PROJECT : Build an End-to-end data pipeline using Azure Data Factory

- **Authentication**: SQL Server Authentication
- **Server name**: nallagah1.database.windows.net

MAIN LINK :https://witty-meadow-04aa4d610.5.azurestaticapps.net/

EXPLANATION

1. Objective:

The project aims to gather and present a "Student Count by Country" by extracting data from an SQL Server database. The primary objective is to showcase how SQL can be used to group data based on specific categories, in this case, the country of students, and then count the total number of students from each country.

2. Tools Used:

- SQL Server Management Studio (SSMS): Used to run SQL queries and manage the database.

- Azure SQL Database: The data is stored and processed in a cloud environment, utilizing Azure services.

3. Implementation Steps:

- Step 1: Connect to the Azure SQL Database via SQL Server Management Studio.

- Step 2: Query the student database to group data by country and count the number of students from each country using the SQL query.

- Step 3: Execute the query and review the results.

4. Results:

The query returns a list of countries with the corresponding number of students. For example:

- Bangladesh: 1 student

- Brazil: 9 students

- Canada: 7 students

- China: 13 students

- Germany: 1 student

- A total of 31 rows of results were displayed, showing student counts from different countries.

COST ANALYSIS

1. Total Projected Monthly Cost:

The forecasted monthly cost for Azure services is **$10.94**, based on usage trends as of September 2024.

2. Breakdown of Azure Service Costs:

Storage: $0.17

Azure Data Factory (v2): $0.17

Bandwidth: < $0.01

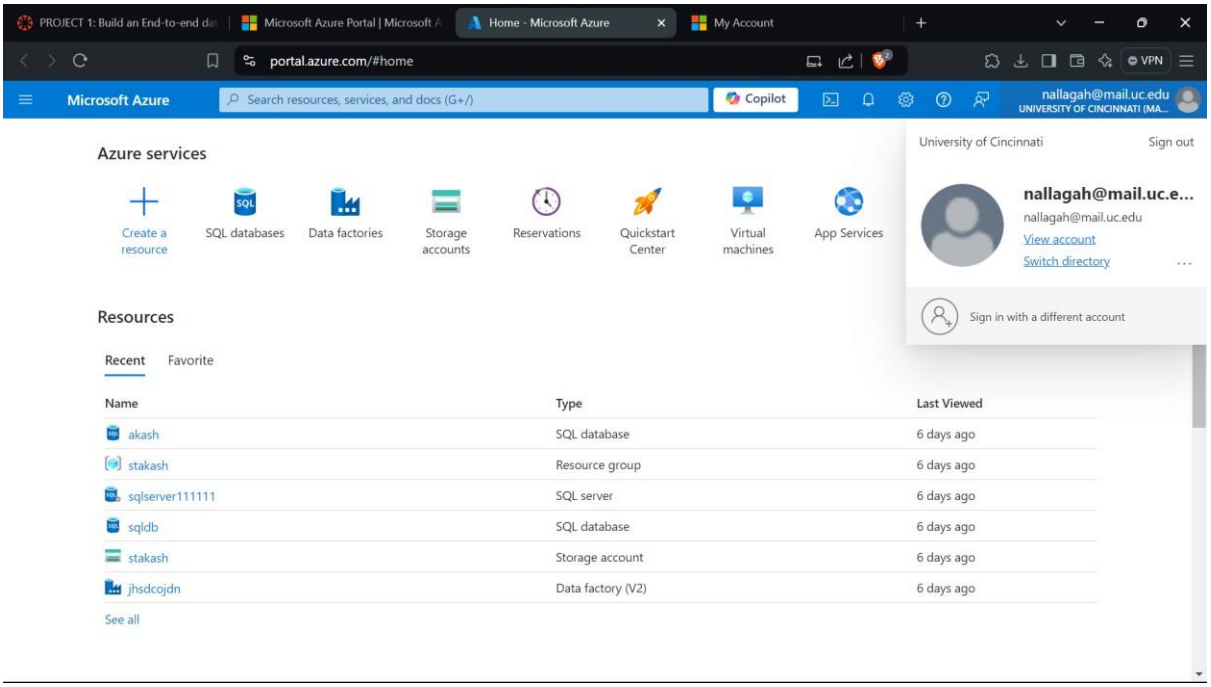
Azure App Service: < $0.01

Functions: $0.00

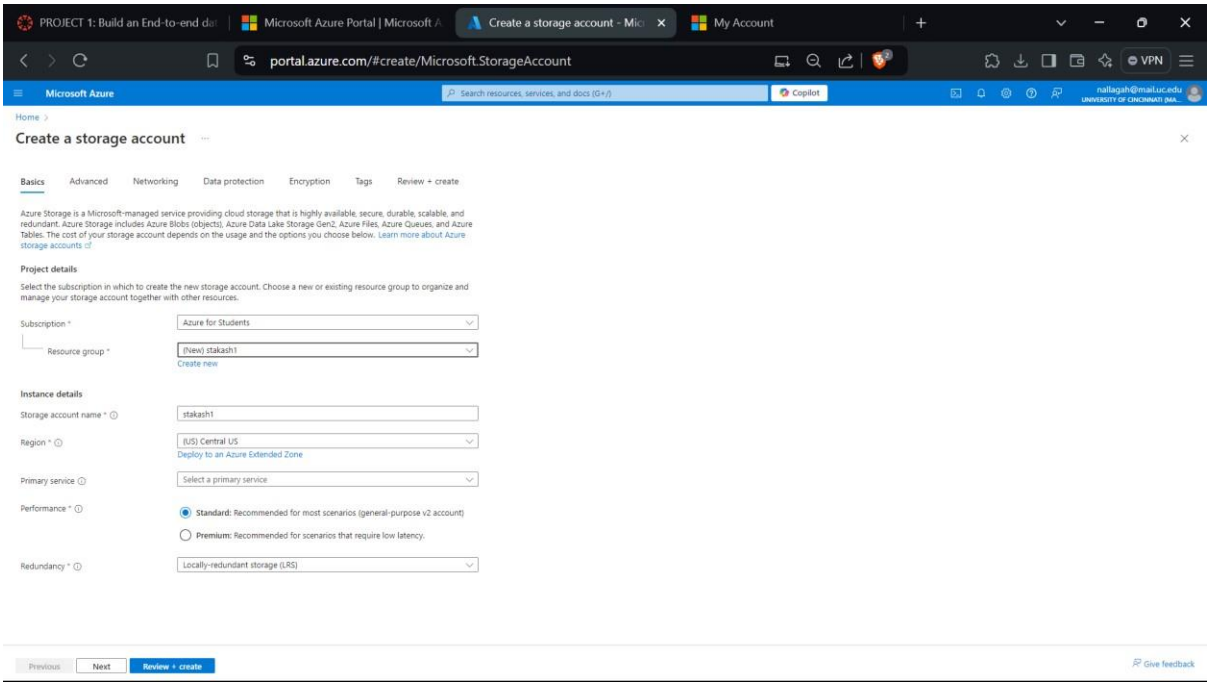
3.Regional Costs:

