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EADC Practical 12

Aim : Suppose you are a data engineer working on a project that involves extracting data from IBM Cloud Object Storage and loading it into a DB2 database. The data in the Object Storage consists of CSV files containing sales records for various products. Your task is to load the data to DB2 and perform SQL queries on the loaded data.

Data Extraction and Loading :

Describe the steps you would take to extract data from IBM Cloud Object Storage.

Explain how you would establish a connection to the Object Storage service and retrieve the CSV files containing pizza orders records.

Outline the process of loading these CSV files into a DB2 database table.

Database Table Design :

Design a DB2 database table schema to store the orders records. Consider the structure of the CSV files and determine appropriate data types for each column.

SQL Queries and Analysis :

Provide SQL queries to perform the analyses on the loaded orders data

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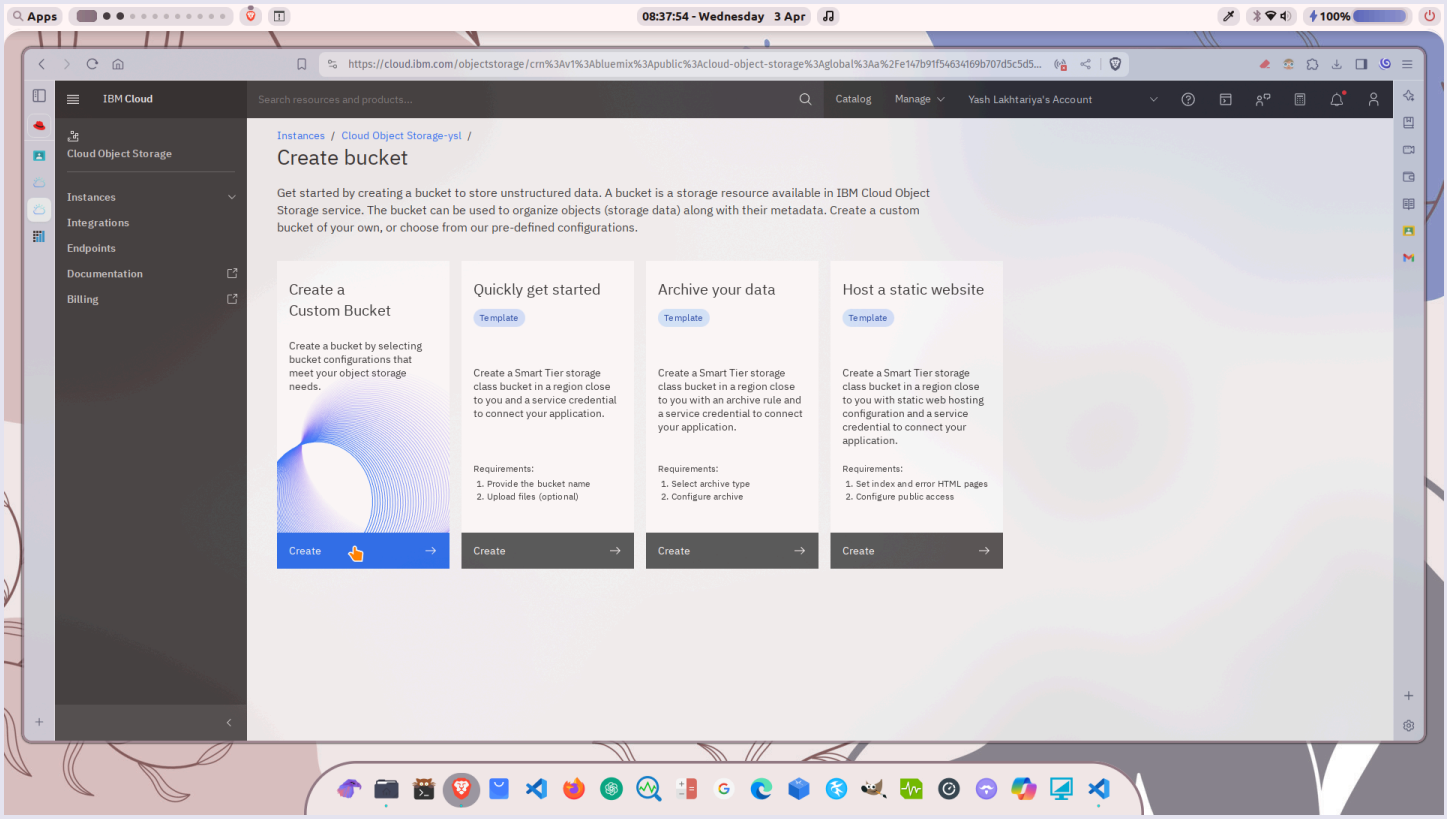
1. Create a custom bucket in Cloud Object Storage by IBM



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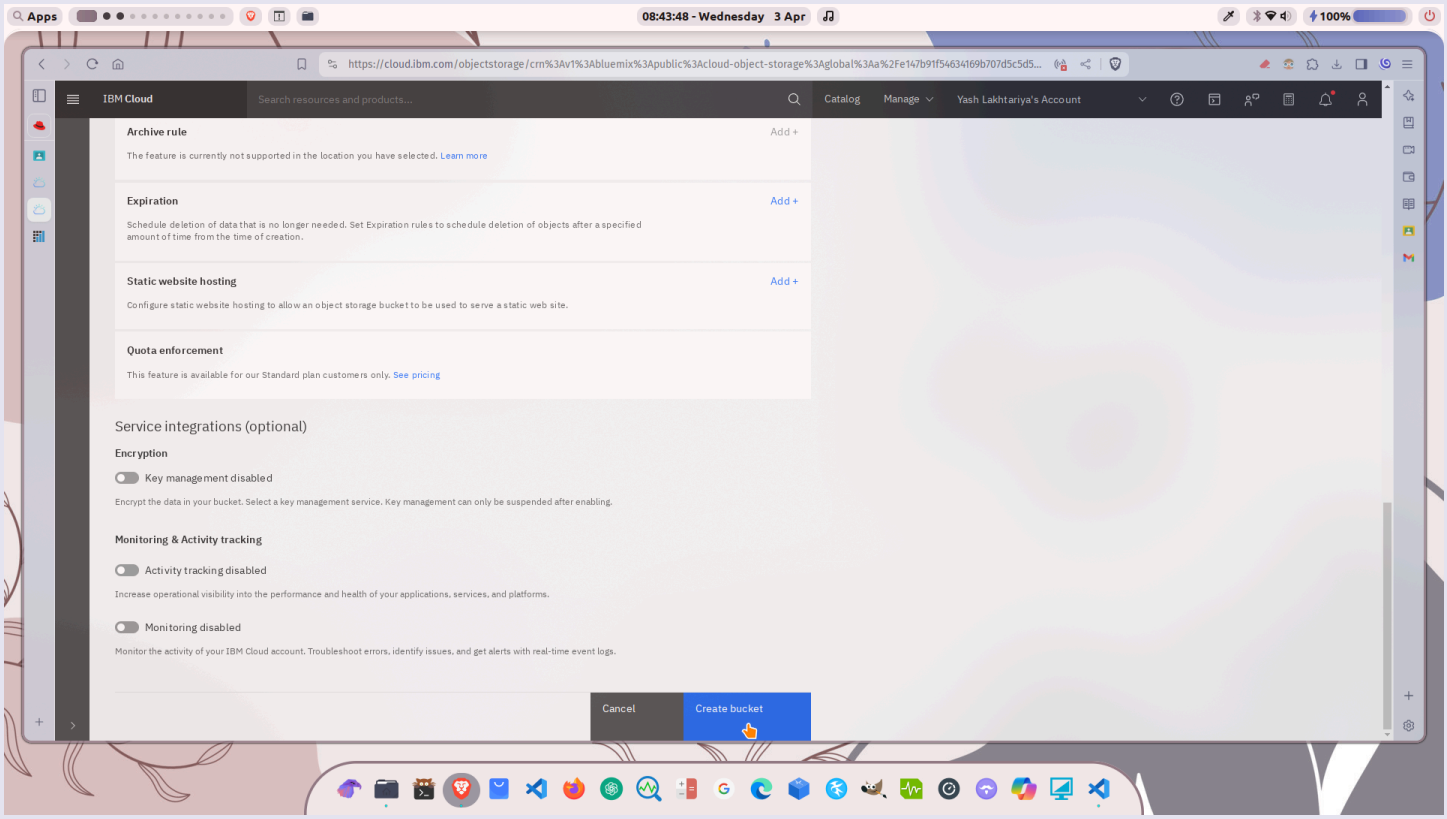
2. Assign the name and select cross region



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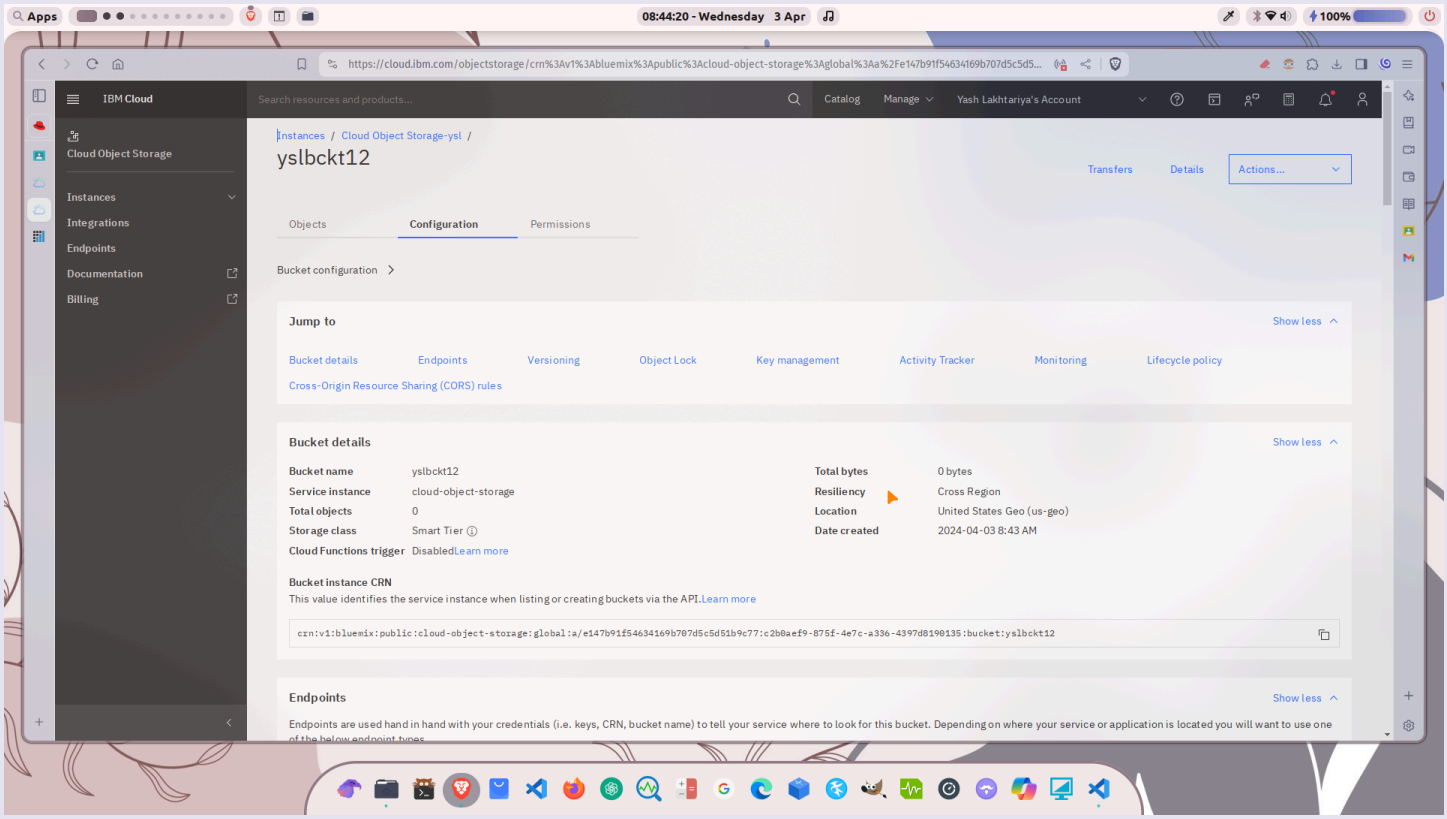
3. Check its configuration and proceed further



