

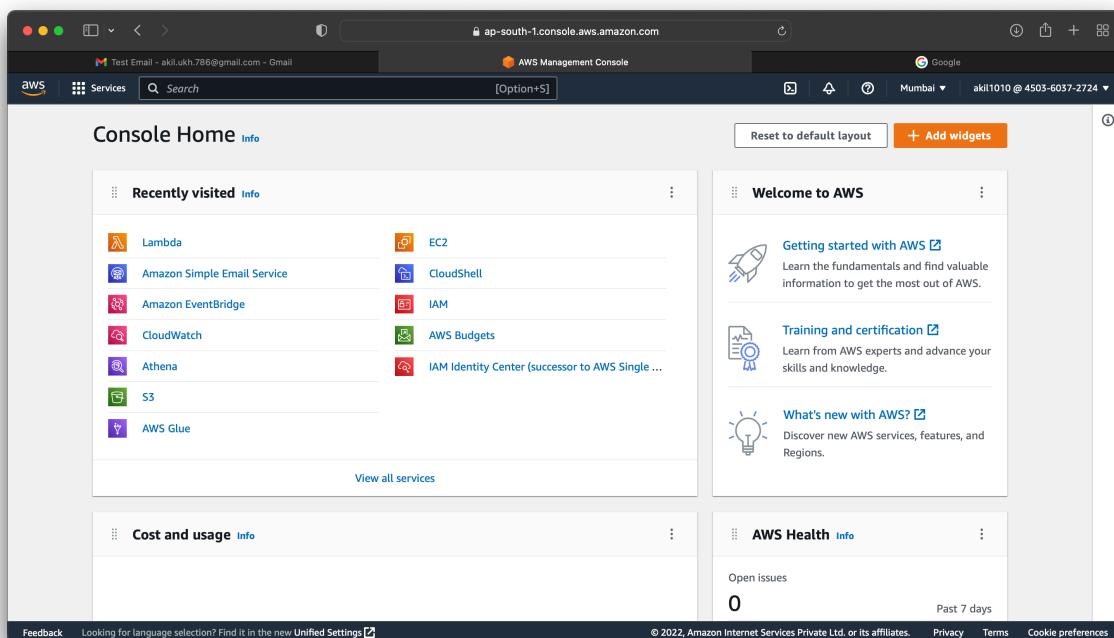
Experiment 8–Migrate to Amazon RD

Reg No.- 097

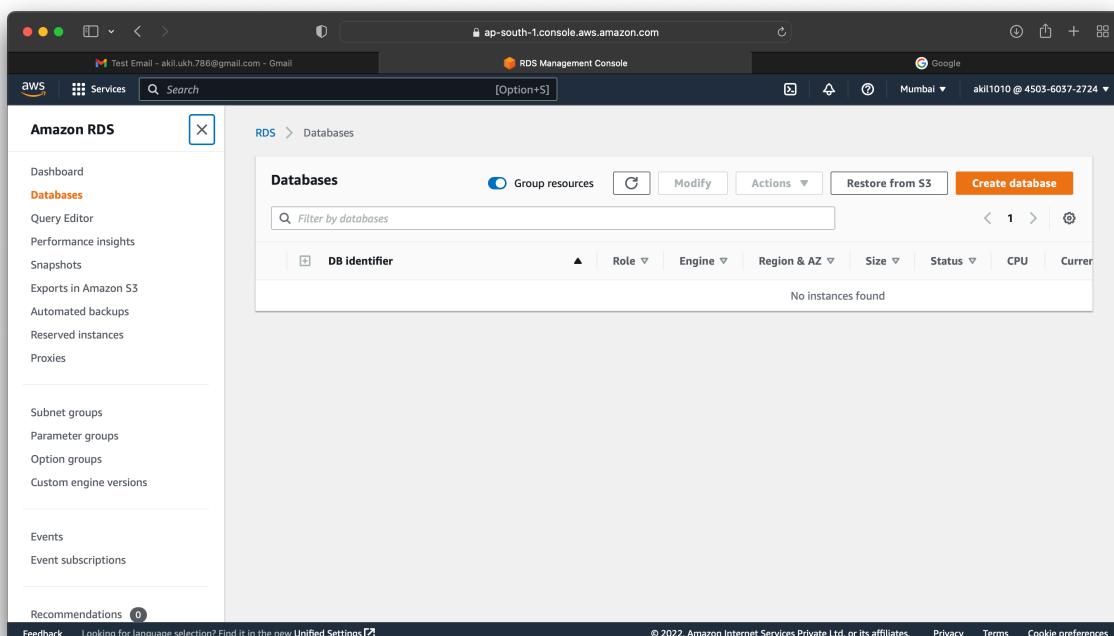
AIM: To migrate from MySQL to Amazon RDS with AWS DMS.

