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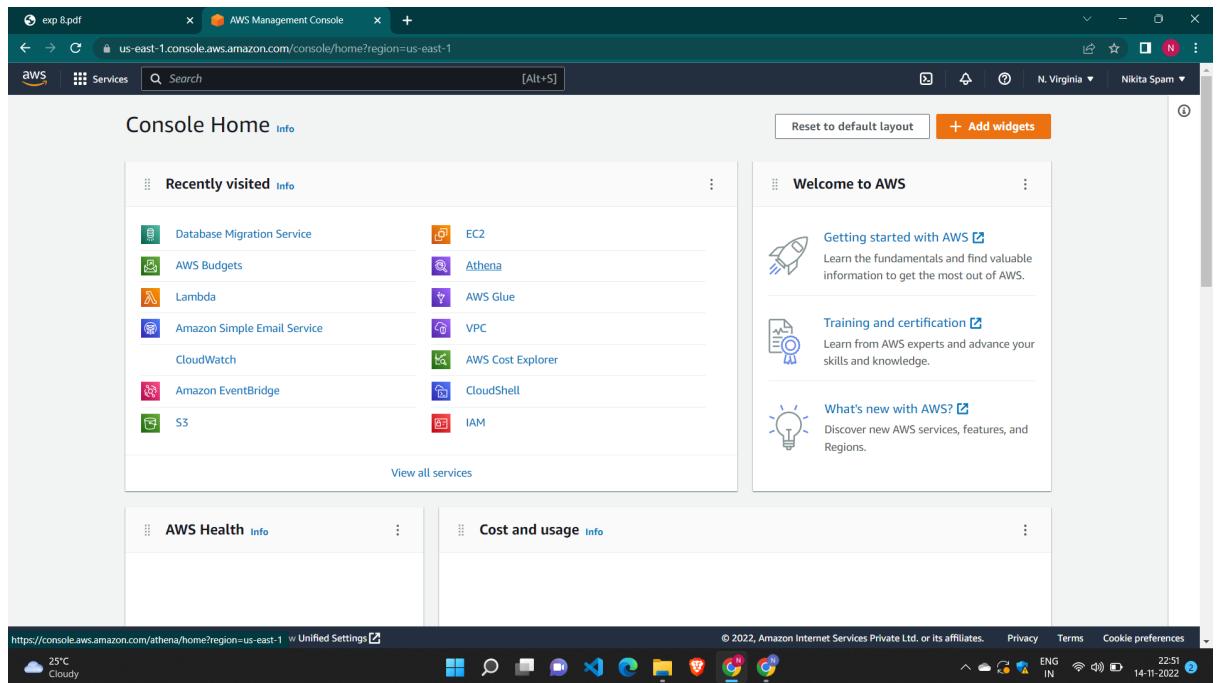
EXPERIMENT 8

MIGRATE TO AMAZON RDS

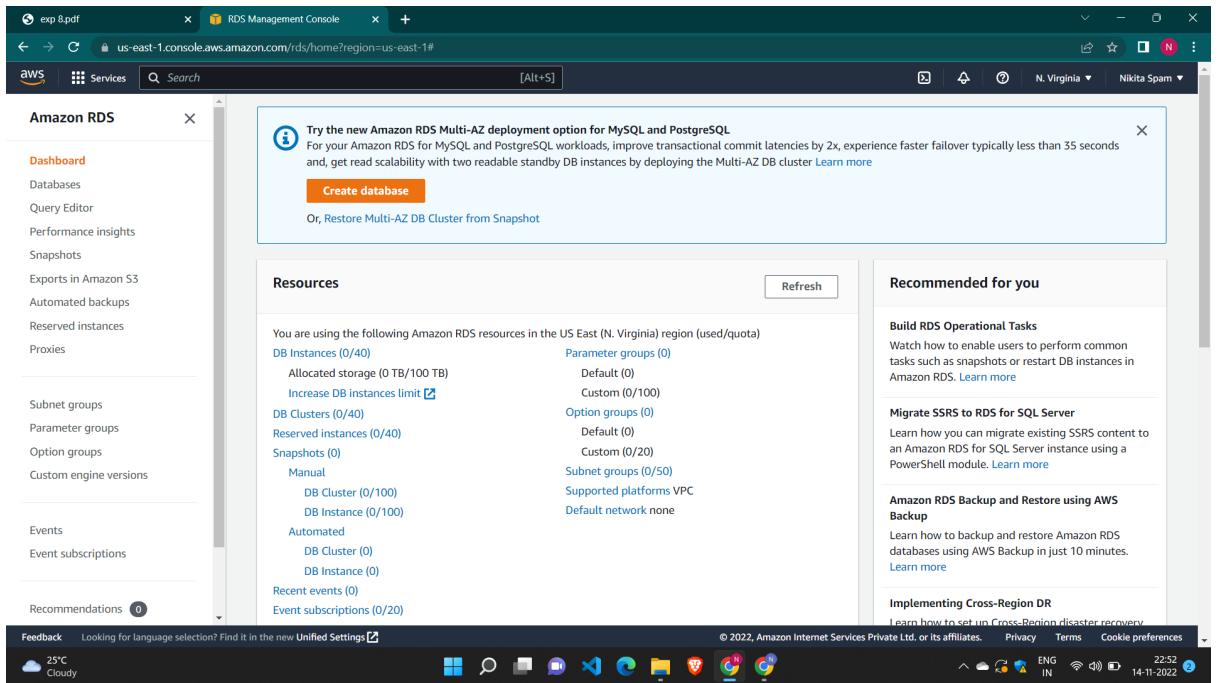
AIM: To migrate from MySQL to Amazon RDS with AWS DMS.

