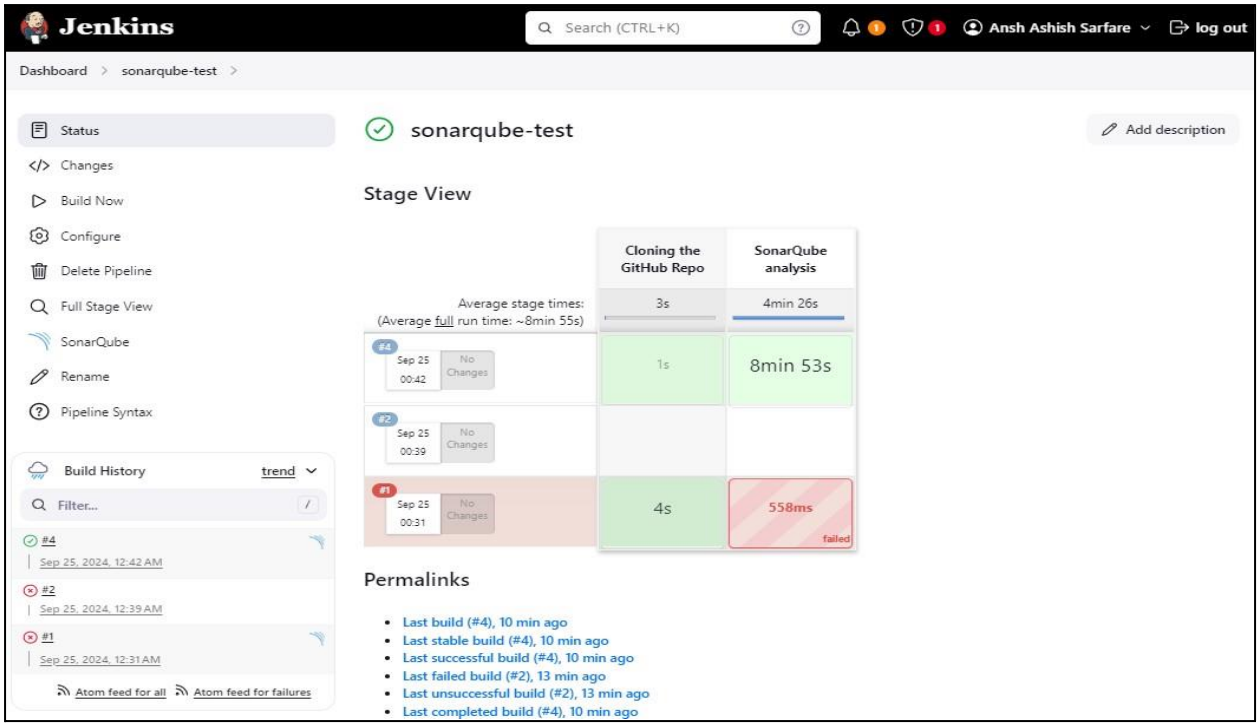


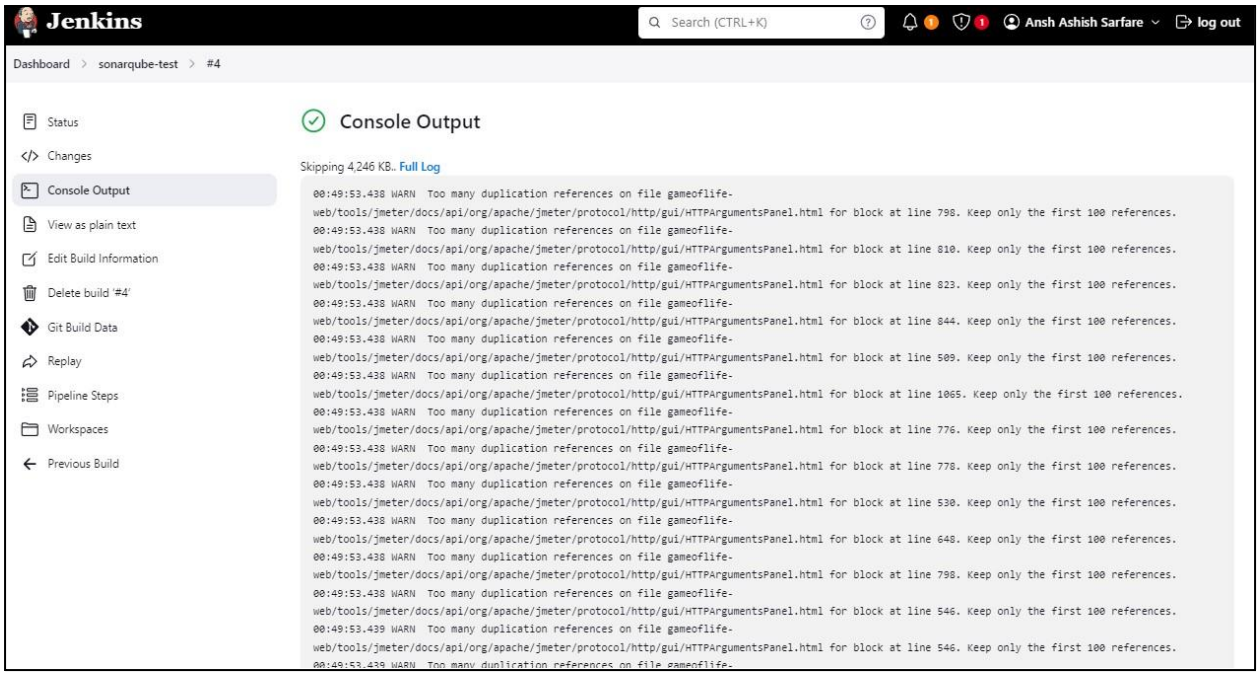
Step-7: Under Pipeline Script, enter the following -

```
node {
      stage('Cloning the GitHub Repo')
     {
      git 'https://github.com/shazforiot/GOL.git'
}
stage('SonarQube analysis') {
withSonarQubeEnv('sonarqube') {bat
"C:\\Users\\Ansh\\Downloads\\sonar-scanner-cli-6.1.0.4477-windows-x64\\sonar-scanner-6.1.0. 4477-
windows-x64\\bin\\sonar-scanner.bat \
-D sonar.login=admin \
-D sonar.password=ansh16 \
-D sonar.projectKey=sonarqube-test \
-D sonar.exclusions=vendor/**,resources/**,**/*.java \
-D sonar.host.url=http://localhost:9001/"
}
}
}
```

It is a java sample project which has a lot of repetitions and issues that will be detected by SonarQube.

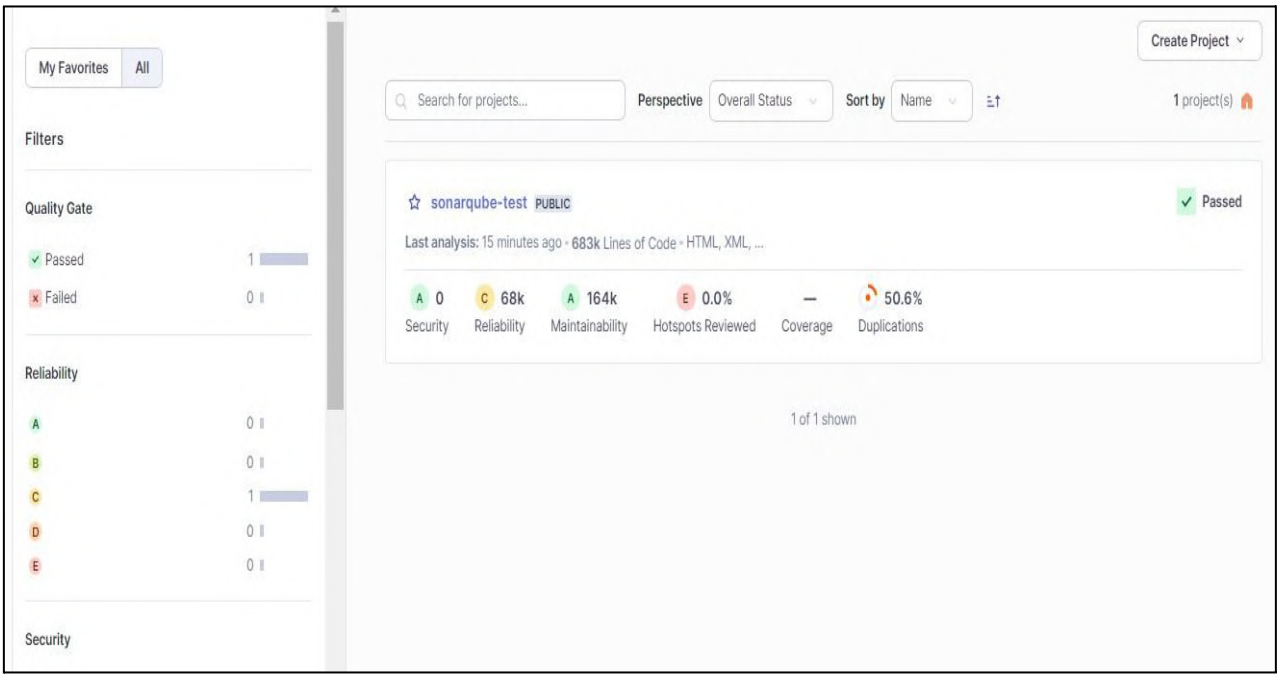
Step-8: Run The Build and check the console output:

