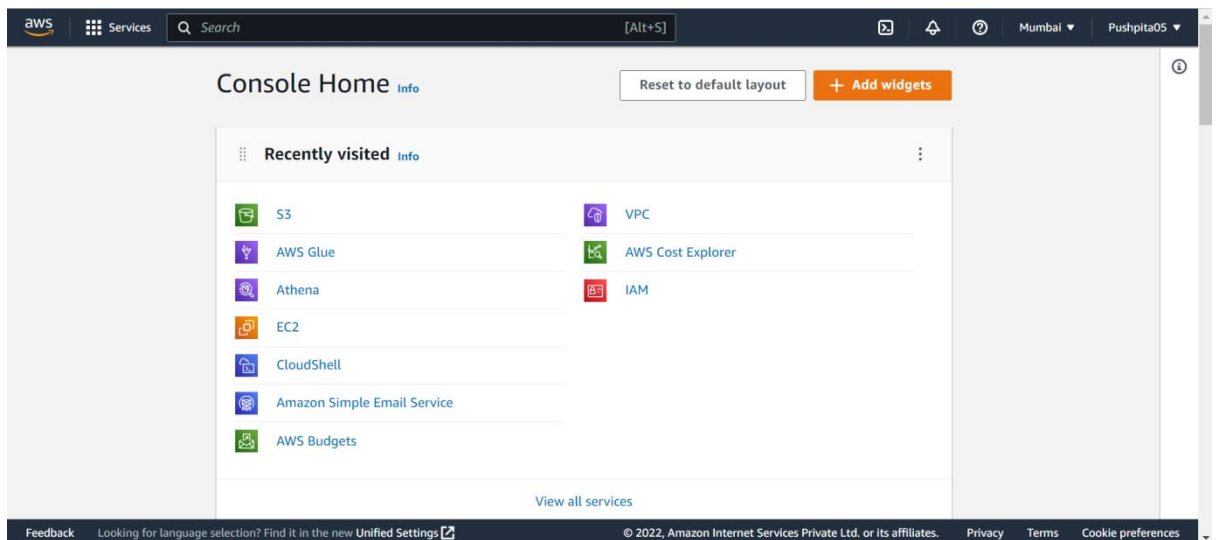


Experiment 8–Migrate to Amazon RDS

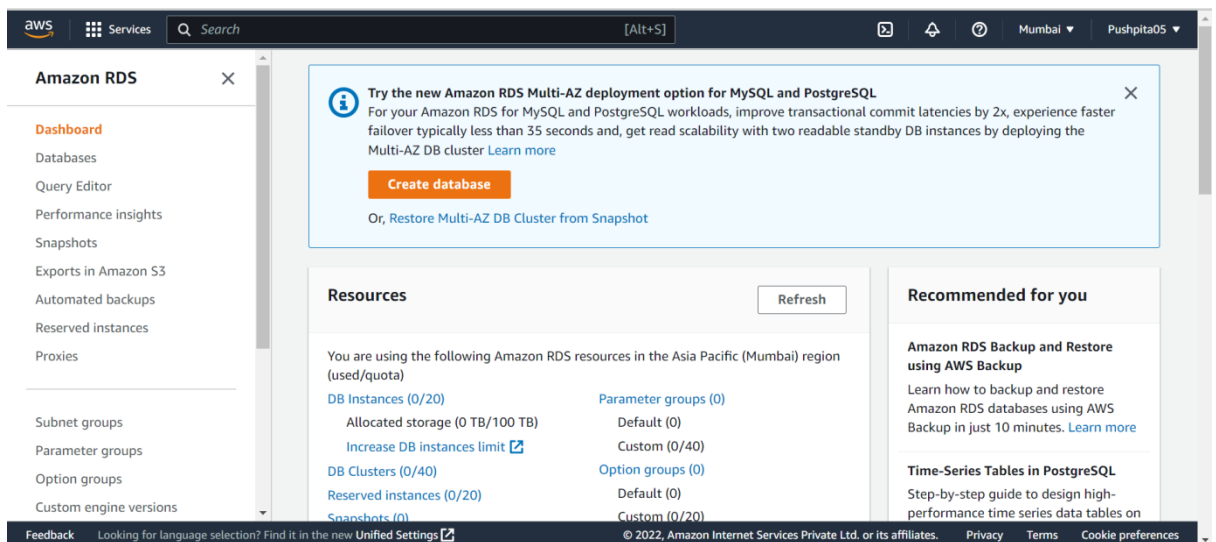
AIM:To migrate from MySQL to Amazon RDS with AWS DMS.

PROCEDURE:

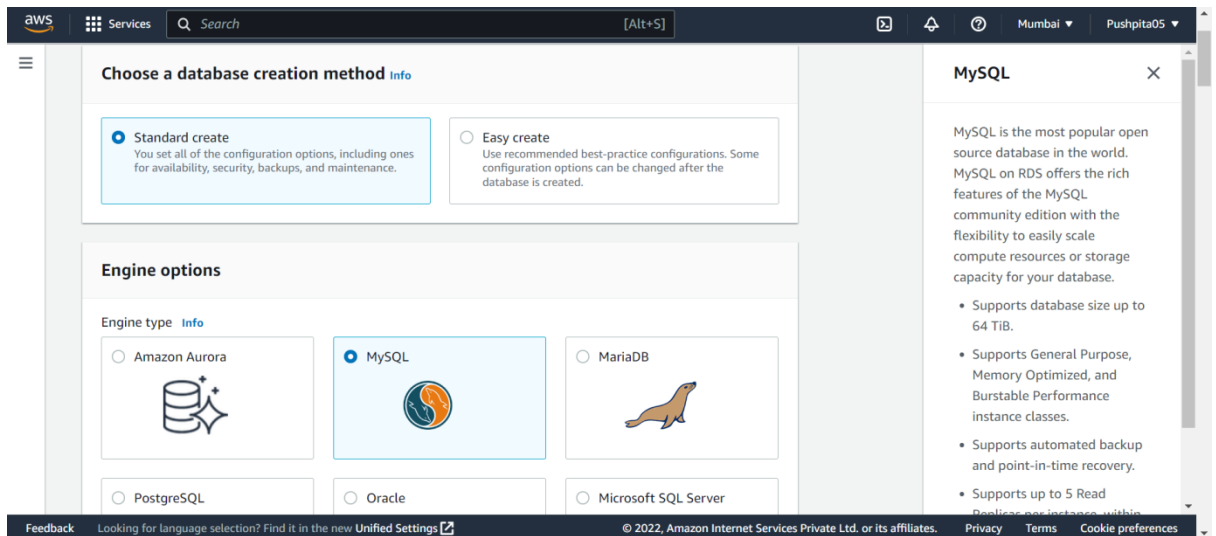
1. Firstly, open the AWS console homepage on browser (<https://aws.amazon.com/console/>).