PROCEDURE:

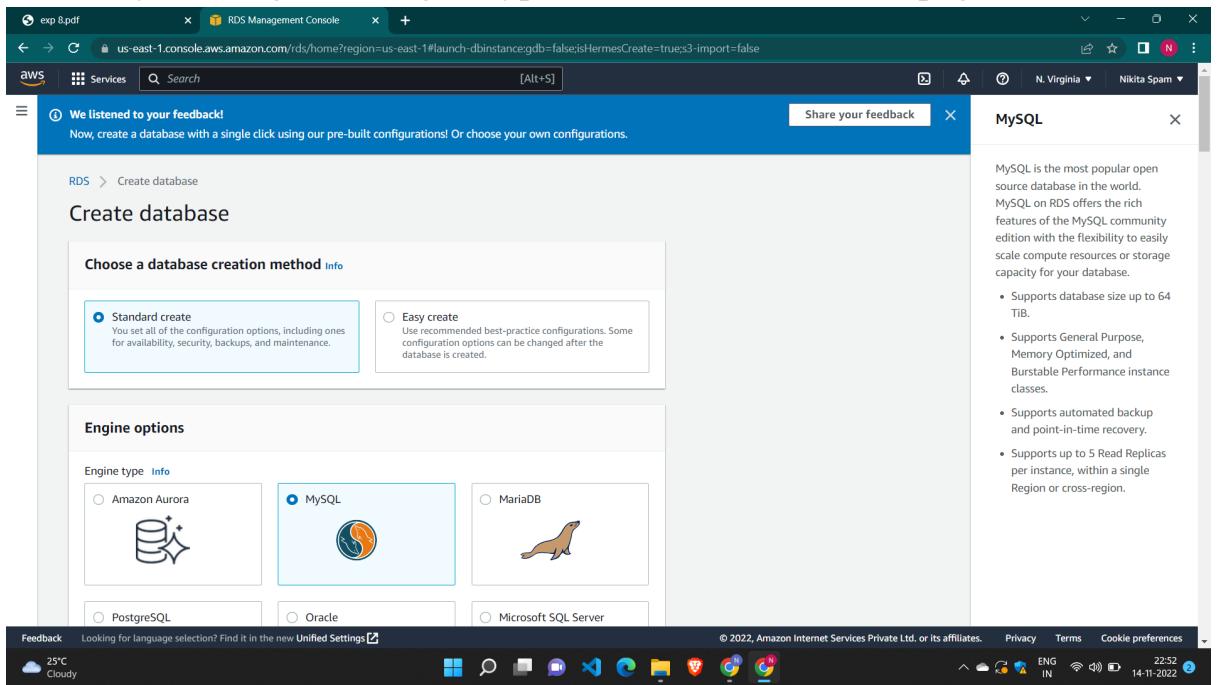
1. Firstly, open the AWS console homepage on browser (<https://aws.amazon.com/console/>).



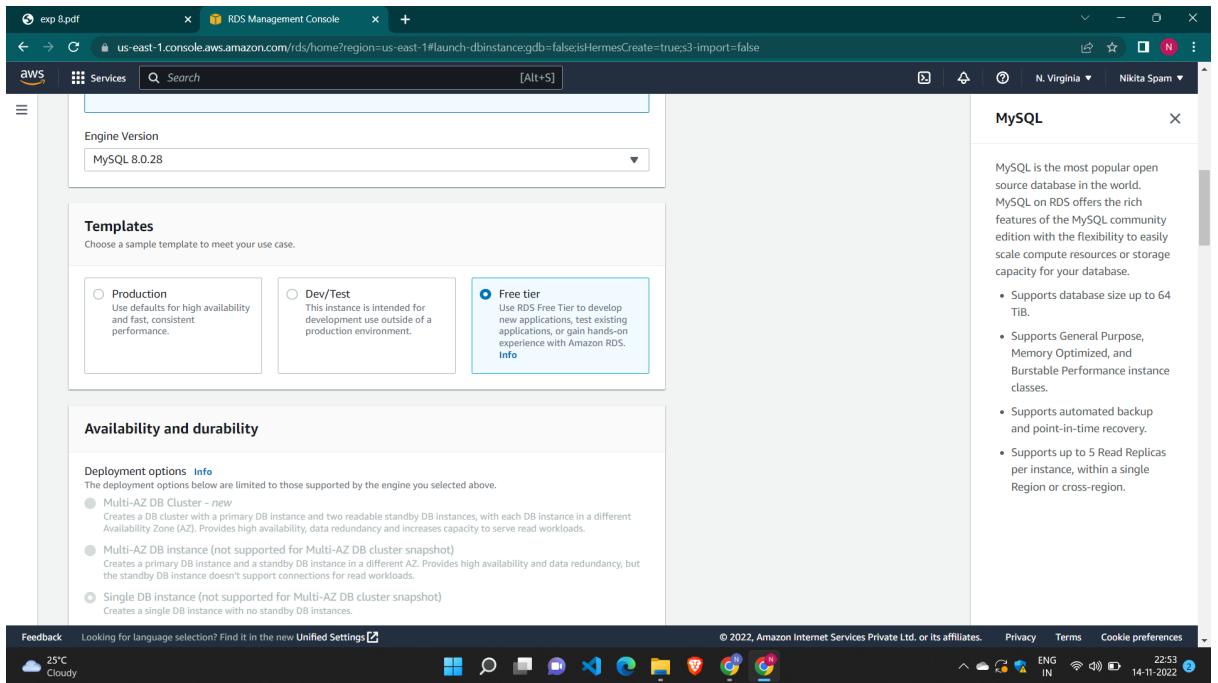
2. Go to Amazon RDS console and select “Create database”.