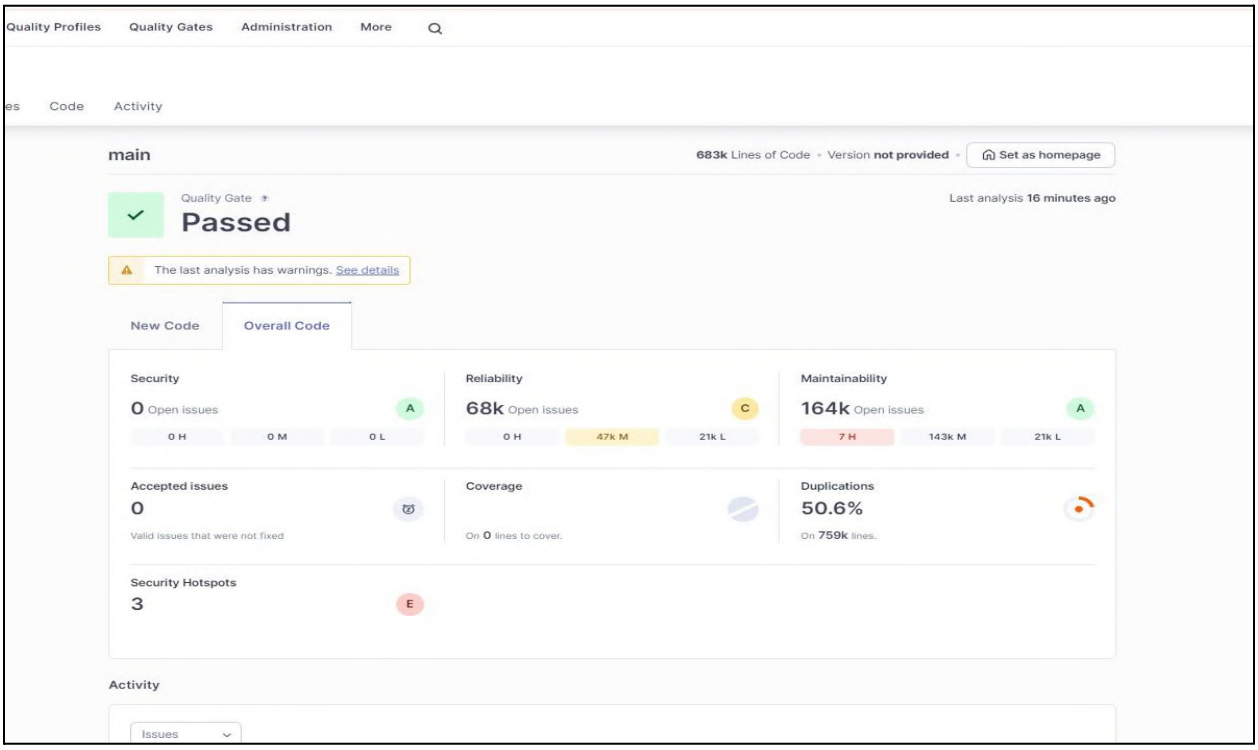




```
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 177. Keep only the first 100 referen
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 180. Keep only the first 100 referen
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 65. Keep only the first 100 referenc
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 349. Keep only the first 100 referen
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 40. Keep only the first 100 referenc
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 75. Keep only the first 100 referenc
00:49:56.323 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 41. Keep only the first 100 referenc
00:49:56.324 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 17. Keep only the first 100 referenc
00:49:56.324 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 296. Keep only the first 100 referen
00:49:56.324 WARN  Too many duplication references on file gameoflife-web/tools/jmeter/docs/api/org/apache/jmeter/gui/util/TextAreaCellRenderer.html for block at line 75. Keep only the first 100 referenc
00:49:56.324 INFO  CPD Executor CPD calculation finished (done) | time=94621ms
00:49:56.350 INFO  SCM revision ID 'ba799ba7e1b576f04a4612322b0412c5e6e1e5e4'
00:51:30.402 INFO  Analysis report generated in 2893ms, dir size=127.2 MB
00:51:40.652 INFO  Analysis report compressed in 10210ms, zip size=29.6 MB
00:51:44.098 INFO  Analysis report uploaded in 3444ms
00:51:44.101 INFO  ANALYSIS SUCCESSFUL, you can find the results at: http://127.0.0.1:9001/dashboard?id=sonarqube-test
00:51:44.101 INFO  Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
00:51:44.101 INFO  More about the report processing at http://127.0.0.1:9001/api/ce/task?id=22b0b5c1-635d-4c1b-8d62-99d4ce4567b9
00:51:53.341 INFO  Analysis total time: 8:44.093 s
00:51:53.349 INFO  SonarScanner Engine completed successfully
00:51:54.059 INFO  EXECUTION SUCCESS
00:51:54.071 INFO  Total time: 8:51.363s
[Pipeline] }
[Pipeline] // withSonarQubeEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

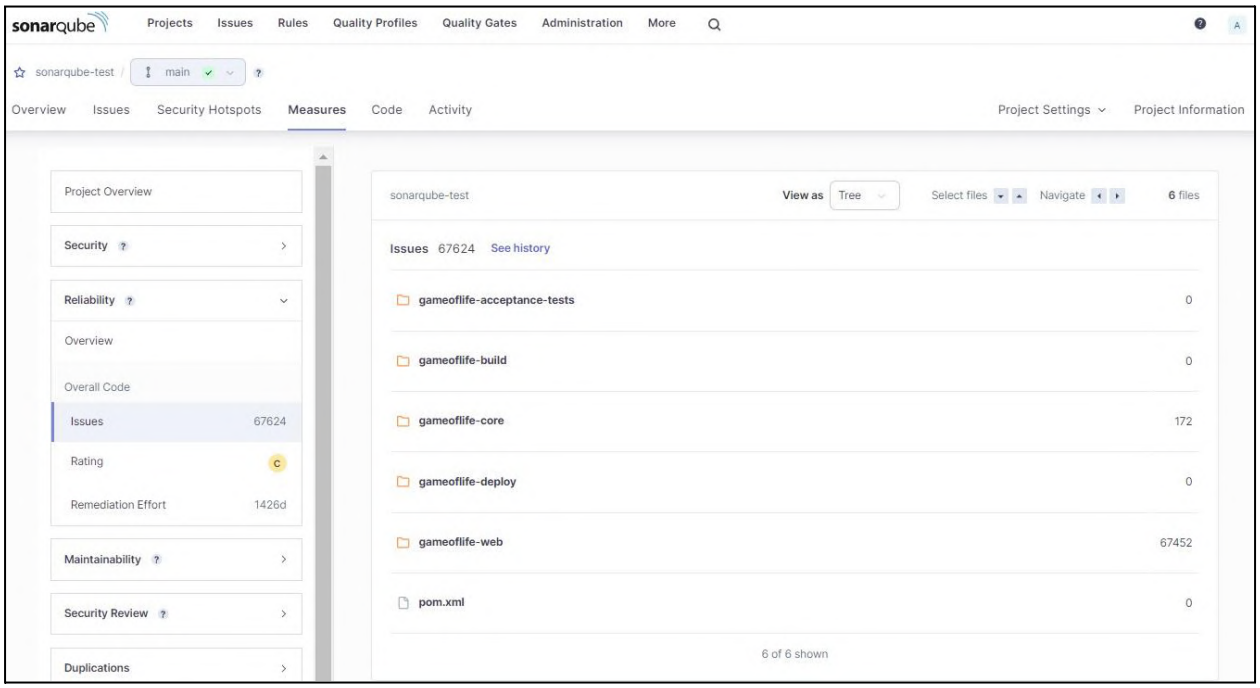
Step-9: After that, check the project in SonarQube.



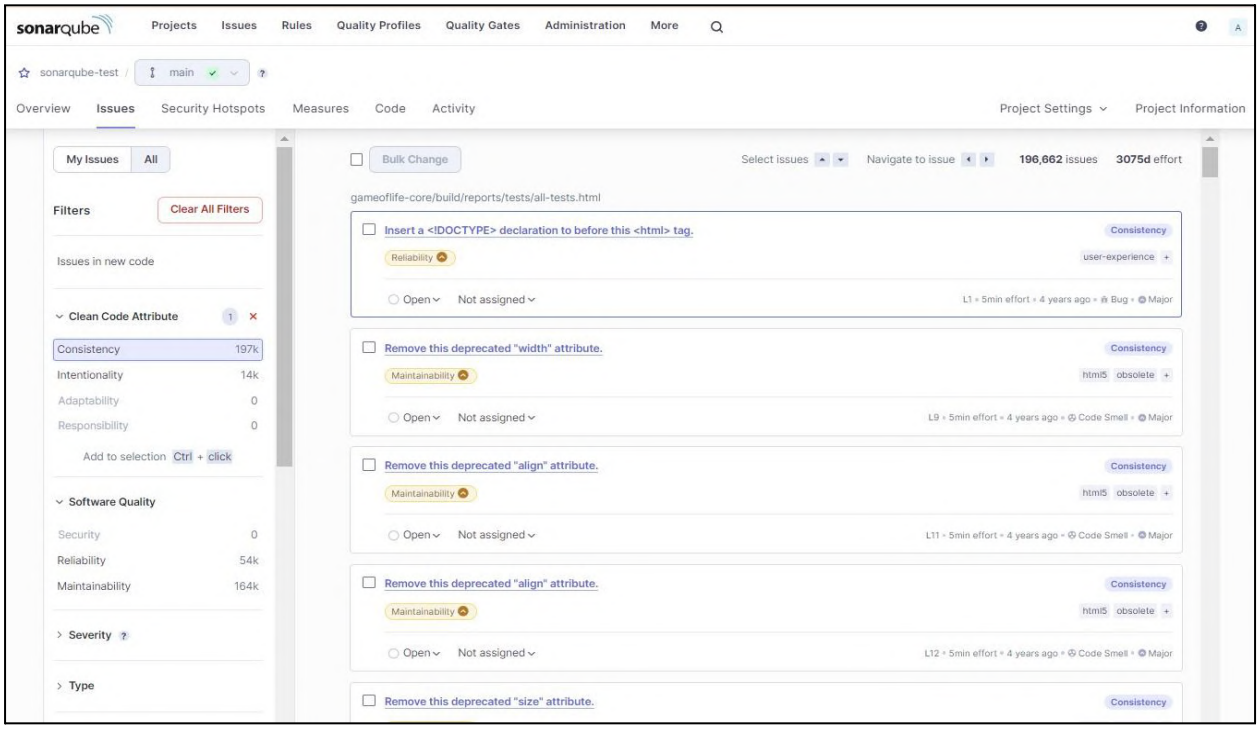


Step-10: Under different tabs, check all different issues with the code.
Code Problems

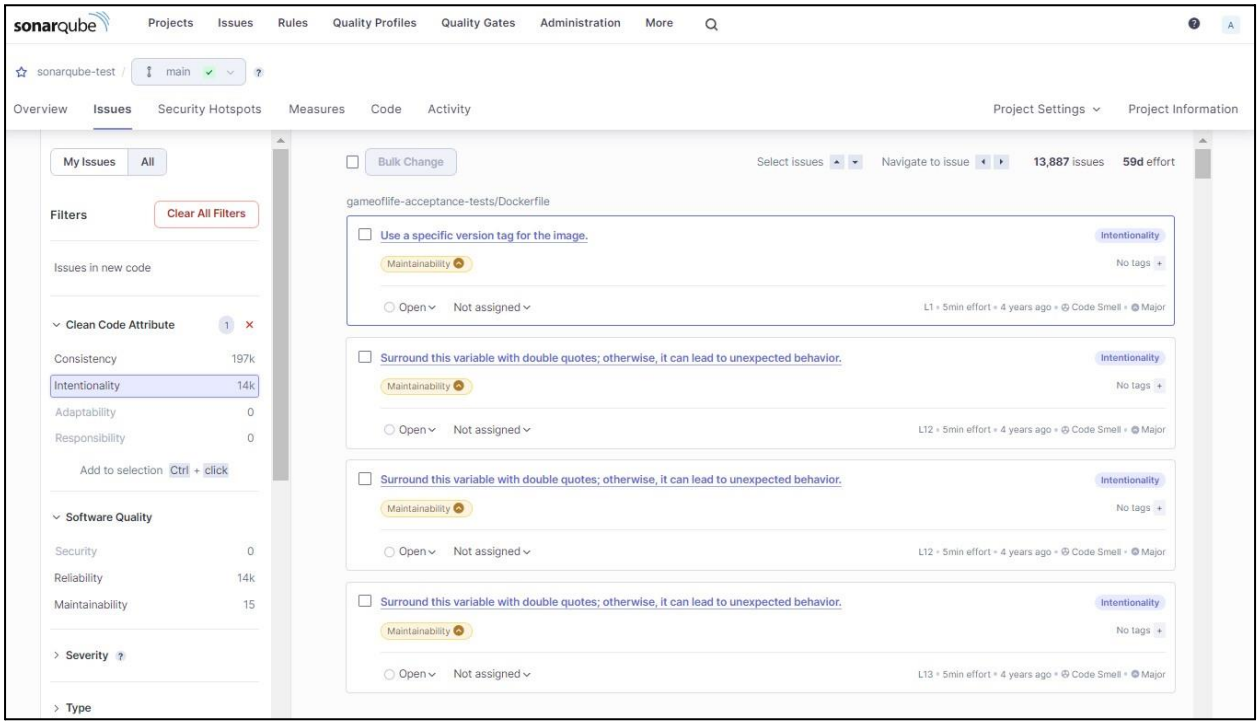
Code issues:



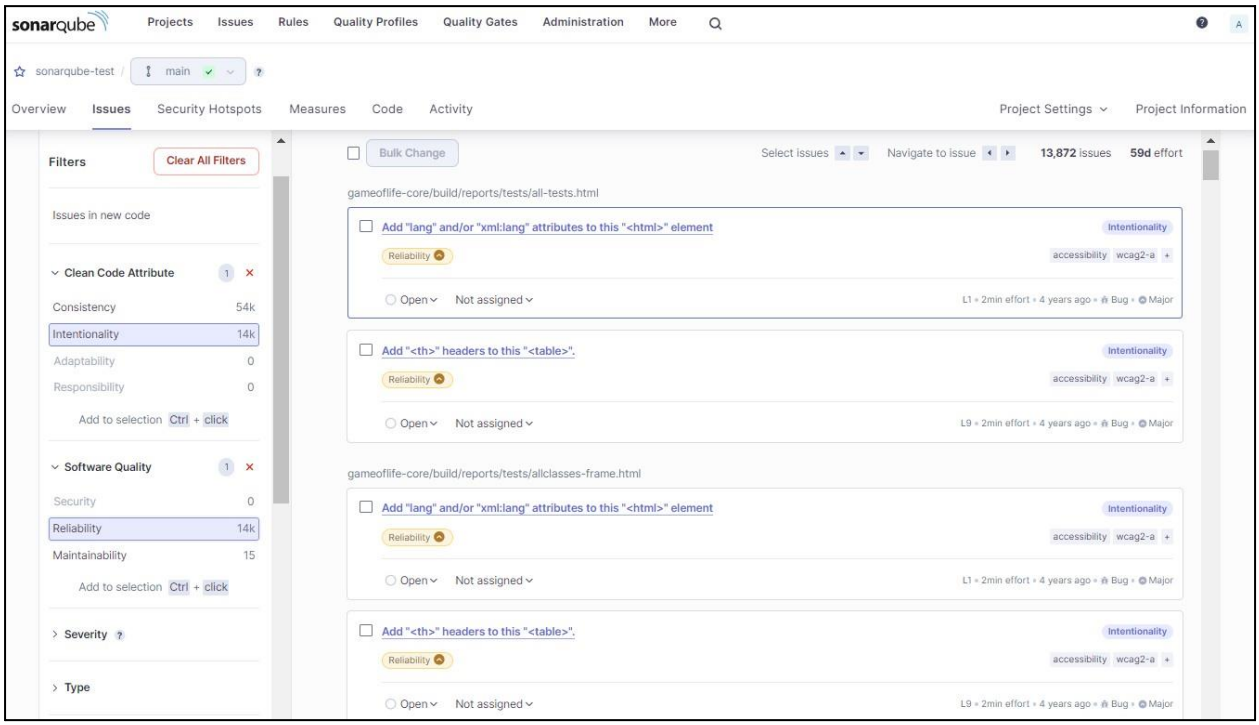
Consistency:



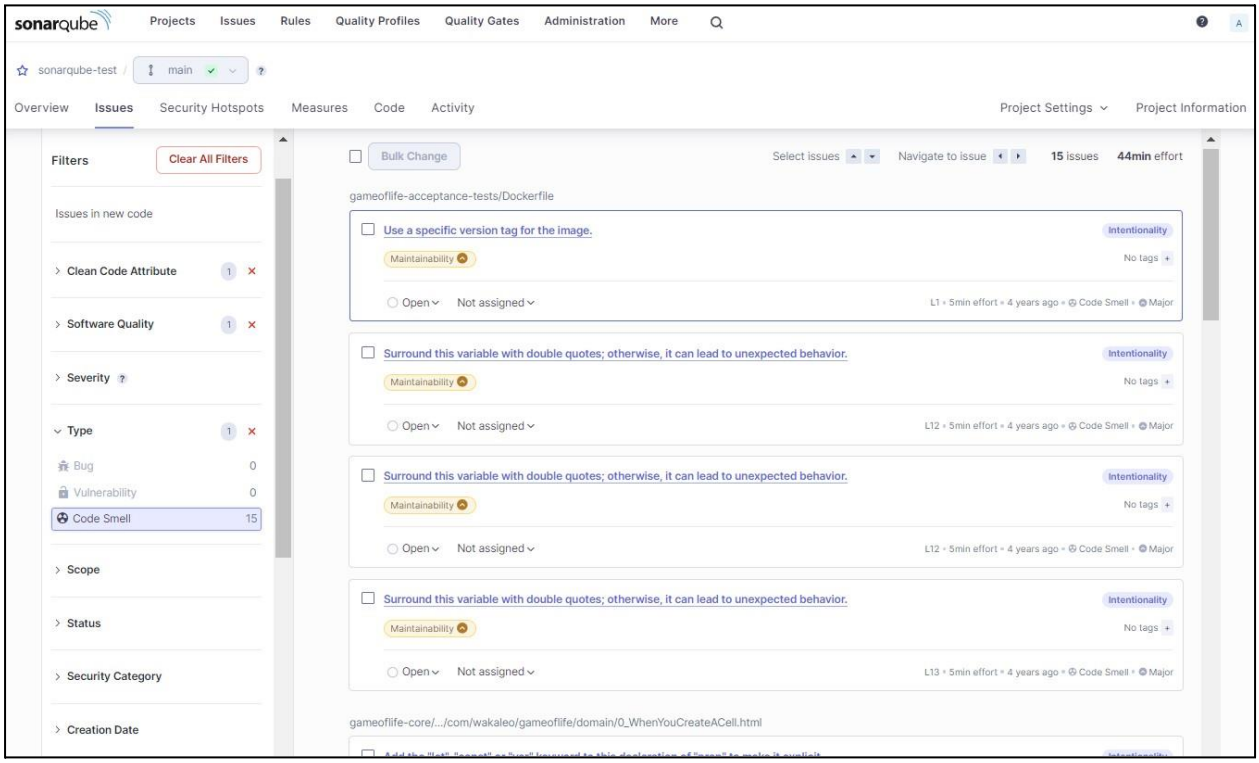
Intentionally:



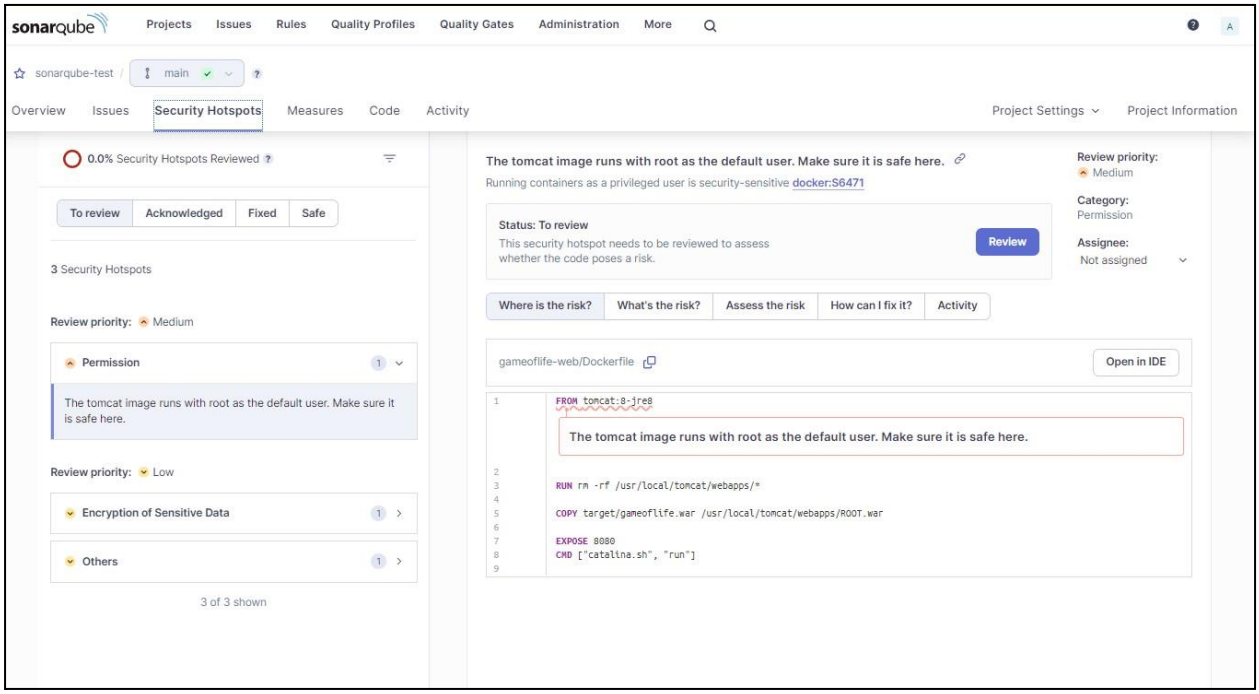
Reliability:



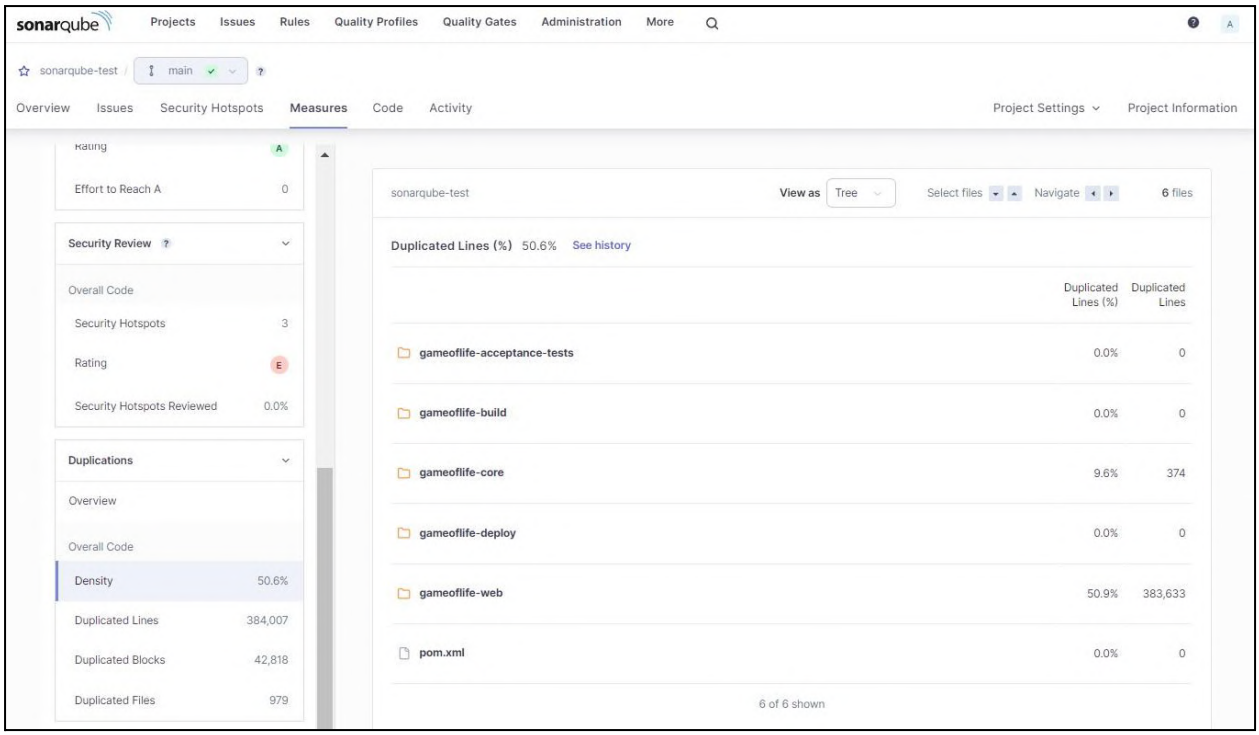
Code smells:



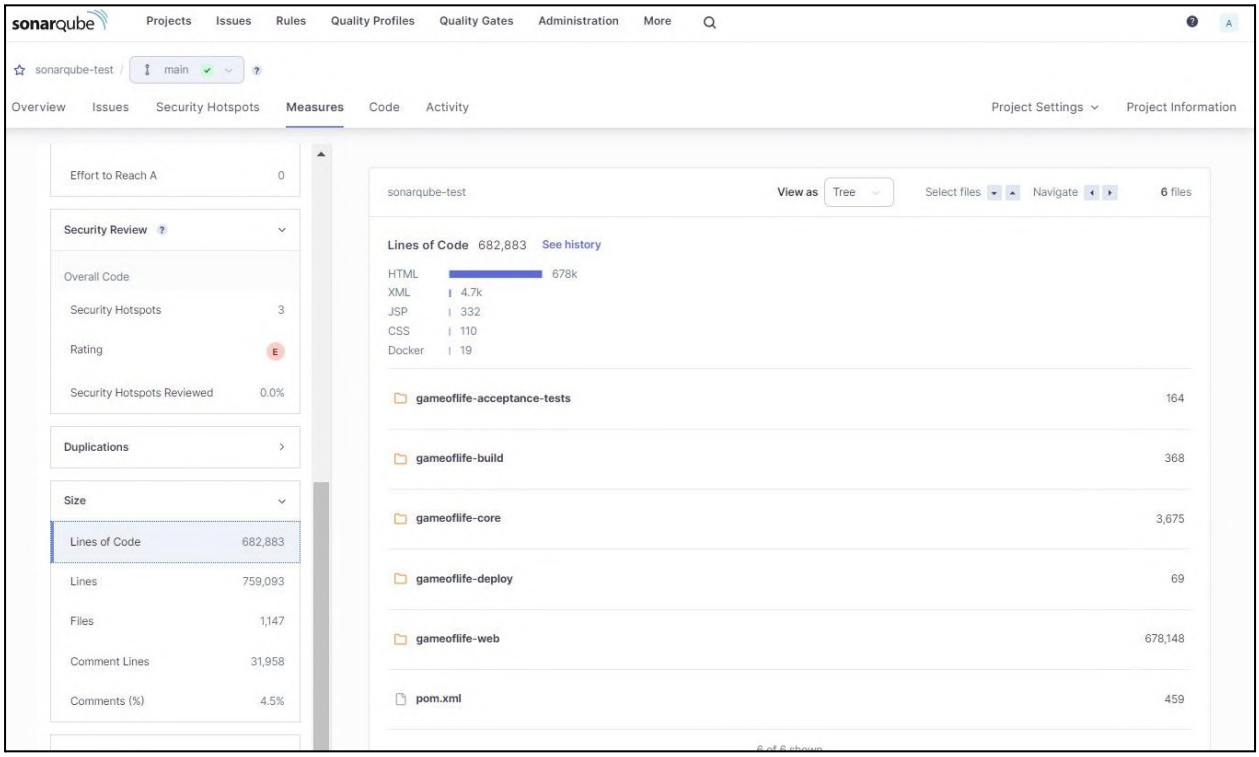
Security hotspot:



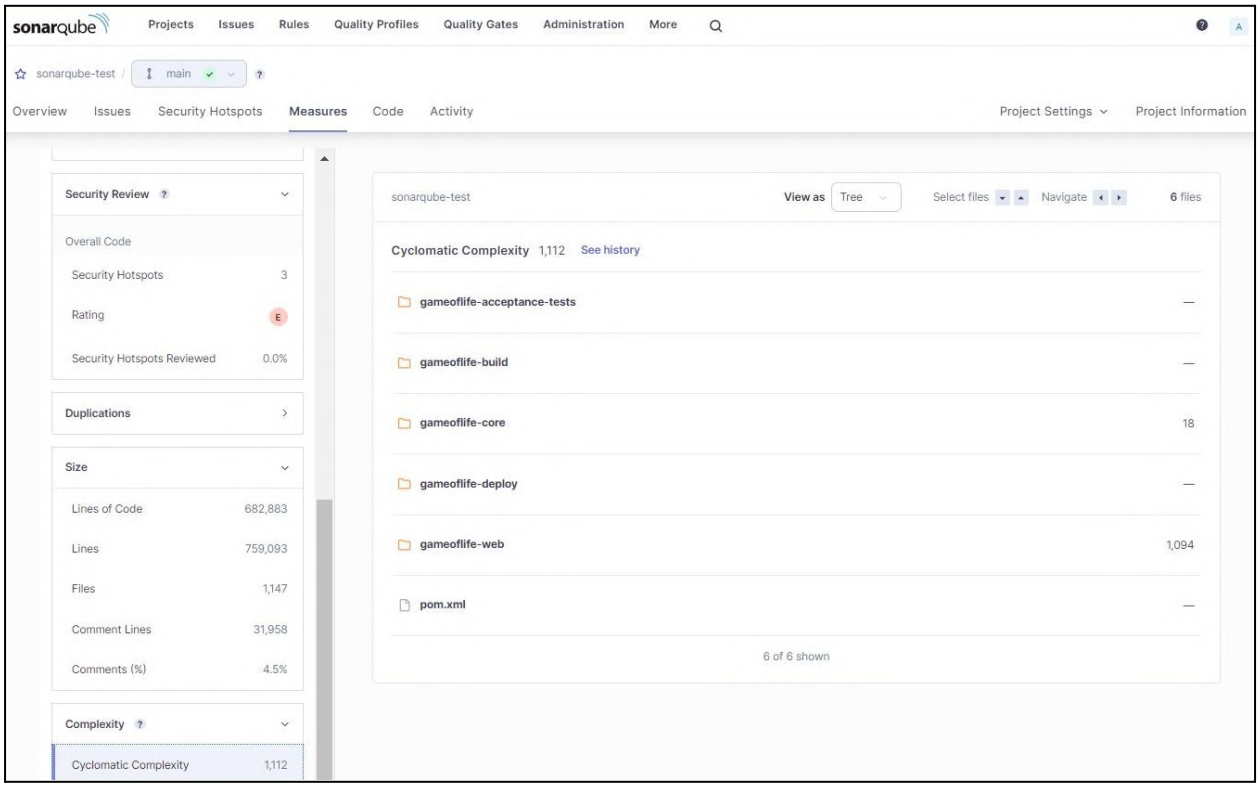
Duplicates:



Size:



Complexity:



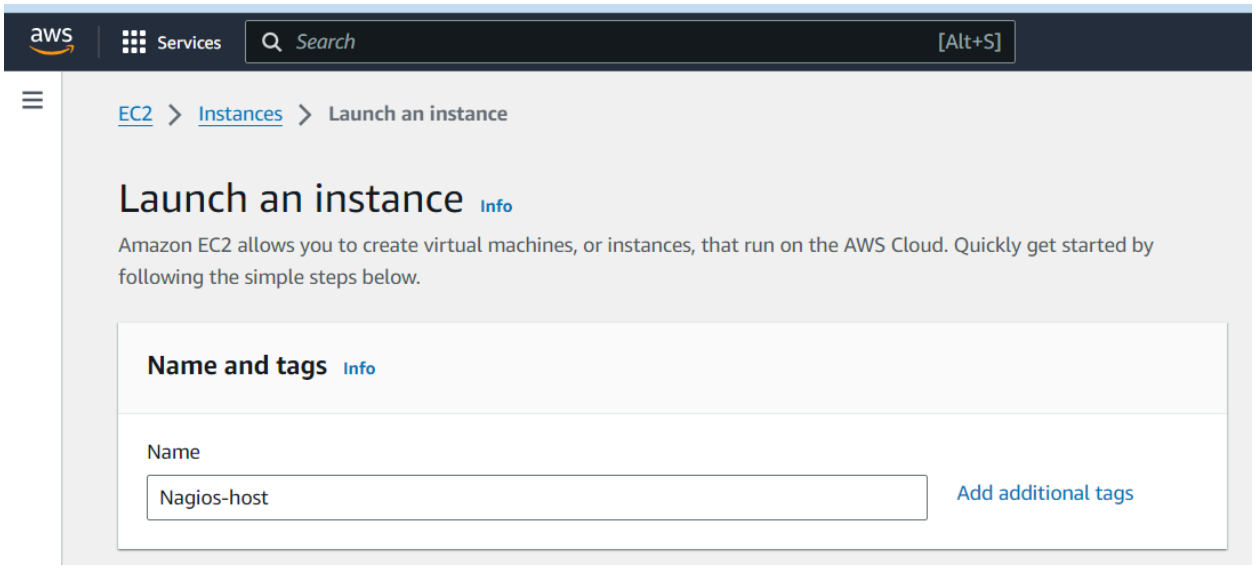
Advanced DevOps Exp-9

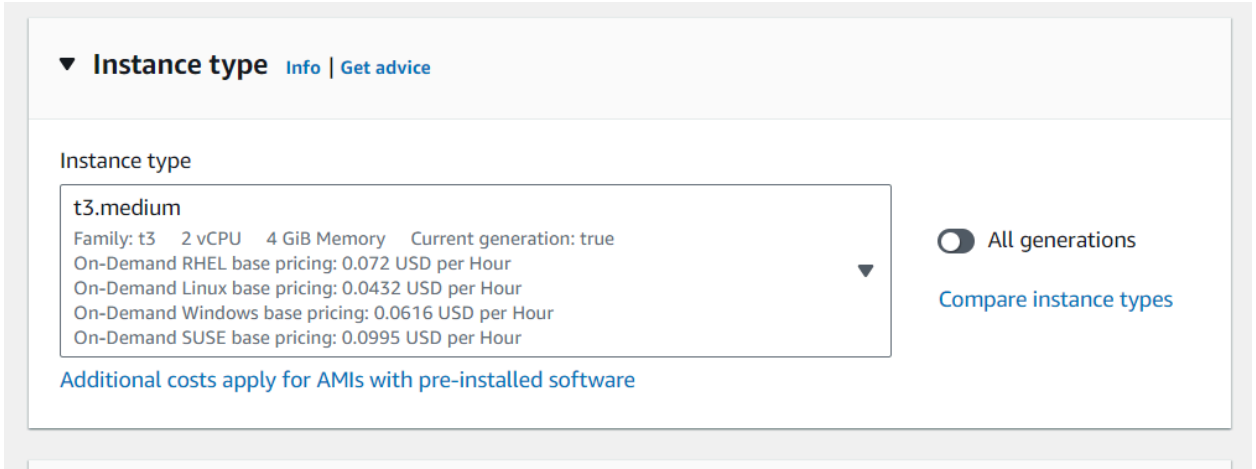
Sanket More
D15A 30

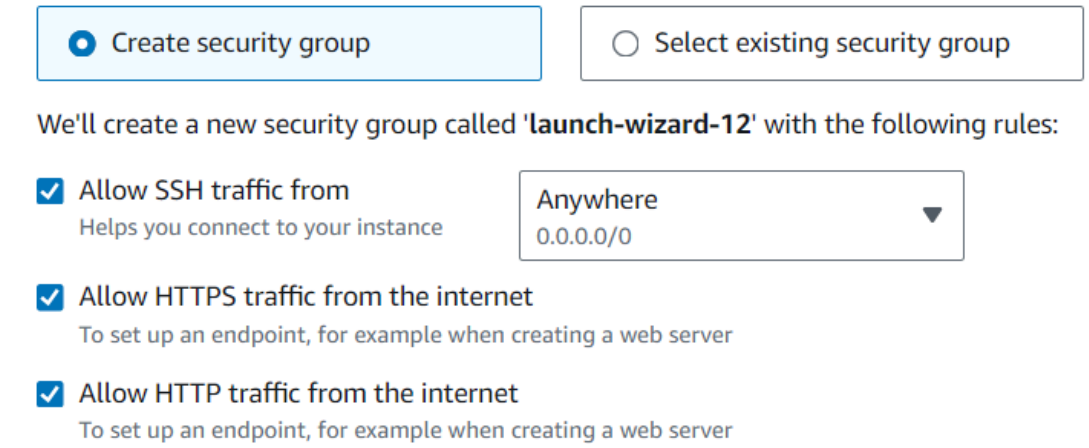
Aim: To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

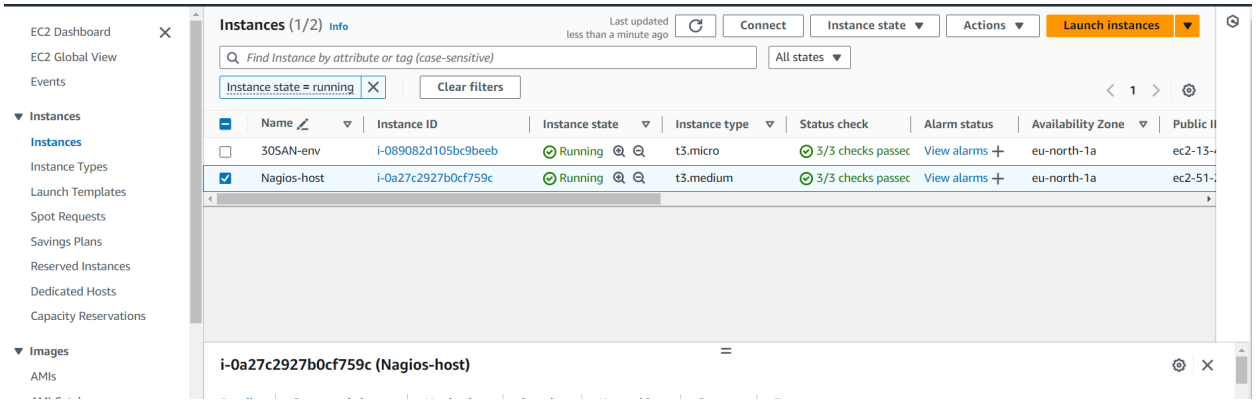
Procedure:-

Step 1: Create an EC2 Instance and name it as nagios-host

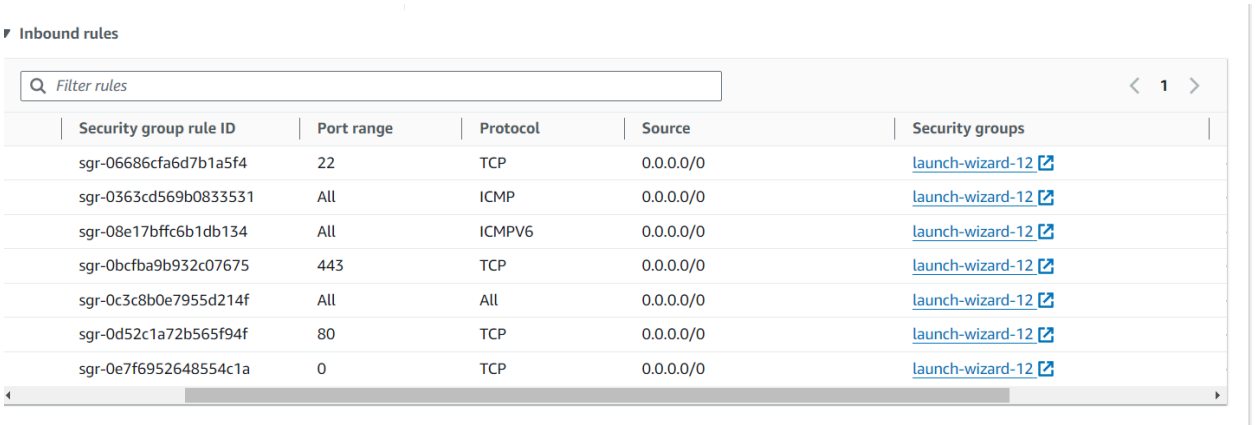








Step 2: Under the security groups, click on edit inbound rules and set as shown in the figure below



Step 3: Now, run the following commands -
sudo su sudo yum update
sudo yum install httpd php
sudo yum install gcc glibc glibc-common
sudo yum install gd gd-devel

