AWS LAMBDA

- AWS Lambda is a serverless compute service offered by Amazon Web Services (AWS).
- It allows you to run code in response to various events or triggers without the need to manage servers.
- You can write and upload your code (in various programming languages) as Lambda functions and AWS Lambda automatically takes care of provisioning and scaling the infrastructure to run your code.
- Lambda functions can be triggered by various AWS services, HTTP requests via API Gateway, and custom events.
- It's commonly used for tasks like data processing, automation, file handling, and more.
- You pay only for the compute time consumed by your functions, making it a cost-effective solution for event-driven applications.

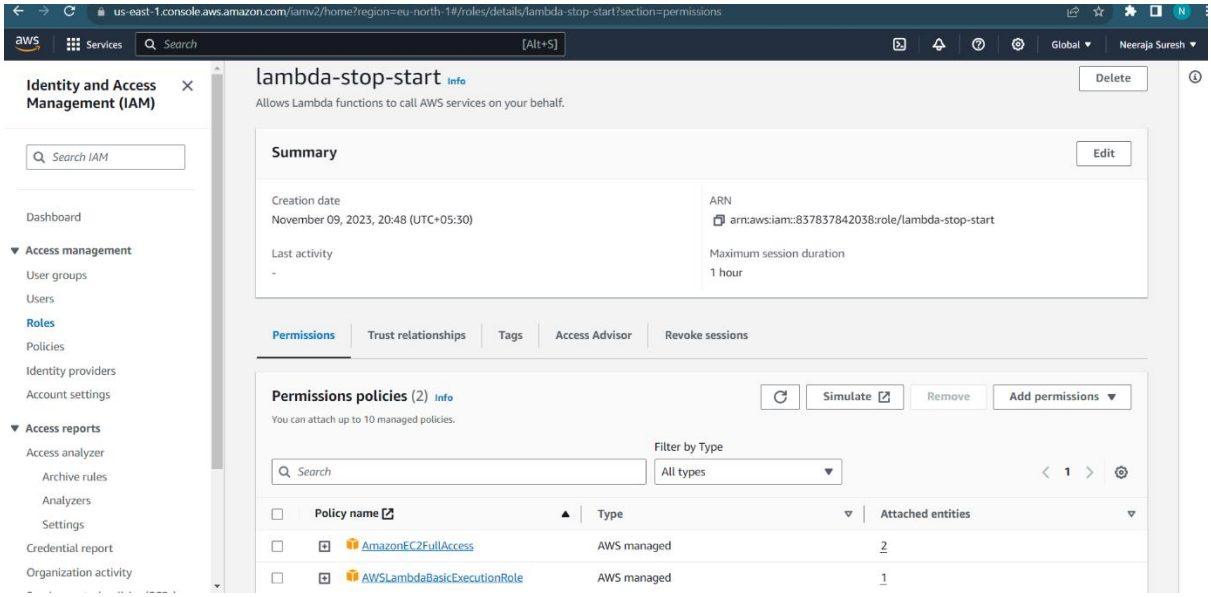
AMAZON CLOUDWATCH

- Amazon CloudWatch is a monitoring and observability service provided by AWS.
- It allows you to collect and track metrics, collect and monitor log files, and set alarms for your AWS resources and applications.
- CloudWatch provides a central platform to gain insights into the operational health and performance of your AWS resources, applications, and services.
- Key features include the ability to create custom dashboards, set up alarms for automatic notifications, and analyze and visualize logs and metrics.
- CloudWatch can be used to monitor a wide range of AWS resources, including EC2 instances, RDS databases, Lambda functions, and more.
- It is also used to create CloudWatch Events and Rules, which enable you to respond to state changes in your AWS environment, triggering actions like running Lambda functions.

