Hands-on Lab: Analyzing DB2 Data With Cognos Analytics

Objective for Exercise:

- To create a dashboard with Billing data on DB2 using Cognos Analytics and analyze the regionwise spend.

Prerequisites

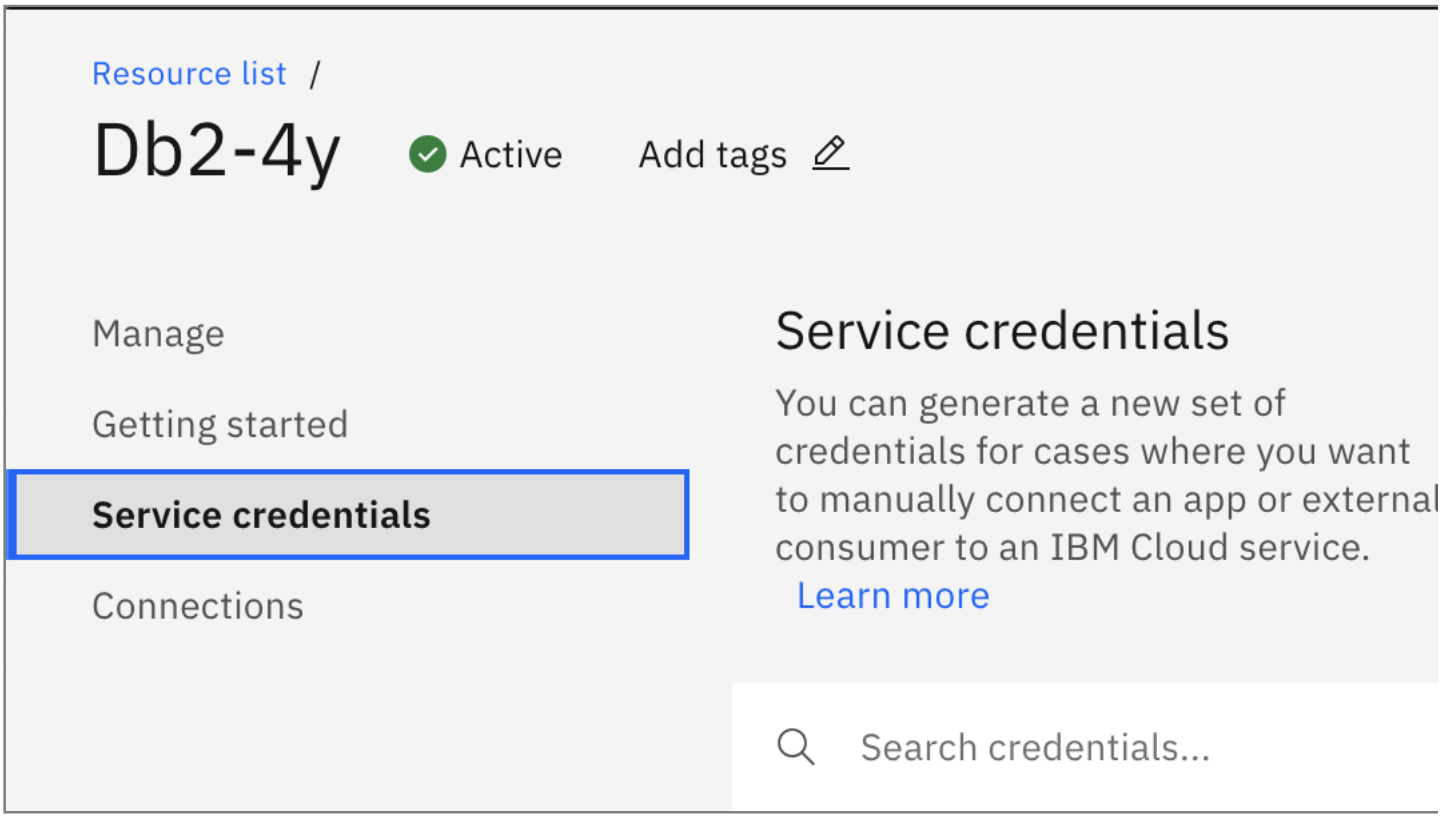
Prior to starting this lab please ensure you have completed the previous labs to:

- Create an IBM Cloud Account
- Provision an instance of DB2 on Cloud
- Provision an instance of Cognos Analytics

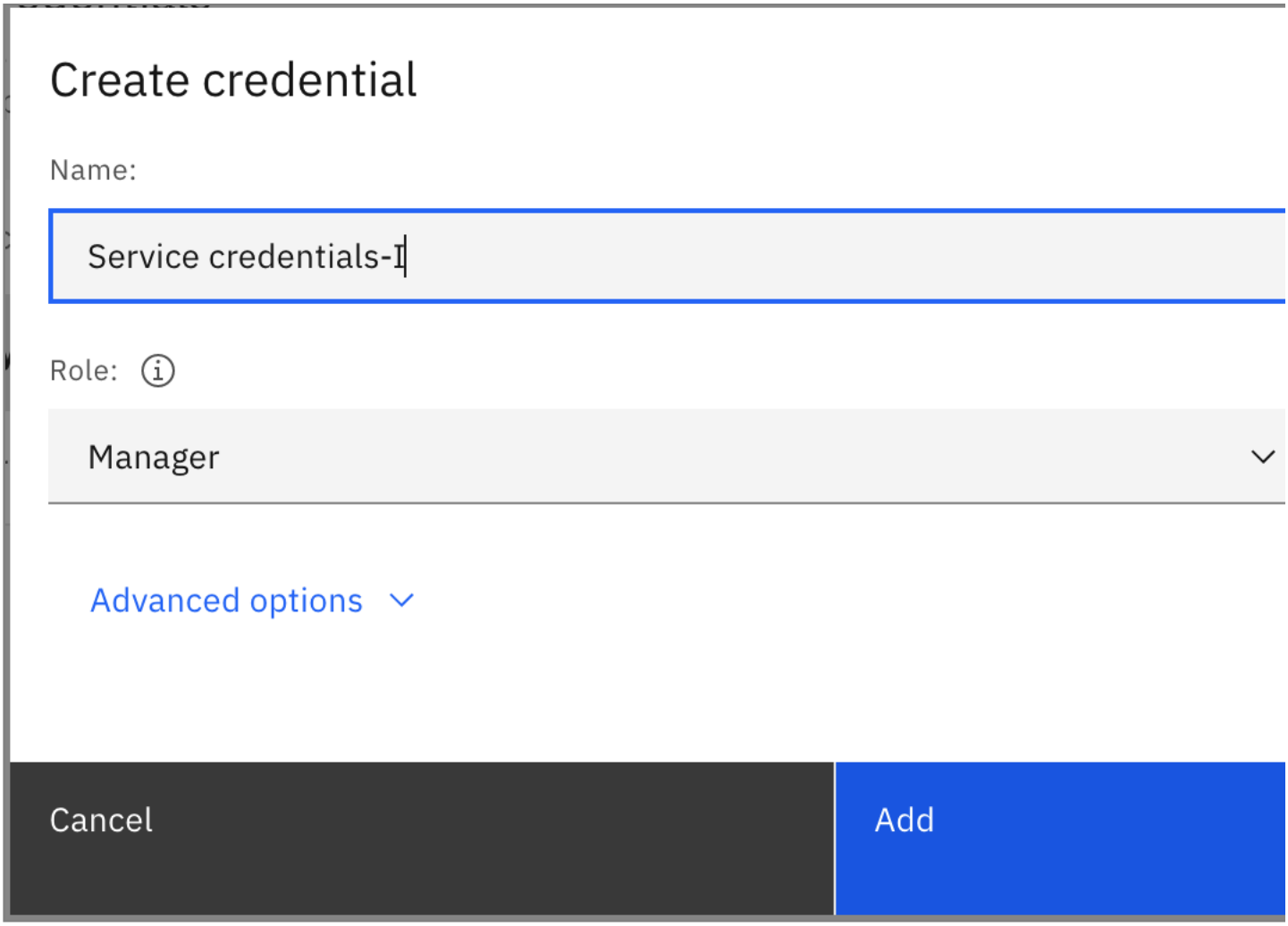
Task 1- Load the data in DB2

If you have service credentails created, skip steps 1 and 2.

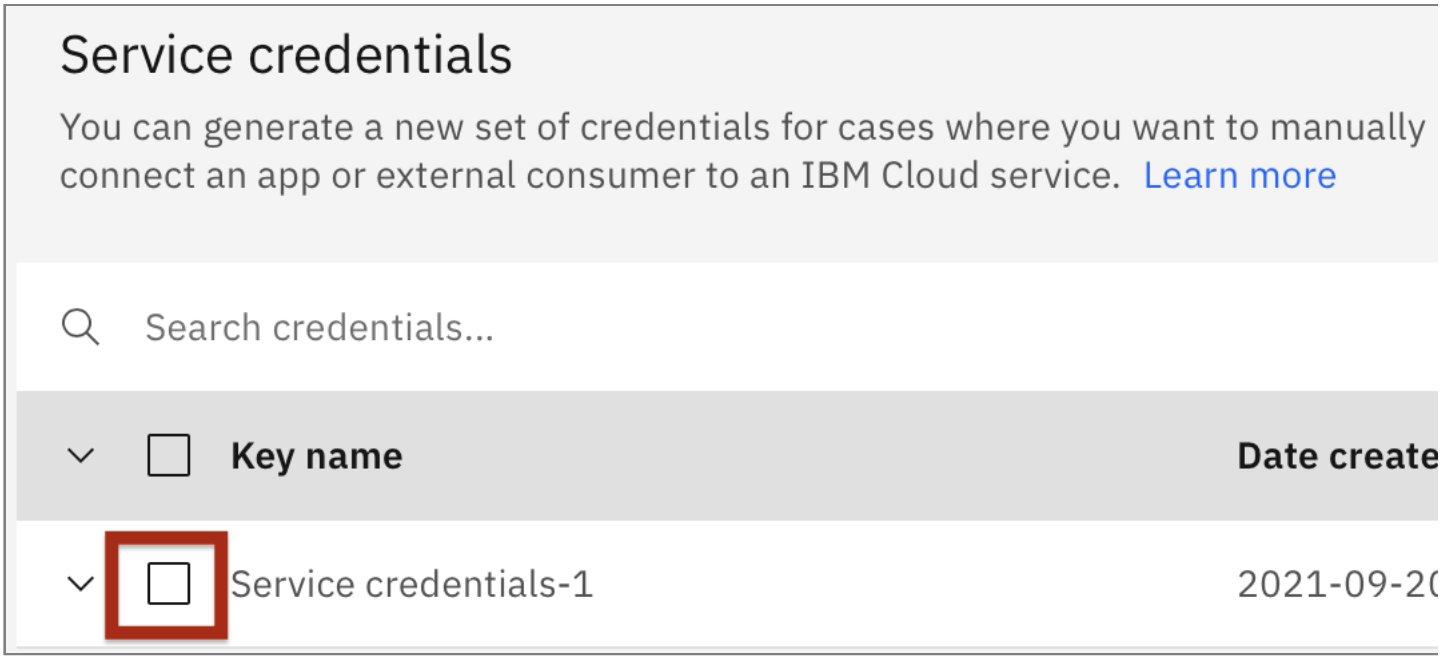
1. Click on **Service Credentials** and create new credentials.

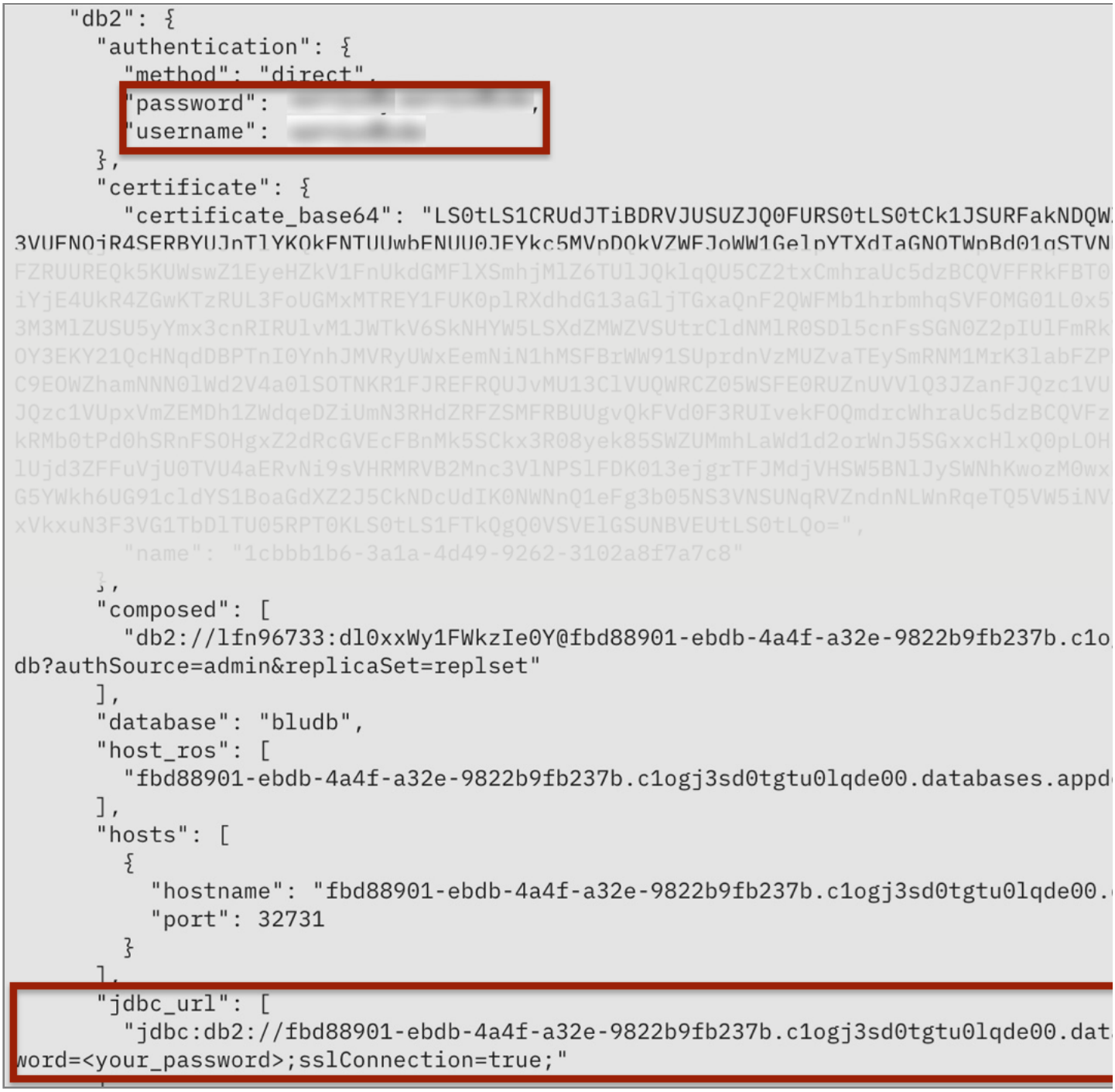


2. Give the credential a name and **Manager** privilige and add it.



3. Click on the down arrow next to the credential. You will see the credential details. Make a note of the username, password and jdbc connection url. These will be used in later part of the lab to connect from Cognos.

