Experiment 10

Aim:-

To create a Lambda function using Python for adding data to Dynamo DB database.

Theory:-

DYNAMO DB

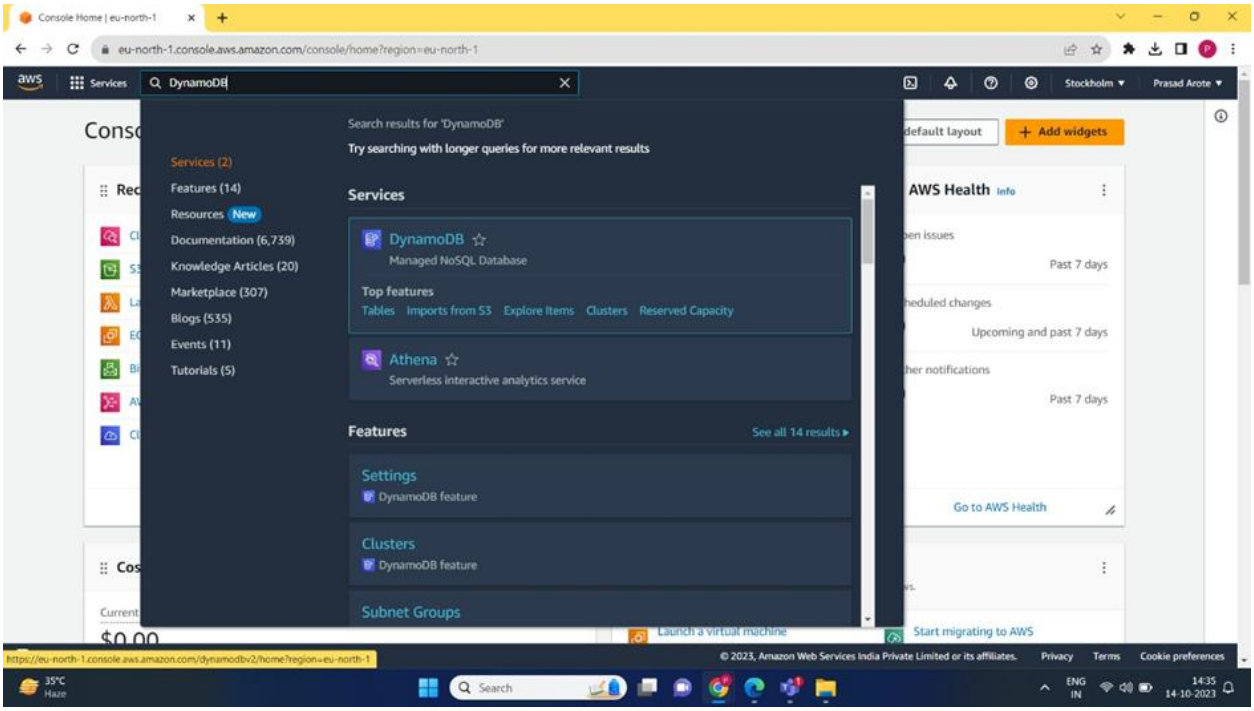
Amazon DynamoDB is a fully managed NoSQL database service that provides fast and predictable performance with seamless scalability. DynamoDB lets you offload the administrative burdens of operating and scaling a distributed database so that you don't have to worry about hardware provisioning, setup and configuration, replication, software patching, or cluster scaling. DynamoDB also offers encryption at rest, which eliminates the operational burden and complexity involved in protecting sensitive data.

With DynamoDB, you can create database tables that can store and retrieve any amount of data and serve any level of request traffic. You can scale up or scale down your tables' throughput capacity without downtime or performance degradation. You can use the AWS Management Console to monitor resource utilization and performance metrics

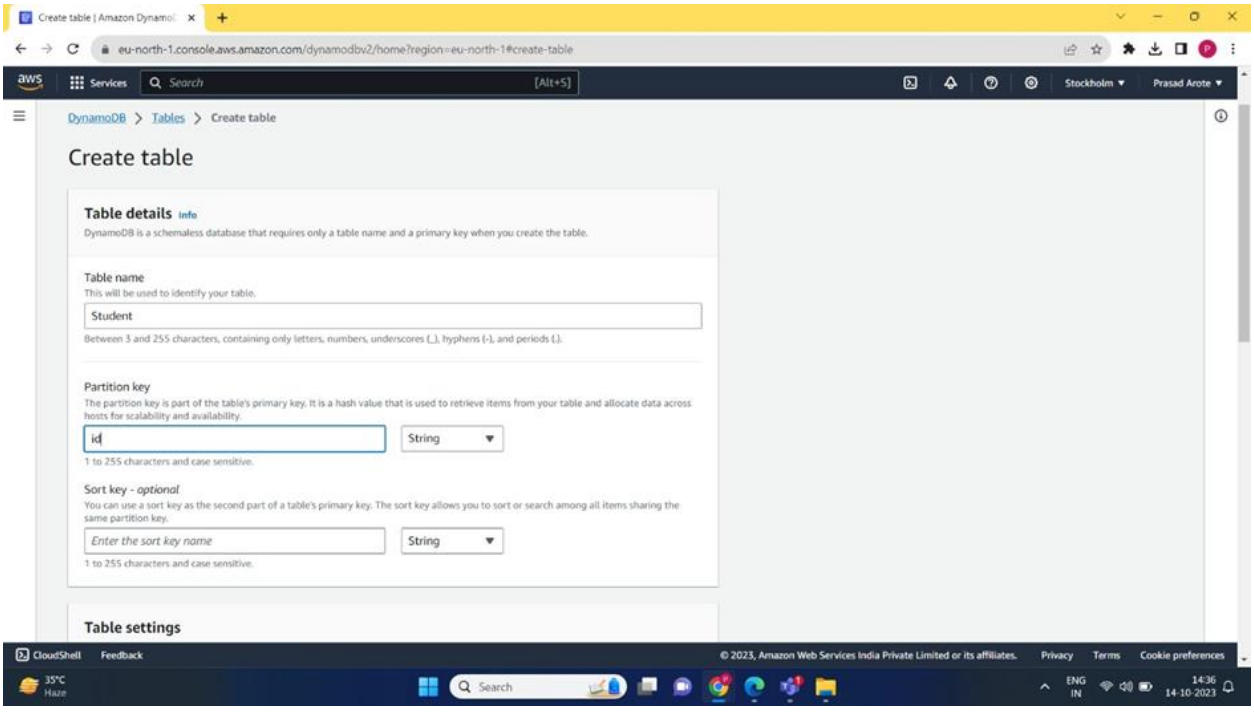
DynamoDB provides on-demand backup capability. It allows you to create full backups of your tables for long-term retention and archival for regulatory compliance needs.

