

Problem Statement:

You work for XYZ Corporation. Their application requires a database service that can store data which can be retrieved if required. Implement suitable service for the same. While migrating, you are asked to perform the following tasks:

1. Create a Redshift data warehouse.
2. Using the query editor:
 - a. Load some data
 - b. Query the data

Procedure: -

- Search for redshift and use **Try Redshift serverless free trial** to avoid charges. Let everything be default and click on **Save configuration**.
- Once the configuration is done, we need to click on create work group.

The screenshot shows the 'Create workgroup' configuration page in the Amazon Redshift Serverless console. The page has a green header bar with the text 'Successfully setup Amazon Redshift Serverless' and a 'Query data' button. The breadcrumb trail is 'Amazon Redshift Serverless > Workgroup configuration > Create workgroup'. The left sidebar shows three steps: 'Step 1: Create workgroup' (active), 'Step 2: Choose namespace', and 'Step 3: Review and Create'. The main content area is titled 'Create workgroup' and contains two sections: 'Workgroup' and 'Capacity'. The 'Workgroup' section has a text input for 'Workgroup name' with the value 'kabitha-workgroup'. The 'Capacity' section has a dropdown for 'Base capacity' with the value '8'. A 'Query data' button is visible in the top right corner.

- Let everything be default and click on next.

The screenshot shows the 'Choose namespace' configuration page in the Amazon Redshift Serverless console. The page has a green header bar with the text 'Successfully setup Amazon Redshift Serverless' and a 'Query data' button. The breadcrumb trail is 'Amazon Redshift Serverless > Workgroup configuration > Create workgroup'. The left sidebar shows three steps: 'Step 1: Create workgroup', 'Step 2: Choose namespace' (active), and 'Step 3: Review and Create'. The main content area is titled 'Choose namespace' and contains two sections: 'Namespace' and 'Database name and password'. The 'Namespace' section has two radio buttons: 'Create a new namespace' (selected) and 'Add to an existing namespace'. Below the radio buttons is a text input for 'Namespace' with the value 'kabi-project'. The 'Database name and password' section has a text input for 'Database name' with the value 'dev'. A 'Query data' button is visible in the top right corner.

- Let everything be default and click on next.
- Review everything and create workgroup.

The screenshot shows the Amazon Redshift Serverless dashboard. The top navigation bar includes the AWS logo, a search bar, and the user's name 'Kavitha Kumari'. The main content area is titled 'Namespace overview' and displays several metrics: Total snapshots (0), Datashares in my account (0), Datashares requiring authorization (0), Datashares from other accounts (0), and Datashares requiring association (0). Below these metrics is a table titled 'Namespaces / Workgroups' with columns for Namespace, Status, Workgroup, and Status. The table lists two namespaces: 'kabi-project' (Status: Modifying, Workgroup: kabitha-workgroup, Status: Creating) and 'default-namespace' (Status: Available, Workgroup: default-workgroup, Status: Available). To the right of the table is a 'Free trial' section showing \$300.00 out of \$300.00 remaining and a free trial expiration date of October 21, 2023. Below the table is a 'Queries metrics' section with tabs for 'Running and queued queries', 'Completed and failed queries', and 'Number of queries'. The 'Running and queued queries' tab is selected, showing a filter for 'default-workgroup' and a 'View details' button. The bottom of the dashboard shows a footer with the URL 'https://us-east-2.console.aws.amazon.com/redshiftv2/home?region=us-east-2#serverless-namespaces?namespace=default-namespace' and copyright information for Amazon Web Services India Private Limited.

- We already had the default workgroup. Click on the default namespaces

The screenshot shows the 'default-namespace' configuration page in the Amazon Redshift Serverless console. The page has a green header with the text 'Successfully setup Amazon Redshift Serverless' and a 'Query data' button. Below the header is a breadcrumb trail: 'Amazon Redshift Serverless > Namespace configuration > default-namespace'. The main content area is titled 'default-namespace' and includes an 'Actions' dropdown, a 'Change admin password' button, and a 'Query data' button. Below this is a 'General information' section with a refresh button. The section displays the following information: Namespace: default-namespace, Status: Available, and Admin user name: admin.

- Click on Query data.

