

# Heterogenous Migration from Oracle to AWS Redshift

**Download the below tool and Install it on your local machine**

**Schema Conversion Tool :**

<https://s3.amazonaws.com/publicsctdownload/Windows/aws-schema-conversion-tool-1.0.latest.zip>

**MySQL Workbench and Server :**

<https://dev.mysql.com/downloads/installer/>

**Local MySQL Server Password : Admin123\$\$**

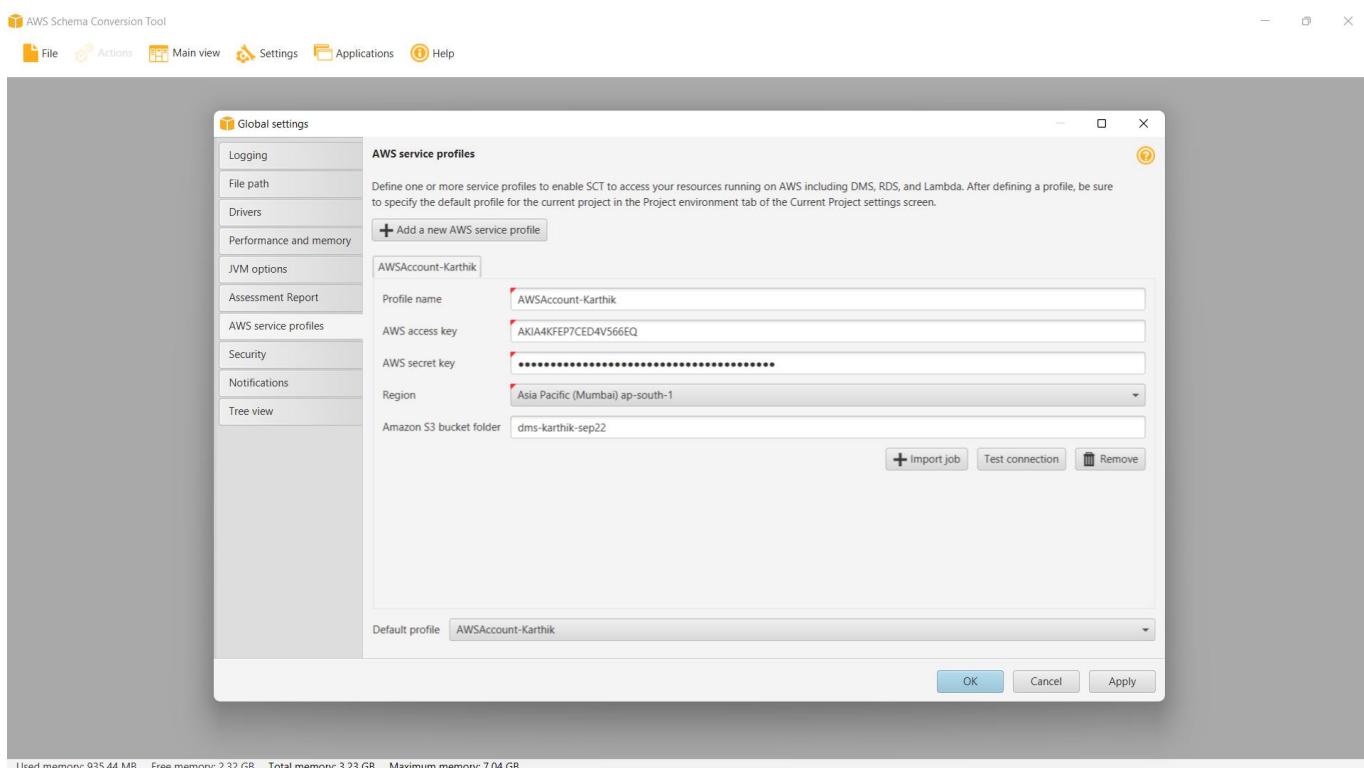
**Download the Oracle and Redshift jars required for this demo from the link below**

- ojdbc8
- redshift-jdbc42-2.1.0.9

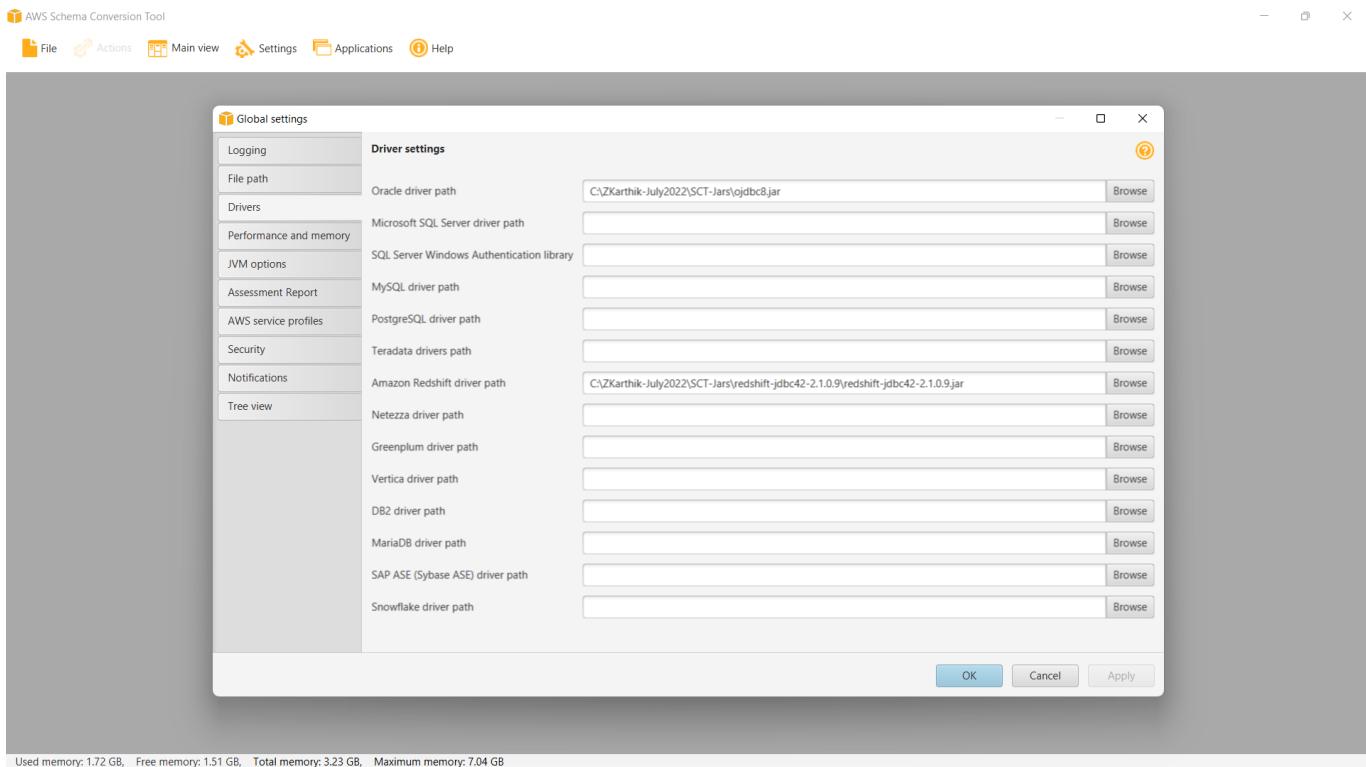
[https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP\\_Installing.html#CHAP\\_Installing\\_JDBCDrivers](https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP_Installing.html#CHAP_Installing_JDBCDrivers)

<https://www.sql-workbench.eu/downloads.html>

- Open the SCT and go to Settings > Global Settings
- Set the AWS Service Profile with the below show details

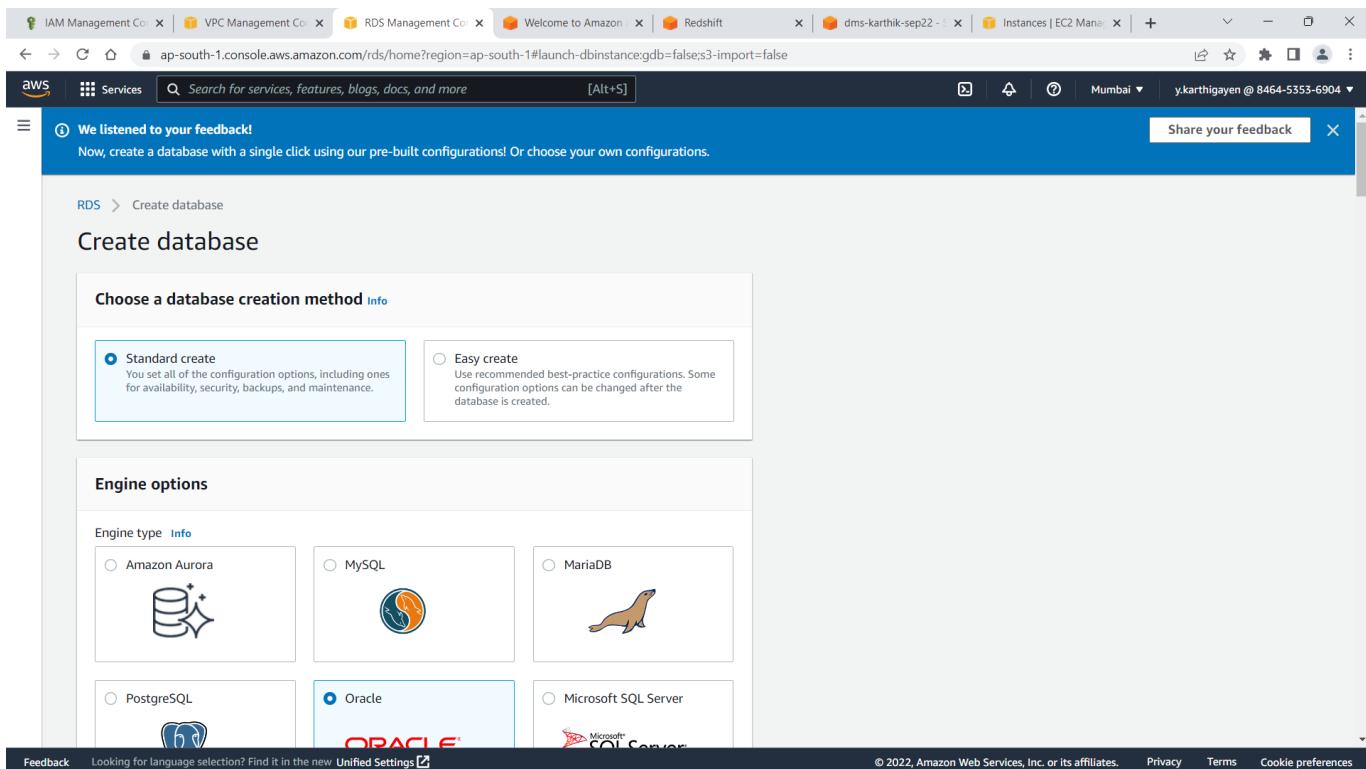


➤ Now Configure the path for the oracle and redshift drivers which we downloaded



Used memory: 1.72 GB, Free memory: 1.51 GB, Total memory: 3.23 GB, Maximum memory: 7.04 GB

➤ Please create a RDS Oracle Instance :



Screenshot of the AWS RDS Management Console showing the configuration for launching a new Oracle database instance.

