Hands-on Lab: Create Tables using SQL S
Data into Tables

Estimated time needed: 30 minutes

In this lab, you will learn how to run SQL scripts to create several tables at once, as well as how to load data int

Software Used in this Lab

In this lab, you will use IBM Db2 Database. Db2 is a Relational Database Management System (RDBMS) from IB the data efficiently.

To complete this lab you will utilize a Db2 database service on IBM Cloud. If you did not already complete this yet have access to Db2 on IBM Cloud, and you will need to follow this lab first:

- Hands-on Lab : Sign up for IBM Cloud, Create Db2 service instance and Get started with the Db2 console

Database Used in this Lab

The database used in this lab is an internal database. You will be working on a sample HR database. This HR da called **EMPLOYEES**, **JOB_HISTORY**, **JOBS**, **DEPARTMENTS** and **LOCATIONS**. Each table has a few rows of samp tables for the HR database:

SAMPLE HR DATABASE TABLES

EMPLOYEES

EMP_ID	F_NAME	L_NAME	SSN	B_DATE	SEX	ADDRESS	JOB_ID	SALARY	MANAGER_ID	DEP_ID
E1001	John	Thomas	123456	1976-01-09	M	5631 Rice, OakPark,IL	100	100000	30001	2
E1002	Alice	James	123457	1972-07-31	F	980 Berry ln, Elgin,IL	200	80000	30002	5
E1003	Steve	Wells	123458	1980-08-10	M	291 Springs, Gary,IL	300	50000	30002	5

JOB_HISTORY

EMPL_ID	START_DATE	JOBS_ID	DEPT_ID
E1001	2000-01-30	100	2
E1002	2010-08-16	200	5
E1003	2016-08-10	300	5

JOBS

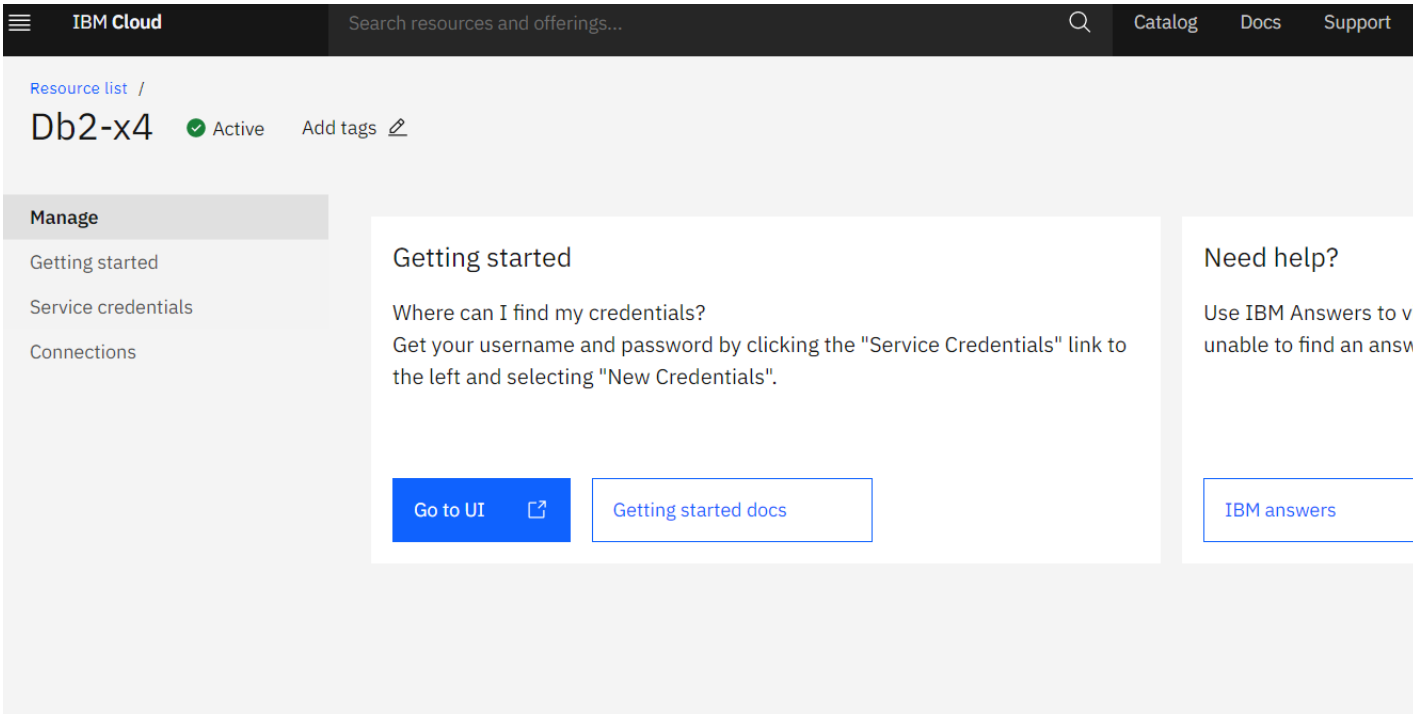
JOB_IDENT	JOB_TITLE	MIN_SALARY	MAX_SALARY
100	Sr. Architect	60000	100000
200	Sr.SoftwareDeveloper	60000	80000
300	Jr.SoftwareDeveloper	40000	60000

DEPARTMENTS

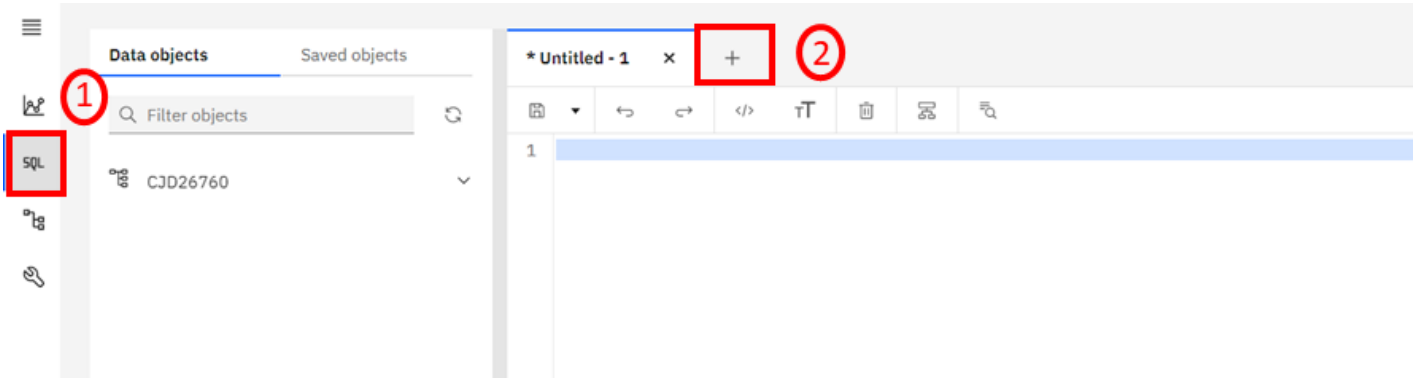
DEPT_ID_DEP	DEP_NAME	MANAGER_ID	LOC_ID
2	Architect Group	30001	L0001
5	Software Development	30002	L0002
7	Design Team	30003	L0003
5	Software	30004	L0004