The screenshot shows the Amazon Redshift query editor v2 interface. The top navigation bar includes the AWS logo, a search bar, and the user's name 'Kavitha Kumari'. The main content area is titled 'Redshift query editor v2' and displays a sidebar with navigation options: Editor, Queries, Notebooks, Charts, History, and Scheduled queries. The 'Editor' tab is selected, showing a text editor with a single line of SQL code: '1'. The editor has a toolbar with buttons for 'Create', 'Load data', 'Run', 'Limit 100', 'Explain', 'Isolated session', 'Cluster or wor...', 'Database', 'Schedule', and a settings icon. The bottom of the editor shows a footer with the URL 'https://us-east-2.console.aws.amazon.com/sqlworkbench/home?region=us-east-2#/client' and copyright information for Amazon Web Services India Private Limited.

- Click on default work group and click on create connection.
- Now we have to create an IAM role in order to access the data from the s3.
- Goto IAM and click on roles then create roles.

Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Common use cases

☐ EC2
Allows EC2 instances to call AWS services on your behalf.

☐ Lambda
Allows Lambda functions to call AWS services on your behalf.

Use cases for other AWS services:

Redshift

☒ Redshift - Customizable
Allows Redshift clusters to call AWS services on your behalf.

☐ Redshift
Allows Redshift clusters to call AWS services on your behalf.

☐ Redshift - Scheduler
Allow Redshift Scheduler to call Redshift on your behalf.

[Learn how to use Redshift and select Redshift clusters](#)

Cancel **Next**

Add permissions [Info](#)

Permissions policies (Selected 1/865) [Info](#)
Choose one or more policies to attach to your new role.

12 matches

<input type="checkbox"/>	Policy name ↗	Type	Description
<input type="checkbox"/>	s3corr_for_onebucketbiryani_cf70b5	Custom...	
<input type="checkbox"/>	S3RdsEc2--Policy	Custom...	
<input type="checkbox"/>	s3replicate_for_onebucketbiryani_c6abca	Custom...	
<input checked="" type="checkbox"/>	AmazonS3FullAccess	AWS m...	Provides full access to all buckets via the AWS Management Console.

Name, review, and create

Role details

Role name

Enter a meaningful name to identify this role.

Redshift_s3_access

Maximum 64 characters. Use alphanumeric and '+', '=', '@', '-', '_' characters.

Description

Add a short explanation for this role.

Allows Redshift clusters to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and '+', '=', '@', '-', '_' characters.

Step 1: Select trusted entities

[Edit](#)

- Then create a role.
- Now in the default namespaces goto to **security and encryption** and **manage IAM roles** and **associated IAM roles**. Then select the IAM role which we created.

Namespace ID
a87f8471-1fe3-49f6-a539-791a0632356c

Namespace ARN
arn:aws:redshift-serverless:us-east-2:049198078472:namespace/a87f8471-1fe3-49f6-a539-791a0632356c

Date created
July 23, 2023, 04:01 (UTC+05:30)

Storage used
803 MB

Database name
dev

Total table count
-

Workgroup

Data backup

Security and encryption

Datashares

Tags

Permissions info

Manage IAM roles

IAM roles	Status	Amazon Resource Name (ARN)	Role type
No roles present There are no resources to display.			

Manage IAM roles

Associate IAM roles

IAM roles

Choose from existing IAM roles. You can associate up to 50 IAM roles.

Q Search for IAM role to associate

< 1 >

[-] IAM roles

☐ [AWSServiceRoleForRedshift](#)

☒ [Redshift_s3_access](#)

Cancel

Associate IAM roles

2:049198078472:namespace/a87f8471-1fe3-49f6-a539-791a0632356c

Workgroup

Data backup

Security and encryption

Datashares

Tags

Permissions info

Manage IAM roles

IAM roles	Status	Amazon Resource Name (ARN)	Role type
Redshift_s3_access	in-sync	arn:aws:iam::049198078472:role/Redshift_s3_access	-

- Now I have uploaded a CSV type of file in the s3.

Upload succeeded
View details below.

The information below will no longer be available after you navigate away from this page.