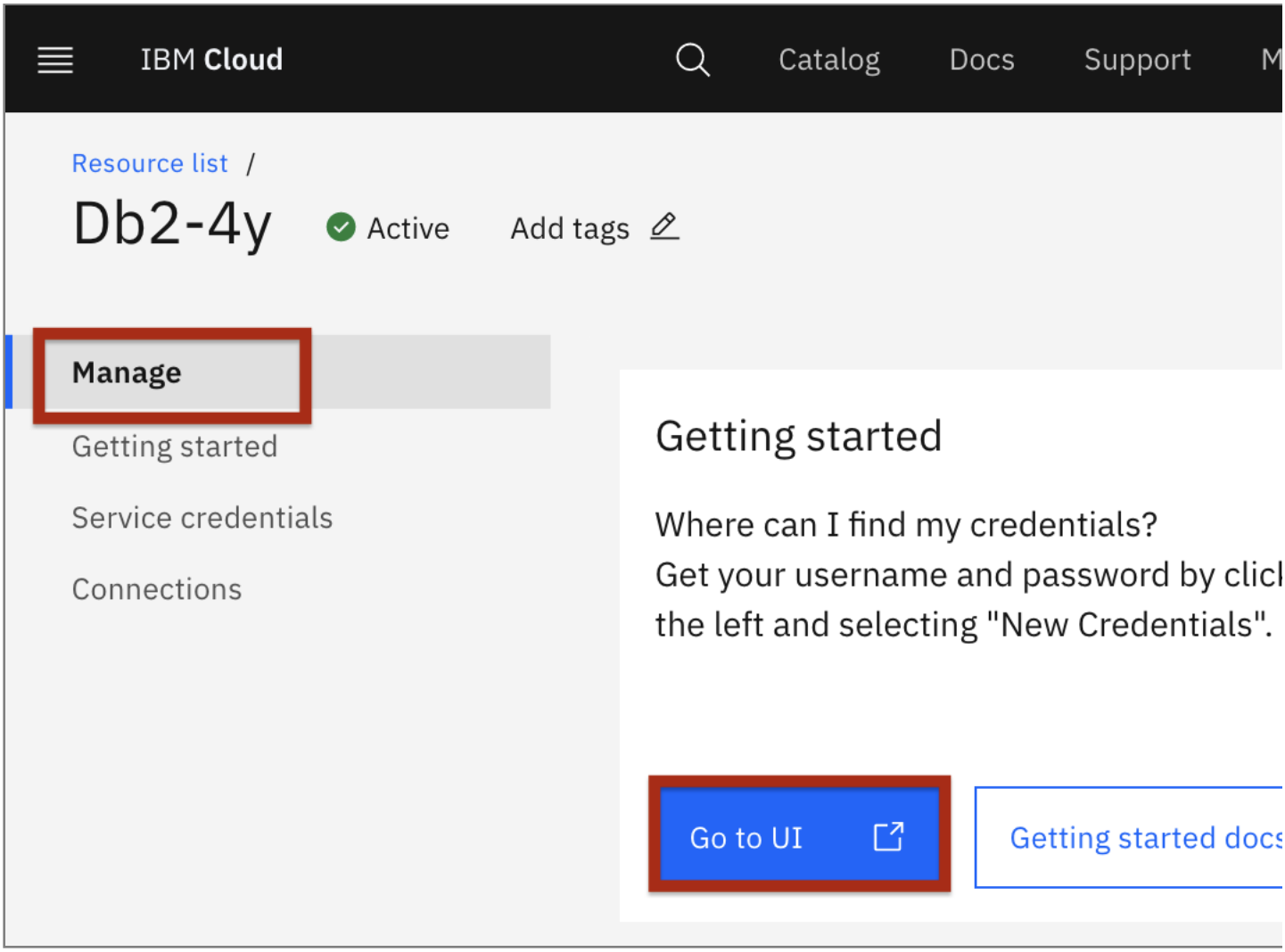

Service credentials
You can generate a new set of credentials for cases where you want to manually connect an app or external consumer to an IBM Cloud service. Learn more
Search credentials...
Key name
Date create
Service credentials-1
2021-09-2(



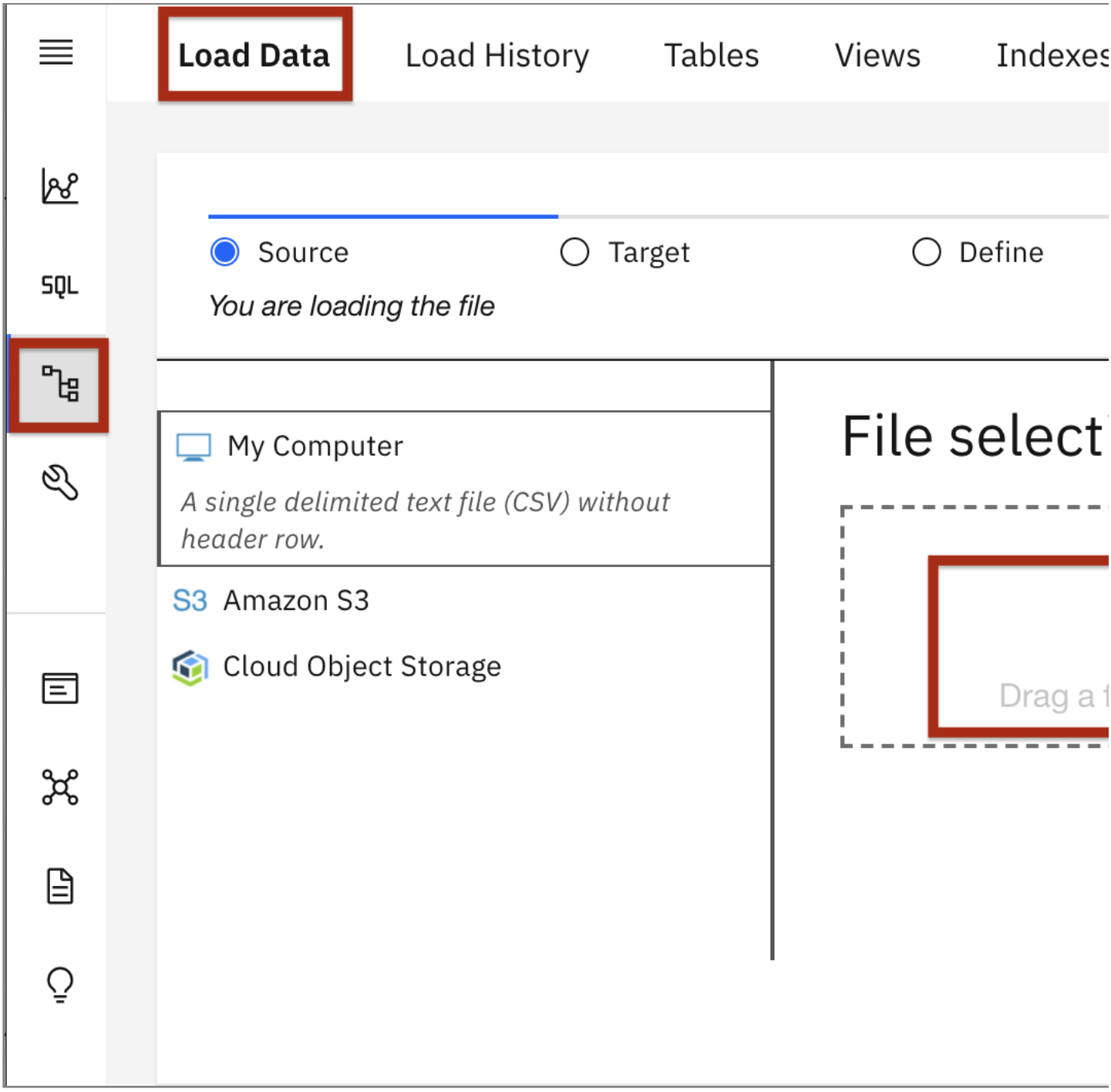
*Note:You have to replace the placeholder for username and password in the jdbc url string with actual username and password. Remove the angle brackets.

4. Go to the data link. Right-click and choose **Save AS…**. Save the file in your local system as *cloud-billing-dataset.csv*.

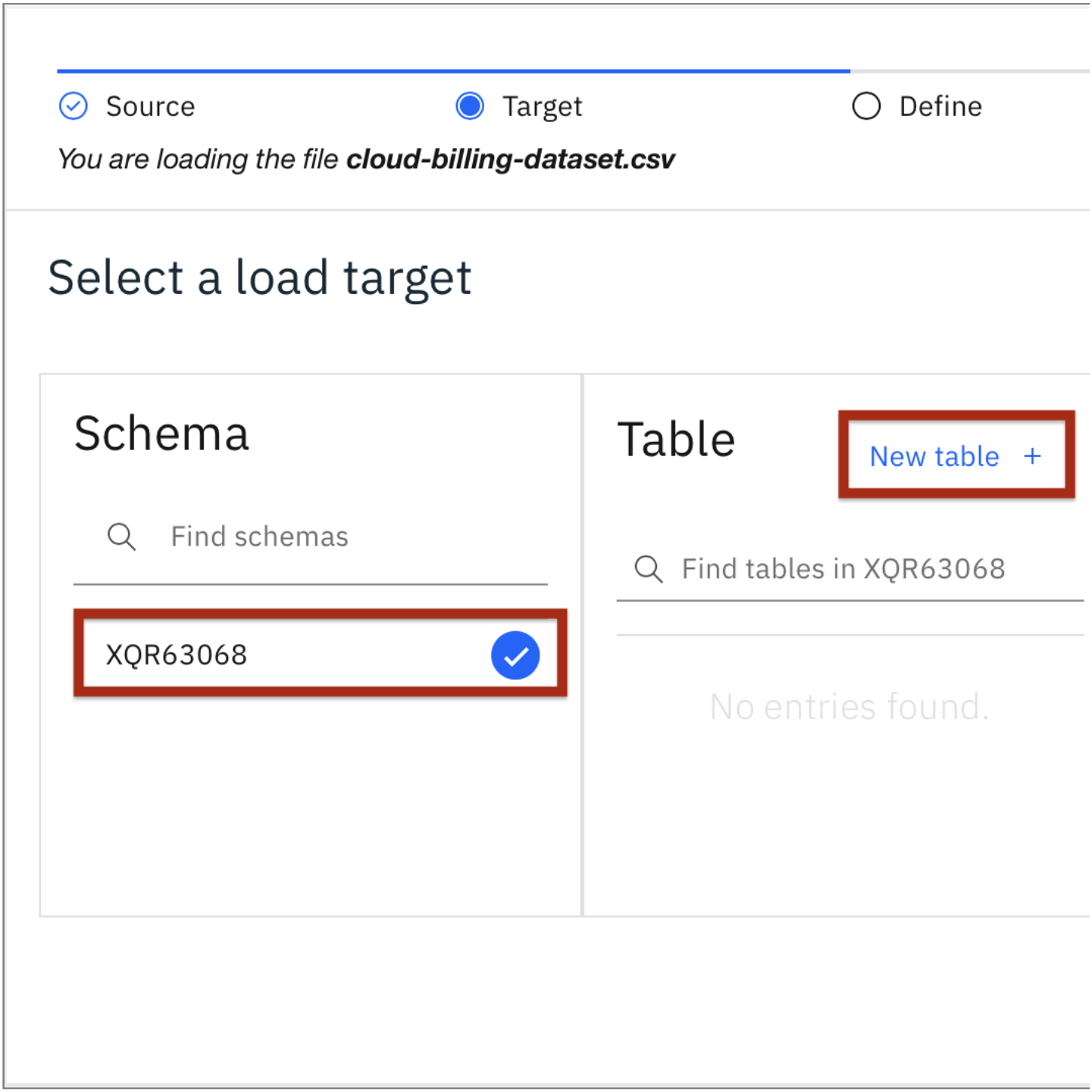
5. Once the instance is created from the db2 instance page, choose **Manage** from the left menu and click on **Go to UI**.



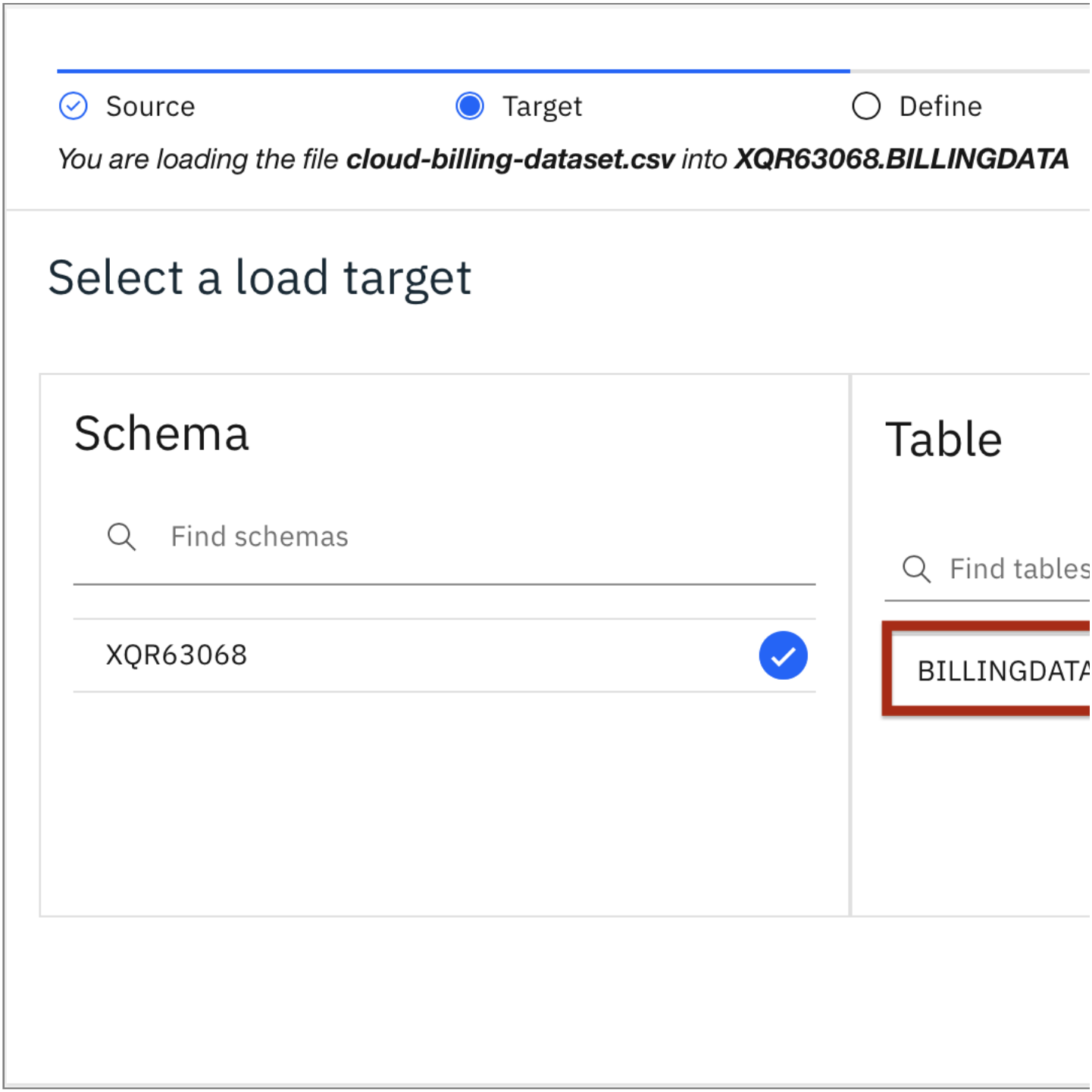
6. Click on the **Data** icon on the left menu, choose **Load Data** and broswe and select the file, **cloud-billing-dataset.csv** which you saved in your local system.



7. Choose the **Schema**, click on **New Table +** and create a new table with the name **BillingData** and click on Create.



8. You will see the table is added to the schema. Click on **Next** to load the data from the file.



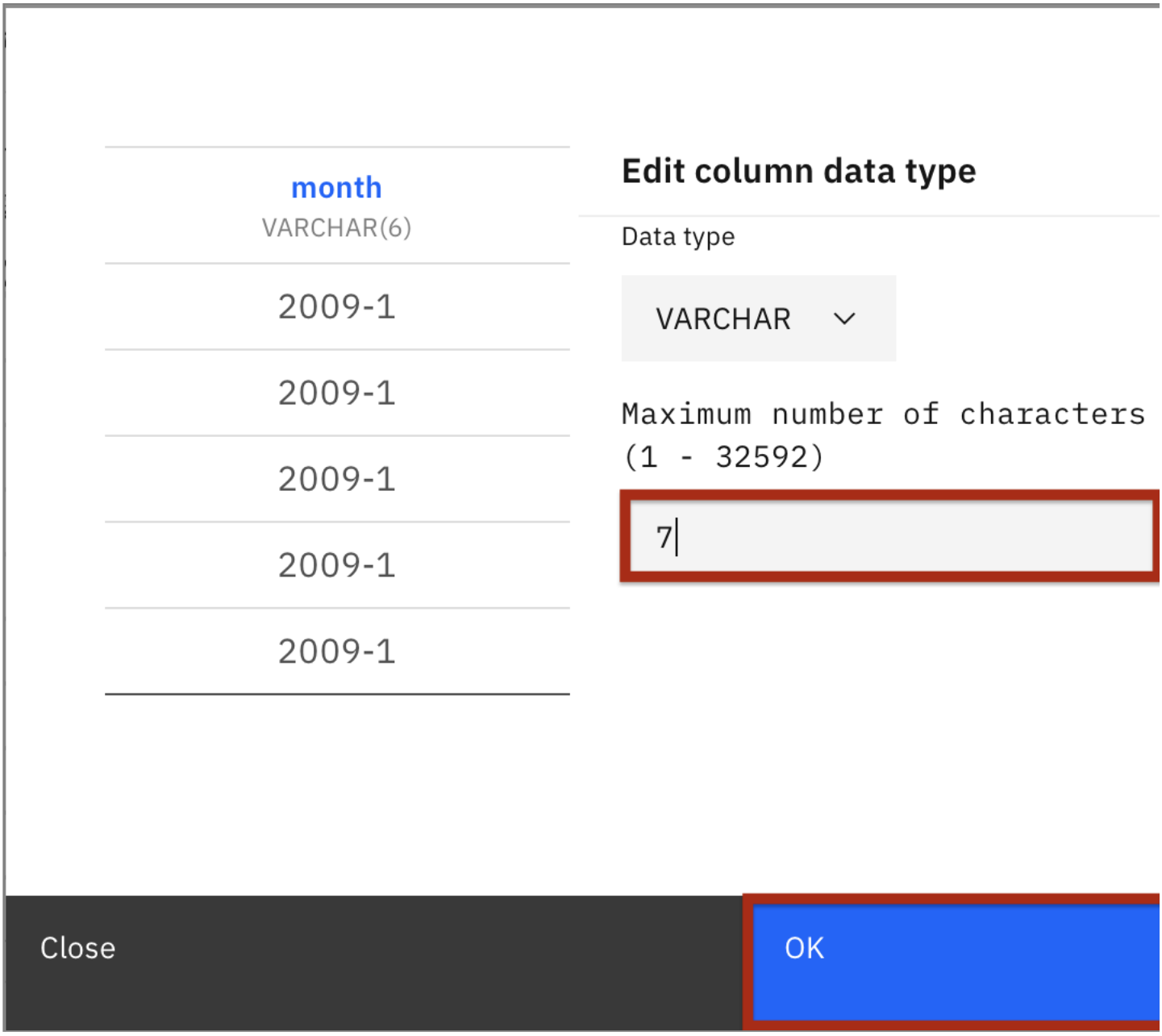
9. The table is loaded. You will see that each column has data type and column width auto generated based on the content. Edit column attributes by clicking on the pencil icon next to the respective attributes to change the width of **country** column to varchar of 30 and **month** column to varchar of 7.