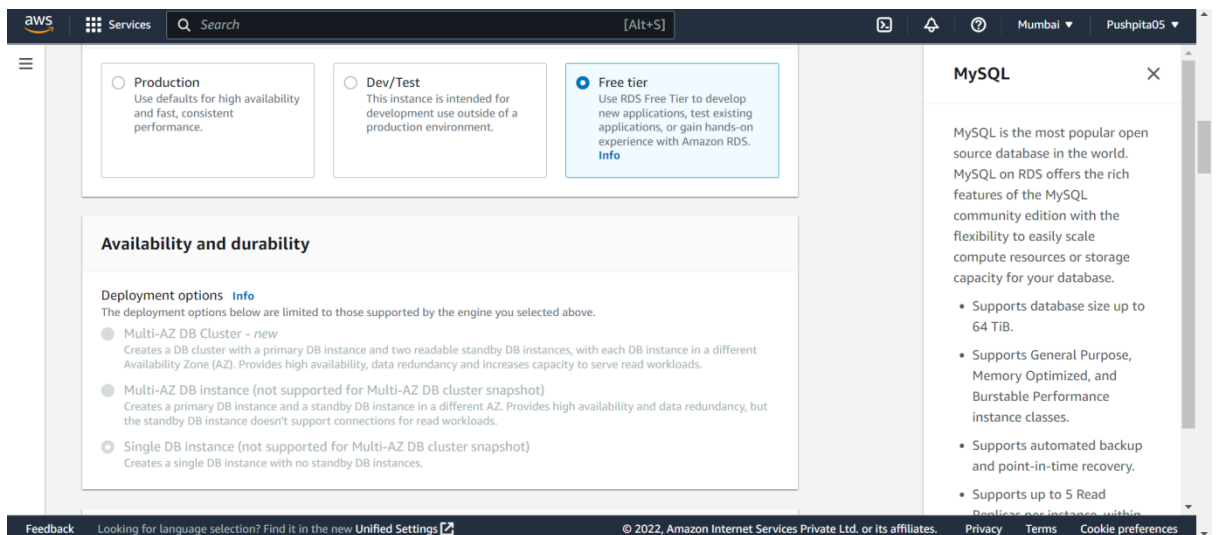
2. Go to Amazon RDS console and select “Create database”.



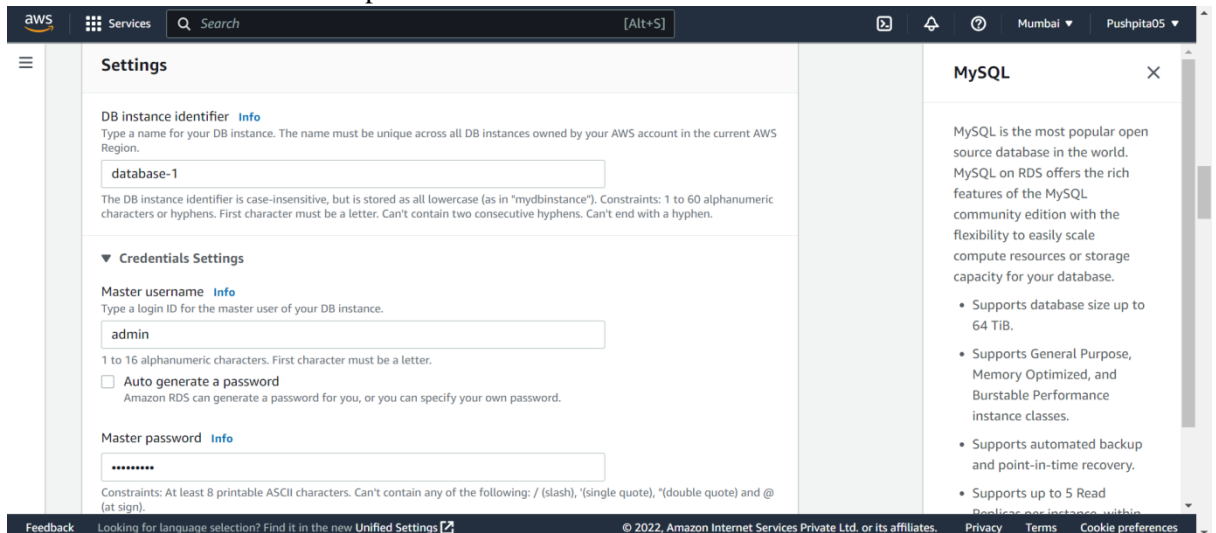
3. Select MySQL engine as engine type in the “Create database page”.



- Click on “Free Tier” as templates and leave other configurations as it is.



- Create a Master username and password and remember that for future use.