- **US Central**: $4.37
- **CA Central**: < $0.01

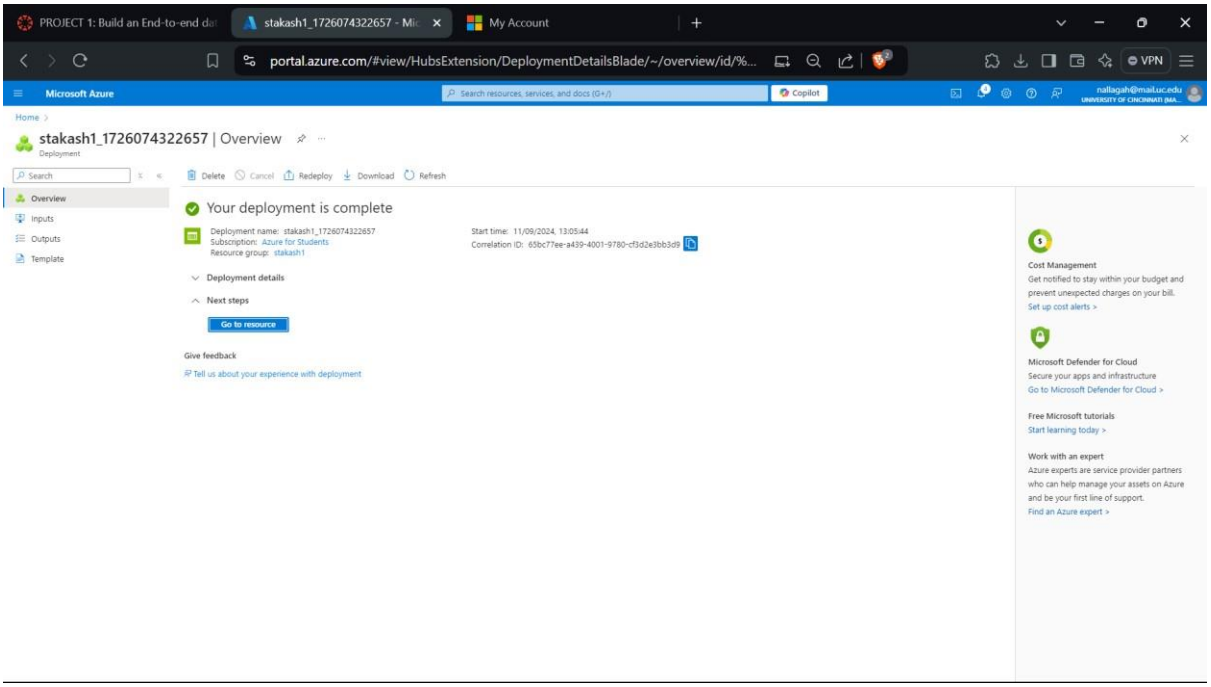
SS 1:- AZURE PORTAL LOGIN



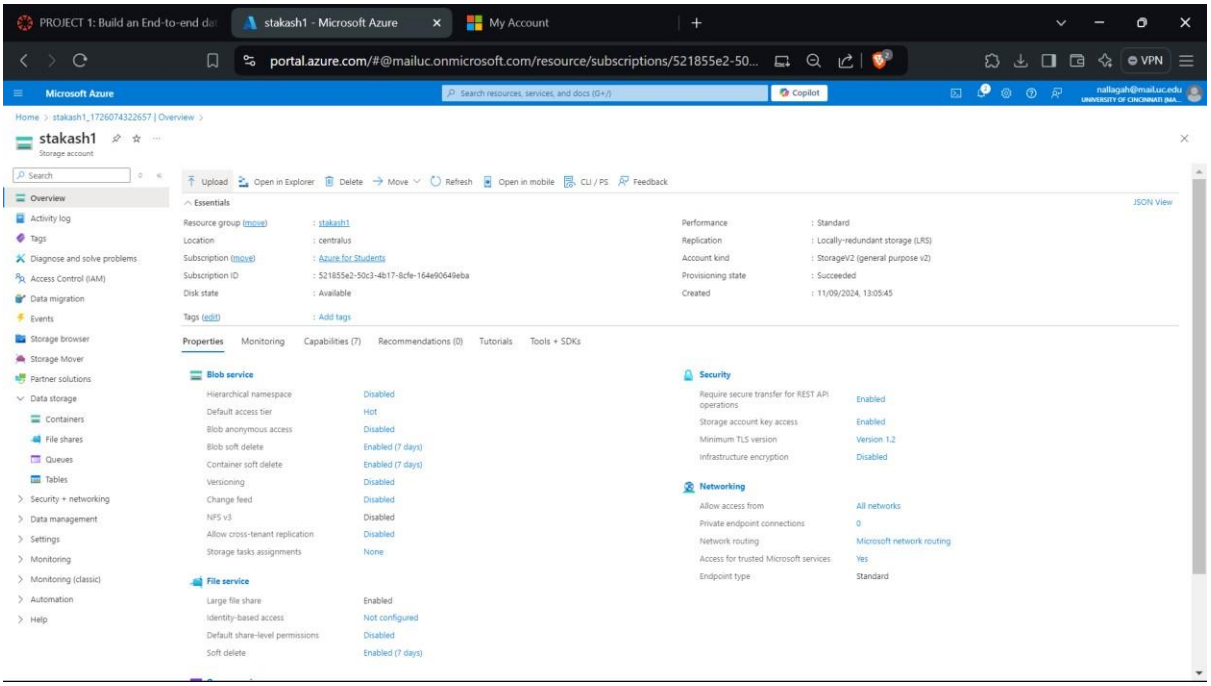
SS 2:- CREATION OF STORAGE ACCOUNT



