

Project: Migrating data from a database MySQL on Amazon EC2 to a database MySQL amazon RDS

Scenario

An e-commerce company currently uses a relational database MySQL hosted on an unmanaged EC2 instance to manage its transactions and store the customer data. This solution worked well when the company was launched, but with the rapid growth in the number of users and the increase in transaction volume, The technical team faces several challenges, including:

- Difficulty managing regular backups and restores .
- Lack of high availability and disaster recovery.
- Unplanned downtime and complex maintenance.
- Performance issues related to scalability.

The company decides to call on you as an AWS data engineer to migrate this database MySQL data to a more robust, fully managed solution.

Objective

Migrate MySQL database from EC2 instance to Amazon RDS MySQL while minimizing downtime and ensuring business continuity.

Costs:

Export date: 28/08/2024 00:34:52

Language: English

Estimate URL: [https://calculator.aws/#/estimate?
id=6dd80ea09d071be69be26447c1b2a673e3441999](https://calculator.aws/#/estimate?id=6dd80ea09d071be69be26447c1b2a673e3441999)

Estimate summary

Upfront cost

0.00 USD

Monthly cost

82.38 USD

Total 12 months cost

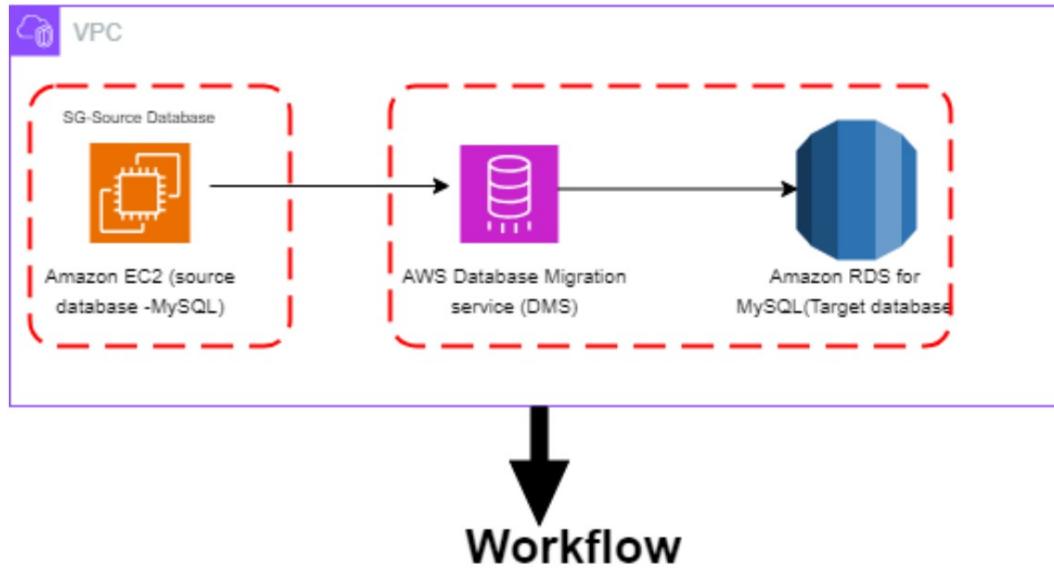
988.56 USD

Includes upfront cost

Estimated time of completion: 2h

Solution architecture

Architecture de solution Database Migration



AWS Database Migration Service

- 1 Crée une instance de replication



- 2 Crée les Endpoints source et cible



- 3 Crée la tache de migration



Implementing the solution

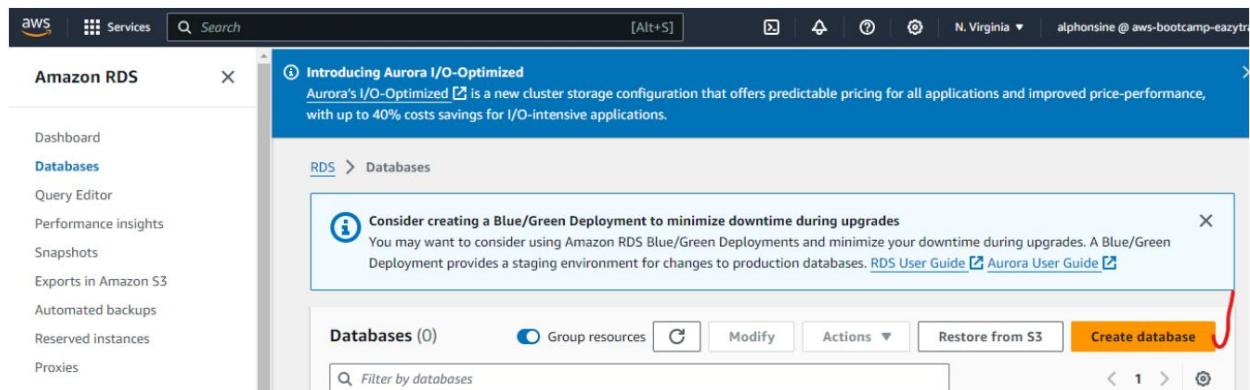
Step 1: Create an unmanaged EC2 database server and install mysql.