LOCATIONS

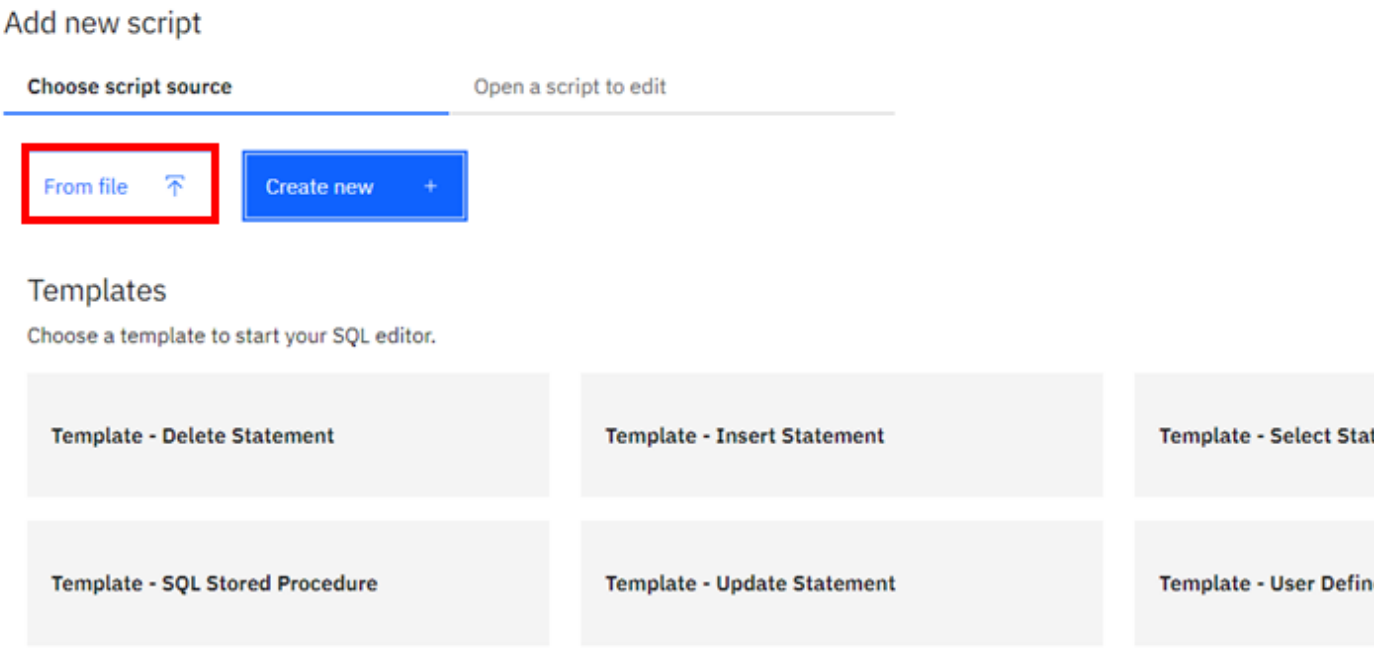
LOCT_ID	DEP_ID_LOC
L0001	2
L0002	5
L0003	7