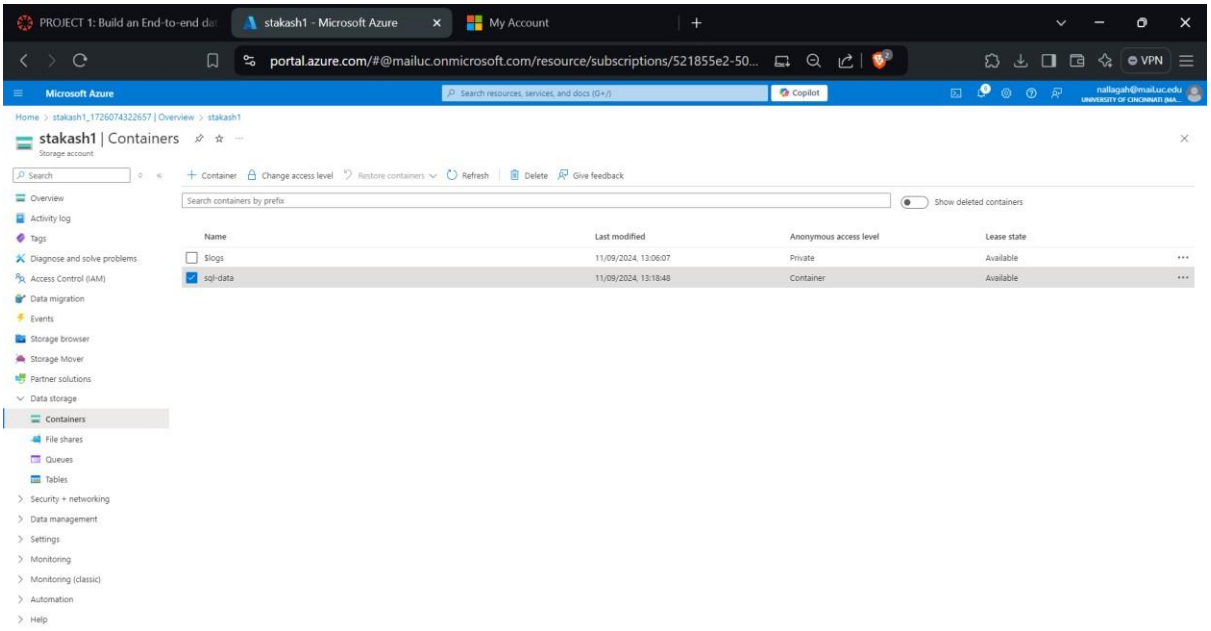
SS 3:- DEPLOYMENT SCREEN OF STORAGE ACCOUNT



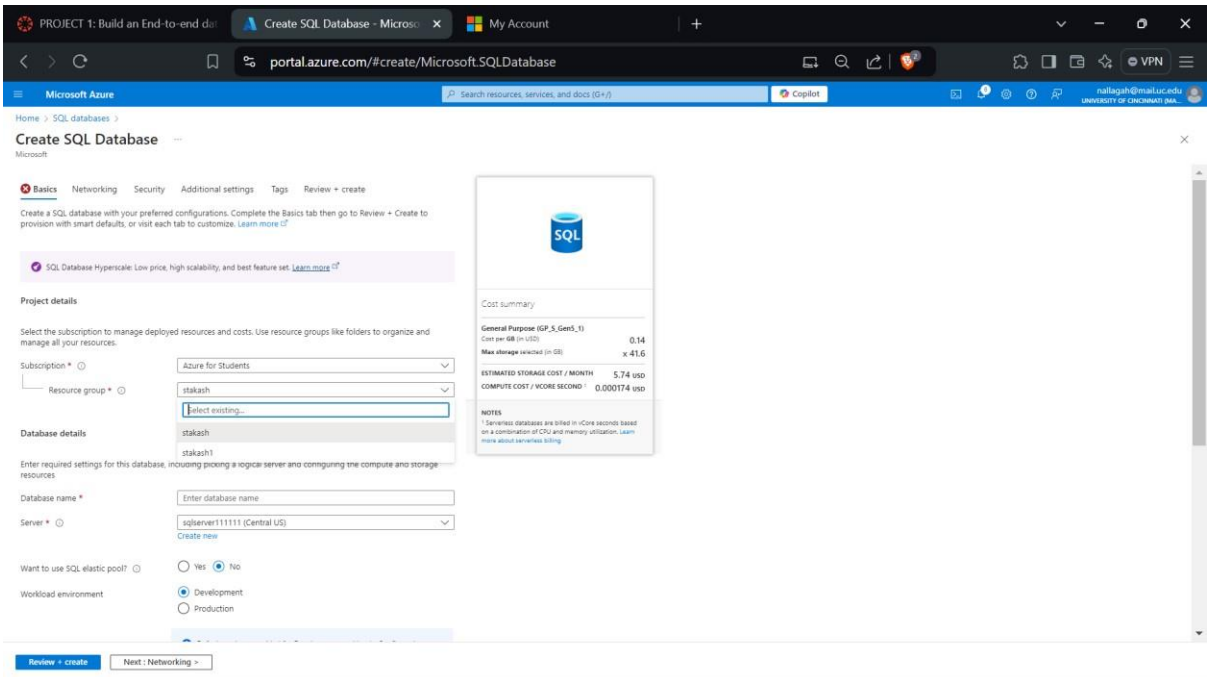
SS 4:- CONFIGURATION SCREEN OF STORAGE ACCOUNT