**Database management type:**  Amazon RDS  
Amazon RDS fully manages your database, including automatic patching. Choose this option if you don't need to customize your environment.

Amazon RDS Custom  
Amazon RDS Custom manages your database and gives you privileged access to the OS. Use this option if you want to customize the database, OS, and infrastructure.

**Architecture settings:**  Use multitenant architecture  
In the multitenant architecture, an Oracle database is a container database (CDB). It contains one pluggable database (PDB).

**Edition:**

Oracle Enterprise Edition  
Efficient, reliable, and secure database management system that delivers comprehensive high-end capabilities for mission-critical applications and demanding database workloads.

Oracle Standard Edition Two  
Affordable and full-featured database management system supporting up to 16 vCPUs. Oracle Database Standard Edition Two is a replacement for Standard Edition and Standard Edition One.

**License:**  
bring-your-own-license

**Version:**  
Oracle 19.0.0.0.ru-2022-04.rur-2022-04.r1

**Templates:**  
Choose a sample template to meet your use case.

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## ➤ Specify the password as : Admin1234

Screenshot of the AWS RDS Management Console showing the configuration for launching a new Oracle database instance, with specific attention to the password requirement.

**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.

**Settings:**

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

1 to 16 alphanumeric characters. First character must be a letter.

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

**Master password:**

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IAM Management Co | VPC Management Co | RDS Management Co | Welcome to Amazon | Redshift | dms-karthik-sep22- | Instances | EC2 Manag | + | Mumbai | y.karthigayen @ 8464-5353-6904 |

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Master password [Info](#)  
\*\*\*\*\*  
Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), ' (single quote), " (double quote) and @ (at sign).

Confirm password [Info](#)  
\*\*\*\*\*

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

DB instance class [Info](#)  
 Standard classes (includes m classes)  
 Memory optimized classes (includes r and x classes)  
 Burstable classes (includes t classes)

db.m5.large  
2 vCPUs 8 GiB RAM Network: 4,750 Mbps

Include additional memory configurations [Info](#)  
 Include previous generation classes

► Additional configuration - optional

**Storage**

Storage type [Info](#)

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**Storage**

Storage type [Info](#)  
General Purpose SSD (gp2)  
Baseline performance determined by volume size

Allocated storage  
20 GiB  
Minimum: 20 GiB. Maximum: 65,536 GiB

**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**

**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.

**Availability & durability**

Multi-AZ deployment [Info](#)  
 Create a standby instance (recommended for production usage)  
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.  
 Do not create a standby instance

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Do not create a standby instance

**Connectivity** Info

**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-01ae1eb62976a41c6) ▾

Only VPCs with a corresponding DB subnet group are listed.

ⓘ After a database is created, you can't change its VPC.

**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-vpc-01ae1eb62976a41c6 ▾

**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.

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**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

Existing VPC security groups  
Choose one or more options ▾  
default X

Availability Zone Info  
No preference ▾

► Additional configuration

**Database authentication**

**Database authentication options** Info

**Password authentication**  
Authenticates using database passwords.

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The screenshot shows the AWS RDS Management Console. In the top navigation bar, there are tabs for IAM Management, VPC Management, RDS Management, Welcome to Amazon, Redshift, dms-karthik-sep22, Instances | EC2 Manager, and a plus sign for new resources. The current tab is 'Welcome to Amazon'. The main content area has a search bar 'Search for services, features, blogs, docs, and more' and a keyboard shortcut '[Alt+S]'. The left sidebar shows 'Database authentication' and 'Monitoring' sections. Under 'Database authentication', 'Password authentication' is selected. Under 'Monitoring', 'Performance Insights' is turned on with a retention period of 7 days (free tier). Other fields include 'AWS KMS key' set to '(default) aws/rds', 'Account' number 846453536904, and 'KMS key ID' ef1b21c0-266f-48e5-bb7f-b3fb7f51c14. At the bottom, there's a feedback link, copyright notice for 2022, and links for Privacy, Terms, and Cookie preferences.

This screenshot continues from the previous one, showing the 'Additional configuration' step. A warning message says '⚠ You can't change the KMS key after enabling Performance Insights.' Below this, the 'Enhanced Monitoring' section is expanded. The next section, 'Additional configuration', is also expanded and describes database options like encryption, backup, and CloudWatch Logs. The 'Estimated monthly costs' section shows the breakdown: DB instance at 175.93 USD, Storage at 2.62 USD, and Total at 178.55 USD. It includes a note about the billing estimate being based on on-demand usage and a link to the AWS Simple Monthly Calculator. A note at the bottom states that users are responsible for ensuring necessary rights for third-party products. At the bottom right are 'Cancel' and 'Create database' buttons.

**Now click on Create Database button and wait for 5 to 7 mins**

➤ **Now launch the Redshift Cluster**

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ap-south-1.console.aws.amazon.com/redshiftv2/home?region=ap-south-1#landing

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# Amazon Redshift

## Accelerate your time to insights with fast, easy, and secure analytics at scale.

Amazon Redshift makes it easier for you to run and scale analytics without having to manage your data warehouse. Get insights by running real-time and predictive analytics on all of your data, across operational databases, data lake, data warehouse, and thousands of third-party datasets.

### How it works



Provision and manage clusters

With a few clicks, you can create your first Amazon Redshift provisioned cluster in minutes.

Create cluster

Pricing and cost

On-demand pricing

Reserved instance pricing

Documentation

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ap-south-1.console.aws.amazon.com/redshiftv2/home?region=ap-south-1#create-cluster

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Amazon Redshift > Clusters > Create cluster

### Create cluster Info

#### Cluster configuration

**Cluster identifier**  
This is the unique key that identifies a cluster.

The identifier must be from 1-63 characters. Valid characters are a-z (lowercase only) and - (hyphen).

**What are you planning to use this cluster for?**

**Production**  
Configure for fast and consistent performance at the best price.

**Free trial**  
Configure for learning about Amazon Redshift. This configuration is free for a limited time if your organization has never created an Amazon Redshift cluster.

**When the free trial ends, delete your cluster to avoid incurring charges at [on-demand rate](#) for compute and storage. If you want to take a final snapshot of your cluster and store the snapshot on an S3, our on-demand rate applies.**

#### Calculated configuration summary

dc2.large | 1 node  
High performance with fixed local SSD storage

Compute

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➤ Specify the password as admin123