Steps :-

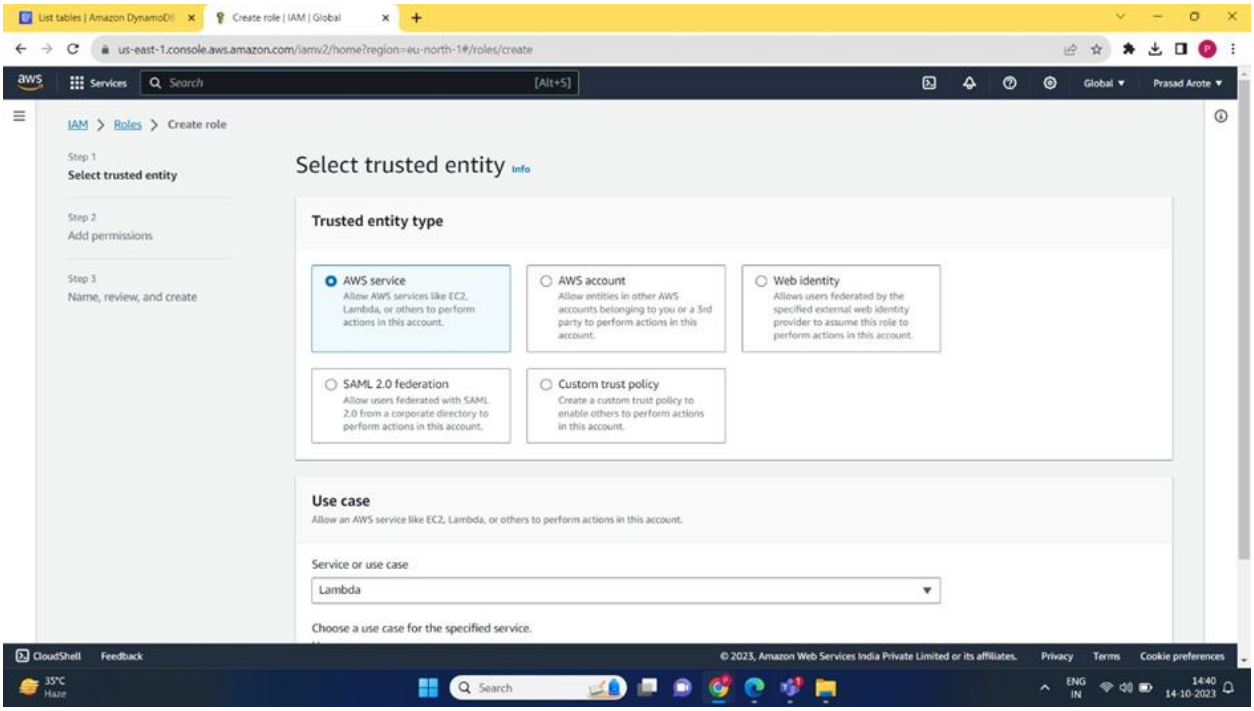
1) Login to AWS account and search for DynamoDB in search bar



2) Click on DynamoDB option shown above and then click on create table



3)Then search IAM in the search box above and create a new role , give AmazonDynamoFullAccess permission to created user