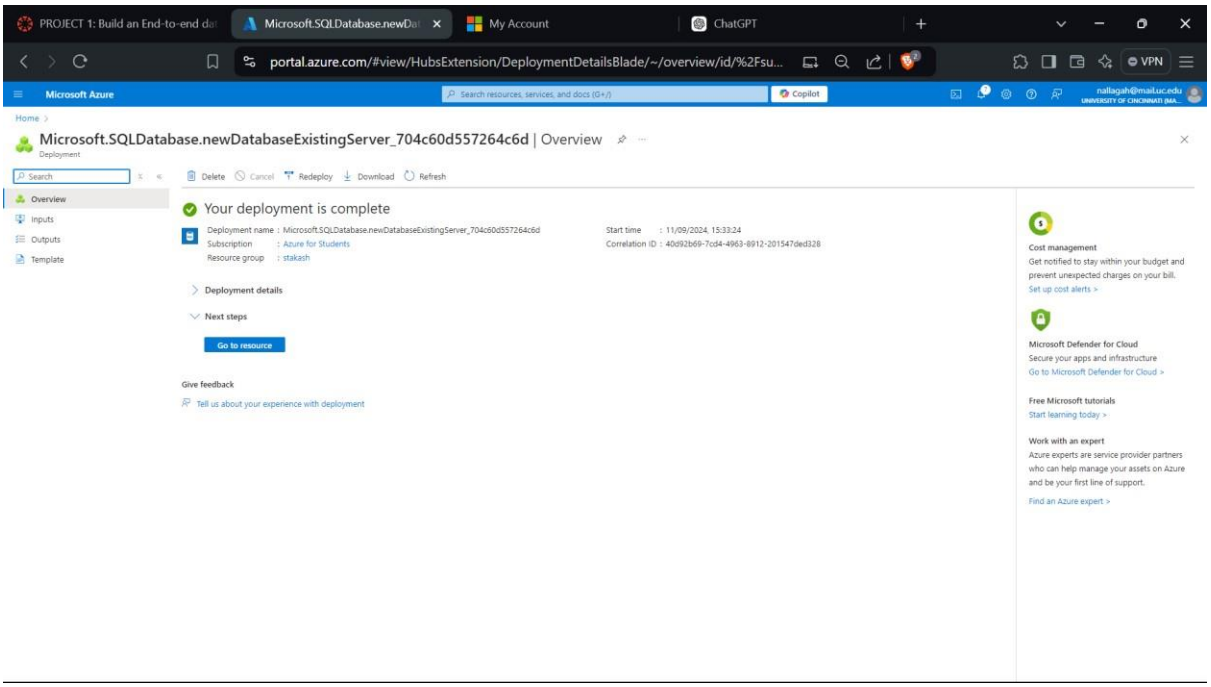
SS 5:- CREATION OF STORAGE CONTAINER



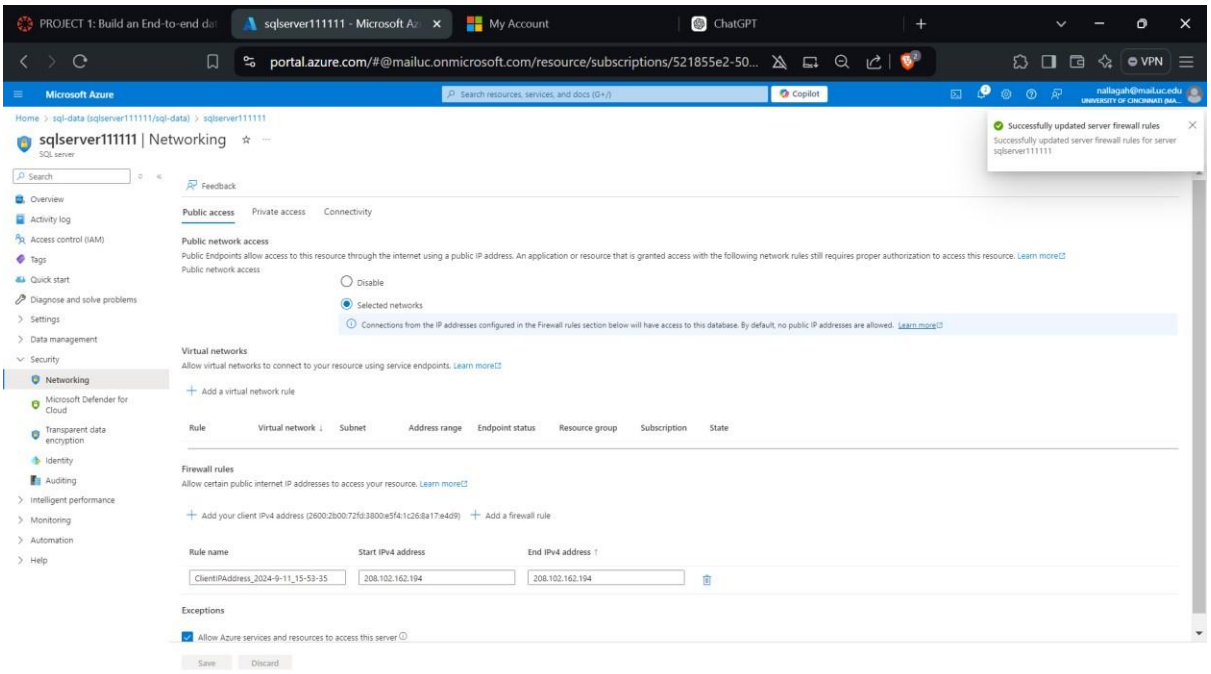
SS 6:-CRETION OF SQL DATABASE