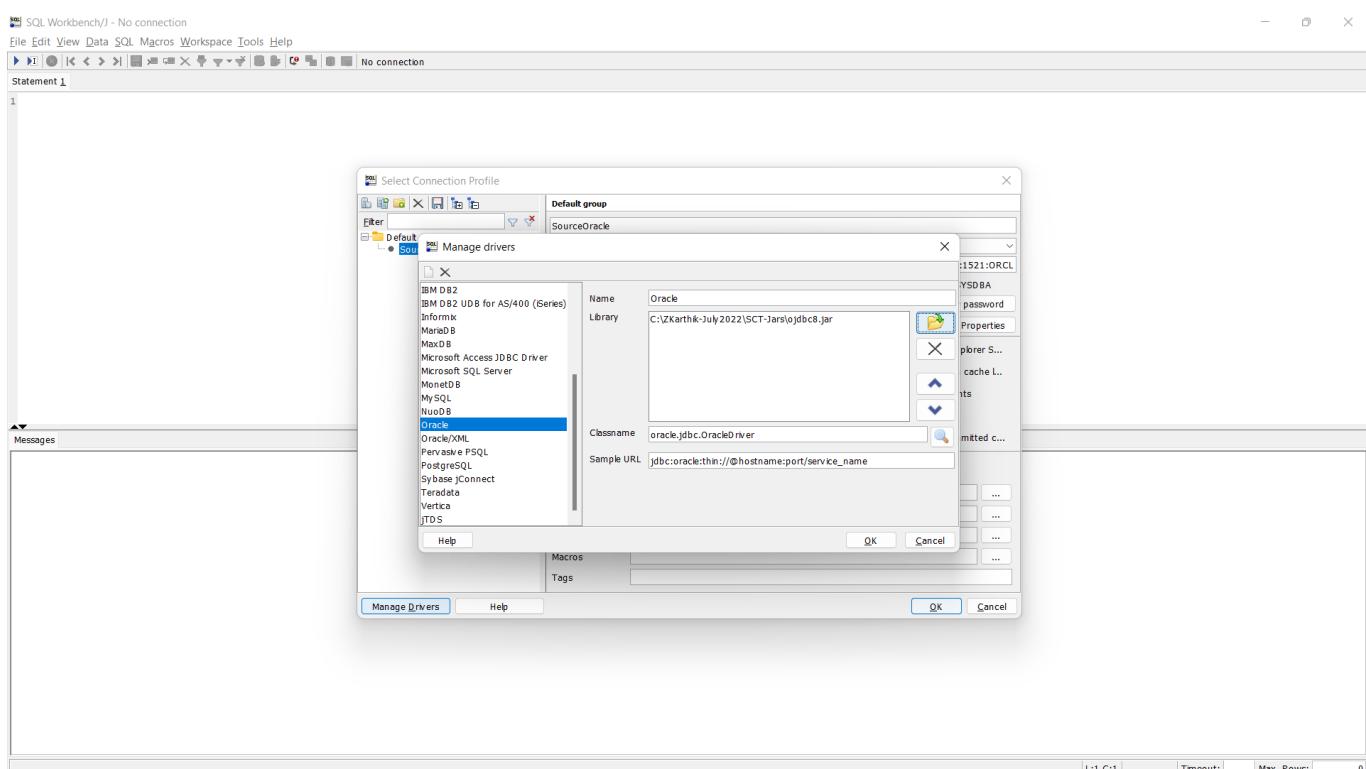
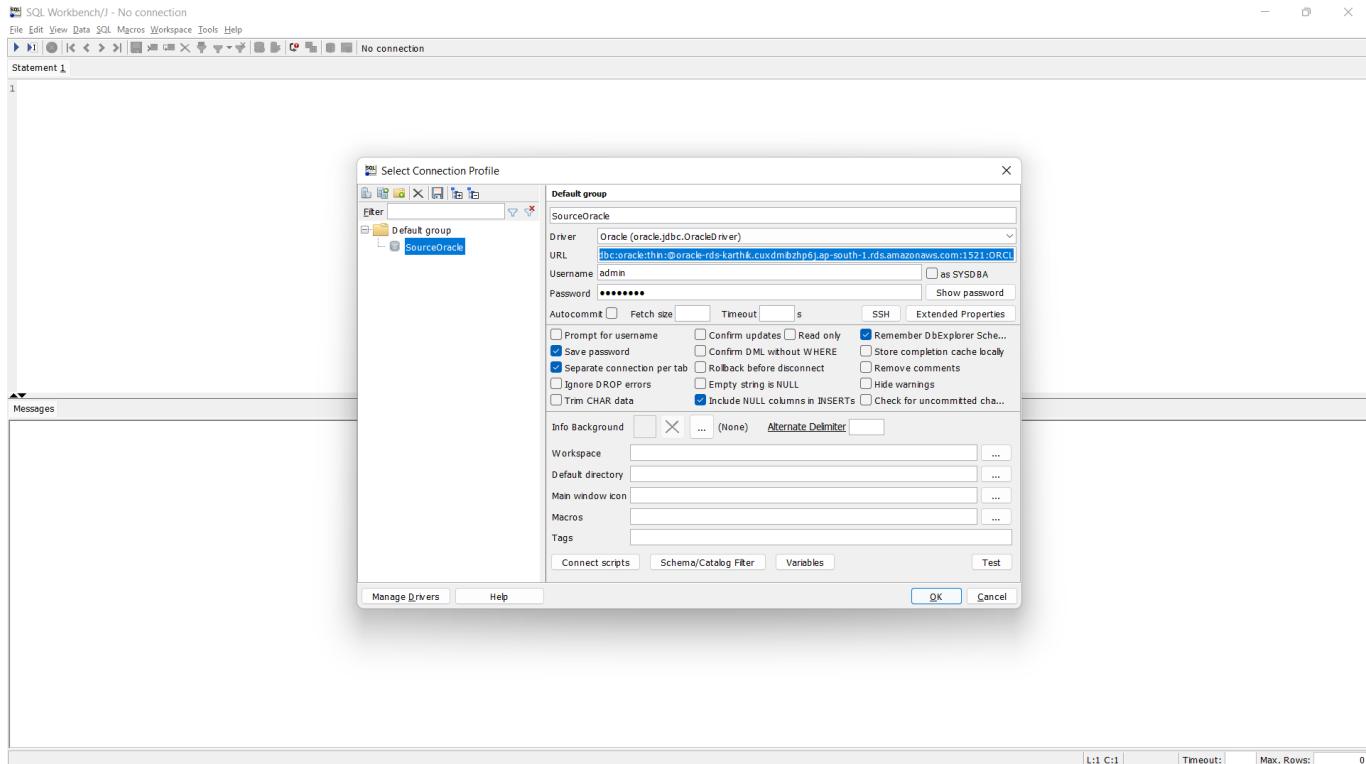
The screenshot shows the AWS Redshift console with the 'Create Cluster' wizard open. The 'Database configurations' step is selected. It asks for an 'Admin user name' (awsuser) and an 'Admin user password' (Admin123). A note says the password must be 8-64 characters long, containing at least one uppercase letter, one lowercase letter, and one number. There are also options for 'Auto generate password' and 'Show password'. The 'Cancel' and 'Next Step' buttons are visible at the bottom.

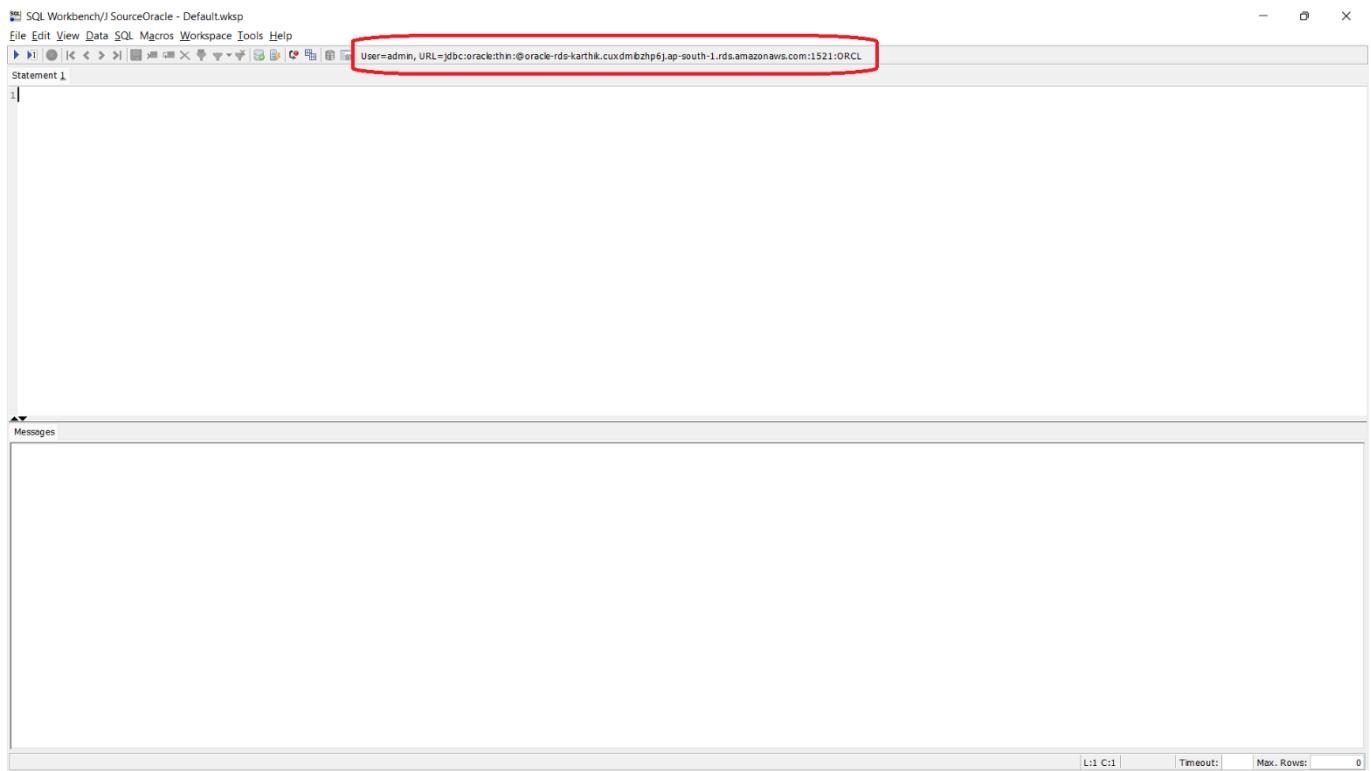
- Extract the SQL Workbench and establish the connection  
➤ File > Connection Window

The screenshot shows the SQL Workbench/J interface with the 'Select Connection Profile' dialog open. The 'Default group' section is selected, showing a 'sourceOracle' profile. The profile details are: Driver: Oracle (oracle.jdbc.OracleDriver), URL: jdbc:oracle:thin://@hostname:port/service\_name, Username: admin, Password: [REDACTED]. Other settings include 'Save password' checked, 'Separate connection per tab' checked, and 'Include NULL columns in INSERTS' checked. The 'Messages' pane is empty. The 'OK' button is highlighted in the dialog.

jdbc:oracle:thin:@rkuseroracle30.cuxdmibzhp6j.ap-south-1.rds.amazonaws.com:1521:ORCL

**jdb:oracle:thin:@oracle-rds-karthik.cuxdmibzhp6j.ap-south-1.rds.amazonaws.com:1521:ORCL**





➤ Before creating the connection for Redshift, make the cluster Publicly accessible

A screenshot of the AWS Management Console showing the "Clusters" page for an Amazon Redshift cluster named "rs-dms-cluster-karthik". The browser address bar shows the URL "ap-south-1.console.aws.amazon.com/redshiftv2/home?region=ap-south-1#cluster-details?cluster=rs-dms-cluster-karthik". The AWS navigation bar is visible at the top. A blue banner at the top of the page reads "Amazon Redshift query editor v2 is now available" and "Query editor v2 provides new features such as multistatement query execution, query parameterization, query versioning, visualizations, and query sharing. Learn more". On the left, a sidebar shows the navigation path: "Amazon Redshift &gt; Clusters &gt; rs-dms-cluster-karthik". The main content area displays "General information" for the cluster, including its identifier, status (Available), node type (dc2.large), and number of nodes (1). Below this, tabs for "Cluster performance", "Query monitoring", "Schedules", "Maintenance", and "Properties" are shown. A "Actions" dropdown menu is open on the right, listing various cluster management options. The "Modify publicly accessible setting" option is highlighted with a red box. Other options in the menu include Manage cluster, Resize, Reboot, Relocate, Pause, Delete, Defer maintenance, Backup and disaster recovery, Restore table, Create snapshot, Configure cross-region snapshot, Relocate, Permissions, Manage IAM roles, and Change admin user password.