And which will be our source database.

Step 2: Create the target database on the Amazon RDS console

In this step, you create a MySQL database instance in Amazon RDS. This instance will be used as the primary database once you copy your existing data using AWS DMS.

- To get started, go to the Amazon RDS console. On the main page, select Create Database to create a new database.



The database creation wizard is then launched. In the Engine Options section, Choose MySQL as the engine type. Then choose the version of MySQL that you want to wish to use.

- The database creation wizard includes templates that make it easier to Configuring your Amazon RDS database settings. If you create this database to use it in production, you must choose the production model. For our case, we will choose free tier.

RDS > Create database

Create database

Choose a database creation method Info

Standard create
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

Easy create
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

Aurora (MySQL Compatible)


Aurora (PostgreSQL Compatible)


MySQL
 ✓

MariaDB


PostgreSQL


Oracle


MySQL Community

Engine version [Info](#)
View the engine versions that support the following database features.

▼ Hide filters

Show versions that support the Multi-AZ DB cluster [Info](#)
Create a A Multi-AZ DB cluster with one primary DB instance and two readable standby DB instances. Multi-AZ DB clusters provide up to 2x faster transaction commit latency and automatic failover in typically under 35 seconds.

Show versions that support the Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Engine Version

MySQL 8.0.35

Enable RDS Extended Support [Info](#)
Amazon RDS Extended Support is a paid offering [\[?\]](#). By selecting this option, you consent to being charged for this offering if you are running your database major version past the RDS end of standard support date for that version. Check the end of standard support date for your major version in the [RDS for MySQL documentation](#) [\[?\]](#).

Templates

Choose a sample template to meet your use case.

- Production**
Use defaults for high availability and fast, consistent performance.
- Dev/Test**
This instance is intended for development use outside of a production environment.
- Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.
[Info](#)

- In the Settings section, give your database a name and set the name username and master password. Do not generate your password automatically for this lab, and make sure to write down your password. You will need this password to connect to your database and create additional users.

DB instance identifier [Info](#)

Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings**Master username** [Info](#)

Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management

You can use AWS Secrets Manager or manage your master user credentials.

 Managed in AWS Secrets Manager - most secure

RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.

 Self managed

Create your own password or have RDS create a password that you manage.

 Auto generate password

Amazon RDS can generate a password for you, or you can specify your own password.

Master password [Info](#)

Password strength Strong

Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / ' " @

Confirm master password [Info](#)

- Then choose the size of the database instance. You must make this choice

depending on your estimated capacity. If you manage your own database on Amazon Elastic Compute Cloud (Amazon EC2), you can compare the size of your current Amazon EC2 instance to that of an Amazon RDS instance.

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class [Info](#)

▼ Hide filters

Show instance classes that support Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Include previous generation classes

Standard classes (includes m classes)

Memory optimized classes (includes r and x classes)

Burstable classes (includes t classes)

db.t3.micro 
2 vCPUs 1 GiB RAM Network: 2085 Mbps

- Next, configure storage options for your Amazon RDS database. It

There are two storage options in Amazon RDS: general purpose storage and Provisioned storage IOPS, or I/O operations per second. With provisioned storage Typically, you receive 3 IOPS per gigabyte of allocated storage. So, 100 gigabytes of storage corresponds to 300 IOPS. In addition, you benefit from burst capacity up to 3,000 IOPS.

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2) ✓
Baseline performance determined by volume size

Allocated storage [Info](#)

20 ✓ GiB

The minimum value is 20 GiB and the maximum value is 16 384 GiB

i Provisioning less than 100 GiB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Learn more](#) ↗

i After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes. [Learn more](#) ↗

▼ Storage autoscaling

Storage autoscaling [Info](#)

Provides dynamic scaling support for your database's storage based on your application's needs.

Enable storage autoscaling
Enabling this feature will allow the storage to increase after the specified threshold is exceeded.

- The next section of the Amazon RDS Database Creation Wizard is about connectivity. You must specify the Amazon Virtual Private Cloud (Amazon VPC) in which your database resides, as well as the network subnet and groups of security for your database instance.
- If you are migrating from a self-managed database instance on Amazon EC2, you can use the same **Amazon VPC and security groups** as your home of existing data.
- If you are migrating from a database that is not hosted on AWS but your application is hosted on AWS, choose the same **Amazon VPC as the one used for your application**. Then create a new security group for your database instance.