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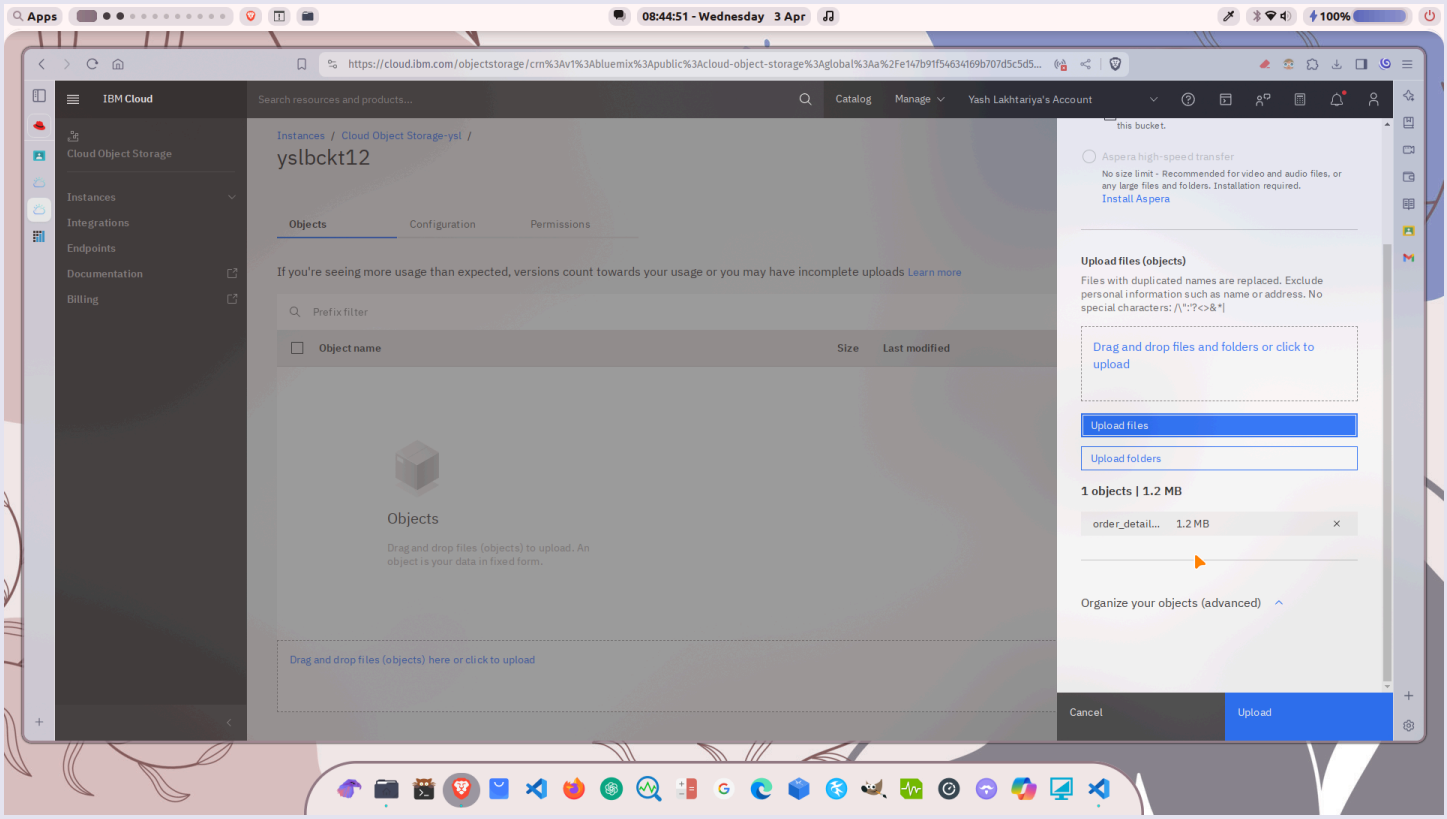
4. In the bucket tab, select upload and upload files option and upload csv file



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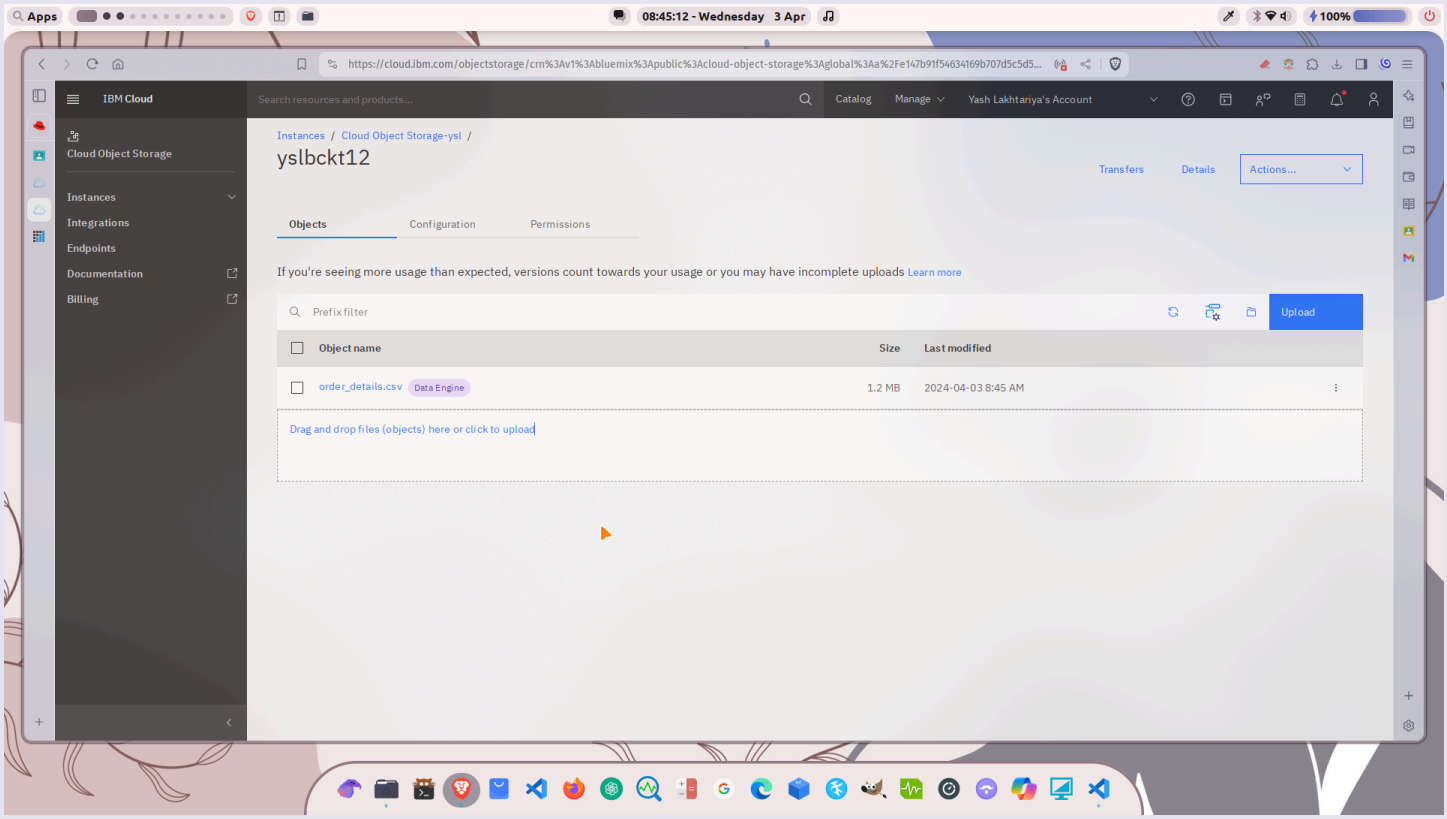
5. The file order.csv is uploaded in the bucket



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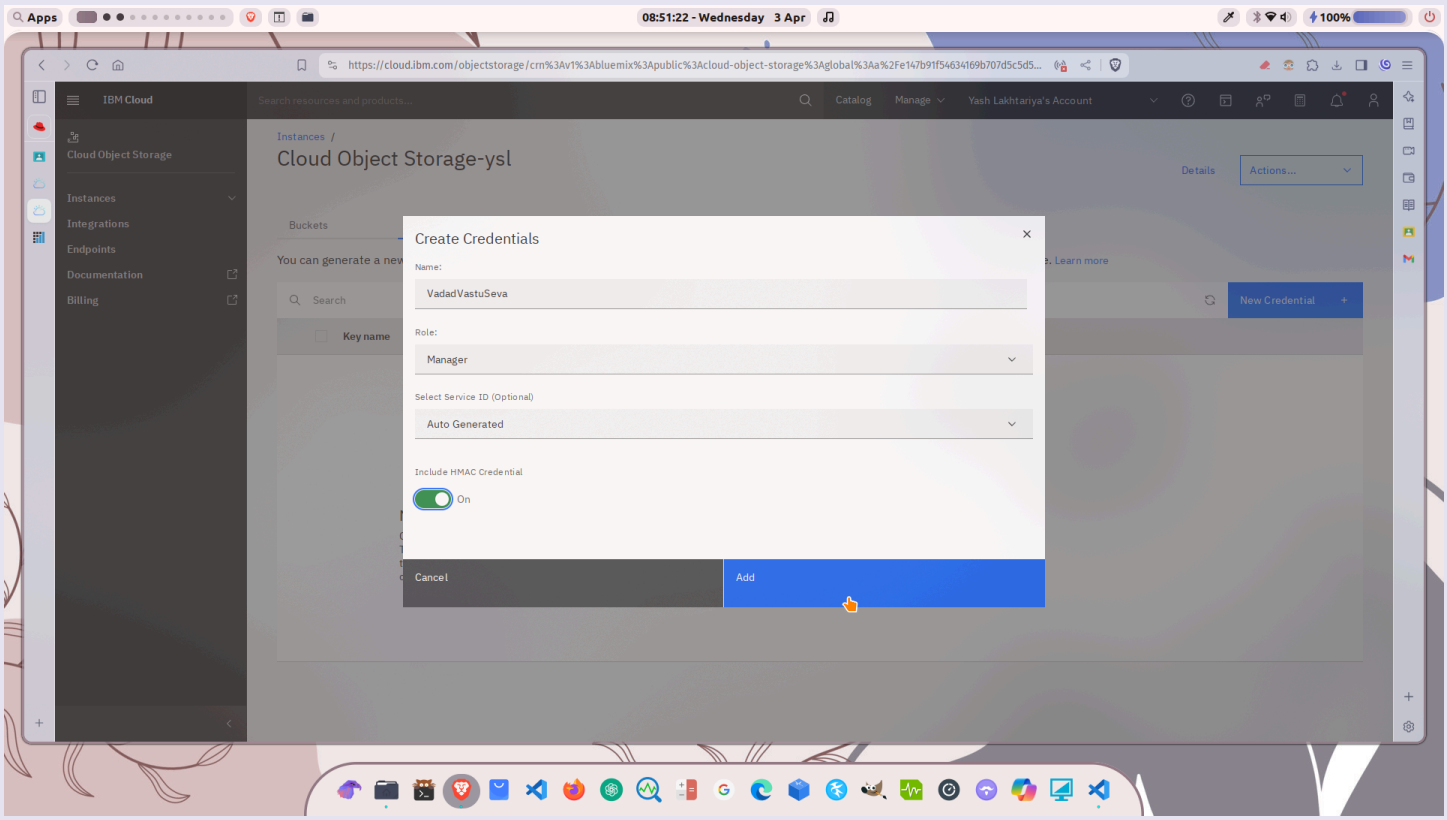
6. Now, in Object storage's Service Credentials tab, create service credentials or Manager Role



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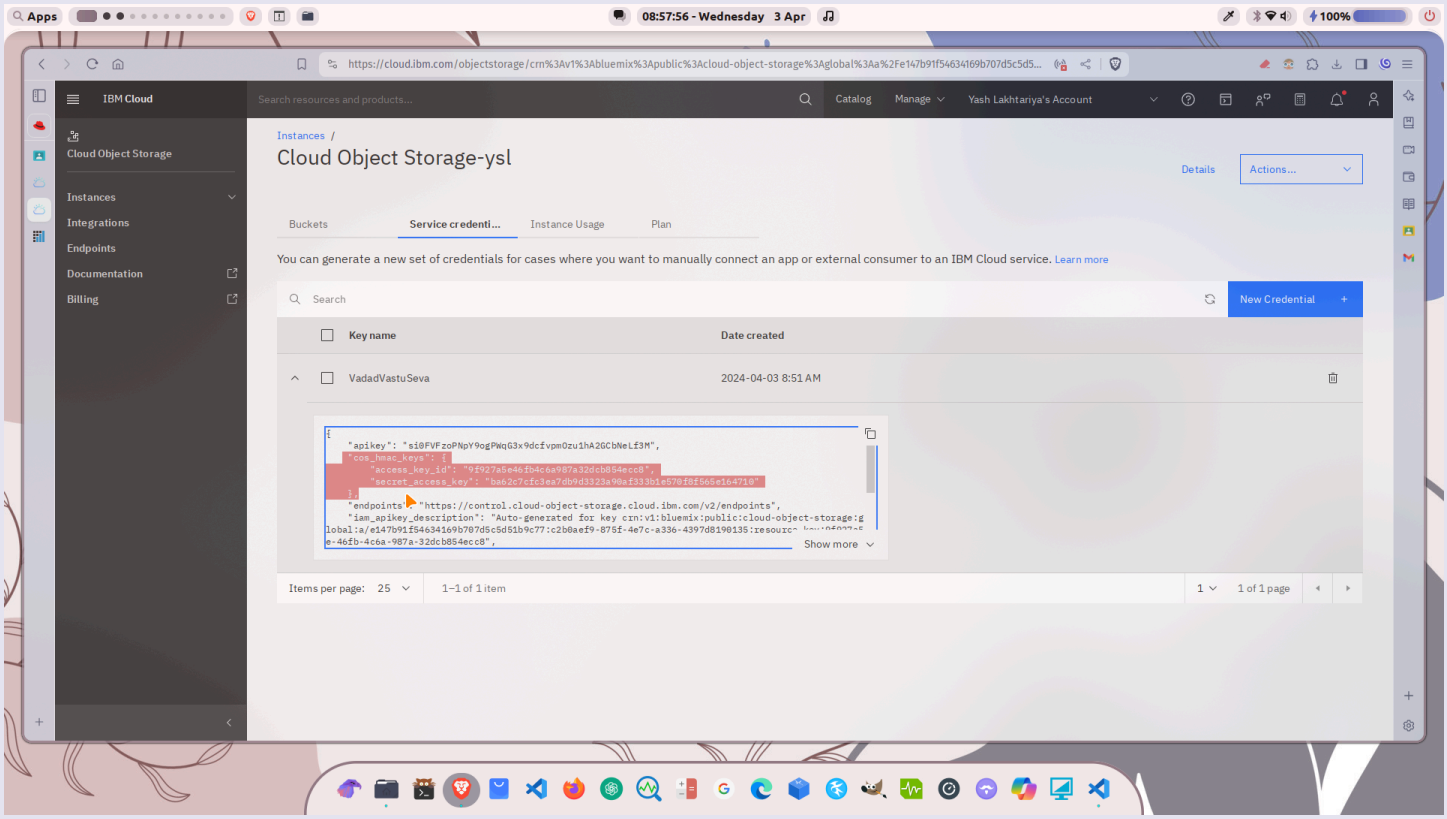
7. From service credentials, copy the cos_hmac_keys pair