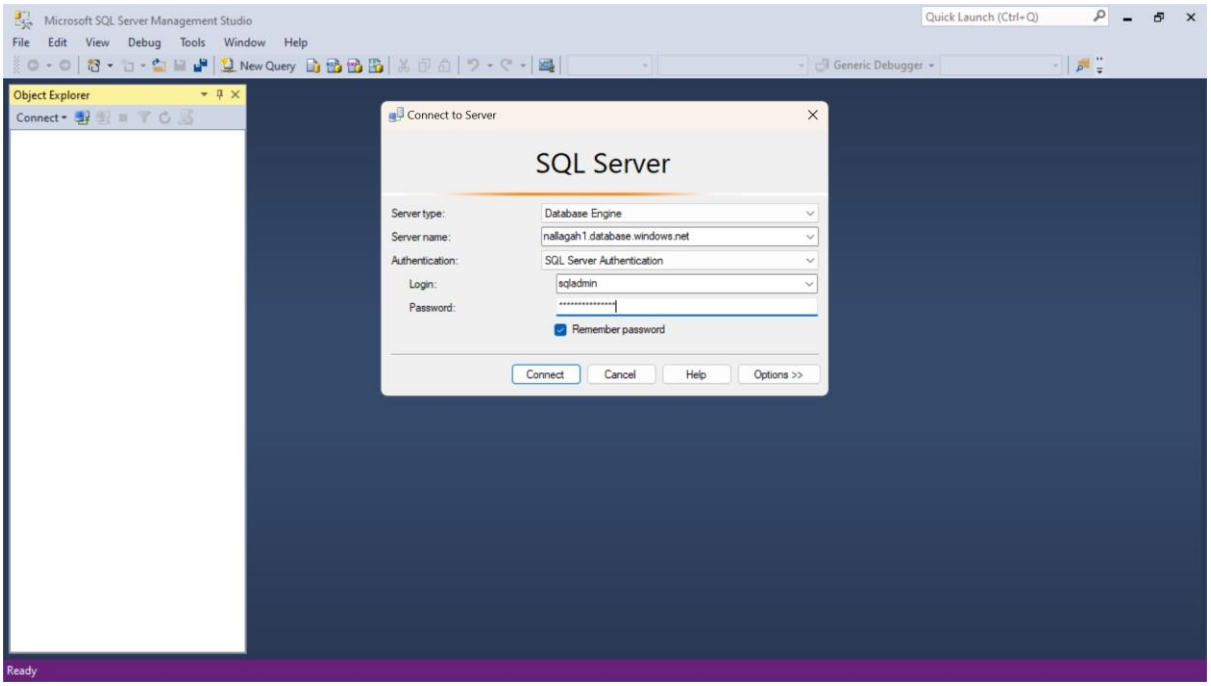
SS 7:- DEPLOYMENT SCREEN



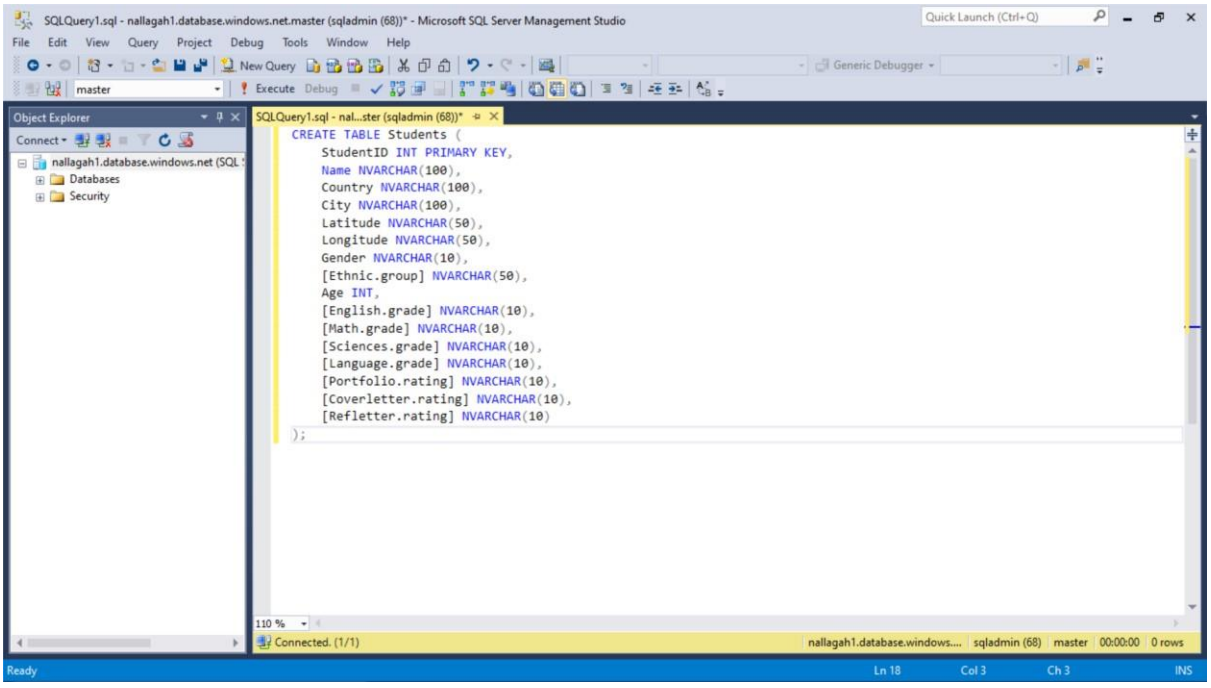
SS 8:- SQL SERVER



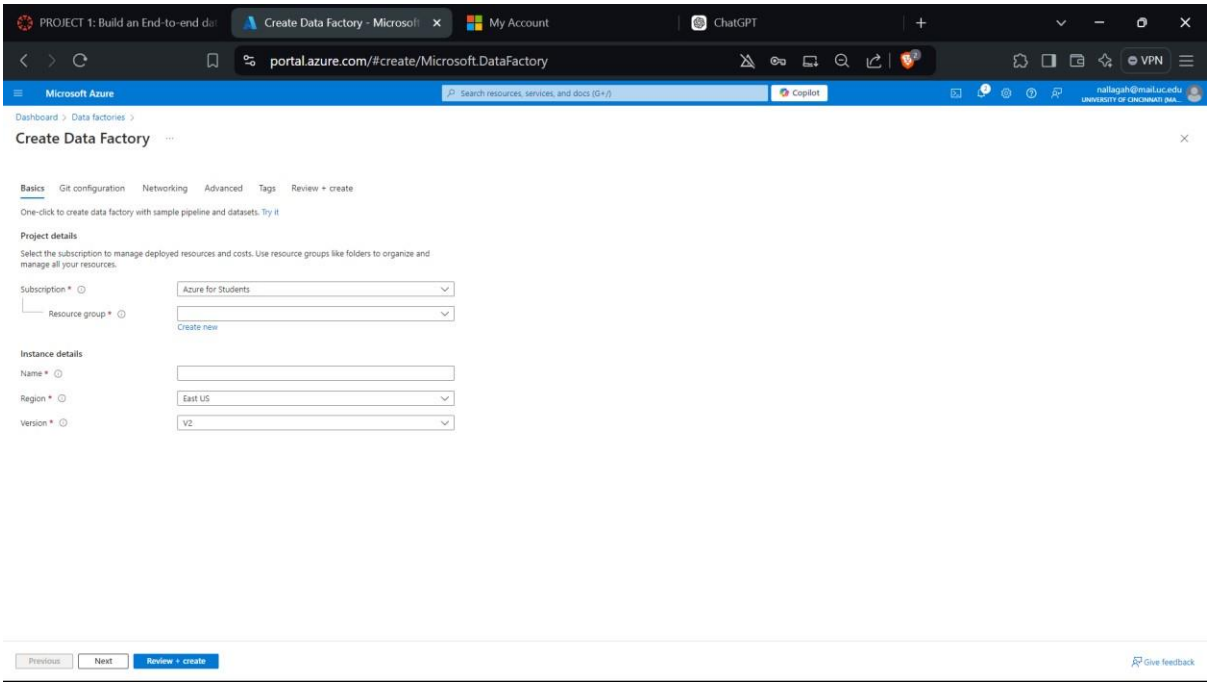
SS 9:- SERVER LOGIN