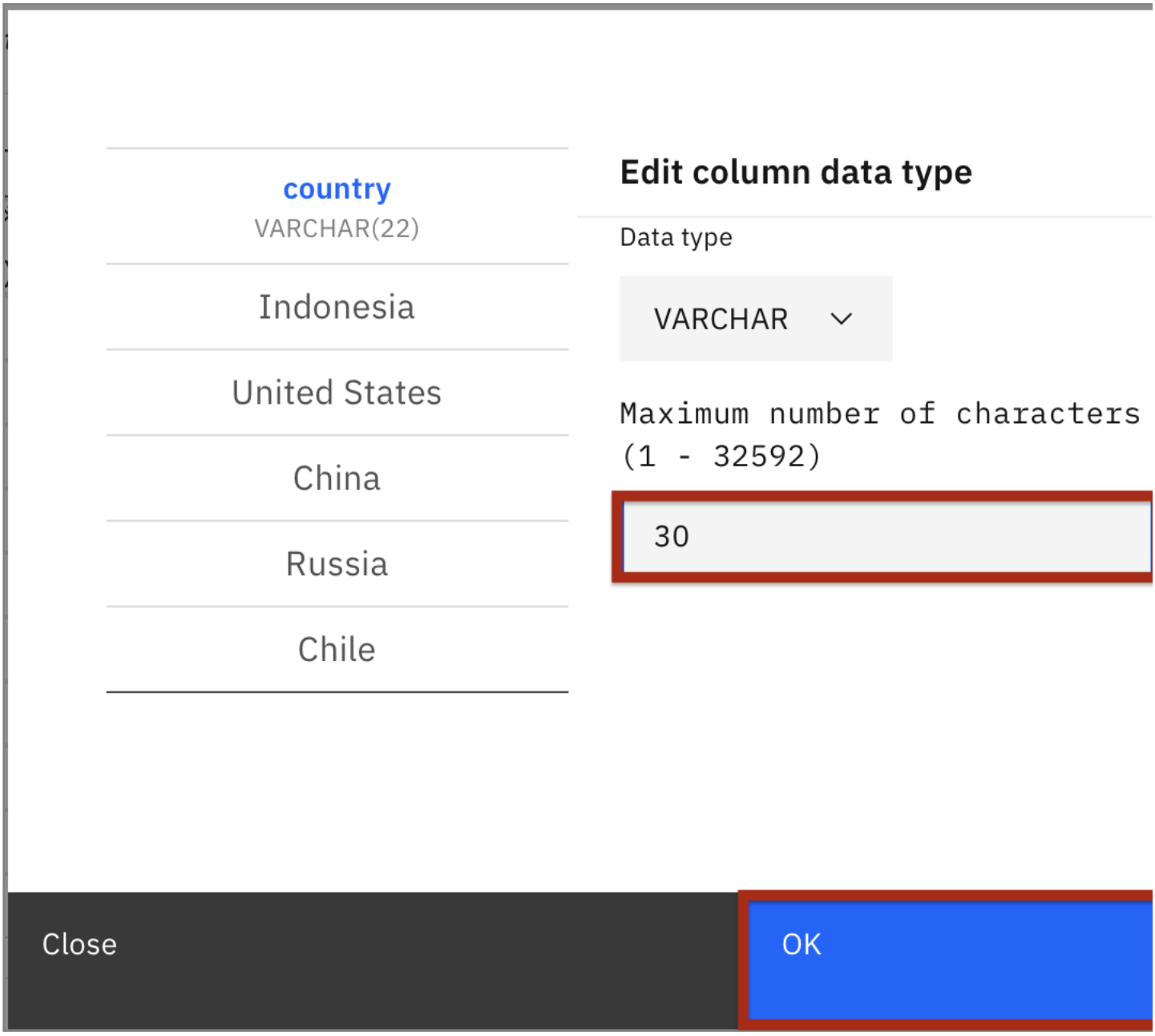
Source Target

*You are loading the file **cloud-billing-dataset.csv** into **XQR63068.BILLINGDATA***

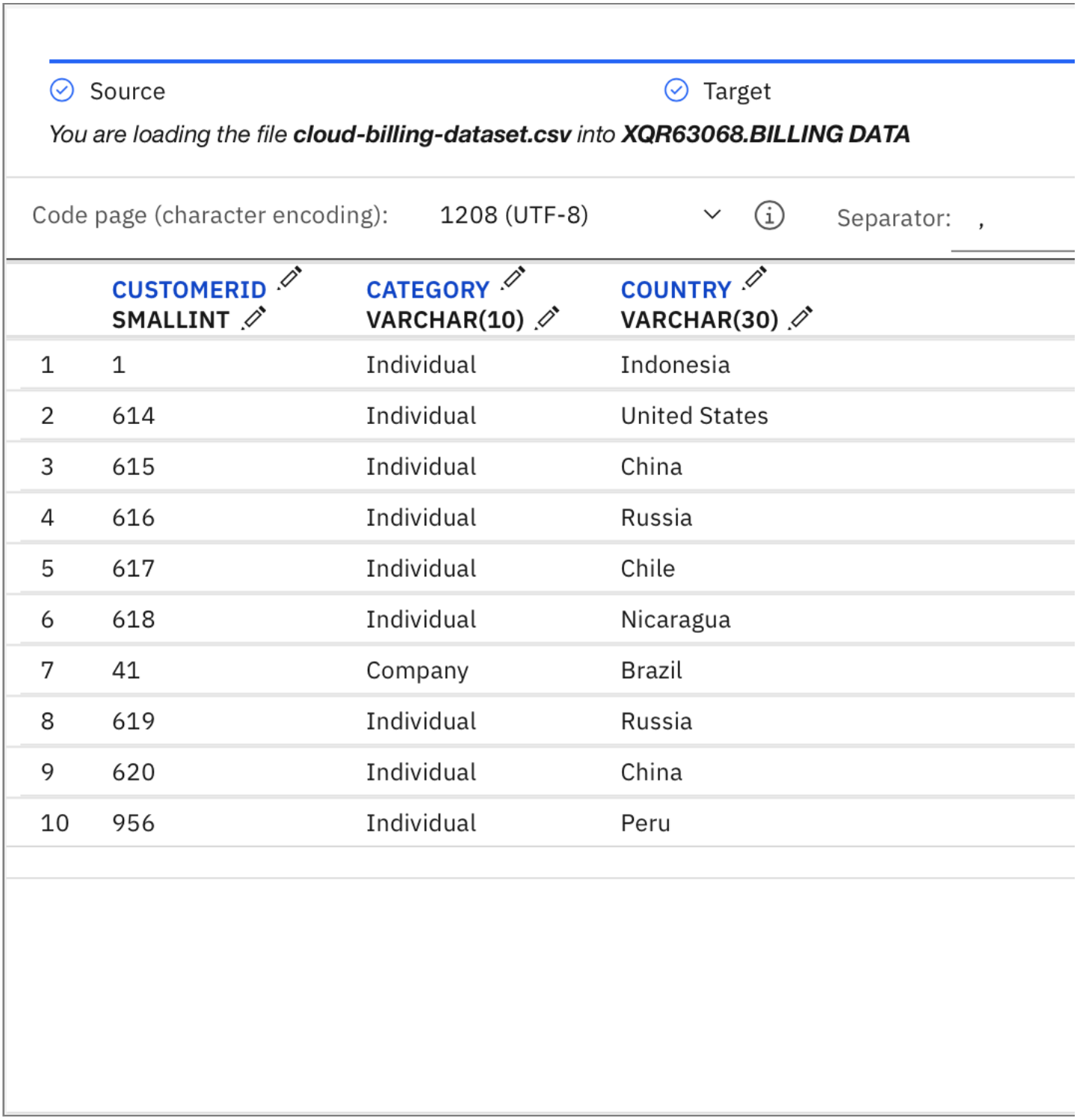
Code page (character encoding): 1208 (UTF-8) Separat

	CUSTOMERID SMALLINT	CATEGORY VARCHAR(10)	COUNTRY VARCHAR(22)
1	1	Individual	Indonesia
2	614	Individual	United States
3	615	Individual	China
4	616	Individual	Russia
5	617	Individual	Chile
6	618	Individual	Nicaragua
7	41	Company	Brazil
8	619	Individual	Russia
9	620	Individual	China
10	956	Individual	Peru


month
VARCHAR(6)
2009-1
2009-1
2009-1
2009-1
2009-1
Edit column data type
Data type
VARCHAR
Maximum number of characters (1 - 32592)
7
Close
OK

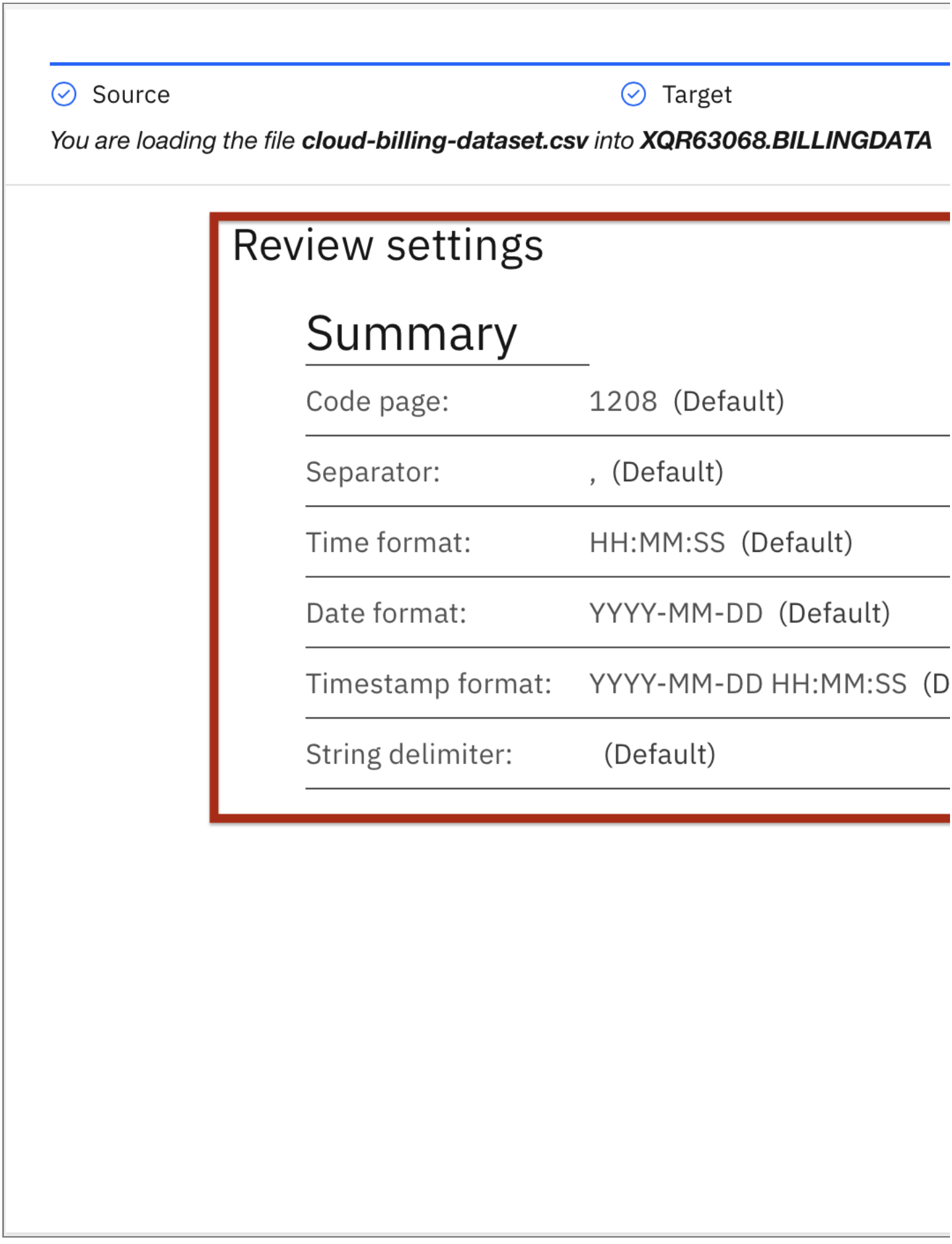


10. Once the column attributes are changed, check to see if it reflects and then click on **Next**

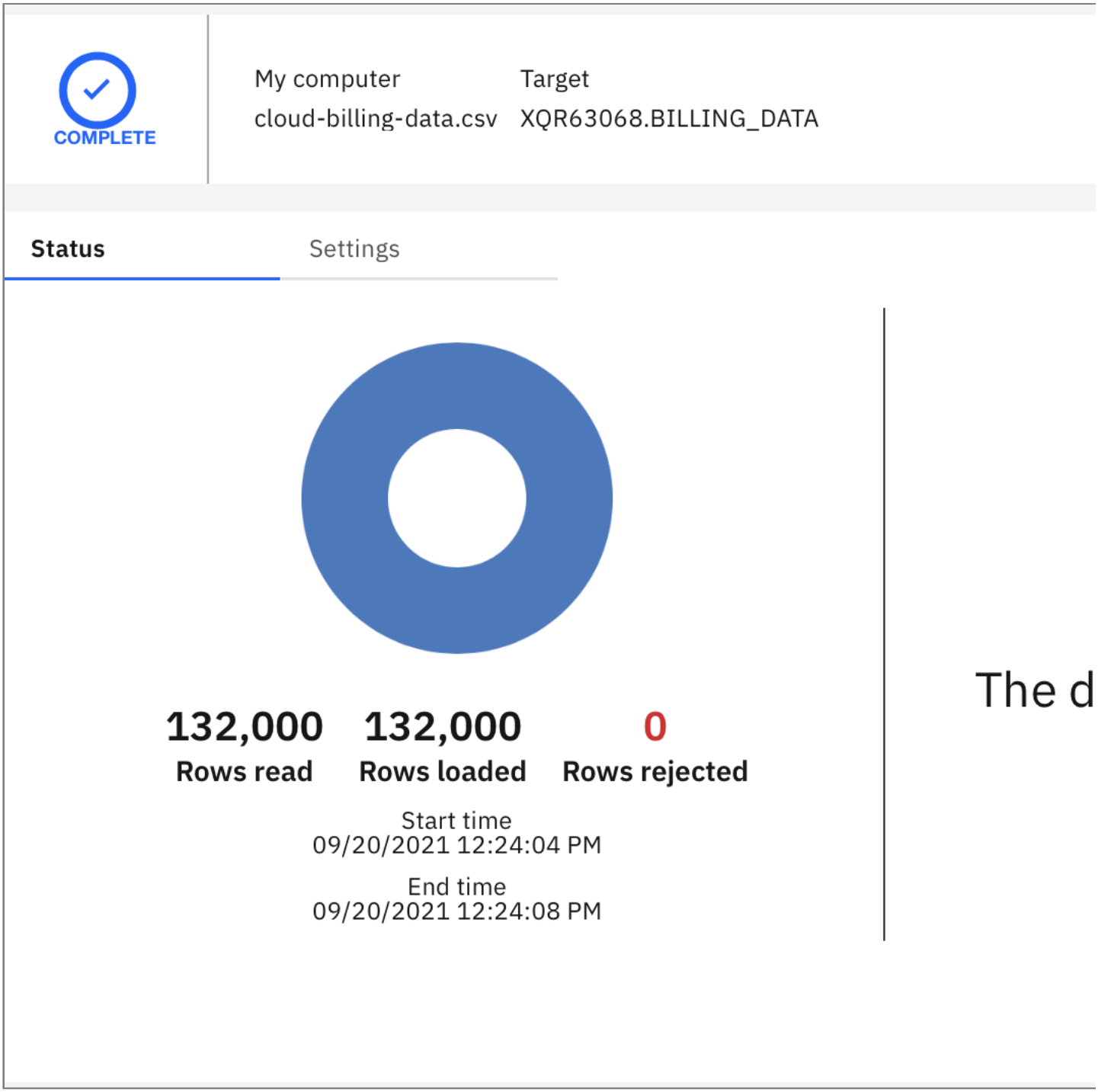


	CUSTOMERID SMALLINT	CATEGORY VARCHAR(10)	COUNTRY VARCHAR(30)
1	1	Individual	Indonesia
2	614	Individual	United States
3	615	Individual	China
4	616	Individual	Russia
5	617	Individual	Chile
6	618	Individual	Nicaragua
7	41	Company	Brazil
8	619	Individual	Russia
9	620	Individual	China
10	956	Individual	Peru

11. Review the settings and click on **Begin Load** to load the data.

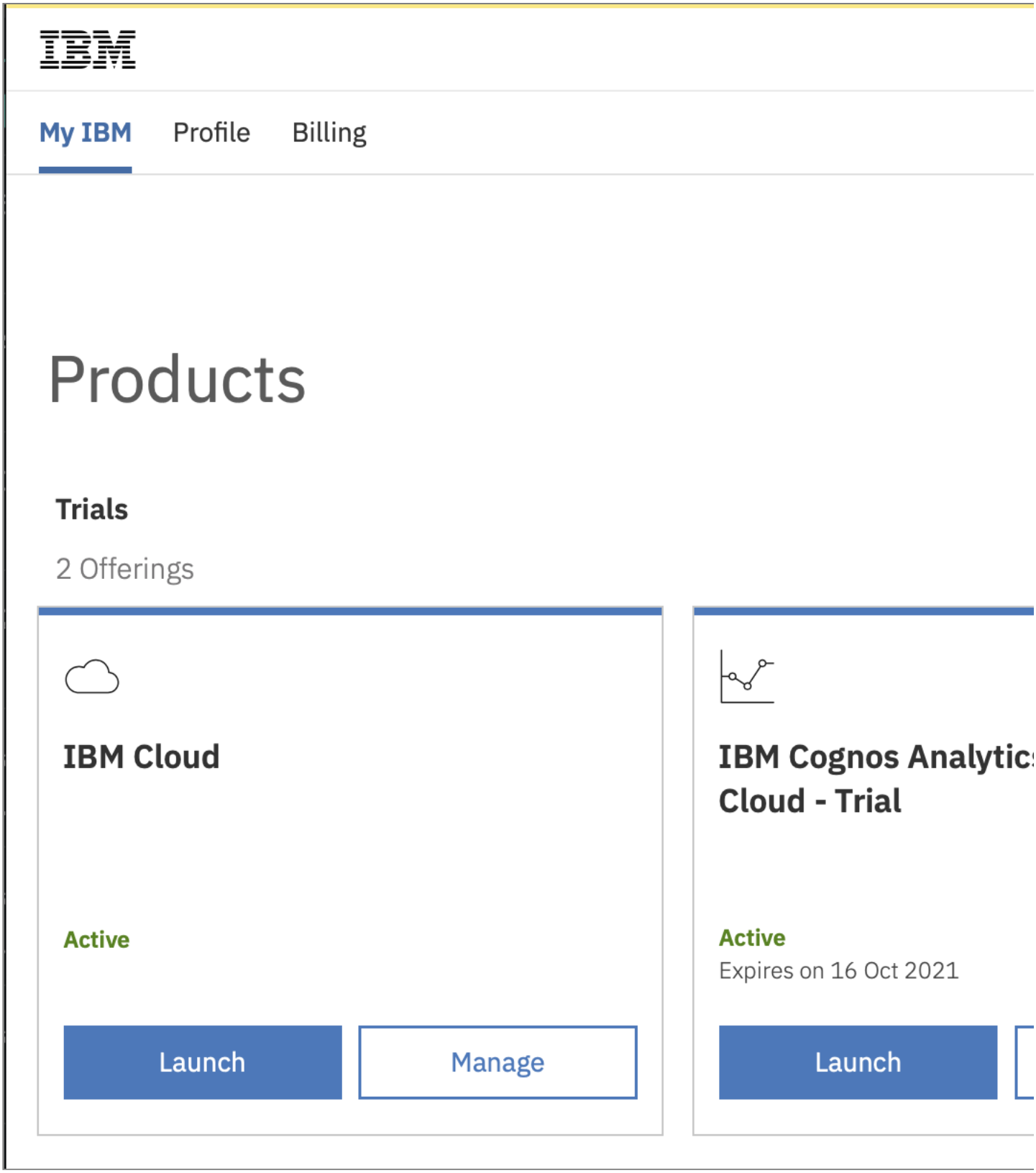


12. If the data is successfully loaded, you get a message on the screen indicating the number of rows that have been loaded.