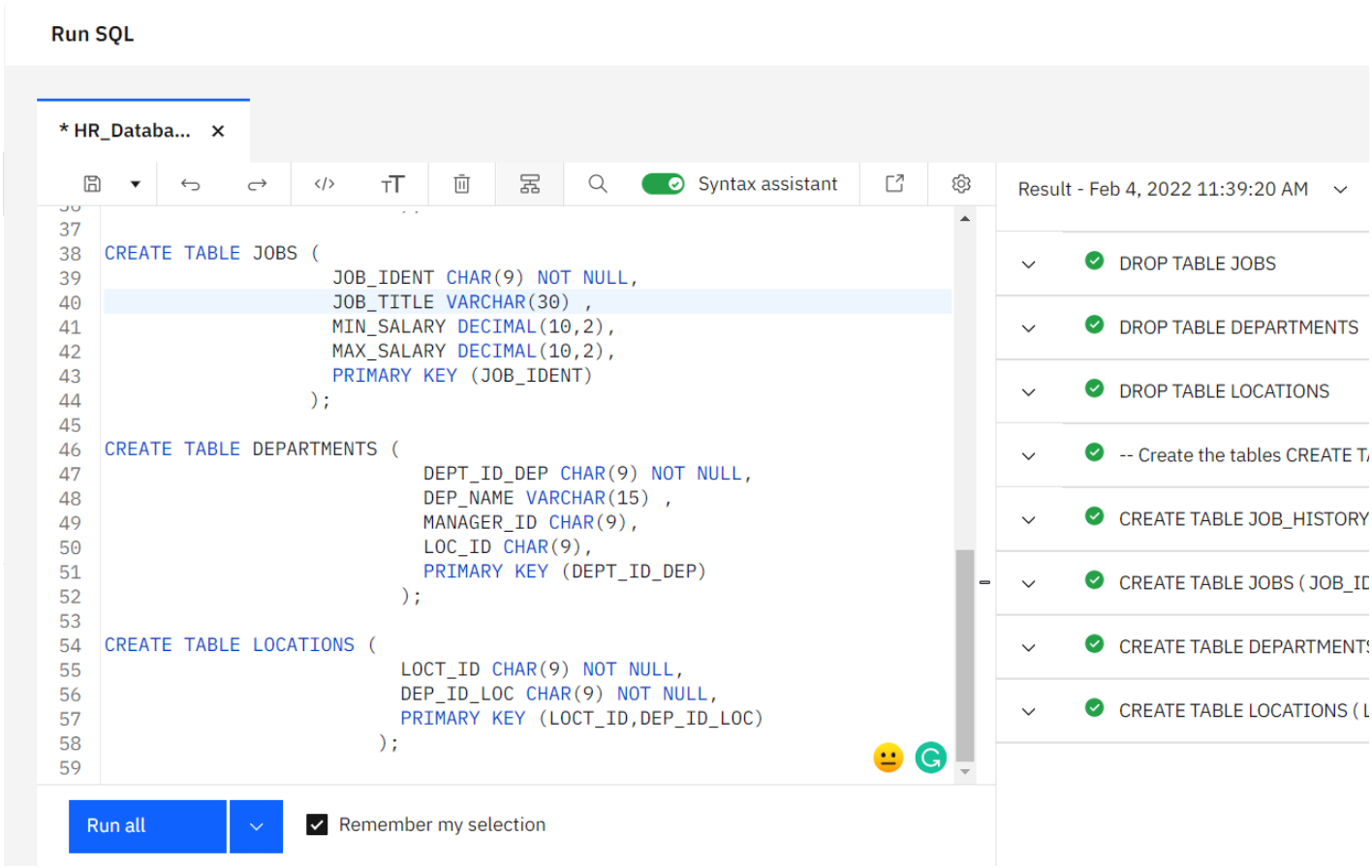


3. Click on **SQL** on the left corner and click the + icon



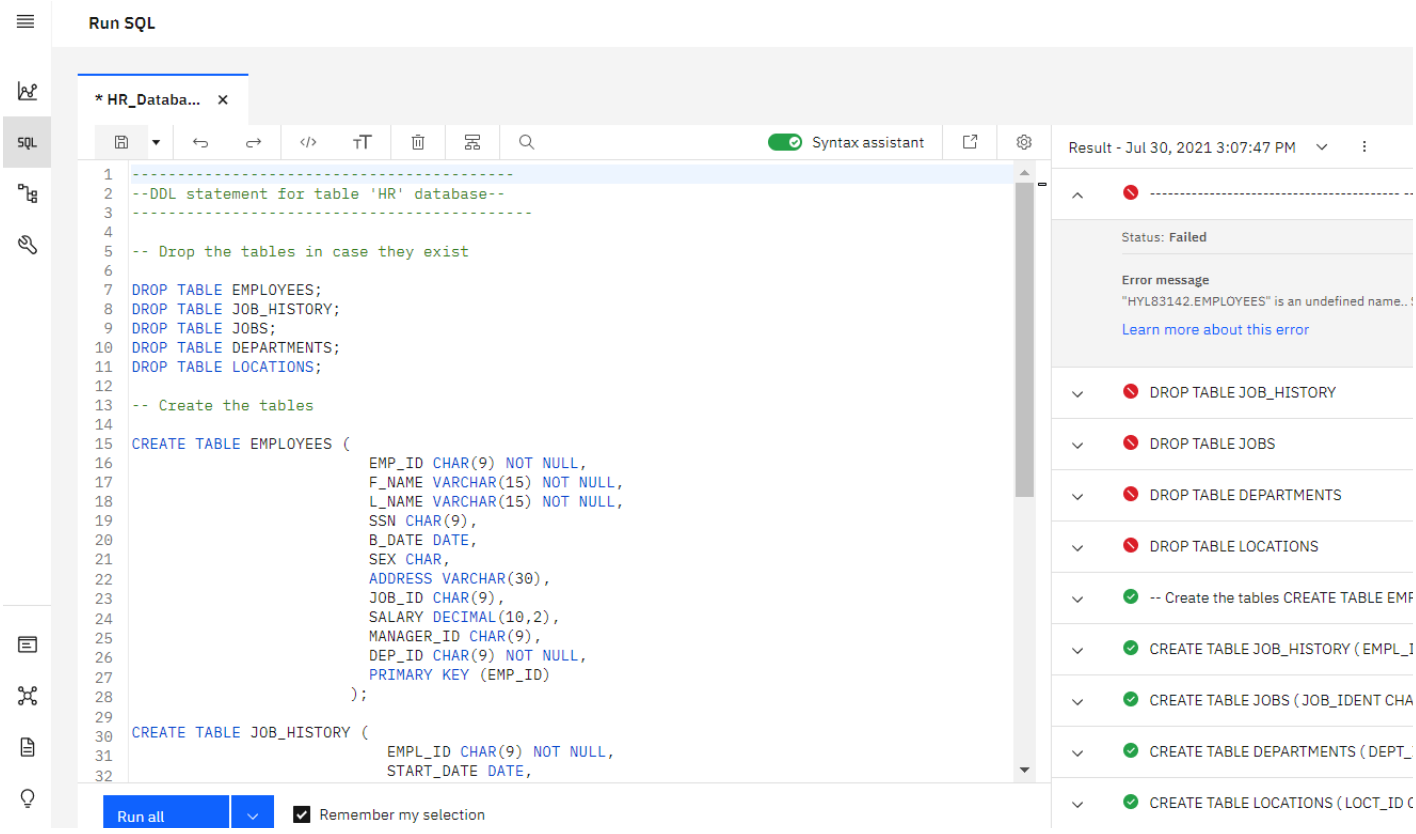
Select the **From File** option.