List tables | Amazon DynamoDB
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iamv2/home?region=eu-north-1#/roles/create
Services
Search
[Alt+S]
Global
Prasad Arote
IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Select trusted entity Info
Trusted entity type
AWS service
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
AWS account
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
Web identity
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.
SAML 2.0 federation
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
Custom trust policy
Create a custom trust policy to enable others to perform actions in this account.
Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.
Service or use case
Lambda
Choose a use case for the specified service.
CloudShell
Feedback
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Privacy
Terms
Cookie preferences
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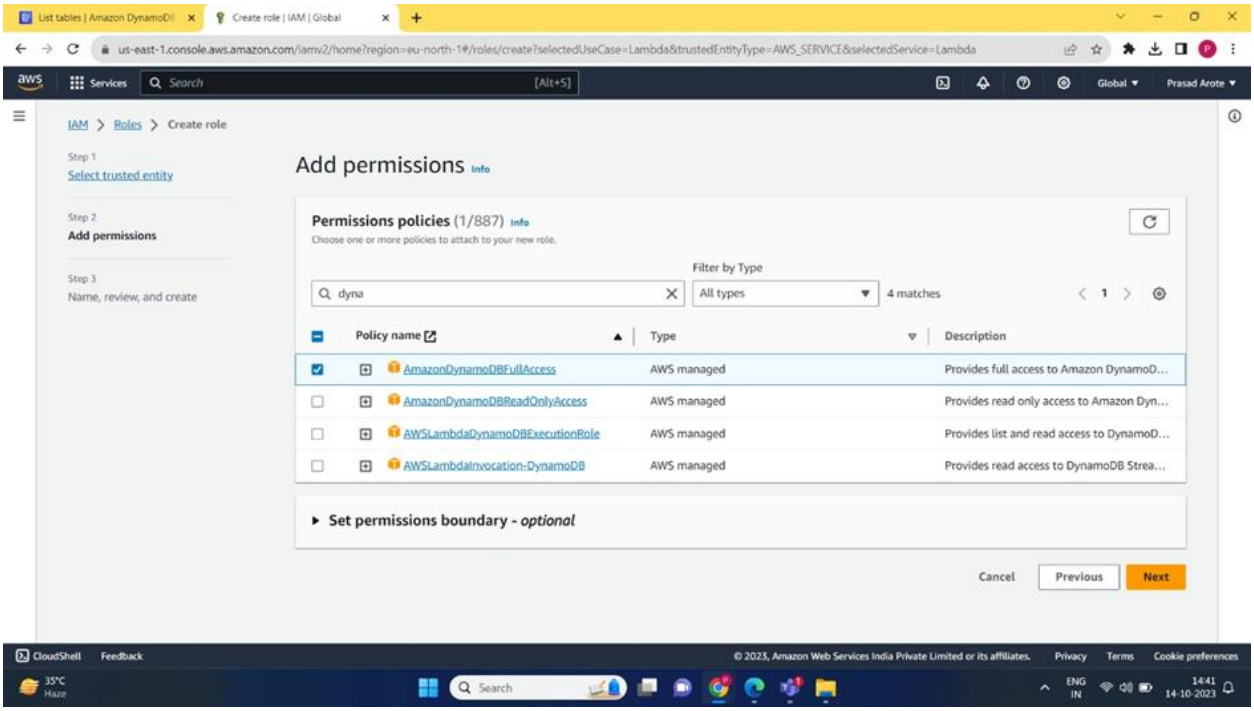
List tables | Amazon DynamoDB
Create role | IAM | Global