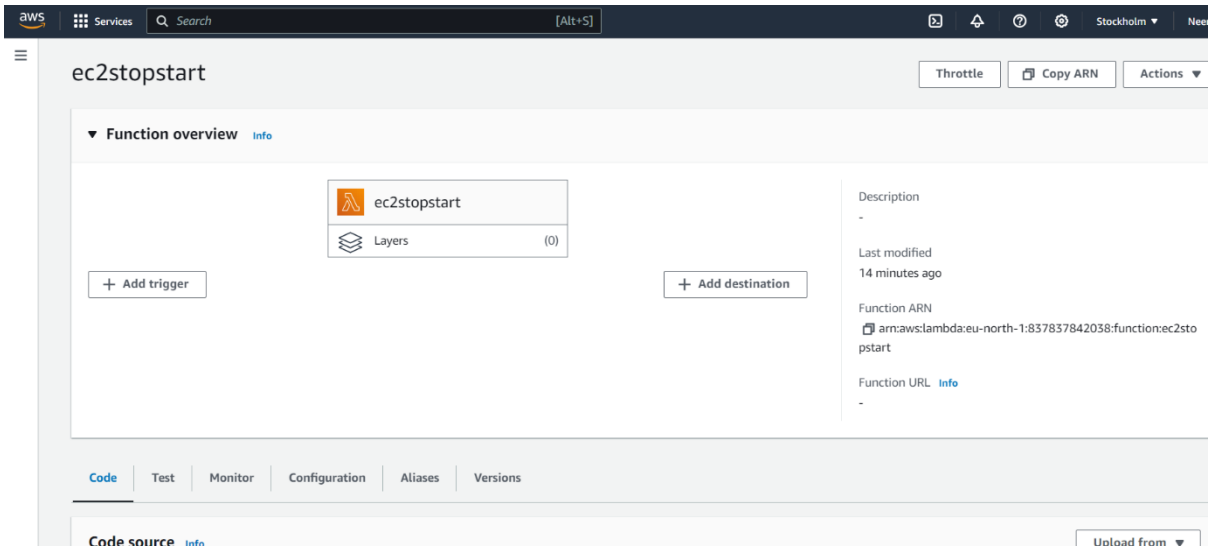
Automate the start/stop of ec2 instances using lambda and cloudwatch services.

1. Create IAM Policies and Roles:

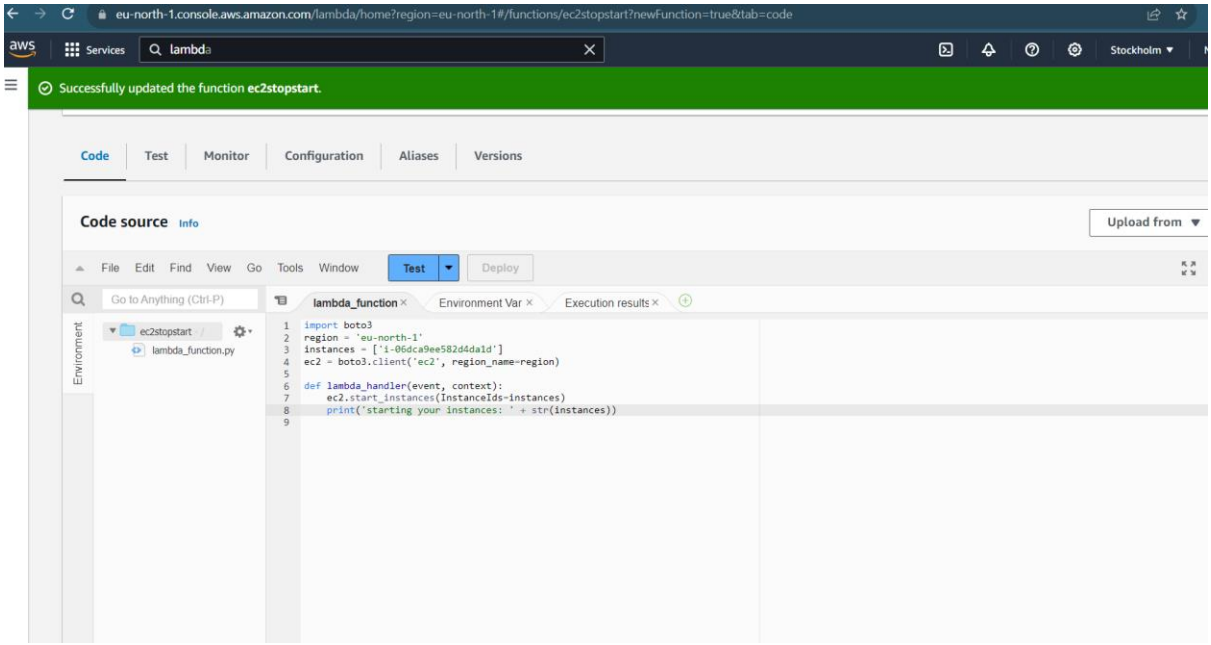
Create an IAM policy for Lambda function.