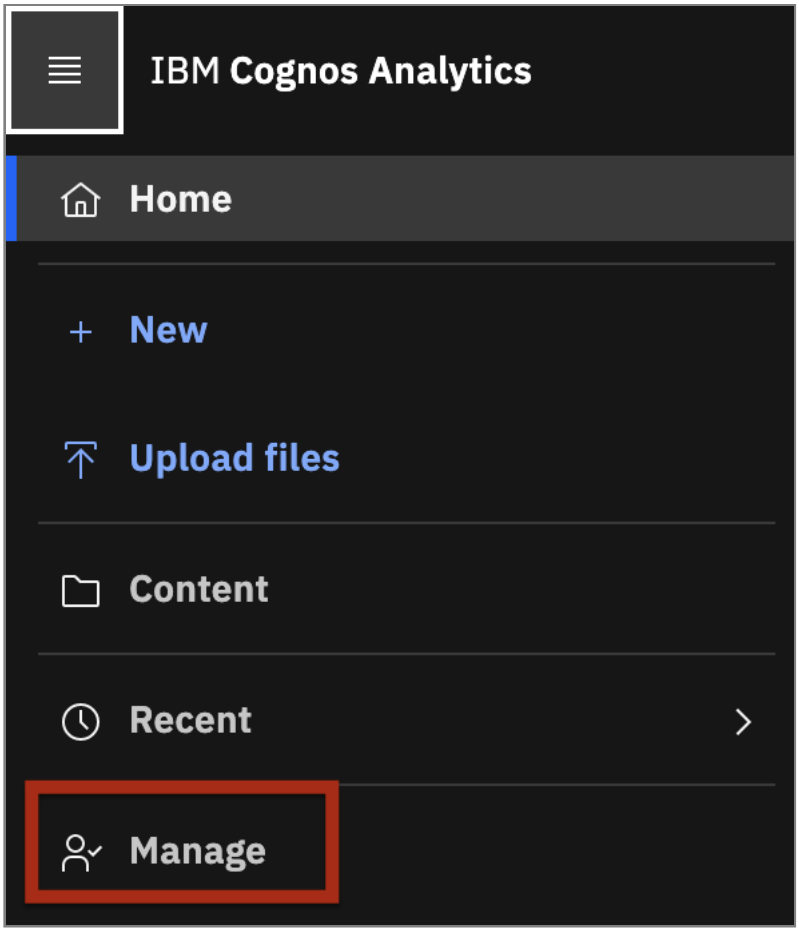


Task 2 - Connect Cognos to DB2

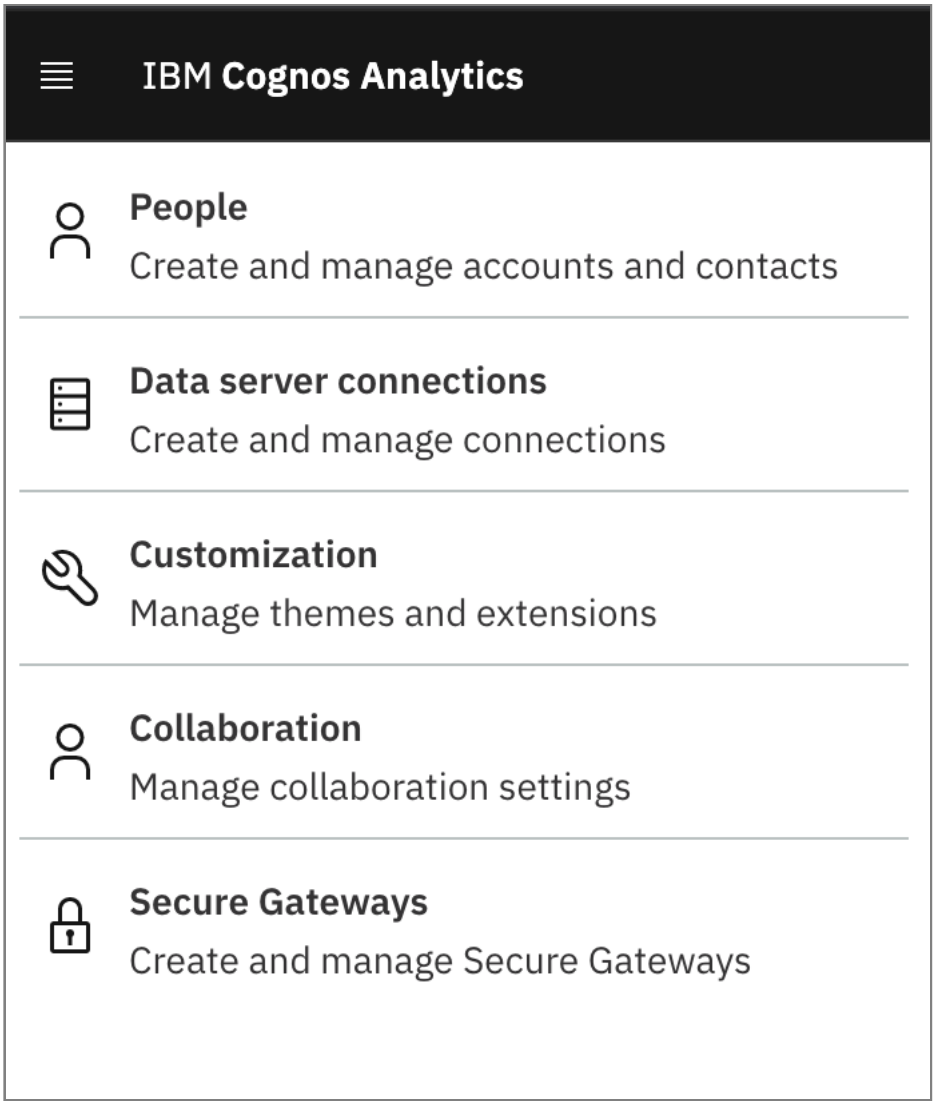
1. Go to myibm.ibm.com, login with your IBM Cloud credentails and launch Cognos Analytics.



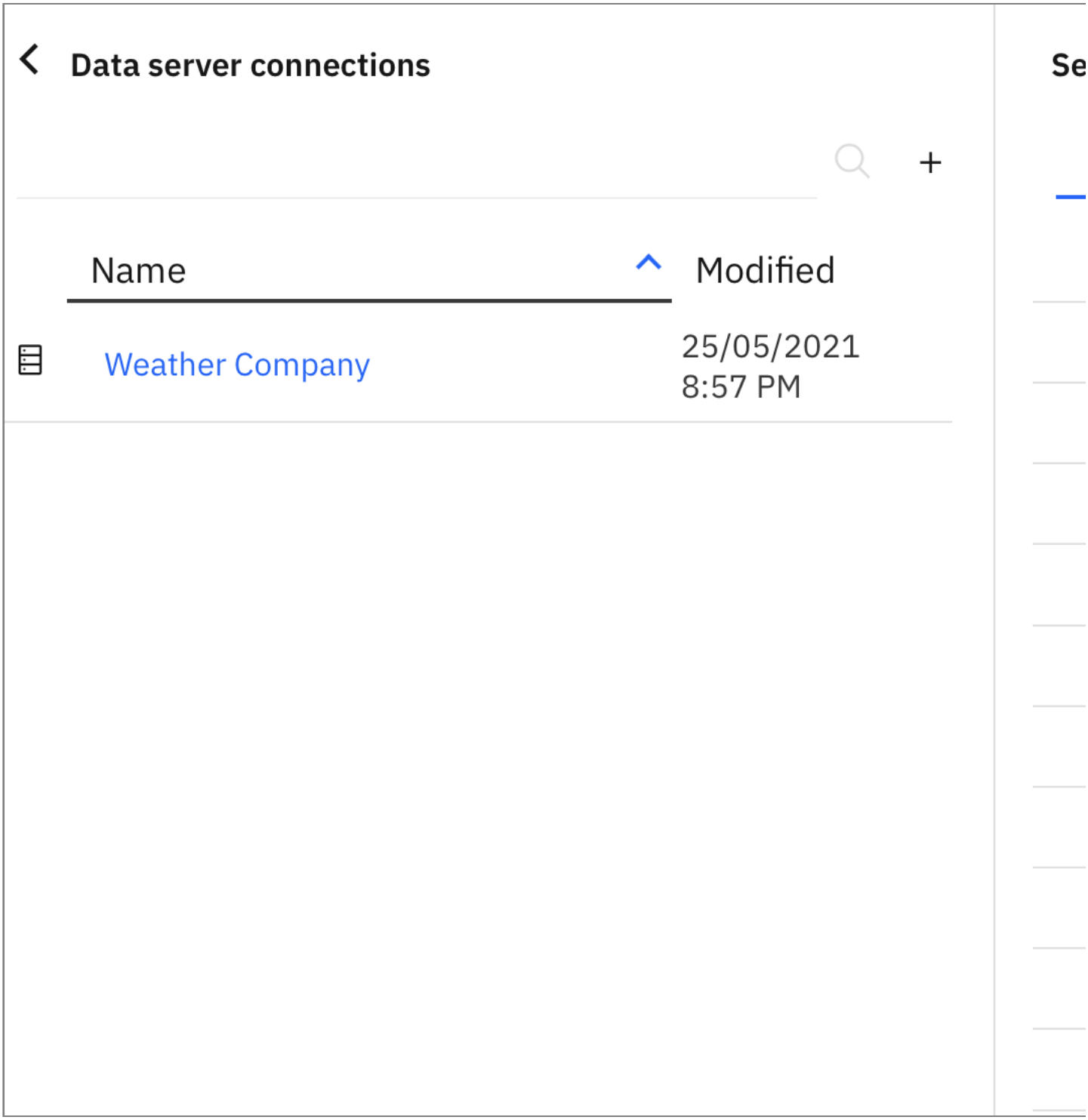
2. Choose the hambuger menu on the upper left and select **Manage**.



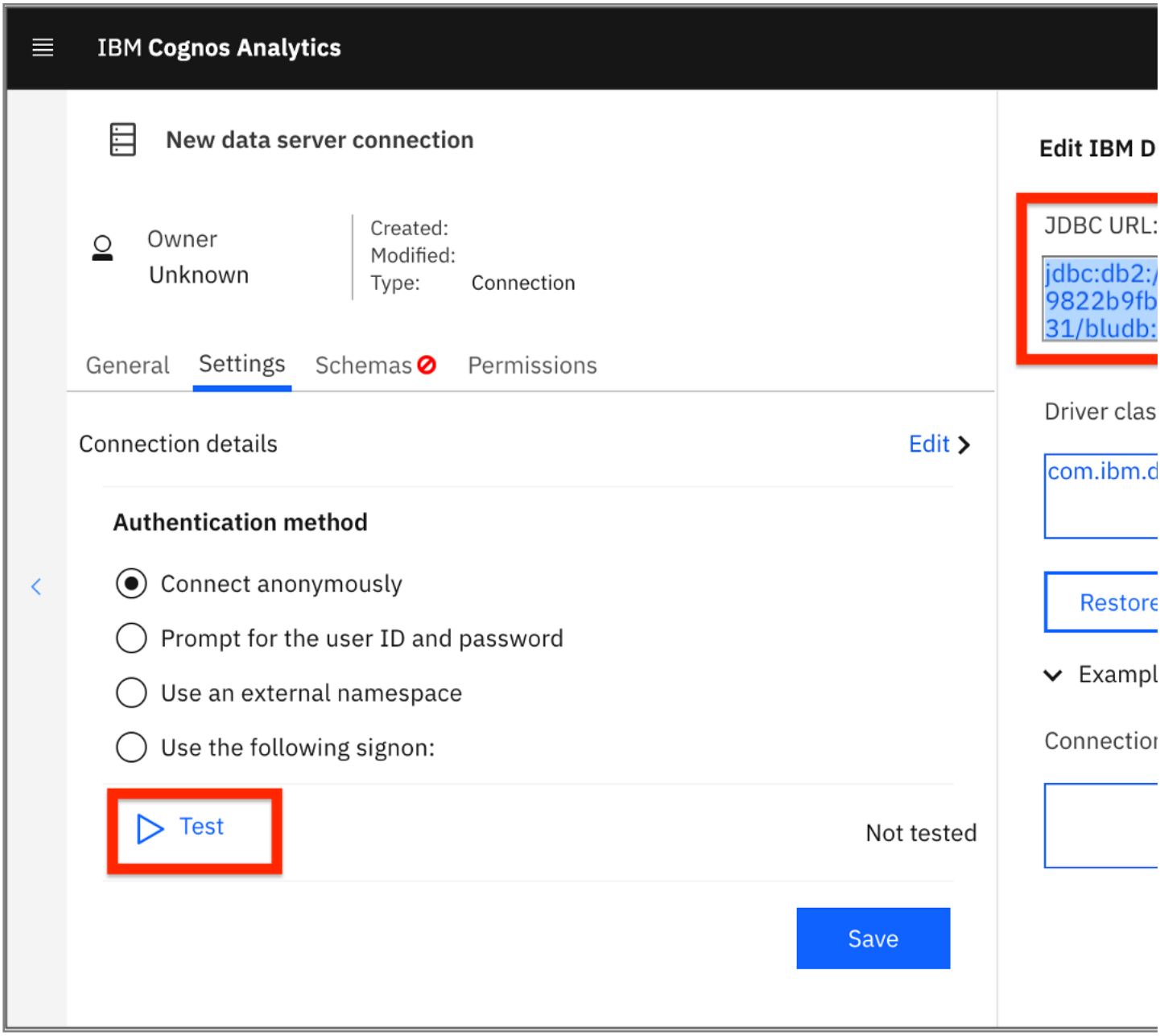
3. Choose the **Data Server Connection**.



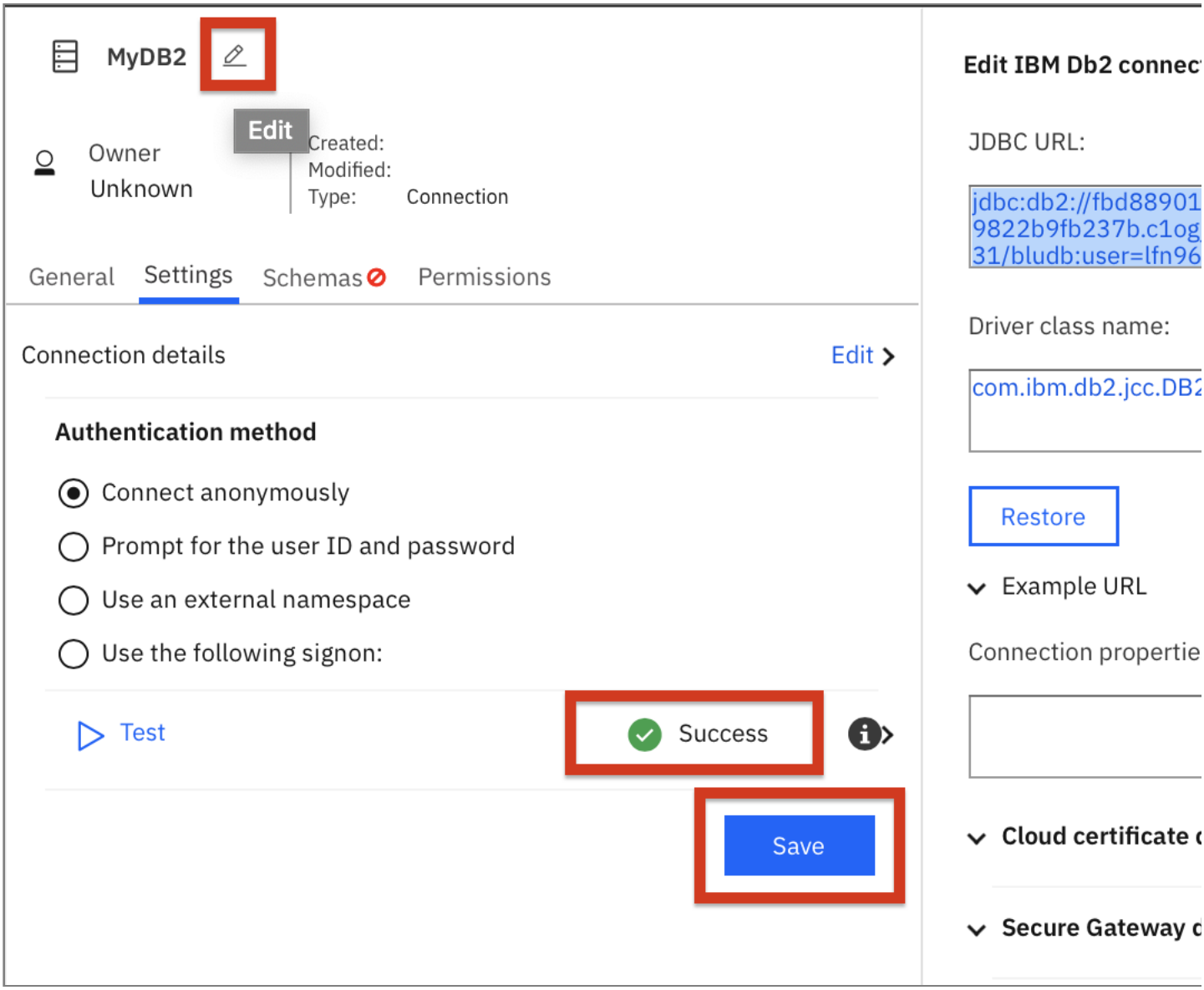
4. Click on **+** to add a data server and choose IBM DB2 from the list shown.