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”.

The screenshot shows the 'Create database' page in the AWS RDS Management Console. In the 'Choose a database creation method' section, 'Standard create' is selected. Under 'Engine options', 'MySQL' is selected. Other options shown include Amazon Aurora, MariaDB, PostgreSQL, Oracle, and Microsoft SQL Server. The MySQL icon features a red and orange circular logo with a stylized character.

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

The screenshot shows the 'Create database' page in the AWS RDS Management Console. In the 'Templates' section, 'Free tier' is selected. Other options shown are 'Production' and 'Dev/Test'. The 'Free tier' option is highlighted with a blue border. The 'Known issues/limitations' section contains a note about potential compatibility issues with specific database versions. The 'Engine Version' dropdown is set to MySQL 8.0.30. The 'Availability and durability' section includes deployment options like Multi-AZ DB Cluster.

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

The screenshot shows the AWS RDS Management Console in a web browser. The URL is `ap-south-1.console.aws.amazon.com`. The page is titled "Settings". Under "DB instance identifier", the value "database-1" is entered. Under "Master username", "akiladmin" is entered. Under "Master password", a password consisting of several asterisks is entered. The "Confirm master password" field also contains the same password. At the bottom right of the page, there is a "Create database" button.

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

The screenshot shows the AWS RDS Management Console in a web browser. The URL is `ap-south-1.console.aws.amazon.com`. The page is titled "Create database". It includes sections for "Additional configuration" (with options like Enhanced monitoring, Database options, encryption, backup, backtrack, maintenance, CloudWatch Logs, and delete protection), "Estimated monthly costs" (noting the Free Tier availability for 12 months), and a note about third-party products. At the bottom right, there is a "Create database" button.

Safari File Edit View History Bookmarks Window Help

ap-south-1.console.aws.amazon.com

RDS Management Console

Test Email - akit.ukh.786@gmail.com - Gmail

[Option+S]

Mumbai akit1010 @ 4503-6037-2724

Amazon RDS View credential details

Databases

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Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Custom engine versions

Events

Event subscriptions

Recommendations 0

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Databases

Group resources C Modify Actions Restore from S3 Create database

Filter by databases

DB identifier	Role	Engine	Region & AZ	Size	Status
database-1	Instance	MySQL Community	-	db.t3.micro	Creating

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

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ap-south-1.console.aws.amazon.com

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Replication instances (0)