```
[ec2-user@ip-172-31-16-211 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:04:23 ago on Sun Sep 29 04:05:53 2024.
Dependencies resolved.
================================================================================
 Package                    Architecture          Version
================================================================================
Installing:
 httpd                      x86_64                2.4.62-1.amzn2023
 php8.3                     x86_64                8.3.10-1.amzn2023.0.1
Installing dependencies:
 apr                        x86_64                1.7.2-2.amzn2023.0.2
 apr-util                   x86_64                1.6.3-1.amzn2023.0.1
```

```
[ec2-user@ip-172-31-16-211 ~]$ sudo yum install gcc glibc glibc-common
Last metadata expiration check: 0:04:54 ago on Sun Sep 29 04:05:53 2024.
Package glibc-2.34-52.amzn2023.0.11.x86_64 is already installed.
Package glibc-common-2.34-52.amzn2023.0.11.x86_64 is already installed.
Dependencies resolved.
================================================================================
 Package                    Architecture          Version
================================================================================
Installing:
 gcc                        x86_64                11.4.1-2.amzn2023.0.2
Installing dependencies:
 annobin-docs               noarch                10.93-1.amzn2023.0.1
 annobin-plugin-gcc         x86_64                10.93-1.amzn2023.0.1
 cpp                        x86_64                11.4.1-2.amzn2023.0.2
```

```
[ec2-user@ip-172-31-16-211 ~]$ sudo yum install gd gd-devel
Last metadata expiration check: 0:05:21 ago on Sun Sep 29 04:05:53 2024.
Dependencies resolved.
================================================================================
 Package                    Architecture          Version
================================================================================
Installing:
 gd                         x86_64                2.3.3-5.amzn2023.0.3
 gd-devel                   x86_64                2.3.3-5.amzn2023.0.3
Installing dependencies:
```

Step 4: Create a new nagios user with its password.
sudo adduser -m nagios
sudo passwd nagios
sudo groupadd nagcmd
sudo usermod -a -G nagcmd nagios
sudo usermod -a -G nagcmd apache

```
[ec2-user@ip-172-31-16-211 ~]$ sudo adduser -m nagios
[ec2-user@ip-172-31-16-211 ~]$ sudo passwd nagios
Changing password for user nagios.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
```

```
[ec2-user@ip-172-31-16-211 ~]$ sudo groupadd nagcmd
[ec2-user@ip-172-31-16-211 ~]$ sudo usermod -a -G nagcmd nagios
[ec2-user@ip-172-31-16-211 ~]$ sudo usermod -a -G nagcmd apache
```

Step 5: Now, run the following commands -
mkdir ~/downloads
cd ~/downloads
Wget
http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz tar zxvf nagios-4.0.8.tar.gz

```
[ec2-user@ip-172-31-16-211 ~]$ mkdir ~/downloads
[ec2-user@ip-172-31-16-211 ~]$ cd ~/downloads
[ec2-user@ip-172-31-16-211 downloads]$
```

```
[ec2-user@ip-172-31-16-211 downloads]$ wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
--2024-09-29 04:17:09--  http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
Resolving prdownloads.sourceforge.net (prdownloads.sourceforge.net)... 204.68.111.105
Connecting to prdownloads.sourceforge.net (prdownloads.sourceforge.net)|204.68.111.105|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz [following]
--2024-09-29 04:17:10--  http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz
```

```
[ec2-user@ip-172-31-16-211 downloads]$ wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
--2024-09-29 04:17:25--  http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 45.56.123.251
Connecting to nagios-plugins.org (nagios-plugins.org)|45.56.123.251|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2659772 (2.5M) [application/x-gzip]
Saving to: 'nagios-plugins-2.0.3.tar.gz'

nagios-plugins-2.0.3.tar.gz             100%[=========================================================================>]   2.54M  1.68MB/s    in 1.5s

2024-09-29 04:17:27 (1.68 MB/s) - 'nagios-plugins-2.0.3.tar.gz' saved [2659772/2659772]
```

```
[ec2-user@ip-172-31-16-211 downloads]$ tar zxvf nagios-4.0.8.tar.gz
nagios-4.0.8/
nagios-4.0.8/.gitignore
nagios-4.0.8/Changelog
nagios-4.0.8/INSTALLING
nagios-4.0.8/LEGAL
nagios-4.0.8/LICENSE
nagios-4.0.8/Makefile.in
nagios-4.0.8/README
nagios-4.0.8/README.asciidoc
nagios-4.0.8/THANKS
nagios-4.0.8/UPGRADING
nagios-4.0.8/base/
nagios-4.0.8/base/.gitignore
nagios-4.0.8/base/Makefile.in
```

```
[ec2-user@ip-172-31-16-211 downloads]$ cd nagios-4.0.8
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

Step 6: Now to run the configuration script run the following command.
./configure --with-command-group=nagcmd

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
```

Step 7: Now, to compile the source code run the following command - make all
sudo make install
sudo make install-init
sudo make install-config
sudo make install-commandmode

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ make all
cd ./base && make
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o broker.o broker.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o nebmods.o nebmods.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o ../common/shared.o ../common/shared.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o nerd.o nerd.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o query-handler.o query-handler.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o workers.o workers.c
In function ‘get_wproc_list’,
    inlined from ‘get_worker’ at workers.c:224:12:
workers.c:209:17: warning: ‘%s’ directive argument is null [-Wformat-overflow=]
  209 |                 log_debug_info(DEBUGL_CHECKS, 1, "Found specialized worker(s) for '%s'", (slash && *slash != '/') ? slash : cmd_name);
      |                 ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o checks.o checks.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o config.o config.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o commands.o commands.c
commands.c: In function ‘process_passive_service_check’:
commands.c:2247:19: warning: assignment discards ‘const’ qualifier from pointer target type [-Wdiscarded-qualifiers]
 2247 |         cr.source = command_worker.source_name;
      |                   ^
commands.c: In function ‘process_passive_host_check’:
```

```
c2-user/downloads/nagios-4.0.8/base/../common/shared.c:24: f
collect2: error: ld returned 1 exit status
make[1]: *** [Makefile:177: archivejson.cgi] Error 1
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-
make: *** [Makefile:72: all] Error 2
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

```
collect2: error: ld returned 1 exit status
make[1]: *** [Makefile:177: archivejson.cgi] Error 1
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make: *** [Makefile:72: all] Error 2
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

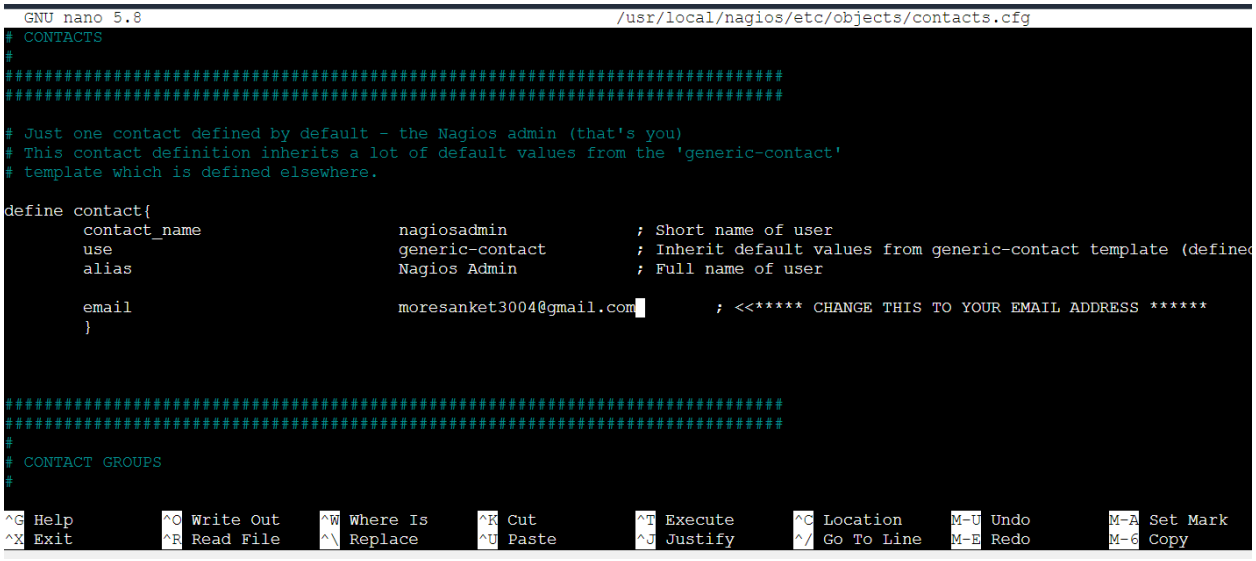
```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo make install
cd ./base && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make install-basic
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagiostats /usr/local/nagios/bin
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make strip-post-install
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
/usr/bin/strip /usr/local/nagios/bin/nagios
/usr/bin/strip /usr/local/nagios/bin/nagiostats
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
cd ./cgi && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make install-basic
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/sbin
for file in *.cgi; do \
        /usr/bin/install -c -m 775 -o nagios -g nagios $file /usr/local/nagios/sbin; \
done
/usr/bin/install: cannot stat '*.cgi': No such file or directory
make[2]: *** [Makefile:205: install-basic] Error 1
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo make install-init
/usr/bin/install -c -m 755 -d -o root -g root /etc/rc.d/init.d
/usr/bin/install -c -m 755 -o root -g root daemon-init /etc/rc.d/init.d/nagios

*** Init script installed ***

[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo make install-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/local/nagios/etc/nagios.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/cgi.cfg /usr/local/nagios/etc/cgi.cfg
/usr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/resource.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/templates.cfg /usr/local/nagios/etc/objects/templates.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/commands.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/timeperiods.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/windows.cfg /usr/local/nagios/etc/objects/windows.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/printer.cfg /usr/local/nagios/etc/objects/printer.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/switch.cfg /usr/local/nagios/etc/objects/switch.cfg

*** Config files installed ***

Remember, these are *SAMPLE* config files.  You'll need to read
the documentation for more information on how to actually define
services, hosts, etc. to fit your particular needs.

[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

Step 8: Edit the config file and change the email address. sudo nano /usr/local/nagios/etc/objects/contacts.cfg



Step 9: Now run the following commands –
sudo make install-webconf
sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
sudo service httpd restart
cd ~/downloads
tar zxvf nagios-plugins-2.0.3.tar.gz

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf

*** Nagios/Apache conf file installed ***
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ sudo service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$
```

```
[ec2-user@ip-172-31-16-211 nagios-4.0.8]$ cd ~/downloads
[ec2-user@ip-172-31-16-211 downloads]$ tar zxvf nagios-plugins-2.0.3.tar.gz
nagios-plugins-2.0.3/
nagios-plugins-2.0.3/perlmods/
nagios-plugins-2.0.3/perlmods/Config-Tiny-2.14.tar.gz
nagios-plugins-2.0.3/perlmods/parent-0.226.tar.gz
nagios-plugins-2.0.3/perlmods/Test-Simple-0.98.tar.gz
nagios-plugins-2.0.3/perlmods/Makefile.in
nagios-plugins-2.0.3/perlmods/version-0.9903.tar.gz
nagios-plugins-2.0.3/perlmods/Makefile.am
nagios-plugins-2.0.3/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.0.3/perlmods/Module-Metadata-1.000014.tar.gz
nagios-plugins-2.0.3/perlmods/Params-Validate-1.08.tar.gz
nagios-plugins-2.0.3/perlmods/Class-Accessor-0.34.tar.gz
nagios-plugins-2.0.3/perlmods/Try-Tiny-0.18.tar.gz
```

