

Database Migration Using DMS

Step 1: Create Target Database

Here, we created a database in Amazon RDS with identifier **clouddb**

This database will be in the same VPC as the DMS replication instance we create in following steps.

Notice: in the security group inbound rule, we need to allow the DMS replication instance to access port 3306 for MySQL database connection.

clouddb Modify Actions

Summary

DB identifier clouddb	CPU 0.00%	Info Available	Class db.t3.micro
Role Instance	Current activity 1 Connections	Engine MySQL Community	Region & AZ ap-southeast-2a

Connectivity & security | Monitoring | Logs & events | Configuration | Maintenance & backups | Tags

Connectivity & security

Endpoint & port Endpoint ip-southeast-2.rds.amazonaws.com Port 3306	Networking Availability zone ap-southeast-2a VPC VPC-Test (vpc-01a349bca0f45e462) Subnet group default-vpc-01a349bca0f45e462 Subnets subnet-08c5c9b9531d599e0 subnet-010b96490ad29df87 subnet-0033f8656c118d4ef	Security VPC security groups default (sg-059886f960ed591e9) (active) Public accessibility Yes Certificate authority rds-ca-2019 Certificate authority date Aug 23rd, 2024
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Not necessary if this database is in the same VPC as the DMS replication instance.

Step 2: Create a replication instance

Replication instances (1) Refresh Actions Create replication instance

Find replication instance

	Name	Class	Status	Engine version	Availability zone	VPC	Public	Public IP address	Private IP address
<input type="checkbox"/>	on-prem-to-cloud	dms.t2.small	Available	3.3.2	ap-southeast-2a	vpc-01a349bca0f45e462	Yes	.168	10.0.1.179

We put it in the same VPC as clouddb created in Step 1.

Step 3: Create source and target end points in AWS DMS

DMS > Endpoints

Endpoints (2) Refresh

Find endpoint

	Name	Type	Status	Engine	Server name	Port	Migration Hub Mapping
<input type="checkbox"/>	clouddb	Target	Active	MySQL	ip-southeast-2.rds.amazonaws.com	3306	
<input type="checkbox"/>	osfocusdb	Source	Active	MySQL	72	3306	

We need to make sure these two end points are accessible.

We can run tests during creation process to validate its accessibility.

Step 4: Create a Database migration tasks

Create database migration task

Task configuration

Task identifier

osfocustocloud

Replication instance

on-prem-to-cloud - vpc-01a349bca0f45e462 ▼

Source database endpoint


osfocusdb ▼

Target database endpoint

cloudodb ▼

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](#)



☒ Start task on create

Besides filling with end points, we can specific which schema and table we want to migrate. For example:

▼ 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 '%' and **table name** is like '%', include

Schema

Enter a schema ▼

Schema name

Use the % character as a wildcard

osfocus

Table name

Use the % character as a wildcard

lb_product

Action

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

Include ▼

Source filters [Info](#)

Add column filter

► Transformation rules

Step 5: Start Migration

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Overview details

Table statistics

CloudWatch metrics

Mapping rules

Assessment results

Tags

Overview details

Basic configuration

Task ARN

arn:aws:dms:eu-central-1:123456789012:replication-instance:osfocusdb-ri4

Type

Full load

Source

osfocusdb

Last failure message

-

Started

26/05/2020, 17:46:51 GMT+1000

Status

✔ Load complete

Replication instance

on-prem-to-cloud

Target

clouddb

Created

26/05/2020, 17:05:31 GMT+1000

Migration task logs [Info](#)

Disabled

► Task settings (JSON)

Before & After

```
mysql> show databases;
```

Database
information_schema
innodb
mysql
performance_schema
sys

```
5 rows in set (0.01 sec)
```

```
mysql> show databases;
```

Database
information_schema
awsdms_control
innodb
mysql
osfocus
performance_schema
sys

```
7 rows in set (0.00 sec)
```

```
mysql> use osfocus
```

Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed

```
mysql> show tables;
```

Tables_in_osfocus
lb_product

```
1 row in set (0.01 sec)
```

```
mysql> select count(*) from lb_product  
-> ;
```

count(*)
255770

```
1 row in set (0.10 sec)
```

Step 6: Full Migration

Change the table name to % in selection rules of migration task to have full migration.

Notice: we need to select Full LOB mode, and specific the related LOB chunk size(kb), otherwise there will be errors, such as migrating MEDIUMTEXT or LONGTEXT datatype.

More detail please refer to:

https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Source.MySQL.html

osfocustocloud

Overview details

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Tags

Task ARN

Type

Source

Last failure message

Started

Status

Replication instance

Target

Created

Migration task logs

Disabled

Task settings (JSON)

osfocustocloud

Overview details

Table statistics

CloudWatch metrics

Mapping rules

Assessment results

Tags

Table statistics (122)

Find schema

Validate again

Reload table data

1

2

3

	Schema name	Table	Load state	Inserts	Deletes	Updates	DDLs	Full load rows	Total	Validation state	Validation pe
	osfocus		Table completed	0	0	0	0	16,028	16,028	Not enabled	0
	osfocus	ate_ade	Table completed	0	0	0	0	0	0	Not enabled	0
	osfocus	veriment	Table completed	0	0	0	0	20	20	Not enabled	0
	osfocus	verar	Table completed	0	0	0	0	131	131	Not enabled	0
	osfocus	es	Table completed	0	0	0	0	4	4	Not enabled	0
	osfocus	lce	Table completed	0	0	0	0	681	681	Not enabled	0
	osfocus	pern_sequence	Table completed	0	0	0	0	84	84	Not enabled	0
	osfocus	_brai_maincate_mv	Table completed	0	0	0	0	5,599	5,599	Not enabled	0
	osfocus	_brar	Table completed	0	0	0	0	4,093	4,093	Not enabled	0
	osfocus		Table completed	0	0	0	0	4	4	Not enabled	0
	osfocus	r_vs_r_2	Table completed	0	0	0	0	6	6	Not enabled	0
	osfocus	ws_mments	Table completed	0	0	0	0	60	60	Not enabled	0
	osfocus	ate	Table completed	0	0	0	0	2	2	Not enabled	0