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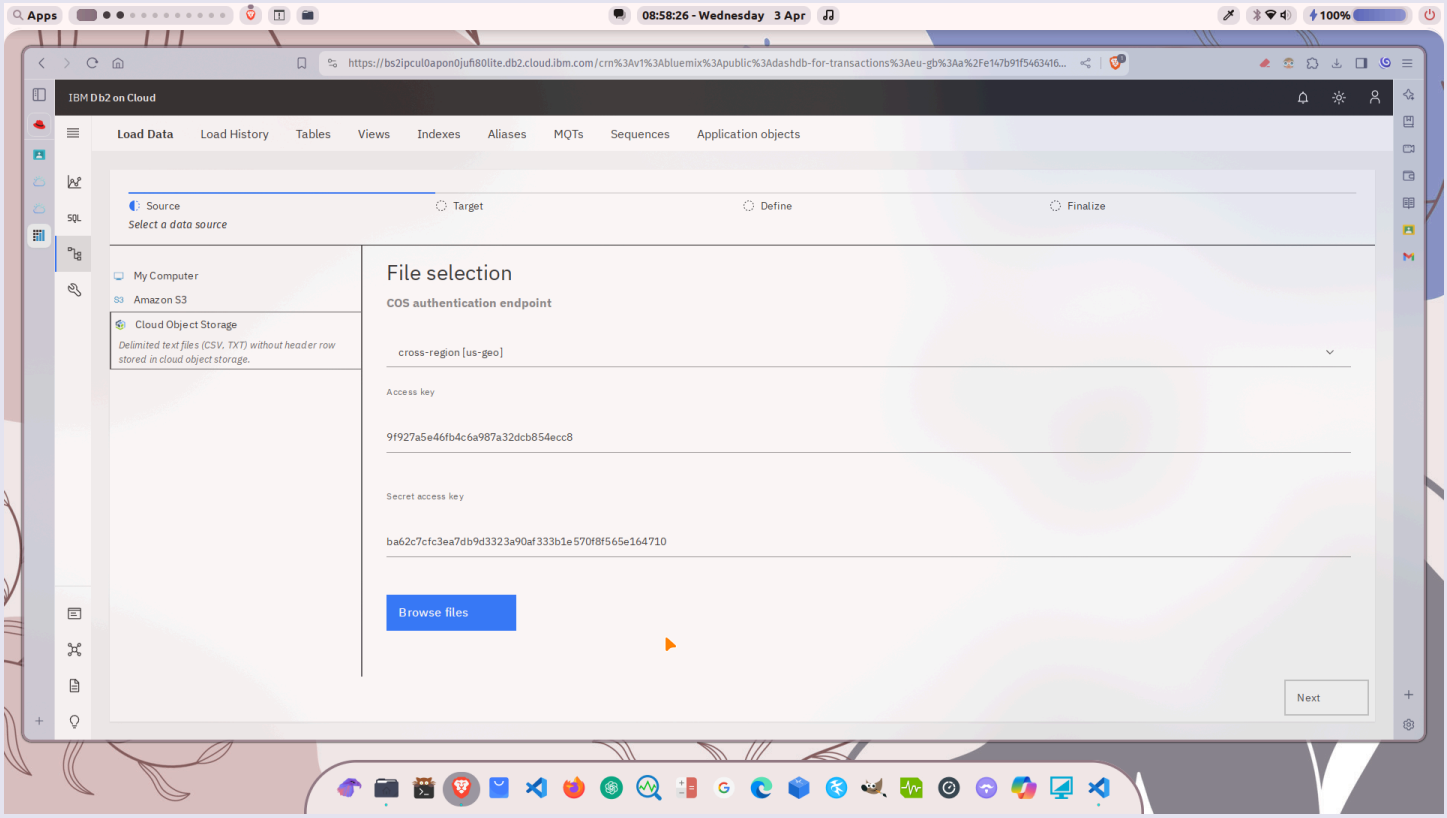
8. Visit Db2 instance created earlier (create if not exists) and in Data tab, load data from Cloud Object storage, paste the credentials, access key and secret access key there



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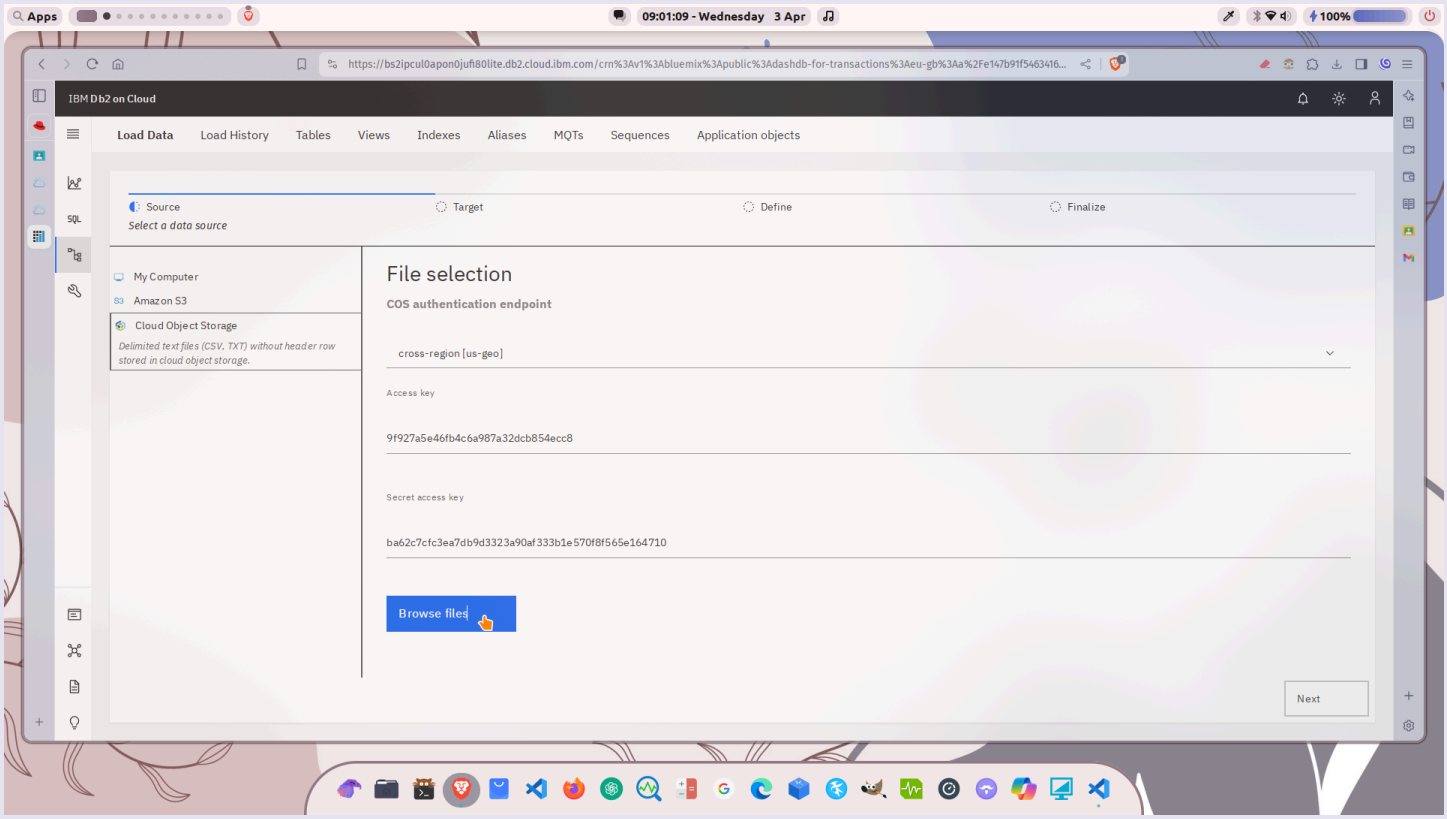
9. Click Browse files option to get our file loaded from object storage



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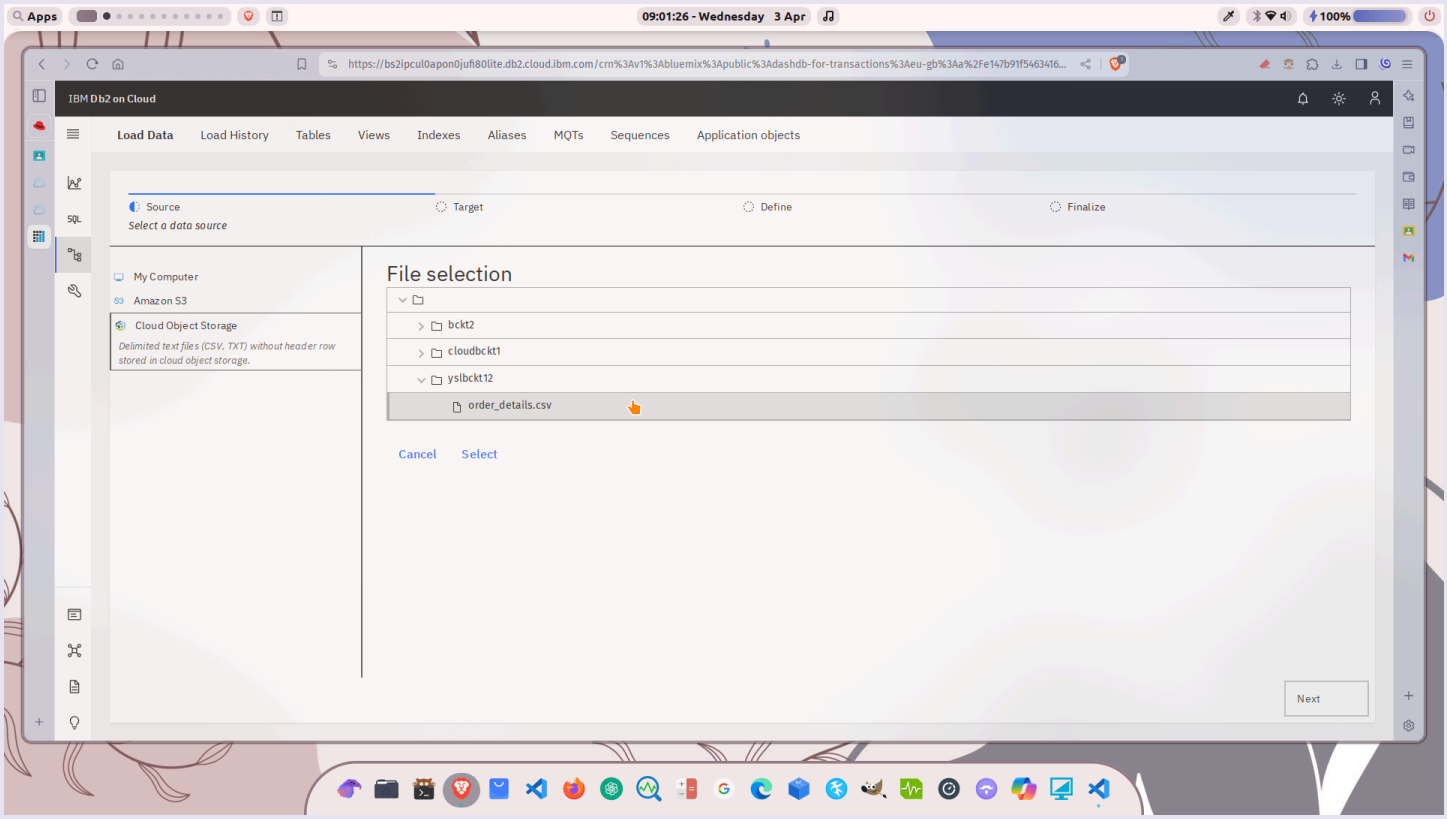
10. Find the bucket and browse the required csv file



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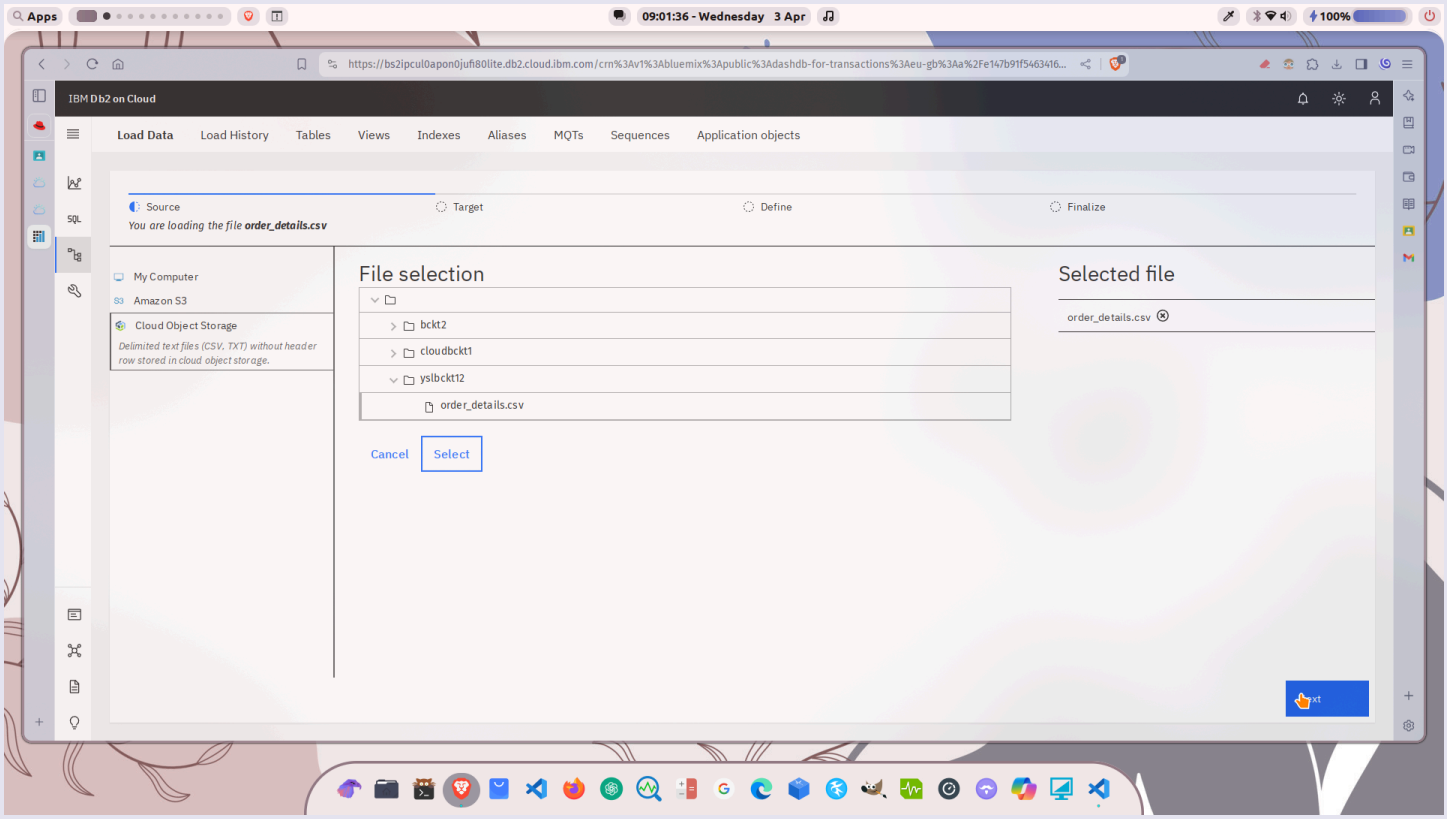
11. Select the file and click next