Connectivity [Info](#) G

Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

Virtual private cloud (VPC) [Info](#)

Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-058e2b9ce56adf840) ▼
6 Subnets, 6 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

DB subnet group [Info](#)

Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.

default ▼
6 Subnets, 6 Availability Zones

Public access [Info](#)

Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall) [Info](#)

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

 Choose existing

Choose existing VPC security groups

 Create new

Create new VPC security group

New VPC security group name

SG-server-database

Availability Zone [Info](#)

No preference

RDS Proxy

RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

 [Create an RDS Proxy](#) [Info](#)RDS automatically creates an IAM role and a Secret Manager secret for the proxy. RDS Proxy has additional costs. For more information, see [RDS Proxy costs](#).**Certificate authority - optional [Info](#)**

Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-rsa2048-g1 (default)

Expiry: May 26, 2061

If you don't select a certificate authority, RDS chooses one for you.

- You can also configure additional options, including settings for backups, monitoring, maintenance and upgrades automated. The default settings are suitable for most situations, but you should check them to make sure they meet your needs.

KMS key ID

e9938378-fdc3-4399-b868-f9e224ff0b13

 You can't change the KMS key after enabling Performance Insights.

► Additional configuration

Enhanced Monitoring

► Additional configuration

Database options, encryption turned on, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned on.

Estimated Monthly costs

DB instance	12.41 USD
Storage	2.30 USD
Total	14.71 USD

This billing estimate is based on on-demand usage as described in [Amazon RDS Pricing](#). Estimate does not include costs for backup storage, IOs (if applicable), or data transfer.

Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#).

Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs 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).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier.](#)

When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page](#).

i You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel Create database

Step 3: Create a replication instance in AWS Database Migration Service (AWS DMS)

In this step, you create a replication instance in AWS DMS.

- **AWS DMS** is a service that copies data from an existing database to a fully managed database on AWS. A **replication instance** is a Amazon EC2 instance that can host replication tasks in AWS DMS. In The next step you will configure a replication task.
- To create a replication instance, go to the Replication Instances section of the AWS DMS console. Choose Create Replication Instance to launch the wizard of creating a replication instance.

AWS DMS

Search results for 'AWS DMS'

Services (162)

- Features (421)
- Resources **New**
- Documentation (633,586)

Services

Database Migration Service ☆ ✓

Managed Database Migration Service

See all 162 results ▶

Convert and migrate

- Migration projects [New](#)
- Instance profiles [New](#)
- Data providers [New](#)

Migrate data ↵

- Replication instances ↵
- Endpoints
- Database migration tasks
- Serverless replications

Certificates

DMS > Dashboard

Dashboard

Service overview

Active tasks Info	Error tasks Info	Failed tasks Info	Load com
0	0	0	0

View all databases

DMS > Replication instances

i You do not need to manage replication instances with DMS Serverless

AWS DMS Serverless provides automatic provisioning, scaling, built-in high availability, and a pay-for-use billing model, to increase operations agility and optimize your costs. This eliminates replication instance management tasks such as capacity estimation, provisioning, cost optimization, and managing replication engine versions and patching.

[Learn more ↗](#)

View serverless replications X

Replication instances (0)

Find replication instance Actions ▾ Create replication instance

Name	Status	VPC	Class	Engine ...	Availab...	Networ...	Publ...
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No replication instances

You don't have any replication instances in US East (N. Virginia).

Create replication instance

- In the Replication Instance Configuration section, provide a name and a description to your replication instance. Then choose your instance class. The instance class you use depends on the size of your existing database and the amount of data circulating there.

Settings

Name

The name must be unique among all of your replication instances in the current AWS region.

my-replication-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.

Description - *optional*

The description must only have unicode letters, digits, whitespace, or one of these symbols: _.:;/=+-@. 1000 maximum character.

Instance configuration [Info](#)

Instance class [Info](#)

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. For more details, See the [AWS DMS release notes](#). For information about DMS version support, see [AWS DMS support lifecycle policy](#).

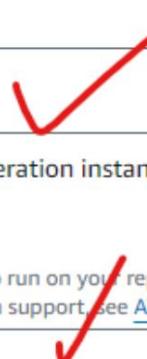
3.5.2

Include Beta DMS versions

High Availability [Info](#)

The Multi-AZ option deploys a primary replication instance in one Availability Zone (AZ) and a standby in another AZ. The Single-AZ option deploys a single replication instance in one AZ. Billing is based on DMS pricing.

Choose a failover setting



- In the Replication Instance Configuration section, choose a Amazon VPC for your replication instance. Choose the same Amazon VPC in which you have provisioned your Amazon RDS database to facilitate access to the network for the replication instance.
- You can choose a Multi-AZ configuration for your replication instance at redundancy purposes. If you are using AWS DMS to maintain synchronization of two databases over a long period of time, you can opt for a configuration Multi-AZ. If you are performing a one-time migration of your data from a database existing database to a fully managed database in Amazon RDS, you don't have to probably don't need a Multi-AZ setup.
- Finally, choose whether your replication instance should be publicly accessible. If your Existing database is in the same Amazon VPC as your new database data and your replication instance, it is not necessary for your replication instance to replication is publicly accessible. Otherwise, you must make your publicly accessible replication instance.

