Experiment 7

Creating a lambda function in AWS to email daily reports

Name: Aditya Singh

Reg No: RA2011028010089 **Aim**: Automate Sending

Emails at a Specific Time with AWS Lambda,

CloudWatch and SES **Pre-requisites:** AWS Console,

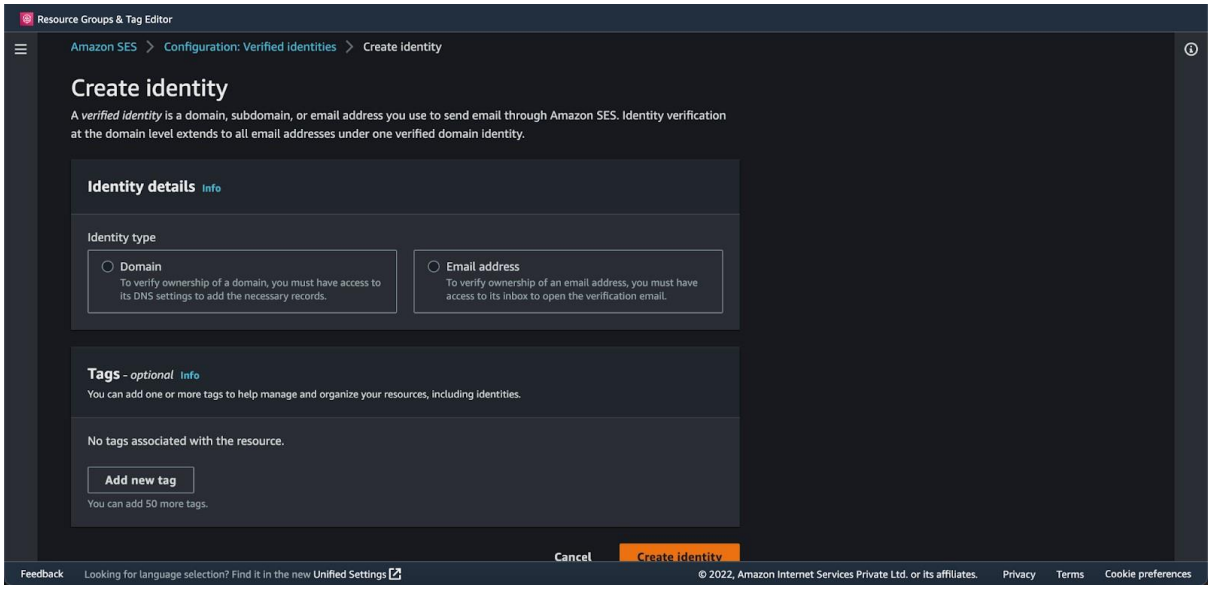
Amazon SES, Amazon Lambda, Amazon CloudWatch.

Procedure:

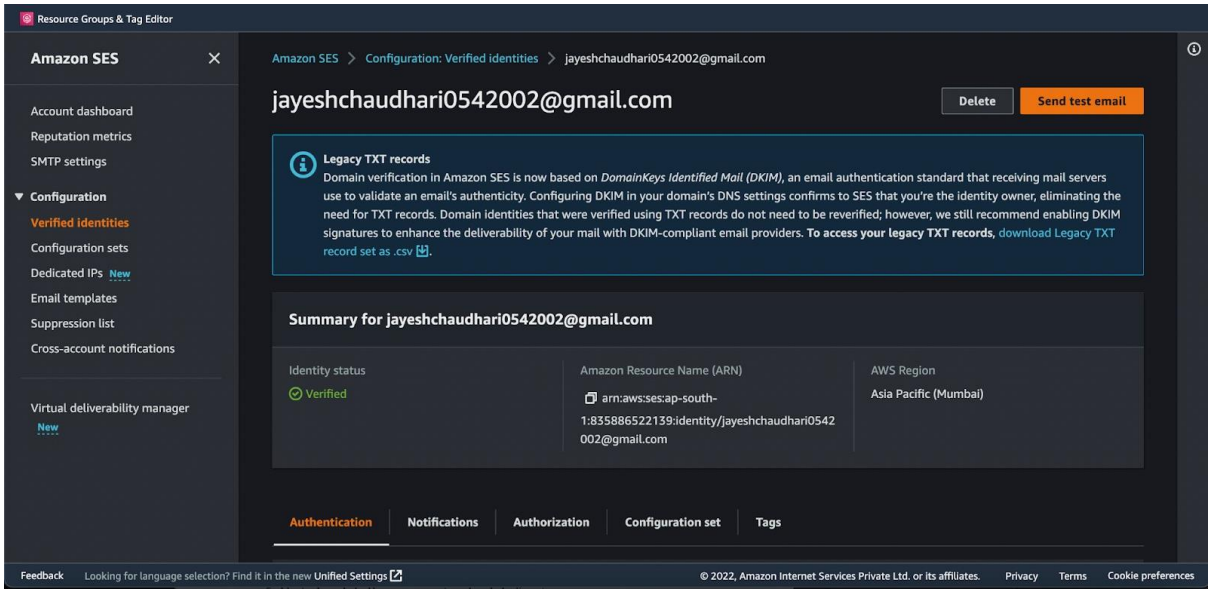
We are going automate sending email to a person or a group of people. AWS **Cloudwatch** is used to setup a schedule to trigger AWS **Lambda** function and then it's going to use AWS **SES** (**Simple Email Service**) to send out emails to people.

Steps:

1. Go to AWS SES (Simple email service), click on "Create Identity". Use email address as a type and type the email address.