Step 10: Compile and install plugins

cd nagios-plugins-2.0.3

./configure --with-nagios-user=nagios --with-nagios-group=nagios

make

sudo make install

```
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ ./configure --with-nagios-user=nagios --with-nagios-group=nagios
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether to disable maintainer-specific portions of Makefiles... yes
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
```

```
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo make install
```

```
make  install-exec-hook
make[3]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins'
cd /usr/local/nagios/libexec && \
for i in check_ftp check_imap check_nntp check_pop check_udp check_clamd  ; do rm -f $i; ln -
if [ -x check_ldap ] ; then rm -f check_ldaps ; ln -s check_ldap check_ldaps ; fi
make[3]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins'
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins'
Making install in plugins-scripts
make[1]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins-scripts'
make[2]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins-scripts'
test -z "/usr/local/nagios/libexec" || /usr/bin/mkdir -p "/usr/local/nagios/libexec"
 /usr/bin/install -c -o nagios -g nagios check_breeze check_disk_smb check_flexlm check_ircd
tus check_ifoperstatus check_mailq check_file_age utils.sh utils.pm '/usr/local/nagios/libexe
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/plugins-scripts'
```

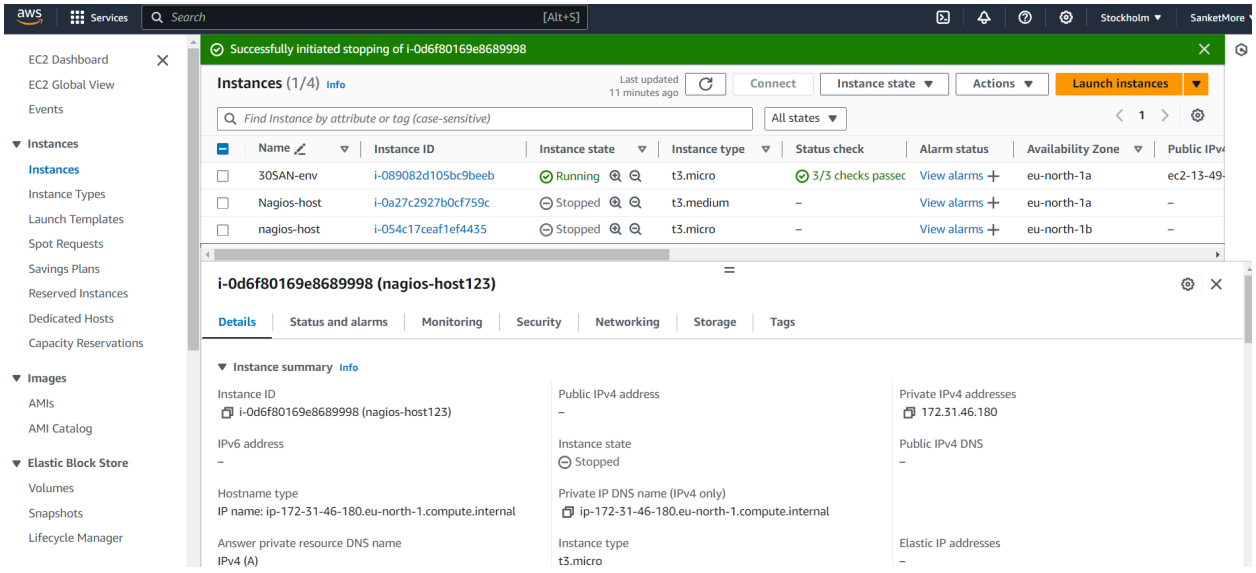
Step 11: To start nagios run the following commands –
sudo chkconfig --add nagios
sudo chkconfig nagios
on Verify using the following command
- sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo chkconfig --add nagios
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo chkconfig nagios on
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$
```

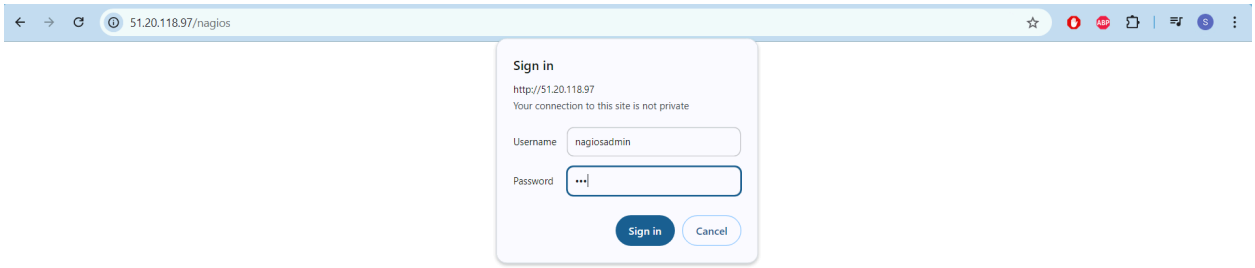
```
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo chkconfig --add nagios
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo chkconfig nagios on
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

Nagios Core 4.0.8
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 08-12-2014
License: GPL

Website: http://www.nagios.org
Reading configuration data...
Error in configuration file '/usr/local/nagios/etc/nagios.cfg' - Line 452 (Check result path '/usr/local/nagios/var/spool/checkresults' is not a valid directory
   Error processing main config file!

[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$
```

```
[ec2-user@ip-172-31-16-211 nagios-plugins-2.0.3]$ sudo service nagios start
Starting nagios (via systemctl):                           [  OK  ]
```

Step 12: Go to EC2 instance and copy the public IP address of the instance



Step 13: Now visit http://<your IP address>/nagios Enter correct credentials and then you will see this page



Advance DevOps Exp – 10

Sanket More

D15A 30

Aim: To perform Port, Service monitoring, Windows/Linux server monitoring using Nagios.

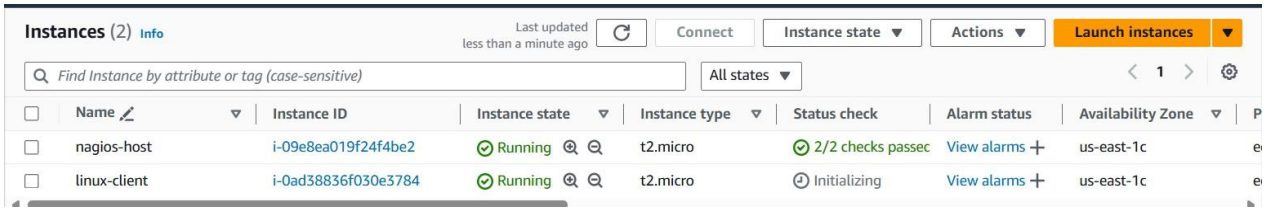
Procedure:-

Check if the nagios service is running by executing following command

```
ubuntu@ip-172-31-89-161:~$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.4.6
     Loaded: loaded (/usr/lib/systemd/system/nagios.service; enabled; preset: enabled)
     Active: active (running) since Sat 2024-09-28 16:08:58 UTC; 1min 2s ago
       Docs: https://www.nagios.org/documentation
    Process: 15743 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
    Process: 15753 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Main PID: 15764 (nagios)
      Tasks: 6 (limit: 1130)
     Memory: 2.4M (peak: 3.2M)
        CPU: 29ms
     CGroup: /system.slice/nagios.service
             ├─15764 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             ├─15765 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─15766 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─15767 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─15768 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─15769 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: core query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: echo service query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: help for the query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Successfully registered manager as @wproc with query handler
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15765;pid=15765
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15766;pid=15766
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15767;pid=15767
```

sudo systemctl status nagios

Now, create a new EC2 instance on AWS



Now perform the following commands on nagios-host EC2 instance.
On the server, run this command

```
ubuntu@ip-172-31-89-161:~$ ps -ef | grep nagios
nagios     15764       1  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios     15765   15764  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     15766   15764  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     15767   15764  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     15768   15764  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     15769   15764  0 16:08 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ubuntu     15957    1342  0 16:13 pts/0    00:00:00 grep --color=auto nagios
ubuntu@ip-172-31-89-161:~$
```

ps -ef | grep nagios

Become a root user and create 2 folders
sudo su

mkdir /usr/local/nagios/etc/objects/monitorhosts
mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts

```
ubuntu@ip-172-31-89-161:~$ sudo su
mkdir /usr/local/nagios/etc/objects/monitorhosts
mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/home/ubuntu#
```

Copy localhost.cfg file to the mentioned location
cp /usr/local/nagios/etc/objects/localhost.cfg

```
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
cp: cannot create regular file '/usr/local/nagios/etc/objects/monitorhosts/linuxhosts': No such file or directory
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# sudo mkdir -p /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/usr/local/nagios/etc/objects#
```

/usr/local/nagios/etc/objects/monitorhosts/linuxhosts

Open the nano editor for localhost.cfg file and make these changes. Add the Ip address of the linux-client for the address field.
nano

```
  GNU nano 7.2                                          /usr/local/nagios/et
##############################################################################
#
# HOST DEFINITION
#
##############################################################################

# Define a host for the local machine

define host {

    use                     linux-server            ; Name of host te
                                                    ; This host defin
                                                    ; in (or inherite

    host_name               linuxserver
    alias                   linuxserver
    address                 52.207.253.18
}



##############################################################################
#
# HOST GROUP DEFINITION

^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T Ex
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J Ju
```

/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/localhost.cfg

Note - Here replace hostname with linuxserver

nano /usr/local/nagios/etc/nagios.cfg
Add the following line to the nagios.cfg file

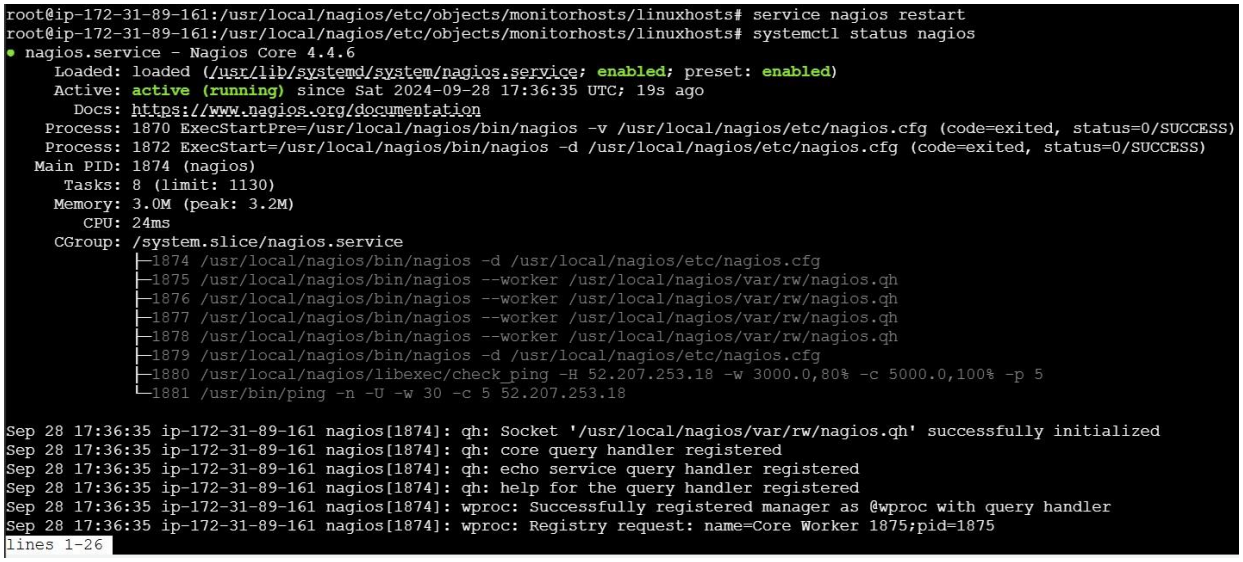
```
# Definitions for monitoring a router/switch
#cfg_file=/usr/local/nagios/etc/objects/switch.cfg

# Definitions for monitoring a network printer
#cfg_file=/usr/local/nagios/etc/objects/printer.cfg


# You can also tell Nagios to process all config files (with a .cfg
# extension) in a particular directory by using the cfg_dir
# directive as shown below:

#cfg_dir=/usr/local/nagios/etc/servers
#cfg_dir=/usr/local/nagios/etc/printers
#cfg_dir=/usr/local/nagios/etc/switches
#cfg_dir=/usr/local/nagios/etc/routers

cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/
```

cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/

After making the changes in nagios.cfg file now check validate the file by typing the following command in the terminal.
/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```
License: GPL

Website: https://www.nagios.org
Reading configuration data...
   Read main config file okay...
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 16 services.
        Checked 2 hosts.
        Checked 2 host groups.
        Checked 0 service groups.
        Checked 1 contacts.
        Checked 1 contact groups.
        Checked 24 commands.
        Checked 5 time periods.
        Checked 0 host escalations.
        Checked 0 service escalations.
Checking for circular paths...
        Checked 2 hosts
        Checked 0 service dependencies
        Checked 0 host dependencies
        Checked 5 timeperiods
Checking global event handlers...
Checking obsessive compulsive processor commands...
Checking misc settings...

Total Warnings: 0
Total Errors:   0

Things look okay - No serious problems were detected during the pre-flight check
root@ip-172-31-89-161:/usr/local/nagios/etc/objects/monitorhosts/linuxhosts#
```

Now restart the service by using this command



service nagios restart

Now using this command update the apt repository of ubuntu (linux-client), install gcc, nagios-nrpe-server and nagios-plugin
sudo apt update -y
sudo apt install gcc -y
sudo apt install -y nagios-nrpe-server nagios-plugins

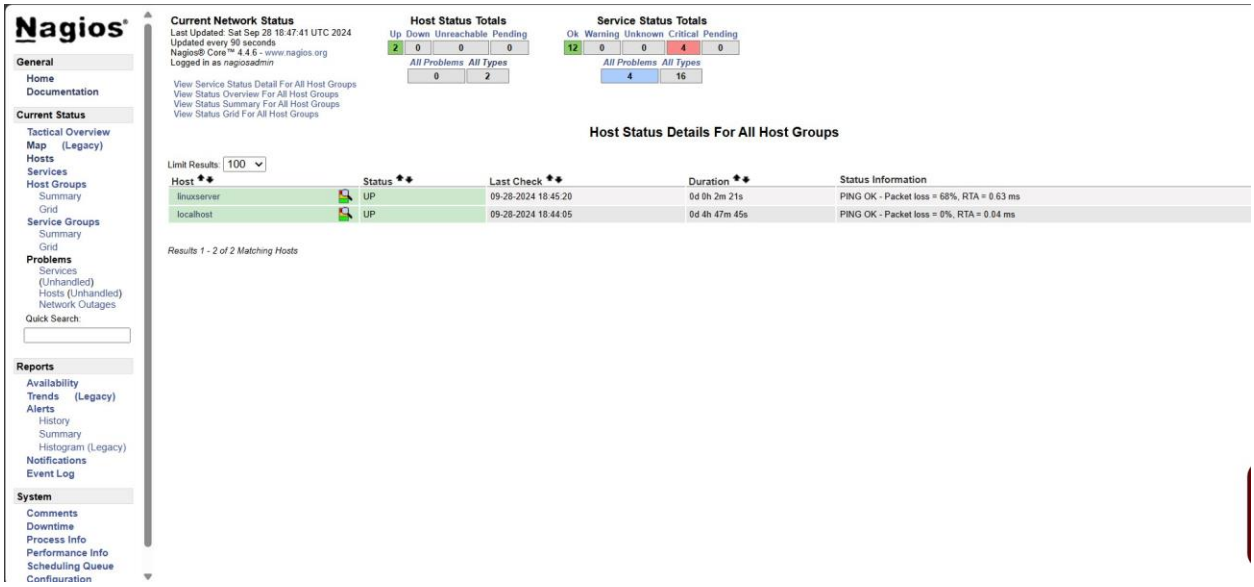
Now open nrpe.cfg file and add the ip address of the nagios host as shown. To open the nrpe.cfg file copy this command.

```
# supported.
#
# Note: The daemon only does rudimentary checkin
# address.  I would highly recommend adding entr
# file to allow only the specified host to conne
# you are running this daemon on.
#
# NOTE: This option is ignored if NRPE is runnin

allowed_hosts=127.0.0.1,54.167.169.0


# COMMAND ARGUMENT PROCESSING
# This option determines whether or not the NRPE
# to specify arguments to commands that are exec
# if the daemon was configured with the --enable-
# option.
```

sudo nano /etc/nagios/nrpe.cfg

Now restart nrpe server by using this command
sudo systemctl restart nagios-nrpe-server

Now, check nagios dashboard, you should see linuxserver up and running, if not



check security groups of the EC2 instances.

Advanced DevOps Exp-11

Sanket More
D15A 30

Aim: To understand AWS Lambda, its workflow, various functions and create your first Lambda functions using Python / Java / Nodejs.

Theory:-

AWS Lambda

AWS Lambda is a serverless computing service provided by Amazon Web Services (AWS). Users of AWS Lambda create functions, self-contained applications written in one of the supported languages and runtimes, and upload them to AWS Lambda, which executes those functions in an efficient and flexible manner.The Lambda functions can perform any kind of computing task, from serving web pages and processing streams of data to call APIs and integrate with other AWS services.