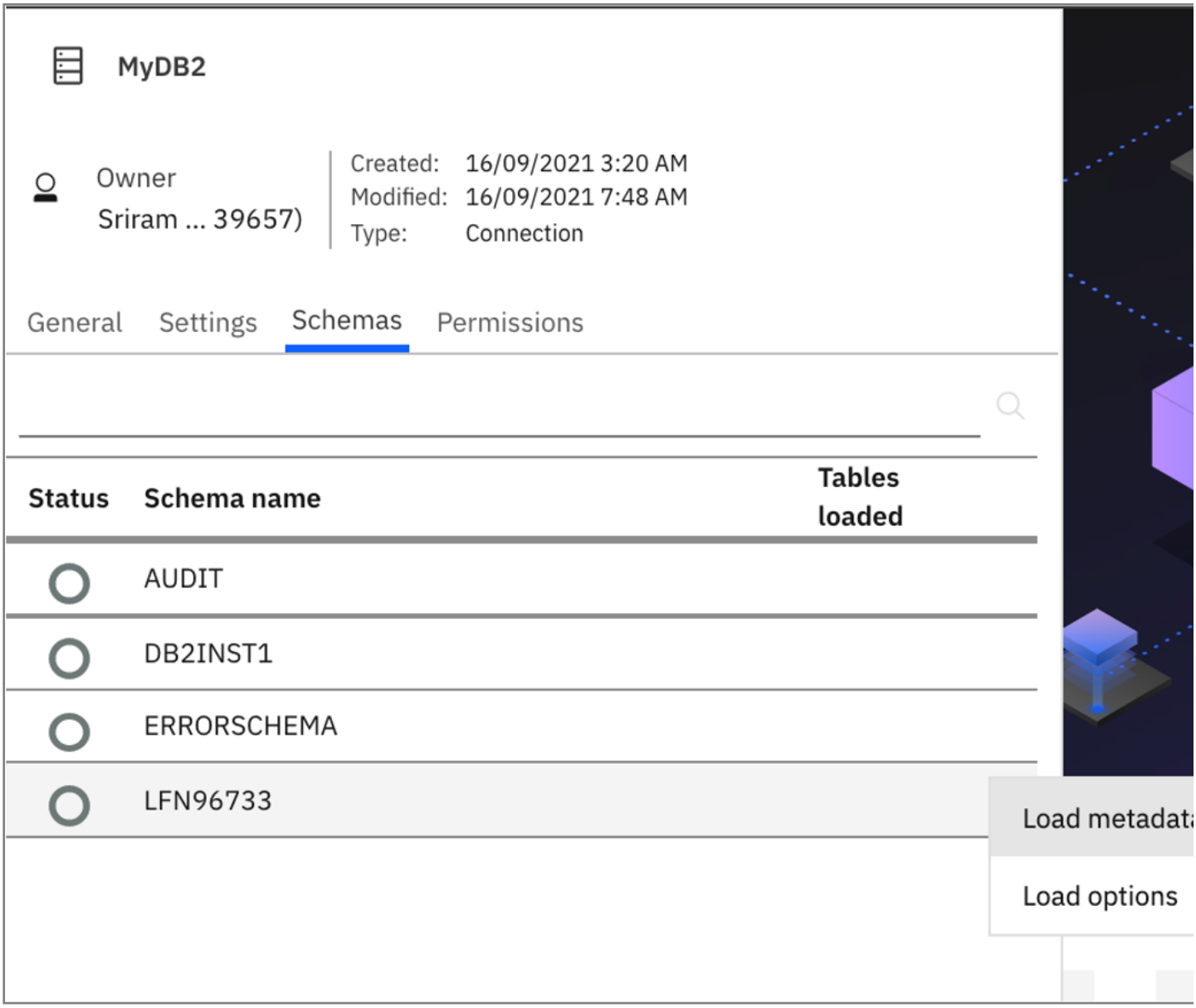
5. Choose to **Connect Anonymously** and enter the jdbc url with your db2 user name and password that you copied earlier in Task 1. Click on **Test** to test the connection.



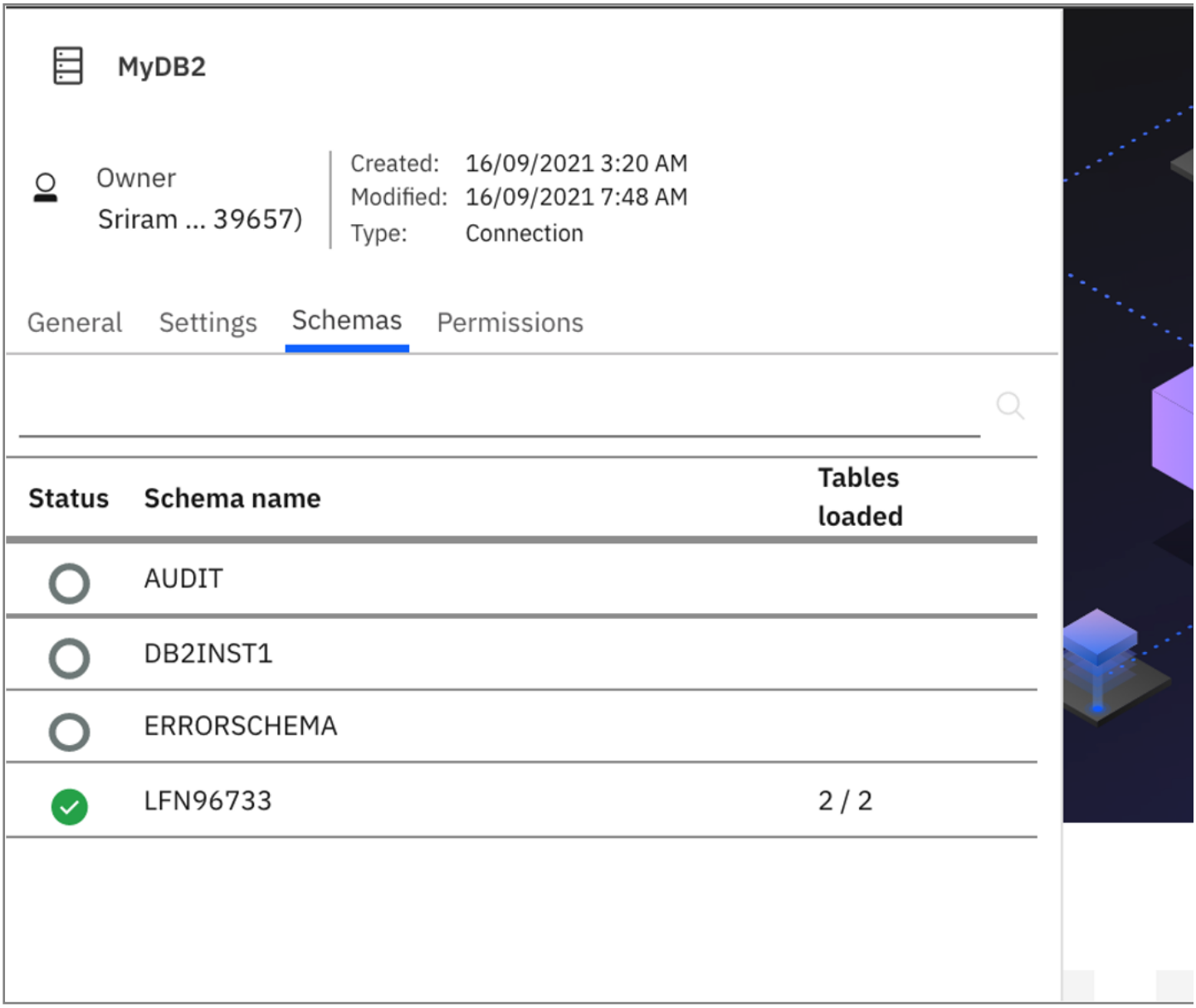
6. If the test succeeded and Cognos managed to connect to the Db2 instance, you will see **Success** with a green tick next to it. Click on the pencil icon, give the connection a name,**MyDB2**, and save it.



7. Go to the **Schema** and click on the **'…'** next to the schema name. Choose **Load Metadata** from the menu that appears.

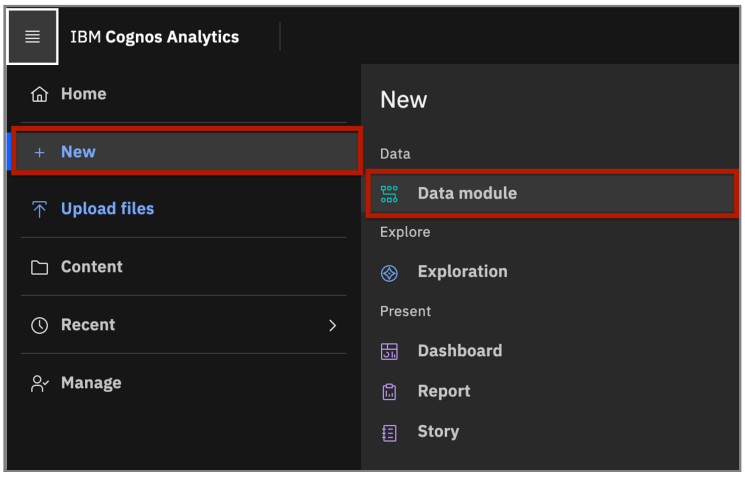


8. Once the metadata is loaded you will see a green check mark next to the schema name and it will also indicate how many tables are available in the schema for analysis.

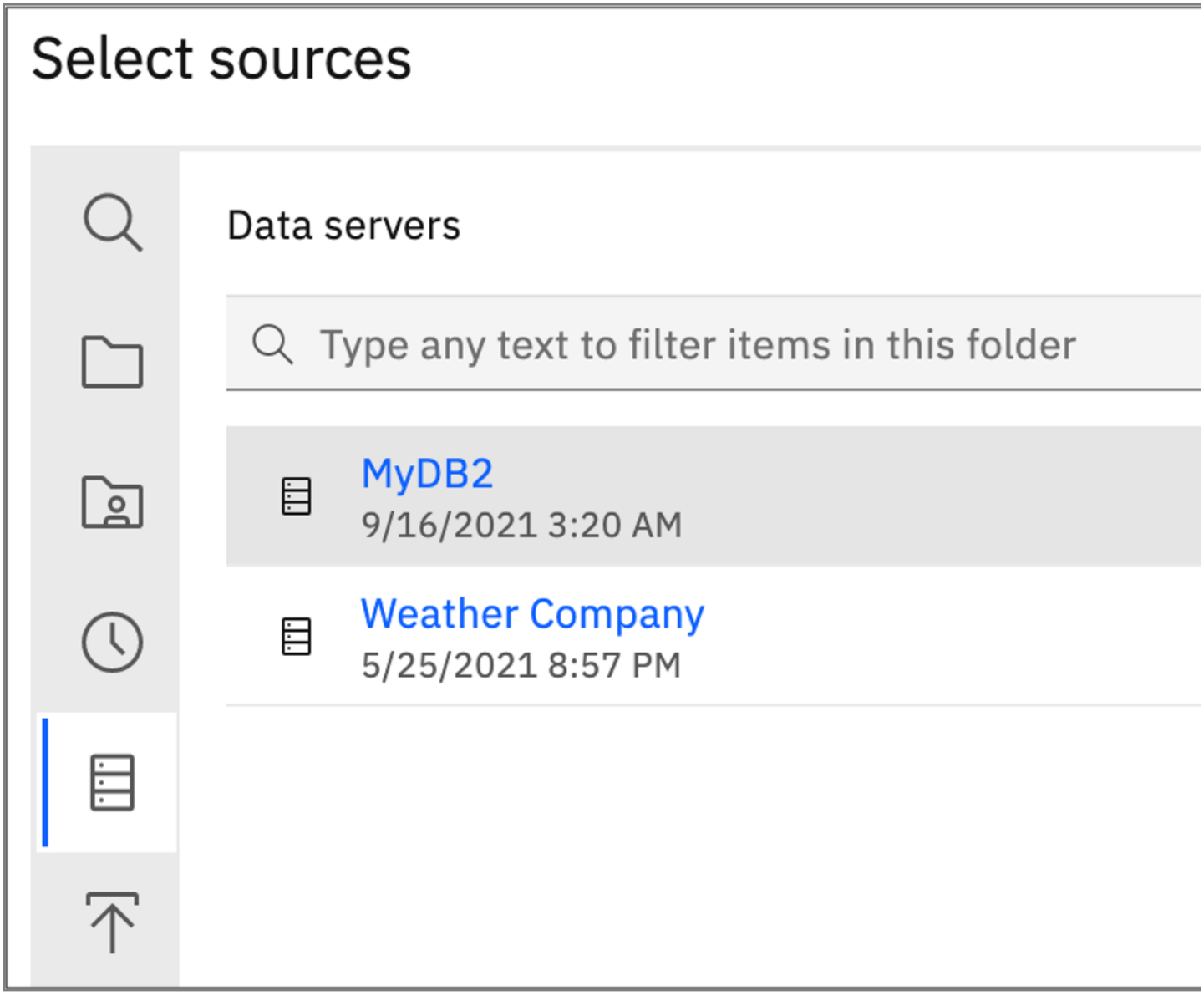


Task 3 - Create Data Module in Cognos

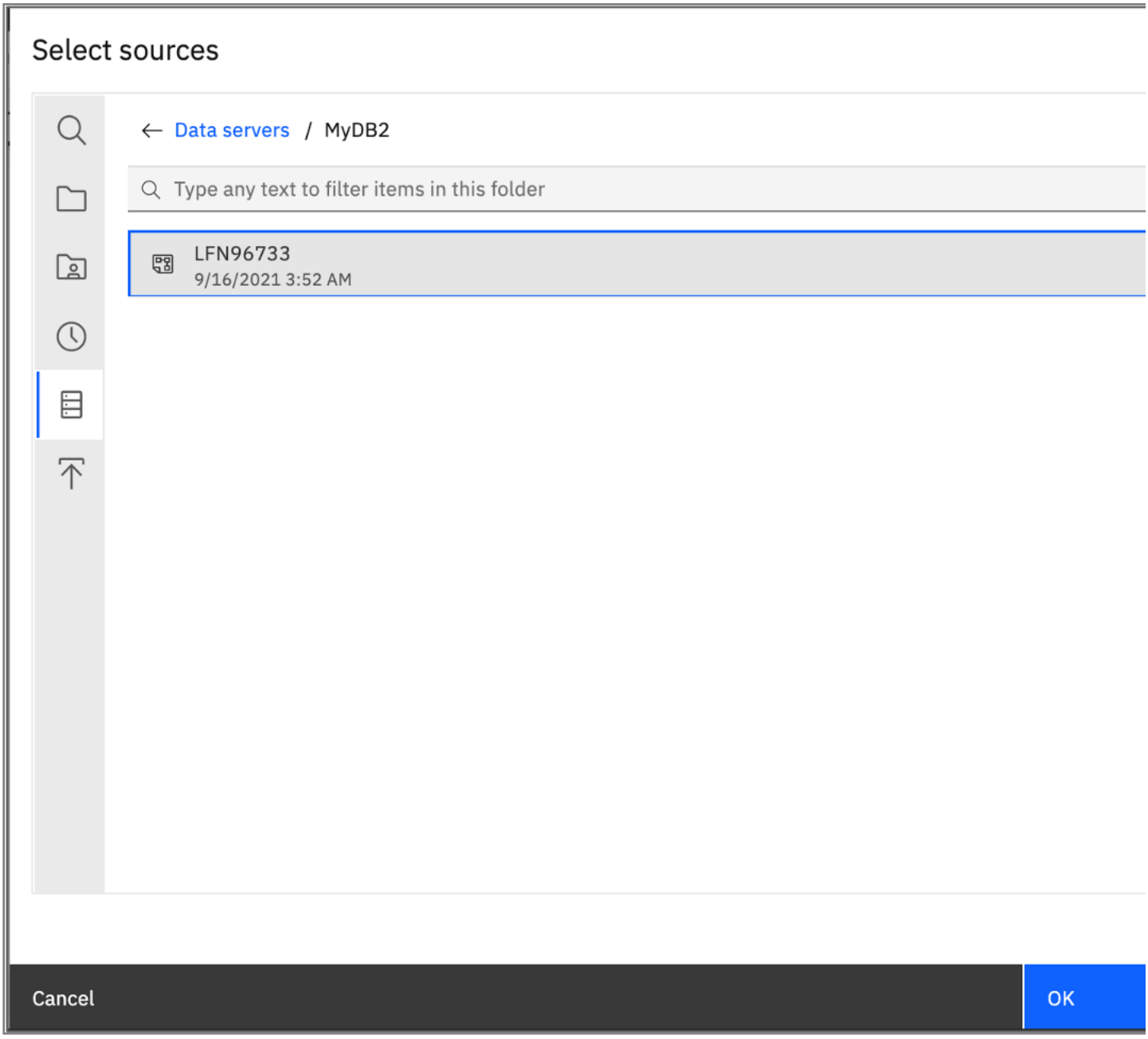
1. From the menu, choose **New** and then from the submenu choose **Data Module**.