us-east-1.console.aws.amazon.com/iamv2/home?region=eu-north-1#/roles/create?selectedUseCase=Lambda&trustedEntityType=AWS_SERVICE&selectedService=Lambda
Services
Search
[Alt+S]
Global
Prasad Arote
IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Add permissions Info
Permissions policies (1/887) Info
Choose one or more policies to attach to your new role.
Filter by Type
dyna
All types
4 matches
1
Policy name
Type
Description
AmazonDynamoDBFullAccess
AWS managed
Provides full access to Amazon DynamoD...
AmazonDynamoDBReadOnlyAccess
AWS managed
Provides read only access to Amazon Dyn...
AWSLambdaDynamoDBExecutionRole
AWS managed
Provides list and read access to DynamoD...
AWSLambdaInvocation-DynamoDB
AWS managed
Provides read access to DynamoDB Strea...
Set permissions boundary - optional
Cancel
Previous
Next
CloudShell
Feedback
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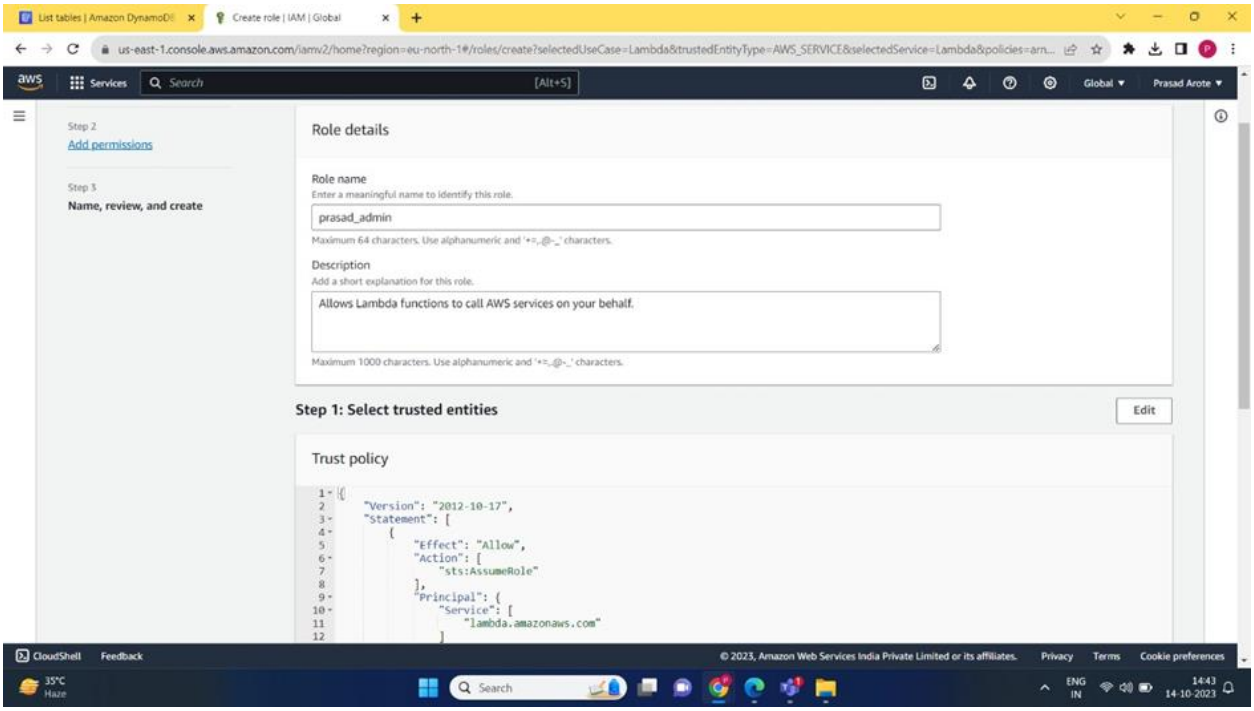
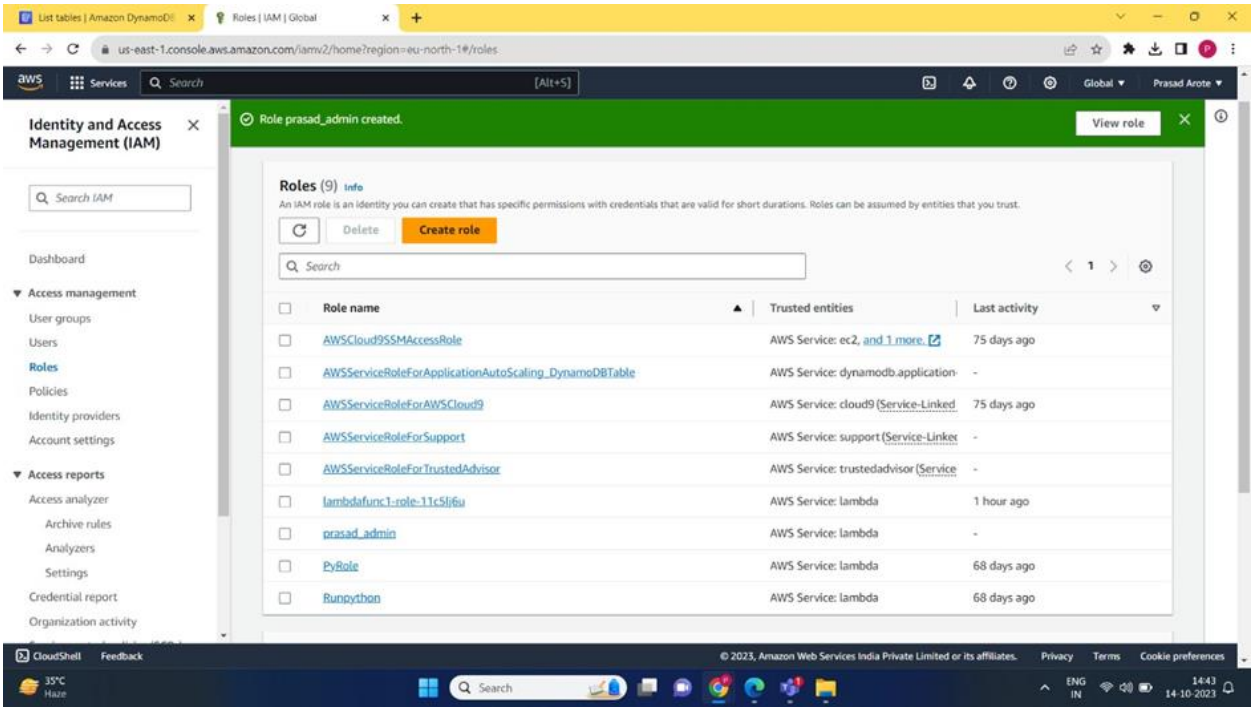
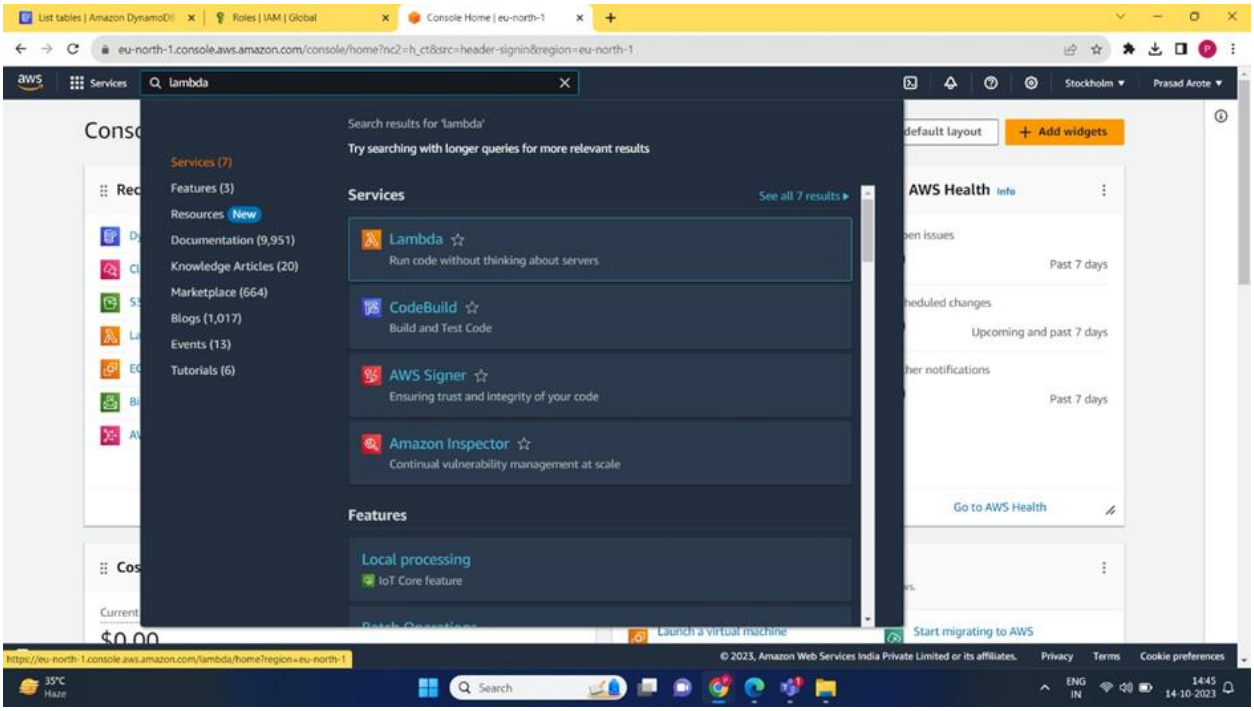