6. Select on create database and wait for the RDS database to be created.

The screenshot displays the AWS Management Console interface. At the top, the navigation bar shows the AWS logo, 'Services', a search bar, and the user's name 'Pushpita05'. The main content area is divided into two panels. The left panel, titled 'Estimated monthly costs', explains the Amazon RDS Free Tier, which allows for 750 hours of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance, 20 GB of General Purpose Storage (SSD), and 20 GB for automated backup storage and any user-initiated DB Snapshots. It also includes a link to 'Learn more about AWS Free Tier' and a disclaimer about third-party products. The right panel, titled 'MySQL', provides an overview of MySQL as the most popular open source database and lists its features: supports database size up to 64 TiB, supports General Purpose, Memory Optimized, and Burstable Performance instance classes, supports automated backup and point-in-time recovery, and supports up to 5 Read Replicas per instance within the same Availability Zone. At the bottom of the left panel are 'Cancel' and 'Create database' buttons. Below this, a blue banner indicates 'Creating database database-1' and 'Your database might take a few minutes to launch.' with a 'View credential details' link. The main content area shows the 'Amazon RDS' console with a sidebar menu on the left containing options like Dashboard, Databases, Query Editor, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, and Custom engine versions. The 'Databases' section is active, showing a table with one entry: 'database-1' (Instance, MySQL Community, Region & AZ, db.t3.mi). The table has columns for DB identifier, Role, Engine, Region & AZ, and Size. At the bottom of the console, there is a footer with 'Feedback', 'Looking for language selection? Find it in the new Unified Settings', '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

7. Go to AWS DMS console page and click on “Create Replication Instance”.

The screenshot shows the AWS Database Migration Service (DMS) console. The top navigation bar is identical to the previous screenshot. The main content area has a dark blue header with 'Welcome to Database Migration Service' and 'AWS Database Migration Service'. Below this, the text 'Migrate your databases to AWS with minimal downtime' is displayed. A 'Getting started' box on the right contains the text: 'To start using AWS Database Migration Service, you need a replication instance which will be used to run your migration tasks.' and a 'Create replication instance' button. The left sidebar menu includes 'AWS DMS', 'DMS Studio' (marked as 'New'), 'Dashboard', 'Database migration tasks', 'Replication instances', 'Endpoints', 'Certificates', 'Subnet groups', 'Events', 'Event subscriptions', and 'New feature announcements'. The footer is the same as the previous screenshot.

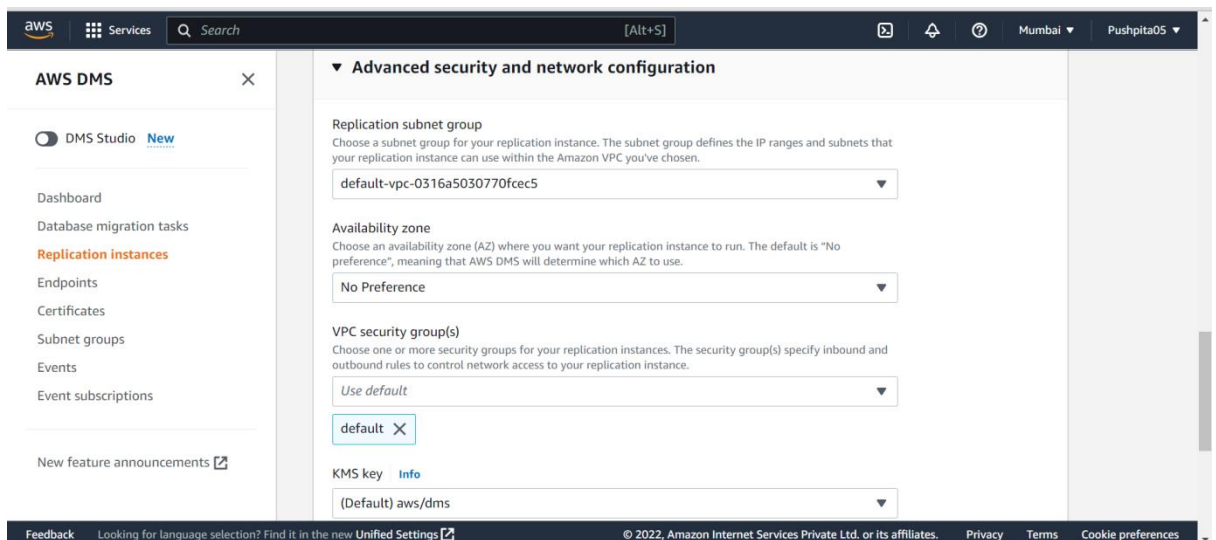
8. Choose the name for your instance and select “t3.micro” in instance class.

The screenshot shows the AWS DMS console interface. On the left is a navigation menu with options like 'DMS Studio', 'Dashboard', 'Database migration tasks', 'Replication instances', 'Endpoints', 'Certificates', 'Subnet groups', 'Events', 'Event subscriptions', and 'New feature announcements'. The main panel is titled 'Replication instance configuration'. It contains several fields: 'Name' (set to 'database1-replica'), 'Descriptive Amazon Resource Name (ARN) - optional' (set to 'Friendly-ARN-name'), 'Description' (placeholder text), and 'Instance class' (set to 'dms.t3.micro'). The footer of the console shows 'Feedback', 'Looking for language selection? Find it in the new Unified Settings', '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