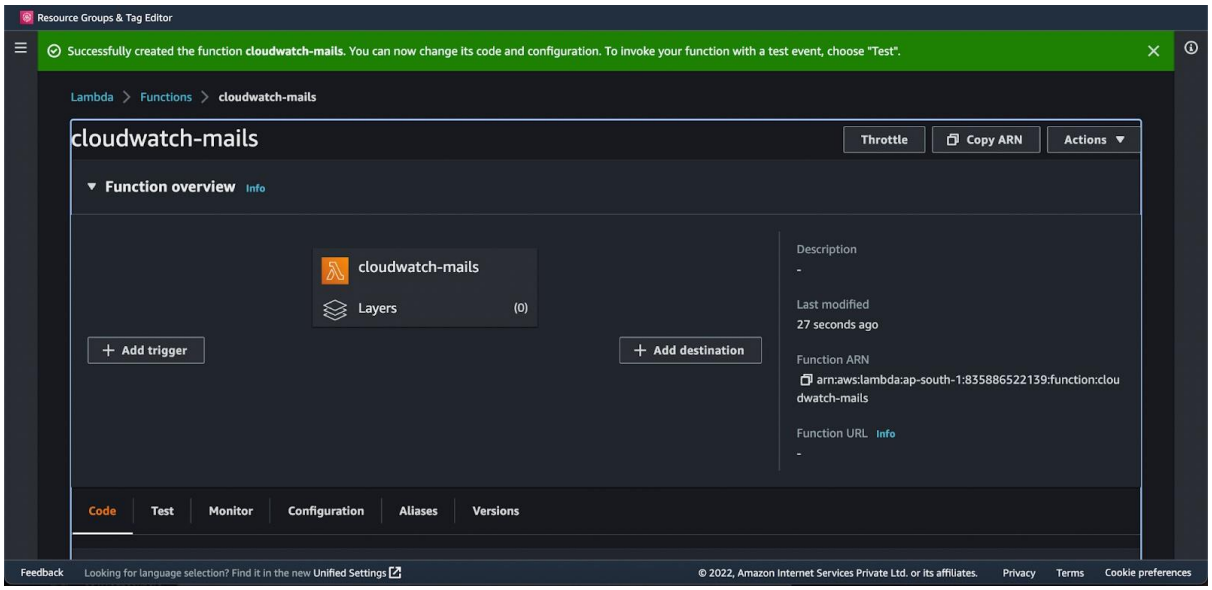


2. Verify the email address that received an email from aws to tell you to verify that

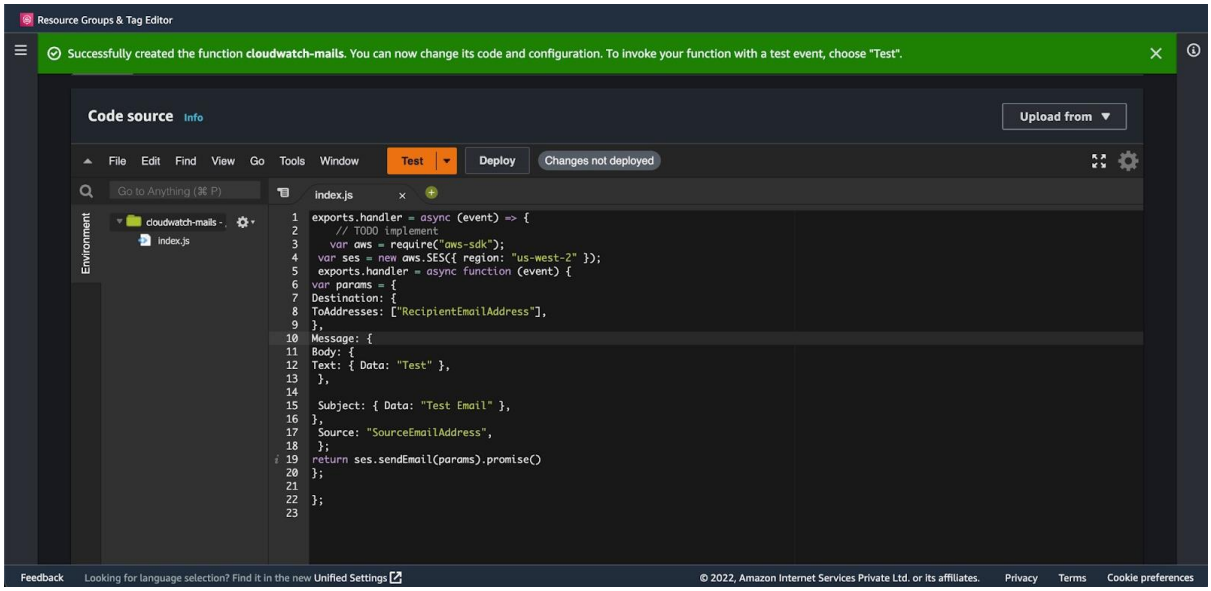


3. Create two identities (email address). One for sending emails and another for receiving.
4. Create an IAM role.

5. Give Use case as lambda and give full access to cloudwatch, SES.
6. Go to Lambda Service, create a lambda function.
7. Give name, runtime as NodeJS, execution role as created IAM role previously.



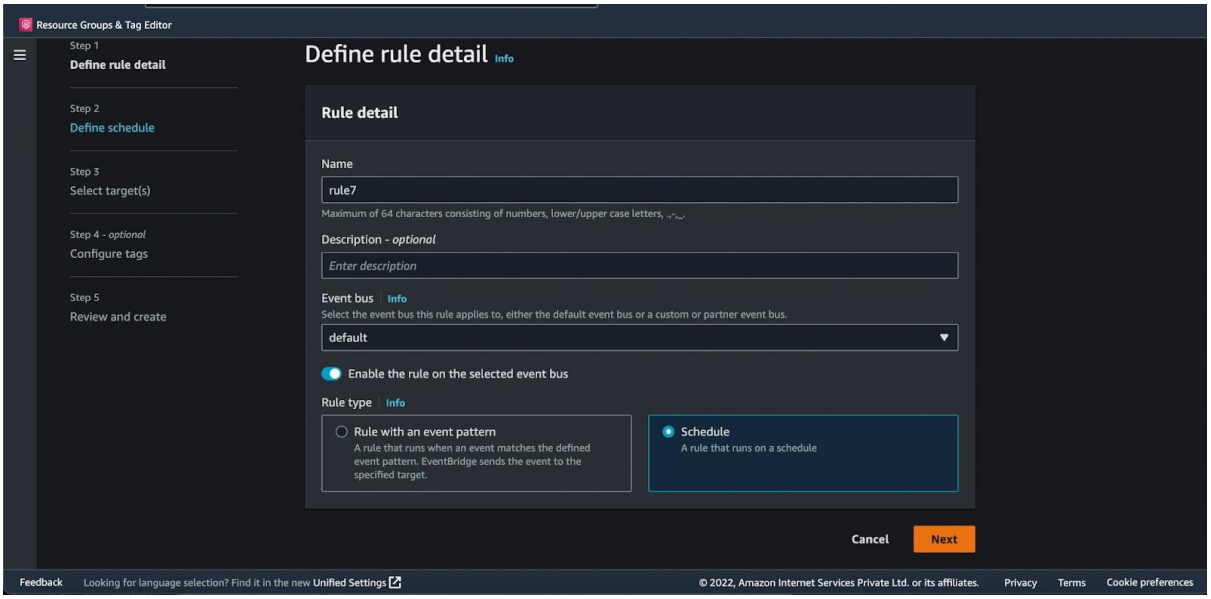
Use this template for the code:

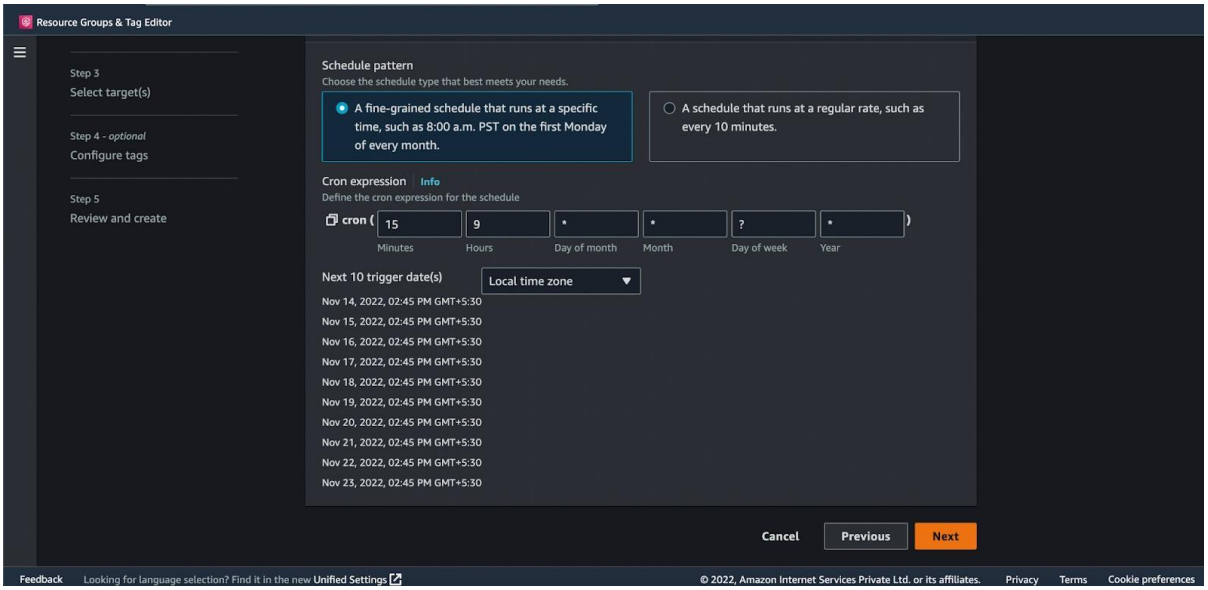


8. Click on Deploy and then TEST, you will receive the message in your mentioned emails.

9. For scheduled daily report, go to AWS Cloudwatch , navigate to rule section (now called as eventBridge)

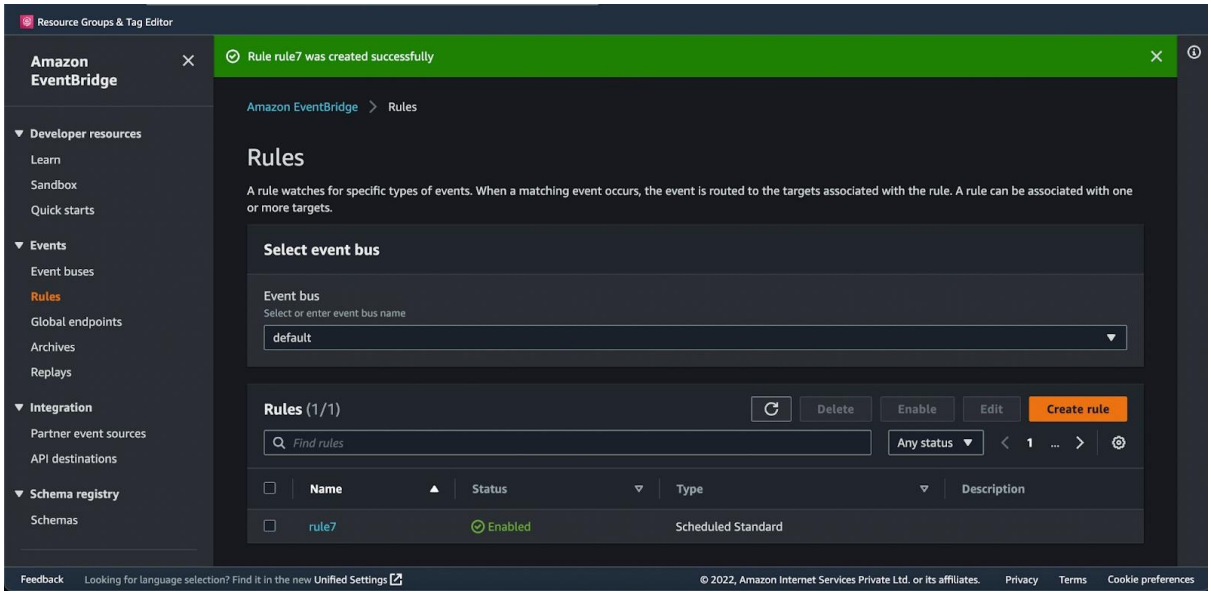
10. Create rule- give name, ruletype- schedule, use cron expression for schedule pattern for e.g.: 15 19 * *? *





11. Select Targets as lambda function, and use the above defined function.

12. Go to monitoring in Lambda service, click on View logs in cloudWatch and check your mail inbox.



Result:

Hence, the lambda function is created and implemented using SES, CloudWatch to schedule daily reports.