The concept of "serverless" computing refers to not needing to maintain your own servers to run these functions. AWS Lambda is a fully managed service that takes care of all the infrastructure for you.

Features of AWS Lambda

● AWS Lambda easily scales the infrastructure without any additional configuration. It reduces the operational work involved.

● It offers multiple options like AWS S3, CloudWatch, DynamoDB, API Gateway, Kinesis, CodeCommit, and many more to trigger an event.

● You don't need to invest upfront. You pay only for the memory used by the lambda function and minimal cost on the number of requests hence cost-efficient.

● AWS Lambda is secure. It uses AWS IAM to define all the roles and security policies.

● It offers fault tolerance for both services running the code and the function. You do not have to worry about the application down.

Packaging Functions

Lambda functions need to be packaged and sent to AWS. This is usually a process of compressing the function and all its dependencies and uploading it to an S3 bucket. And letting AWS know that you want to use this package when a specific event takes place.

To help us with In this process we use the Serverless Stack Framework (SST). We'll go over this in detail later on in this guide.

Execution Model

The container (and the resources used by it) that runs our function is managed completely by AWS. It is brought up when an event takes place and is turned off if it is not being used. If additional requests are made while the original event is being served, a new container is brought up to serve a request. This means that if we are undergoing a usage spike, the cloud provider simply creates multiple instances of the container with our function to serve those requests.

This has some interesting implications. Firstly, our functions are effectively stateless. Secondly, each request (or event) is served by a single instance of a Lambda function. This means that you are not going to be handling concurrent requests in your code. AWS brings up a container whenever there is a new request. It does make some optimizations here. It will hang on to the container for a few minutes (5 - 15 mins depending on the load) so it can respond to subsequent requests without a cold start.

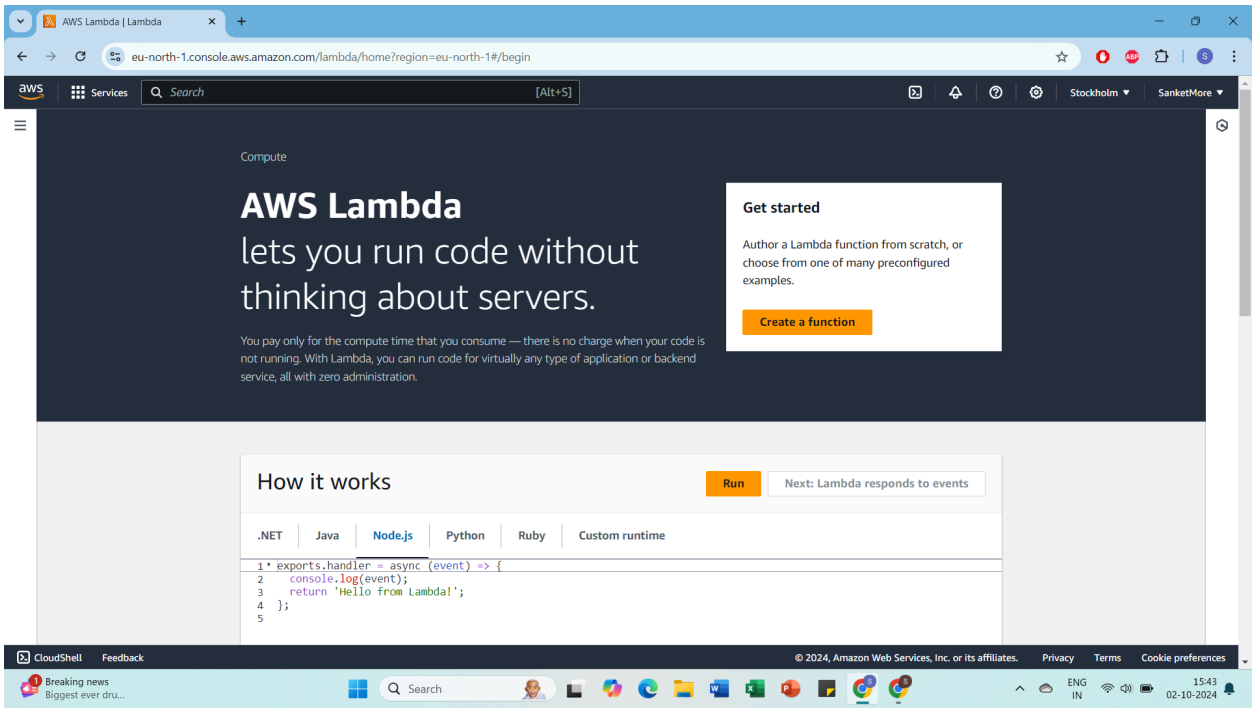
Stateless Functions

The above execution model makes Lambda functions effectively stateless. This means that every
time your Lambda function is triggered by an event it is invoked in a completely new
environment. You don't have access to the execution context of the previous event. However, due to the optimization noted above, the actual Lambda function is invoked only once

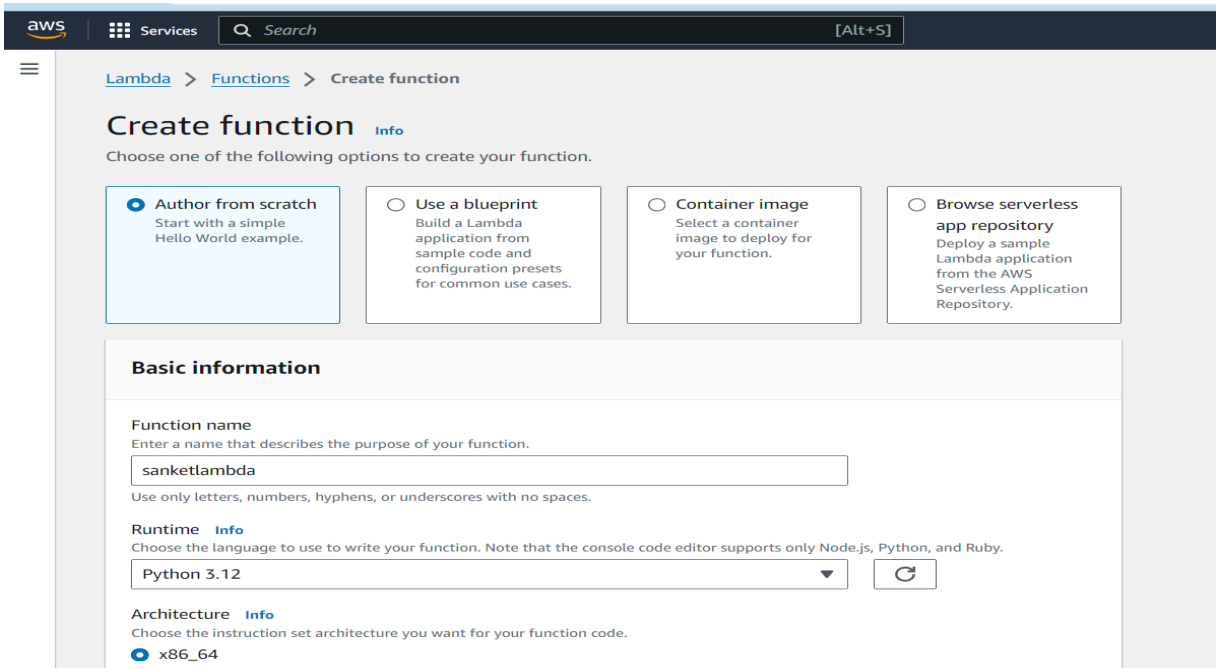
per container instantiation. Recall that our functions are run inside containers. So when a function is first invoked, all the code in our handler function gets executed and the handler
function gets invoked. If the container is still available for subsequent requests, your function
will get invoked and not the code around it.

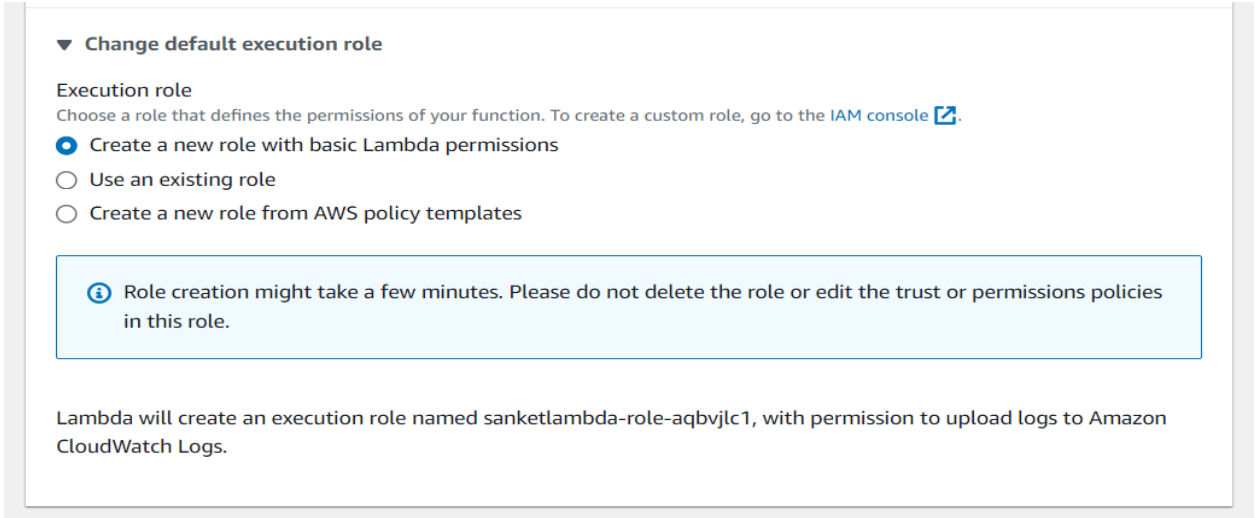
Procedure:-

1. Open up the Lambda Console and click on the Create button. Be mindful of where you create your functions since Lambda is region-dependent.

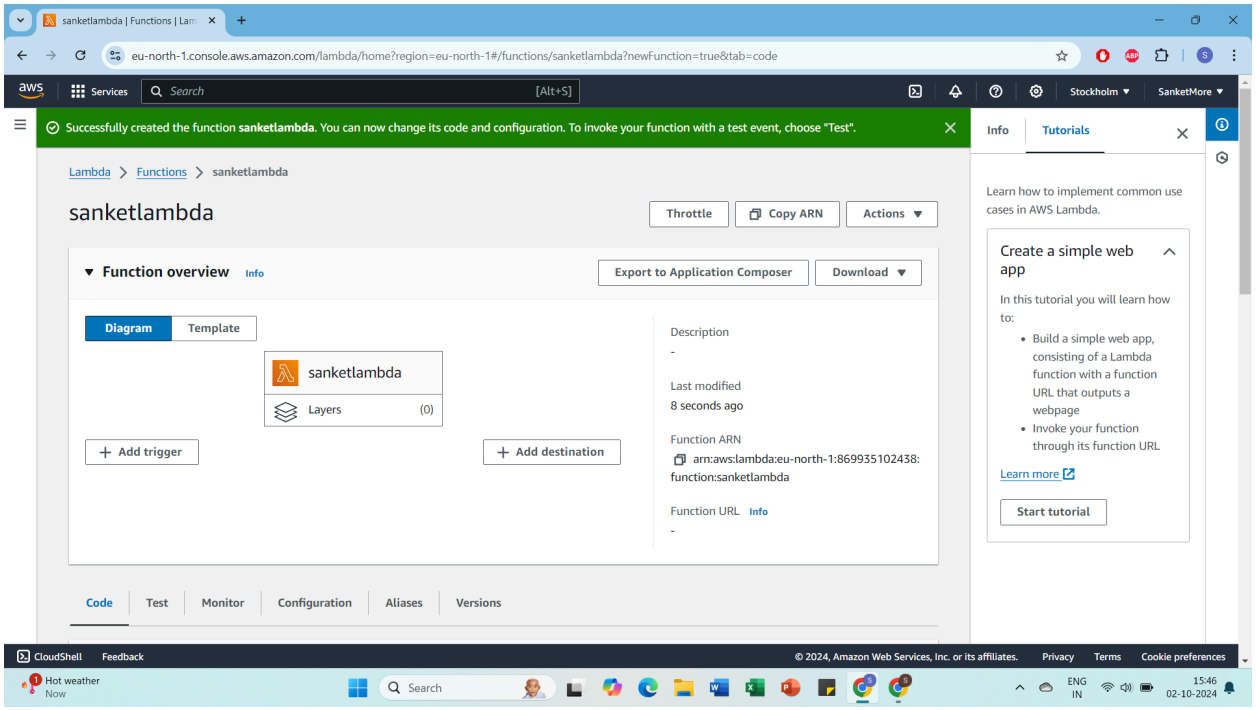


2. Choose to create a function from scratch or use a blueprint, i.e templates defined by AWSfor you with all configuration presets required for the most common use cases.
Then, choose a runtime env for your function, under the dropdown, you can see all the options AWS supports, Python, Nodejs, .NET and Java being the most popular ones.After that, choose to create a new role with basic Lambda permissions if you don’t have
an existing one.

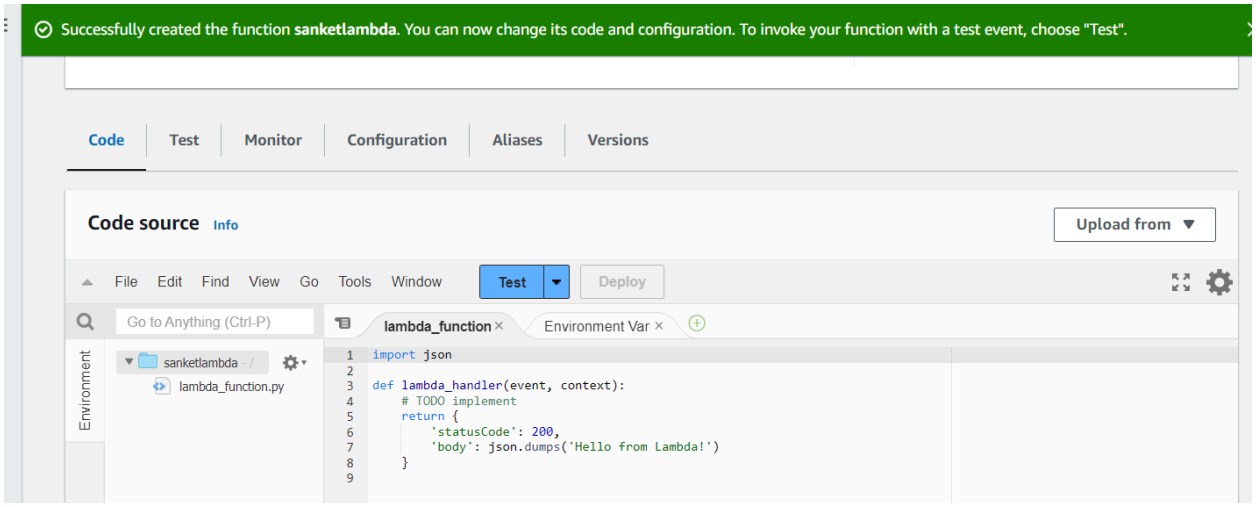




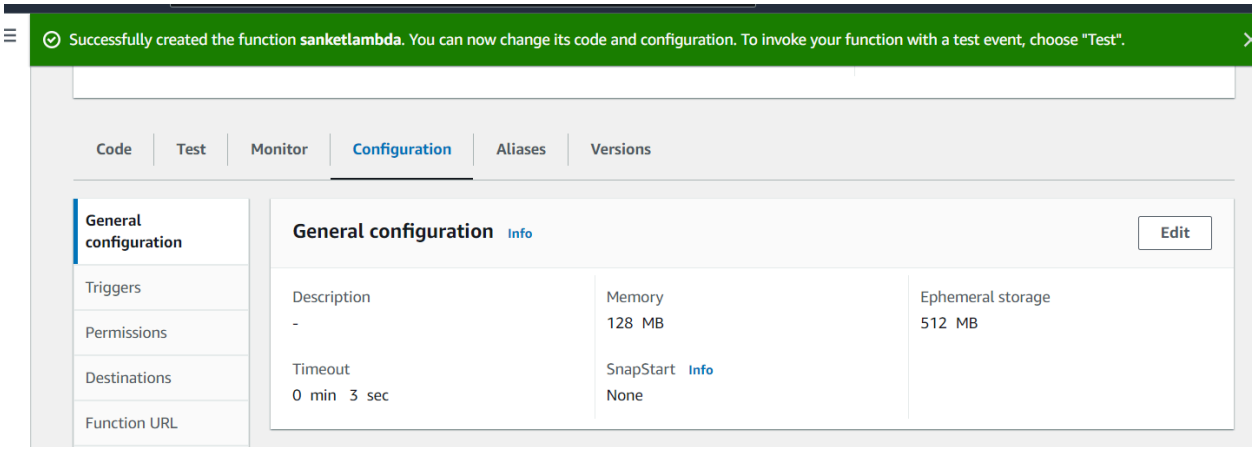
3. This process will take a while to finish and after that, you'll get a message that your function was successfully created.

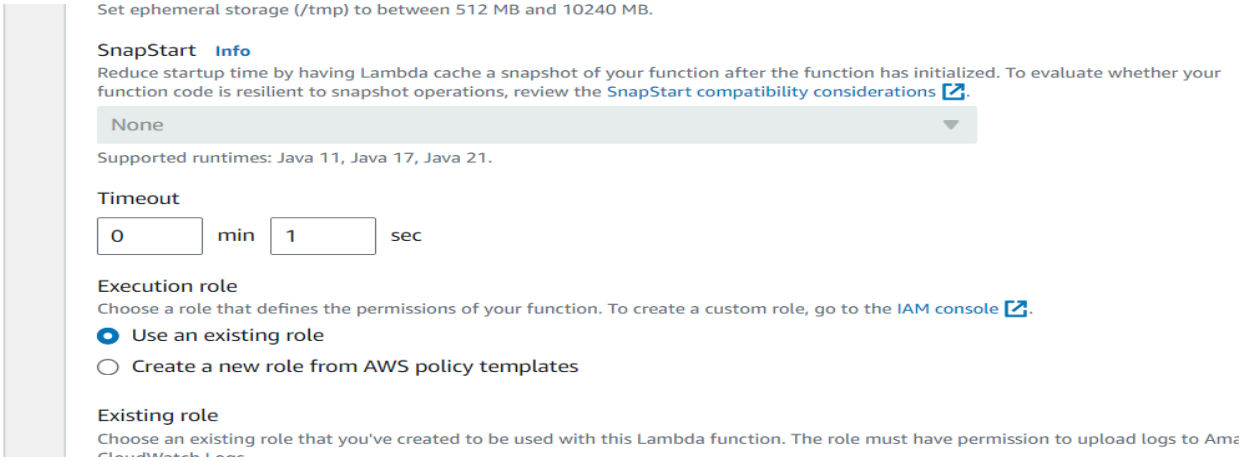


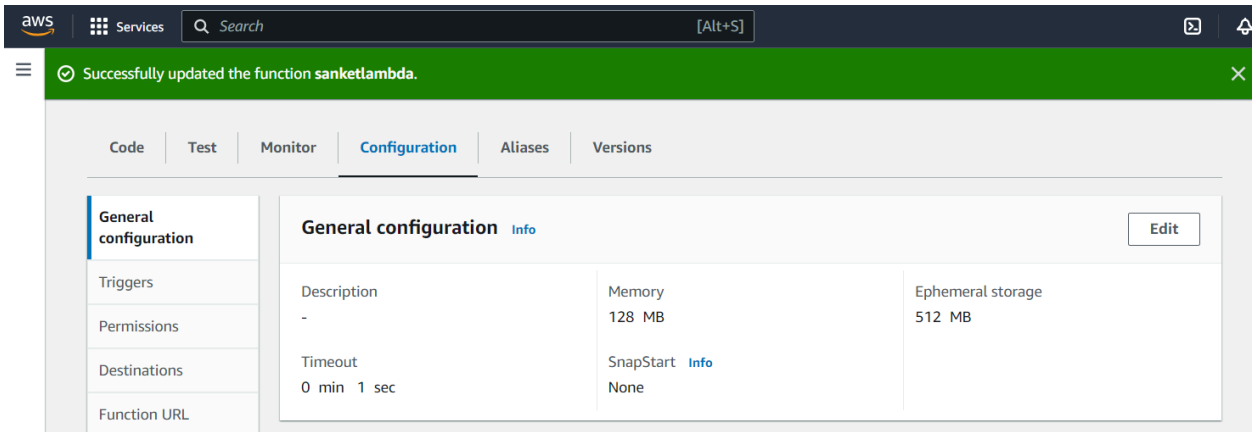
4. You can make changes to your function inside the code editor. You can also upload a zip
file of your function or upload one from an S3 bucket if needed.
Press Ctrl + S to save the file and click Deploy to deploy the changes.