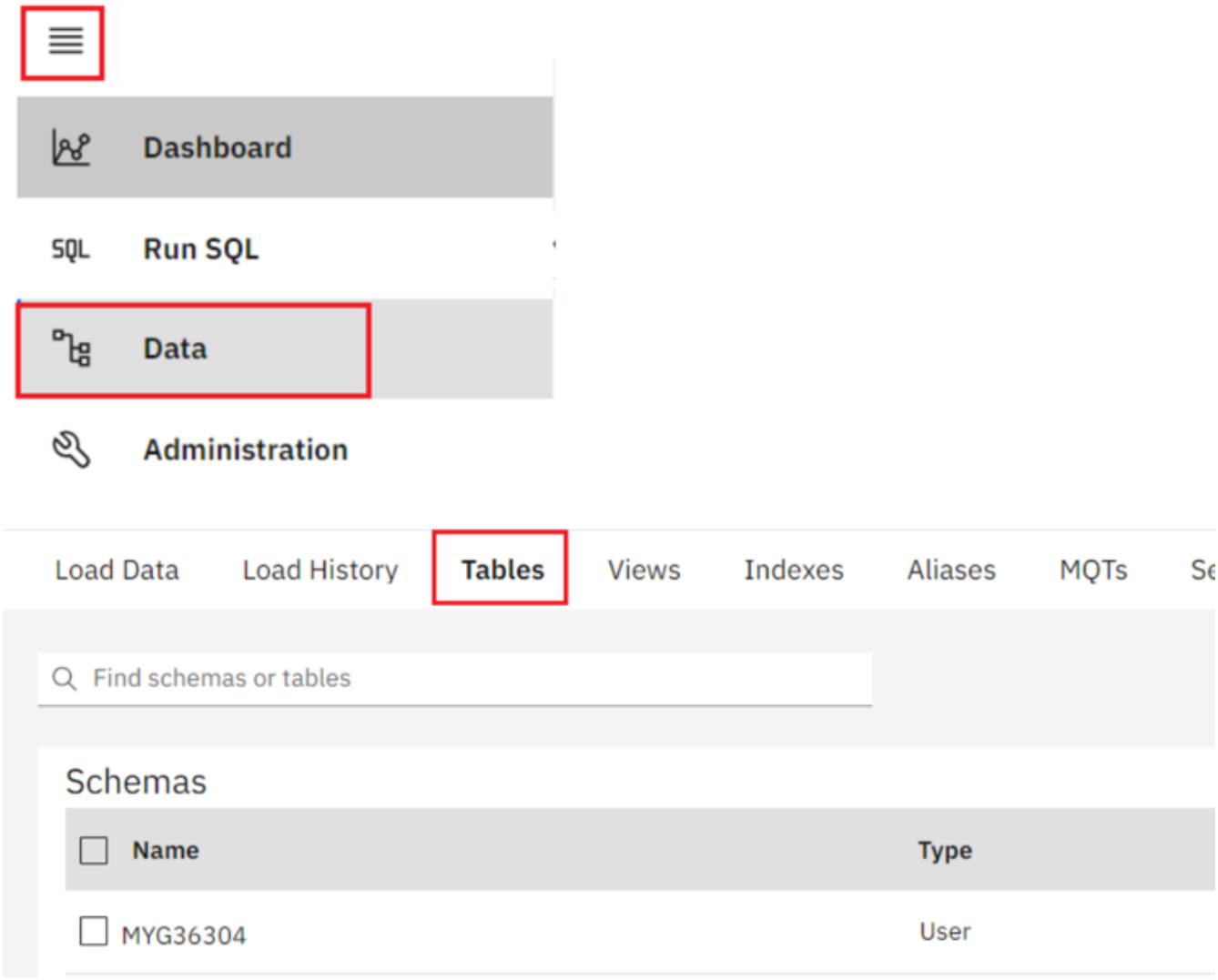




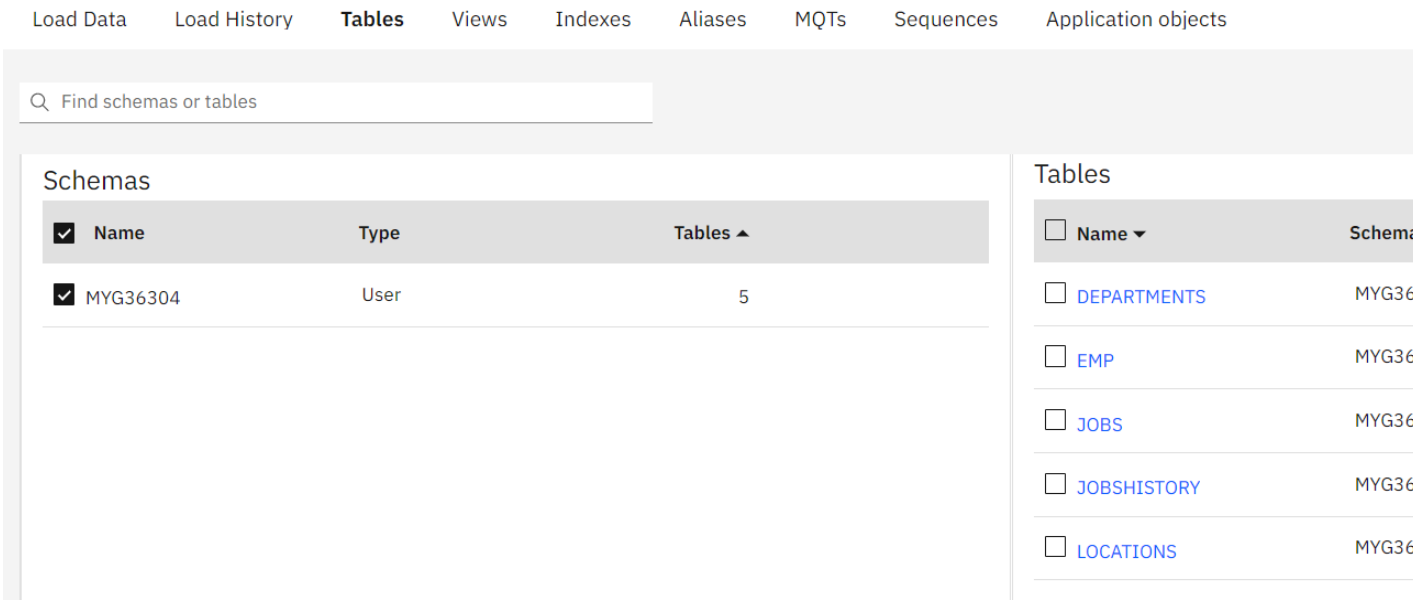
6. On the right side of the SQL editor window you will see a Result section. Clicking on a query in the Result s job like whether it ran successfully, or had any errors or warnings. Ensure your queries ran successfully and

   - **Note:** You may see several errors before the successful creation of the tables. These errors relate to the version of these tables. You can ignore these errors.





8. Select the Schema corresponding to your Db2 userid. It typically starts with 3 letters (not SQL) followed by the **MYG36304** example below). Then on the right side of the screen you should see the 5 newly created ta JOBS, JOB_HISTORY and LOCATIONS (plus any other tables you may have created in previous labs e.g. PETS



9. Click on any of the tables and you will see its Table Definition (that is, its list of columns, data types, etc).

Exercise 2: Load data into tables

In this exercise, you will learn how data can be loaded into Db2. You could manually insert each row into the ta time. Instead, Db2 (and almost every other database) allows you to load data from .CSV files.

The steps below explain the process of loading data into the tables you created earlier in exercise 1.

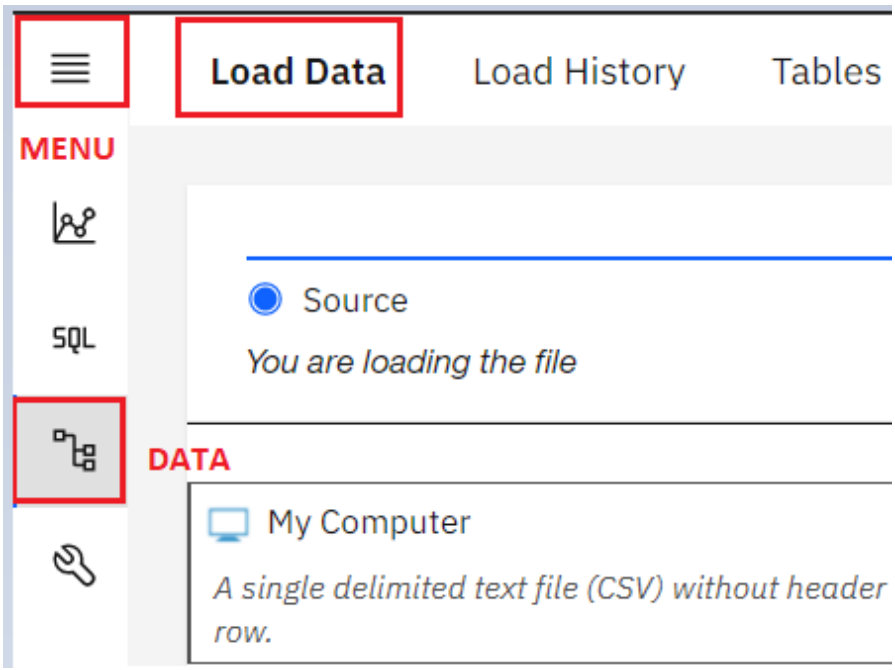
1. Download the 5 .csv files below to your local computer:

   - Departments.csv
   - Employees.csv
   - Jobs.csv
   - Locations.csv
   - JobsHistory.csv

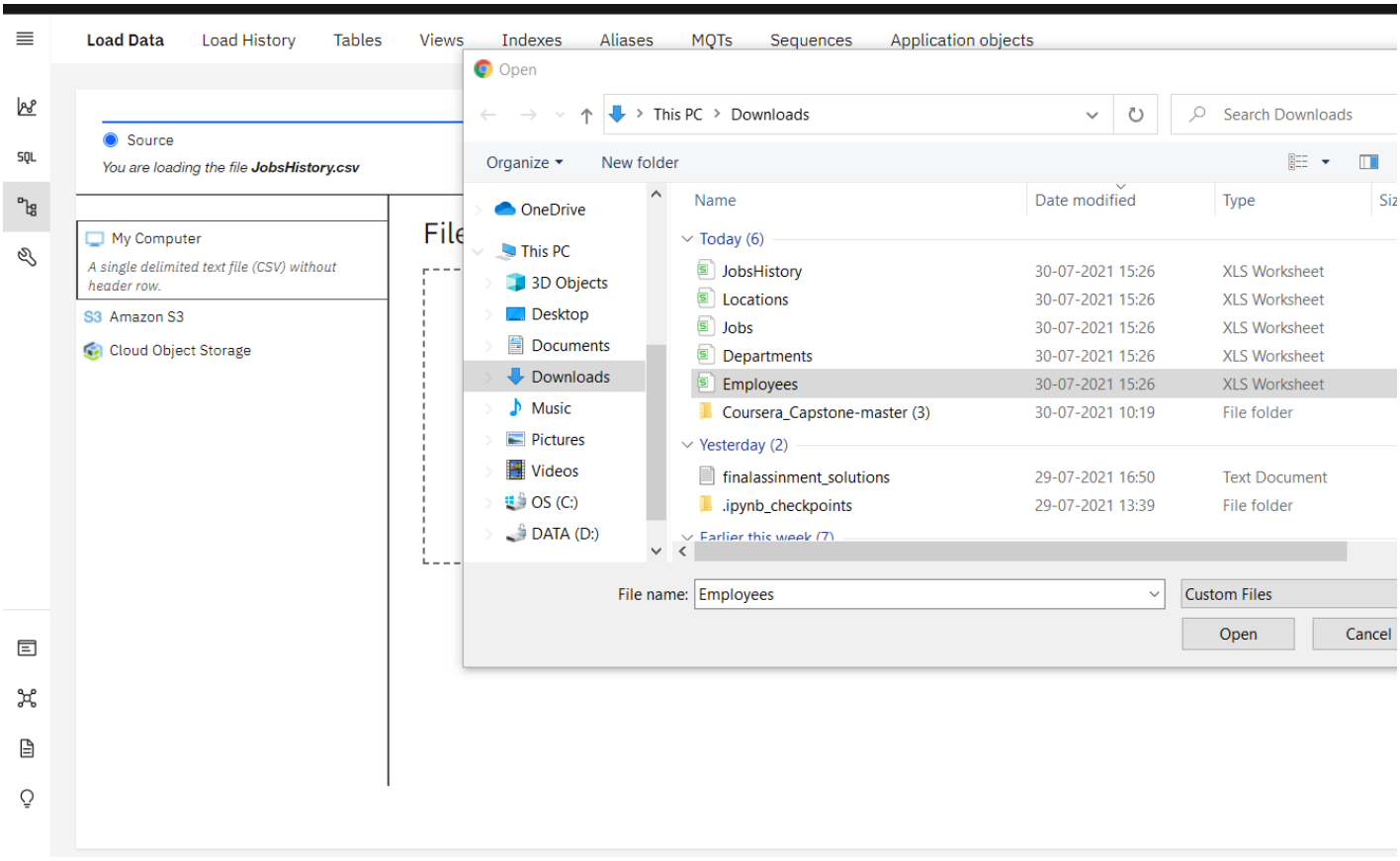
   Note: For learners who are encountering issues with loading from .csv in Db2 using Firefox, they can down