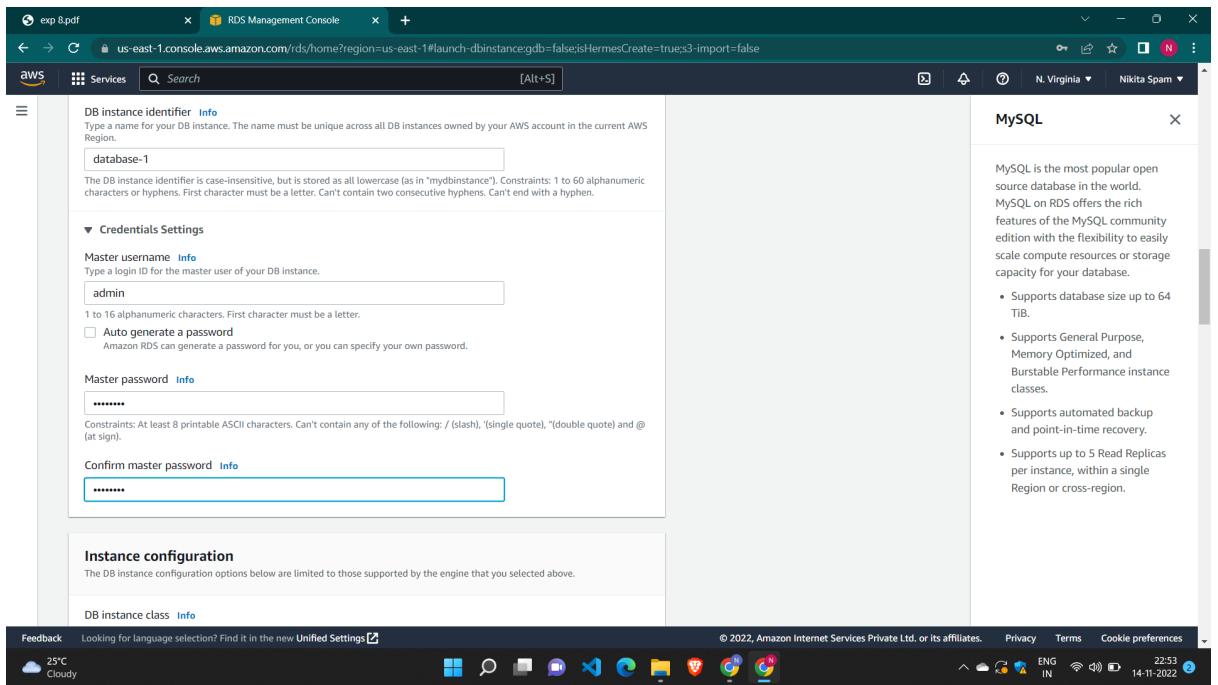
3. Select MySQL engine as engine type in the “Create database page”.



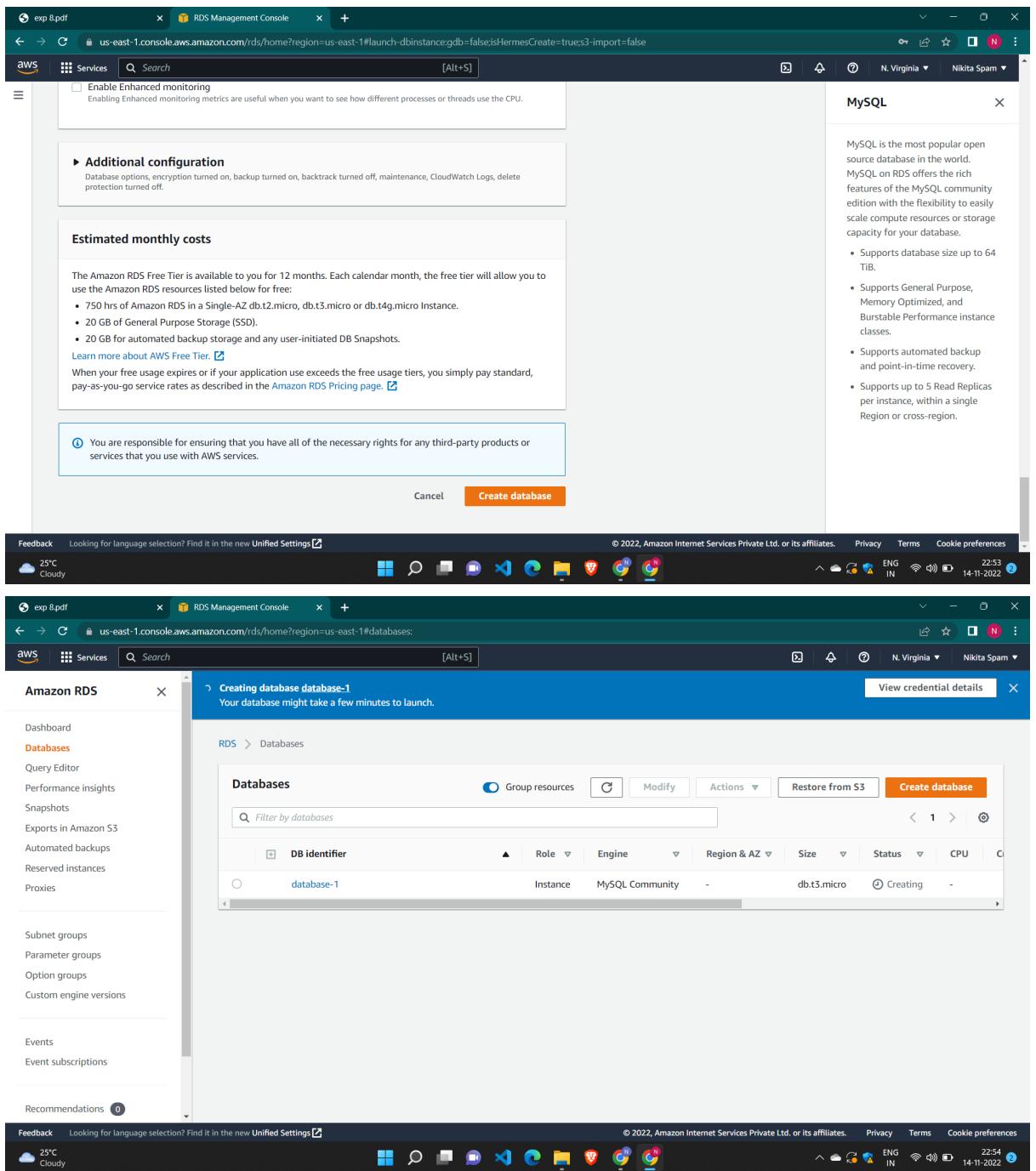
4. Click on “Free Tier” as templates and leave other configurations as it is.