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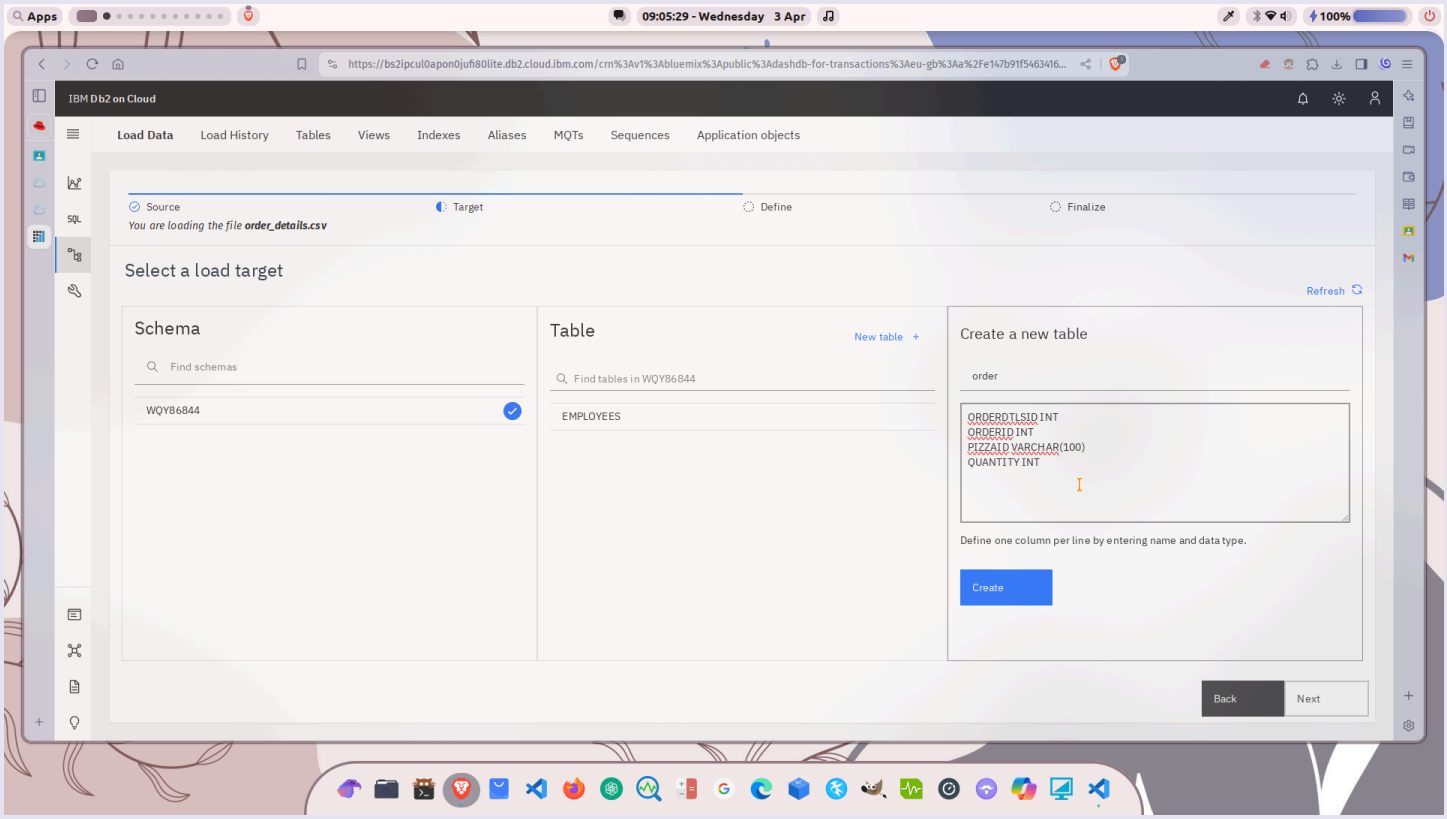
12. Now, in target selection create table from the csv file for Db2 database



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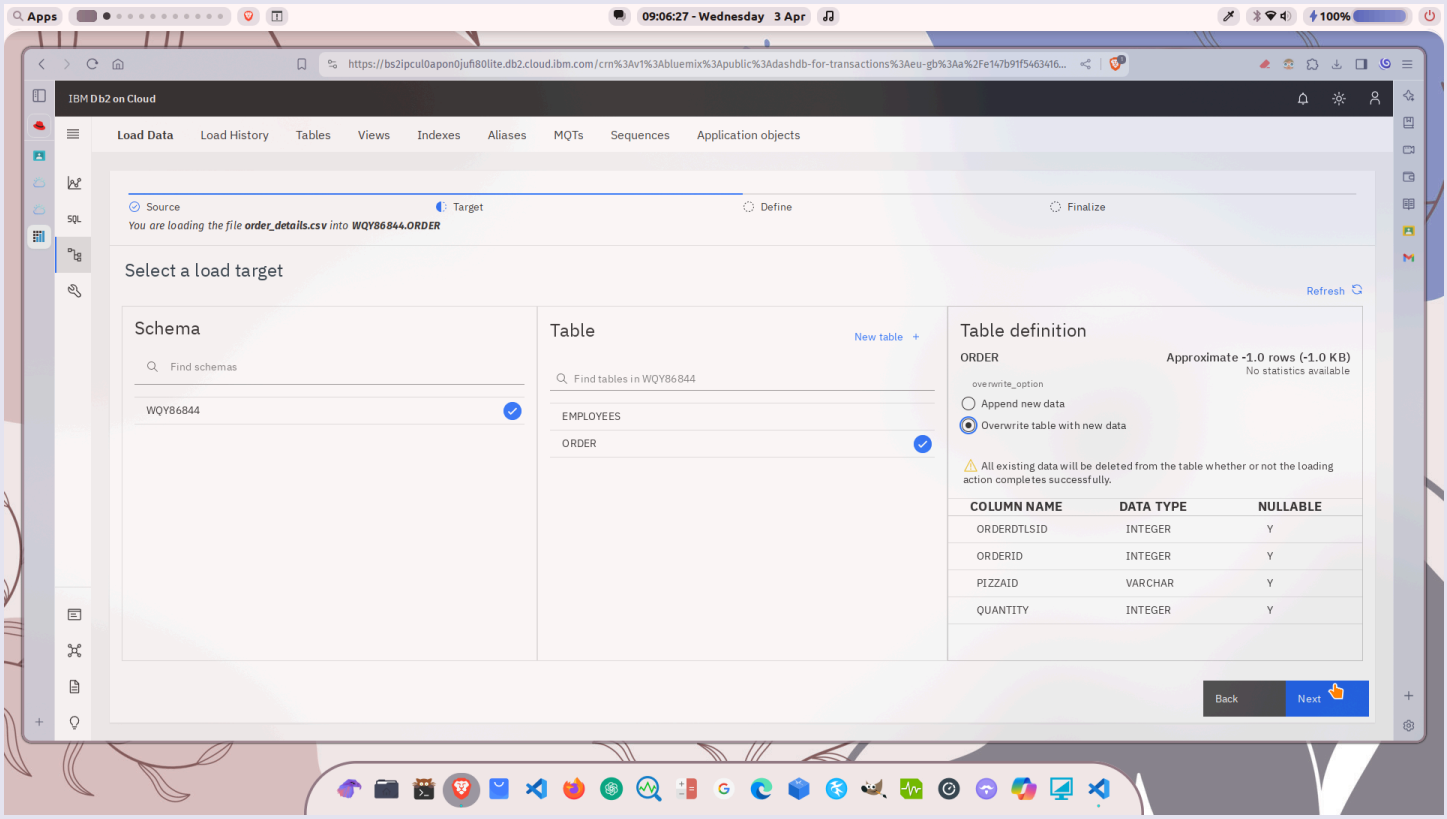
13. Create and click next overriding the previous data



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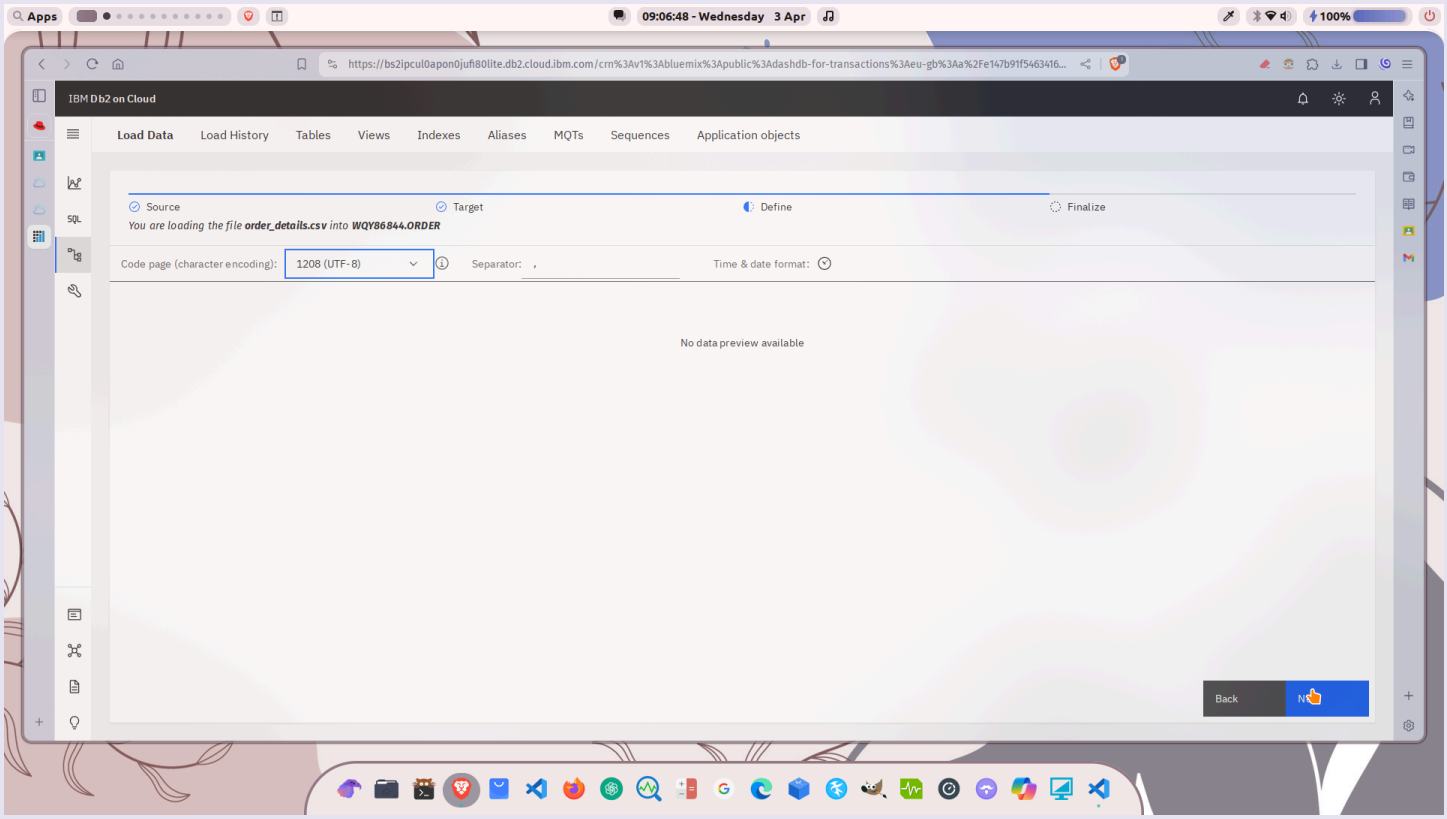
14. Keep rest options like encoding and separator default and click next



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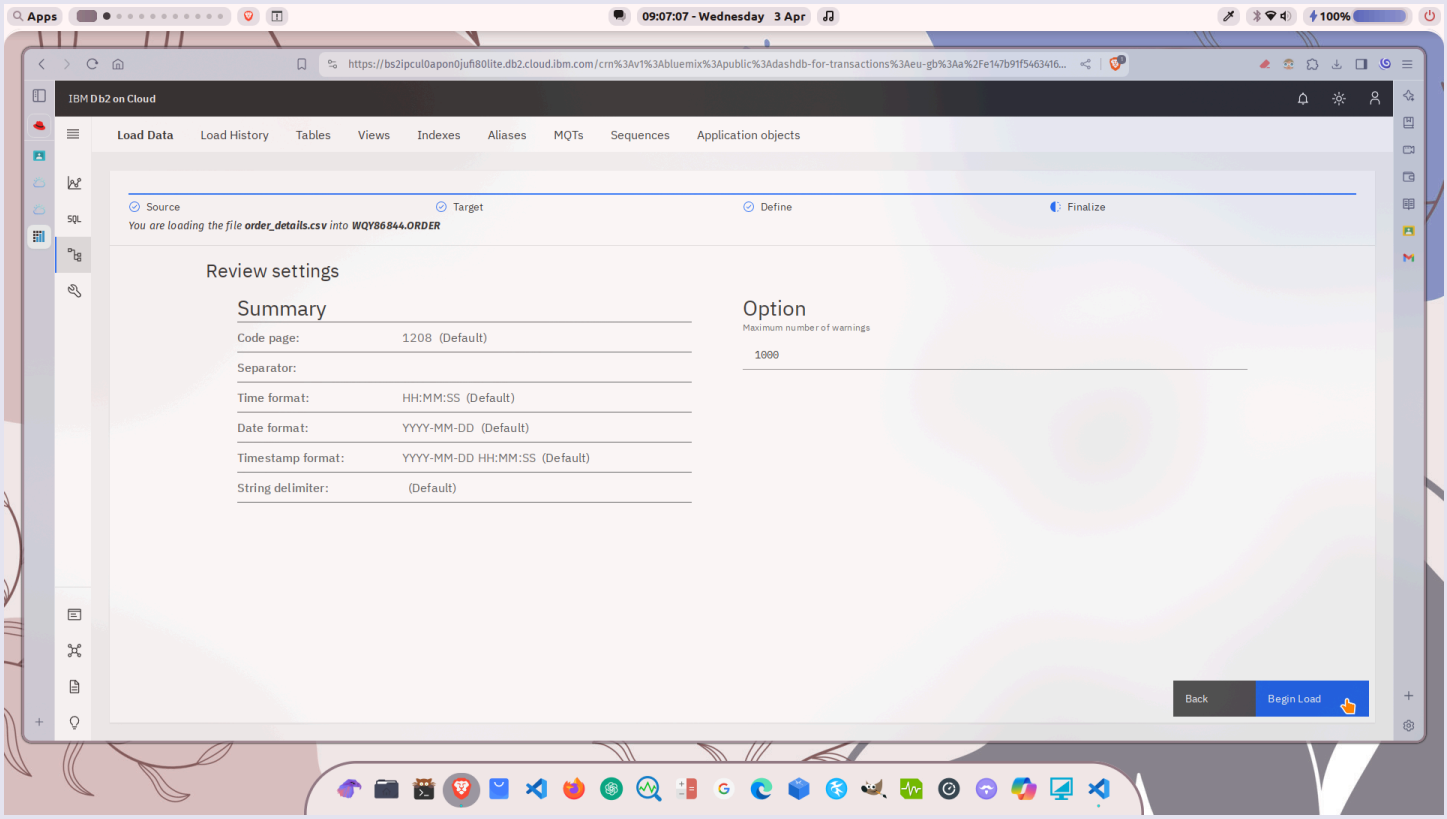
15. Check the configuration and begin loading the data