   - Departments.txt
   - Employees.txt
   - Jobs.txt
   - Locations.txt
   - JobsHistory.txt

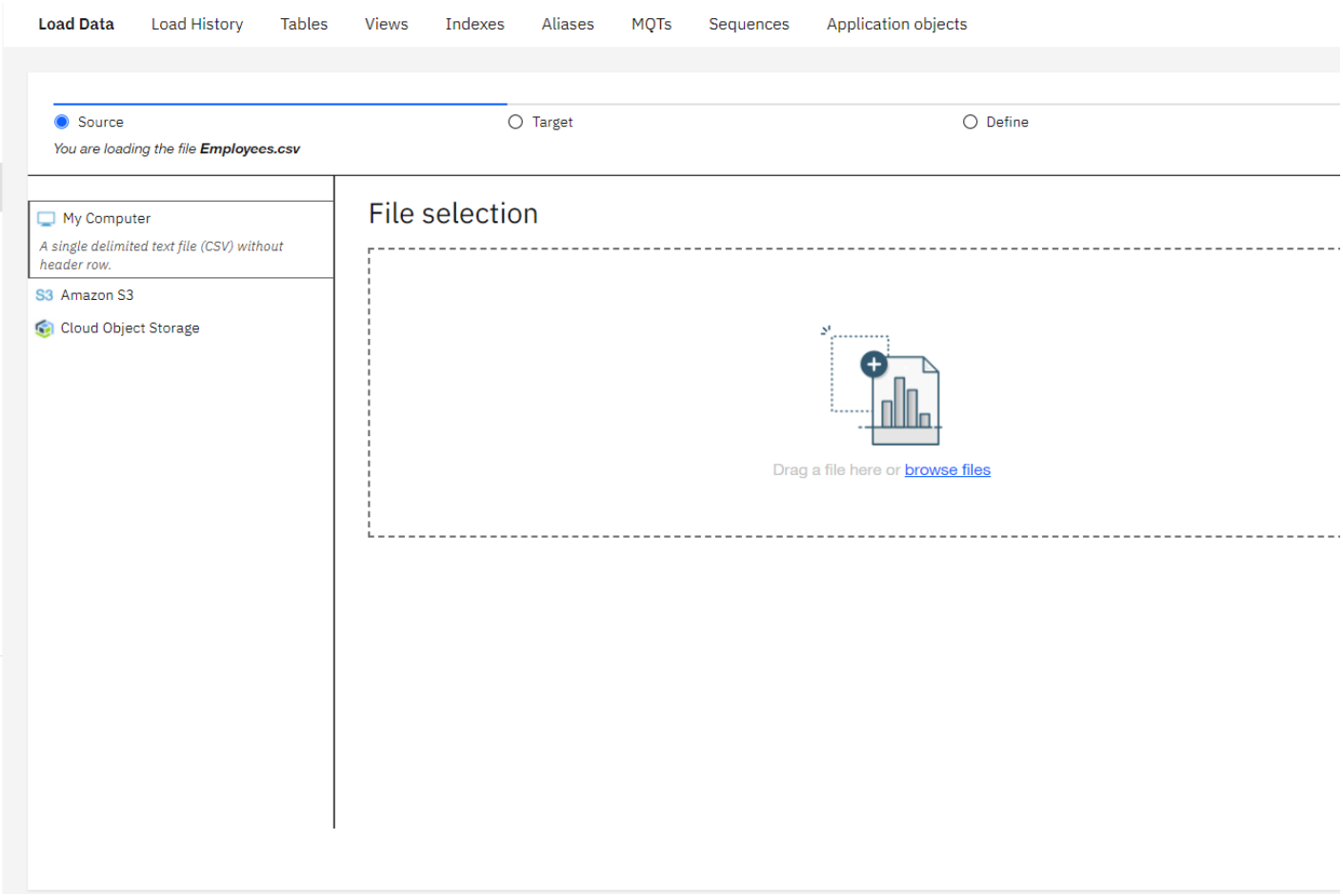
2. In the Db2 Console, from the 3-bar menu icon in the top left corner, click **Load**, and then select **Load Data**.



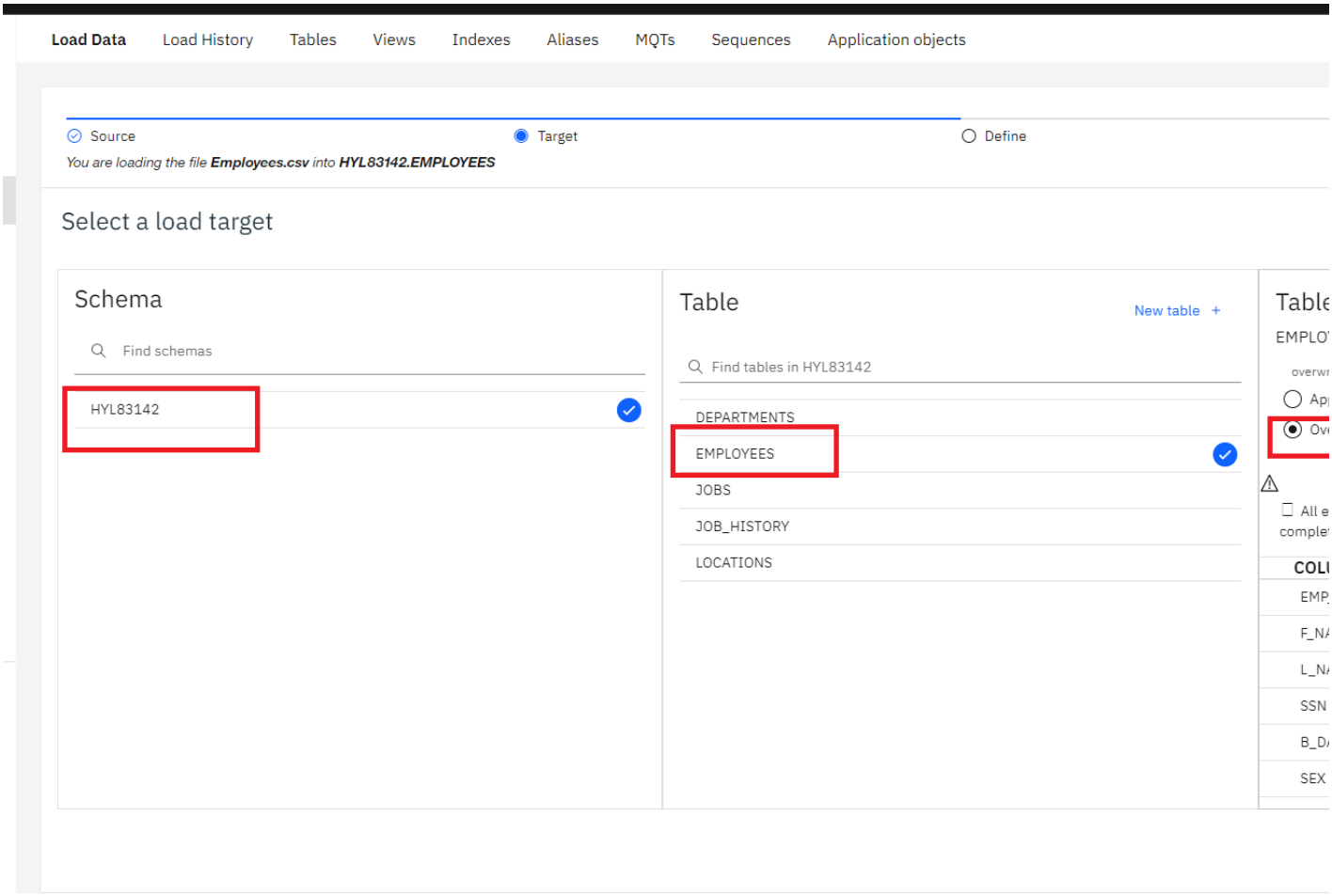
3. On the **Load Data** page that opens, ensure **My Computer** is selected as the source. Click on the **browse fil**