4) Search Lambda in search box and click on it , then create a new lambda function


List tables | Amazon DynamoDB
Roles | IAM | Global
Console Home | eu-north-1
eu-north-1.console.aws.amazon.com/console/home?nc2=h_ct&src=header-signin&region=eu-north-1
aws
Services
lambda
Stockholm
Prasad Arote
Search results for 'lambda'
Try searching with longer queries for more relevant results
Services (7)
Features (3)
Resources New
Documentation (9,951)
Knowledge Articles (20)
Marketplace (664)
Blogs (1,017)
Events (13)
Tutorials (6)
Services
See all 7 results
Lambda
Run code without thinking about servers
CodeBuild
Build and Test Code
AWS Signer
Ensuring trust and integrity of your code
Amazon Inspector
Continual vulnerability management at scale
Features
Local processing
IoT Core feature
default layout
Add widgets
AWS Health Info
Past 7 days
Upcoming and past 7 days
Go to AWS Health
Launch a virtual machine
Start migrating to AWS
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Terms
Cookie preferences
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Search
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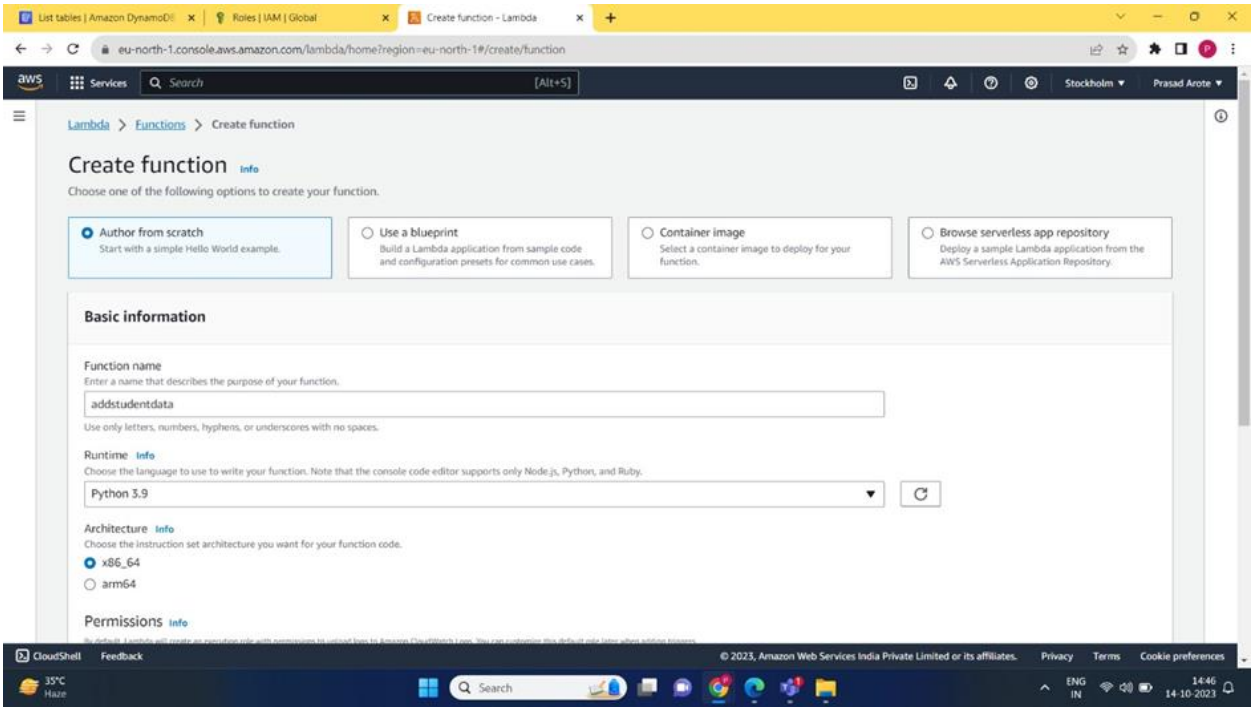
List tables | Amazon DynamoDB
Roles | IAM | Global
Create function - Lambda
eu-north-1.console.aws.amazon.com/lambda/home?region=eu-north-1#/create/function
aws
Services
Search
[Alt+S]
Stockholm
Prasad Arote
Lambda > Functions > Create function
Create function Info
Choose one of the following options to create your function.
Author from scratch
Start with a simple Hello World example.
Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.
Container image
Select a container image to deploy for your function.