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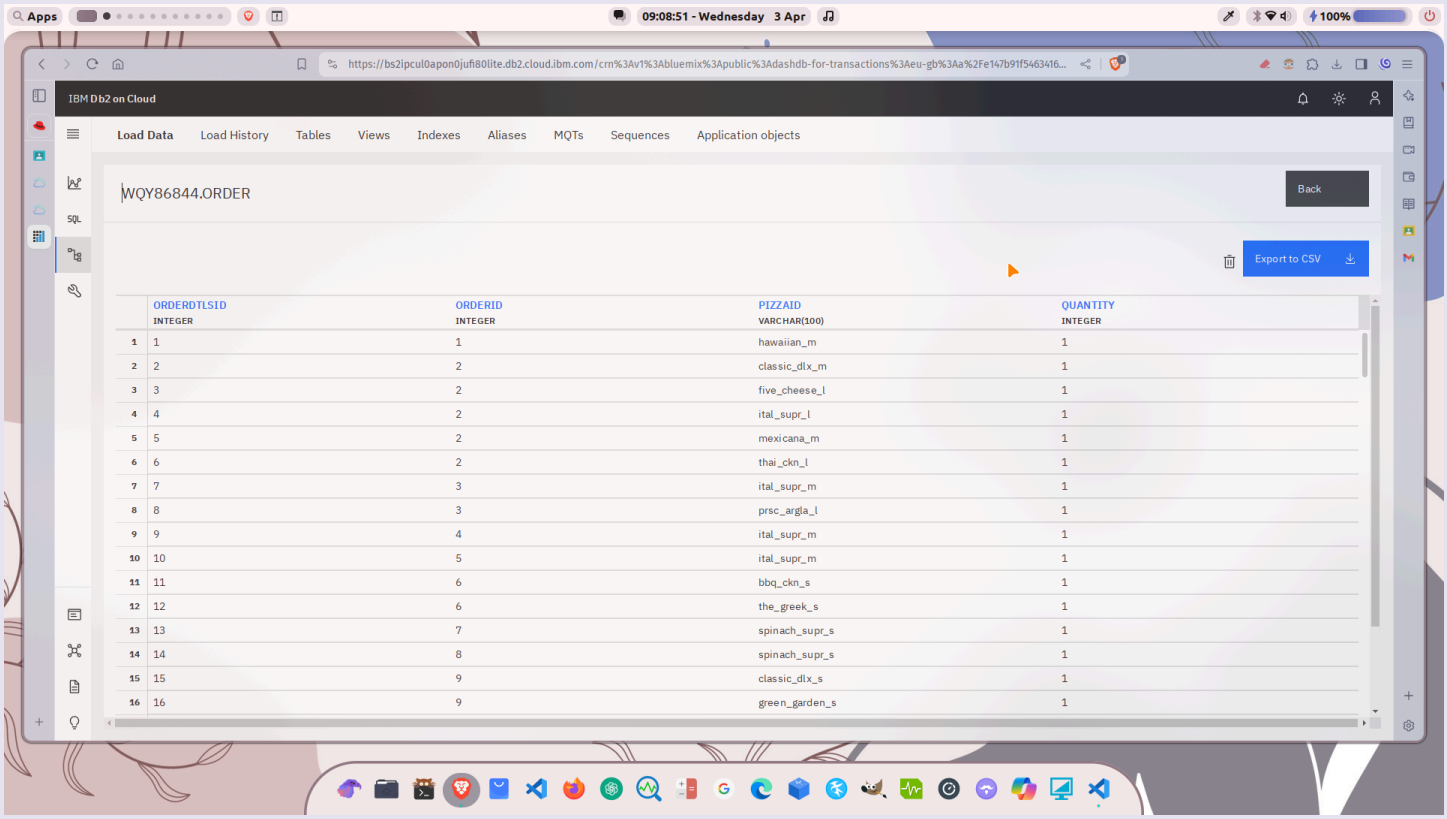
16. As seen, the data is successfully loaded



	ORDERDTLSID INTEGER	ORDERID INTEGER	PIZZAID VARCHAR(100)	QUANTITY INTEGER
1	1	1	hawaiian_m	1
2	2	2	classic_dlx_m	1
3	3	2	five_cheese_l	1
4	4	2	ital_supr_l	1
5	5	2	mexicana_m	1
6	6	2	thai_ckn_l	1
7	7	3	ital_supr_m	1
8	8	3	prsc_argla_l	1
9	9	4	ital_supr_m	1
10	10	5	ital_supr_m	1
11	11	6	bbq_ckn_s	1
12	12	6	the_greek_s	1
13	13	7	spinach_supr_s	1
14	14	8	spinach_supr_s	1
15	15	9	classic_dlx_s	1
16	16	9	green_garden_s	1

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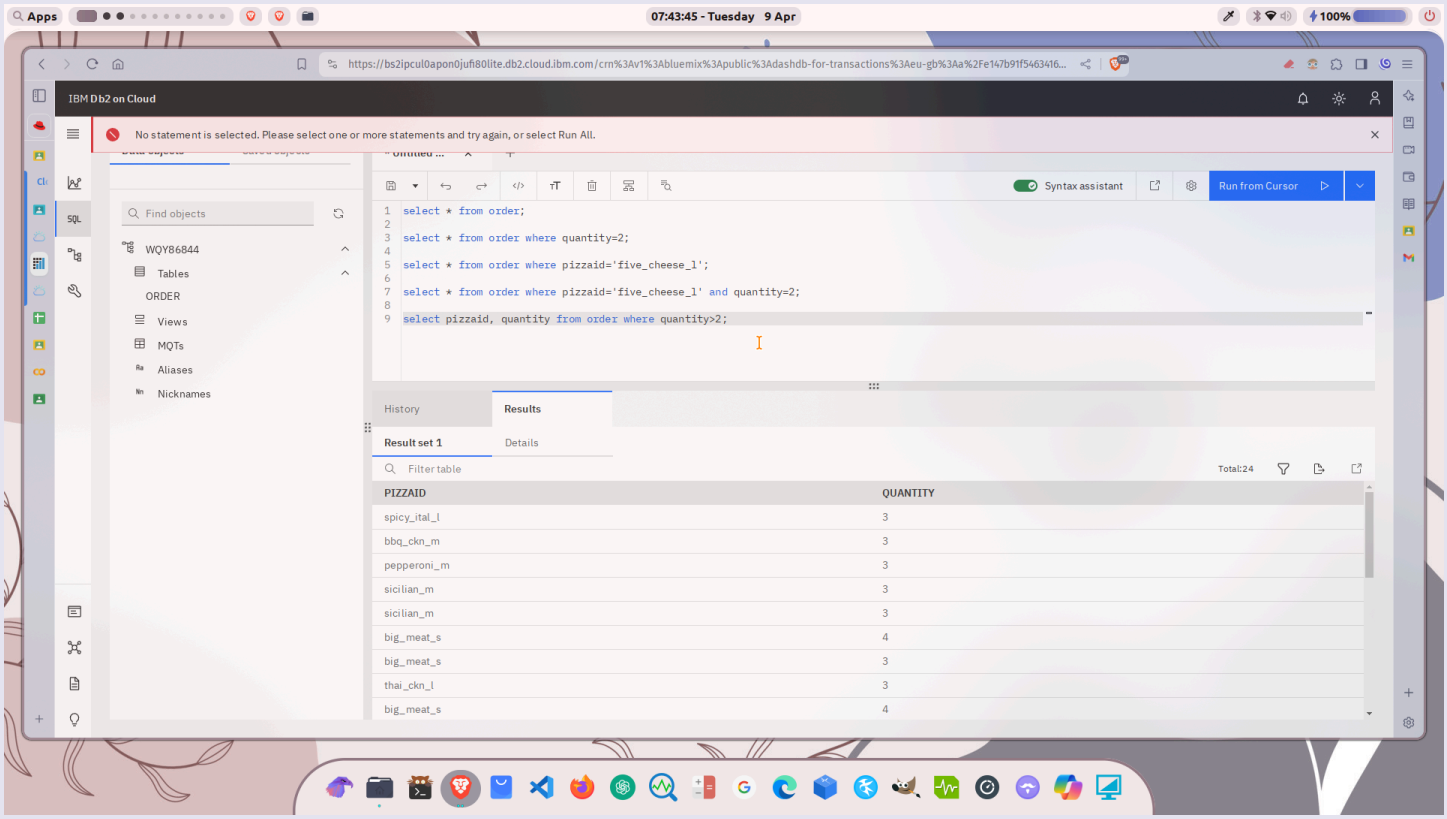
17. From Run SQL tab, run SQL queries on the order table



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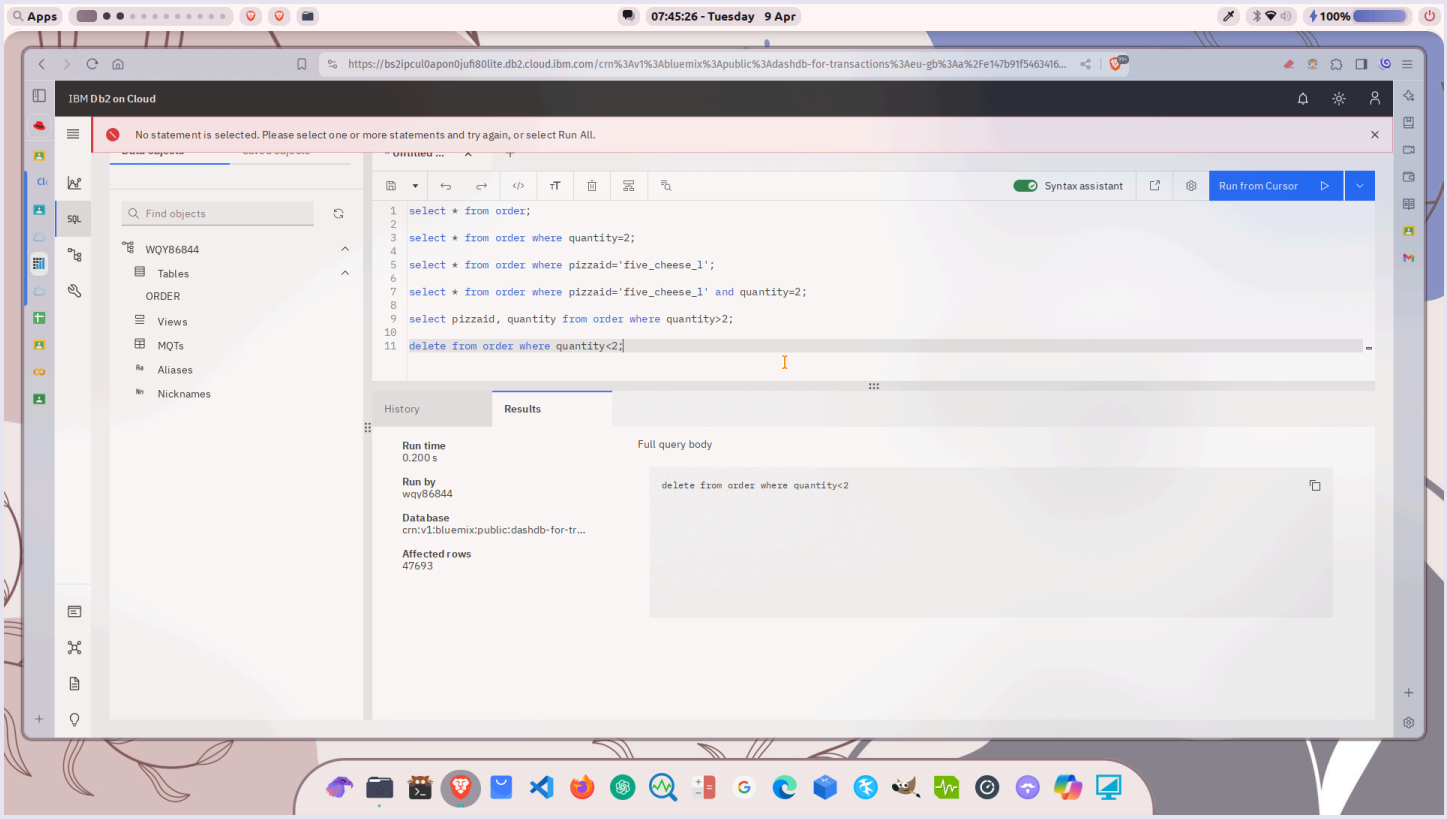
18. Try queries which alter the table data also like delete