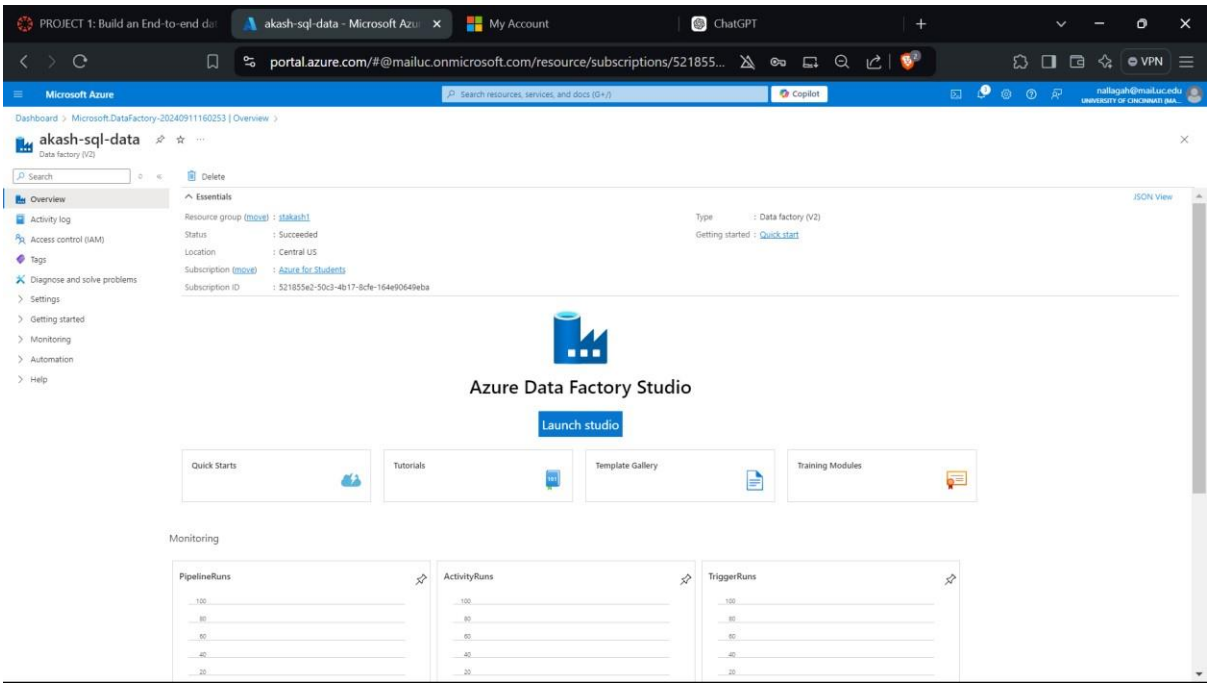
SS 10:- CREATION OF TABLE



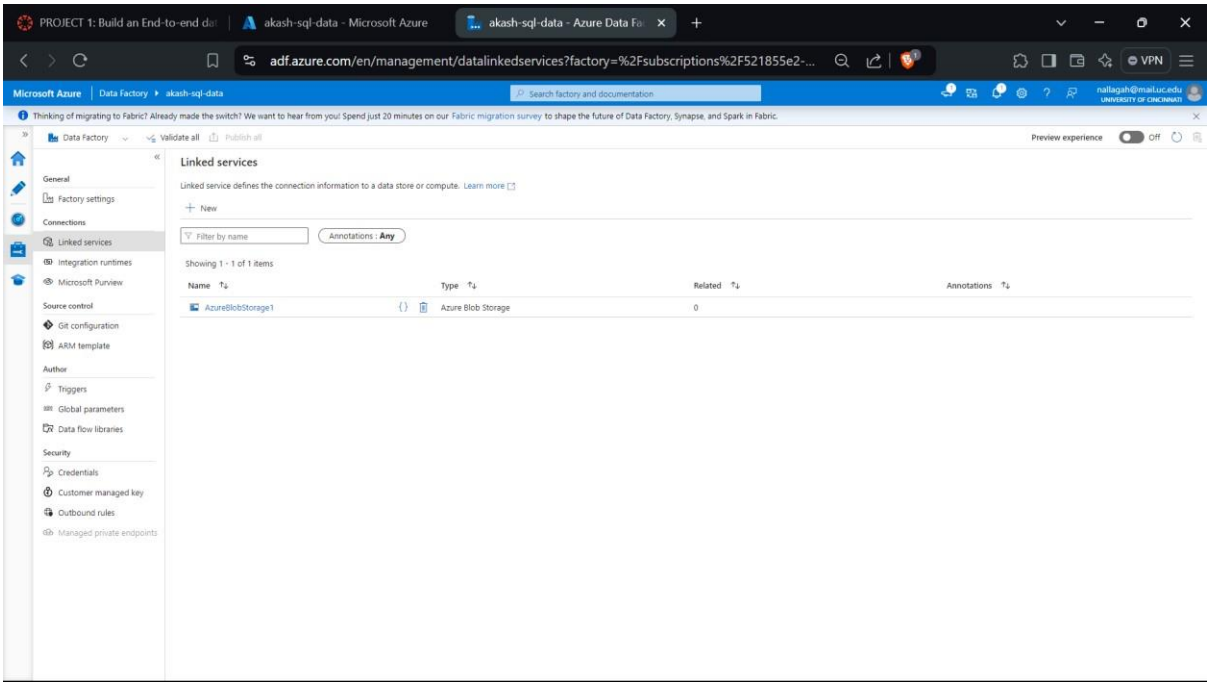
SS 11:- AZURE DATA FACTORY STUDIO CR4EATION