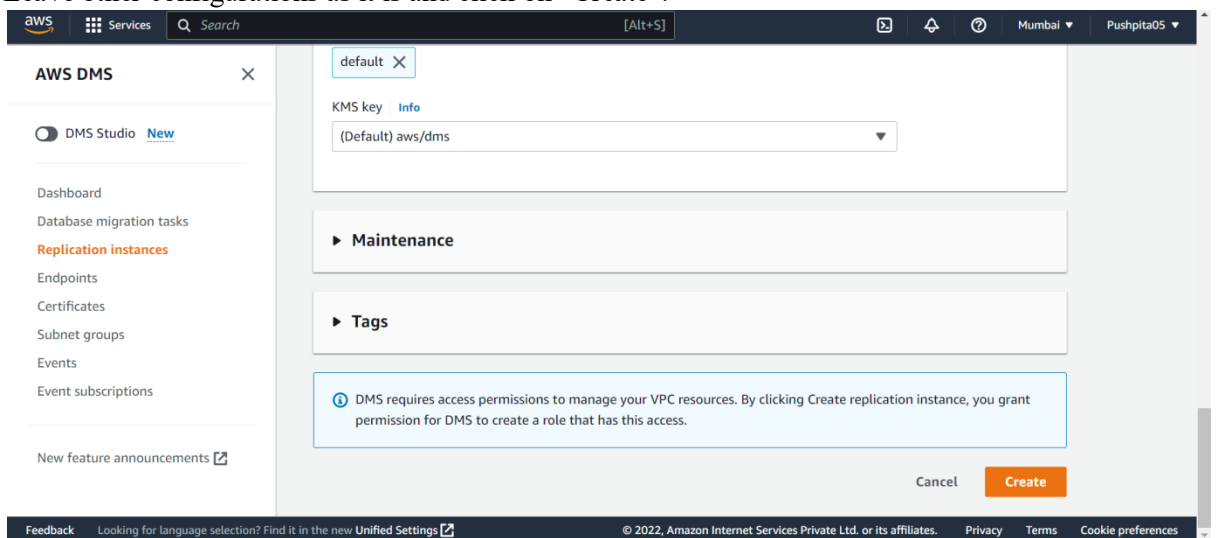
9. Select the vpc you want your instance to be in and select “Dev or test workload”.

The screenshot shows the 'Advanced security and network configuration' section of the AWS DMS console. It includes fields for 'Allocated storage (GiB)' (set to 50), 'VPC' (set to 'vpc-0316a5030770fcec5'), and 'Multi AZ' (set to 'Dev or test workload (Single-AZ)'). There is a checkbox for 'Publicly accessible' which is checked. The footer of the console is the same as the previous screenshot.

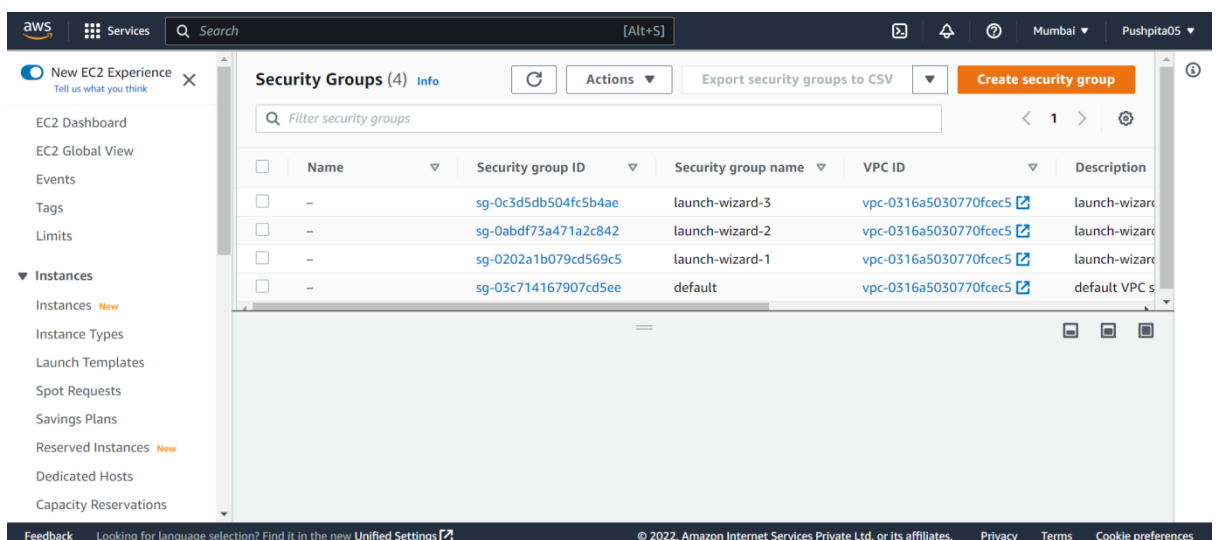
10. Select security group you want your instance to be part of and better to choose “default”.



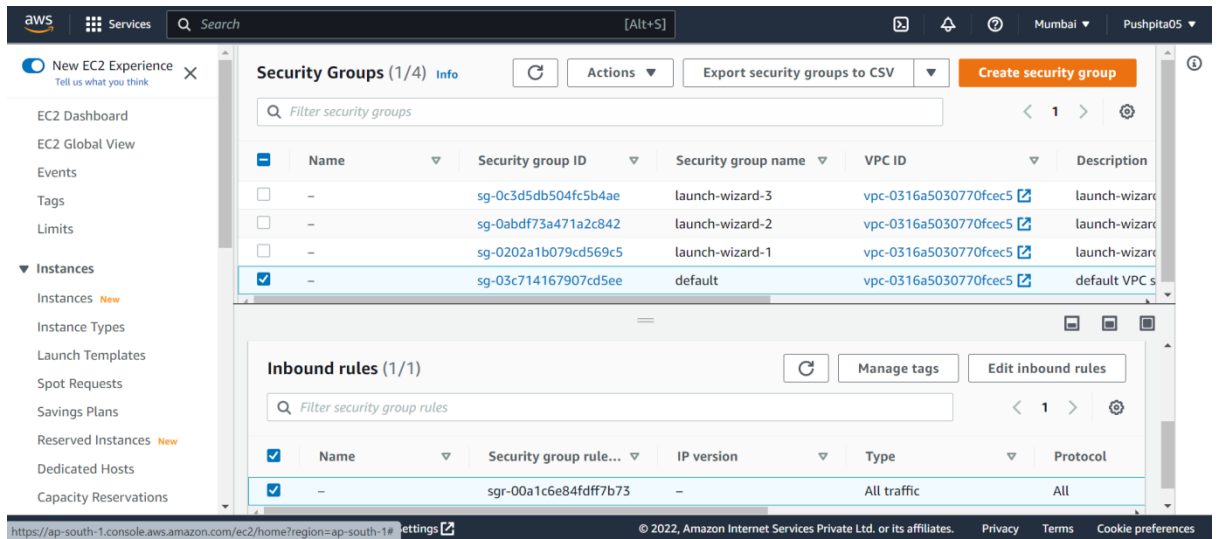
11. Leave other configurations as it is and click on "Create".