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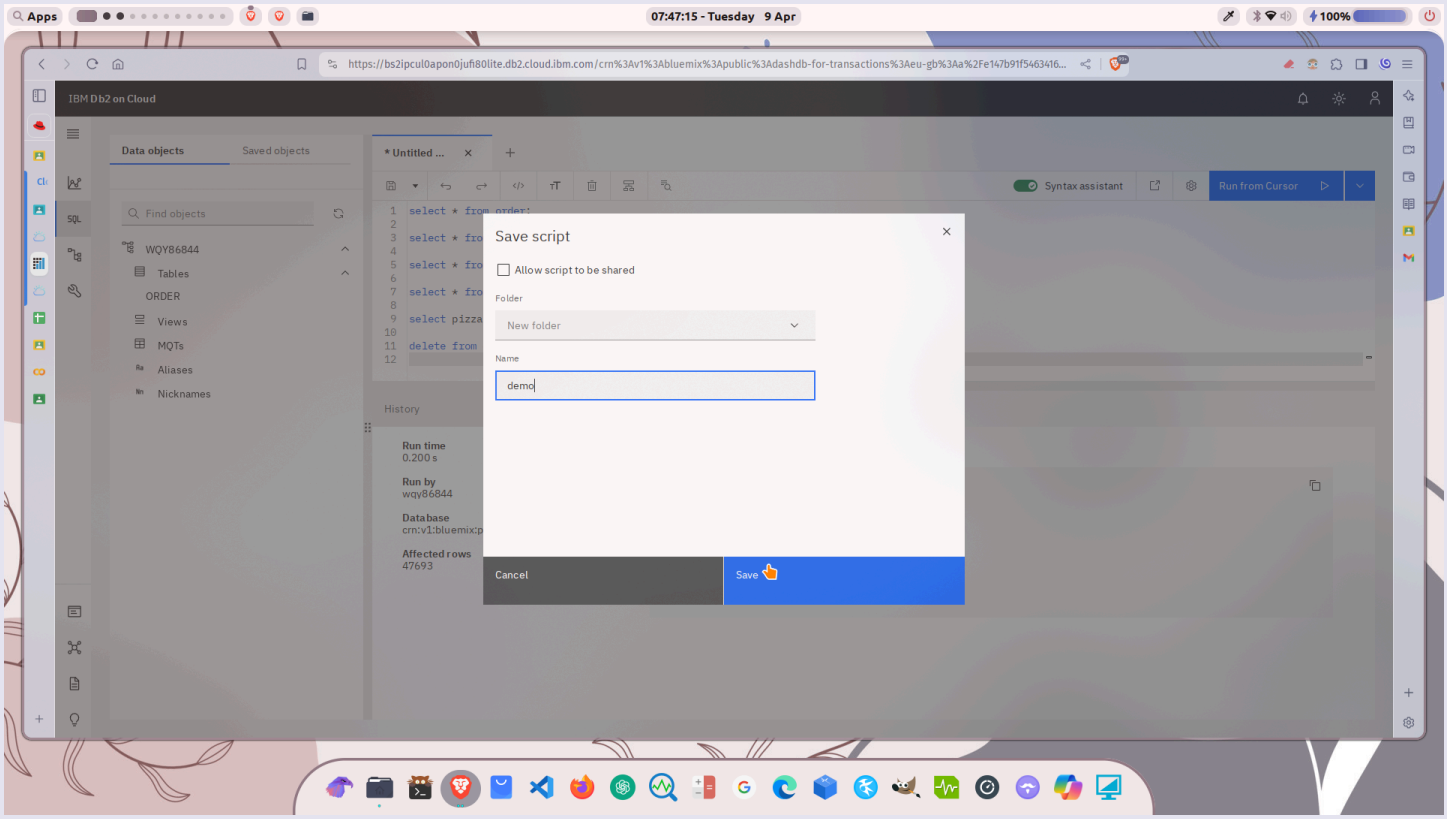
19. SQL Script can also be saved to server with the option given



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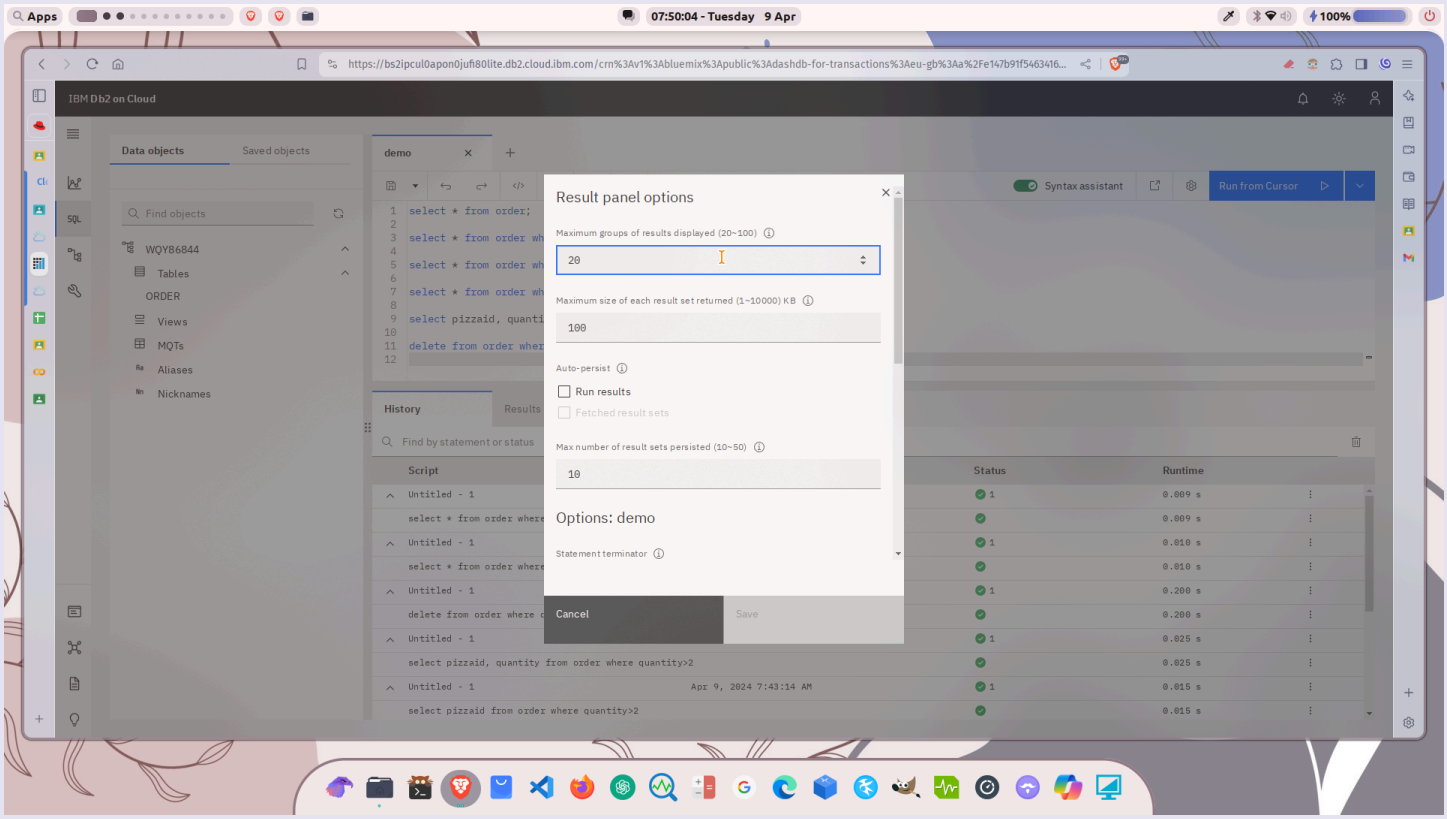
20. In options tab, the display properties can be changed for ease



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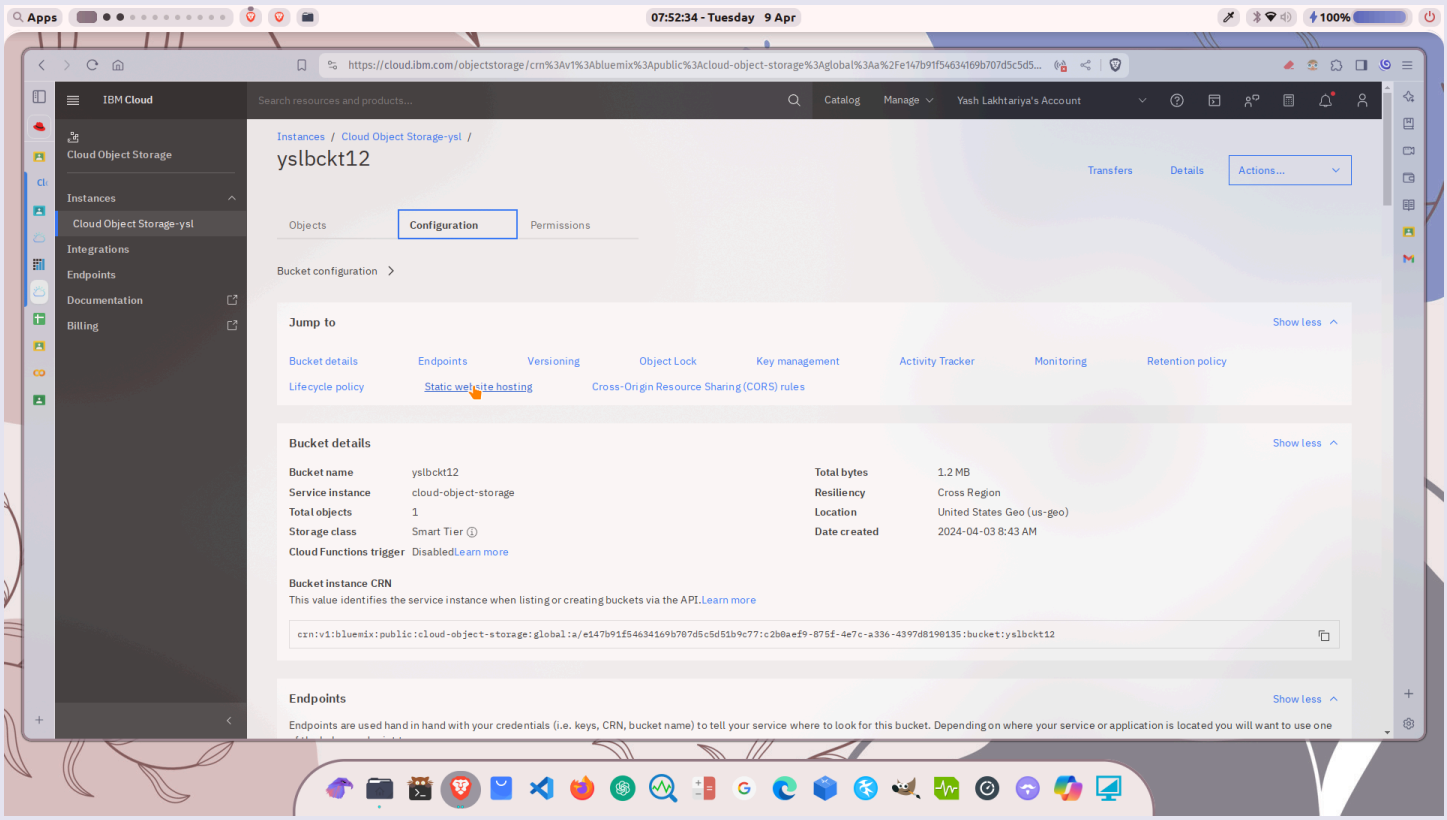
ADDITIONAL TASK :

Learn to host a static website on object storage and host your Portfolio or any sample static website of your own.

1. In bucket's configuration tab, click Static Website hosting option



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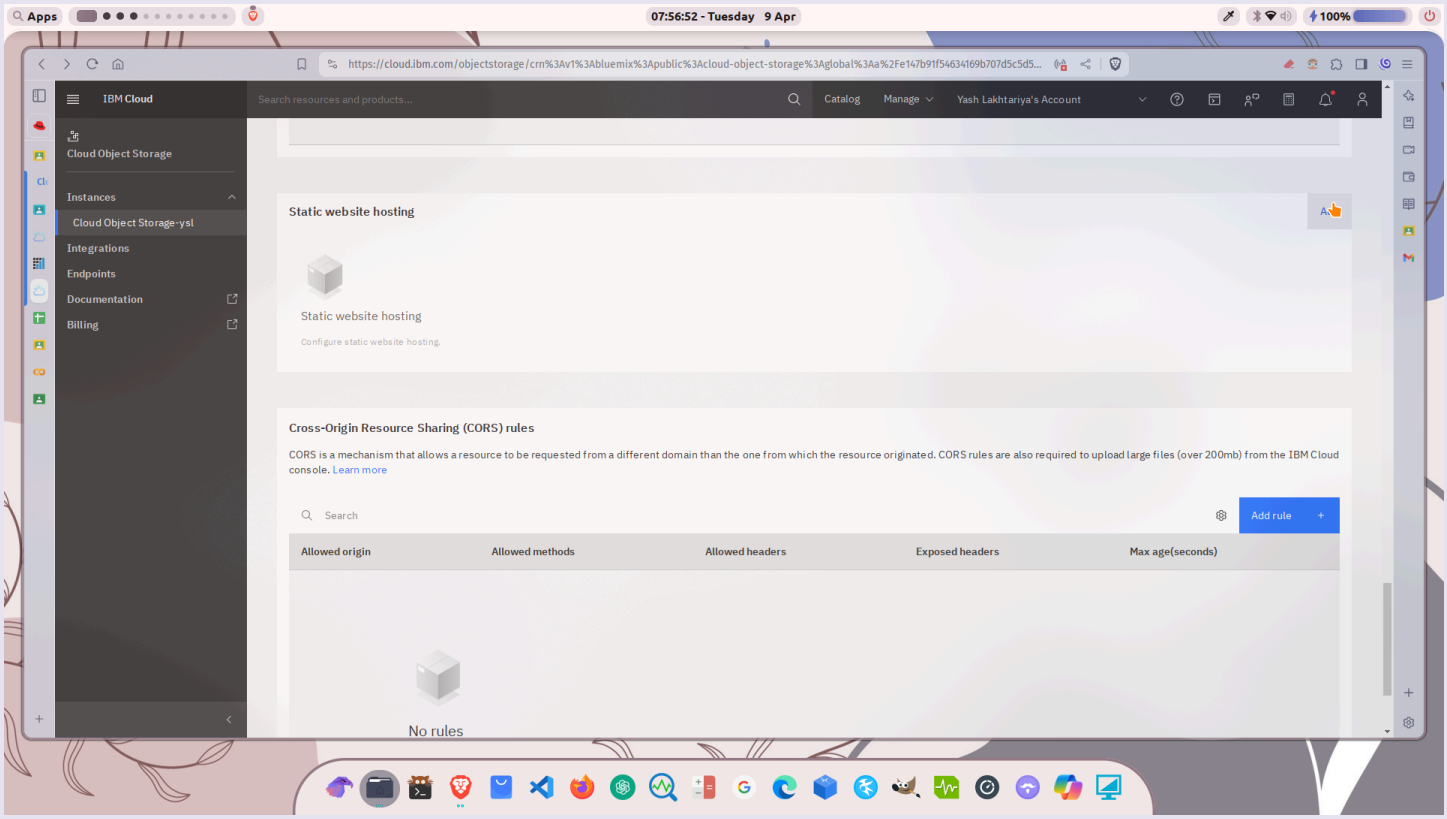
2. Select Add option in the tab