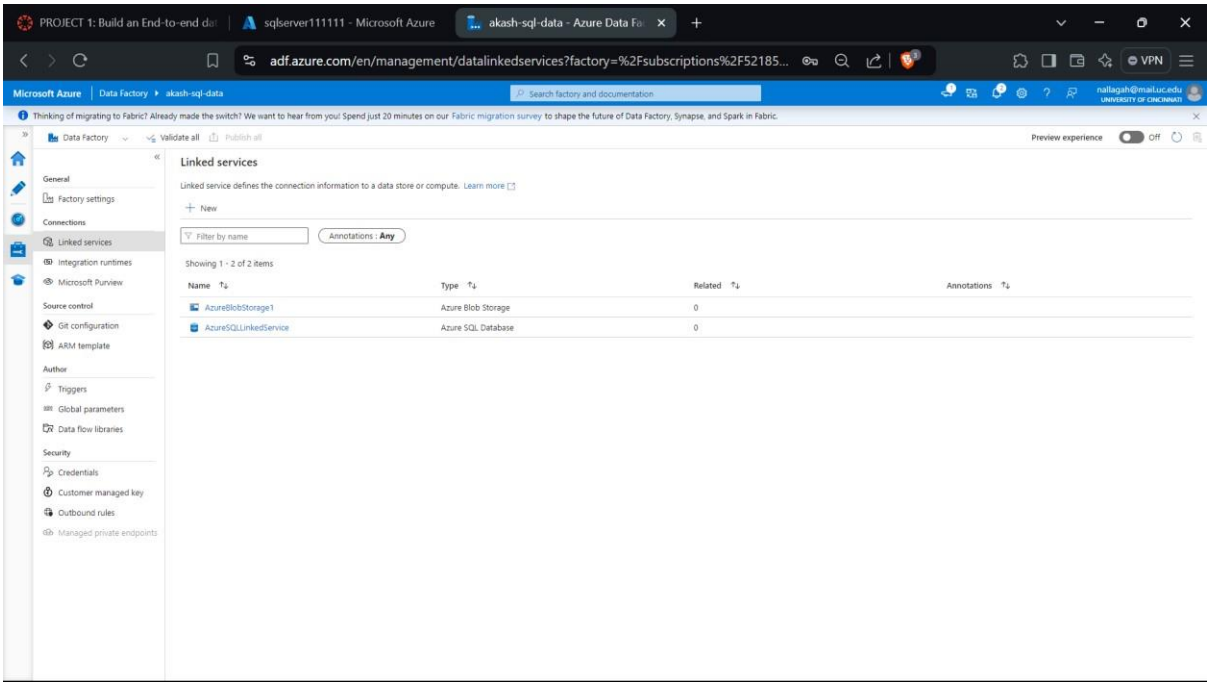
SS 12:- ADF DASHBOARD



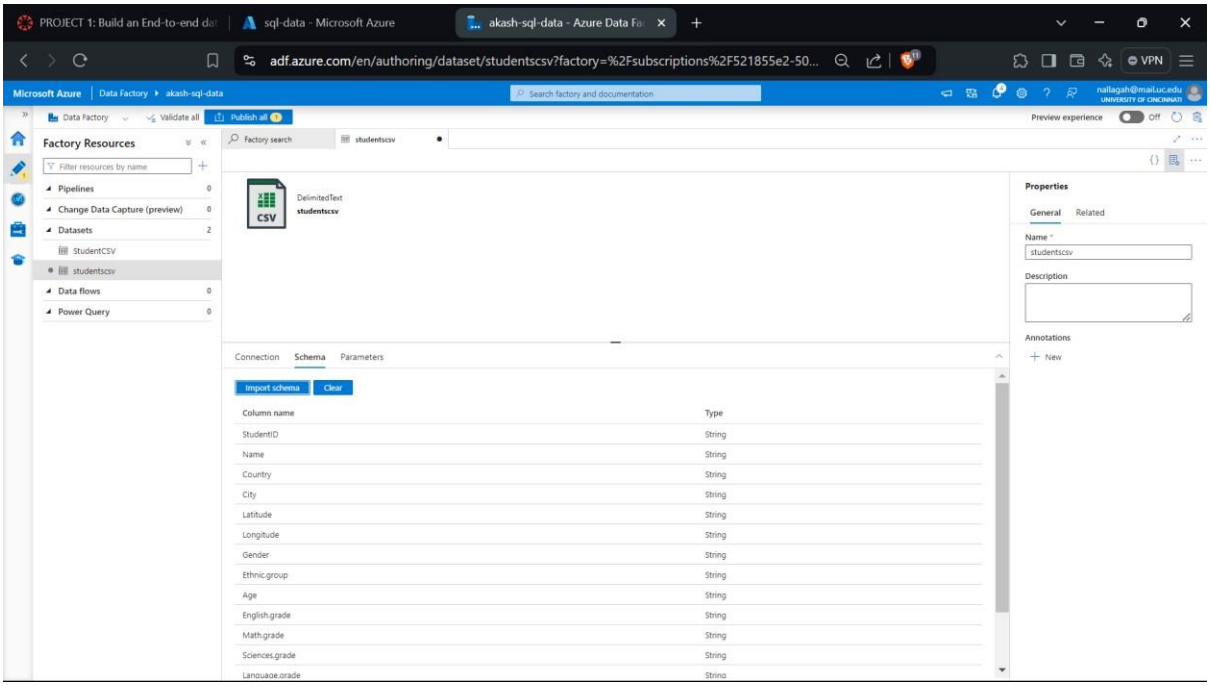
SS 13:- CREATION OF BLOB STORAGE



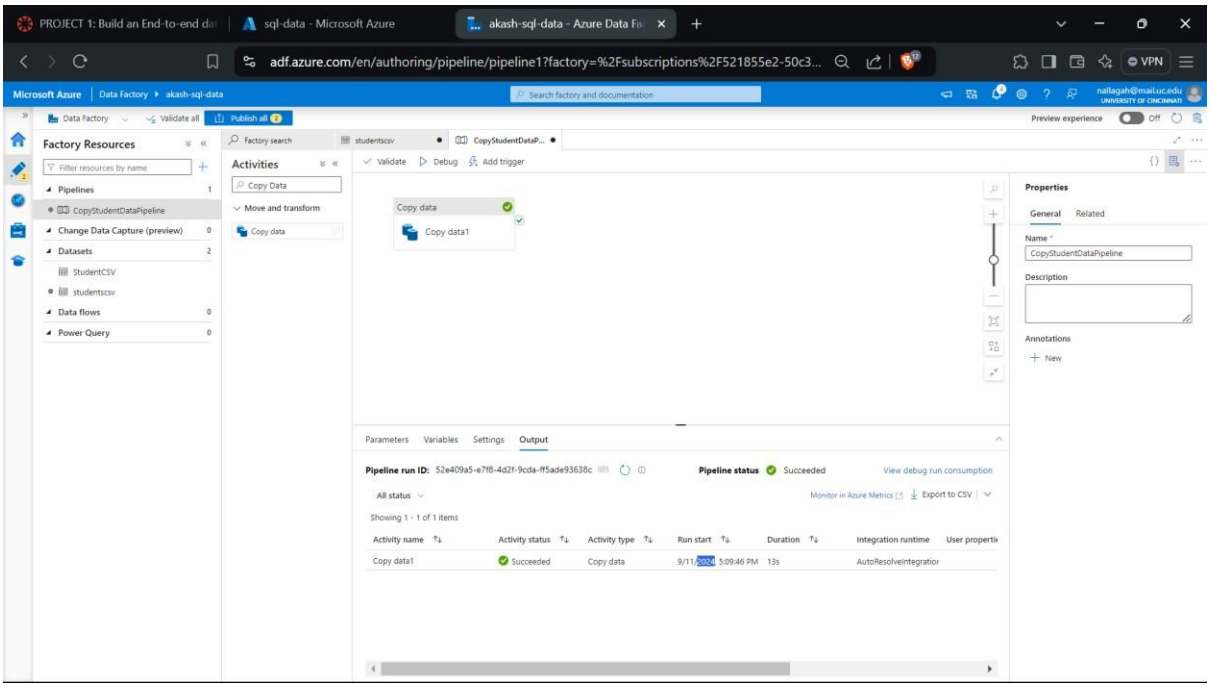