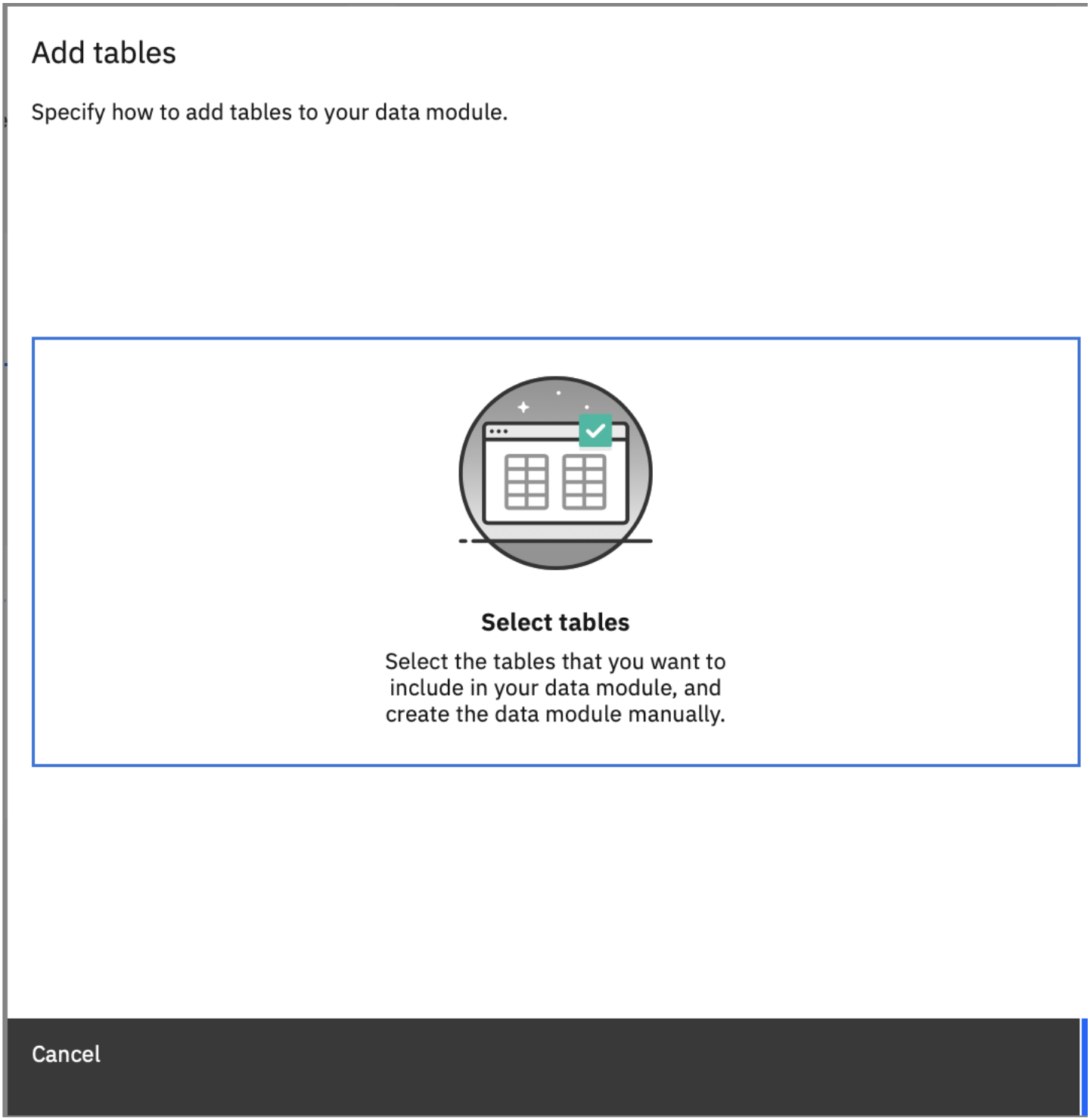
2. Click the **Data servers** icon and choose the **MyDB2** connection that we created in the previous task.



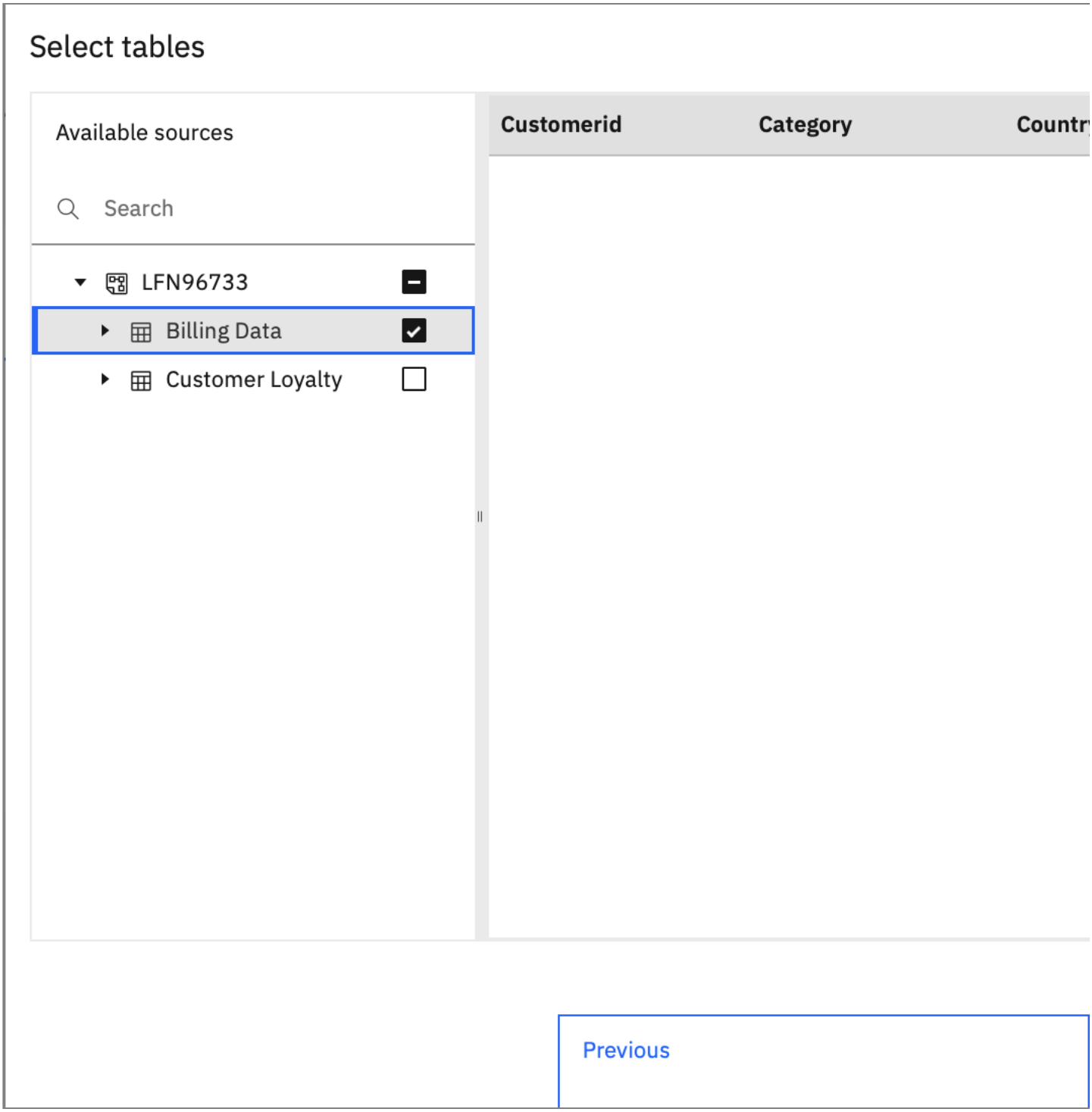
3. Choose the schema from where you want to load data.



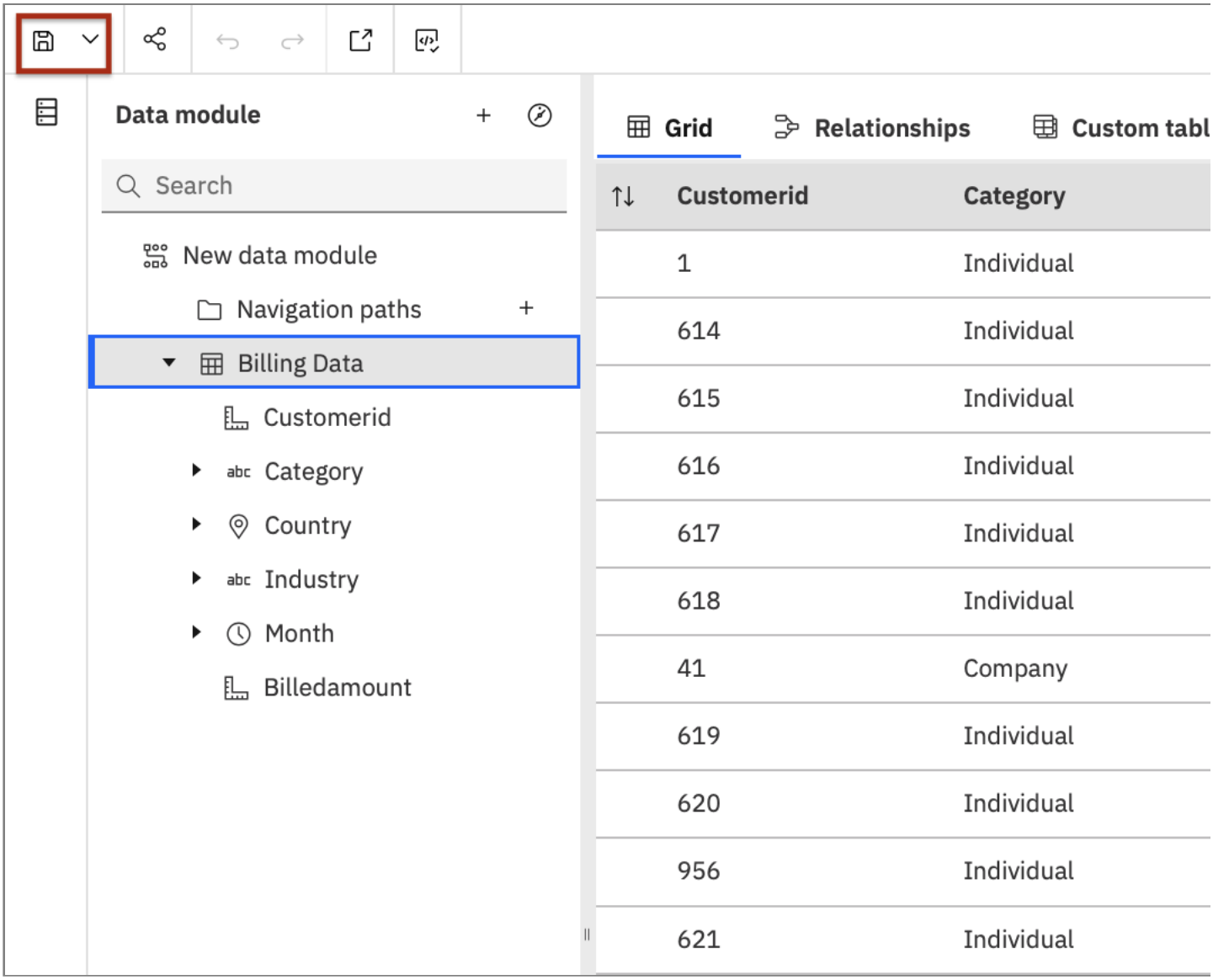
4. Choose the **Select Tables** option and click **OK**.



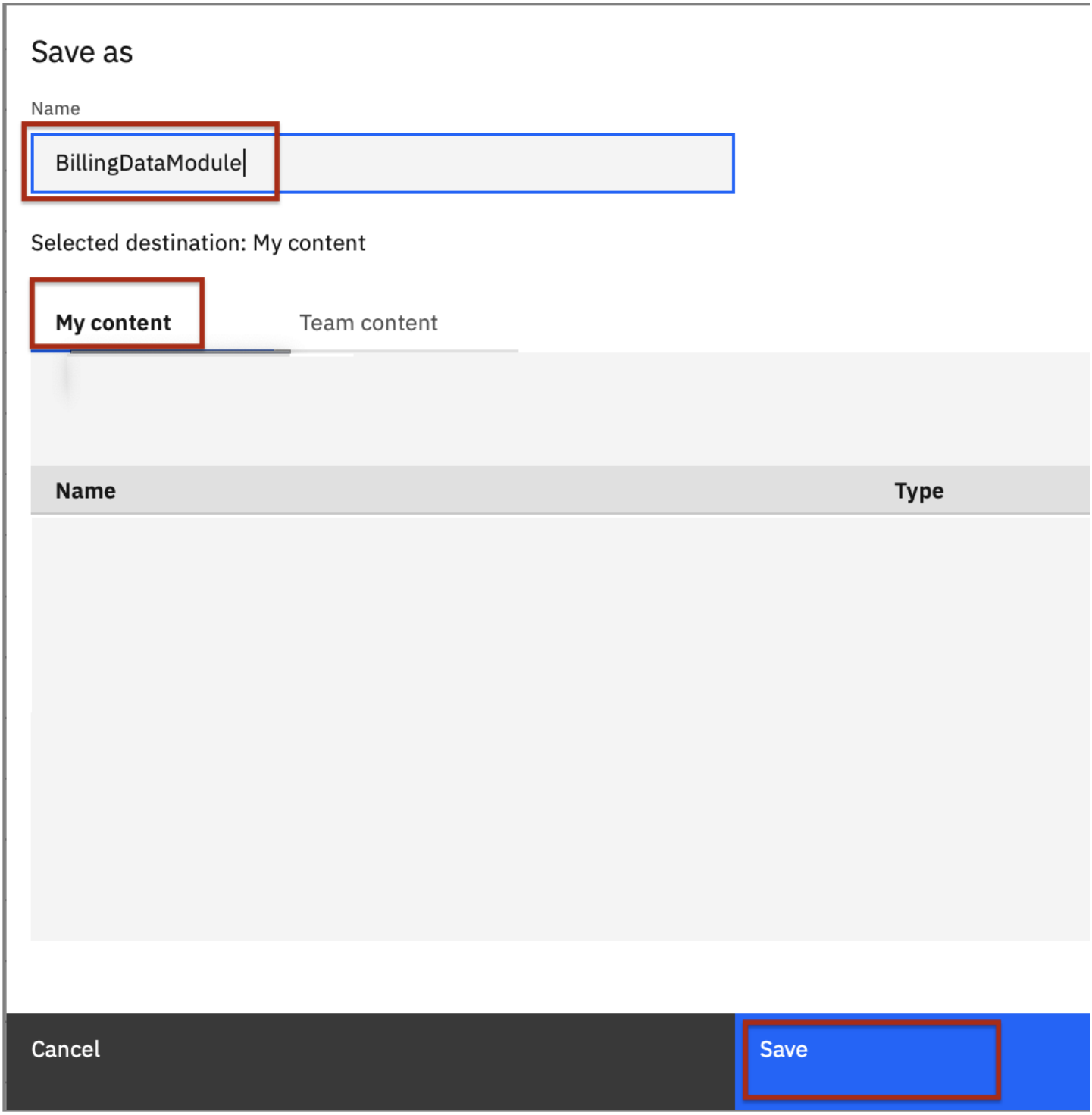
5. It will list the tables available in the schema. For this lab, we will use the **Billing data** table. Choose the table and click on **OK**. If you want to view the data you may click on **Refresh**.



6. The **Data module** loaded with the data appears. Click on **Save**, once you see that the data is correctly loaded.

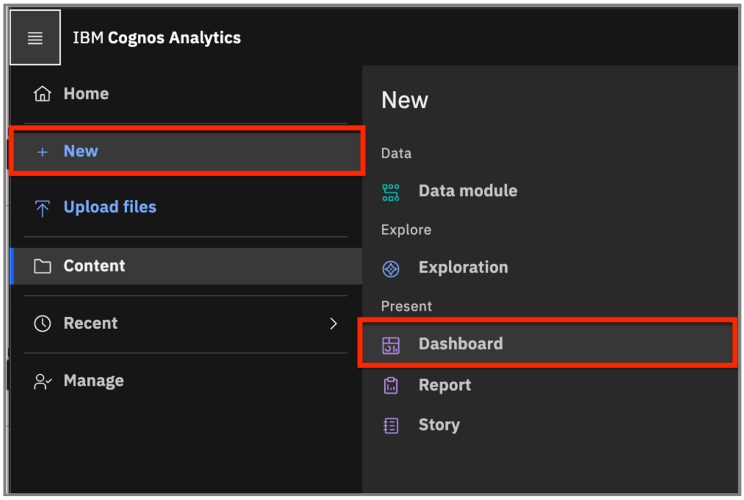


7.You can now save it with an appropriate name under **My Content**.