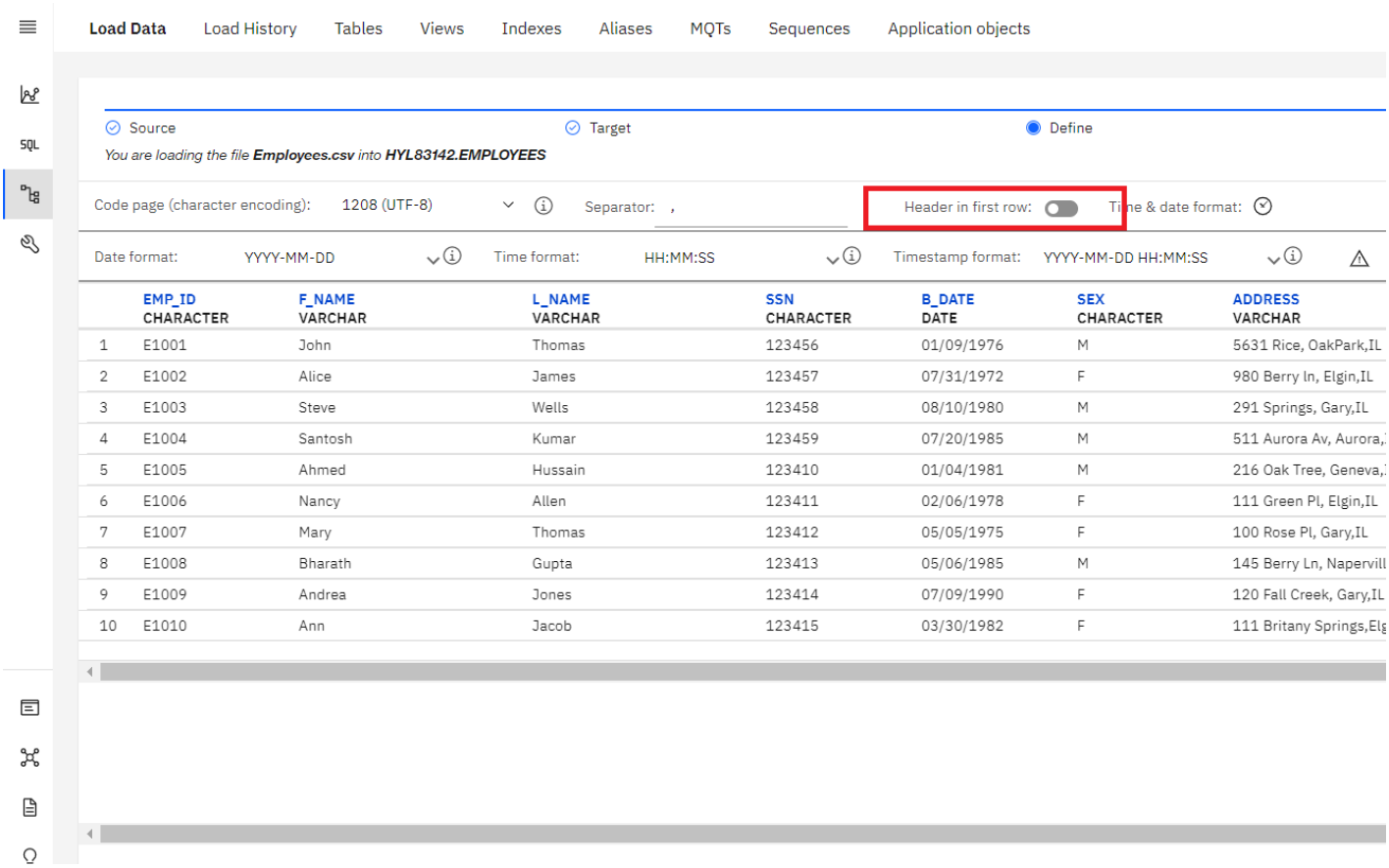
5. Once the File is selected, click **Next** in the bottom right corner.



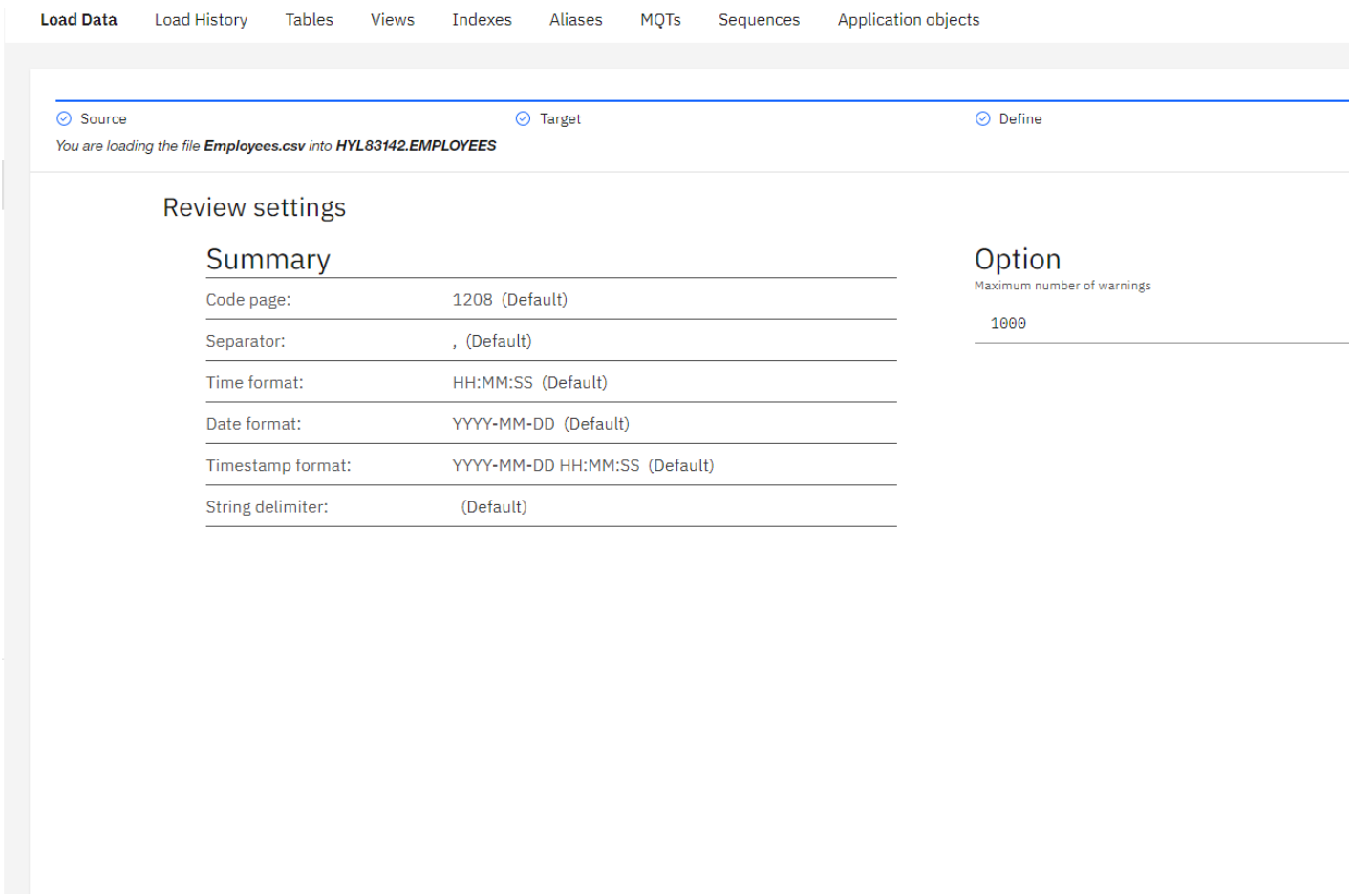
6 1 Select the schema for your Db2 Userid (the one where you created the tables earlier)