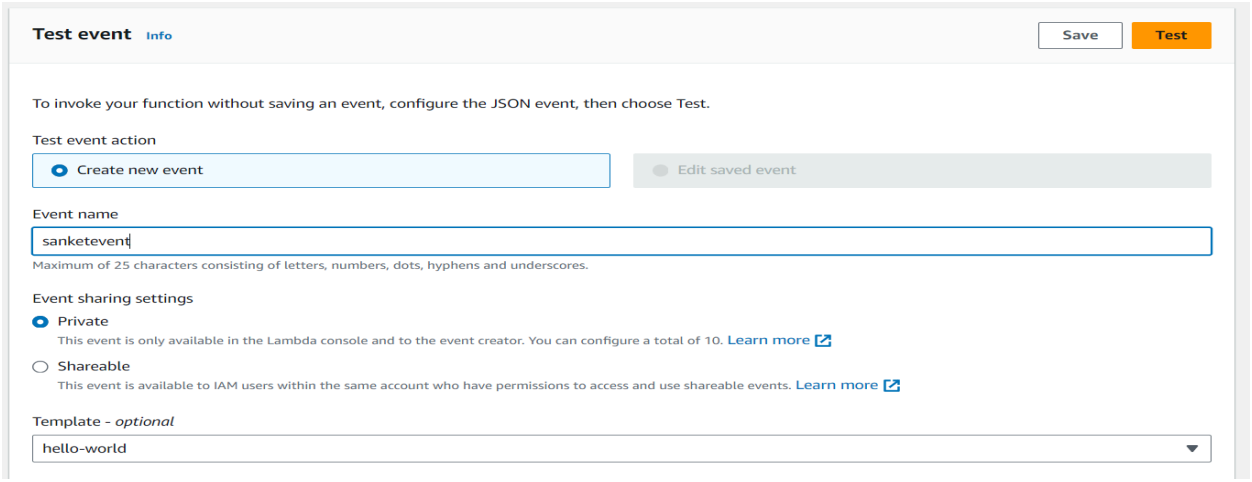
5. To change the configuration, open up the Configuration tab and under General Configuration, choose Edit.
Here, you can enter a description and change Memory and Timeout. I've changed the Timeout period to 1 sec since that is sufficient for now.

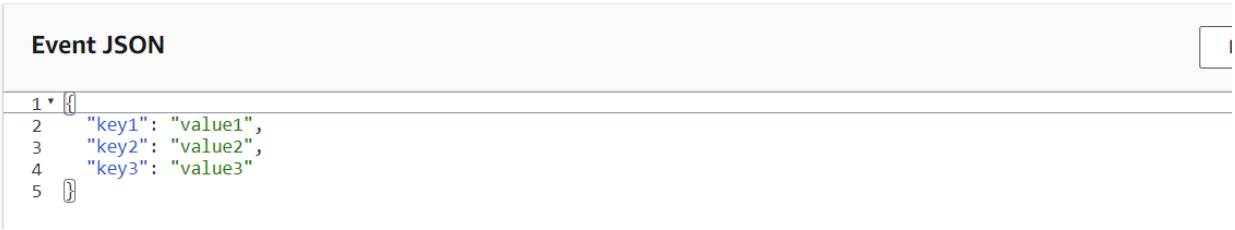




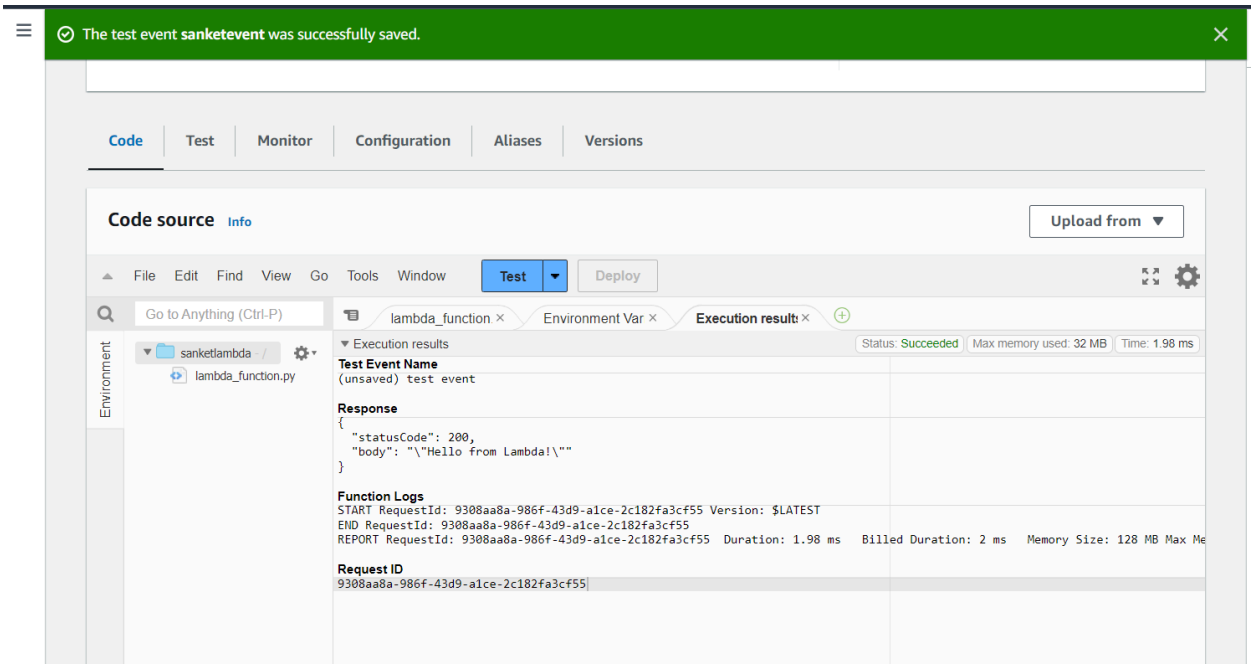


6. Click on Test and you can change the configuration, like so. If you do not have anything in the request body, it is important to specify two curly braces as valid JSON, so make sure they are there.





7. Now click on Test and you should be able to see the results.



Advanced DevOps Exp-12

Sanket More
D15A 30

Aim: To create a Lambda function which will log “An Image has been added” once you add an object to a specific bucket in S3.

Theory:

AWS Lambda and S3 Integration: AWS Lambda allows you to execute code in response to various events, including those triggered by Amazon S3. When an object is added to an S3 bucket, it can trigger a Lambda function to execute, allowing for event-driven processing without managing servers.

Workflow:

1. Create an S3 Bucket:

○ First, create an S3 bucket that will store the objects. This bucket will act as the trigger source for the Lambda function.

2. Create the Lambda Function:

○ Set up a new Lambda function using AWS Lambda’s console. You can choose a runtime environment like Python, Node.js, or Java.

○ Write code that logs a message like “An Image has been added” when triggered.

3. Set Up Permissions:

○ Ensure that the Lambda function has the necessary permissions to access S3. You can do this by attaching an IAM role with policies that allow reading from the bucket and writing logs to CloudWatch.

4. Configure S3 Trigger:

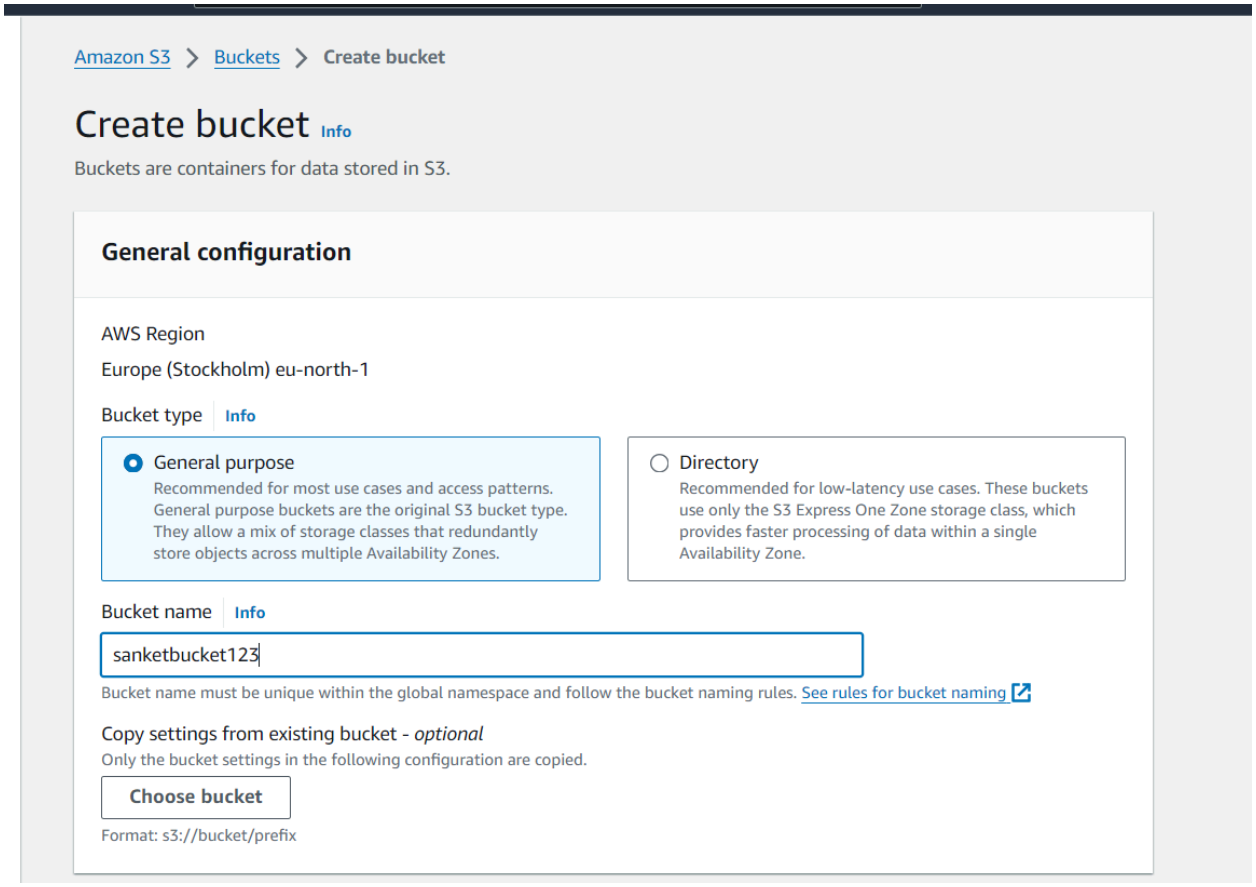
○ Link the S3 bucket to the Lambda function by setting up a trigger. Specify that the function should be triggered when an object is created in the bucket (e.g., when an image is uploaded).

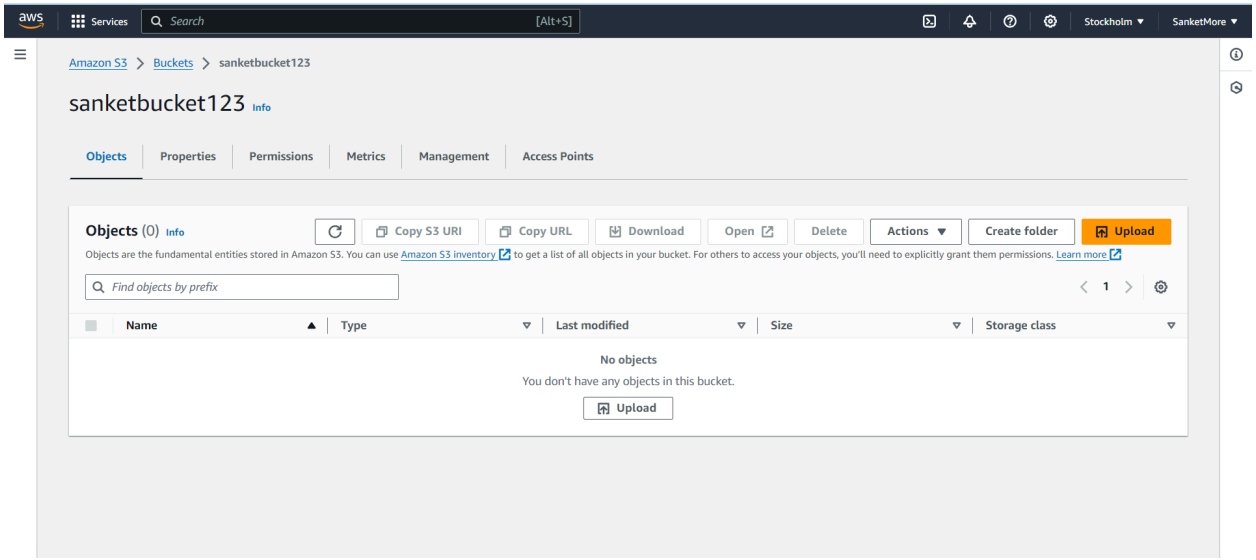
5. Test the Setup:

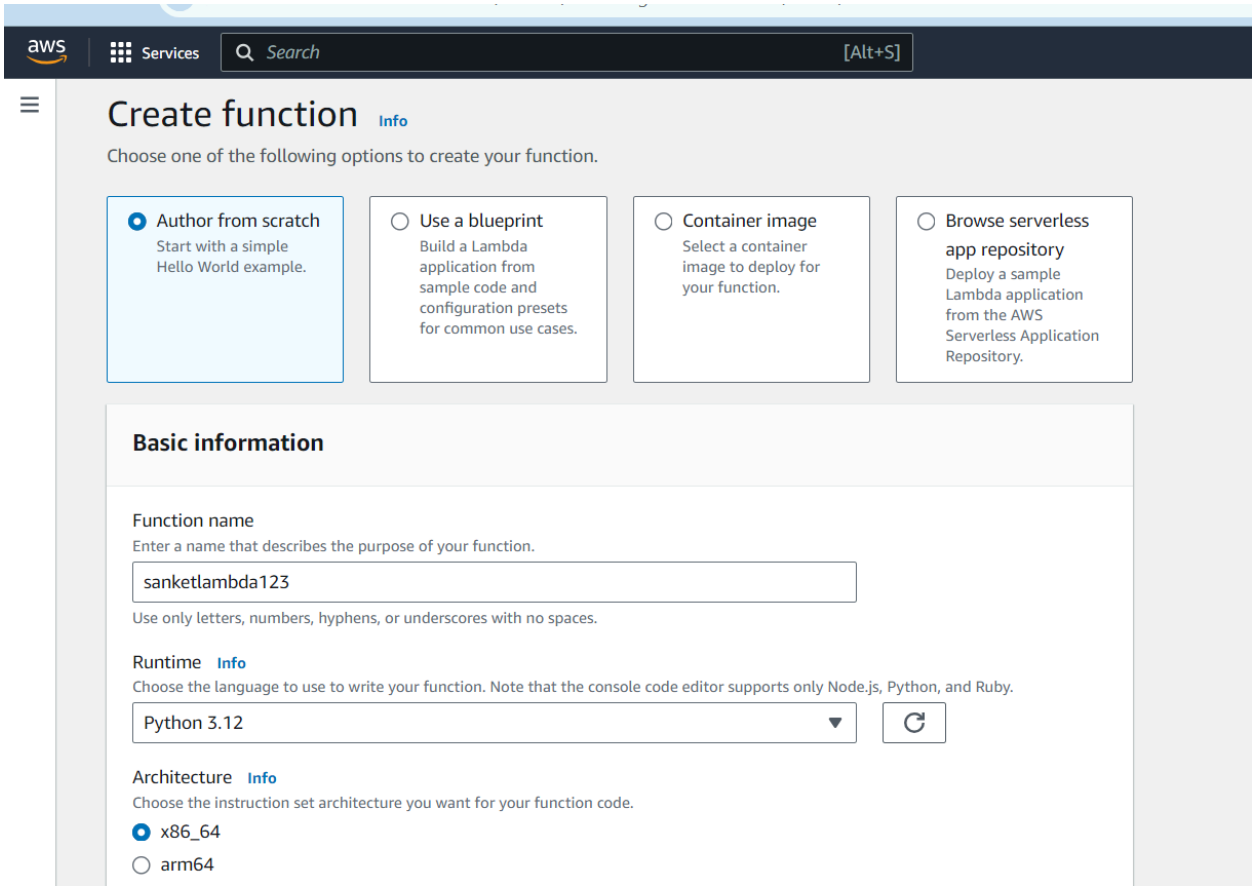
○ Upload an object (e.g., an image) to the S3 bucket to test the trigger. The Lambda function should execute and log the message “An Image has been added” in AWS CloudWatch Logs.