Browse serverless app repository
Deploy a sample Lambda application from the AWS Serverless Application Repository.
Basic information
Function name
Enter a name that describes the purpose of your function.
addstudentdata
Use only letters, numbers, hyphens, or underscores with no spaces.
Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
Python 3.9
Architecture Info
Choose the instruction set architecture you want for your function code.
x86_64
arm64
Permissions Info
CloudShell
Feedback
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Privacy
Terms
Cookie preferences
35°C
Haze
Search
ENG
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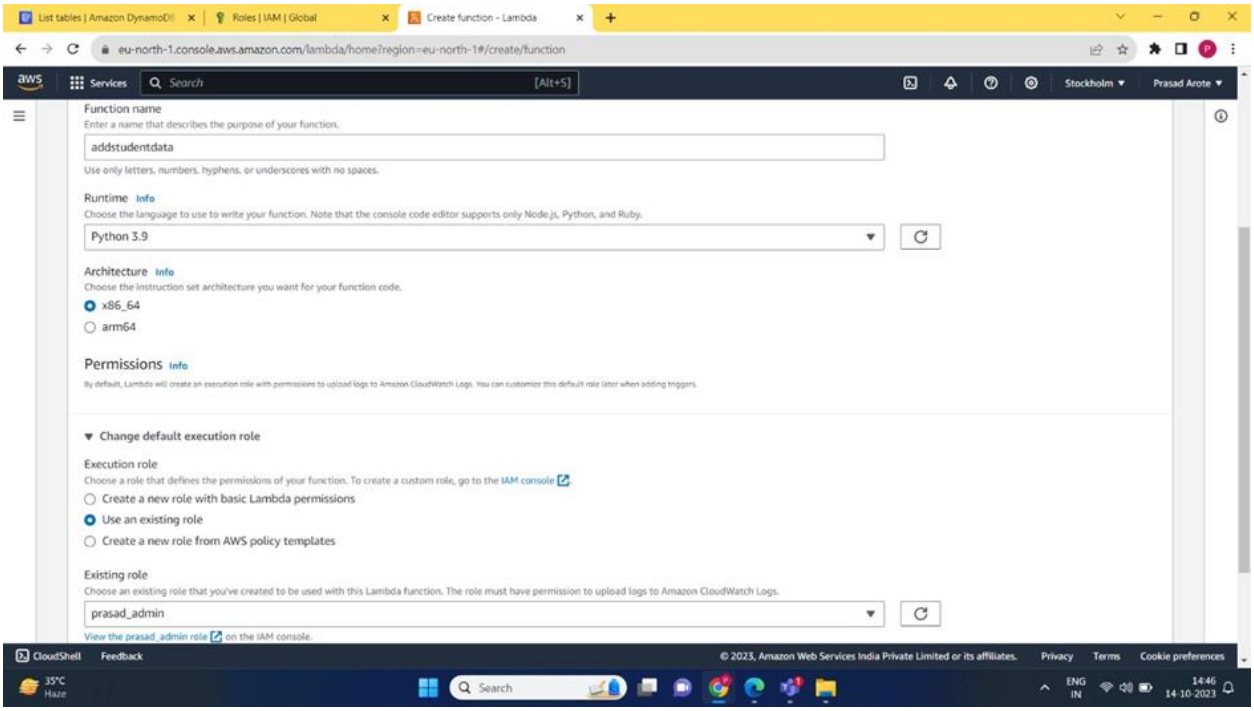
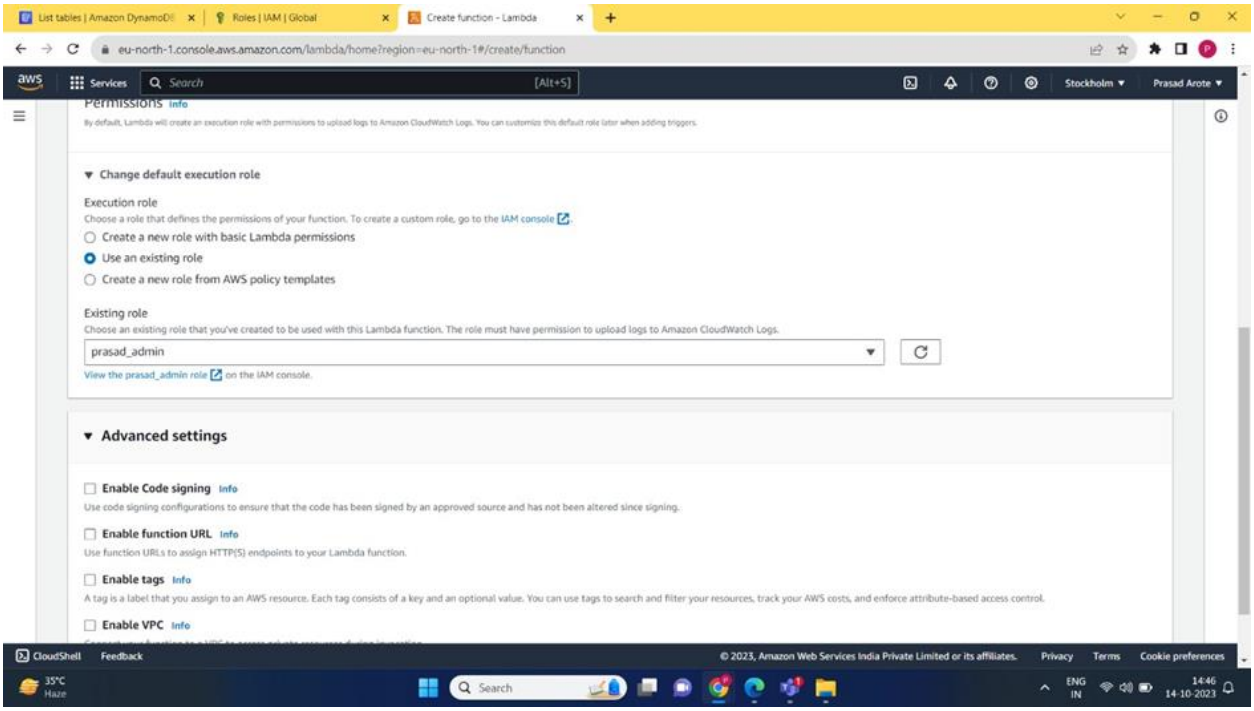
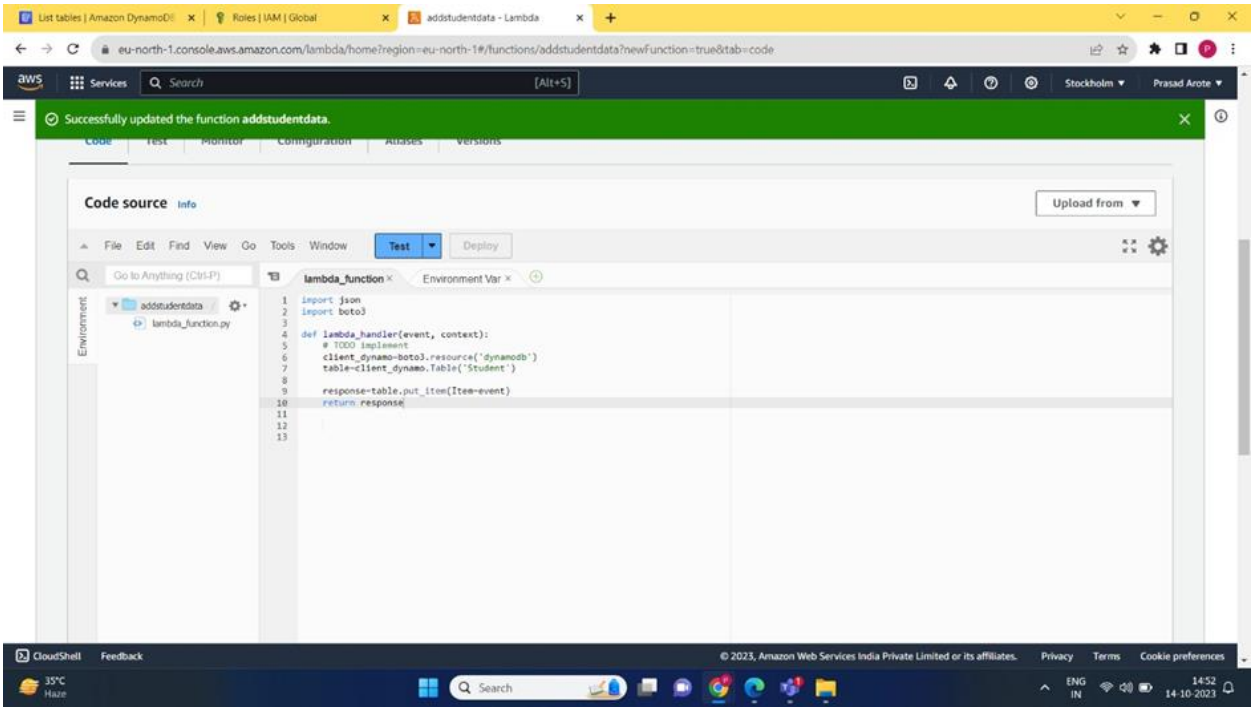
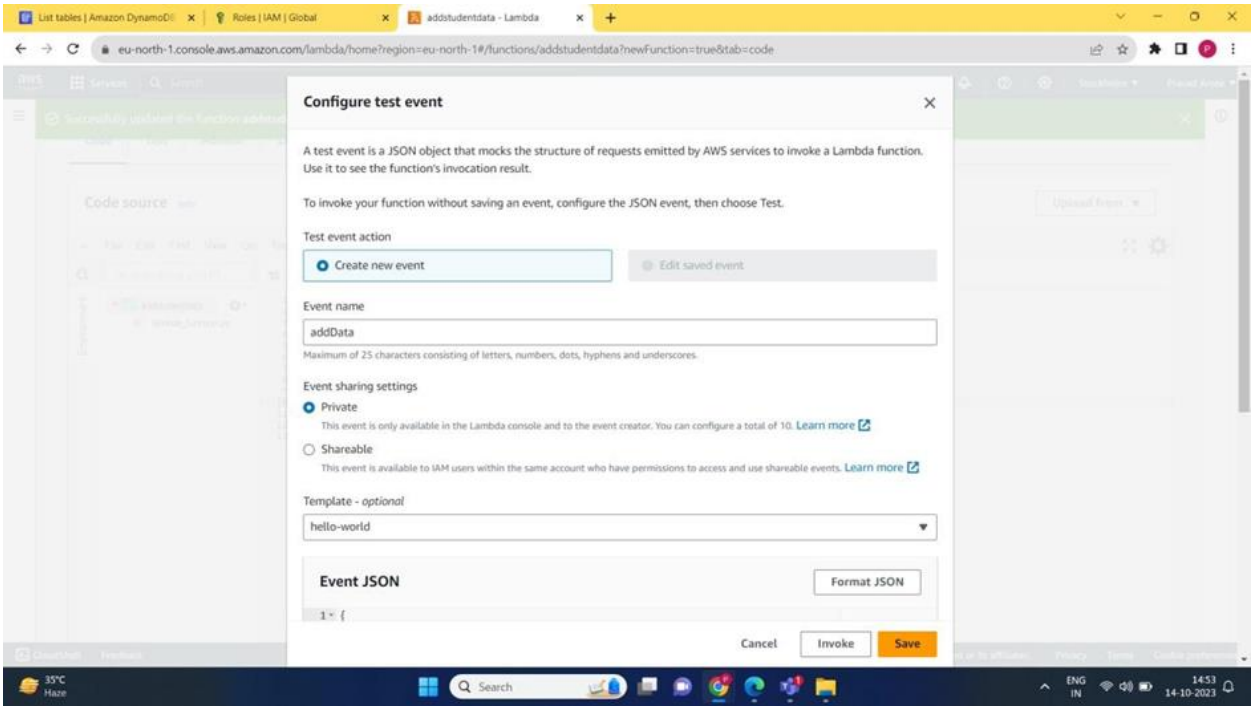