High Availability | [Info](#)
The Multi-AZ option deploys a primary replication instance in one Availability Zone (AZ) and a standby in another AZ. The Single-AZ option deploys a single replication instance in one AZ. Billing is based on DMS pricing.

Production workload (Multi-AZ)

 This replication instance is configured with a dms.t*. instance class and enabled with Multi-AZ. T* instance classes, such as T2, are low-cost standard instances designed to provide a baseline level of CPU performance. If you use a T* class replication instance to run Multi-AZ database migration tasks, you run the risk of performance issues. Consider upgrading your replication instance to a class with a higher level of performance. [Learn more](#) 

Storage [Info](#)

Allocated storage (GiB)

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

- Next, open the Advanced Security and Network Configuration section. For the VPC security groups configuration, choose the same security group as the one you attached to your Amazon RDS database. This allows your replication instance to access your Amazon RDS database.

Connectivity and security [Info](#)

Network type - new [Info](#)

To use dual-stack mode, make sure that you associate an IPv6 CIDR block with a subnet in the VPC you specify.

IPv4
Replication instance with an IPv4 network type that supports IPv4 addressing.

Dual-stack mode
Replication instance with a dual network type that supports both IPv4 and IPv6 addressing.

Virtual private cloud (VPC) for IPv4 [Info](#)

Choose the VPC where you want your replication instances to run. It includes VPCs in IPv4 and dual-stack mode.

Default VPC (vpc-058e2b9ce56adf840)  

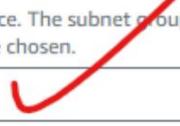
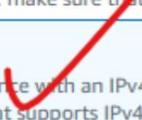
[Create a new VPC](#) 

Replication subnet group

Choose a subnet group for your replication instance. The subnet group defines the IP ranges and subnets that your replication instance can use within the VPC you've chosen.

default-vpc-058e2b9ce56adf840  

Public accessible
If you choose this option, AWS DMS will assign a public IP address to your replication instance, and you'll be able to connect to databases outside of your VPC.



You can also change maintenance and tag settings.

- When you are ready, click **Create** to create your replication instance in AWS DMS.

Availability zone
 Choose an availability zone (AZ) where you want your replication instance to run. The default is "No preference", meaning that AWS DMS will determine which AZ to use.

No Preference ▾

VPC security groups ↗
 Choose one or more security groups for your replication instances. The security groups specify inbound and outbound rules to control network access to your instance.

Choose VPC to select associated VPC security group ▾

SG-server-database X
 Created by RDS management console

AWS KMS key | [Info](#)

aws/dms ▾

Account
010928200112

Description
Default key that protects my DMS replication instance volumes when no other key is defined

► **Maintenance**

► **Tags - optional**
 Add tags to organize your DMS resources. You can use tags to manage your IAM roles and policies, and track your DMS costs.

[Cancel](#) [Create replication instance](#) ↘

- While you wait for your replication instance to become available, go to the **Security Groups** section in the Amazon EC2 console. You must add a rule to your security group to allow your replication instance to access your database.

- In the **Security Groups section**, find the security group you have attached to your MySQL database instance and your replication instance, and select it.
- Select Edit receiving rules for your security group.

The screenshot shows the AWS Security Groups console. At the top, there's a list of security groups with their names, descriptions, and VPC IDs. One security group, "SG-server-database", is selected and highlighted with a red arrow. Below the list, there are tabs for "Details", "Inbound rules" (which is currently selected and highlighted with a red arrow), "Outbound rules", and "Tags". Under the "Inbound rules" tab, there's a table with one rule listed. The rule details are: Type: MySQL/Aurora, Protocol: TCP, Port range: 3306, Source: Custom, Description: sg-00b6f699974889332. There are buttons for "Edit inbound rules" (highlighted with a red arrow) and "Delete". A search bar and pagination controls are also present.

- Your security group has an existing rule that allows access to your instance MySQL from the IP address you used to create the database. Delete the existing IP address and enter the name of the security group used for your Amazon RDS database instance and your replication instance.
- Select Save Rules to save the updated rules for your security group.

The screenshot shows the "Edit inbound rules" dialog box. It displays a table of inbound rules. One rule is selected and highlighted with a red box, showing its details: Security group rule ID: -, Type: MySQL/Aurora, Protocol: TCP, Port range: 3306, Source: Custom, Description: sg-00b6f699974889332. Below the table, there are buttons for "Add rule", "Cancel", "Preview changes", and "Save rules" (highlighted with a red arrow). A search bar is also visible.