Procedure:-

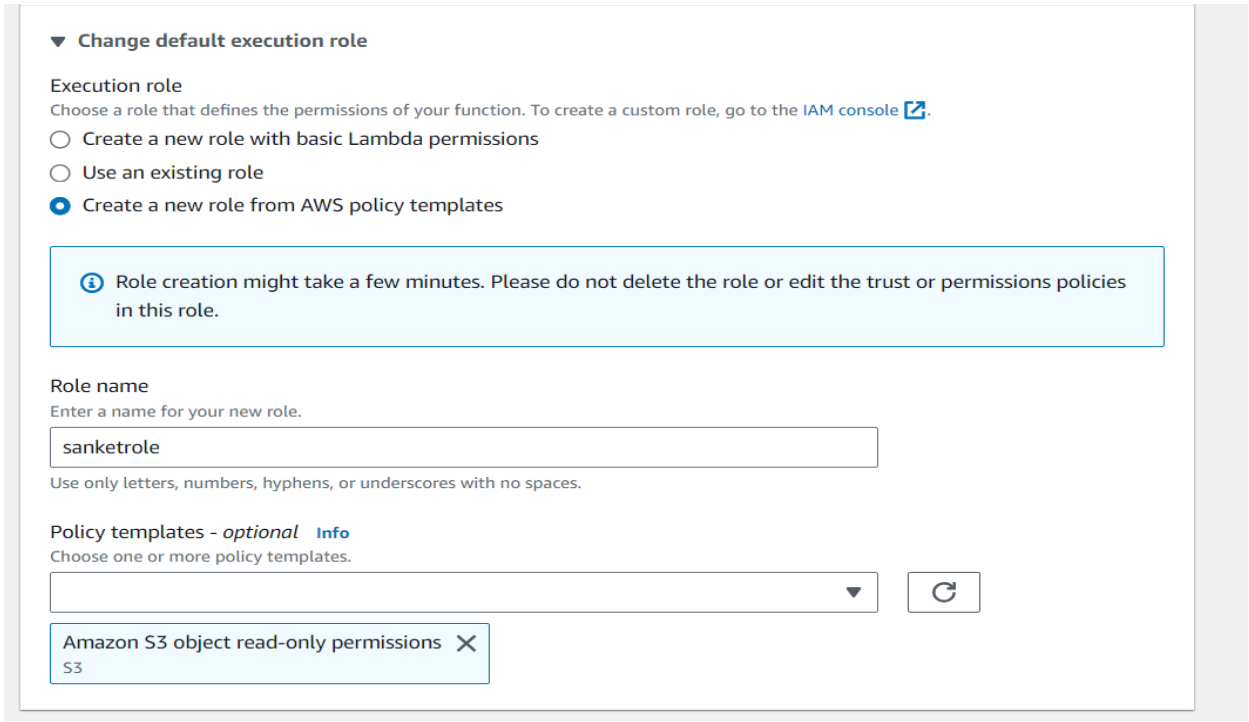
1. Create an S3 bucket of the same location as that of the Lambda function

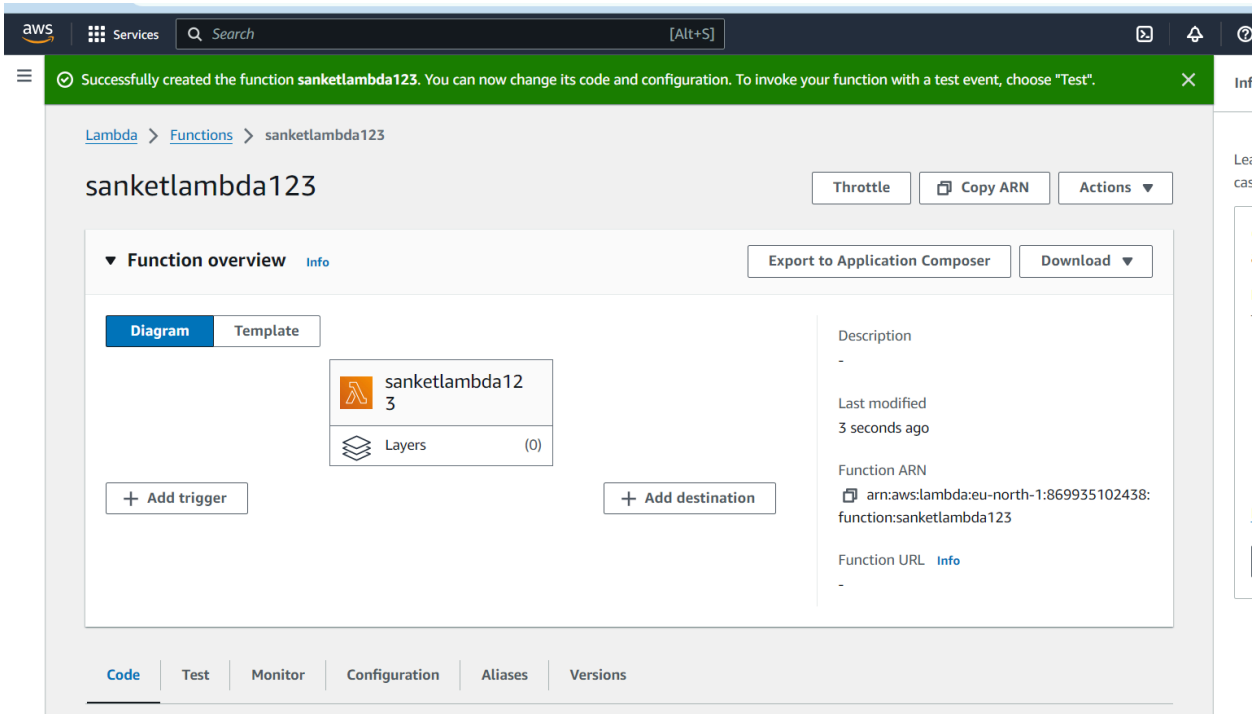




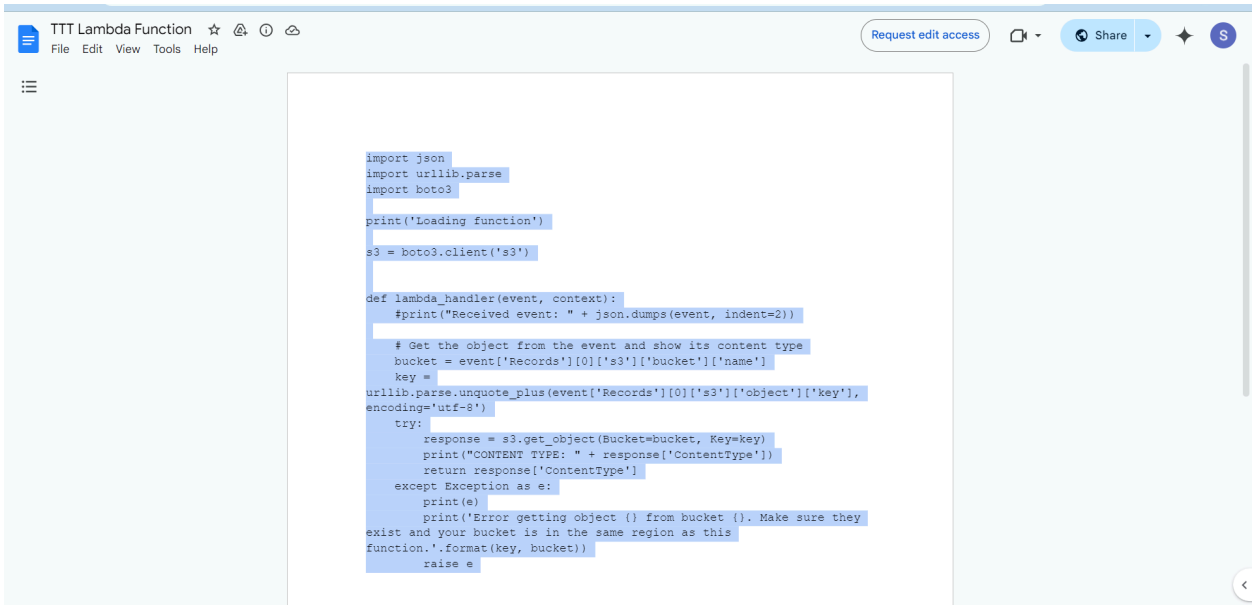


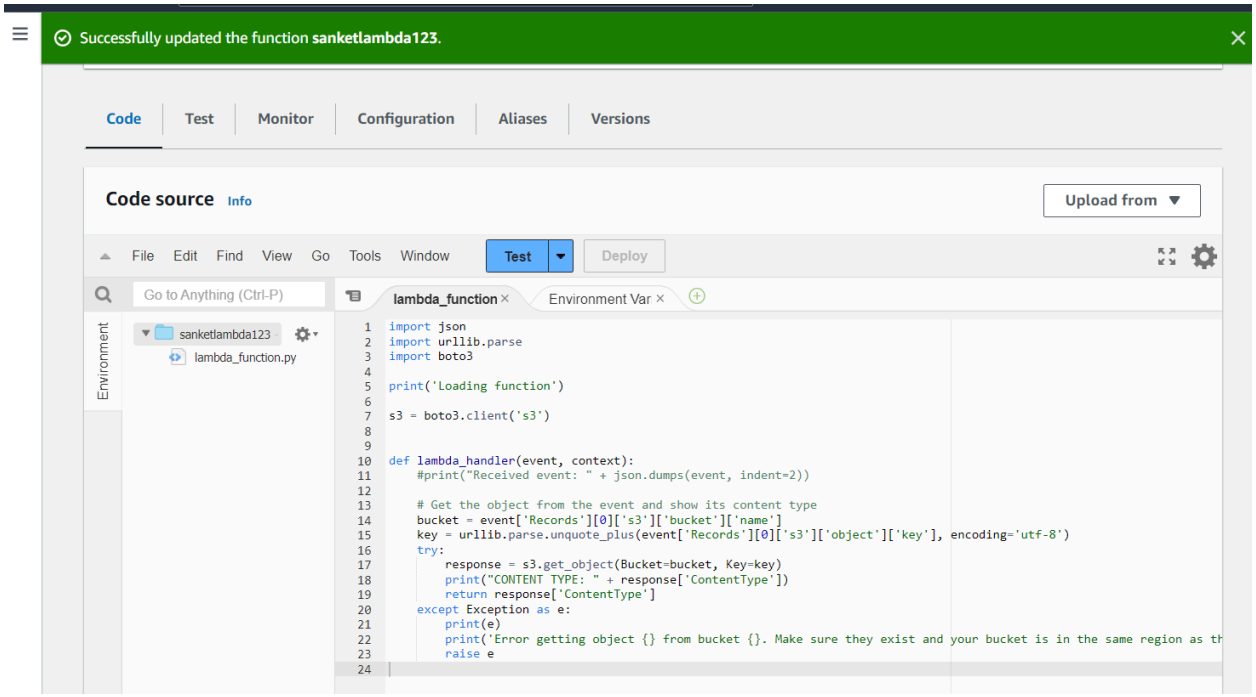
2. Add roles while creating the Lambda function and give permissions for accessing the S3 bucket



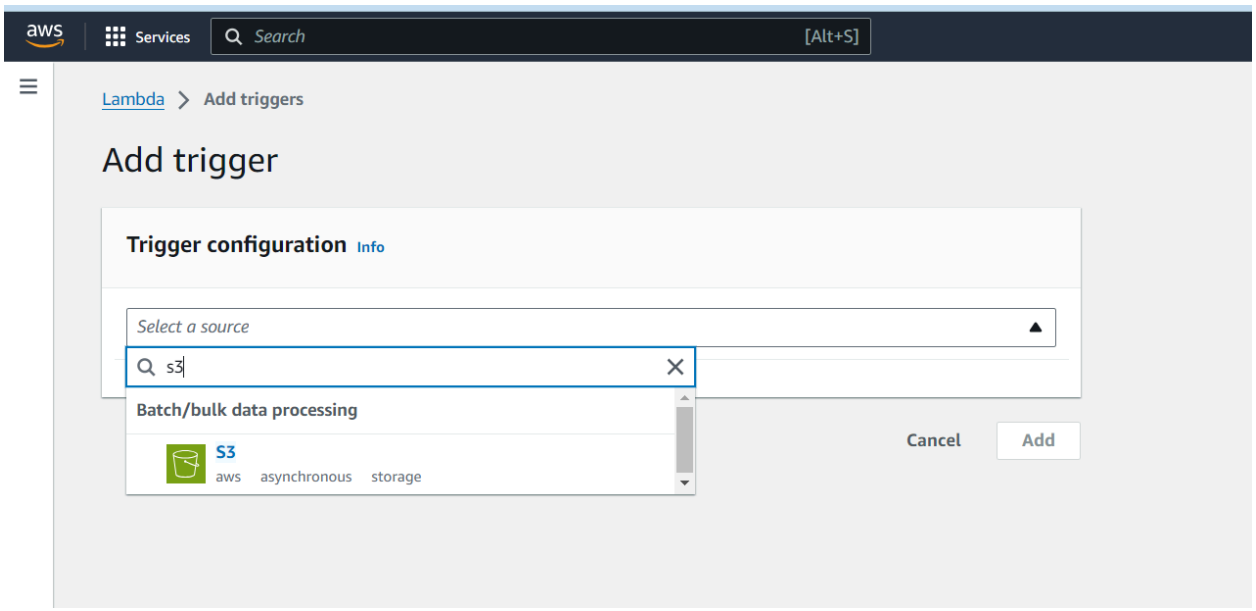


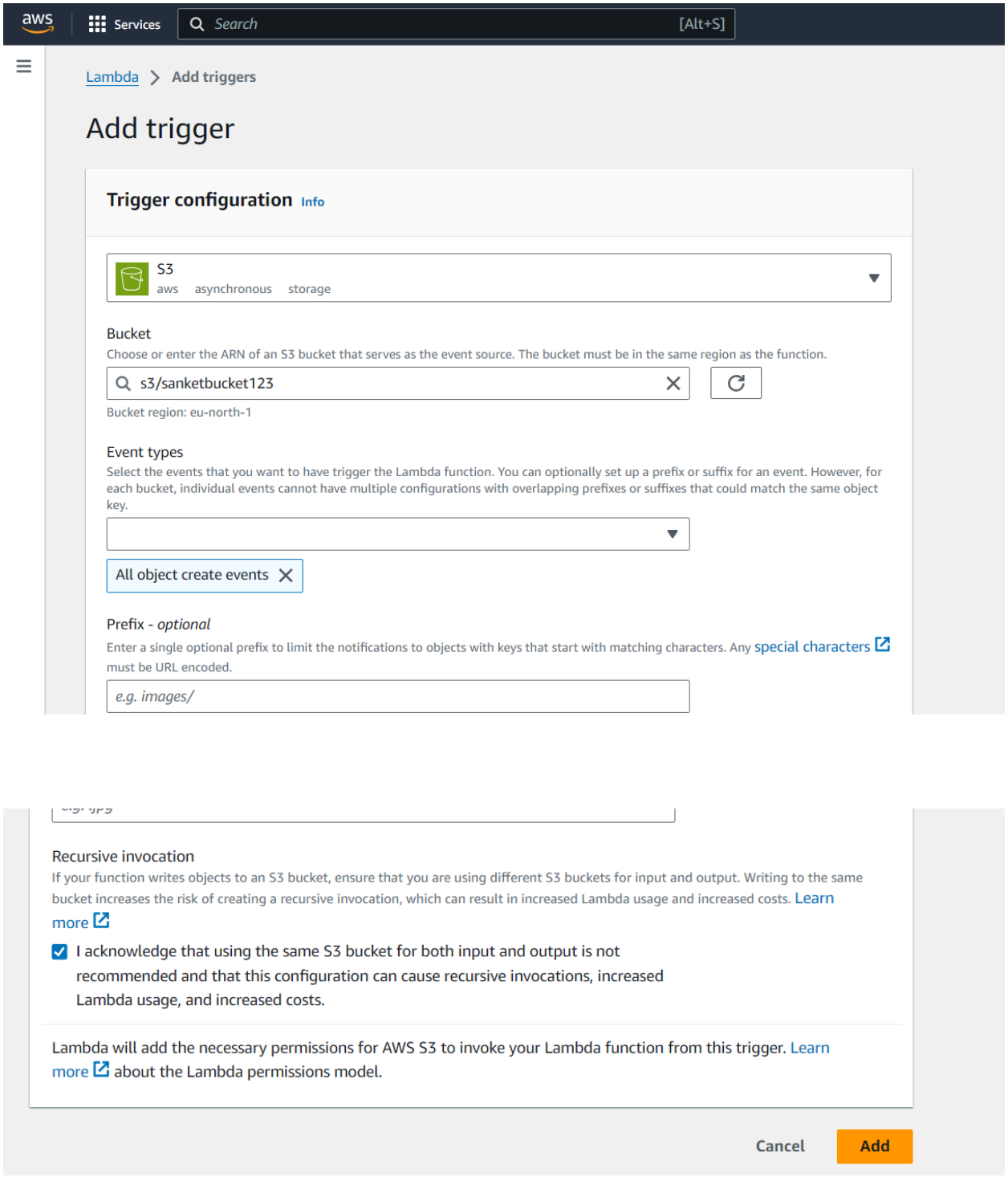
3. After creating the Lambda function copy a code available on the internet which allows the Lambda function to access the S3 bucket contents.

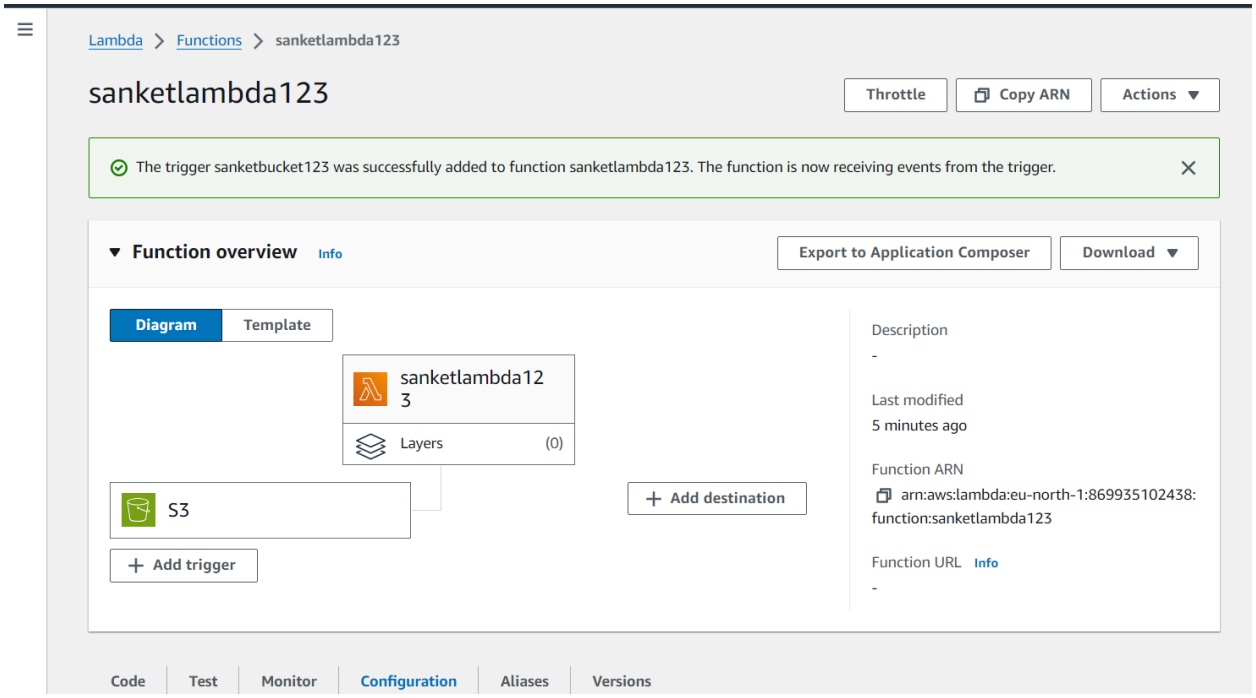




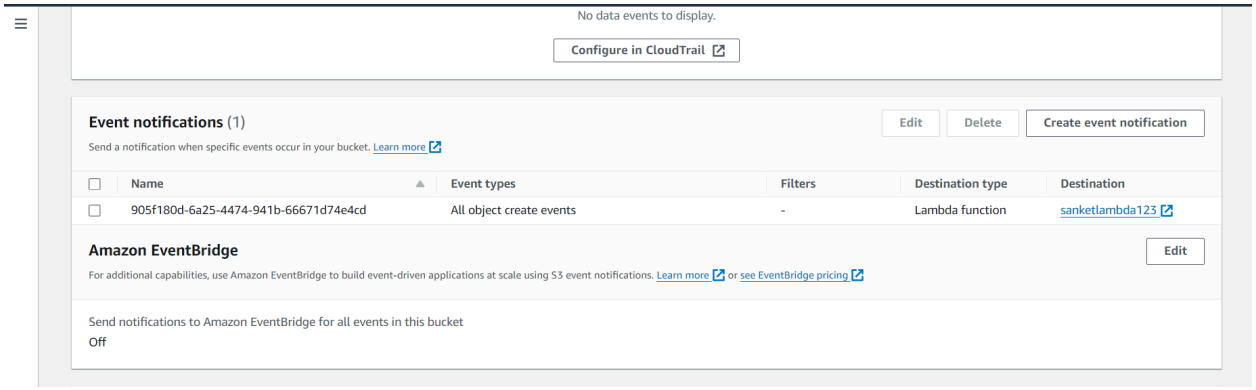
4. Add a trigger to the Lambda function so any changes in the S3 bucket will be first visible to the user.