Screenshot of the AWS Redshift console showing the 'Edit publicly accessible' dialog. The dialog is set to 'Enable' public accessibility and specifies an 'Elastic IP address' of 'None'. A warning message states: 'Your cluster might be unavailable for up to 10 minutes while this change to public accessibility is processed.' The 'Save changes' button is highlighted.

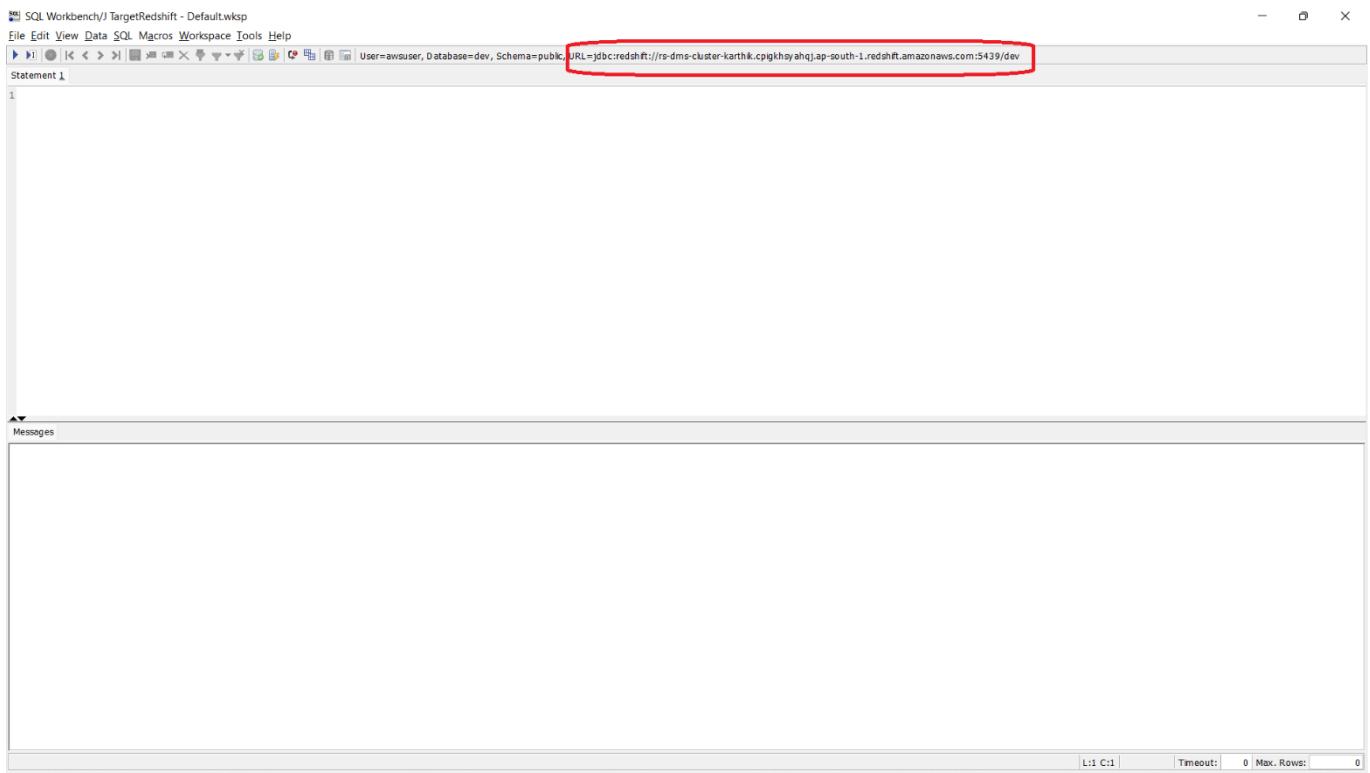
## Now make the connection on SQL Workbench

**Copy the JDBC url from the redshift cluster console**

Screenshot of the SQL Workbench/J interface. A 'Select Connection Profile' dialog is open, showing a 'Default group' section with a 'TargetRedshift' profile. The profile details are as follows:

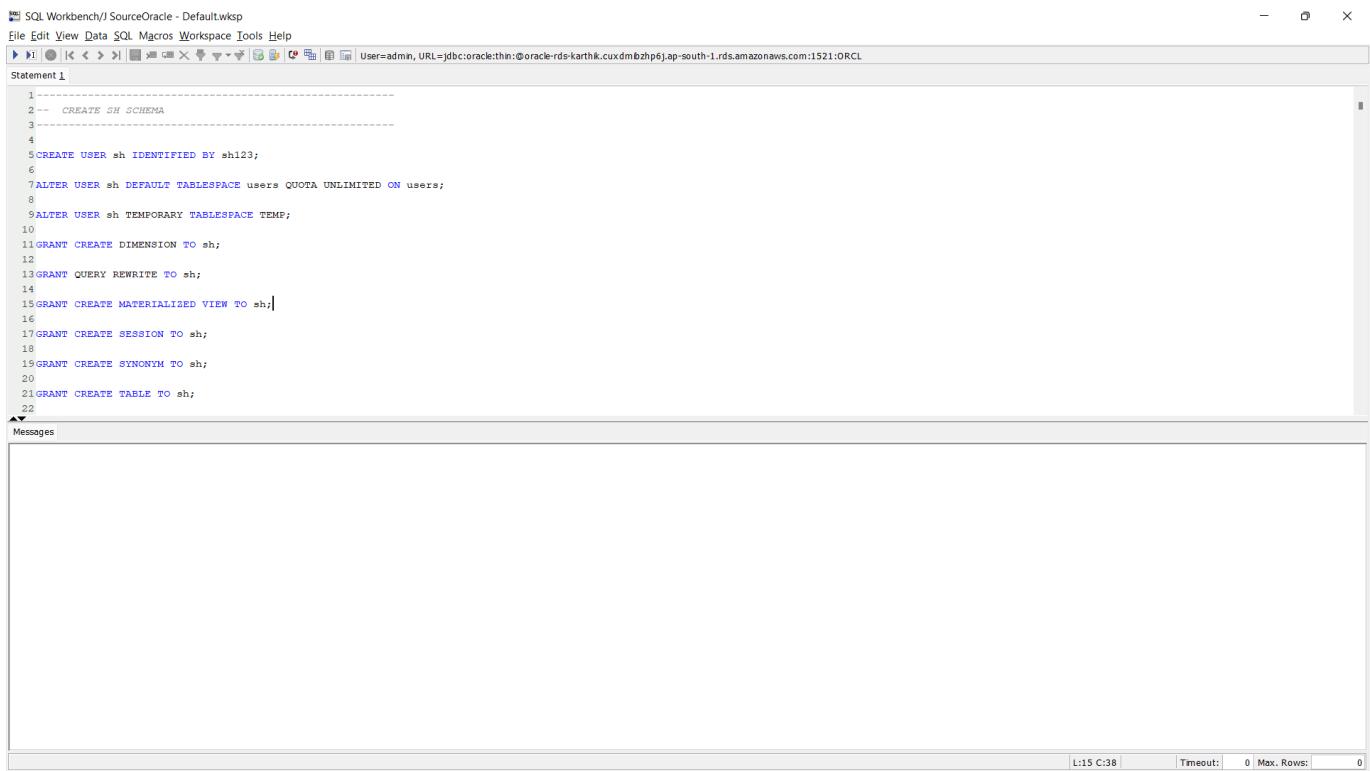
- Driver:** Amazon Redshift (com.amazon.redshift.Driver)
- URL:** jdbc:redshift://rs-dms-cluster-karthik.cpigkhsyahqj.ap-south-1.redshift.amazonaws.com:5439/c
- Username:** avsuser
- Password:** [REDACTED]
- Autocommit:**
- Fetch size:** [REDACTED]
- Timeout:** [REDACTED] s
- SSH:**
- Extended Properties:**
- Remember DbExplorer Schema:**
- Prompt for username:**
- Confirm updates:**
- Read only:**
- Save password:**
- Confirm DML without WHERE:**
- Store completion cache locally:**
- Separate connection per tab:**
- Rollback before disconnect:**
- Remove comments:**
- Ignore DROP errors:**
- Empty string is NULL:**
- Hide warnings:**
- Trn CHAR data:**
- Include NULL columns in INSERTs:**
- Info Background:** [REDACTED]
- Alternate Delimiter:** [REDACTED]
- Workspace:** [REDACTED]
- Default directory:** [REDACTED]
- Main window icon:** [REDACTED]
- Macros:** [REDACTED]
- Tags:** [REDACTED]

The 'Messages' panel is empty. The bottom status bar shows: L:1 C:1 | Timeout: 0 | Max. Rows: 0.