- When your replication instance is available and you have updated the rules of your security group, you can proceed to the next step.

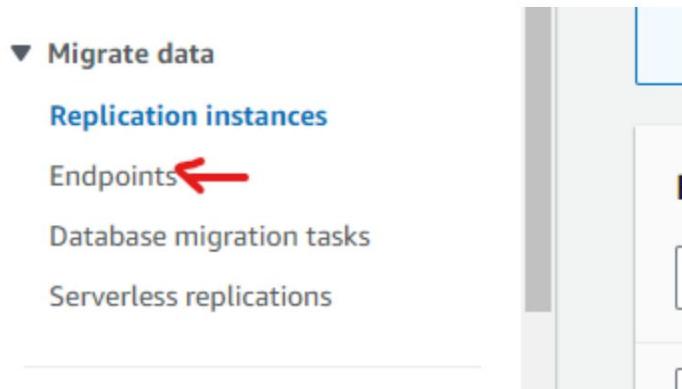
Step 4: Create Source and Target Endpoints for your Database

In this you create source and target endpoints for a replication task in AWS DMS.

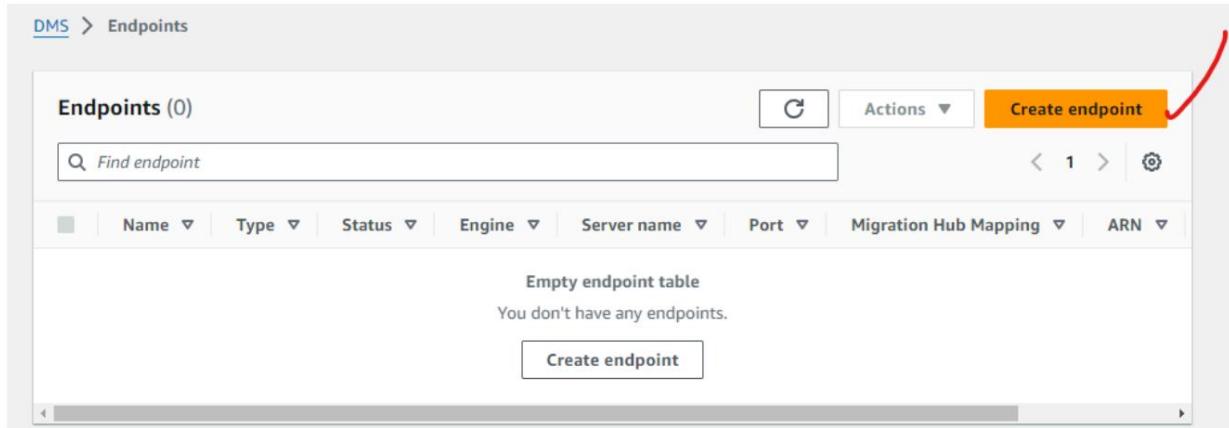
A **replication task** involves migrating data from one database to another at Using AWS DMS. Before you can create a replication task, you must save replication points. endpoint for your source and target databases. An endpoint describes the address login details, credentials and other information needed to connect to a database.

- First, we will create the endpoint for your target database.

This is the database you created in Amazon RDS.



- Navigate to the Endpoints section of the AWS DMS console. Choose Create Endpoint termination to create a new endpoint



- In the Create Endpoint Wizard, choose to create an endpoint target. Check the Select RDS DB instance box, then choose your database Newly created Amazon RDS from the drop-down menu.

Create endpoint Info

Endpoint type Info

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 stores such as Amazon DynamoDB or Kinesis.

Select RDS DB instance
Choose this option if the endpoint is an Amazon RDS DB instance. It provides a list of available RDS Instances from the current region.

RDS Instance
Instances available only for current user and region

mysql-server-database1

- Most of the Endpoint configuration details are now completed. You should Enter your password and a database name at the bottom of the section.

Endpoint configuration

Endpoint identifier [Info](#)

A label for the endpoint to help you identify it.

Descriptive Amazon Resource Name (ARN) - *optional*

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

Target engine

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

▼

Access to endpoint database [Info](#)

 AWS Secrets Manager Provide access information manually

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

MySQL

Access to endpoint database | [Info](#)
 AWS Secrets Manager
 Provide access information manually

Server name
The name of the data server for the data provider.
mysql-server-database1.cdg4wokgky0d.us-east-1.rds.amazonaws.com

Port
The port the database runs on for this endpoint.
3306

User name | [Info](#) Password | [Info](#)
admin
.....

- When you load data into a MySQL database using AWS DMS, you need to disable foreign key checks. To do this, type **initstmt=SET FOREIGN_KEY_CHECKS=0** in the **Extra connection box attributes**.

▼ Endpoint settings

Define additional specific settings for your endpoints using wizard or editor. [Learn more](#)

Wizard
Enter endpoint settings using the guided user interface.