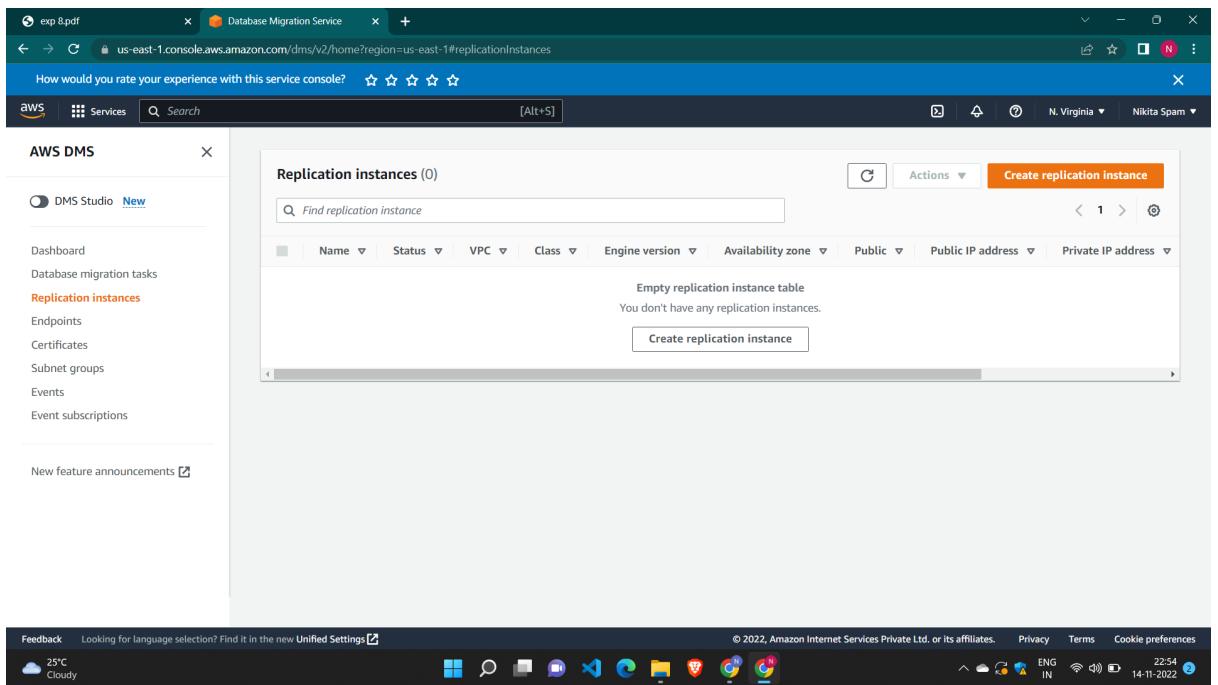
5. Create a Master username and password and remember that for future use.



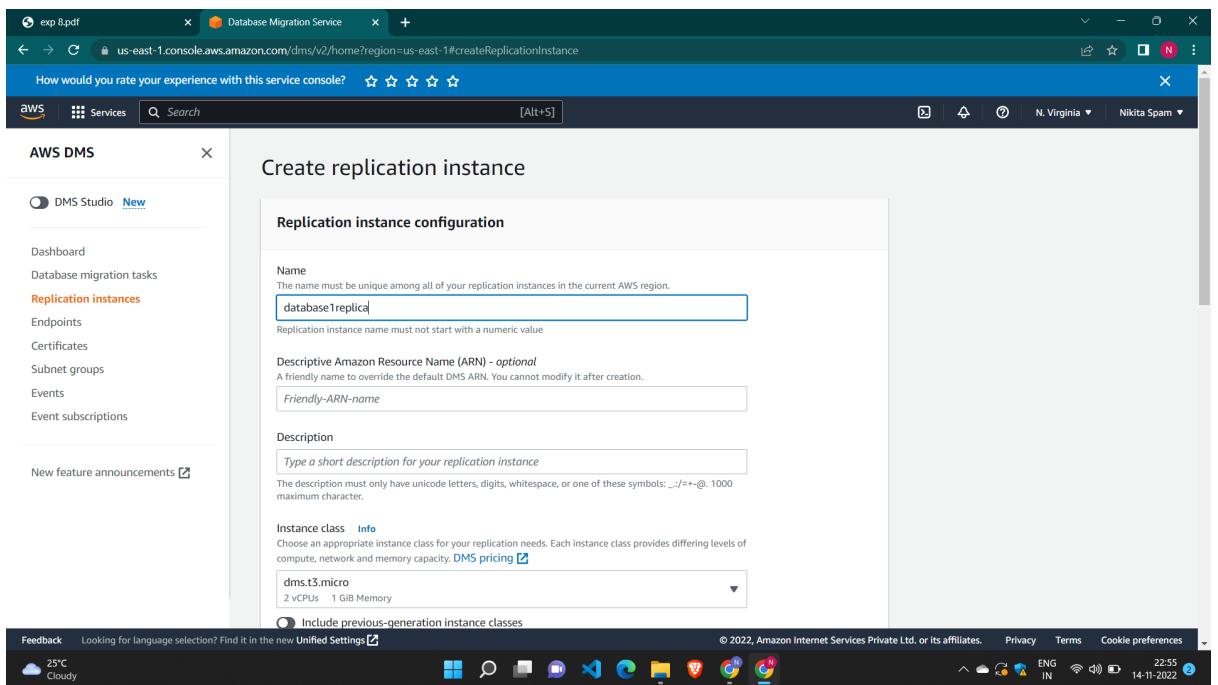
6. Select on create database and wait for the RDS database to be created.