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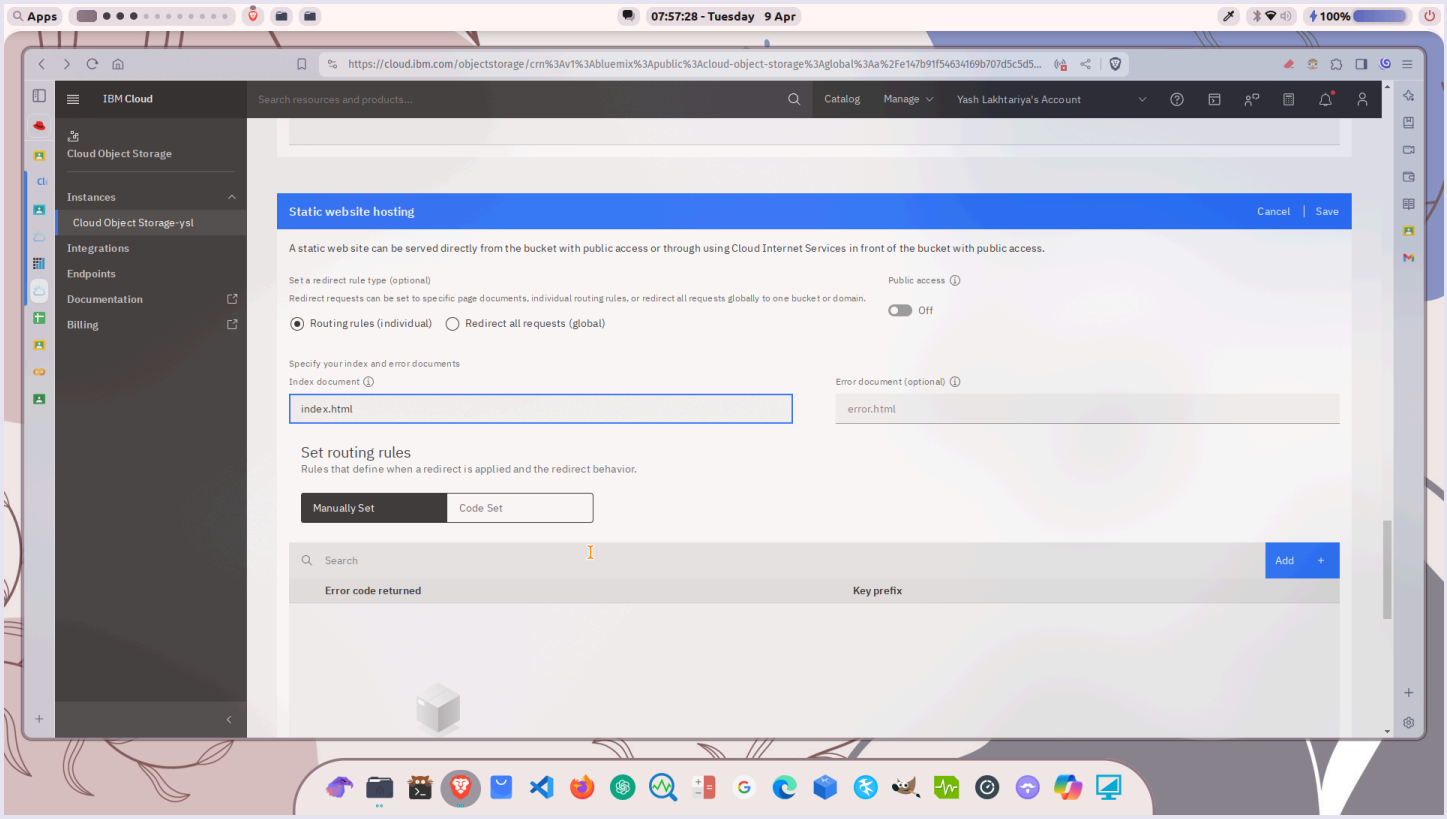
3. Save after entering the name html file



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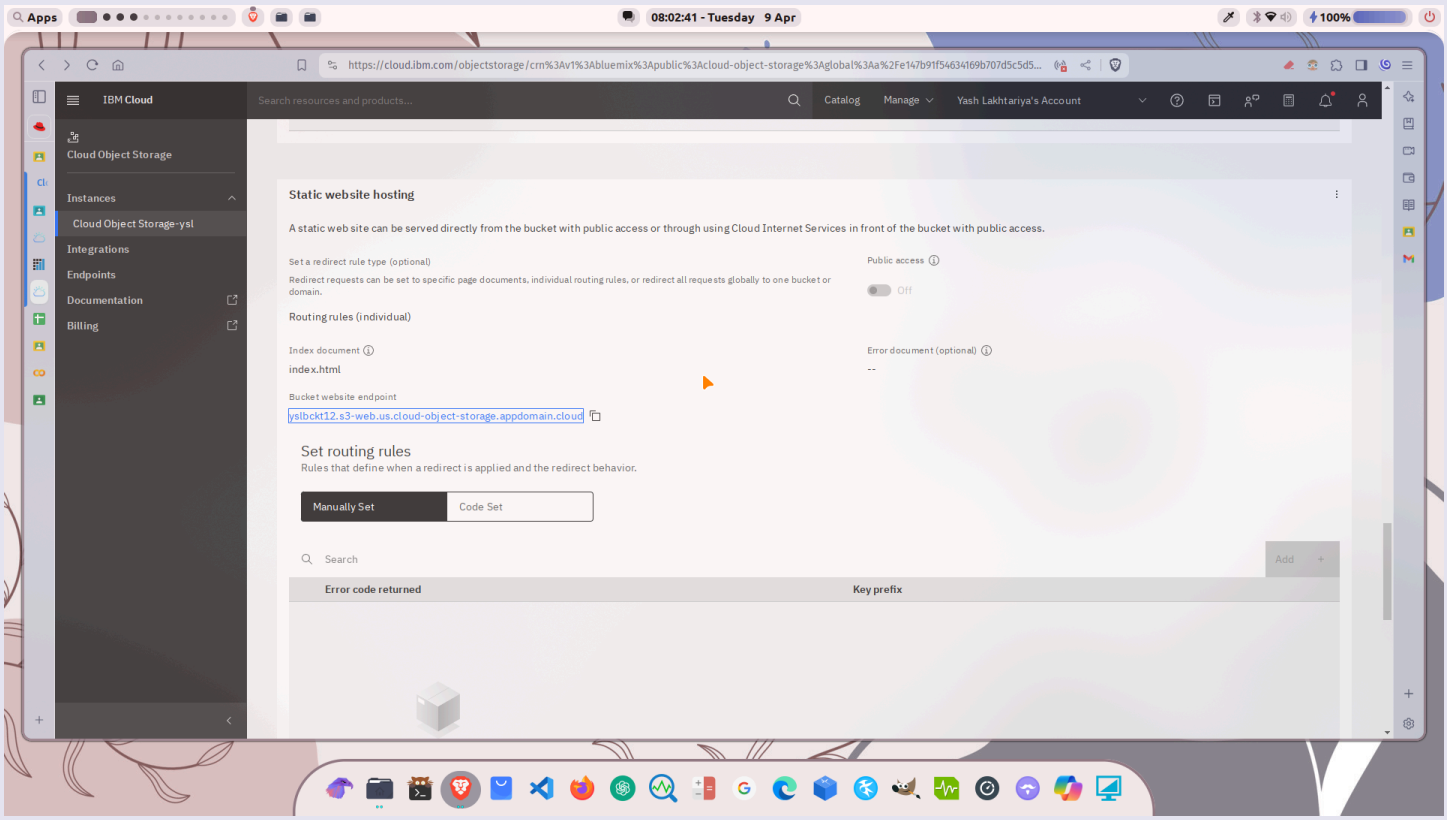
4. As seen the configuration is saved and URL is created for static website, but it won't work until the file is uploaded to object storage



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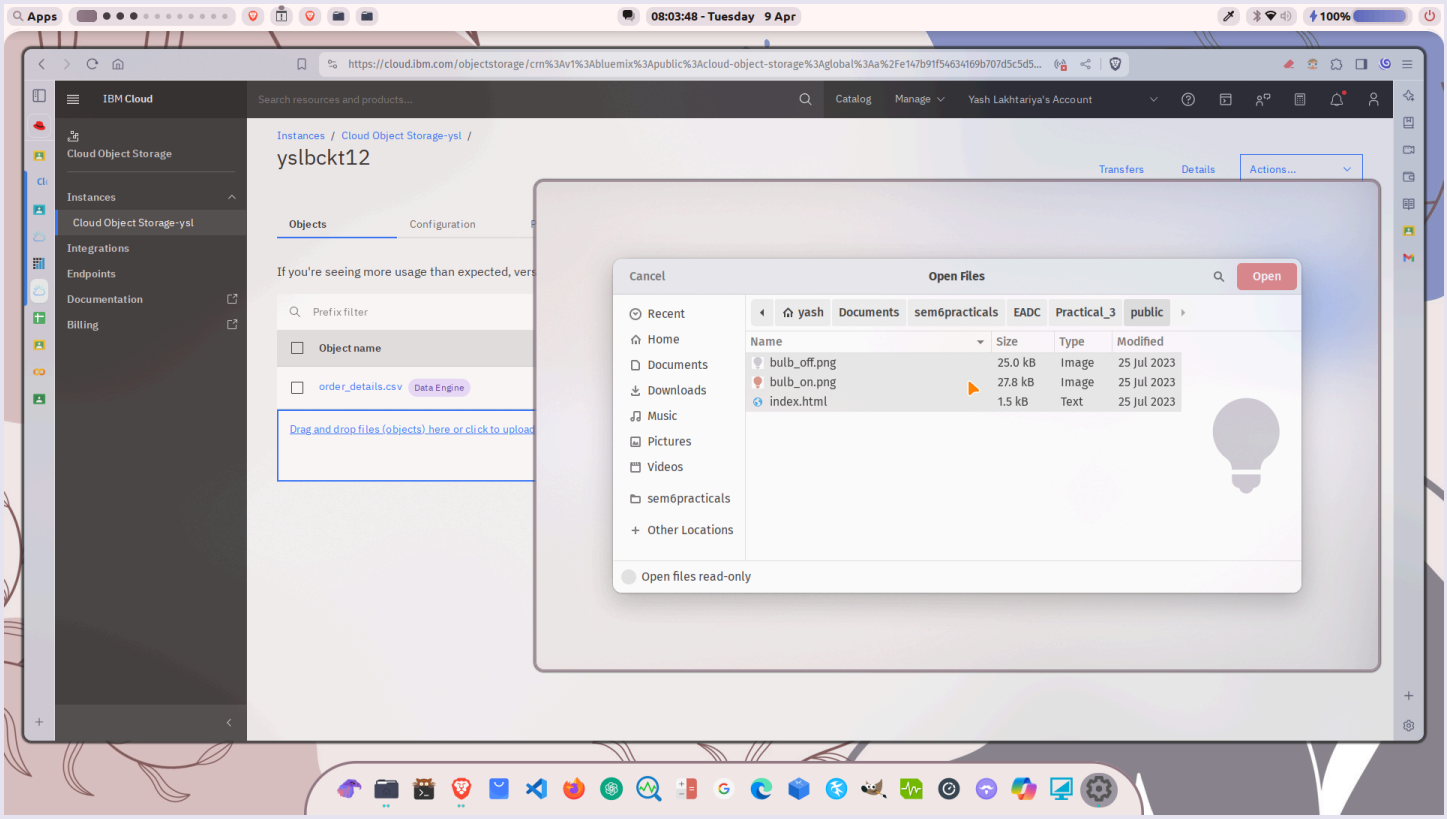
5. Upload the required files in bucket