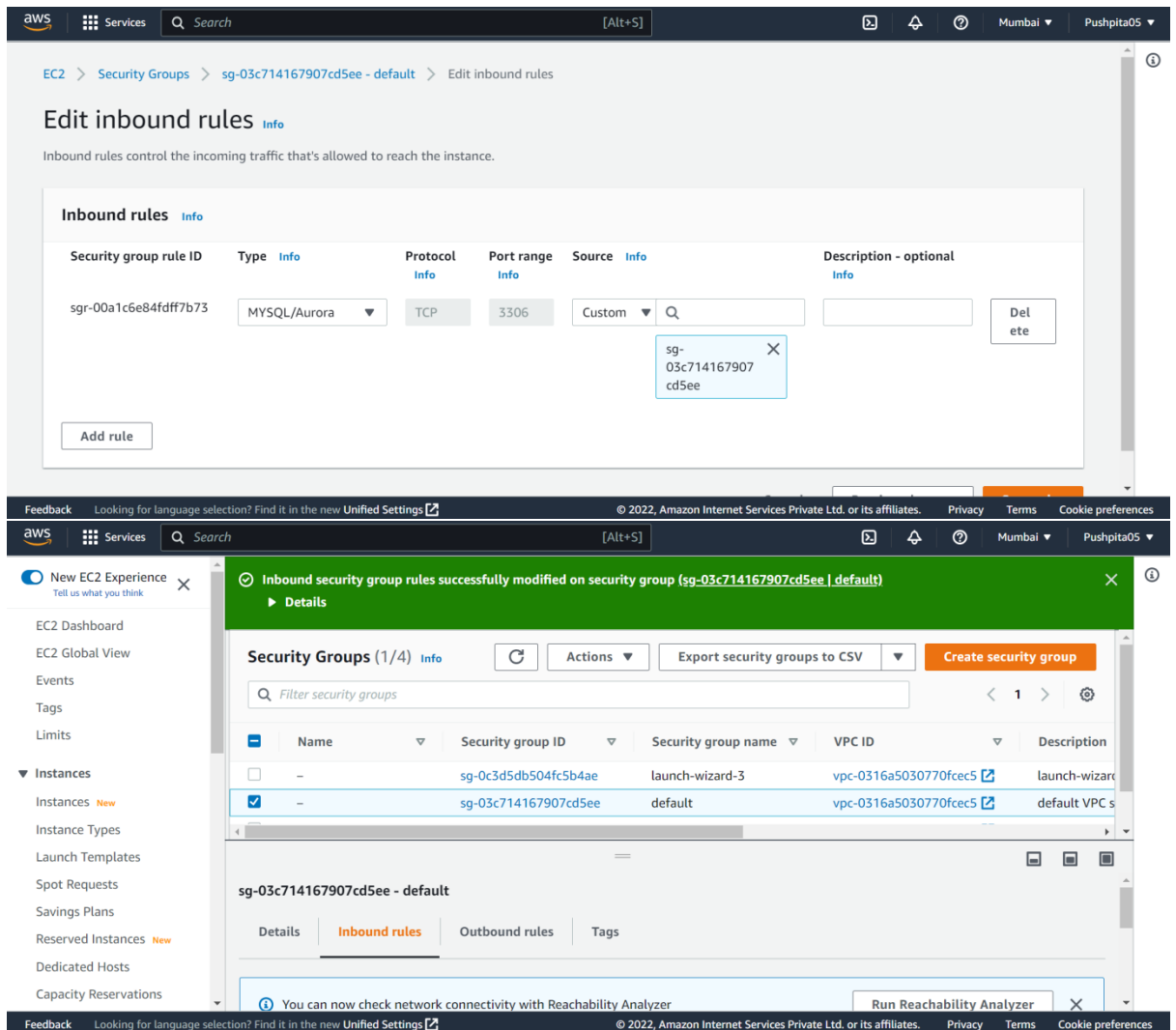
12. Go to "Security Groups" in EC2 console.



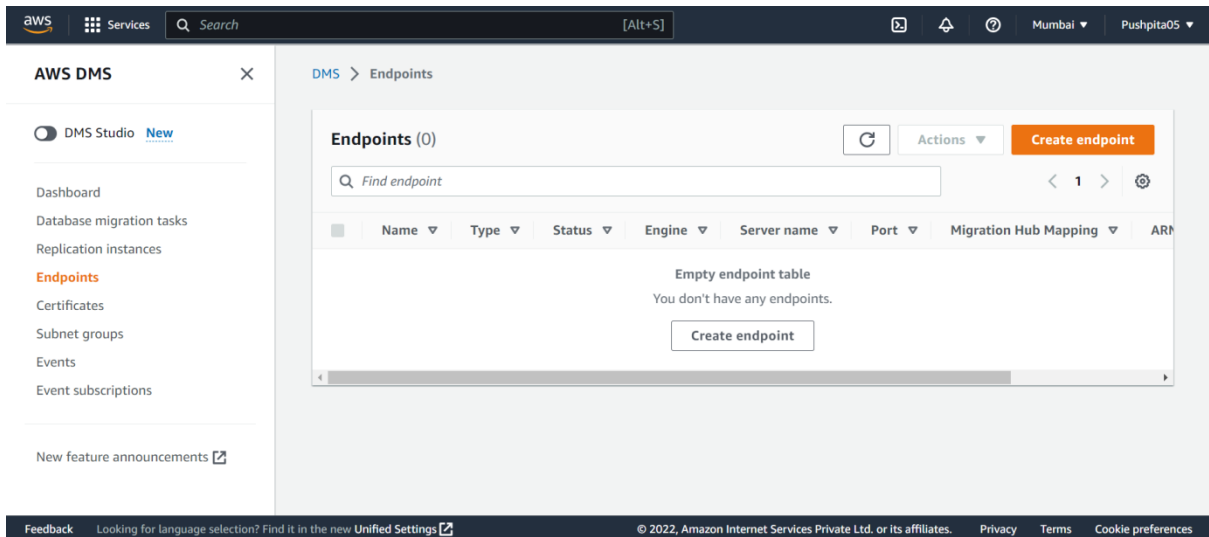
13. Click on your security group name and click on “edit inbound rules”.