Experiment 8

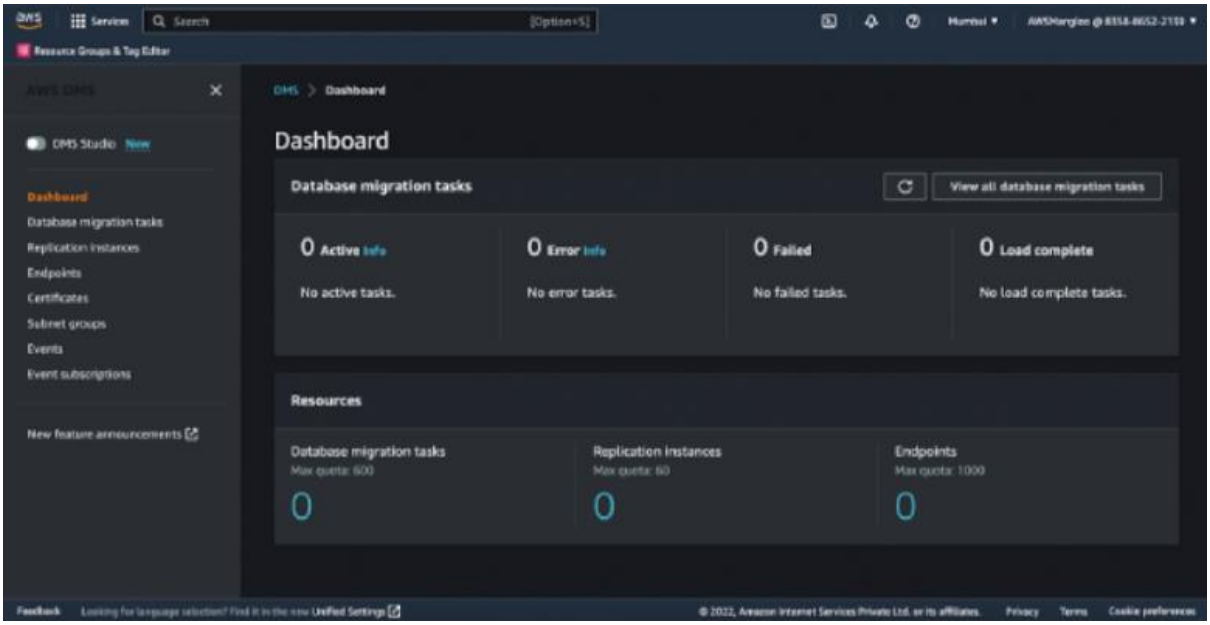
Migrating to Amazon RDS

Name: Aditya Singh
Reg No: RA2011028010089

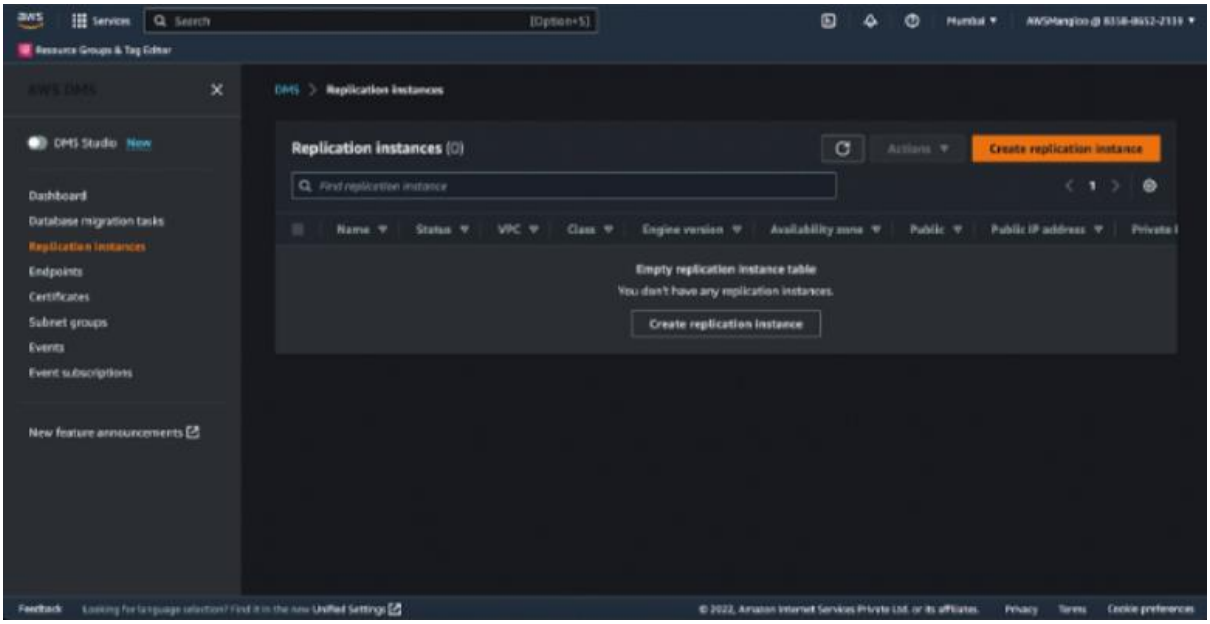
Aim: Migrating to AWS RDS

Procedure:

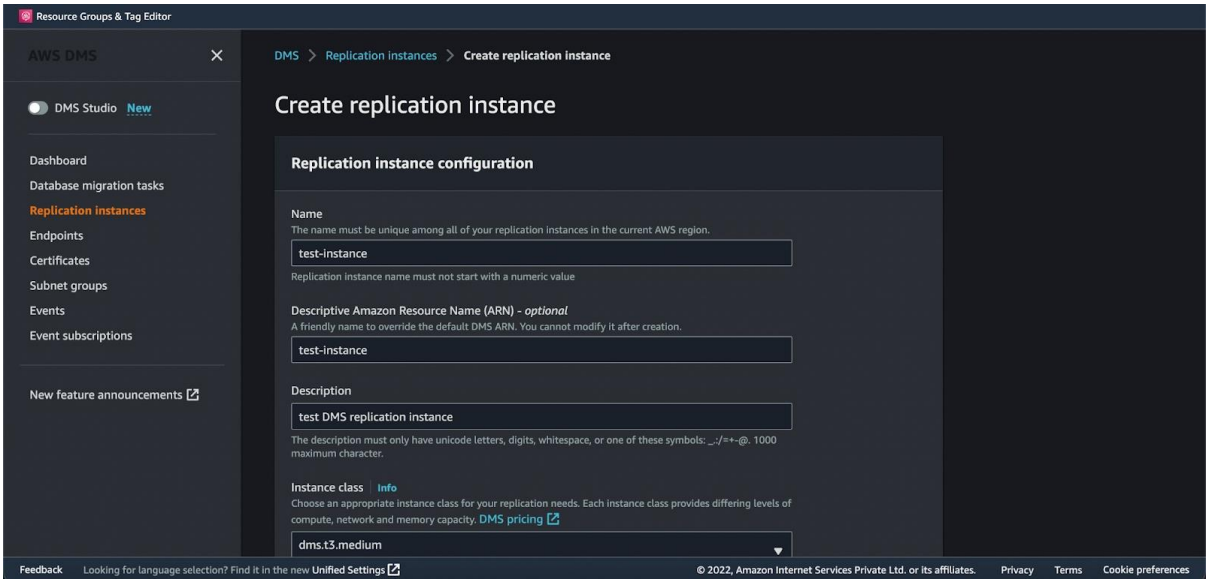
1. Search for Database Management Service