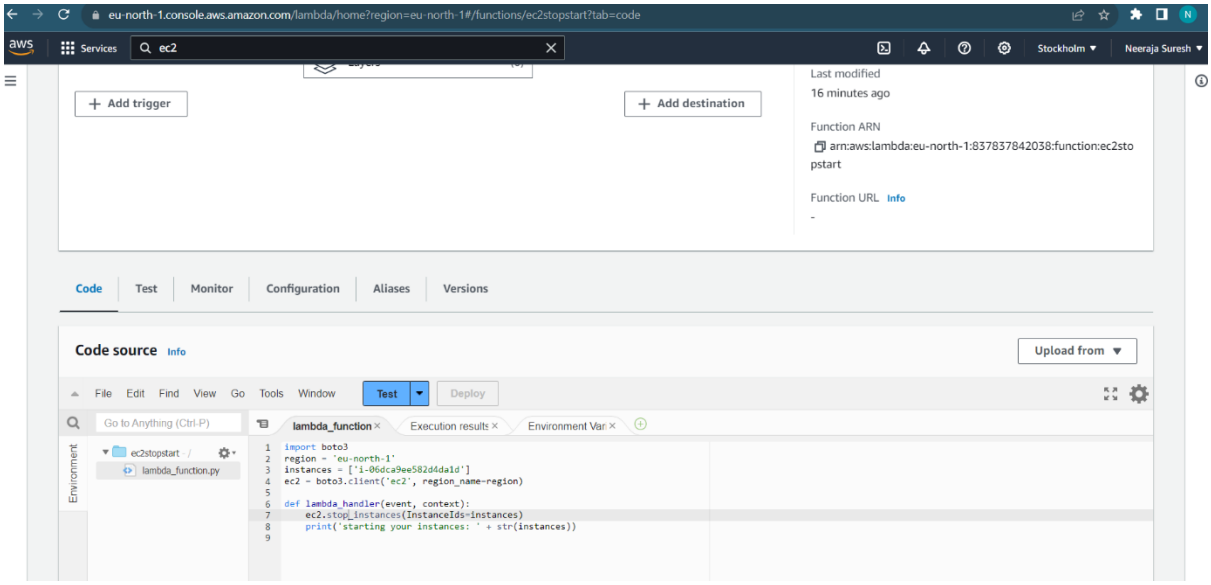


2. Create a Lambda Function:



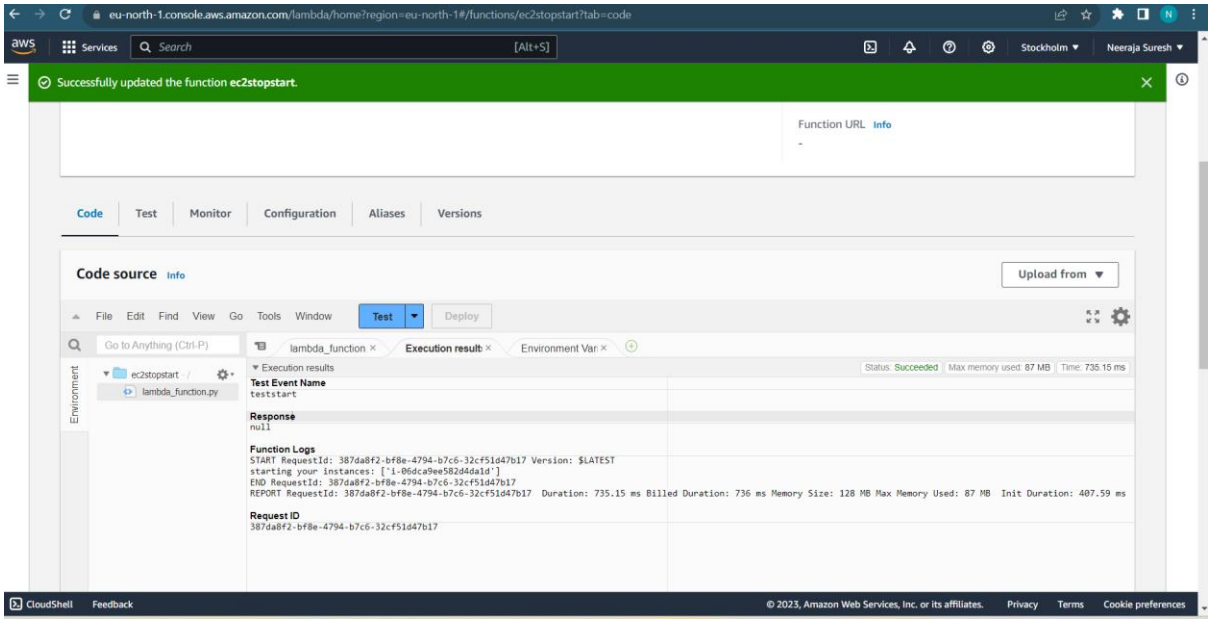
3. In the "Function code" section, write the code to start and stop EC2 instances based on your requirements.