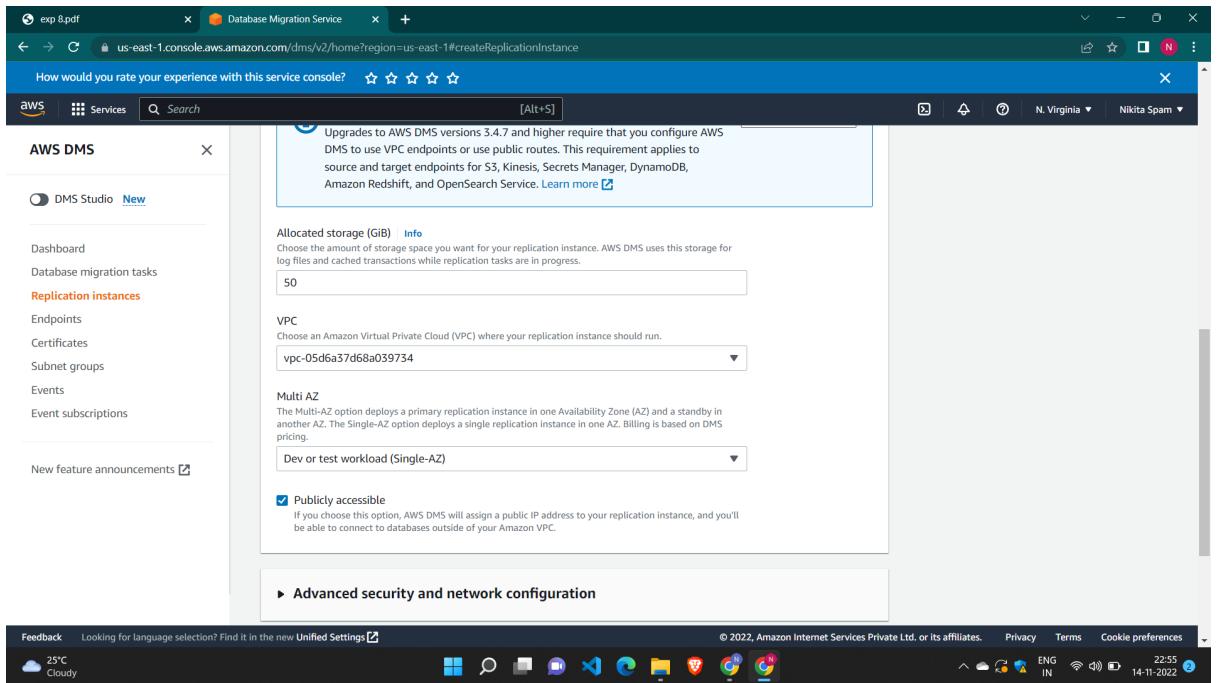
7. Go to AWS DMS console page and click on “Create Replication Instance”.



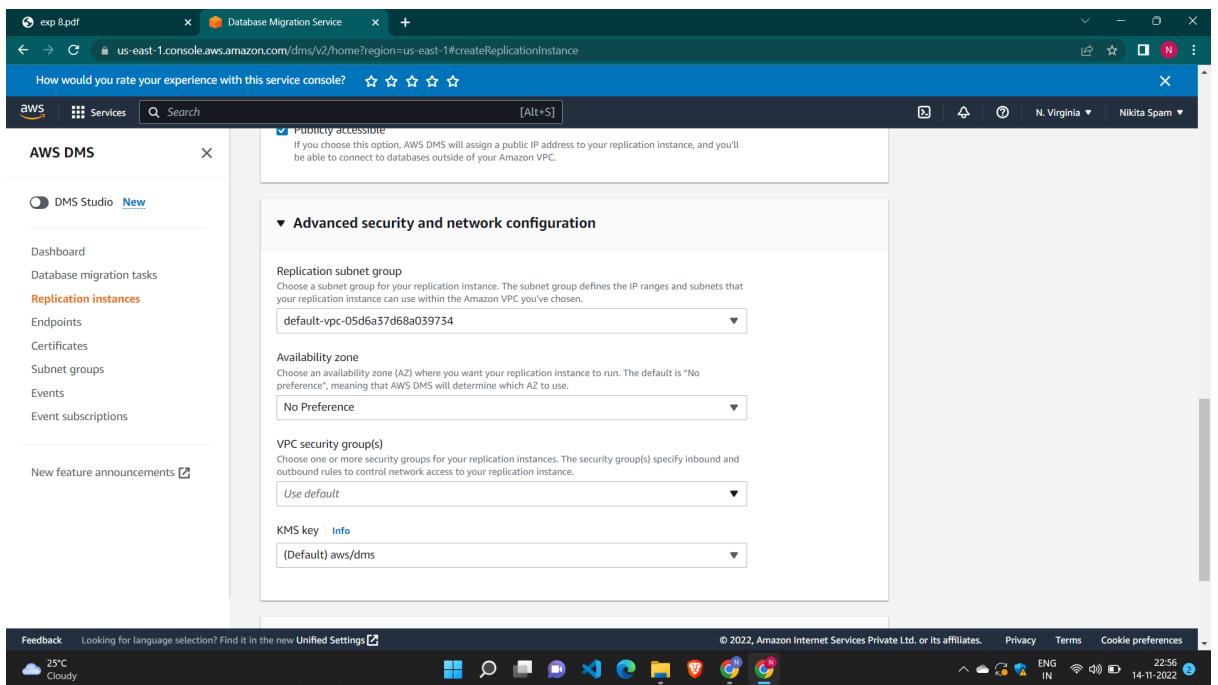
8. Choose the name for your instance and select “t3.micro” in instance class.