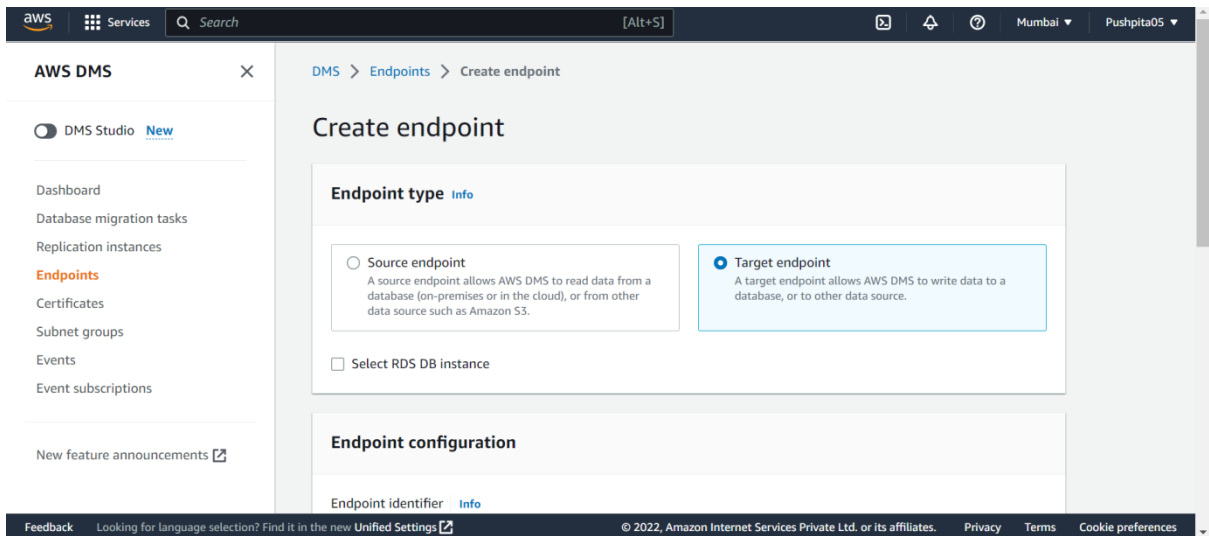
14. Select “MYSQL/Aurora” in type and select the security group of your instance, in this case default and click on “save rules”.



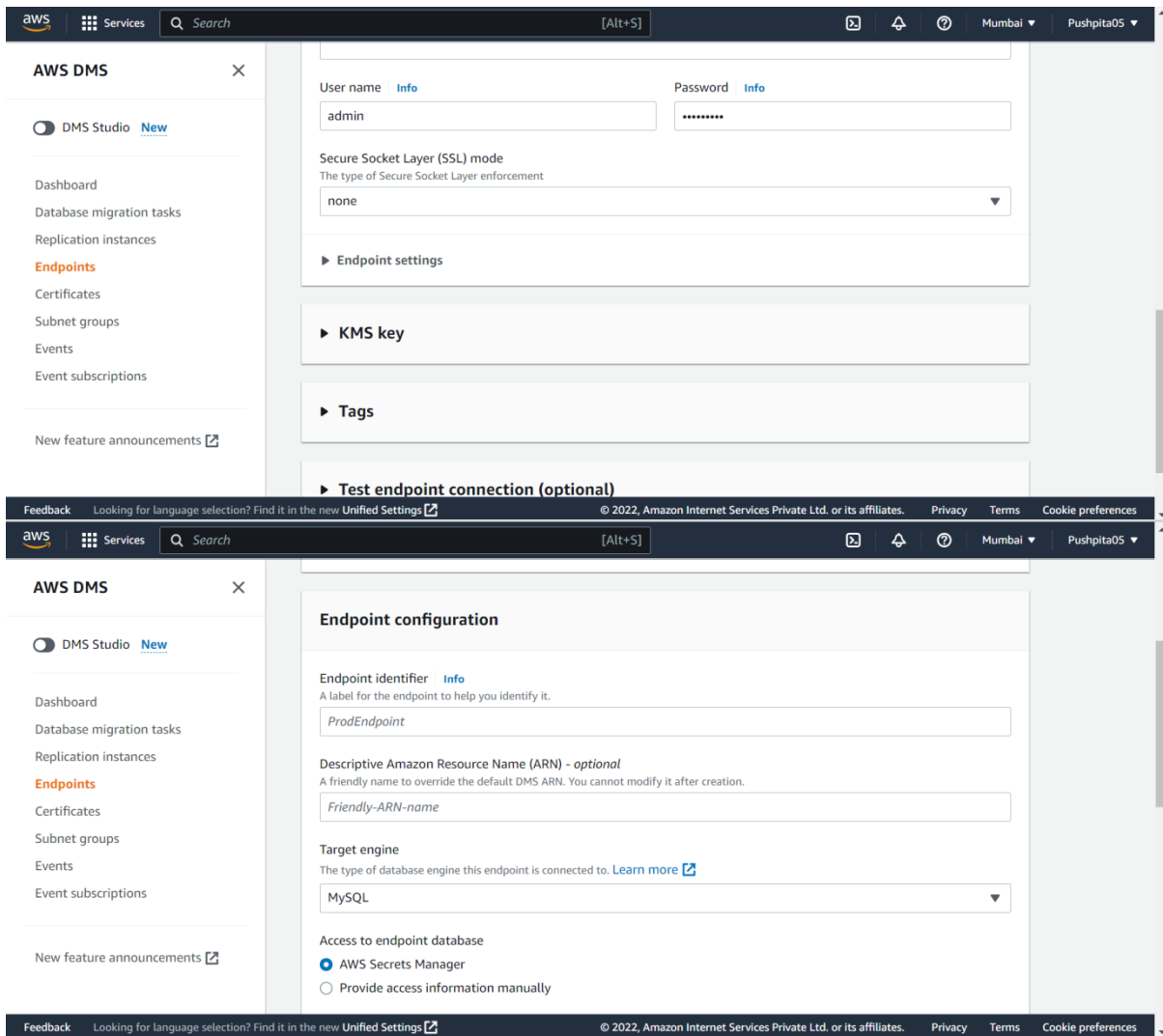
15. Go to AWS DMS console and to the endpoints page and click on “Create Endpoint”.