Task 4 - Create Dashboard

1. From the IBM Cognos menu, choose, **New** and click on **Dashboard**.

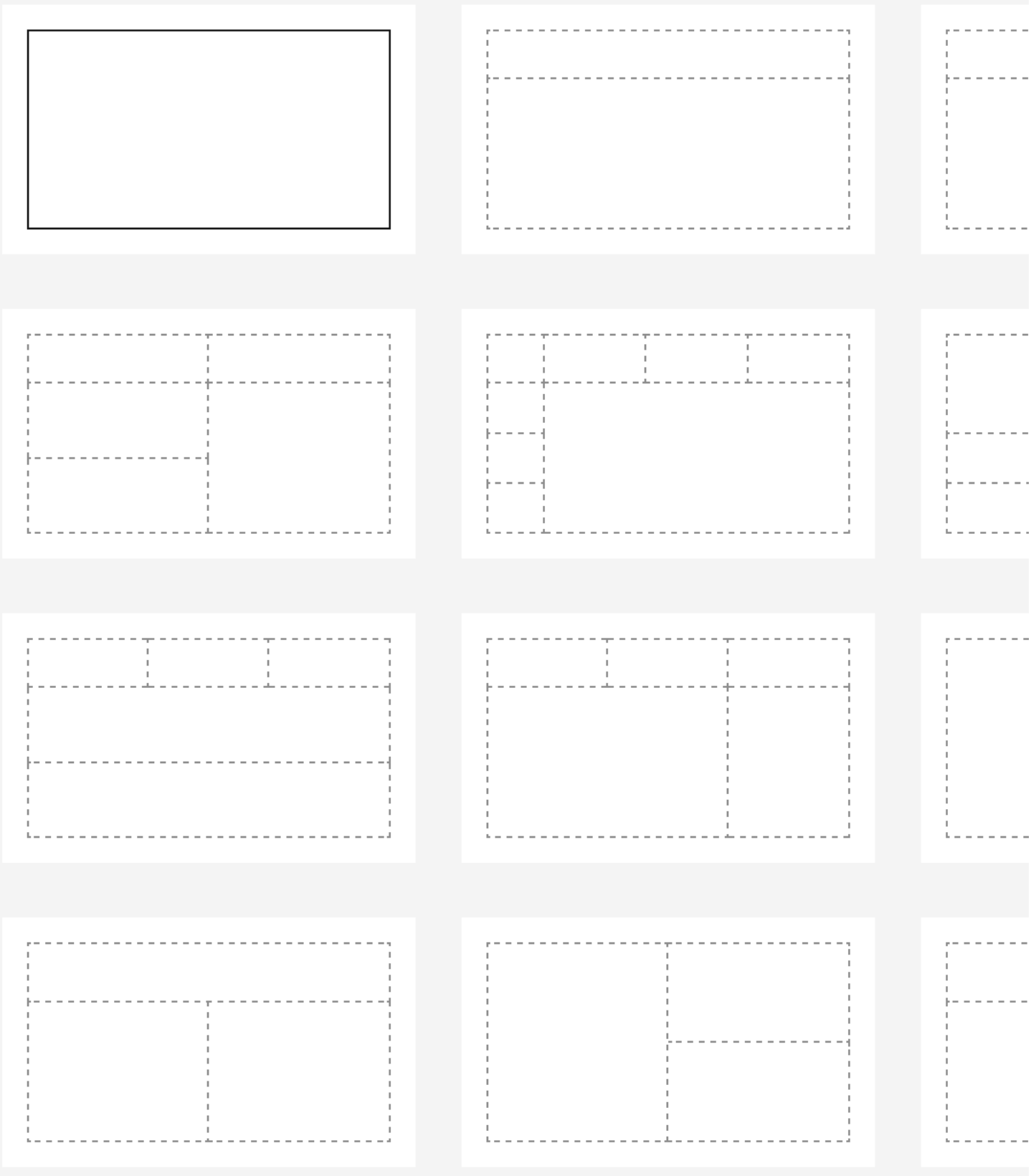


2. Choose the **Tabbed** as shown in the following image.

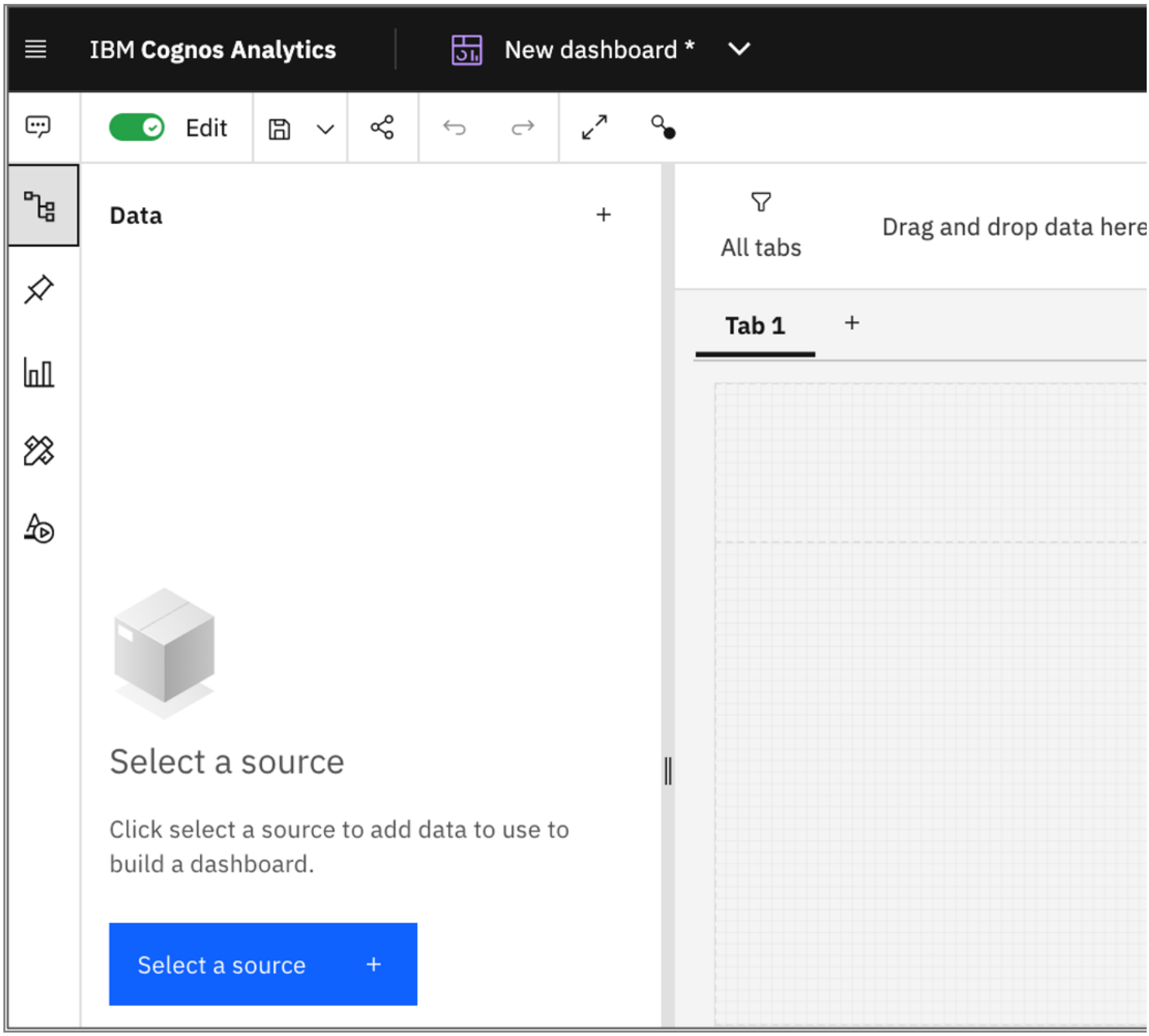
Create a dashboard

Select a template for your dashboard

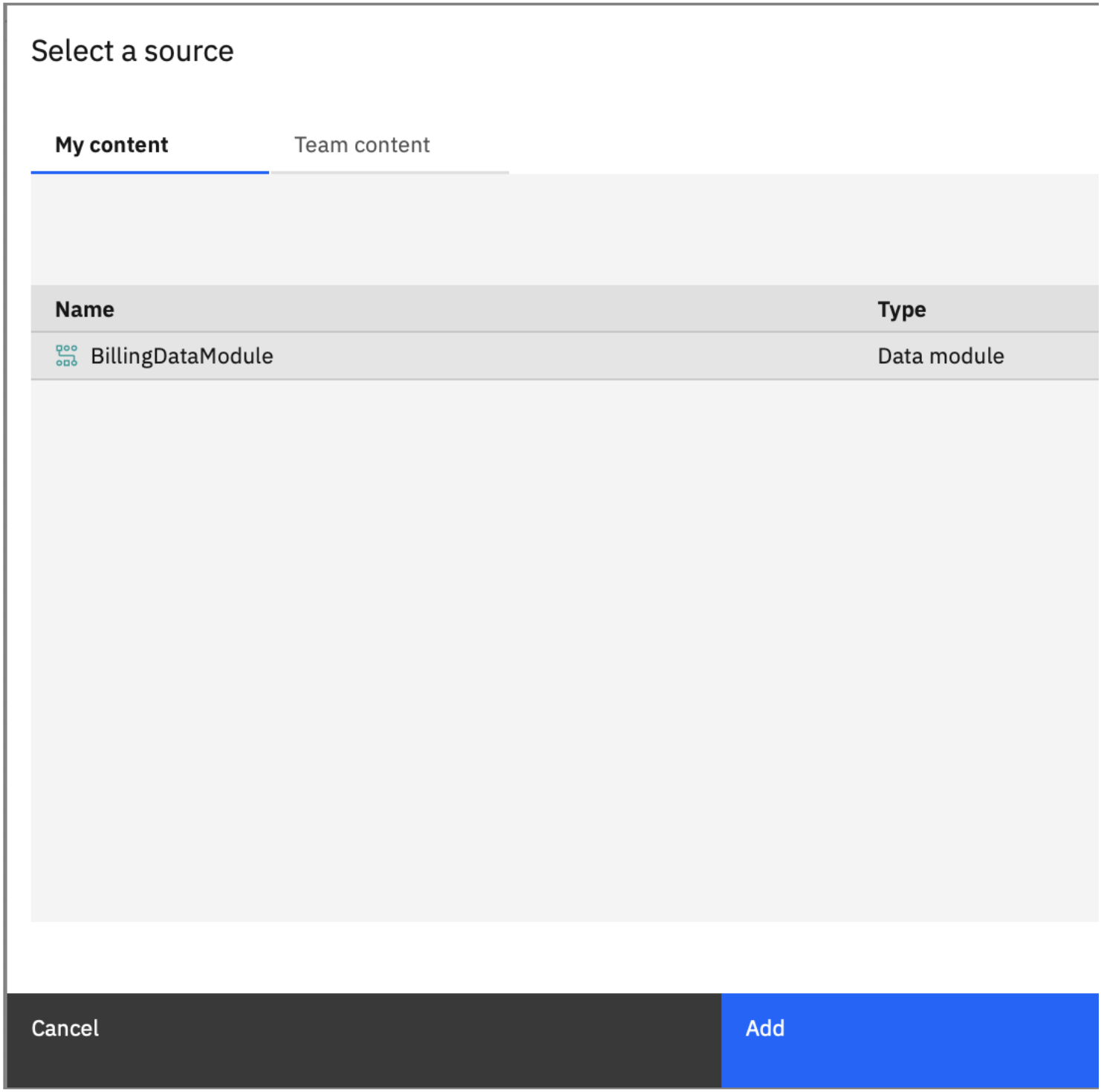
Tabbed Infographic



3. Click on **Select Source** to choose the source for the template.



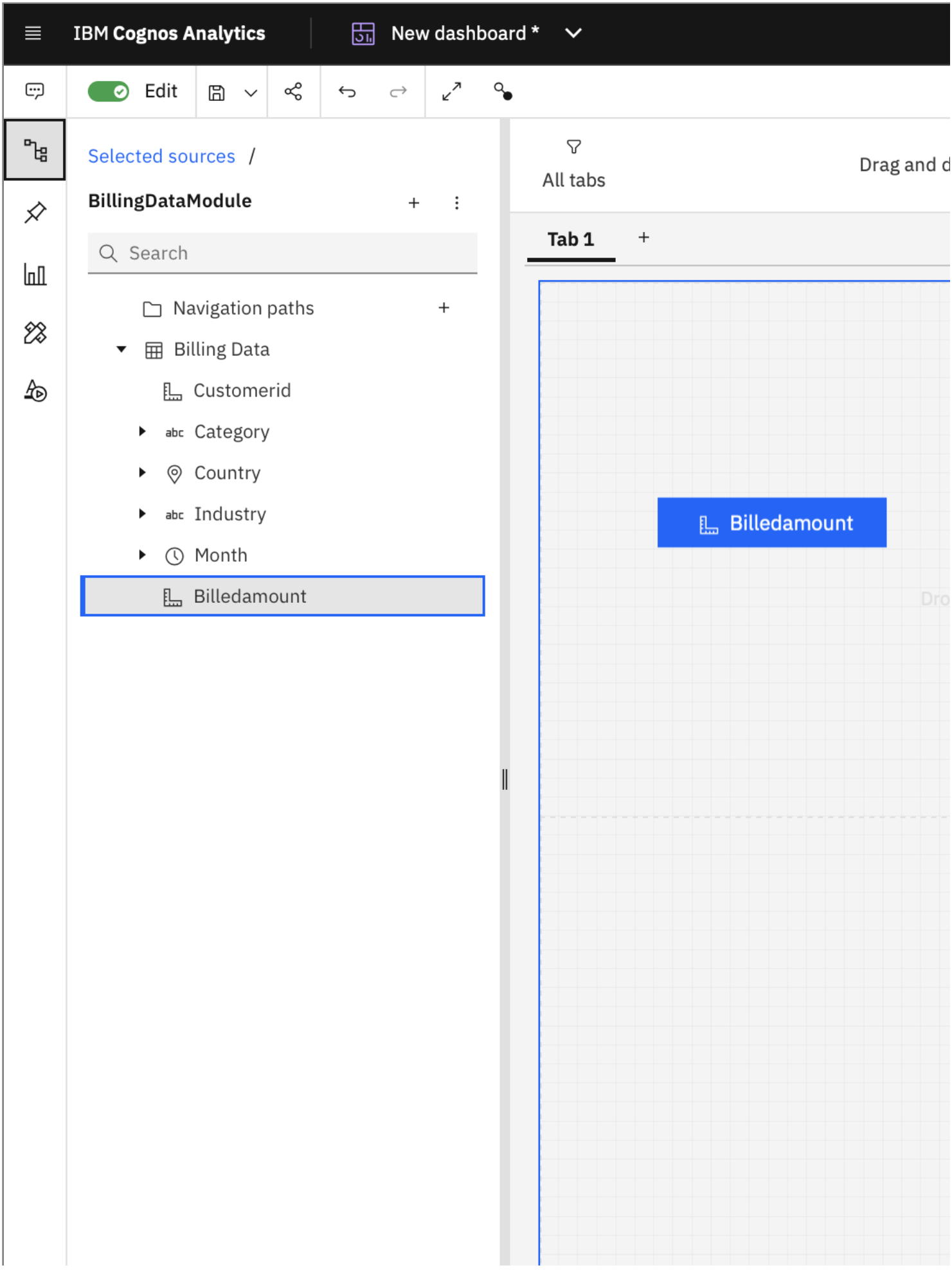
4. From the list, choose the data module we just created and click on **Add**.

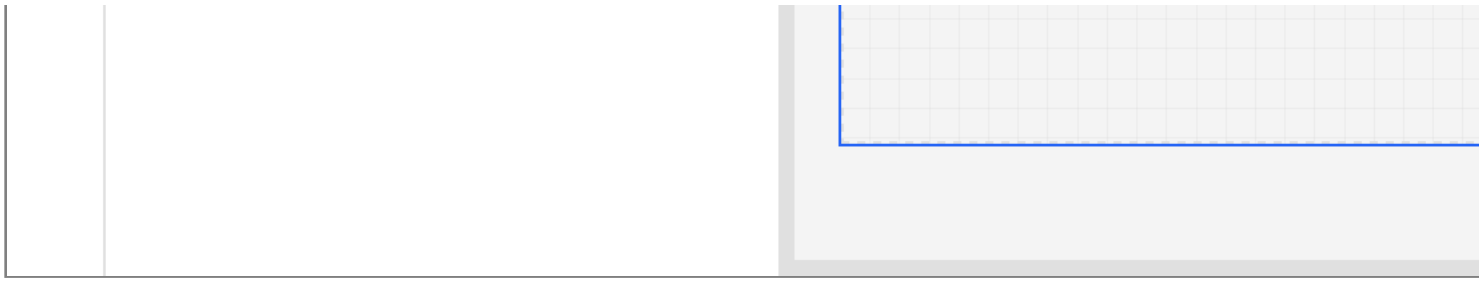


Task 5 - Visualization

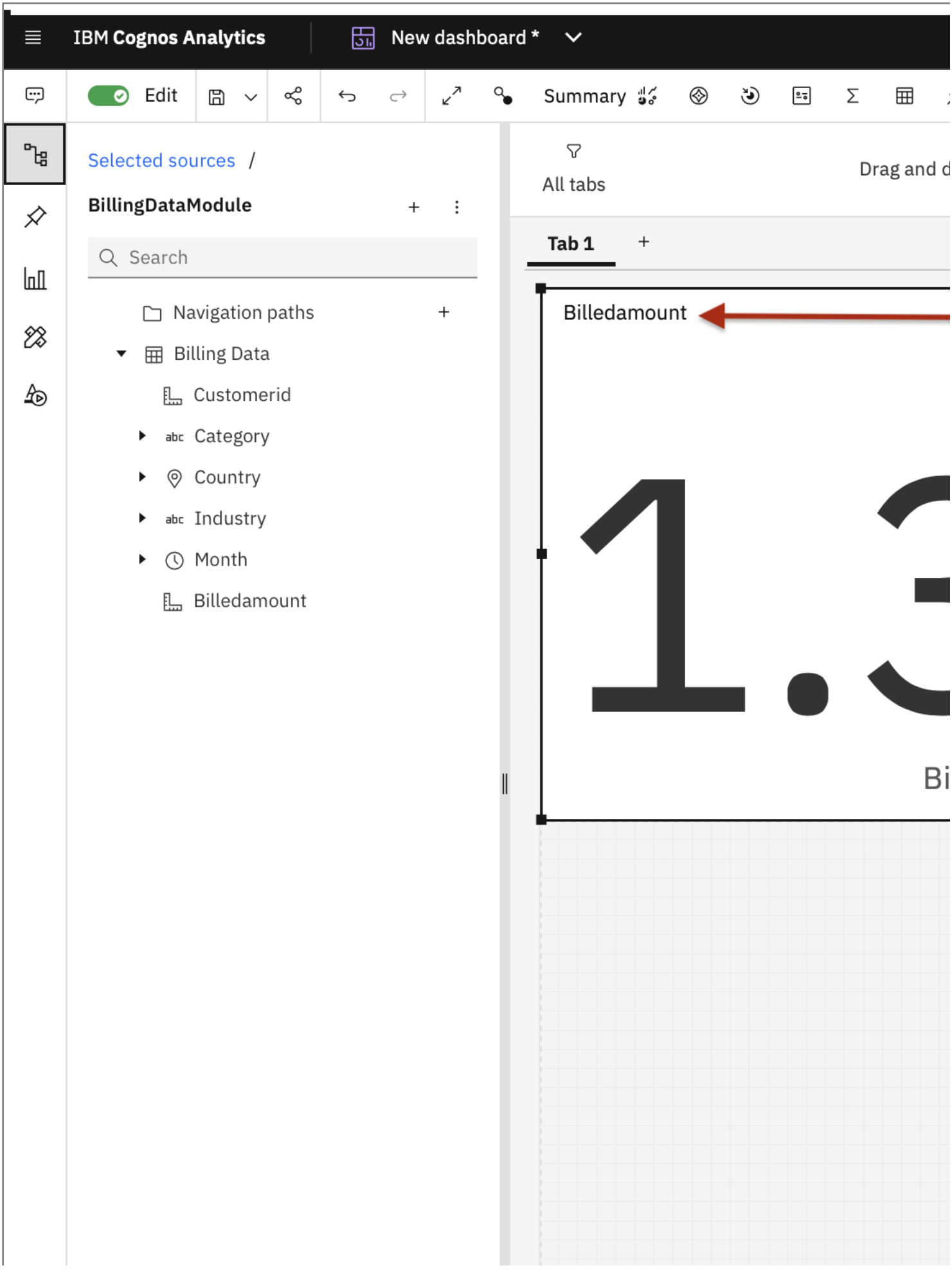
You will now see the table listed on the left panel with all the attributes.