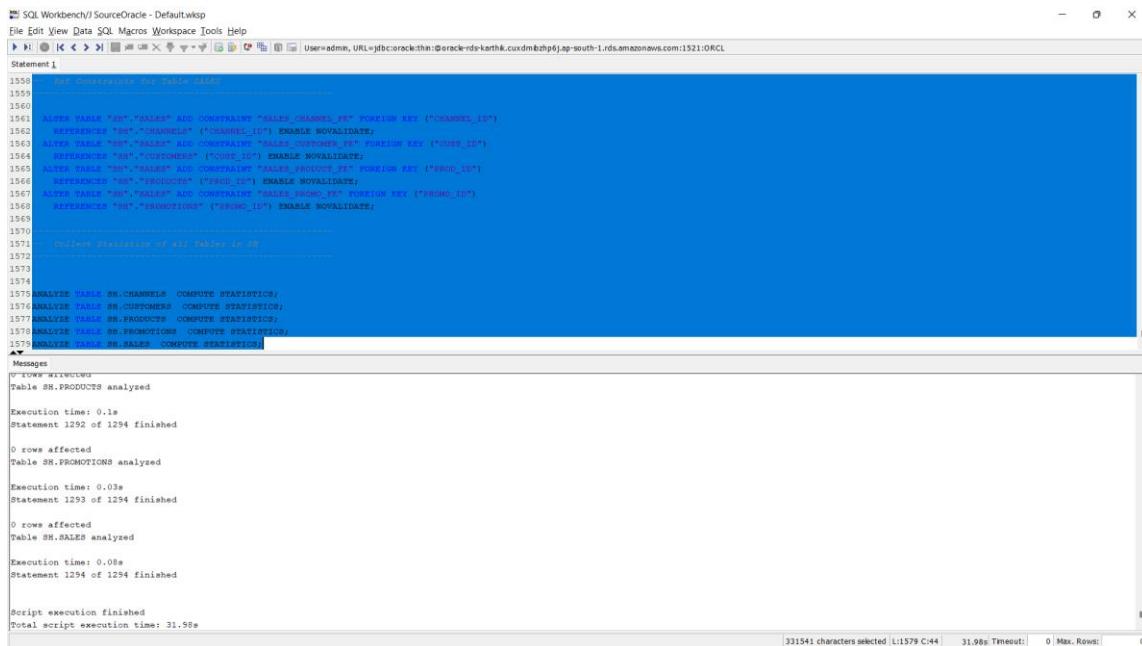


<http://docs.aws.amazon.com/dms/latest/sbs/samples/dms-sbs-RDSOracle2Redshift.zip>

After the downloading the sample schema file > copy the complete file text and past it on the workbench connected to oracle as show below :



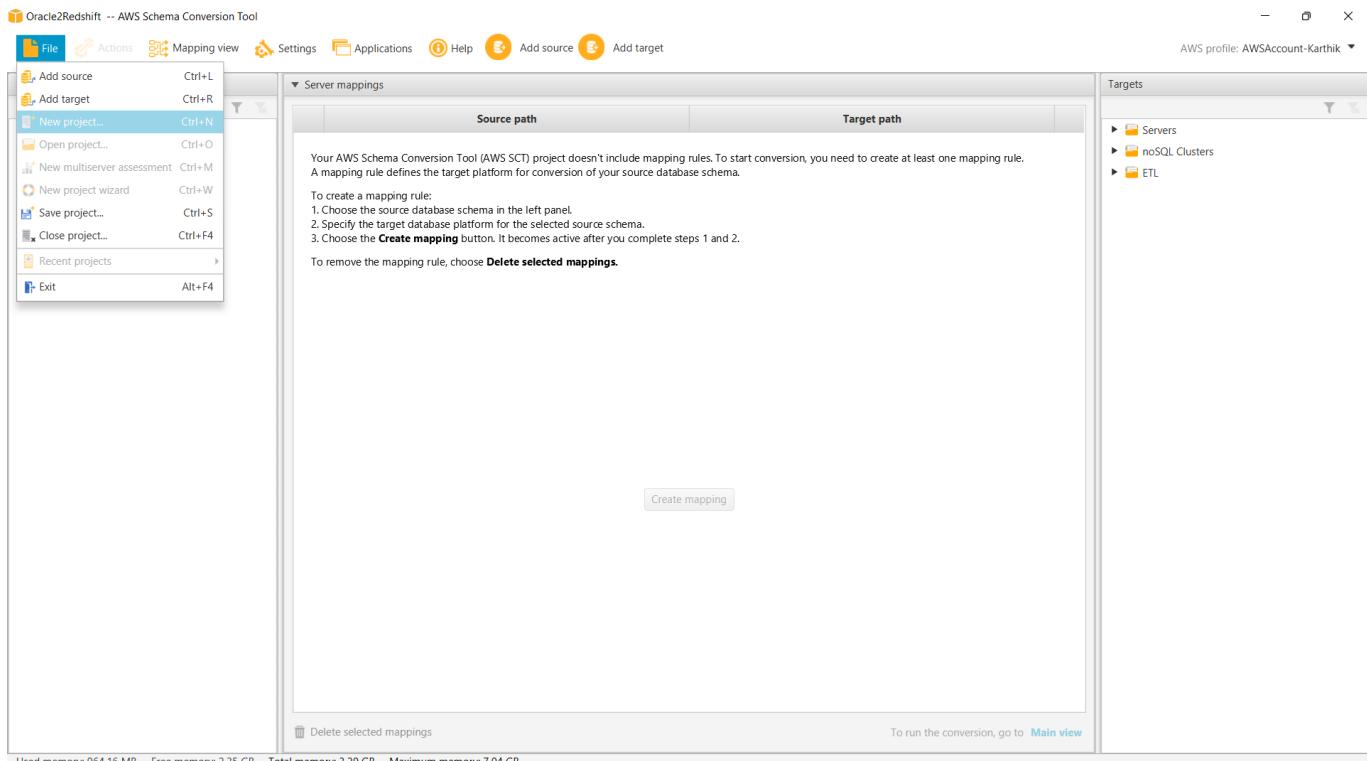
Now Select all the commands in the editor and click on run



```
File Edit View Data SQL Macros Workspace Tools Help
H: User=adm1n, URL=jdbc:oracle:thin:@oracle-rds-karthik.cuxdmbzhp6.ap-south-1.rds.amazonaws.com:1521:ORCL
Statement 1
1550
1551
1560
1561 ALTER TABLE "SH"."SALES" ADD CONSTRAINT "SALES_CHANNELS_FK" FOREIGN KEY ("CHANNELS_ID")
1562   REFERENCES "SH"."CHANNELS" ("CHANNELS_ID") ENABLE NOVALIDATE;
1563 ALTER TABLE "SH"."SALES" ADD CONSTRAINT "SALES_CUSTOMER_FK" FOREIGN KEY ("CUSTOMER_ID")
1564   REFERENCES "SH"."CUSTOMERS" ("CUSTOMER_ID") ENABLE NOVALIDATE;
1565 ALTER TABLE "SH"."SALES" ADD CONSTRAINT "SALES_PRODUCTS_FK" FOREIGN KEY ("PRODUCTS_ID")
1566   REFERENCES "SH"."PRODUCTS" ("PRODUCTS_ID") ENABLE NOVALIDATE;
1567 ALTER TABLE "SH"."SALES" ADD CONSTRAINT "SALES_PROMO_FK" FOREIGN KEY ("PROMO_ID")
1568   REFERENCES "SH"."PROMOTIONS" ("PROMO_ID") ENABLE NOVALIDATE;
1569
1570
1571 -- Updates statistics of all tables in db
1572
1573
1574
1575 ANALYZE TABLE SH.CHANNELS COMPUTE STATISTICS;
1576 ANALYZE TABLE SH.CUSTOMERS COMPUTE STATISTICS;
1577 ANALYZE TABLE SH.PRODUCTS COMPUTE STATISTICS;
1578 ANALYZE TABLE SH.PROMOTIONS COMPUTE STATISTICS;
1579 ANALYZE TABLE SH.SALES COMPUTE STATISTICS;
1580
1581 Messages
0 rows affected
Table SH.PRODUCTS analyzed
Execution time: 0.1s
Statement 1292 of 1294 finished
0 rows affected
Table SH.PROMOTIONS analyzed
Execution time: 0.03s
Statement 1293 of 1294 finished
0 rows affected
Table SH.SALES analyzed
Execution time: 0.08s
Statement 1294 of 1294 finished
Script execution finished
Total script execution time: 31.98s
```

Now our source data is ready

- Lets us go to SCT and create a New Project
- Specify a Name to the New Project and create it.



➤ **File > Add the source :**

Oracle2Redshift -- AWS Schema Conversion Tool

File Actions Mapping view Settings Applications Help Add source Add target

AWS profile: AWSAccount-Karthik

Sources

- Servers
- noSQL Clusters
- ETL

Targets

- Servers
- noSQL Clusters
- ETL

Server mappings

Your AWS Schema Conversion Tool (AMIS SCT) project doesn't include mapping rules. To start conversion, you need to create at least one mapping rule.

To create a mapping:  
1. Choose the source  
2. Specify the target  
3. Choose the **Create** button

To remove the mapping rule, click the **X** button.

Source path Target path

ALL CATEGORIES SQL NOSQL ETL

Azure SQL Database	IBM DB2	IBM DB2	Oracle
PostgreSQL	Microsoft SQL Server	MySQL	SAP ASE
Teradata	NETEZZA	Greenplum	VERTICA
Snowflake	Azure Synapse	Amazon Redshift	Google BigQuery

Next

Delete selected mappings

To run the conversion, go to [Main view](#)

## **Server Name is the RDS Oracle Endpoint**

The screenshot shows the Oracle2Redshift AWS Schema Conversion Tool interface. The top navigation bar includes 'File', 'Actions', 'Mapping view', 'Settings', 'Applications', 'Help', 'Add source', and 'Add target'. A message on the right indicates an 'AWS profile: AWSAccount-Karthik'.