Editor
Enter endpoint settings in JSON format.

Endpoint settings | [Info](#)

[Add new setting](#)

Use endpoint connection attributes

Extra connection attributes | [Info](#)
Enter additional connection attributes below

initstmt=SET FOREIGN_KEY_CHECKS=0

- Before saving your endpoint, test the connection to ensure that it has been configured correctly. To do this, open the Test Point Connection section end.
- Choose the replication instance you want to use, then select Run the test. After a few seconds, you should see a success status. This indicates that you have correctly configured your security group and your endpoint. To register your endpoint, select Create an endpoint endpoint.

▼ Test endpoint connection (optional)

Choose the replication instance to test the network and database connectivity for migration.

VPC

vpc-058e2b9ce56adf840

Replication instance

A replication instance performs the database migration

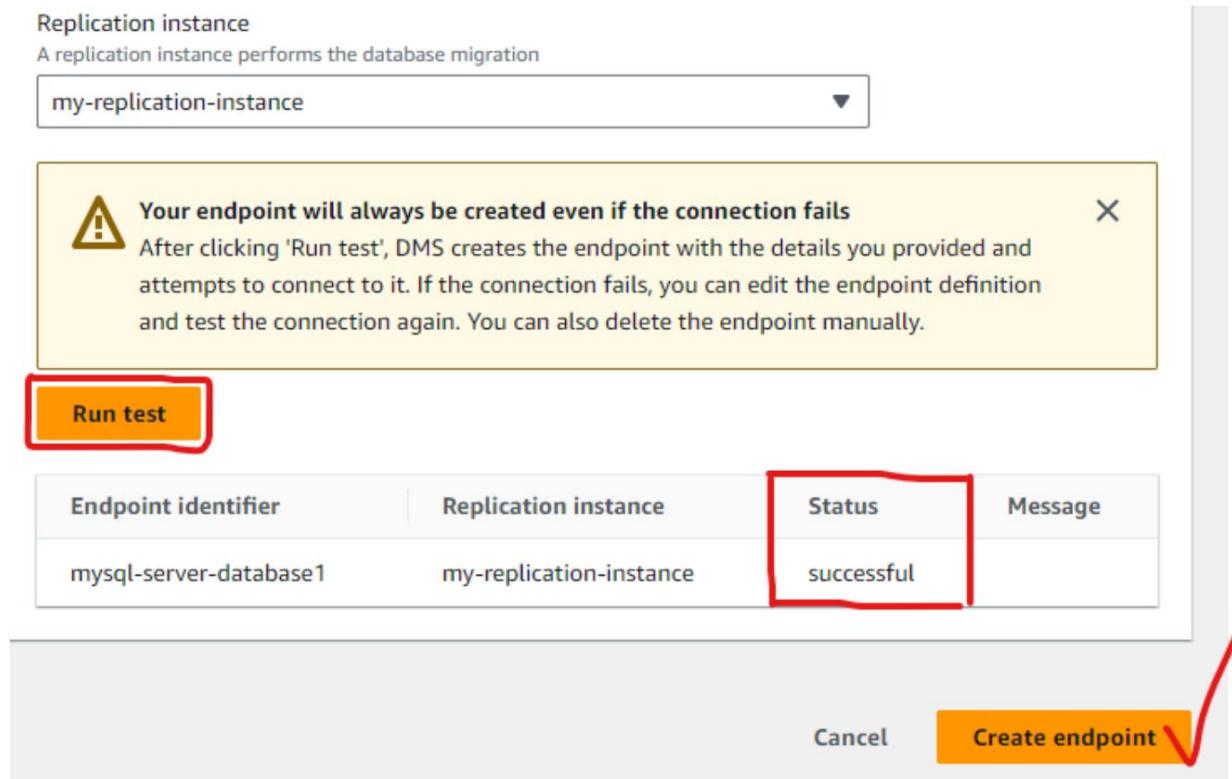
myireplication-instance

**Your endpoint will always be created even if the connection fails**

After clicking 'Run test', DMS creates the endpoint with the details you provided and attempts to connect to it. If the connection fails, you can edit the endpoint definition and test the connection again. You can also delete the endpoint manually.

Run test

Endpoint identifier	Replication instance	Status	Message
No records found			



The screenshot shows the "Endpoints" list in the AWS DMS console. The URL is "DMS > Endpoints". The table header includes columns for Name, Type, Status, Engine, and Server name. A red arrow points to the "Name" column header. The table body contains one row for "mysql-server-database1", which is listed as "Active". The "Actions" and "Create endpoint" buttons are visible at the top right of the table area.