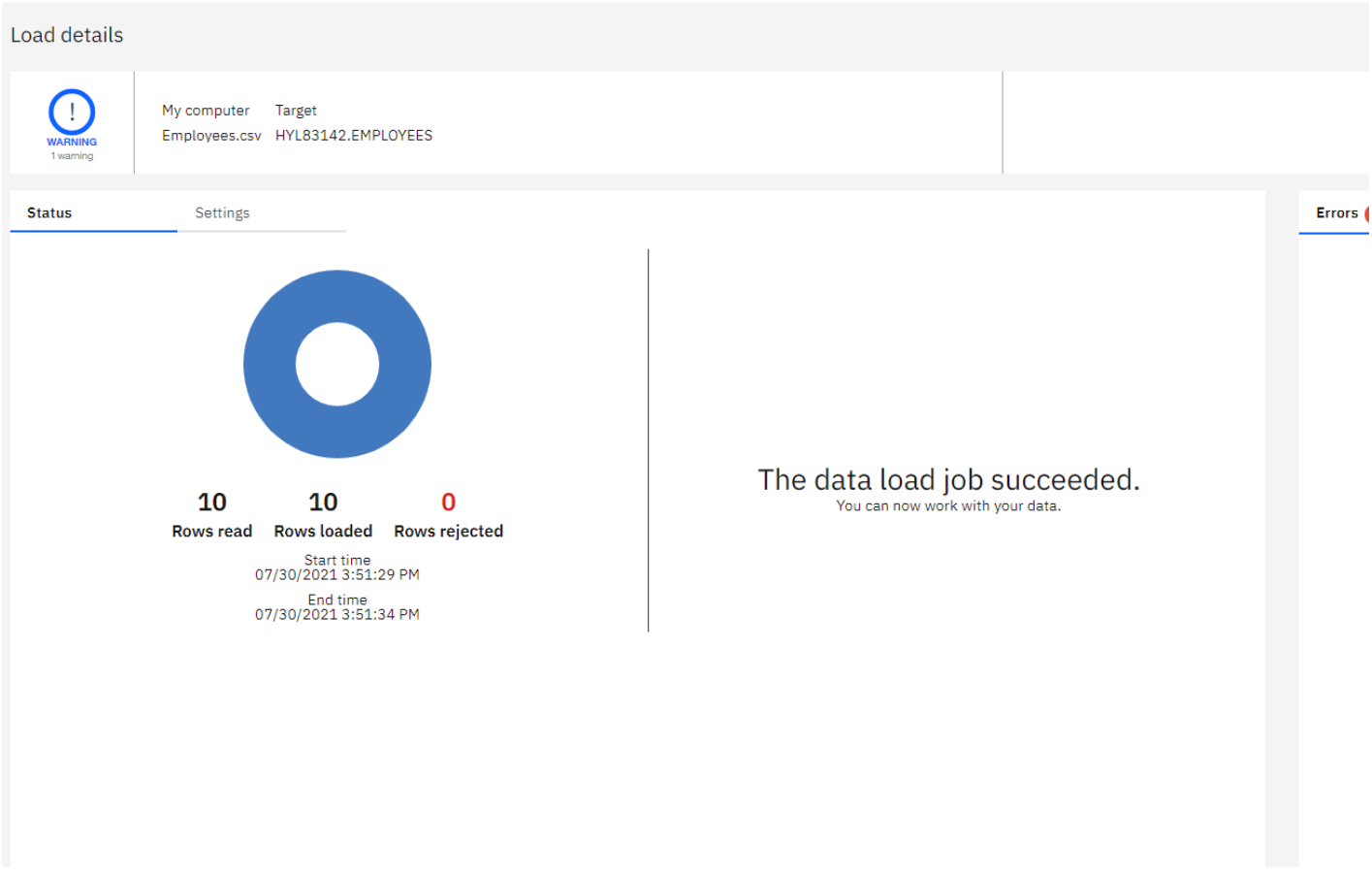
7. Since the source data files do not contain any rows with column labels, **turn off** the setting for **Header in f** to **Date format** and choose **MM/DD/YYYY** since that is how the date is formatted in the source file.