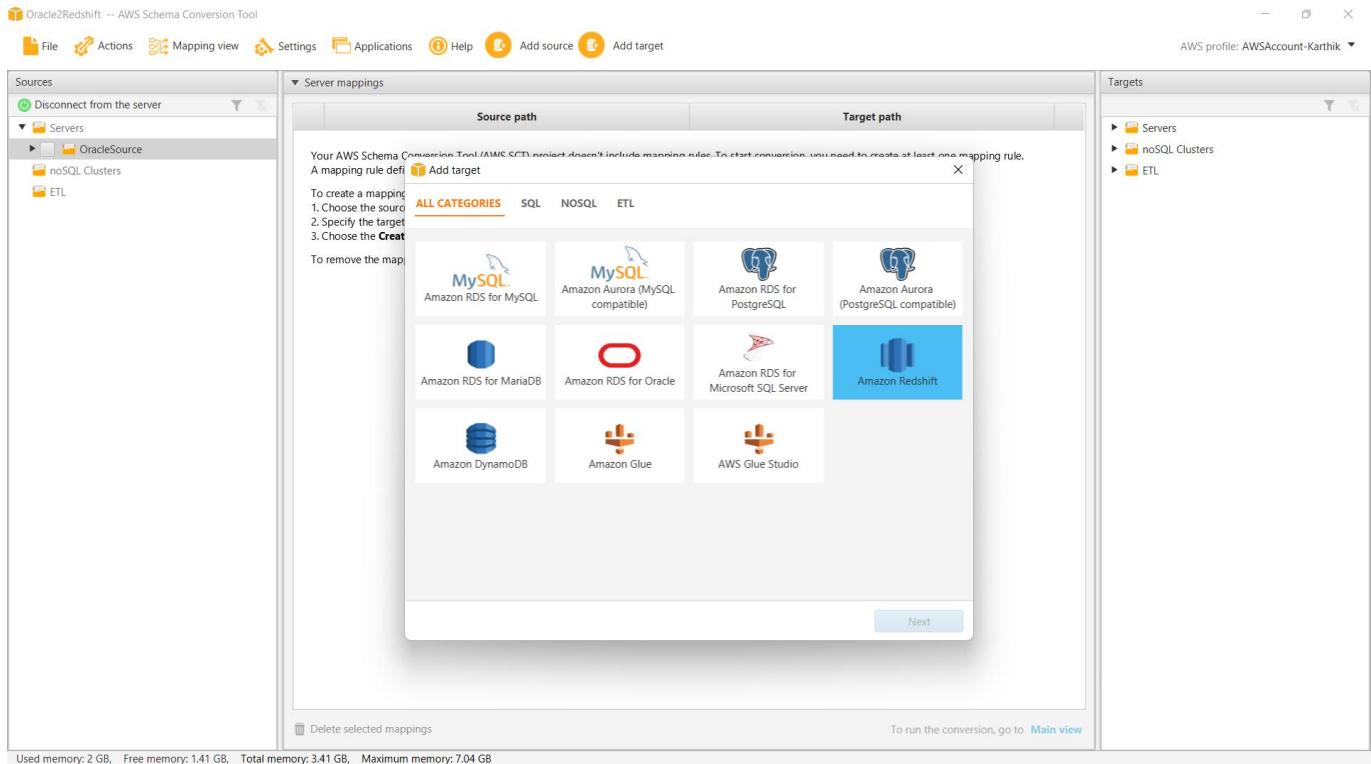
The left sidebar under 'Sources' lists 'Servers', 'noSQL Clusters', and 'ETL'.

The main area is titled 'Server mappings' and contains a table with columns 'Source path' and 'Target path'. A modal window titled 'Your AWS Schema' is open, showing a mapping rule definition. It includes fields for 'Connection name' (OracleSource), 'AWS Secret', 'Type' (SID), 'Server name' (oracle-rds-karthik.cuxdmibzhp6j.ap-south-1.rds.amazonaws.com), 'Server port' (1521), 'Oracle SID' (ORCL), 'User name' (admin), and 'Password' (redacted). Buttons for 'Test connection', 'Previous', and 'Connect' are at the bottom of the modal.

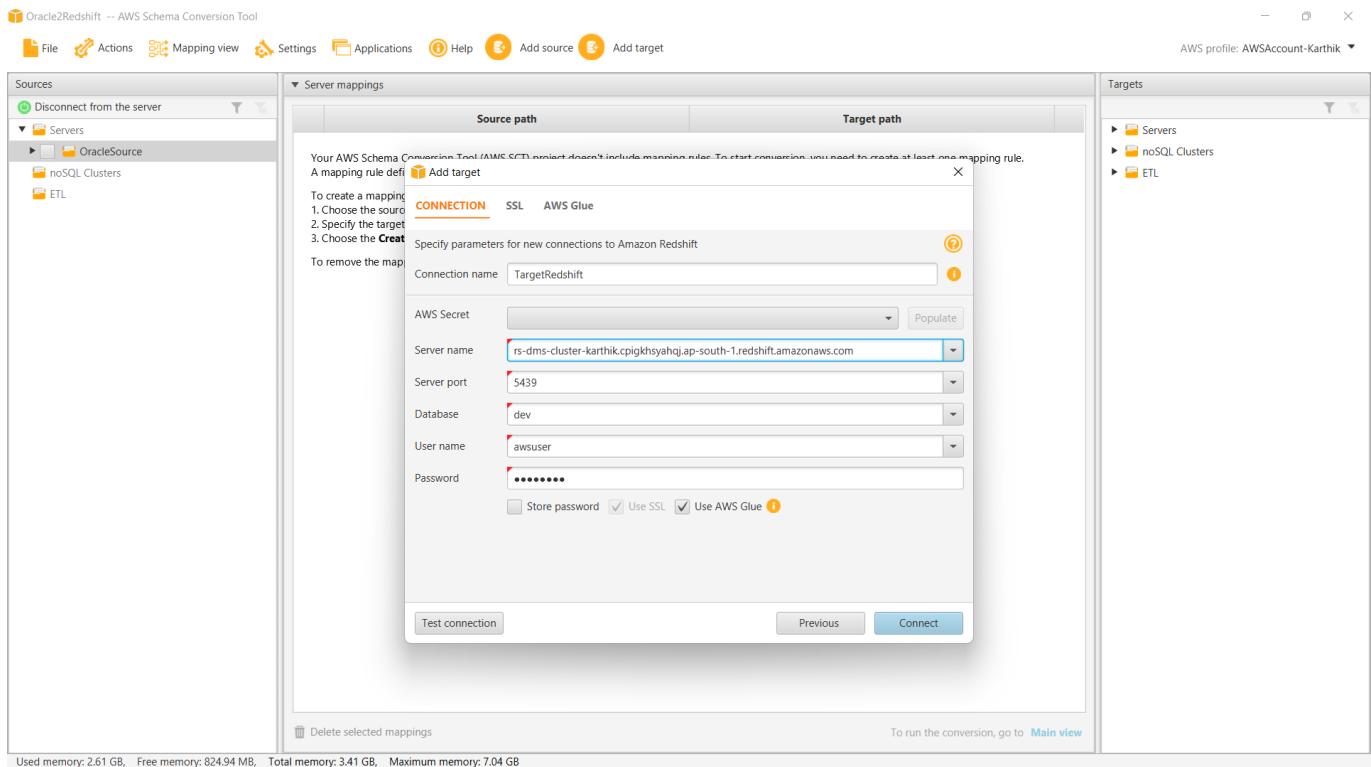
The right sidebar under 'Targets' lists 'Servers', 'noSQL Clusters', and 'ETL'.

At the bottom, system status information is displayed: 'Used memory: 1.06 GB', 'Free memory: 2.24 GB', 'Total memory: 3.29 GB', and 'Maximum memory: 7.04 GB'.

➤ Now File > Add the Target :



**Server Name is the Redshift Endpoint without the port number and database name**



## Now Create the Mapping by select the schemas from the oracle source

Your AWS Schema Conversion Tool (AWS SCT) project doesn't include mapping rules. To start conversion, you need to create at least one mapping rule. A mapping rule defines the target platform for conversion of your source database schema.

To create a mapping rule:

1. Choose the source database schema in the left panel.
2. Specify the target database platform for the selected source schema.
3. Choose the **Create mapping** button. It becomes active after you complete steps 1 and 2.

To remove the mapping rule, choose **Delete selected mappings**.

**Create mapping**

Used memory: 1.45 GB, Free memory: 1.98 GB, Total memory: 3.43 GB, Maximum memory: 7.04 GB