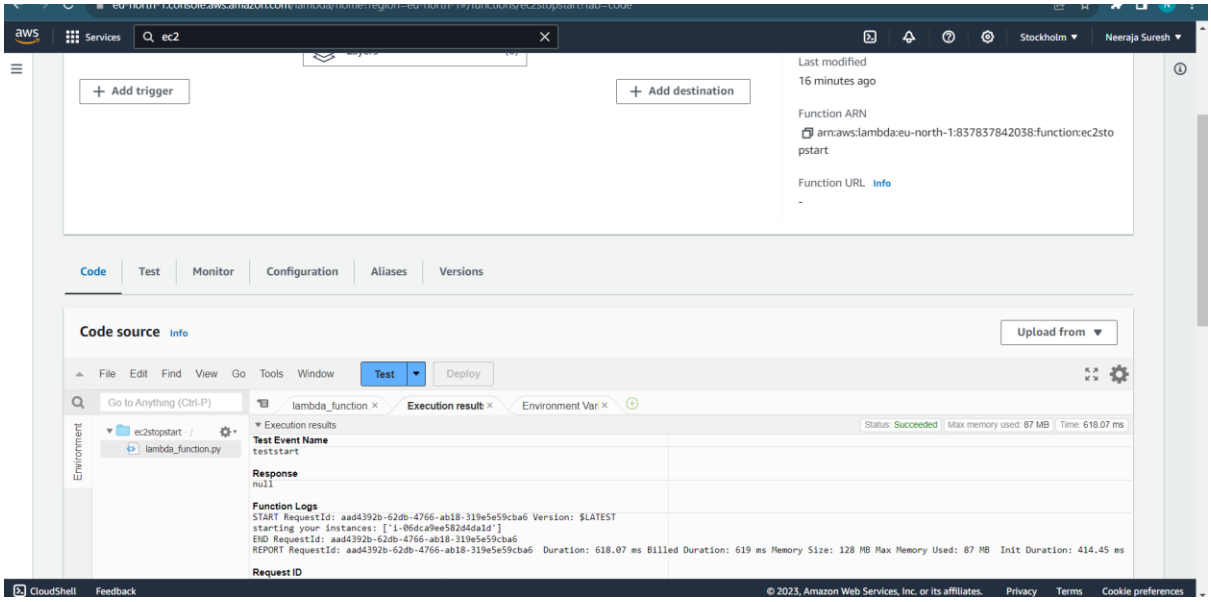




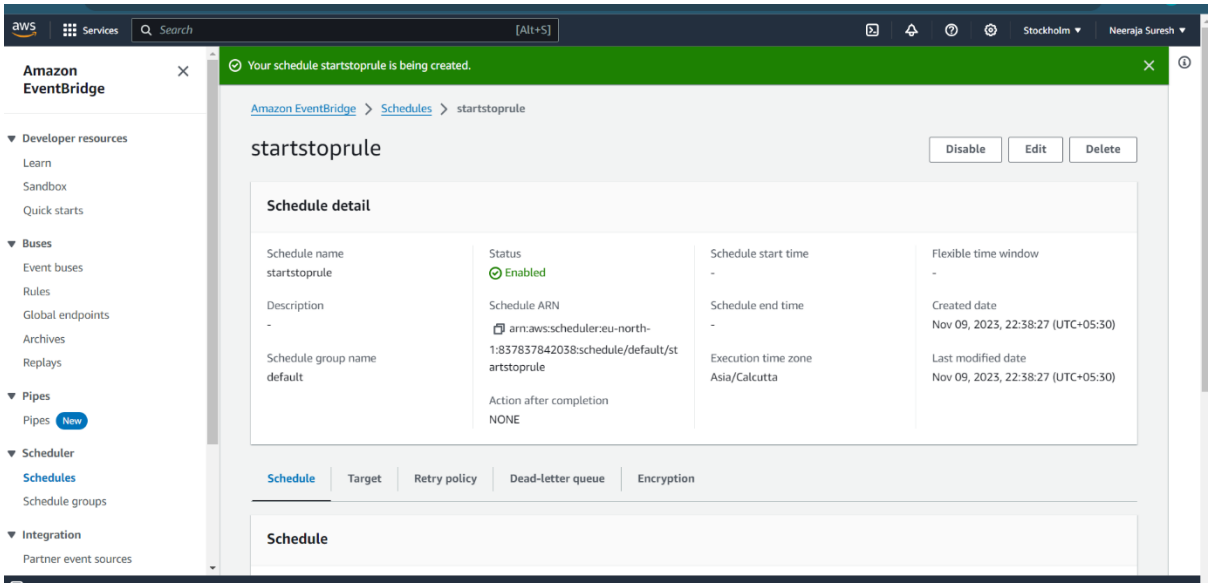
4. Test the Lambda Function:

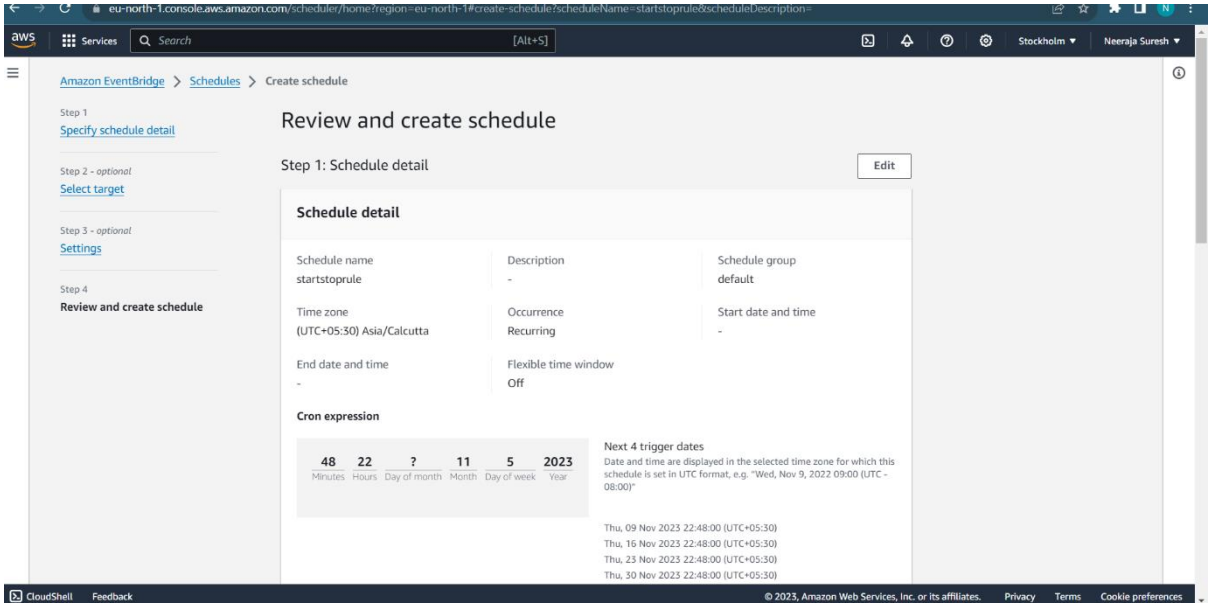
Run the test to ensure your Lambda function is working as expected