2. Open Replication Instances



3. Create Replication Instances


Resource Groups & Tag Editor
AWS DMS
DMS Studio New
Dashboard
Database migration tasks
Replication instances
Endpoints
Certificates
Subnet groups
Events
Event subscriptions
New feature announcements
DMS > Replication instances > Create replication instance
Create replication instance
Replication instance configuration
Name
The name must be unique among all of your replication instances in the current AWS region.
test-instance
Replication instance name must not start with a numeric value
Descriptive Amazon Resource Name (ARN) - optional
A friendly name to override the default DMS ARN. You cannot modify it after creation.
test-instance
Description
test DMS replication instance
The description must only have unicode letters, digits, whitespace, or one of these symbols: _.:/=+-@. 1000 maximum character.
Instance class Info
Choose an appropriate instance class for your replication needs. Each instance class provides differing levels of compute, network and memory capacity. DMS pricing
dms.t3.medium
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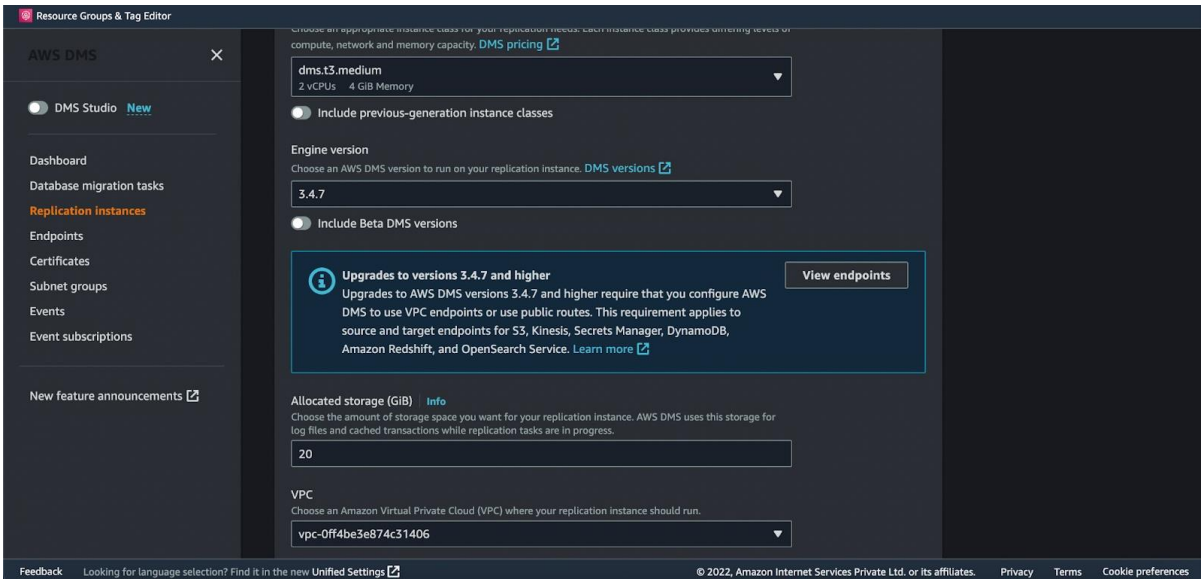