Source path

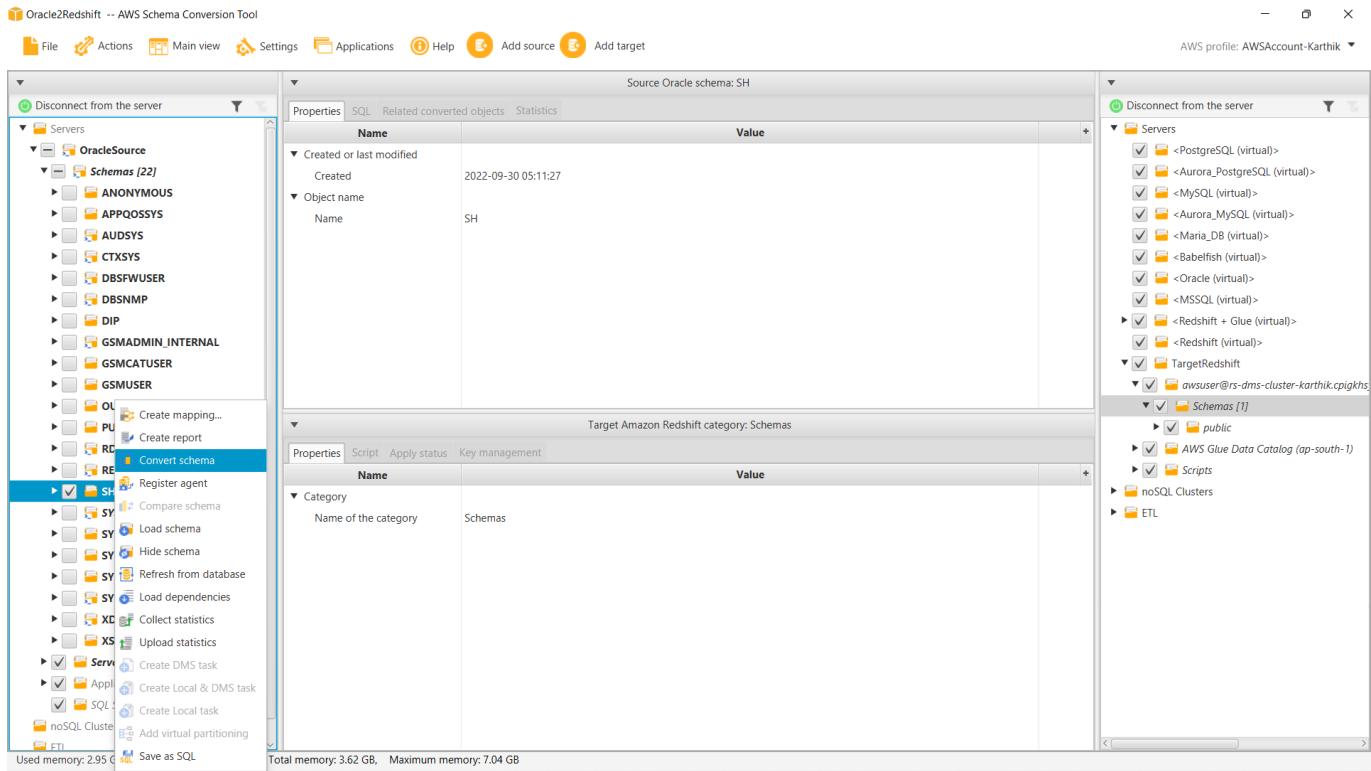
Target path

**Create mapping** **Delete selected mappings**

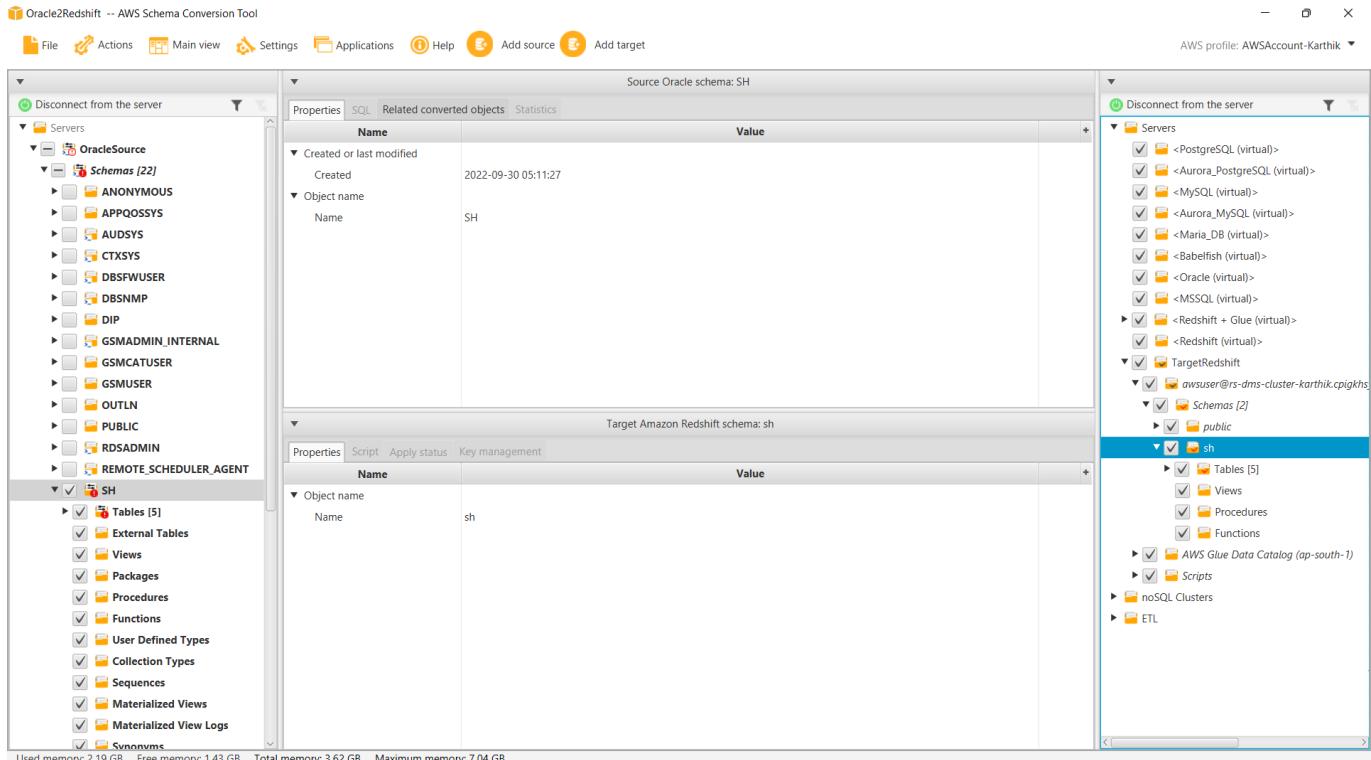
To run the conversion, go to [Main view](#)

Used memory: 1.52 GB, Free memory: 1.91 GB, Total memory: 3.43 GB, Maximum memory: 7.04 GB

Select only SH schema and convert it :



### Now click on yes to start the Schema Conversion :



**Now Apply the Schema to the Database , so that we can access the same on the Redshift Query Editor**

Oracle2Redshift -- AWS Schema Conversion Tool

File Actions Main view Settings Help Add source Add target AWS profile: AWSAccount-Karthik

**Servers**

- OracleSource
  - Schemas [22]
    - ANONYMOUS
    - APPQOSSYS
    - AUDSYS
    - CTXSYS
    - DBSFWUSER
    - DBSNMP
    - DIP
    - GSMADMIN\_INTERNAL
    - GSMCATUSER
    - GSMUSER
    - OUTLN
    - PUBLIC
    - RDSADMIN
    - REMOTE\_SCHEDULER\_AGENT
  - SH
    - Tables [5]
    - External Tables
    - Views
    - Packages
    - Procedures
    - Functions
    - User Defined Types
    - Collection Types
    - Sequences
    - Materialized Views
    - Materialized View Logs
    - Synonyms

Source Oracle schema: SH

Name	Value
Created or last modified	2022-09-30 05:11:27
Object name	SH

Target Amazon Redshift schema: sh

Name	Value
Object name	sh

Right-click context menu for TargetRedshift schema:

- Load schema
- Refresh from database
- Apply to database (selected)
- Save as SQL
- AWS
- Apply extension pack for
- Scripts
- noSQL Clusters
- ETL

Used memory: 2.4 GB, Free memory: 1.42 GB, Total memory: 3.62 GB, Maximum memory: 7.04 GB

Now Refresh the Schema so that we should be able to see SH Schema :

IAM Management | VPC Management | RDS Management | Welcome to Amazon Redshift | dms-karthik-sep... | Instances | EC2 M... | 403 Forbidden | +

ap-south-1.console.aws.amazon.com/redshiftv2/home/?region=ap-south-1#query-editor?:cluster=rs-dms-cluster-karthik

aws Services Search for services, features, blogs, docs, and more [Alt+S] Mumbai y.karthigayen @ 8464-5353-6904

Amazon Redshift Query Editor

Editor | Query history | Saved queries | Scheduled queries

Resources Info

Select schema Select a schema to view data tables.

sh

catalog\_history

information\_schema

pg\_automv

pg\_catalog

pg\_internal

public

aws\_oracle\_ext

sh

sales

Status Connected | database dev user awuser Change connection

Query 1 +

Run Save Schedule Clear Send feedback

Query results | Table details

Feedback Looking for language selection? Find it in the new Unified Settings © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

The screenshot shows the AWS Redshift Query Editor interface. At the top, there are several tabs and a search bar. The main area has tabs for 'Editor', 'Query history', 'Saved queries', and 'Scheduled queries'. On the left, a sidebar titled 'Resources' shows a schema dropdown set to 'sh' and a 'Filter tables' input field. Below these are lists of tables: 'channels', 'customers', 'products', 'promotions', and 'sales'. The right side of the screen displays a query editor with a status bar showing 'Connected' and connection details like 'database', 'dev', 'user', and 'awsuser'. A 'Change connection' button is also present. Below the editor are buttons for 'Run', 'Save', 'Schedule', and 'Clear'. A 'Send feedback' link is at the bottom right. The footer includes a feedback link, copyright information (© 2022, Amazon Web Services, Inc. or its affiliates.), and links for 'Privacy', 'Terms', and 'Cookie preferences'.

## Now we have to create Replication Instance on DMS :

The screenshot shows the 'Create replication instance' configuration page for AWS DMS. On the left, a sidebar lists 'AWS DMS' services: 'DMS Studio' (selected), 'Dashboard', 'Database migration tasks', 'Replication instances' (selected), 'Endpoints', 'Certificates', 'Subnet groups', 'Events', and 'Event subscriptions'. It also includes a 'New feature announcements' section. The main page title is 'Create replication instance' under 'DMS > Replication instances'. The configuration section is titled 'Replication instance configuration'. It includes fields for 'Name' (set to 'Oracle-to-Redshift-Karthik'), 'Descriptive Amazon Resource Name (ARN) - optional' (set to 'Friendly-ARN-name'), 'Description' (with a placeholder 'Type a short description for your replication instance'), 'Instance class' (set to 'dms.t3.medium' with '2 vCPUs 4 GB Memory'), and an 'Include previous-generation instance classes' checkbox. The footer follows the standard AWS pattern with a feedback link, copyright notice (© 2022, Amazon Web Services, Inc. or its affiliates.), and links for 'Privacy', 'Terms', and 'Cookie preferences'.

Select the default VPC and click on create

Screenshot of the AWS DMS console showing the 'Create Replication Instance' wizard.

**Step 1: Basic Configuration**

- Instance ID:** 50
- VPC:** Choose an Amazon Virtual Private Cloud (VPC) where your replication instance should run. Selected: vpc-01ae1eb62976a41c6
- Multi AZ:** 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. Selected: Dev or test workload (Single-AZ)
- Publicly 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 Amazon VPC.

**Advanced security and network configuration**

**Maintenance**

**Tags**

**Create** button

## Now create the Source Endpoint :

Screenshot of the AWS DMS console showing the 'Create endpoint' wizard.

**Step 1: Create endpoint**

**Endpoint type:**  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.

Select RDS DB instance  
RDS Instance  
Instances available only for current user and region  
Selected: oracle-rds-karthik

**Endpoint configuration**

**Endpoint identifier:**  Source-Oracle-Karthik  
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.  
 Oracle-ARN

**Create** button

Set the Password to Admin1234

Screenshot of the AWS DMS console showing the creation of a new endpoint for Oracle. The endpoint is named "Source-Oracle-Karthik".