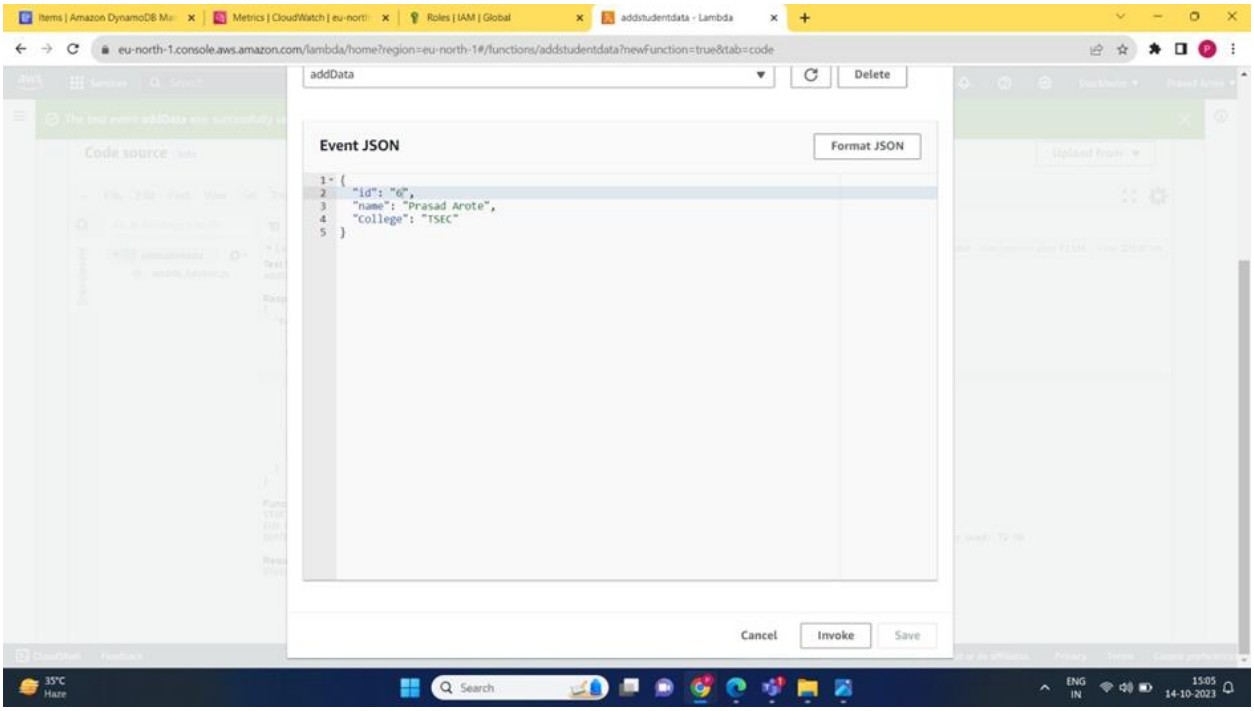


5) Write the following code in code source

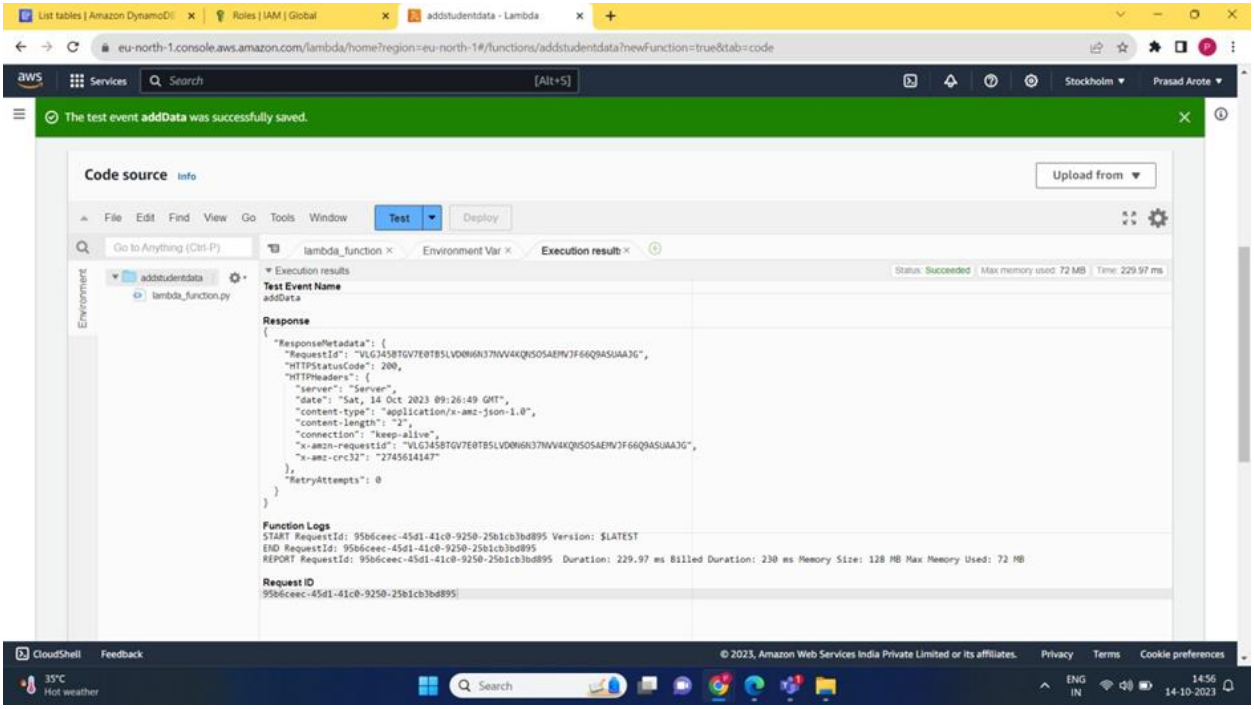


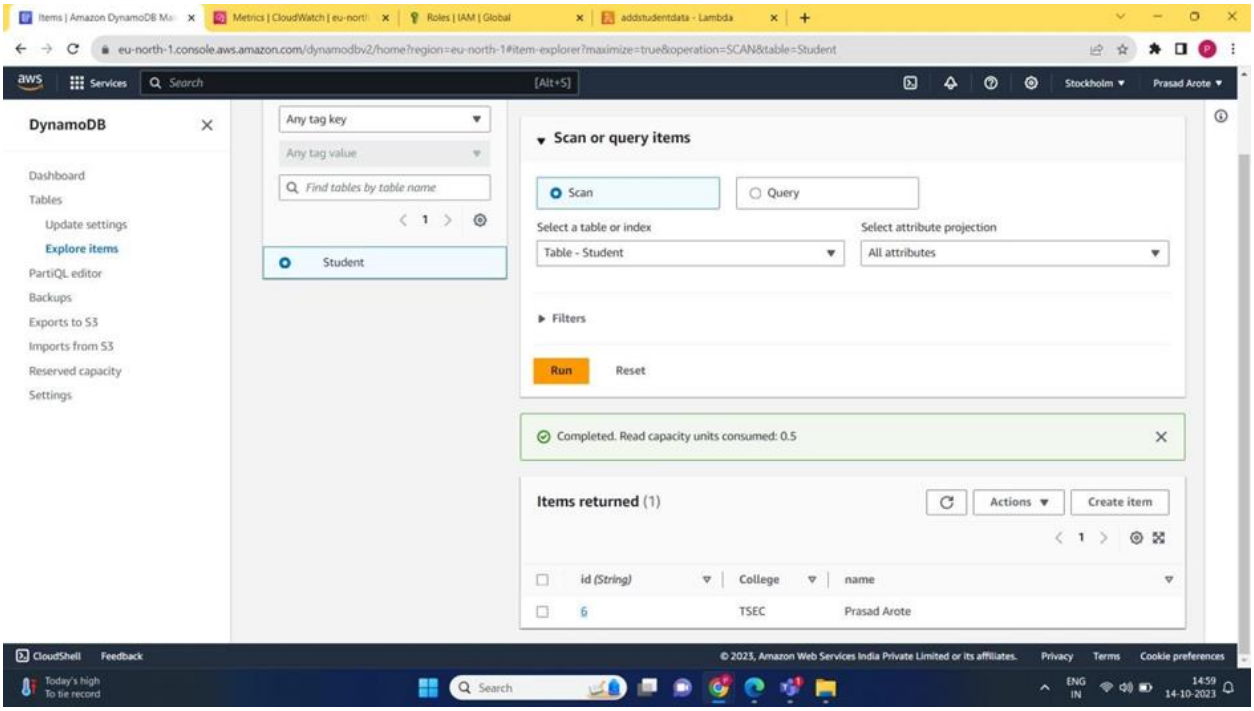
6) Configure the test event and save





7) Run the test and afterwards go to the DynamoDB>Explore items> Student where you can see the record inserted using lambda function.





Conclusion:-

Learnt about Amazon DynamoDB database service and inserted data into DynamoDB database by creating a new user , granting him permissions and then using a lambda function