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”.



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

The screenshot shows the AWS DMS console with the URL us-east-1.console.aws.amazon.com/dms/v2/home?region=us-east-1#replicationInstances. The main content area displays a table titled 'Replication instances (1)'. The table has columns for Name, Status, VPC, Class, Engine version, Availability zone, Public, and Public IP address. One row is shown, labeled 'database1replica' with status 'Creating'. A message box at the top right says 'Upgrades to versions 3.4.7 and higher'.

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

The screenshot shows the AWS EC2 Management Console with the URL us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroups. The left sidebar shows navigation options like Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security (selected), Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces, Load Balancing, Load Balancers, Target Groups, and Auto Scaling. The main content area shows a table titled 'Security Groups (1/1)'. One row is listed: 'sg-063a093c23eca003a' with 'default' as the security group name and 'vpc-05d6a37d68a039734' as the VPC ID. Below the table, a detailed view for 'sg-063a093c23eca003a - default' is shown with tabs for Details, Inbound rules, Outbound rules, and Tags. A note says 'You can now check network connectivity with Reachability Analyzer'.

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

The screenshot shows the AWS EC2 Management Console with the 'Security Groups' page open. The left sidebar shows various AWS services like Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images, Elastic Block Store, Network & Security (selected), Load Balancing, and Auto Scaling. The main content area shows 'Security Groups (1/1) Info'. A table lists one security group: Name: default, Security group ID: sg-063a093c23eca005a, VPC ID: vpc-05d6a37d68a039734, Description: default VPC security gr..., Owner: 121735941536. Below this is an info box: 'You can now check network connectivity with Reachability Analyzer' with a 'Run Reachability Analyzer' button. The 'Inbound rules (1/1)' section shows one rule: Name: sgr-066a188f1ae4ee4b0, IP version: -, Type: All traffic, Protocol: All, Port range: All. The bottom of the screen shows the Windows taskbar with various pinned icons.

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 for the 'sg-063a093c23eca003a - default' security group. The dialog title is 'Edit inbound rules' with an 'Info' link. It says 'Inbound rules control the incoming traffic that's allowed to reach the instance.' Below is a table:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-066a188f1ae4ee4b0	MySQL/Aurora	TCP	3306	Custom	sg-063a093c23eca003a

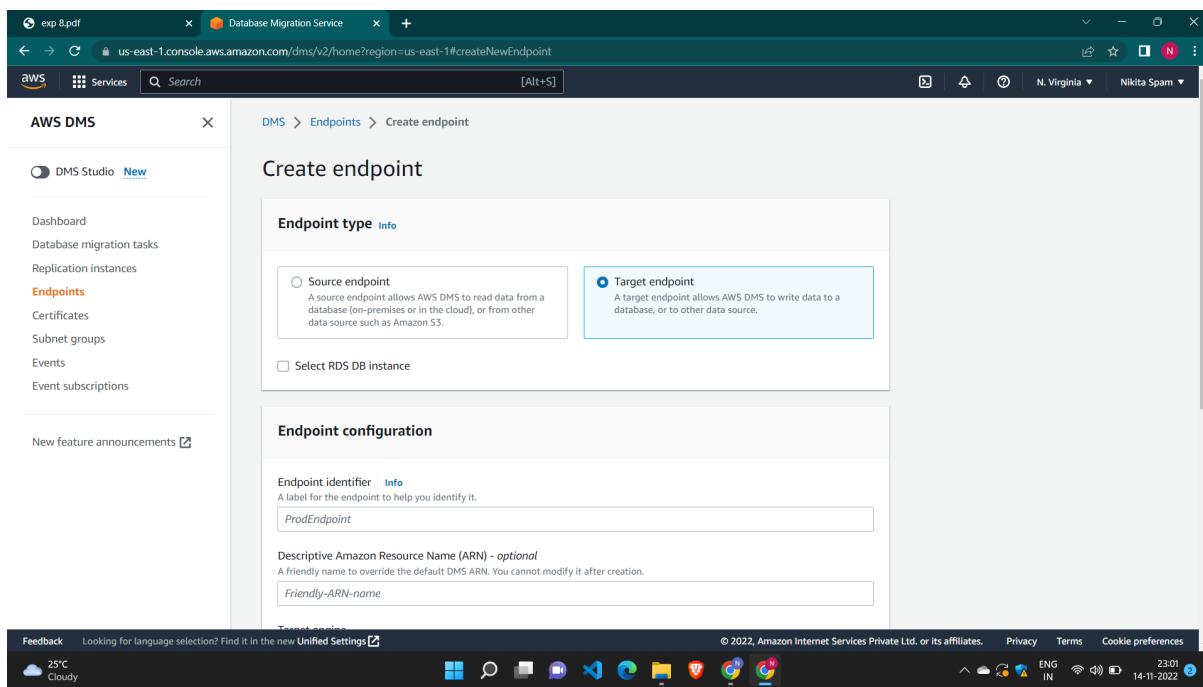
Buttons at the bottom include 'Add rule', 'Cancel', 'Preview changes', and a highlighted 'Save rules' button. The bottom of the screen shows the Windows taskbar with various pinned icons.