Summary

Destination
s3://onebucketbiryani

Succeeded
1 file, 32.6 KB (100.00%)

Failed
0 files, 0 B (0%)

Files and folders

Configuration

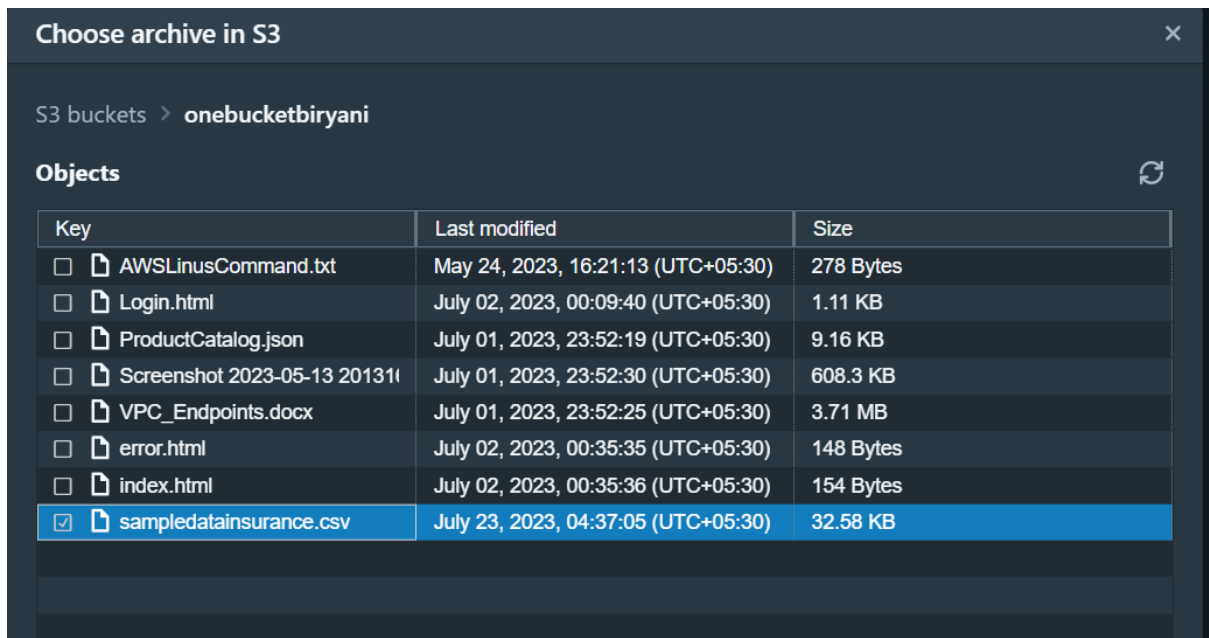
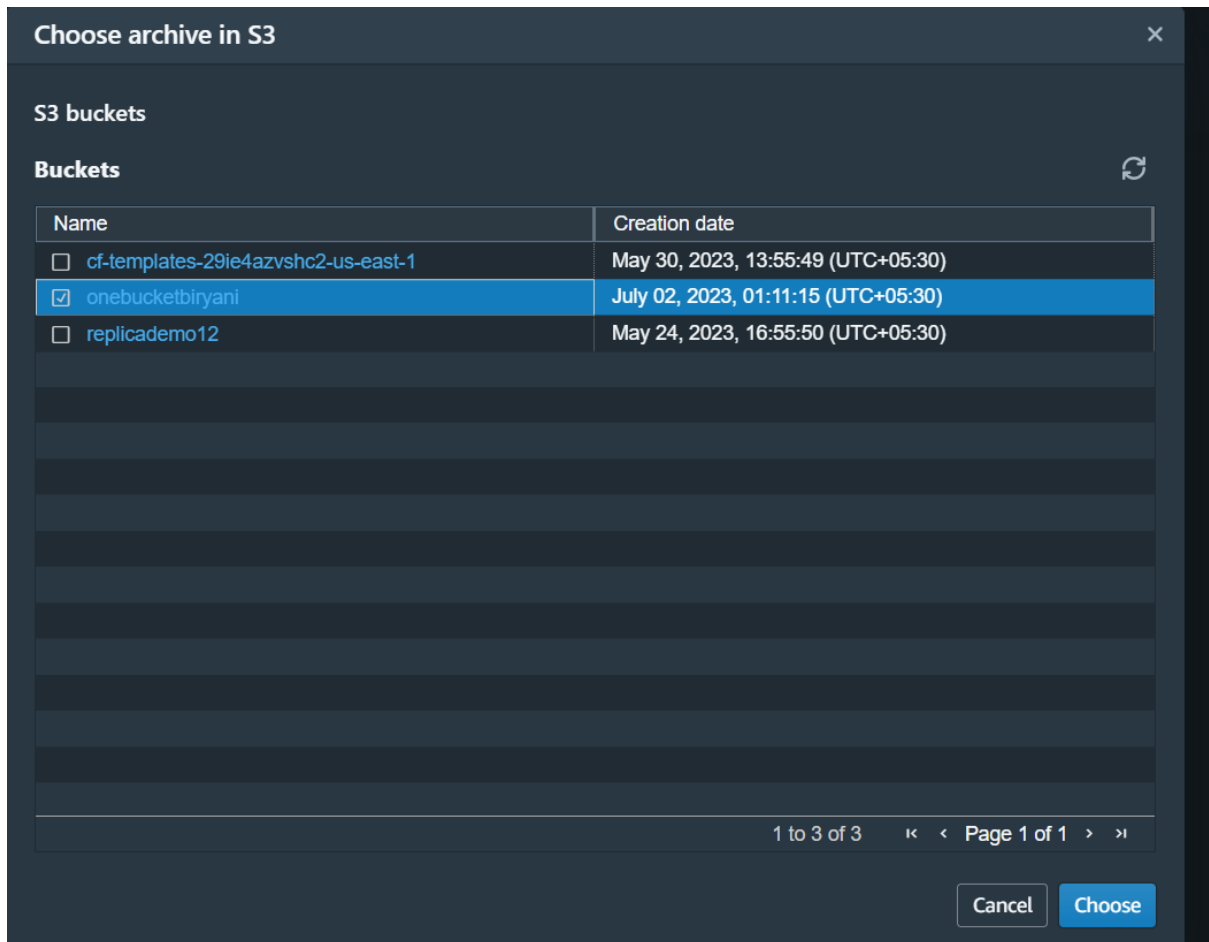
Files and folders (1 Total, 32.6 KB)