Resource Groups & Tag Editor
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New feature announcements
compute, network and memory capacity. DMS pricing
dms.t3.medium
2 vCPUs 4 GiB Memory
Include previous-generation instance classes
Engine version
Choose an AWS DMS version to run on your replication instance. DMS versions
3.4.7
Include Beta DMS versions
Upgrades to versions 3.4.7 and higher
Upgrades to AWS DMS versions 3.4.7 and higher require that you configure AWS DMS to use VPC endpoints or use public routes. This requirement applies to source and target endpoints for S3, Kinesis, Secrets Manager, DynamoDB, Amazon Redshift, and OpenSearch Service. Learn more
View endpoints
Allocated storage (GiB) Info
Choose the amount of storage space you want for your replication instance. AWS DMS uses this storage for log files and cached transactions while replication tasks are in progress.
20
VPC
Choose an Amazon Virtual Private Cloud (VPC) where your replication instance should run.
vpc-0ff4be3e874c31406
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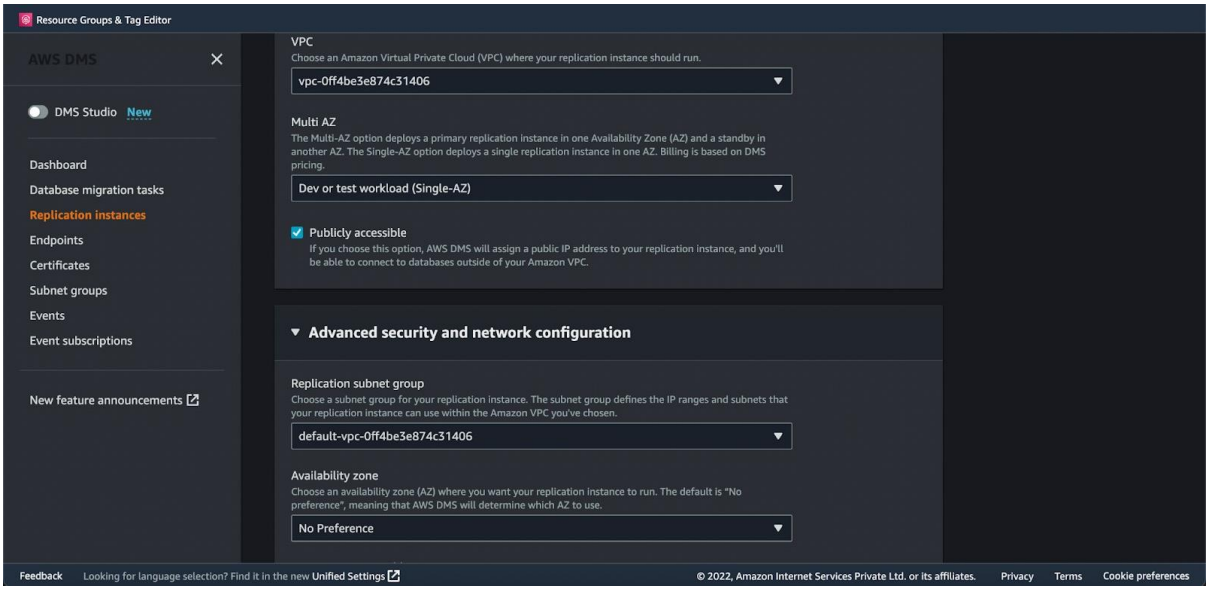
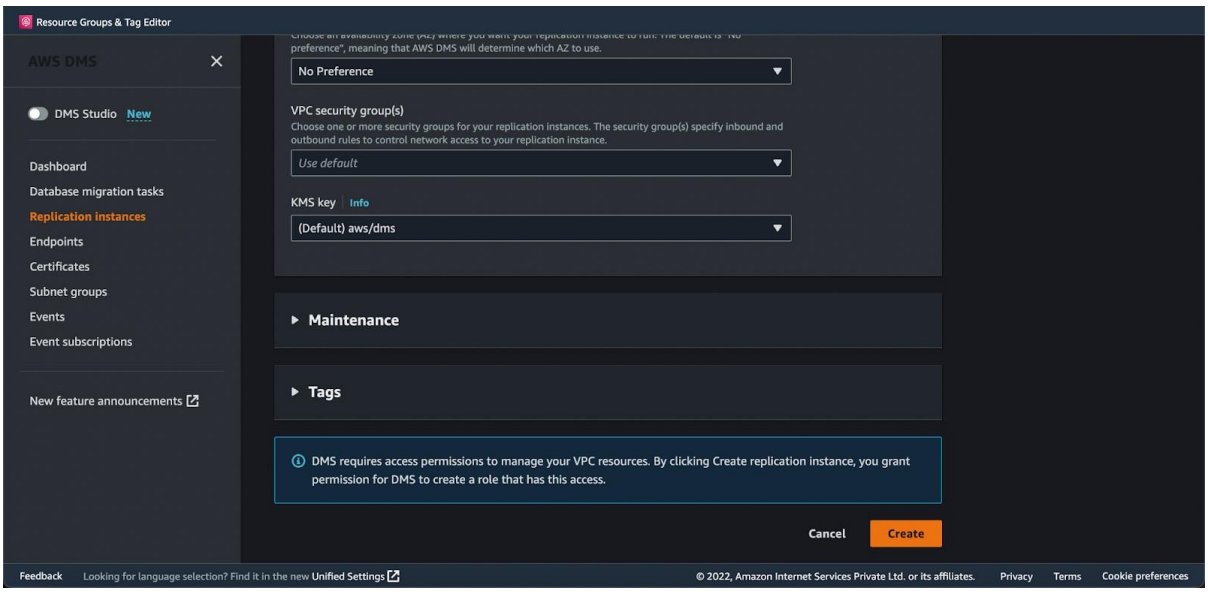
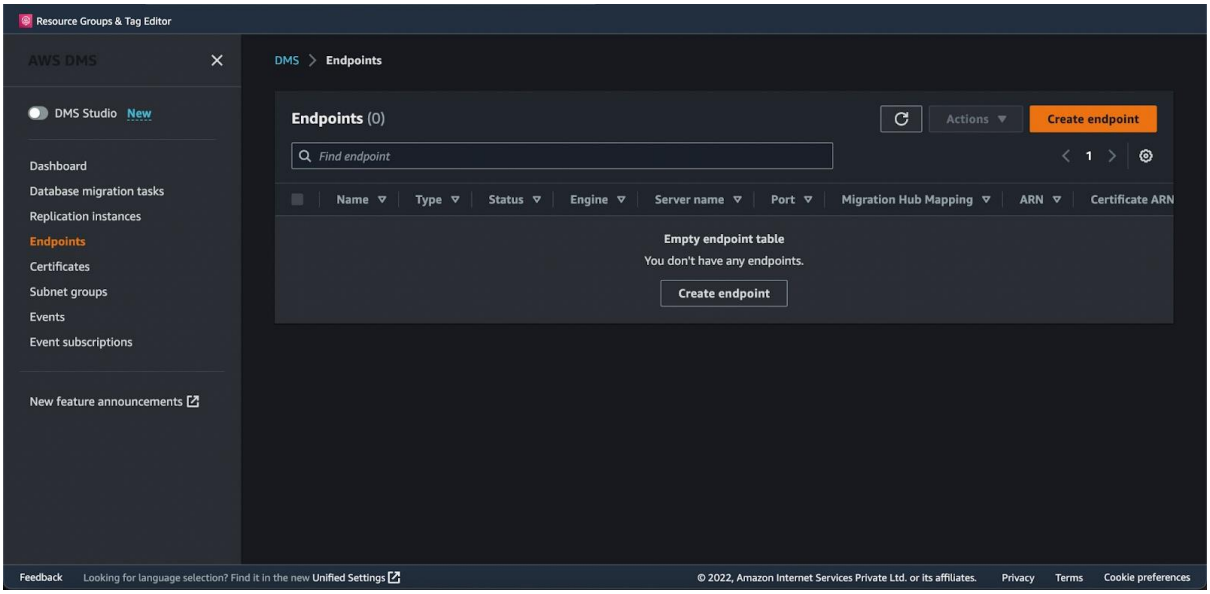