The screenshot shows the AWS EC2 Management Console with the URL <https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroup:groupId=sg-063a093c23eca003a>. The left sidebar includes links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances), Images (AMIs, AMI Catalog), and Elastic Block Store. The main content area displays the details for the security group 'sg-063a093c23eca003a - default'. It shows the security group name is 'default', the security group ID is 'sg-063a093c23eca003a', the owner is '121735941536', and it has 1 inbound rule and 1 outbound rule. Below this, the 'Inbound rules' tab is selected, showing one rule allowing MySQL (Aurora) TCP port 3306 from 0.0.0.0/0. A message indicates you can check network connectivity with the Reachability Analyzer.

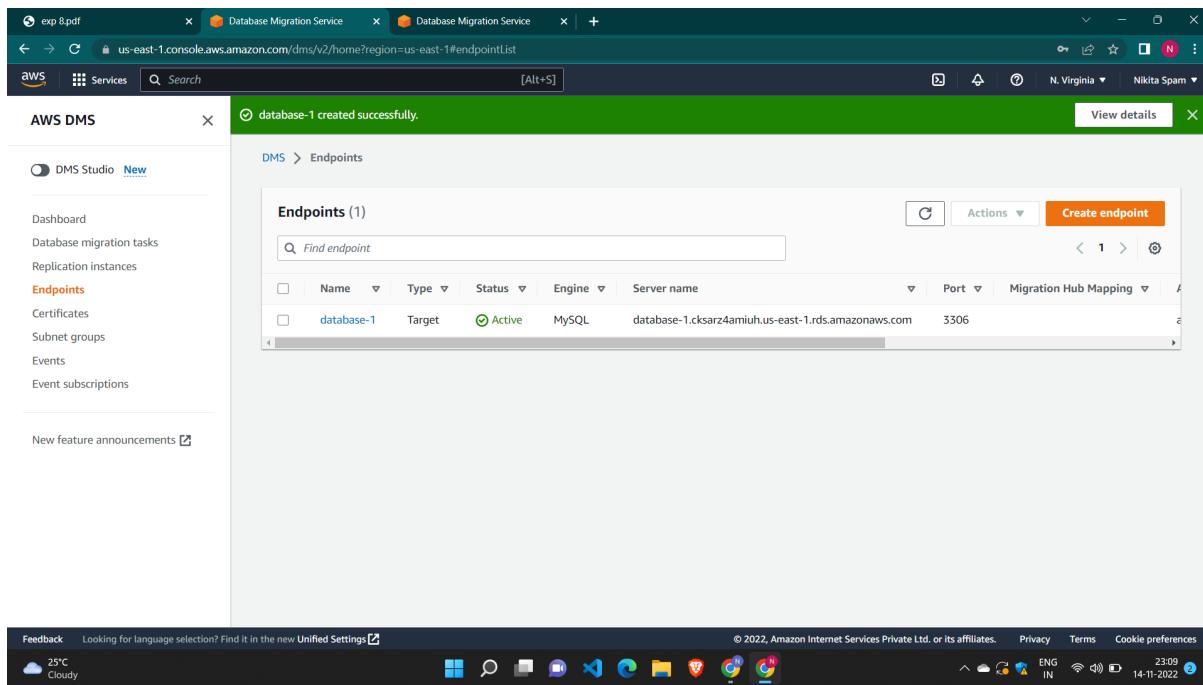
15. Go to AWS DMS console and to the endpoints page and click on “Create Endpoint”.

The screenshot shows the AWS Database Migration Service (DMS) console with the URL <https://us-east-1.console.aws.amazon.com/dms/v2/home?region=us-east-1#endpointList>. The left sidebar includes links for DMS Studio, Dashboard, Database migration tasks, Replication instances, Endpoints (selected), Certificates, Subnet groups, Events, Event subscriptions, and New feature announcements. The main content area shows the 'Endpoints (0)' page with a table header for 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 right of the table area. The status bar at the bottom shows 'ENG IN' and the date '14-11-2022'.

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



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



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

The screenshot shows the AWS DMS console with the 'Endpoints' page. A green banner at the top indicates that 'database-1 created successfully.' The main table displays one endpoint named 'database-1' which is a 'Target' of type 'MySQL' with the server name 'database-1.ckzarz4amih.us-east-1.rds.amazonaws.com' and port '3306'. The status is 'Active'. The left sidebar includes options like 'Dashboard', 'Database migration tasks', 'Replication instances', and 'Endpoints' (which is selected). The bottom navigation bar shows the date as 14-11-2022 and the time as 23:09.

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 'Database migration tasks' page. The table header includes columns for Identifier, Status, Progress, Type, Source, Target, Replication instance, Started, Stopped, and Elapsed load. A message in the center states 'Empty replication task table' and 'You don't have any replication tasks.' A 'Create database migration task' button is visible. The left sidebar shows 'Database migration tasks' is selected. The bottom navigation bar shows the date as 14-11-2022 and the time as 23:12.