1. Drag and drop the **Billed Amount** on the template.

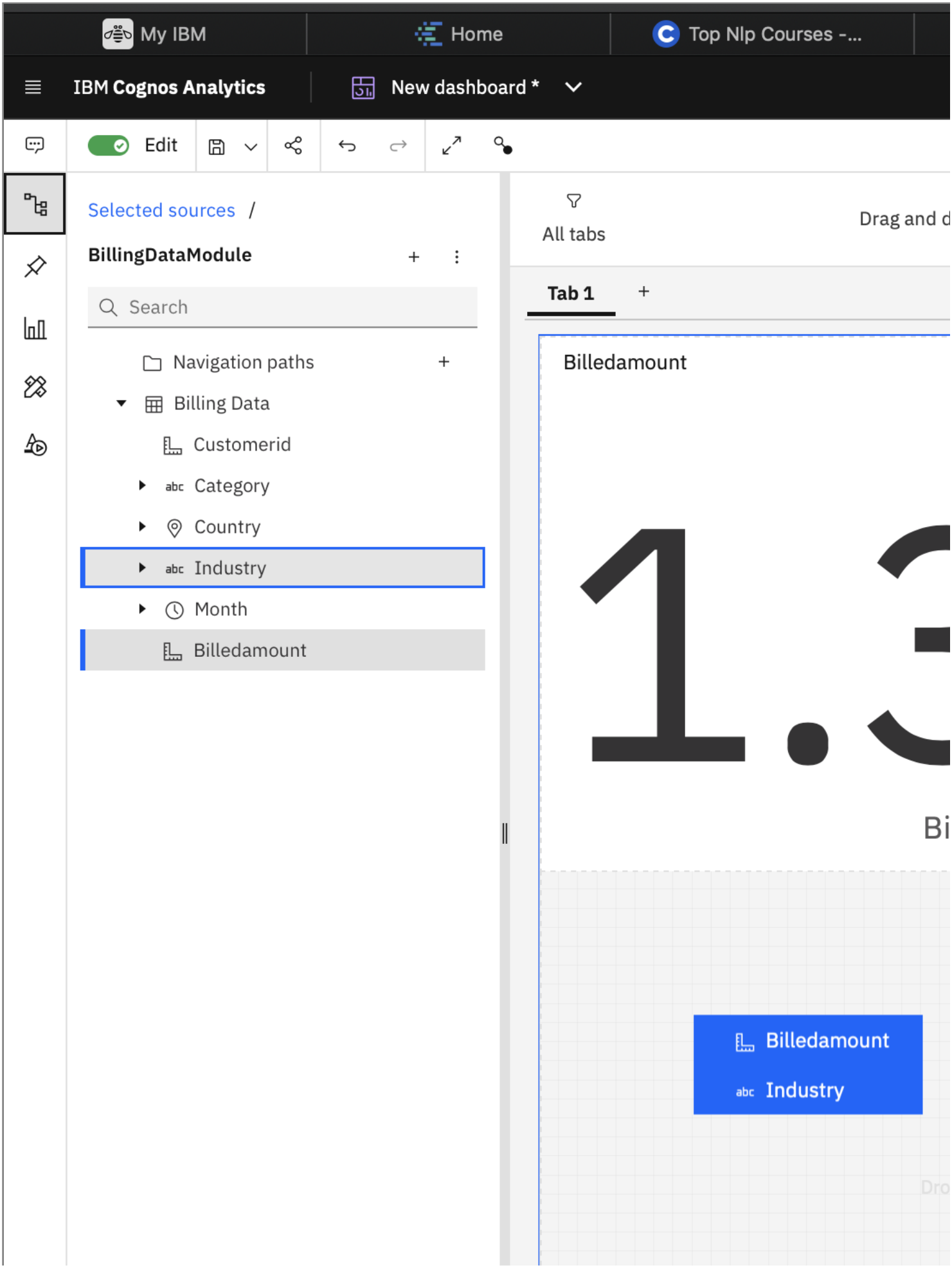

IBM Cognos Analytics
New dashboard *
Edit
Selected sources /
BillingDataModule
Search
Navigation paths
Billing Data
Customerid
Category
Country
Industry
Month
Billedamount
All tabs
Drag and d
Tab 1
Billedamount

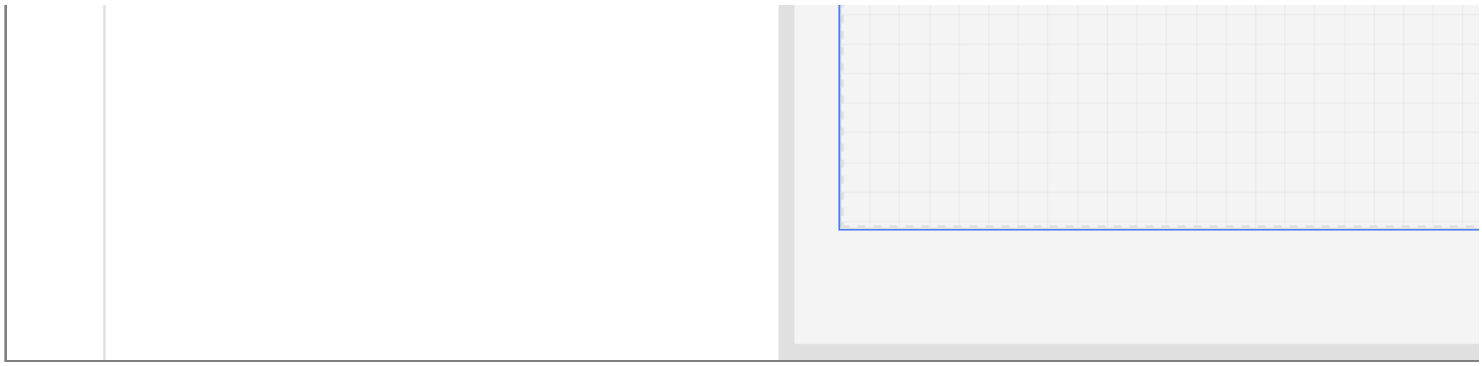


2. The total billed amount will now appear on the Dashboard. The size and position can be adjusted as per requirement and the text display can be edited and formatted by double-clicking on it.

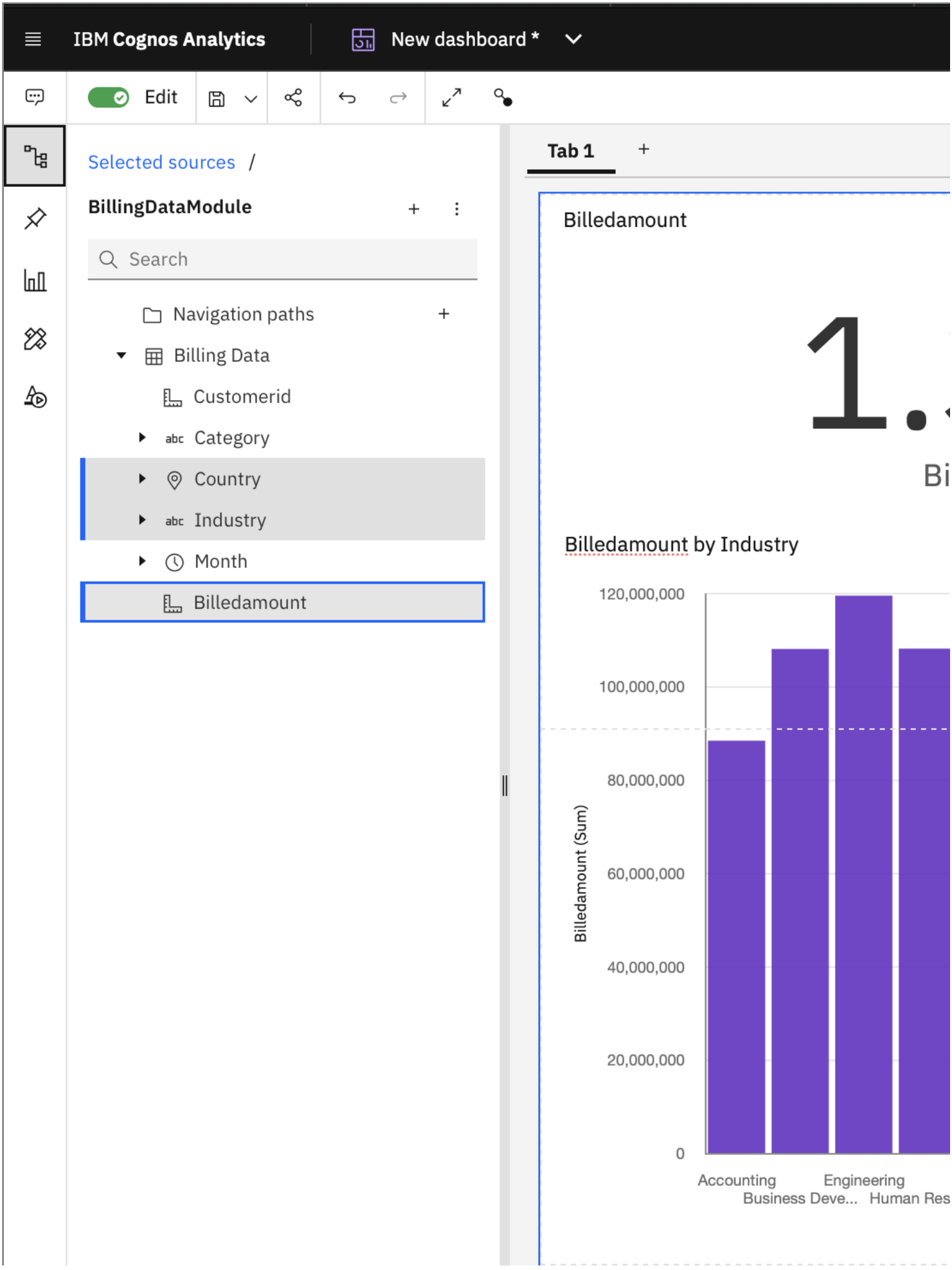

IBM Cognos Analytics
New dashboard *
Edit
Summary
Selected sources /
BillingDataModule
Search
Navigation paths
Billing Data
Customerid
Category
Country
Industry
Month
Billedamount
All tabs
Drag and d
Tab 1
Billedamount

3. Drag and drop **Billed Amount** and **Industry** onto the dashboard as shown in the following image. With this, we can visualize the build amount per industry.

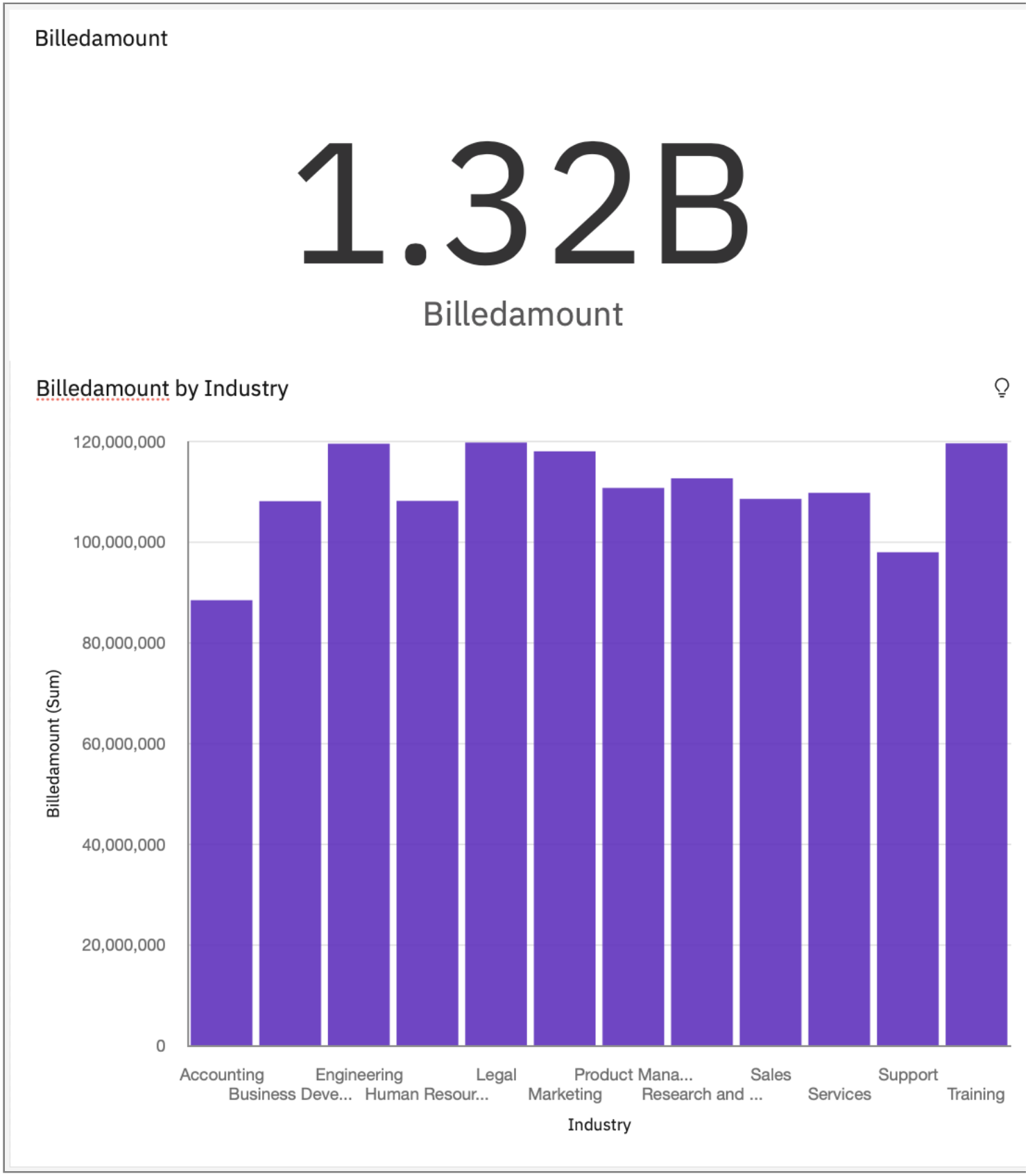

My IBM
Home
Top Nlp Courses -...
IBM Cognos Analytics
New dashboard *
Edit
Selected sources /
BillingDataModule
Search
Navigation paths
Billing Data
Customerid
Category
Country
Industry
Month
Billedamount
All tabs
Drag and d
Tab 1
Billedamount
Billedamount
Industry



4. Drag and drop **Billed Amount, Country and Industry** onto the dashboard as shown in the following image. This will generate a heat map of spending by country and by industry.


IBM Cognos Analytics
New dashboard *
Edit
Selected sources /
BillingDataModule
Search
Navigation paths
Billing Data
Customerid
Category
Country
Industry
Month
Billedamount
Tab 1
Billedamount
Billedamount by Industry
120,000,000
100,000,000
80,000,000
60,000,000
40,000,000
20,000,000
0
Billedamount (Sum)
Accounting
Business Deve...
Engineering
Human Res

5. The finished dashboard will appear as in the following image.



6. Optionally, try to change the properties and settings to see how the dashboard changes. You can also observe the billed amount changing as you click on a region on the heat map or the bar graph.

Credits

Author(s)

Lavanya T S

Changelog

Date	Version	Changed by	Change Description
2020-09-20	1.0	Lavanya	Created the lab
2021-10-07	1.1	Steve Hord	Copy Edit lab
2023-05-07	1.2	Vladislav Boyko	Indented images and added pages