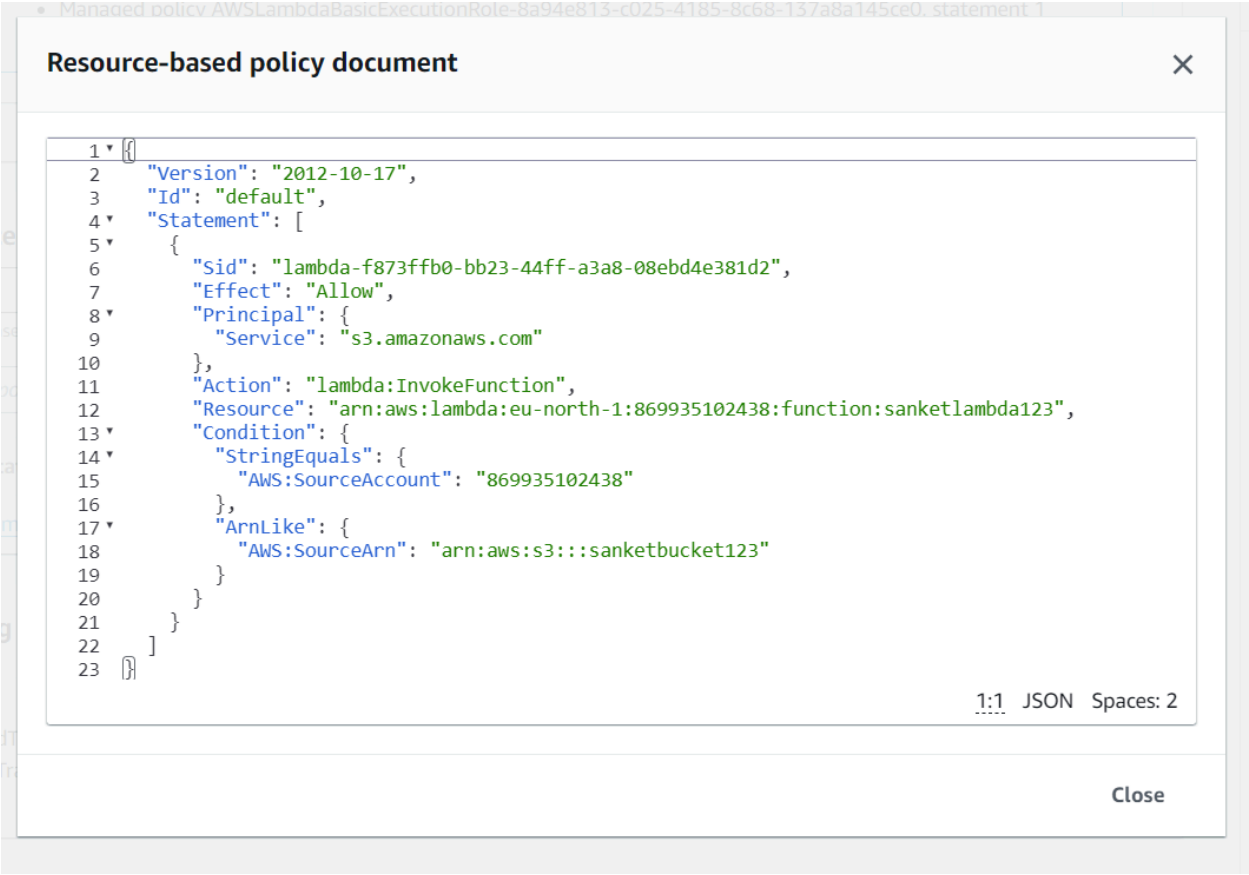



aws
Services
Search
[Alt+S]
Lambda
Add triggers
Add trigger
Trigger configuration
Info
S3
aws
asynchronous
storage
Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.
s3/sanketbucket123
Bucket region: eu-north-1
Event types
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.
All object create events
Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any special characters must be URL encoded.
e.g. images/
Recursive invocation
If your function writes objects to an S3 bucket, ensure that you are using different S3 buckets for input and output. Writing to the same bucket increases the risk of creating a recursive invocation, which can result in increased Lambda usage and increased costs. Learn more
I acknowledge that using the same S3 bucket for both input and output is not recommended and that this configuration can cause recursive invocations, increased Lambda usage, and increased costs.
Lambda will add the necessary permissions for AWS S3 to invoke your Lambda function from this trigger. Learn more about the Lambda permissions model.
Cancel
Add

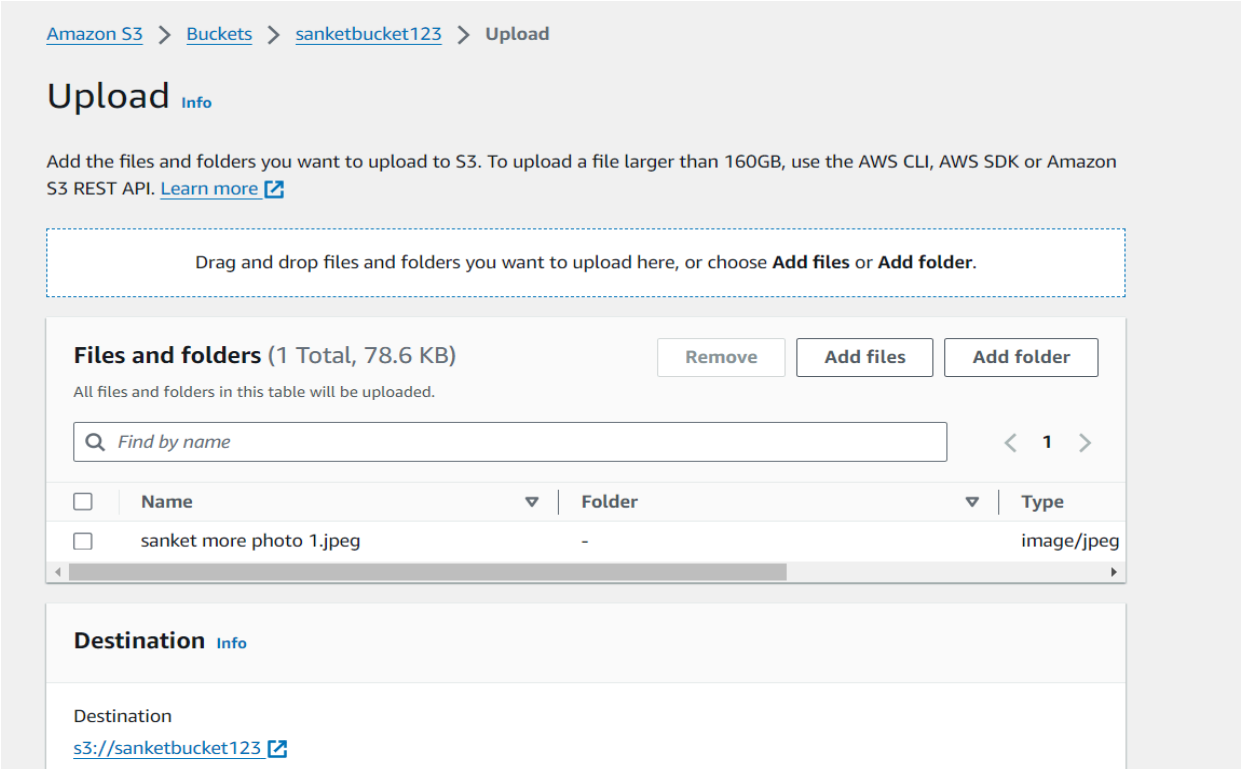


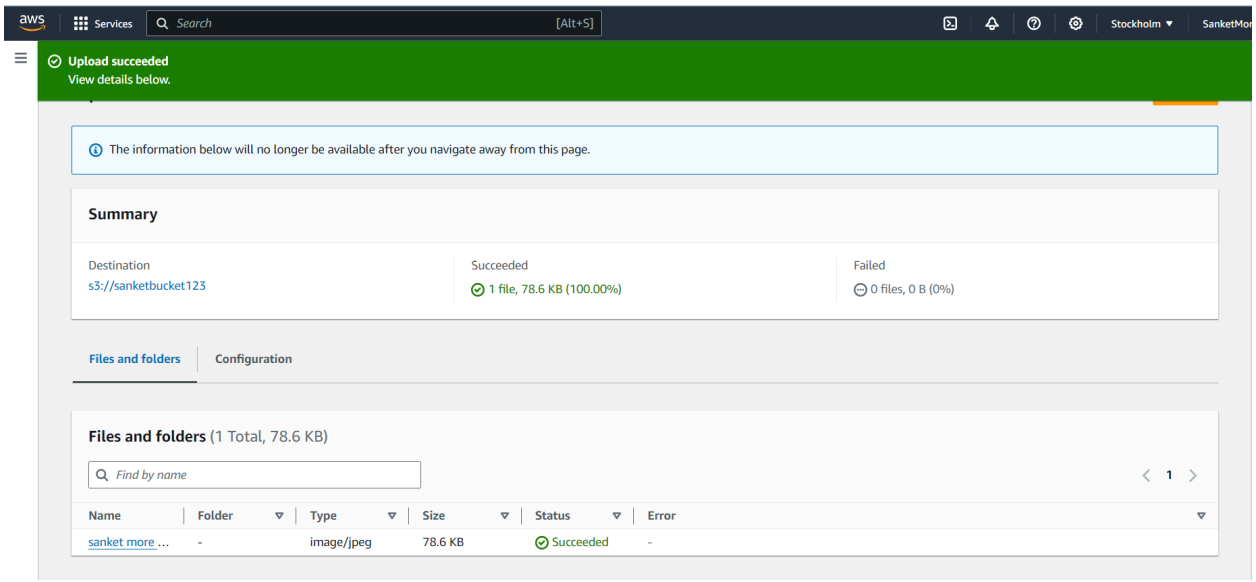
5. In the event notification of the S3 bucket we can see that it has been connected to the Lambda function .



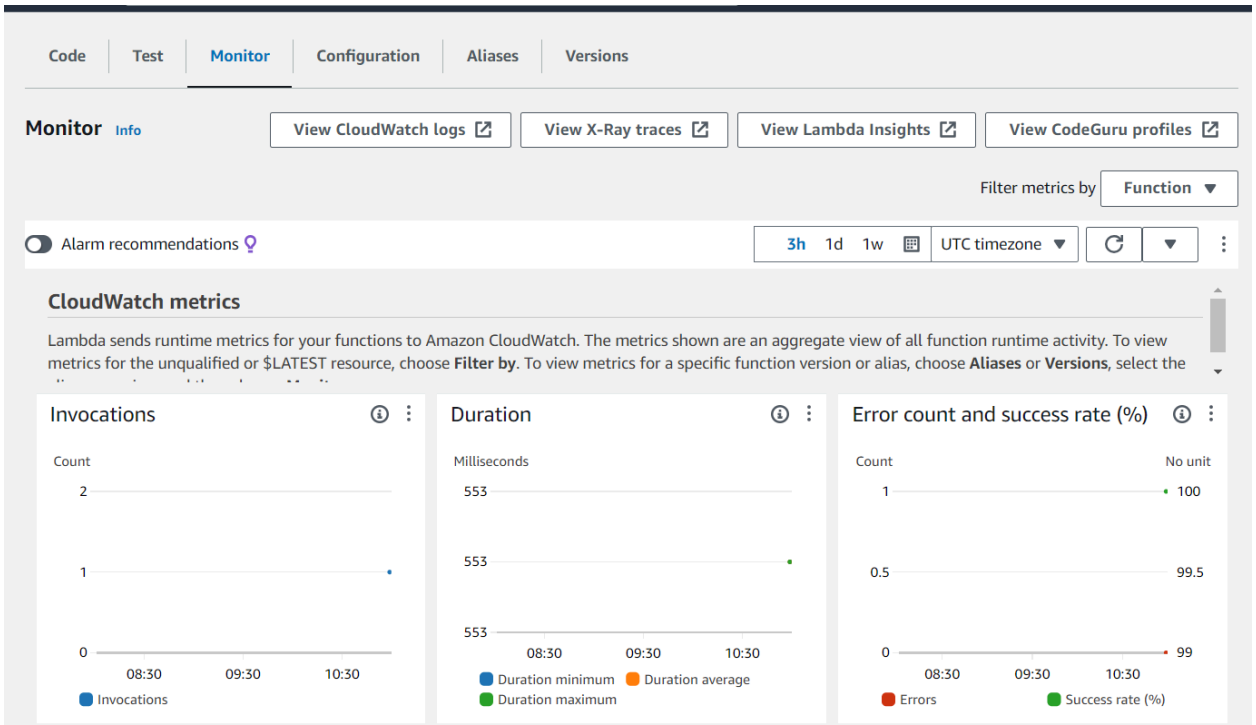


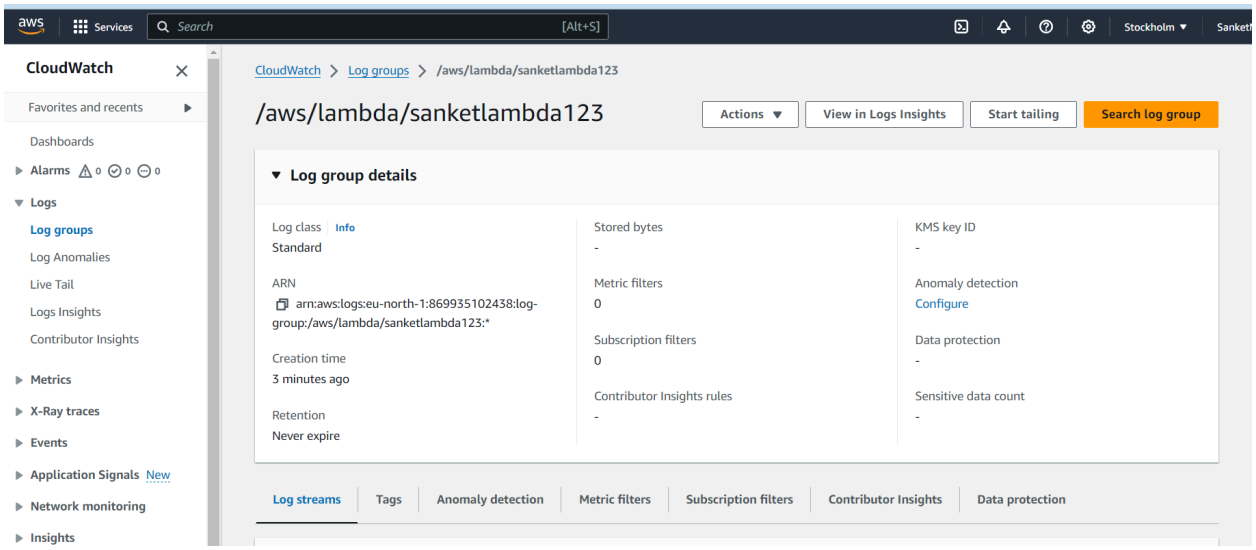
6. Upload a photo to the S3 bucket

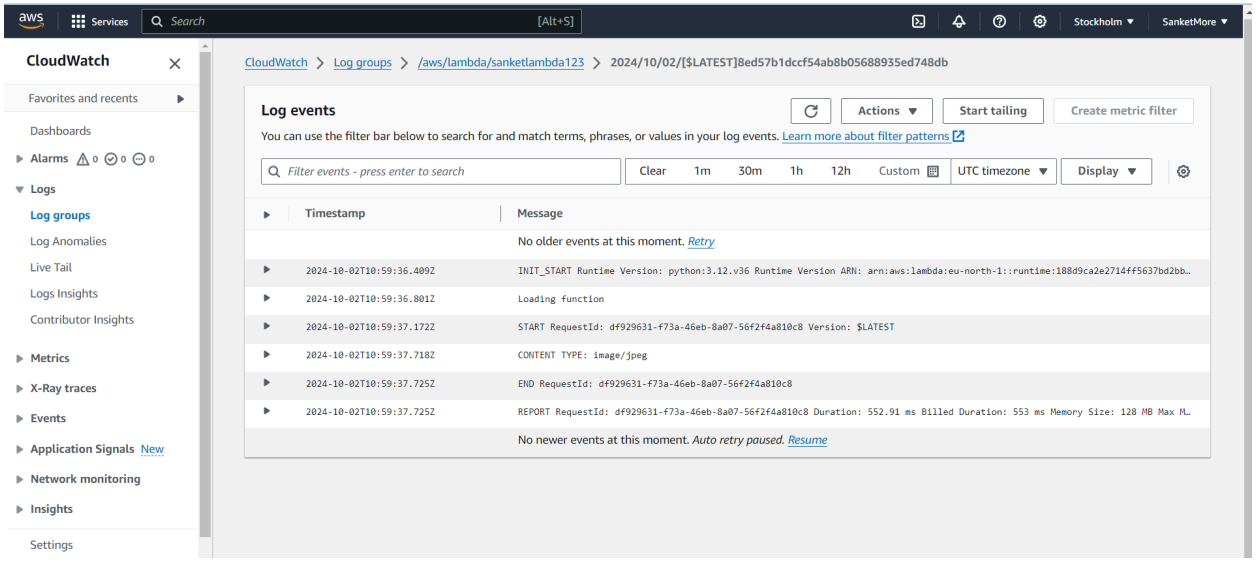




7. Now run the function and in the cloud watch logs of AWS you can see the message printed and all the other details of the working of the Lambda function.




aws
Services
Search
[Alt+S]
Stockholm
CloudWatch
Favorites and recents
Dashboards
Alarms
Logs
Log groups
Log Anomalies
Live Tail
Logs Insights
Contributor Insights
Metrics
X-Ray traces
Events
Application Signals New
Network monitoring
Insights
CloudWatch > Log groups > /aws/lambda/sanketlambda123
/aws/lambda/sanketlambda123
Actions
View in Logs Insights
Start tailing
Search log group
Log group details
Log class Info
Standard
ARN
arn:aws:logs:eu-north-1:869935102438:log-group:/aws/lambda/sanketlambda123:*
Creation time
3 minutes ago
Retention
Never expire
Stored bytes
-
Metric filters
0
Subscription filters
0
Contributor Insights rules
-
KMS key ID
-
Anomaly detection
Configure
Data protection
-
Sensitive data count
-
Log streams
Tags
Anomaly detection
Metric filters
Subscription filters
Contributor Insights
Data protection


aws
Services
Search
[Alt+S]
Stockholm
SanketMore
CloudWatch
Favorites and recents
Dashboards
Alarms
Logs
Log groups
Log Anomalies
Live Tail
Logs Insights
Contributor Insights
Metrics
X-Ray traces
Events
Application Signals New
Network monitoring
Insights
Settings
CloudWatch > Log groups > /aws/lambda/sanketlambda123 > 2024/10/02/[$LATEST]8ed57b1dccf54ab8b05688935ed748db
Log events
Actions
Start tailing
Create metric filter
You can use the filter bar below to search for and match terms, phrases, or values in your log events. Learn more about filter patterns
Filter events - press enter to search
Clear
1m
30m
1h
12h
Custom
UTC timezone
Display
Timestamp
Message
No older events at this moment. Retry
2024-10-02T10:59:36.409Z INIT_START Runtime Version: python:3.12.v36 Runtime Version ARN: arn:aws:lambda:eu-north-1::runtime:188d9ca2e2714ff5637bd2bb…
2024-10-02T10:59:36.801Z Loading function
2024-10-02T10:59:37.172Z START RequestId: df929631-f73a-46eb-8a07-56f2f4a810c8 Version: $LATEST
2024-10-02T10:59:37.718Z CONTENT TYPE: image/jpeg
2024-10-02T10:59:37.725Z END RequestId: df929631-f73a-46eb-8a07-56f2f4a810c8
2024-10-02T10:59:37.725Z REPORT RequestId: df929631-f73a-46eb-8a07-56f2f4a810c8 Duration: 552.91 ms Billed Duration: 553 ms Memory Size: 128 MB Max M…
No newer events at this moment. Auto retry paused. Resume