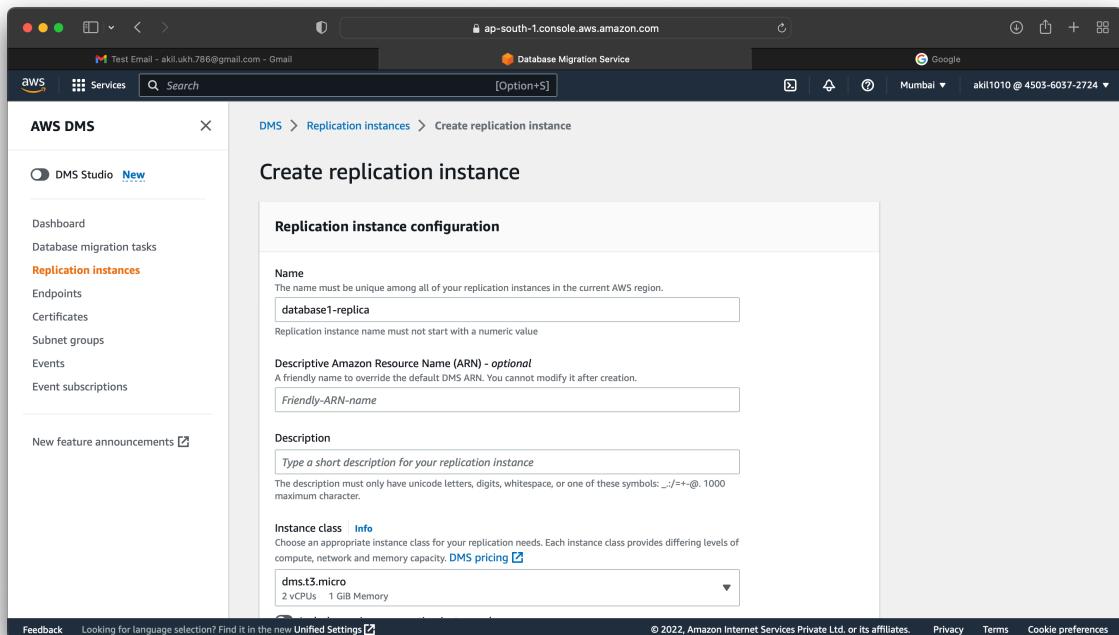
Actions C Create replication instance

Find replication instance

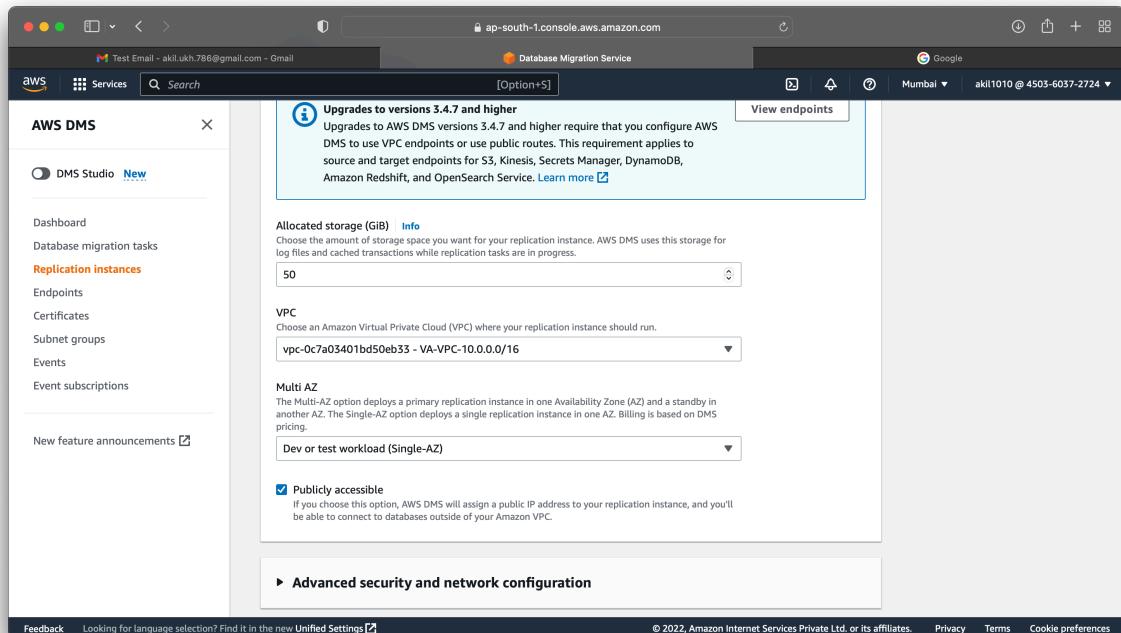
Name	Status	VPC	Class	Engine version	Availability zone	Public	Public IP address	Private I
Empty replication instance table You don't have any replication instances.								

Create replication instance

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



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



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

The screenshot shows the AWS DMS configuration interface. On the left, there's a sidebar with options like Dashboard, Database migration tasks, Replication instances (which is selected), Endpoints, Certificates, Subnet groups, Events, and Event subscriptions. The main panel is titled "Advanced security and network configuration". It includes sections for "Replication subnet group" (set to "default-vpc-0c7a03401bd50eb33"), "Availability zone" (set to "No Preference"), and "VPC security group(s)". In the "VPC security group(s)" section, "Use default" is selected, and a dropdown menu shows "default" is checked. Other options include "KMS key" and "(Default) aws/dms". At the bottom right of the main panel, there are "Create" and "Next Step" buttons.