	Name	Type	Status	Engine	Server name	Actions	Create endpoint
<input type="checkbox"/>	mysql-server-database1	Target	Active	MySQL	mysql-server-database1.cdg4wokgky0d.us-east-1.rds.amazonaws.com		

Step 5: Create the source endpoint

DMS > Endpoints > Create endpoint

Create endpoint Info

Endpoint type Info

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 stores such as Amazon DynamoDB or Kinesis.

Select RDS DB instance
Choose this option if the endpoint is an Amazon RDS DB instance. It provides a list of available RDS Instances from the current region.

Endpoint configuration

Endpoint identifier Info
A label for the endpoint to help you identify it.

Descriptive Amazon Resource Name (ARN) - optional
A friendly name to override the default DMS ARN. You cannot modify it after creation.

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

Access to endpoint database Info

AWS Secrets Manager

Provide access information manually

Server name
The name of the data server for the data provider.

ec2-52-90-200-223.compute-1.amazonaws.com

Port
The port the database runs on for this endpoint.

3306

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

Lab

.....

Secure Socket Layer (SSL) mode [Info](#)
The type of Secure Socket Layer enforcement

none

- You also need to ensure that your replication instance has access network to your source database. If your source database is hosted on Amazon EC2, allow traffic from your replication instance's security group to the security group of the source database. If your source database is not hosted on Amazon EC2, you must manage network settings accordingly from the location of your source database.

Security Groups (1/4) [Info](#)

Name	Security group ID	Security group name	VPC ID
<input checked="" type="checkbox"/> -	sg-0b3766881ee9eab3b	launch-wizard-2	vpc-058e2b9ce56adf840
<input type="checkbox"/> -	sg-05a9e92d885932e7e	default	vpc-058e2b9ce56adf840
<input type="checkbox"/> -	sg-0b3766881ee9eab3b	launch-wizard-1	vpc-058e2b9ce56adf840

sg-0b3766881ee9eab3b - launch-wizard-2

[Details](#) | **Inbound rules** | Outbound rules | Tags

Inbound rules (1)

Manage tags Edit inbound rules

Search < 1 > ⚙

sgr-0ecdc98929405022b

	Protocol	Port Range	Action	Source Range	Tags	Actions
SSH	TCP	22	Cust...	0.0.0.0/0		Delete
-	MySQL/Aurora	TCP	3306	Cust...	sg-00b6f69997488935 2	Delete

Add rule

⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Preview changes Save rules

- Then run the connection test on your endpoint

▼ **Test endpoint connection (optional)**

Choose the replication instance to test the network and database connectivity for migration.

VPC

vpc-058e2b9ce56adf840

Replication instance

A replication instance performs the database migration

my-replication-instance

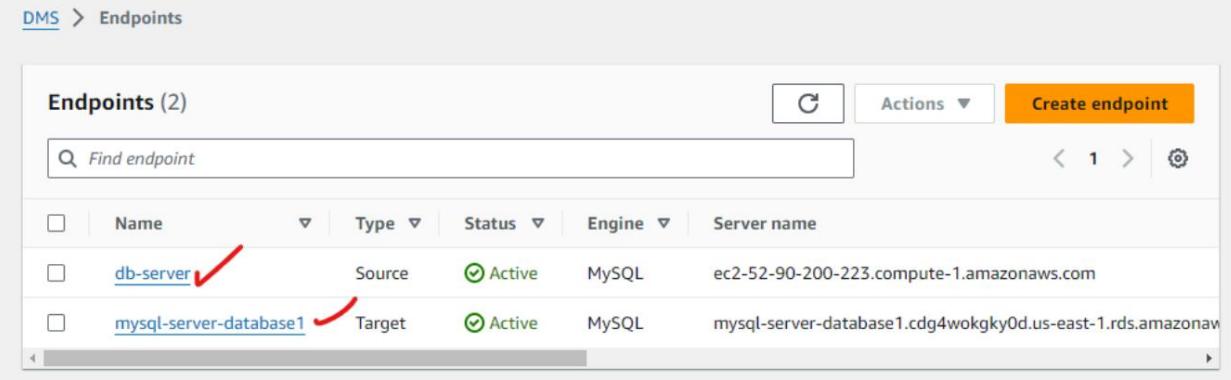
⚠ Your endpoint will always be created even if the connection fails

After clicking 'Run test', DMS creates the endpoint with the details you provided and attempts to connect to it. If the connection fails, you can edit the endpoint definition and test the connection again. You can also delete the endpoint manually.

Run test ✓

Cancel Create endpoint ✓

- Before proceeding to the next step, you must have configured two endpoints:
one for your source database and one for your target database.
Make sure you have tested both endpoints and can connect with them
success to both databases.



Endpoints (2)					
	Name	Type	Status	Engine	Server name
<input type="checkbox"/>	db-server ✓	Source	Active	MySQL	ec2-52-90-200-223.compute-1.amazonaws.com
<input type="checkbox"/>	mysql-server-database1	Target	Active	MySQL	mysql-server-database1.cdg4wokgky0d.us-east-1.rds.amazonaws.com

In this step, you created your endpoints to connect to your databases.

data. In the next step, you will use these endpoints to create a task replication that copies data from your source database to your database target.