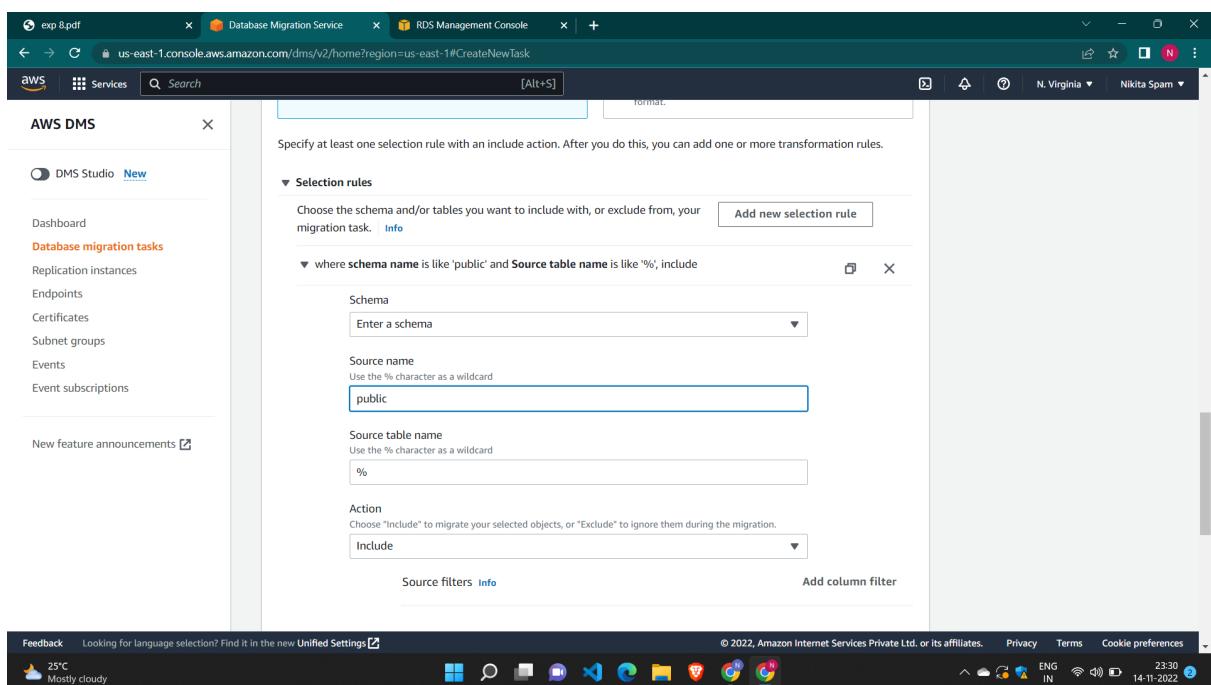
21. Give a name to the task and select replication instance.

The screenshot shows the 'Create database migration task' page in the AWS DMS console. On the left, there's a sidebar with 'AWS DMS' and 'Database migration tasks' selected. The main area has a 'Task configuration' section with fields for 'Task identifier' (set to 'exp8'), 'Descriptive Amazon Resource Name (ARN) - optional' (set to 'Friendly-ARN-name'), and 'Replication instance' (set to 'database1replica - vpc-05d6a37d68a039734'). A callout box highlights the 'Upgrades to versions 3.4.7 and higher' note, which mentions upgrading to version 3.4.7 requires configuring VPC endpoints or public routes for source and target endpoints. Below this, there are fields for 'Source database endpoint' (set to 'database-2') and 'Target database endpoint' (set to 'database-1'). The 'Migration type' dropdown is set to 'Migrate existing data'. At the bottom, there's a 'Task settings' section and a note about the AWS Schema Conversion Tool. The browser status bar at the bottom shows 'Feedback Looking for language selection? Find it in the new Unified Settings' and system information like '25°C Mostly cloudy' and '23:15 14-11-2022'.

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

The screenshot shows the 'Create New Task' page in the AWS RDS Management Console. The sidebar on the left shows 'AWS DMS' and 'Database migration tasks' selected. The main area has a 'Task configuration' section with fields for 'Source database endpoint' (set to 'database-2') and 'Target database endpoint' (set to 'database-1'). The 'Migration type' dropdown is set to 'Migrate existing data'. A callout box highlights a note about the AWS Schema Conversion Tool, stating it can automatically convert database schema and code to the engine of choice. Below this, there's a 'Task settings' section and a note about editing mode. The browser status bar at the bottom shows 'Feedback Looking for language selection? Find it in the new Unified Settings' and system information like '25°C Mostly cloudy' and '23:28 14-11-2022'.

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.

Screenshot of the AWS Database Migration Service (DMS) console showing a successful migration task named "exp8".

The browser tabs are:

- exp 8.pdf
- Database Migration Service
- RDS Management Console

The AWS DMS sidebar includes:

- DMS Studio
- New
- Dashboard
- Database migration tasks
- Replication instances
- Endpoints
- Certificates
- Subnet groups
- Events
- Event subscriptions

New feature announcements.

The main content area shows the "Database migration tasks (1)" table:

Identifier	Status	Progress	Type	Source	Target	Replication instance	Started	Stopped	Elapsed
exp8	Ready	Full load	database-2	database-1	database1replica	-	-	-	-

Feedback message: Looking for language selection? Find it in the new Unified Settings.

System tray icons include: Windows Start, Search, Task View, File Explorer, Edge, AWS Lambda, Google Chrome, and others. Weather: 25°C Mostly cloudy. Date and time: 14-11-2022 23:32. Language: ENG IN.