4. Create Endpoints


Resource Groups & Tag Editor
AWS DMS
DMS Studio New
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Database migration tasks
Replication instances
Endpoints
Certificates
Subnet groups
Events
Event subscriptions
New feature announcements
DMS > Endpoints
Endpoints (0)
Actions
Create endpoint
Find endpoint
Name
Type
Status
Engine
Server name
Port
Migration Hub Mapping
ARN
Certificate ARN
Empty endpoint table
You don't have any endpoints.
Create endpoint
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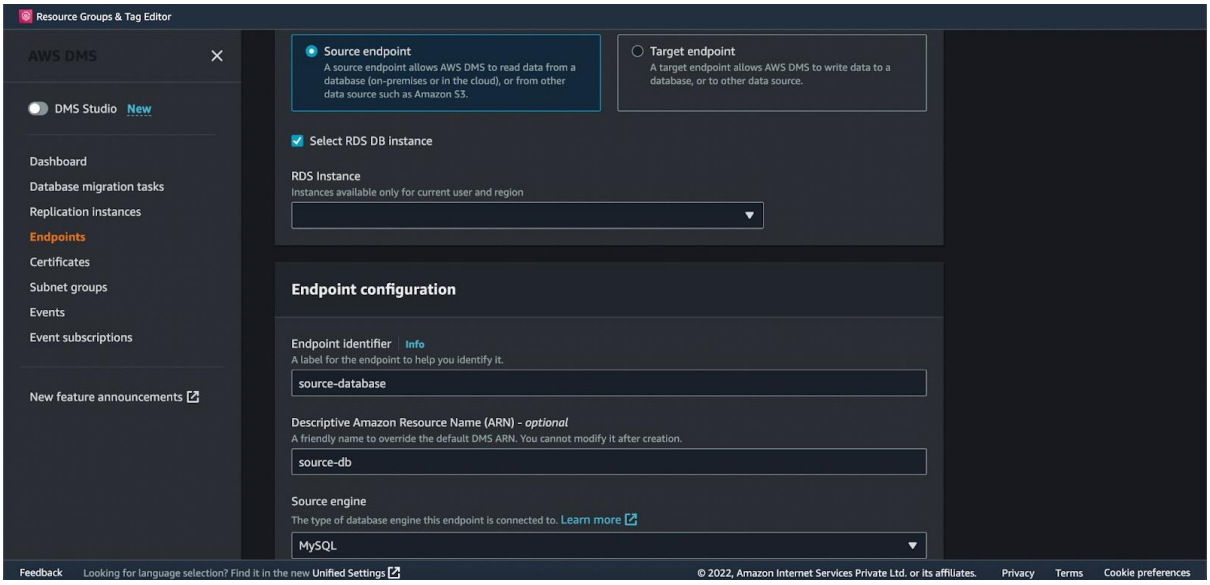
Resource Groups & Tag Editor
AWS DMS
DMS Studio New
Dashboard
Database migration tasks
Replication instances
Endpoints
Certificates
Subnet groups
Events
Event subscriptions
New feature announcements
Source endpoint
A source endpoint allows AWS DMS to read data from a database (on-premises or in the cloud), or from other data source such as Amazon S3.
Target endpoint
A target endpoint allows AWS DMS to write data to a database, or to other data source.
Select RDS DB instance
RDS Instance
Instances available only for current user and region
Endpoint configuration
Endpoint identifier Info
A label for the endpoint to help you identify it.
source-database
Descriptive Amazon Resource Name (ARN) - optional
A friendly name to override the default DMS ARN. You cannot modify it after creation.
source-db
Source engine
The type of database engine this endpoint is connected to. Learn more
MySQL
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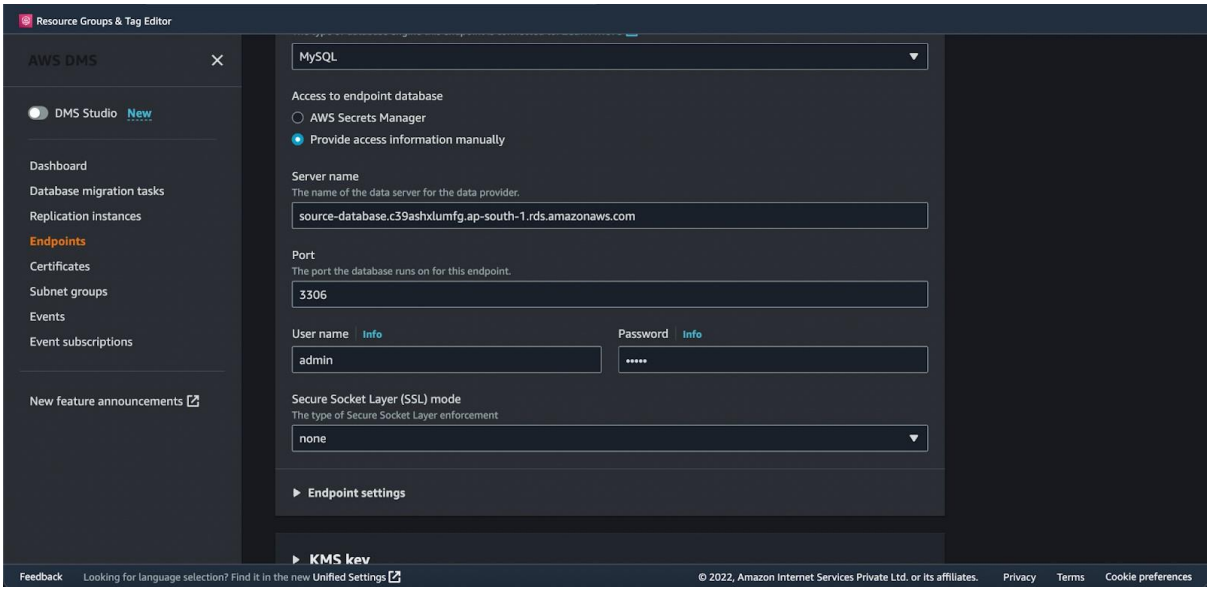
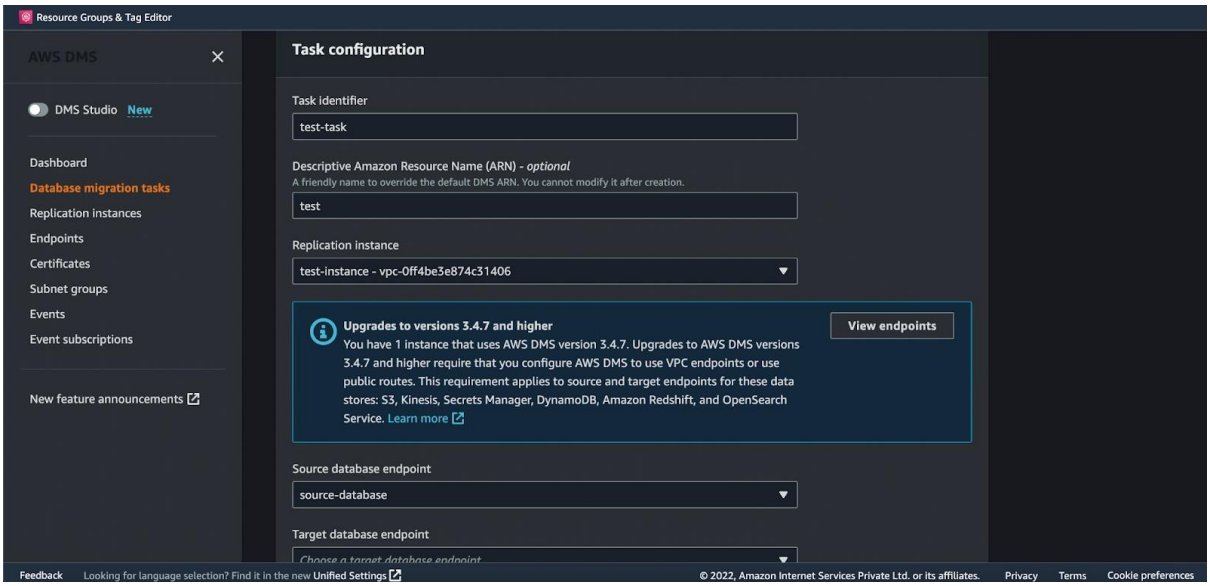
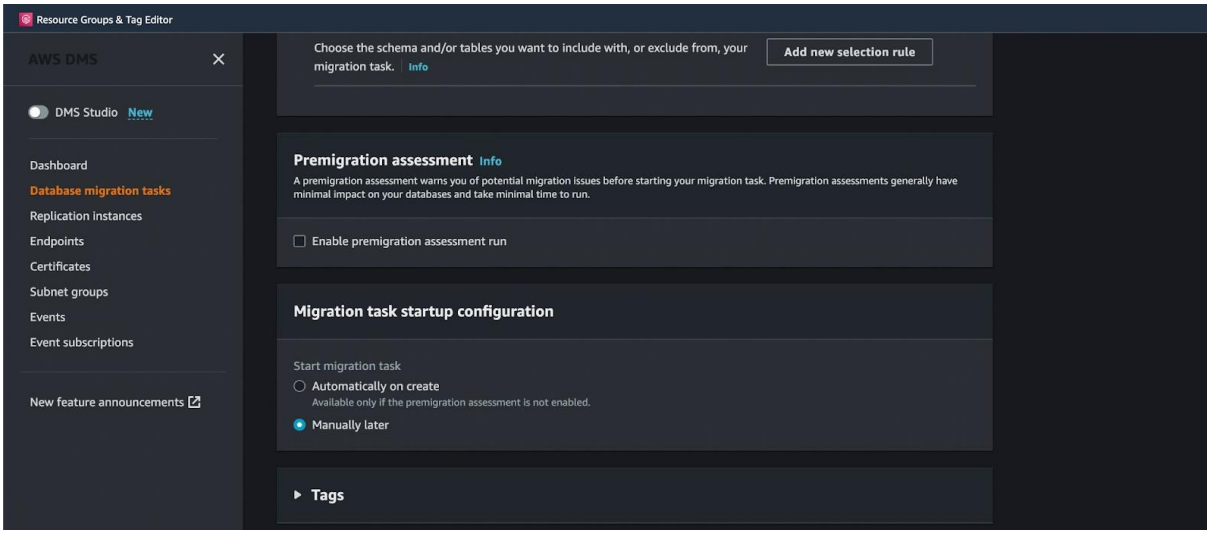


5. Create Database Migration Task





Result:

Hence, we migrated data to Amazon RDS.