**Endpoint Details:**

- Source engine:** Oracle
- Access to endpoint database:** Provide access information manually
- Server name:** oracle-rds-karthik.cuxdmibzhp6j.ap-south-1.rds.amazonaws.com
- Port:** 1521
- User name:** admin
- Secure Socket Layer (SSL) mode:** none
- SID/Service name:** ORCL

Screenshot of the AWS DMS console showing the creation of a new endpoint for Oracle. The endpoint is named "Source-Oracle-Karthik".

**Endpoint Settings:**

- SID/Service name:** ORCL
- KMS key:** (Not specified)
- Tags:** (Not specified)
- Test endpoint connection (optional):**

**Connection Test Alert:**

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.

We cant test the connection now since the Replication instance is not available .

Now create the Target Endpoint on RDS :

The screenshot shows the 'Create endpoint' page in the AWS DMS console. In the 'Endpoint type' section, the 'Target endpoint' option is selected, indicated by a blue border around its radio button. Below it, there's a checkbox for 'Select RDS DB instance' which is unchecked. The 'Endpoint configuration' section contains fields for 'Endpoint identifier' (set to 'Target-Redshift-Karthik'), 'Descriptive Amazon Resource Name (ARN)' (set to 'Friendly-ARN-name'), and 'Target engine' (set to 'Amazon Redshift').

## Specify the Password as Admin1234

The screenshot shows the 'Target engine' configuration section. The 'Target engine' dropdown is set to 'Amazon Redshift'. Under 'Access to endpoint database', the 'Provide access information manually' option is selected. The 'Server name' field is filled with 'rs-dms-cluster-karthik.cpiqkhshyajq.ap-south-1.redshift.amazonaws.com'. The 'Port' field is set to '5439'. In the 'User name' and 'Password' fields, the value 'awsuser' is entered in the user field and 'Admin1234' is entered in the password field. The 'Secure Socket Layer (SSL) mode' dropdown is set to 'none'. The 'Database name' field is set to 'dev'. At the bottom, there's a '▶ Endpoint settings' link.

Leave other settings default and click on Create :

Now Test both the endpoint connections as show below :

The screenshot shows the AWS DMS console under the 'Endpoints' section. A replication instance named 'oracle-to-redshift-karthik' is selected. The 'Run test' button has been clicked, and the results table shows a single row with a successful status.

Endpoint identifier	Replication instance	Status	Message
source-oracle-karthik	oracle-to-redshift-karthik	successful	

The screenshot shows the AWS DMS console under the 'Endpoints' section. A replication instance named 'oracle-to-redshift-karthik' is selected. The 'Run test' button has been clicked, and the results table shows a single row with a successful status.

Endpoint identifier	Replication instance	Status	Message
target-redshift-karthik	oracle-to-redshift-karthik	successful	

**Now Create the Migration Task on DMS :**

Screenshot of the AWS DMS 'Create database migration task' configuration page.

**Task configuration**

- Task identifier:** Oracle-to-Redshift-Karthik
- Descriptive Amazon Resource Name (ARN) - optional:** Friendly-ARN-name
- Replication instance:** oracle-to-redshift-karthik - vpc-01ae1eb62976a41c6

**Upgrades to versions 3.4.7 and higher:** You have 3 instances that use 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](#)

**Source database endpoint:** source-oracle-karthik

**Feedback:** Looking for language selection? Find it in the new [Unified Settings](#).

Screenshot of the AWS DMS 'Create database migration task' configuration page, showing the 'Task settings' section.

**Task settings**

**Editing mode:** [Info](#)

- Wizard:** You can enter only a subset of the available task settings. (Selected)
- 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

**Feedback:** Looking for language selection? Find it in the new [Unified Settings](#).

AWS DMS

DMS Studio [New](#)

Dashboard

**Database migration tasks**

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements [View](#)

Truncate

Include LOB columns in replication [Info](#)

Don't include LOB columns

Limited LOB mode

Maximum LOB size (KB) [Info](#)

32

Enable validation

Choose this setting if you want AWS DMS to compare the data at the source and the target immediately after it performs a full data load. Validation ensures that your data was migrated accurately, but it requires additional time to complete.

Task logs [Info](#)

Enable CloudWatch logs

DMS task logging uses Amazon CloudWatch to log information during the migration process. You can change the component activities logged and the amount of information logged for each one.

**Advanced task settings**

**Table mappings**

Editing mode [Info](#)

Wizard

You can enter only a subset of the available table mappings.

JSON editor

You can enter all available table mappings directly in JSON format.

Feedback Looking for language selection? Find it in the new Unified Settings [View](#)

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## Set one rule – schema SH

AWS DMS

DMS Studio [New](#)

Dashboard

**Database migration tasks**

Replication instances

Endpoints

Certificates

Subnet groups

Events

Event subscriptions

New feature announcements [View](#)

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 'SH' and Source table name is like '%', include

Schema

Enter a schema

Source name

Use the % character as a wildcard

SH

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

**Transformation rules**

Feedback Looking for language selection? Find it in the new Unified Settings [View](#)

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And click on create

The screenshot shows the 'Create New Task' wizard in the AWS DMS console. The left sidebar shows navigation links for AWS DMS, DMS Studio, Dashboard, Database migration tasks, Replication instances, Endpoints, Certificates, Subnet groups, Events, Event subscriptions, and New feature announcements.

The main area contains several configuration sections:

- Premigration assessment**: A section with an info link and a checkbox for "Enable premigration assessment run".
- Migration task startup configuration**: A section with a dropdown for "Start migration task" set to "Automatically on create" (selected) or "Manually later".
- Tags**: A section for adding tags to the task.

At the bottom right are "Cancel" and "Create task" buttons.

The screenshot shows the "Database migration tasks" page in the AWS DMS console. The left sidebar is identical to the previous screenshot.

The main area displays a table of database migration tasks:

Identifier	Status	Progress	Type	Source	Target	Replication instance
oracle-to-redshift-karthik	Load complete	100%	Full load	source-oracle-karthik	target-redshift-karthik	oracle-to-redshift-karthik
orcaleteredshift	Failed	42%	Full load	kruser0030oracle	kruser0030redshift	kruser0030rep

At the bottom right are "Actions", "Quick view and compare", and "Create task" buttons.

**Now go to Redshift Query Editor and verify the whether the table data has been migrated properly .**

Screenshot of the AWS Redshift Query Editor interface.

The left sidebar shows the "Resources" section with a "Select schema" dropdown set to "sh". Below it is a "Filter tables" search bar and a list of tables:

- channels\_channels\_pk
- customers\_customers\_pk
- products\_products\_pk
- promotions\_promo\_pk
- channels
- customers
- products

  - prod\_id
  - prod\_name
  - prod\_desc
  - prod\_subcategory
  - prod\_subcategory\_id
  - prod\_subcategory\_desc
  - prod\_category
  - prod\_category\_id
  - prod\_category\_desc

The main query editor area has a "Query 1" tab with the following SQL query:

```
Select * from sh.products limit 20;
```

Below the query are buttons for "Run", "Save", "Schedule", and "Clear". The "Send feedback" button is also present.

The "Query results" tab shows the results of the query:

Rows returned (20)

prod_id	prod_name	prod_des	prod_subcategor	prod_subcategory_id	prod_subcategory_des	prod_category
13	5MP Telephoto Digital Camera	5MP Telephoto Digital Camera	Cameras	2044.0000000000	Cameras	Photo
16	Y Box	Y Box	Game Consoles	2011.0000000000	Game Consoles	Electronics
17	Mini DV Camcorder with 3.5" Swivel LCD	Mini DV Camcorder with 3.5" Swivel LCD	Camcorders	2041.0000000000	Camcorders	Photo
18	Envoy Ambassador	Envoy Ambassador	Portable PCs	2022.0000000000	Portable PCs	Hardware
19	Laptop carrying case	Laptop carrying case	Accessories	2051.0000000000	Accessories	Software/Other
20	Home Theatre Package with DVD-Audio/Video Play	Home Theatre Package with DVD-Audio/Video Play	Home Audio	2012.0000000000	Home Audio	Electronics
21	18" Flat Panel Graphics	18" Flat Panel Graphics	Monitors	2035.0000000000	Monitors	Peripherals and Accessories

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

Screenshot of the AWS Redshift Query Editor interface showing the results of the query.

The left sidebar shows the "Resources" section with a "Select schema" dropdown set to "sh". Below it is a "Filter tables" search bar and a list of tables:

- channels\_channels\_pk
- customers\_customers\_pk
- products\_products\_pk
- promotions\_promo\_pk
- channels
- customers
- products

  - prod\_id
  - prod\_name
  - prod\_desc
  - prod\_subcategory
  - prod\_subcategory\_id
  - prod\_subcategory\_desc
  - prod\_category
  - prod\_category\_id
  - prod\_category\_desc

- promotions
- sales

The main query editor area shows the results of the query:

Rows returned (20)

prod_id	prod_name	prod_des	prod_subcategor	prod_subcategory_id	prod_subcategory_des	prod_category
13	5MP Telephoto Digital Camera	5MP Telephoto Digital Camera	Cameras	2044.0000000000	Cameras	Photo
16	Y Box	Y Box	Game Consoles	2011.0000000000	Game Consoles	Electronics
17	Mini DV Camcorder with 3.5" Swivel LCD	Mini DV Camcorder with 3.5" Swivel LCD	Camcorders	2041.0000000000	Camcorders	Photo
18	Envoy Ambassador	Envoy Ambassador	Portable PCs	2022.0000000000	Portable PCs	Hardware
19	Laptop carrying case	Laptop carrying case	Accessories	2051.0000000000	Accessories	Software/Other
20	Home Theatre Package with DVD-Audio/Video Play	Home Theatre Package with DVD-Audio/Video Play	Home Audio	2012.0000000000	Home Audio	Electronics
21	18" Flat Panel Graphics	18" Flat Panel Graphics	Monitors	2035.0000000000	Monitors	Peripherals and Accessories

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