16. Select “Target endpoint” and check the select RDS DB instance box.



17. Select “Provide access information manually” and enter password chosen before.



AWS DMS

☐ DMS Studio [New](#)

Dashboard

Database migration tasks

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements [↗](#)

User name [Info](#) Password [Info](#)

admin

Secure Socket Layer (SSL) mode

The type of Secure Socket Layer enforcement

none

► Endpoint settings

► KMS key

► Tags

► Test endpoint connection (optional)

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AWS DMS

☐ DMS Studio [New](#)

Dashboard

Database migration tasks

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements [↗](#)

Endpoint configuration

Endpoint identifier [Info](#)

A label for the endpoint to help you identify it.

ProdEndpoint

Descriptive Amazon Resource Name (ARN) - optional

A friendly name to override the default DMS ARN. You cannot modify it after creation.

Friendly-ARN-name

Target engine

The type of database engine this endpoint is connected to. [Learn more](#)

MySQL

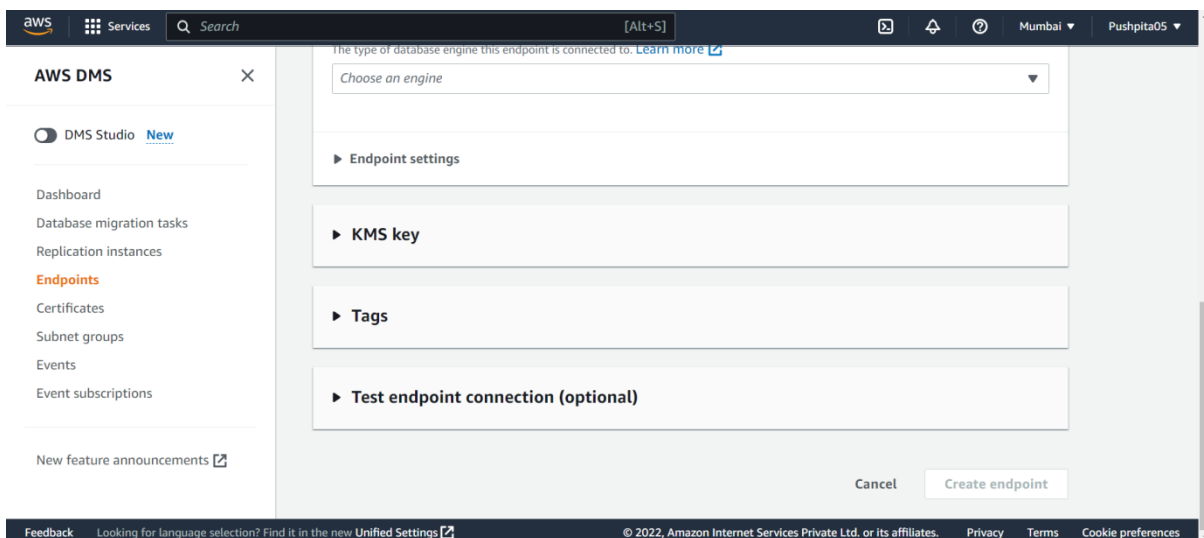
Access to endpoint database

☒ AWS Secrets Manager

☐ Provide access information manually

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18. Leave other configurations as it is and click on “create endpoint”.



AWS DMS

☐ DMS Studio [New](#)

Dashboard

Database migration tasks

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements [↗](#)

The type of database engine this endpoint is connected to. [Learn more](#)