Q Find by name

< 1 >

Name	Folder	Type	Size	Status	Error
sampledatainsurance.csv	-	text/csv	32.6 KB	Succeeded	-

- Now in the serverless redshift click on load data and click **browse s3**



- Click on choose and next. Then click on **choose an IAM role**.
- Choose **load new table** and select the schema as **public** and give the name to the table as **kabi-table**.

Load data

Table options

☒ Load existing table
Load data into an existing table

☐ Load new table
Create table with detected schema

Cluster or workgroup
Serverless: def... ▼

Database
dev ▼

Schema
No selection ▼

Table
No selection ▼

IAM role ⓘ

arn:aws:iam::049198078472:role/Redshift_s3_access ▼

↻

Column mapping

Selected S3 file: sampledatainsurance.csv

Back

Cancel

Load data

Load data

IAM role ⓘ

arn:aws:iam::049198078472:role/Redshift_s3_access ▾

↻

Columns

Table details

Selected S3 file: sampledatainsurance.csv

+ Add column

Column options

Column name	Data type	Encoding	
Policy	INTEGER	No selection	🗑️
Expiry	VARCHAR	No selection	🗑️
Location	VARCHAR	No selection	🗑️
State	VARCHAR	No selection	🗑️
Region	VARCHAR	No selection	🗑️
InsuredValue	VARCHAR	No selection	🗑️
Construction	VARCHAR	No selection	🗑️
BusinessType	VARCHAR	No selection	🗑️
Earthquake	VARCHAR	No selection	🗑️
Flood	VARCHAR	No selection	🗑️

The value must be 1-127 characters.

Default value

☐ Custom

☐ Empty string

☐ NULL

☒ No default value

Size

0

^

v

☐ Primary key

☐ Unique key

☐ Not NULL

☐ Automatically increment

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Restore to defaults

Cancel

Create table

Unable to click on the create table and it is giving me the error "The value must be 1-127 characters."

Load data

Table options

☐ Load existing table
Load data into an existing table

☒ Load new table
Create table with detected schema

Cluster or workgroup

Serverless: def... ▾

Database

dev ▾

Schema

public ▾

Table

kabit-table

IAM role ⓘ

arn:aws:iam::049198078472:role/Redshift_s3_access ▾



Columns Table details

Selected S3 file: sampledatainsurance.csv

+ Add column

Column options

Default value

- ☐ Custom
- ☐ Empty string
- ☐ NULL
- ☒ No default value

Size

Column name	Data type	Encoding	
Policy	INTEGER	No selection	
Expiry	VARCHAR	No selection	
Location	VARCHAR	No selection	
State	VARCHAR	No selection	
Region	VARCHAR	No selection	
InsuredValue	VARCHAR	No selection	
Construction	VARCHAR	No selection	
BusinessType	VARCHAR	No selection	
Earthquake	VARCHAR	No selection	

Back

[Restore to defaults](#)

Cancel

Create table