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

12. Go to “Security Groups” in EC2 console.

The screenshot shows the EC2 Management Console Security Groups page. The sidebar includes New EC2 Experience, EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (selected), Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, and Elastic Block Store. The main area shows a table of security groups:

Name	Security group ID	Security group name	VPC ID	Description	Owner
-	sg-0cb49d48db89d64d26	default	vpc-0c7a03401bd50eb33	default VPC security gr...	4503603
-	sg-02403189fa7a5b141	launch-wizard-1	vpc-0a9e62ded91d082b1	launch-wizard created ...	4503603
-	sg-042adb1aa9351b14c	launch-wizard-4	vpc-0a9e62ded91d082b1	launch-wizard created ...	4503603
<input checked="" type="checkbox"/>	sg-0af3f943619c28e46	default	vpc-0a9e62ded91d082b1	default VPC security gr...	4503603
-	sg-04c1a9428dcfb91cb	launch-wizard-3	vpc-0a9e62ded91d082b1	launch-wizard created ...	4503603
-	sg-0620e9f9ce0cee4c5	launch-wizard-5	vpc-0a9e62ded91d082b1	launch-wizard created ...	4503603
-	sg-0290c3c1d87b047a4	default	vpc-08dff82c6ef59999f1	default VPC security gr...	4503603

Below the table, a specific security group "sg-0af3f943619c28e46 - default" is selected. The "Inbound rules" tab is active, showing one rule: "You can now check network connectivity with Reachability Analyzer". Buttons for "Run Reachability Analyzer", "Manage tags", and "Edit inbound rules" are available.

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

The screenshot shows the AWS EC2 Management Console with the URL ap-south-1.console.aws.amazon.com. The left sidebar shows various services like EC2 Dashboard, Instances, Images, and Elastic Block Store. The main content area is titled "sg-0af3f943619c28e46 - default". Under the "Details" section, it shows the security group name is "default", security group ID is "sg-0af3f943619c28e46", description is "default VPC security group", and VPC ID is "vpc-0a9e62ded91d082b1". The "Inbound rules" tab is selected, showing one rule: "sgr-090168cf2233fb98" with "All traffic" and "All" for protocol and port range respectively. A message at the bottom says "You can now check network connectivity with Reachability Analyzer" with a "Run Reachability Analyzer" button.

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

The screenshot shows the "Edit inbound rules" dialog box. It lists a single rule: "sgr-090168cf2233fb98" with "Type" set to "MYSQL/Aurora", "Protocol" set to "TCP", and "Port range" set to "3306". The "Source" dropdown is set to "Custom". A tooltip for the source shows "sg-0af3f943619c28e46". At the bottom, there are buttons for "Add rule", "Cancel", "Preview changes", and "Save rules".

The screenshot shows the AWS EC2 Management Console. A green banner at the top indicates that inbound security group rules were successfully modified on security group (sg-0af3f943619c28e46 | default). The main page displays the details for the security group sg-0af3f943619c28e46 - default. The 'Details' section shows the security group name is default, ID is sg-0af3f943619c28e46, owner is 450560372724, and it has 1 inbound rule and 1 outbound rule. Below this, there are tabs for 'Inbound rules', 'Outbound rules', and 'Tags'. A message box suggests checking network connectivity with the Reachability Analyzer. The bottom right corner includes links for Run Reachability Analyzer, Privacy, Terms, and Cookie preferences.

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

The screenshot shows the AWS Database Migration Service (DMS) console. The left sidebar is titled 'AWS DMS' and includes options like Dashboard, Database migration tasks, Replication instances, Endpoints (which is selected), Certificates, Subnet groups, Events, and Event subscriptions. The main content area is titled 'Endpoints (0)' and shows a table with columns: Name, Type, Status, Engine, Server name, Port, Migration Hub Mapping, ARN, and Certificate ARN. A message states 'Empty endpoint table' and 'You don't have any endpoints.' A 'Create endpoint' button is located at the bottom of the table. The bottom right corner includes links for Run Reachability Analyzer, Privacy, Terms, and Cookie preferences.

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

The screenshot shows the 'Create endpoint' page in the AWS DMS console. In the 'Endpoint type' section, the 'Target endpoint' radio button is selected, and the 'Select RDS DB instance' checkbox is checked. A dropdown menu below shows 'database-1'. The 'Endpoint configuration' section contains an 'Endpoint identifier' field with the value 'database-1'.

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

The screenshot shows the 'Create endpoint' page in the AWS DMS console. The 'Provide access information manually' radio button is selected. The 'Server name' field contains 'database-1.cojuxtu3nnpd.ap-south-1.rds.amazonaws.com'. The 'Port' field contains '3306'. The 'User name' field contains 'akiladmin' and the 'Password' field contains '*****'. The 'Secure Socket Layer (SSL) mode' dropdown is set to 'none'. Below these fields are sections for 'Endpoint settings', 'KMS key', and 'Tags'.