Choose an engine

► Endpoint settings

► KMS key

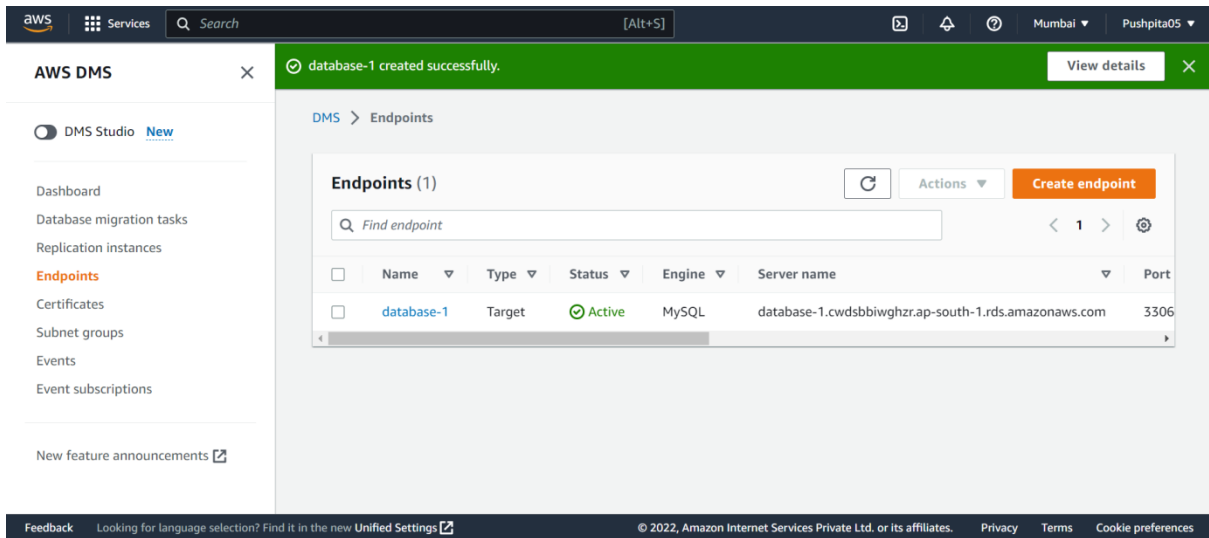
► Tags

► Test endpoint connection (optional)

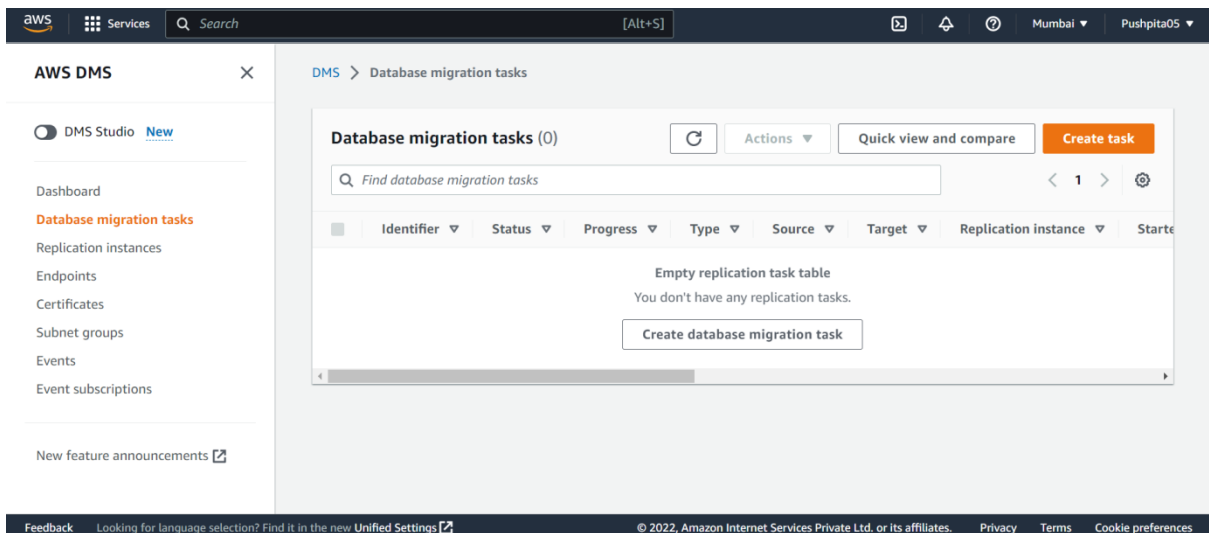
Cancel Create endpoint

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19. Repeat the above steps for “Source Endpoint” except do not check the “select RDS DB instance” and choose a different name for endpoint identifier.



20. Go to “Database migration tasks” page in AWS DMS console and select “Create task”.



21. Give a name to the task and select replication instance.

AWS DMS

DMS Studio

New

Dashboard

Database migration tasks

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements

DMS > Database migration tasks > Create database migration task

Create database migration task

Task configuration

Task identifier

my-replication

Descriptive Amazon Resource Name (ARN) - optional

A friendly name to override the default DMS ARN. You cannot modify it after creation.

Friendly-ARN-name

Replication instance

database-1-replica - vpc-09aa0d7e6553f1499

Upgrades to versions 3.4.7 and higher

You have 1 instance that uses AWS DMS version 3.4.7. 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 these data stores: S3, Kinesis, Secrets Manager, DynamoDB, Amazon Redshift, and OpenSearch Service. [Learn more](#)

View endpoints

Source database endpoint

Feedback

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22. Select source and target database endpoints. Also select “migrate existing data” as migration type.

AWS DMS

DMS Studio

New

Dashboard

Database migration tasks

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements

database-1-replica - vpc-09aa0d7e6553f1499

Upgrades to versions 3.4.7 and higher

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View endpoints

Source database endpoint

database-1s

Target database endpoint

database-1

Migration type

[Info](#)

Migrate existing data

When switching database engines, the AWS Schema Conversion Tool can automatically convert your database schema and code to the engine of your choice. Click here to find out more. [Learn more](#)

Task settings

Feedback

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23. Click on “Add new selection rule”, enter a source name- it can be anything and put “%” in table name. Finally click on “create task”.

Specify at least one selection rule with an include action. After you do this, you can add one or more transformation rules.

Selection rules

Choose the schema and/or tables you want to include with, or exclude from, your migration task. [Info](#) [Add new selection rule](#)

▼ where schema name is like 'public' and Source table name is like '%', include

Schema
Enter a schema ▼

Source name
Use the % character as a wildcard
public

Source table name
Use the % character as a wildcard
%

Action
Choose 'Include' to migrate your selected objects, or 'Exclude' to ignore them during the migration.
Include ▼

Source filters [Info](#) Add column filter

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RESULT:

A MySQL database was migrated to Amazon RDS with the help of AWS DMS.

my-replication starting in progress.

DMS > Database migration tasks

Database migration tasks (1) [Refresh](#) [Actions](#) [Quick view and compare](#) [Create task](#)

Find database migration tasks

Identifier	Status	Progress	Type	Source	Target	Replication instance	Started
my-replication	Starting	0%	Full load	database-1s	database-1	database-1-replica	November 12, 2022 at 11:34:58 (UT

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