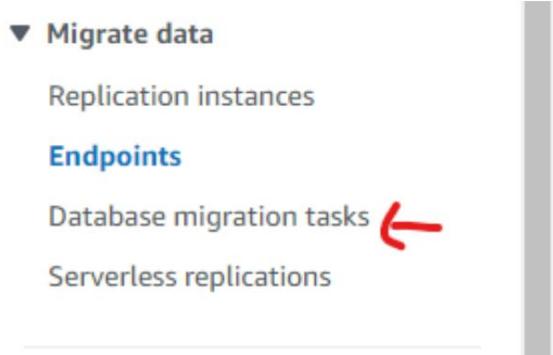
Step 6: Creating Replication Tasks

In this part, you create a **replication task** in AWS DMS.

A **replication task** is responsible for migrating data from a source database to a target database. In your case, you are moving data from a database existing database to a newly created database on Amazon RDS.

- To get started, navigate to the Replication Tasks section of the AWS DMS console.

Select Create Task to create a new replication task.



The screenshot shows the 'Database migration tasks' page with a count of 0. At the top right, there is a 'Create task' button highlighted with a red arrow. Below it is a search bar labeled 'Find database migration tasks'. A table header includes columns for Identifier, Status, Migration progress, Type, Premigration assessment, Source, and Target. 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 at the bottom.

In the Task Configuration section, define the settings for your replication task.

Give your task a name and choose the replication instance you created in a previous module. Then choose the source endpoint for your database existing and target endpoint for your fully managed database in Amazon RDS.

The screenshot shows the 'Task configuration' page. It includes fields for:

- Task identifier:** sql-server-migration
- Descriptive Amazon Resource Name (ARN) - optional:** Friendly-ARN-name
- Replication instance:** my-replication-instance - vpc-058e2b9ce56adf840
- Source database endpoint:** db-server
- Target database endpoint:** mysql-server-database1

You must choose a migration type. There are 3 types of migration:

1. Migrate existing data, which performs a one-time process of copying data from the source database to target database.
2. Reproduce current changes, which copies all current operations from your source database to your target database.
3. Replicate data changes only: This option allows you to capture and replicate only the changes to data in the source database after an initial migration or on a database already in use. This includes operations such as insertions, updates and deletions.
 - If you are moving your application from a self-managed database to a managed database, fully managed data, you must use both types of replication. The first type copies all the data from your database and the second type ensures that All additional updates are replicated to your new database. data until you switch your application to use the new database. data.
 - For Migration type, select Migrate existing data and replicate existing data. changes in progress. Note that logical replication must be enabled on your database of source data.

Migration type | [Info](#)

Migrate existing data and replicate ongoing changes  ▾

 Consider using homogenous data migrations X

You can leverage built-in native database tooling in DMS for easy and performant like-to-like migrations. Check supported engines and detailed guidance to get started with migration projects.[Learn more](#)

[View migration projects](#)

 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](#) X

 Your source database is MySQL. Replicating ongoing changes requires the MySQL binary log to be enabled and set to row.

- In the Table settings section, choose the tables you want to copy. Enter the name of the schemas and tables you want to copy. You can use % as wildcard to copy multiple tables or schemas.

Task settings

Editing mode | [Info](#)

Wizard
You can enter only a subset of the available task settings.

JSON editor
You can enter all available task settings directly in JSON format.

Target table preparation mode | [Info](#)

Do nothing

Drop tables on target

Truncate

Stop task after full load completes | [Info](#)

Don't stop

Stop before applying cached changes

Stop after applying cached changes

LOB column settings | [Info](#)

Don't include LOB columns

Full LOB mode

▼ Selection rules

Choose the schema and/or tables you want to include with, or exclude from, your migration task.

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

%



- When you are ready, select Create Task to start your task.
replication.

Migration task startup configuration

Start migration task

Automatically on create
Available only if the premigration assessment is not enabled.

Manually later

▼ Tags

Add tags to your DMS resources to organize and track your DMS costs.

No tags will be added to this resource.

[Add tag](#)

[Cancel](#) [Create task](#)

Database migration tasks (1)					
 					
<input type="checkbox"/>	Identifier 	Status 	Migration progress 	Type 	Premigration assessment 
<input type="checkbox"/>	sql-server-migration 	 Creating		Full load, ongoing replication	 Not assessed

Database migration tasks (1)					
 					
<input type="checkbox"/>	Identifier 	Status 	Migration progress 	Type 	Premigration assessment 
<input type="checkbox"/>	sql-server-migration	 Created	 0%	Full load, ongoing replication	 Not assessed

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