5. Create CloudWatch Rules:


Services
Search
[Alt+S]
Stockholm
Neeraja Suresh
Amazon EventBridge
Your schedule startstoprule is being created.
Amazon EventBridge > Schedules > startstoprule
startstoprule
Disable
Edit
Delete
Schedule detail
Schedule name
startstoprule
Status
Enabled
Schedule start time
-
Flexible time window
-
Description
-
Schedule ARN
arn:aws:scheduler:eu-north-1:837837842038:schedule/default/startstoprule
Schedule end time
-
Created date
Nov 09, 2023, 22:38:27 (UTC+05:30)
Schedule group name
default
Execution time zone
Asia/Calcutta
Last modified date
Nov 09, 2023, 22:38:27 (UTC+05:30)
Action after completion
NONE
Developer resources
Learn
Sandbox
Quick starts
Buses
Event buses
Rules
Global endpoints
Archives
Replays
Pipes
Pipes
New
Scheduler
Schedules
Schedule groups
Integration
Partner event sources
Schedule
Target
Retry policy
Dead-letter queue
Encryption


Services
Search
[Alt+S]
Stockholm
Neeraja Suresh
Amazon EventBridge > Schedules > Create schedule
Step 1
Specify schedule detail
Step 2 - optional
Select target
Step 3 - optional
Settings
Step 4
Review and create schedule
Review and create schedule
Step 1: Schedule detail
Edit
Schedule detail
Schedule name
startstoprule
Description
-
Schedule group
default
Time zone
(UTC+05:30) Asia/Calcutta
Occurrence
Recurring
Start date and time
-
End date and time
-
Flexible time window
Off
Cron expression
48 22 ? 11 5 2023
Minutes Hours Day of month Month Day of week Year
Next 4 trigger dates
Date and time are displayed in the selected time zone for which this schedule is set in UTC format, e.g. "Wed, Nov 9, 2022 09:00 (UTC - 08:00)"
Thu, 09 Nov 2023 22:48:00 (UTC+05:30)
Thu, 16 Nov 2023 22:48:00 (UTC+05:30)
Thu, 23 Nov 2023 22:48:00 (UTC+05:30)
Thu, 30 Nov 2023 22:48:00 (UTC+05:30)
CloudShell
Feedback
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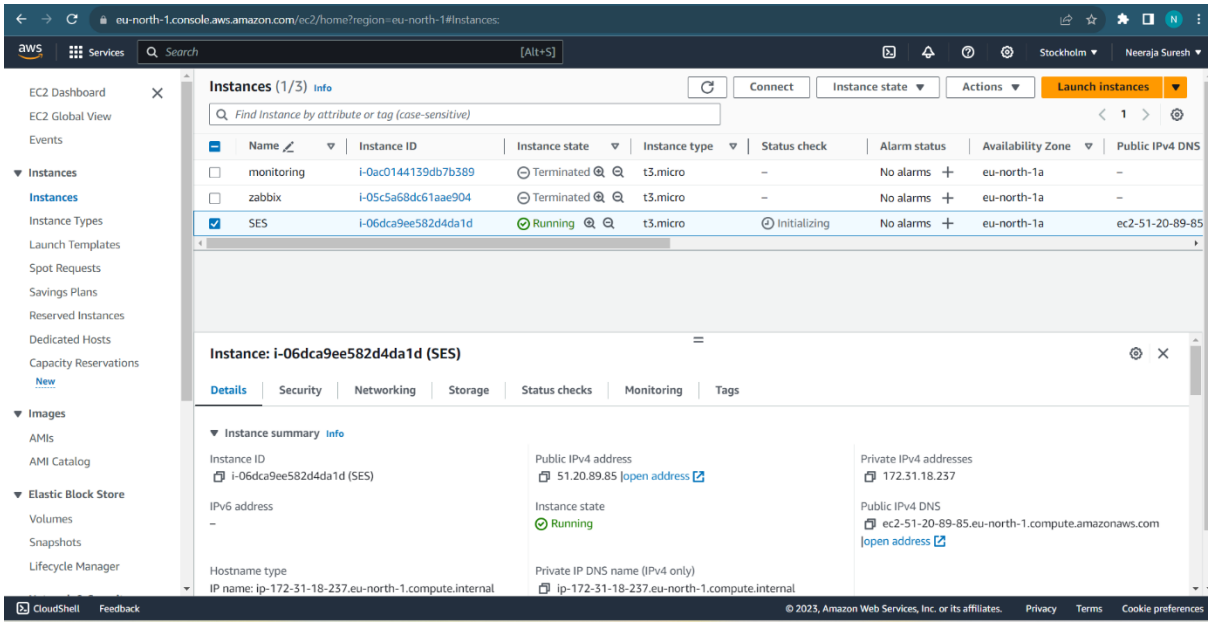
eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:
Services
Search
[Alt+S]
Stockholm
Neeraja Suresh
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
New
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Instances (1/3) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
monitoring
i-0ac0144139db7b389
Terminated
t3.micro
No alarms
eu-north-1a
zabbix
i-05c5a68dc61aae904
Terminated
t3.micro
No alarms
eu-north-1a
SES
i-06dca9ee582d4da1d
Running
t3.micro
Initializing
No alarms
eu-north-1a
ec2-51-20-89-85
Instance: i-06dca9ee582d4da1d (SES)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags
Instance summary Info
Instance ID
i-06dca9ee582d4da1d (SES)
Public IPv4 address
51.20.89.85 |open address
Private IPv4 addresses
172.31.18.237
IPv6 address
–
Instance state
Running
Public IPv4 DNS
ec2-51-20-89-85.eu-north-1.compute.amazonaws.com |open address
Hostname type
IP name: ip-172-31-18-237.eu-north-1.compute.internal
Private IP DNS name (IPv4 only)
ip-172-31-18-237.eu-north-1.compute.internal
CloudShell
Feedback
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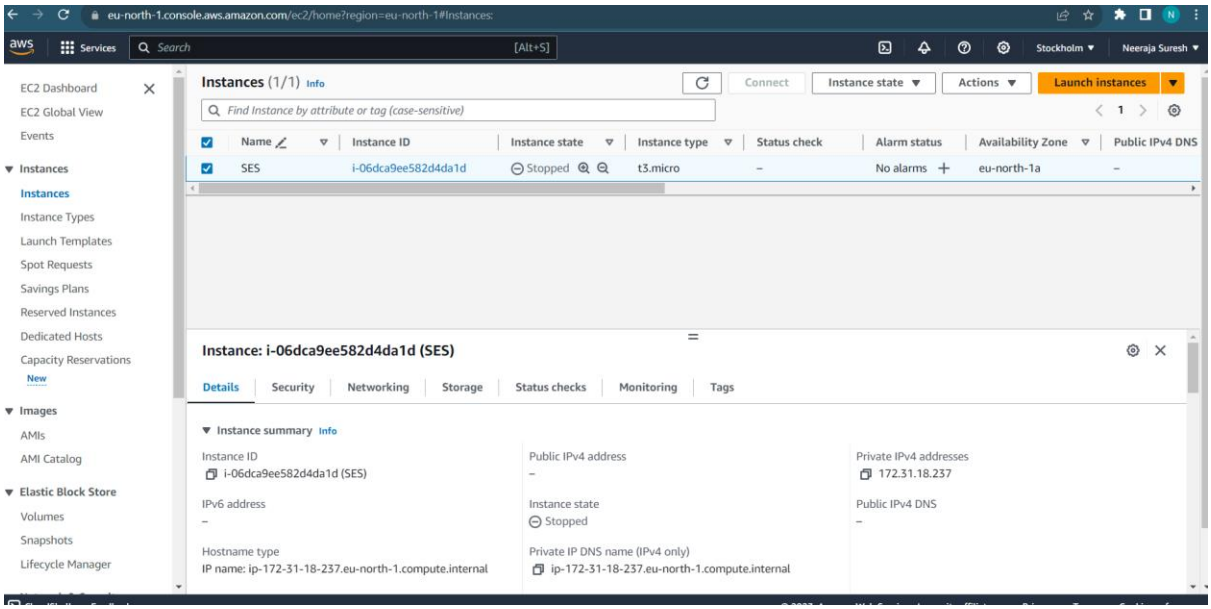
eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:
Services
Search
[Alt+S]
Stockholm
Neeraja Suresh
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
New
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Instances (1/1) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
SES
i-06dca9ee582d4da1d
Stopped
t3.micro
No alarms
eu-north-1a
Instance: i-06dca9ee582d4da1d (SES)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags
Instance summary Info
Instance ID
i-06dca9ee582d4da1d (SES)
Public IPv4 address
–
Private IPv4 addresses
172.31.18.237
IPv6 address
–
Instance state
Stopped
Public IPv4 DNS
–
Hostname type
IP name: ip-172-31-18-237.eu-north-1.compute.internal
Private IP DNS name (IPv4 only)
ip-172-31-18-237.eu-north-1.compute.internal