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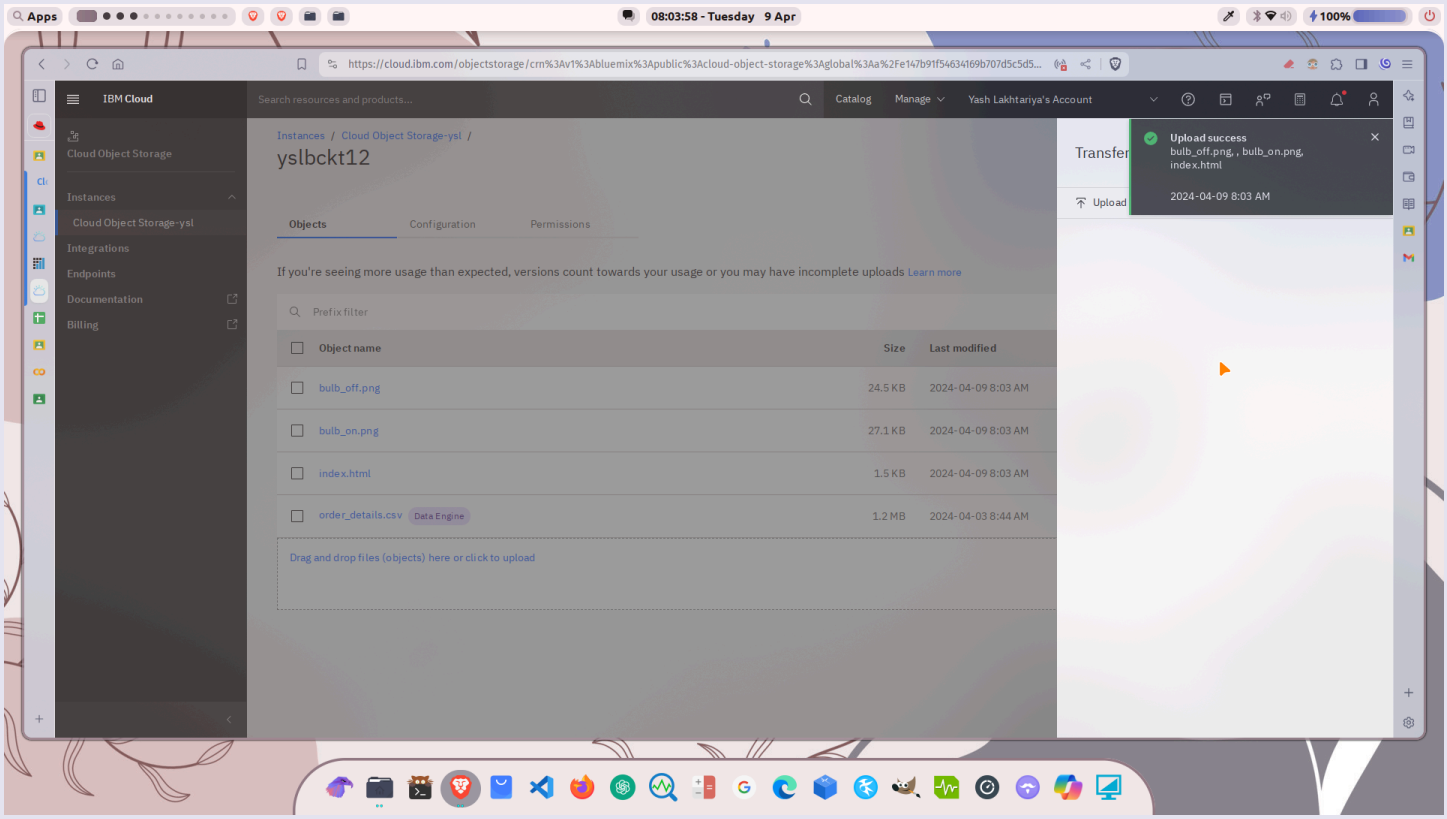
6. Wait till files are uploaded



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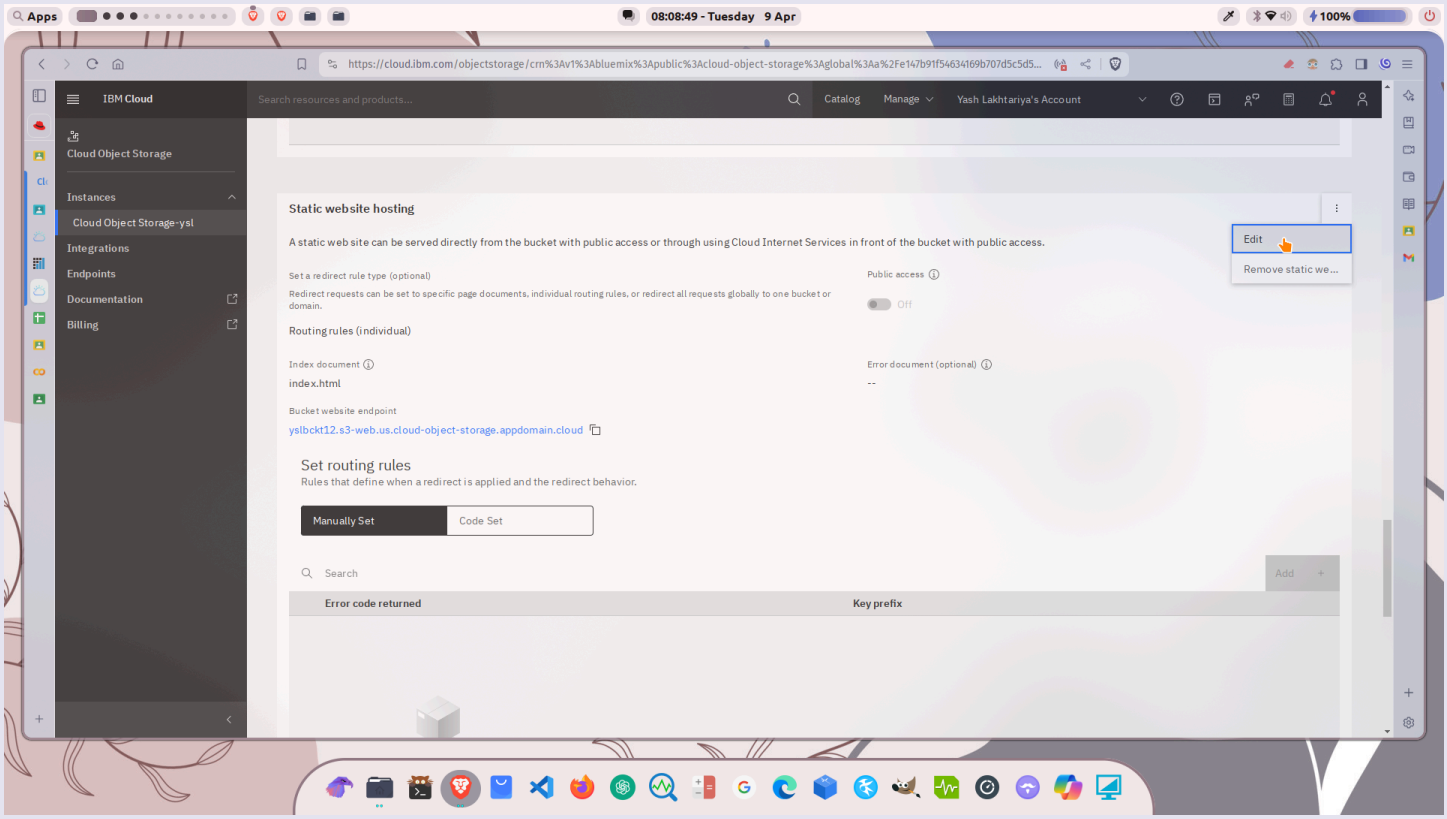
7. Now, to make website visible, edit the configuration



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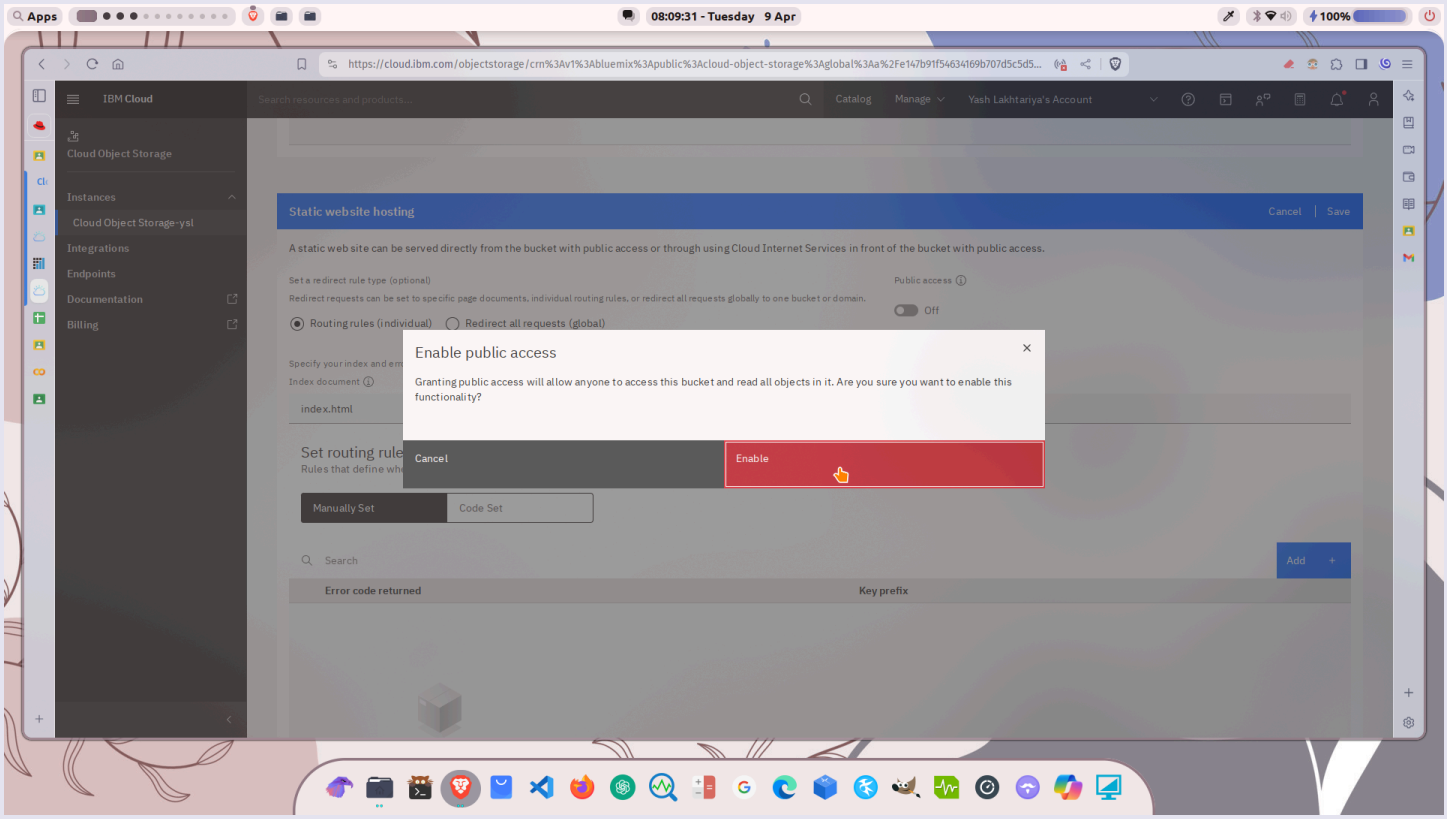
8. Enable the public access and save the configuration



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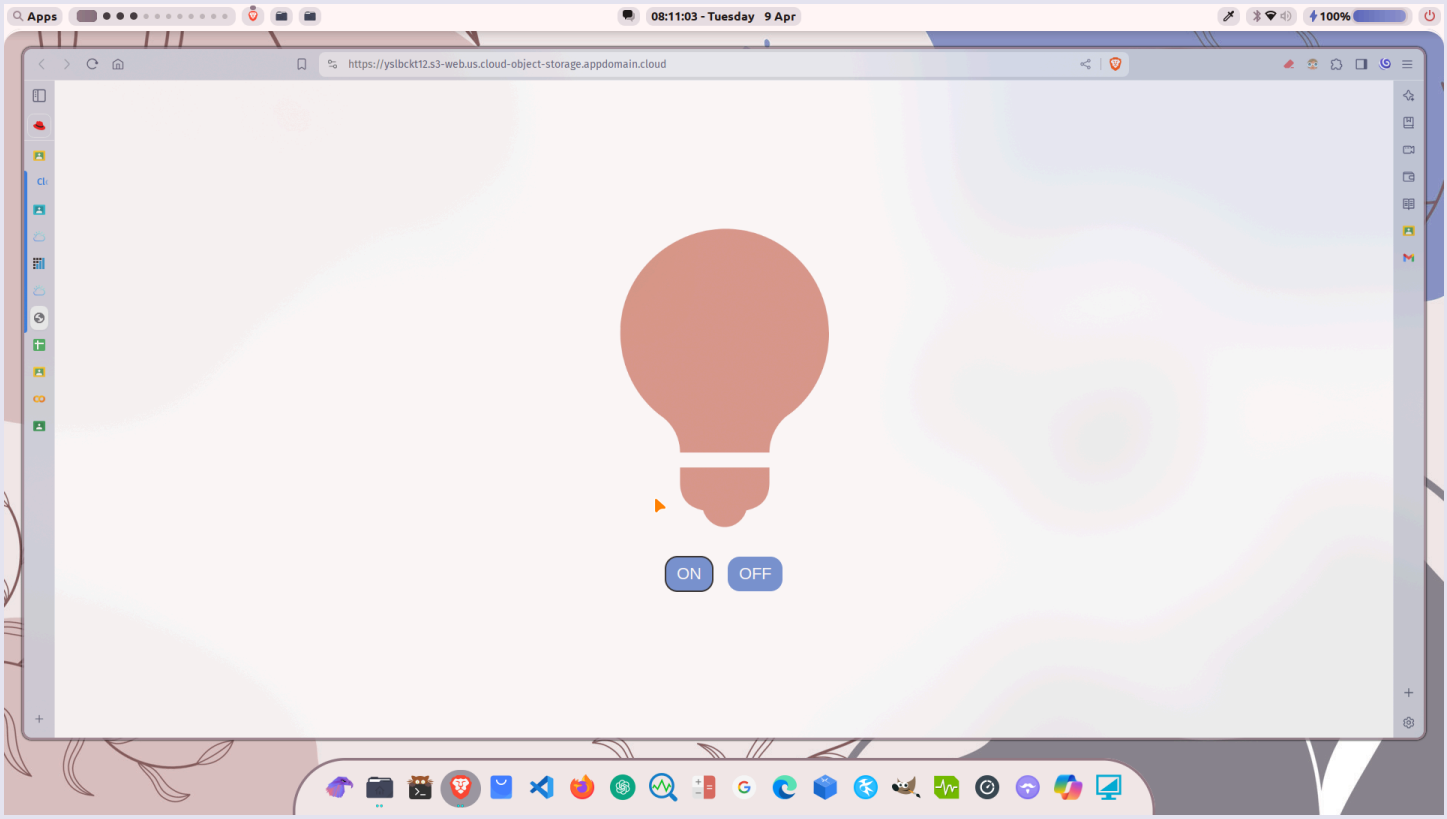
9. Now, visit the URL and the website should work as expected



URL : https://yslbckt12.s3-web.us.cloud-object-storage.appdomain.cloud/