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

The screenshot shows the AWS DMS console with the URL ap-south-1.console.aws.amazon.com. The main title bar says "Database Migration Service". The left sidebar has "AWS DMS" selected, with "Endpoints" highlighted. The main content area shows a table titled "Endpoints (1)". The table has columns: Name, Type, Status, Engine, Server name, Port, and Migration Hub M. One row is present: "database-1" (Target, Active, MySQL, database-1.cojuxtu3nnpd.ap-south-1.rds.amazonaws.com, 3306). A green banner at the top says "database-1 created successfully." A "Create endpoint" button is visible in the top right of the table area.

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”.

The screenshot shows the AWS DMS console with the URL ap-south-1.console.aws.amazon.com. The main title bar says "Database Migration Service". The left sidebar has "AWS DMS" selected, with "Database migration tasks" highlighted. The main content area shows a table titled "Database migration tasks (0)". The table has columns: Identifier, Status, Progress, Type, Source, Target, Replication instance, Started, and Stopped. A message in the center says "Empty replication task table" and "You don't have any replication tasks.". A "Create database migration task" button is located at the bottom right of the table area.

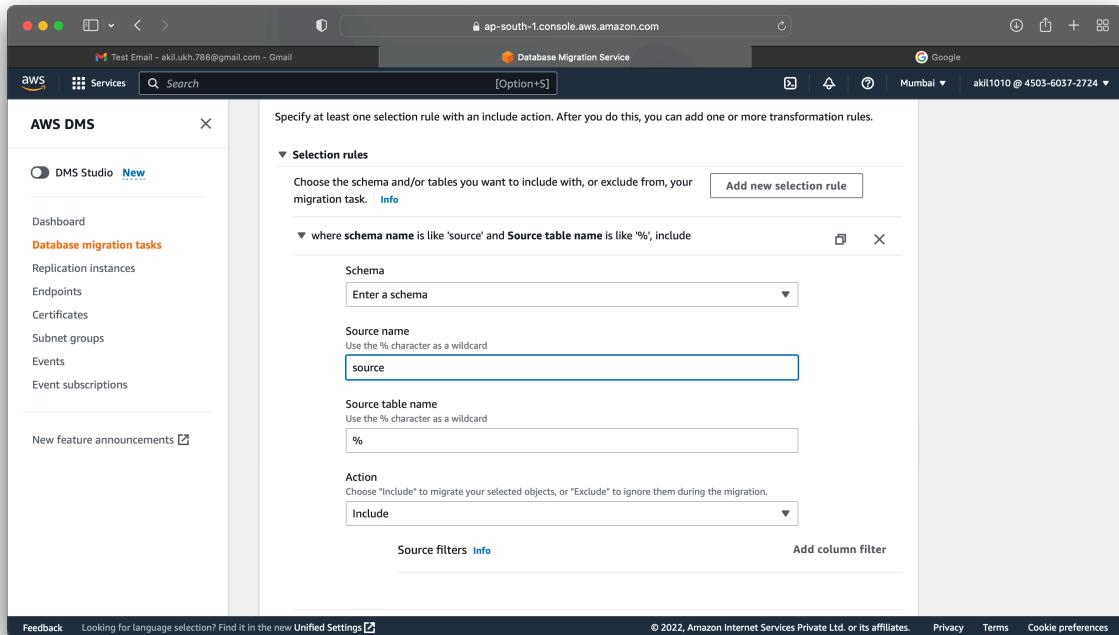
21. Give a name to the task and select replication instance.

The screenshot shows the AWS DMS console with the 'Create database migration task' wizard open. In the 'Task configuration' step, the 'Task identifier' is set to 'my-replication'. A note about upgrading to version 3.4.7 is present. The 'Source database endpoint' dropdown is set to 'Choose a replication instance'.

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

The screenshot shows the 'Create database migration task' wizard in the AWS DMS console. The 'Replication instance' dropdown is set to 'Choose a replication instance'. The 'Source database endpoint' is set to 'source', 'Target database endpoint' is set to 'database-1', and 'Migration type' is set to 'Migrate existing data'. A note about schema conversion is displayed.

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”.



RESULT:

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