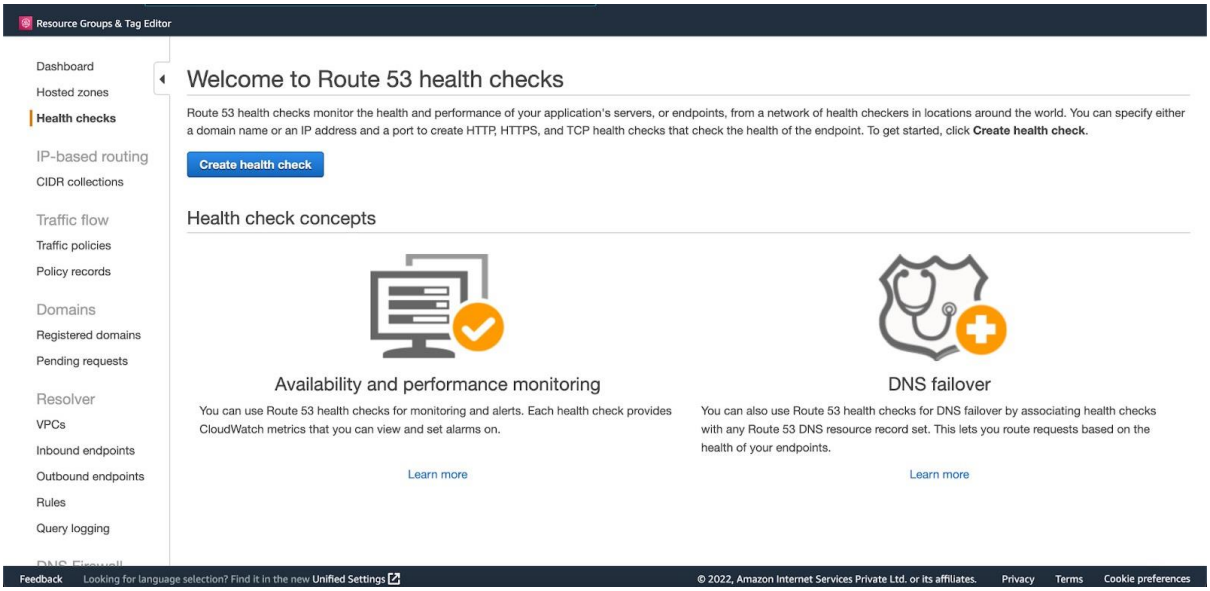
Experiment 9
Configure Failover Routing with Amazon Route 53

Name: Aditya Singh Reg No: RA2011028010089

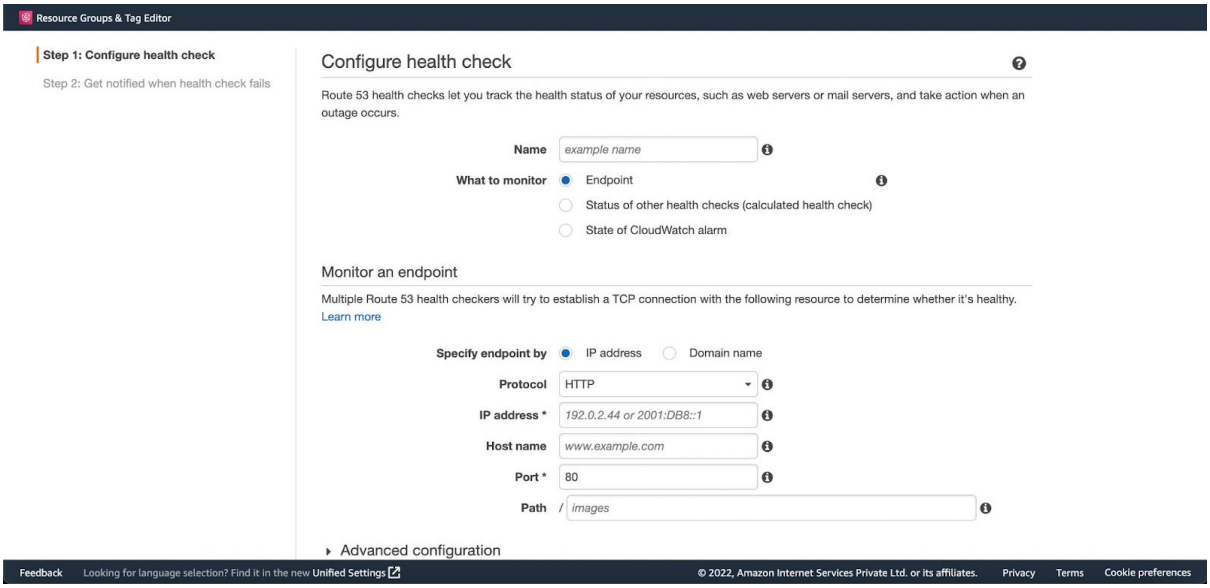
Aim: To configure failover routing with AWS Route 53

Procedure:

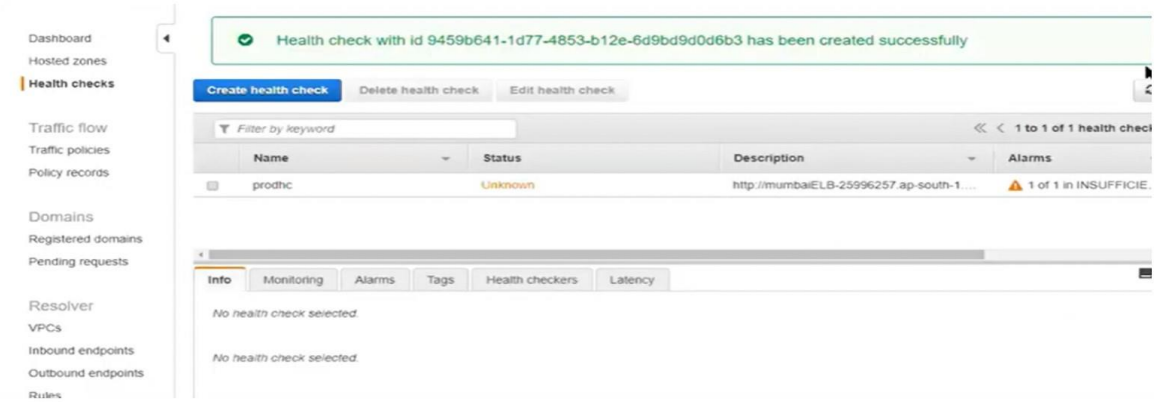
1. Go to Hosted zones.
2. Go to health checks and create health check



3. If your health check fails then you can set notification and click on create health check



4. Health check is created and status is unknown and soon it will turn healthy because it is healthy



5. In the hosted zones, create a record set and give the required information with routing policy as failover and click on create.
6. Repeat the same steps for the secondary set ID.

When the load on primary set ID increases it routes the traffic to secondary set ID.

Result:

Hence, we configured failover routing with AWS Route 53