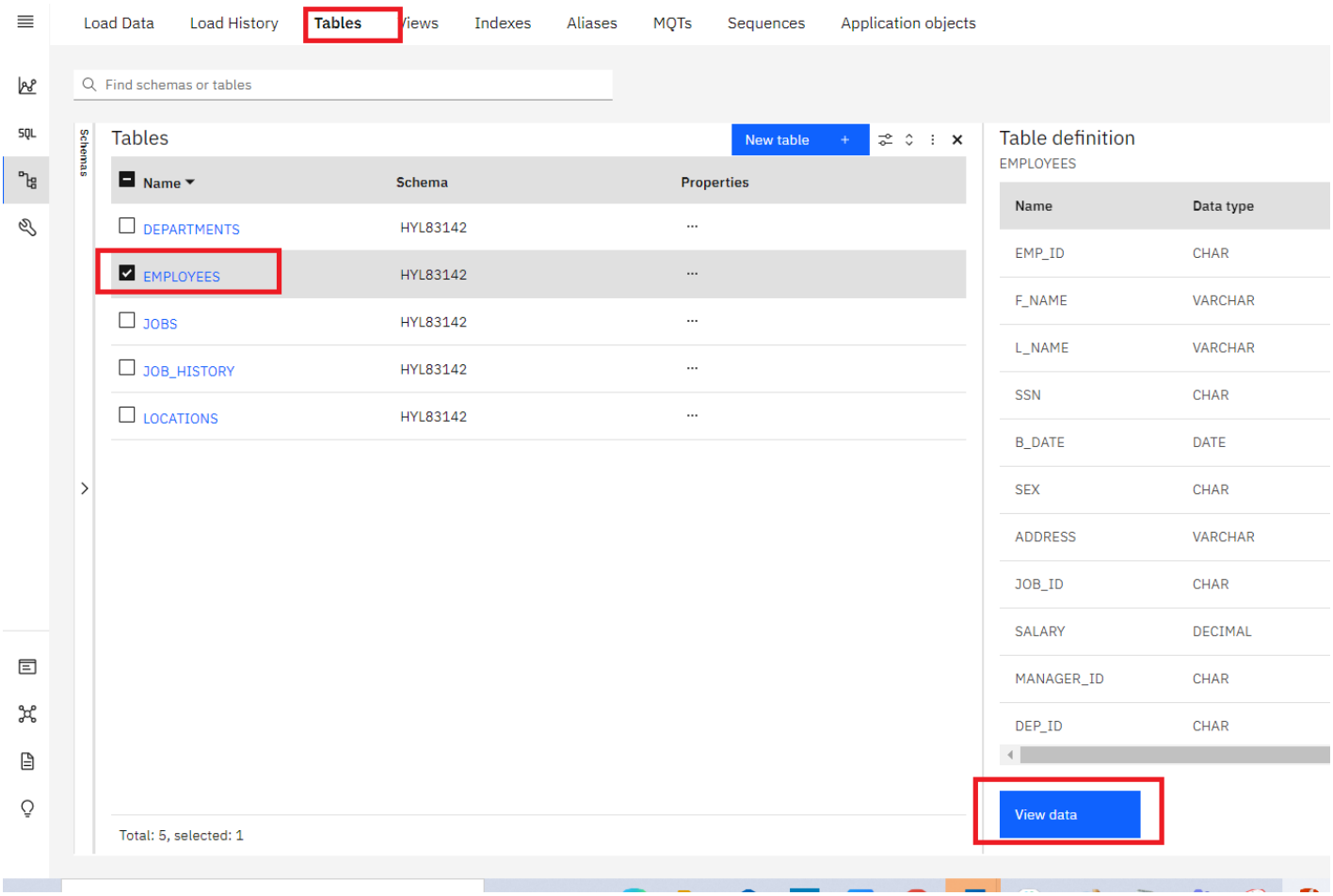


	EMP_ID CHARACTER	F_NAME VARCHAR	L_NAME VARCHAR	SSN CHARACTER	B_DATE DATE	SEX CHARACTER	ADDRESS VARCHAR
1	E1001	John	Thomas	123456	01/09/1976	M	5631 Rice, OakPark,IL
2	E1002	Alice	James	123457	07/31/1972	F	980 Berry ln, Elgin,IL
3	E1003	Steve	Wells	123458	08/10/1980	M	291 Springs, Gary,IL
4	E1004	Santosh	Kumar	123459	07/20/1985	M	511 Aurora Av, Aurora,
5	E1005	Ahmed	Hussain	123410	01/04/1981	M	216 Oak Tree, Geneva,
6	E1006	Nancy	Allen	123411	02/06/1978	F	111 Green Pl, Elgin,IL
7	E1007	Mary	Thomas	123412	05/05/1975	F	100 Rose Pl, Gary,IL
8	E1008	Bharath	Gupta	123413	05/06/1985	M	145 Berry Ln, Napervill
9	E1009	Andrea	Jones	123414	07/09/1990	F	120 Fall Creek, Gary,IL
10	E1010	Ann	Jacob	123415	03/30/1982	F	111 Britany Springs,Elg

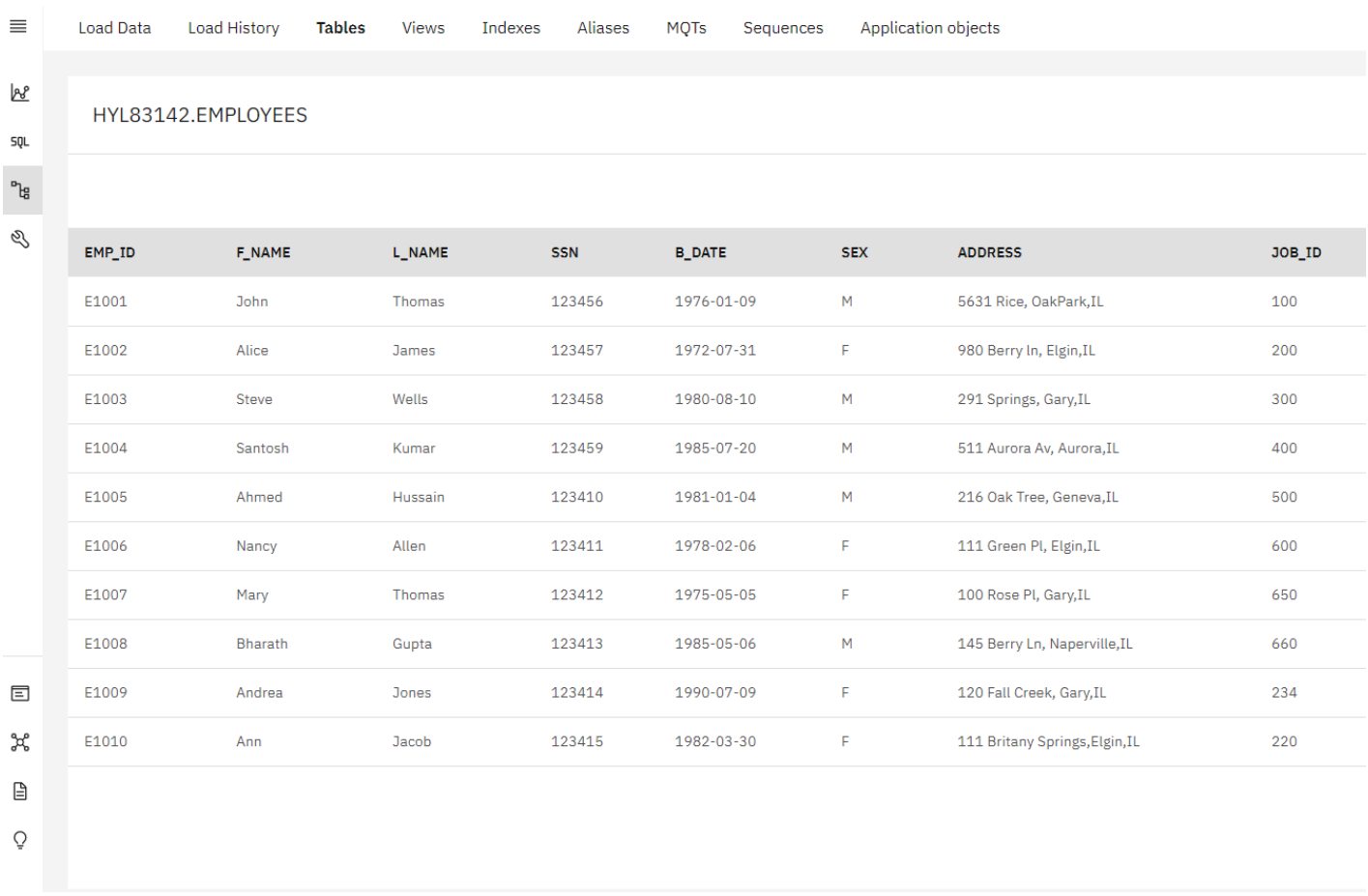


9. After loading has completed, you will notice that you were successful in loading all 10 rows of the Employe you can see them on this screen.





11. Now you can view the table data.



EMP_ID	F_NAME	L_NAME	SSN	B_DATE	SEX	ADDRESS	JOB_ID
E1001	John	Thomas	123456	1976-01-09	M	5631 Rice, OakPark,IL	100
E1002	Alice	James	123457	1972-07-31	F	980 Berry ln, Elgin,IL	200
E1003	Steve	Wells	123458	1980-08-10	M	291 Springs, Gary,IL	300
E1004	Santosh	Kumar	123459	1985-07-20	M	511 Aurora Av, Aurora,IL	400
E1005	Ahmed	Hussain	123410	1981-01-04	M	216 Oak Tree, Geneva,IL	500
E1006	Nancy	Allen	123411	1978-02-06	F	111 Green Pl, Elgin,IL	600
E1007	Mary	Thomas	123412	1975-05-05	F	100 Rose Pl, Gary,IL	650
E1008	Bharath	Gupta	123413	1985-05-06	M	145 Berry Ln, Naperville,IL	660
E1009	Andrea	Jones	123414	1990-07-09	F	120 Fall Creek, Gary,IL	234
E1010	Ann	Jacob	123415	1982-03-30	F	111 Britany Springs,Elgin,IL	220