SS 14:- CREATION OF AZURE SQL DATA



SS 15:- CREATION (STUDENTCSV) FILE

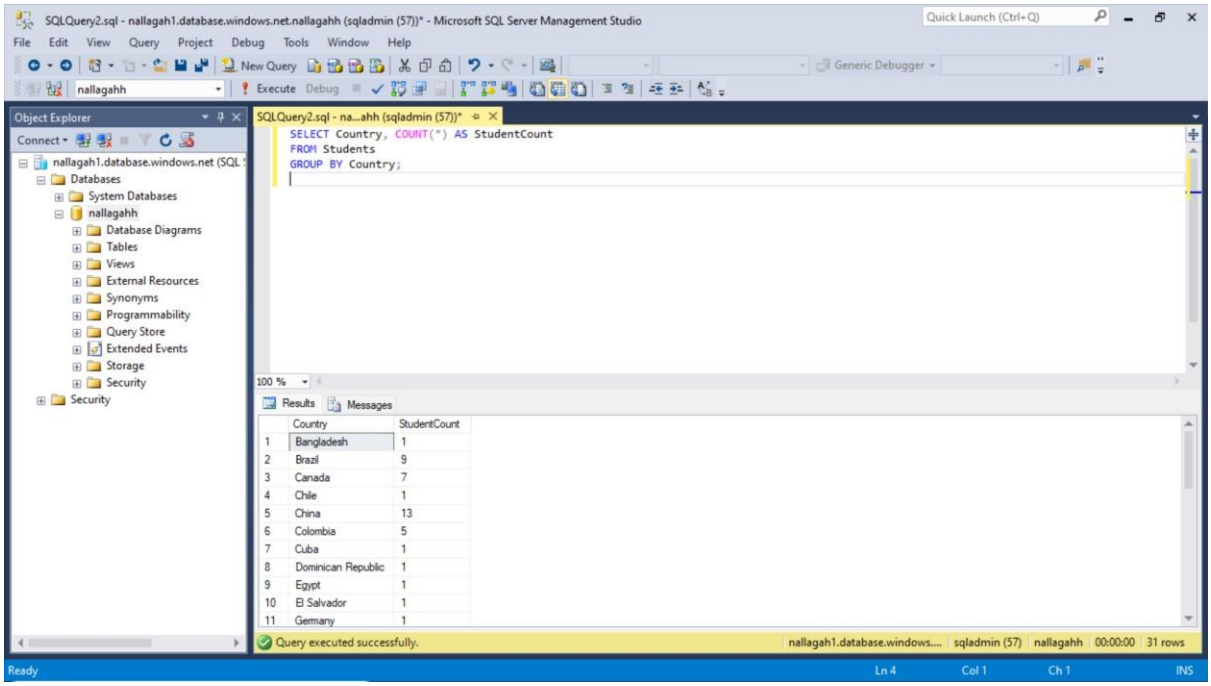


SS 16:- CREATION OF PIPELINE AND DEBUGGING.



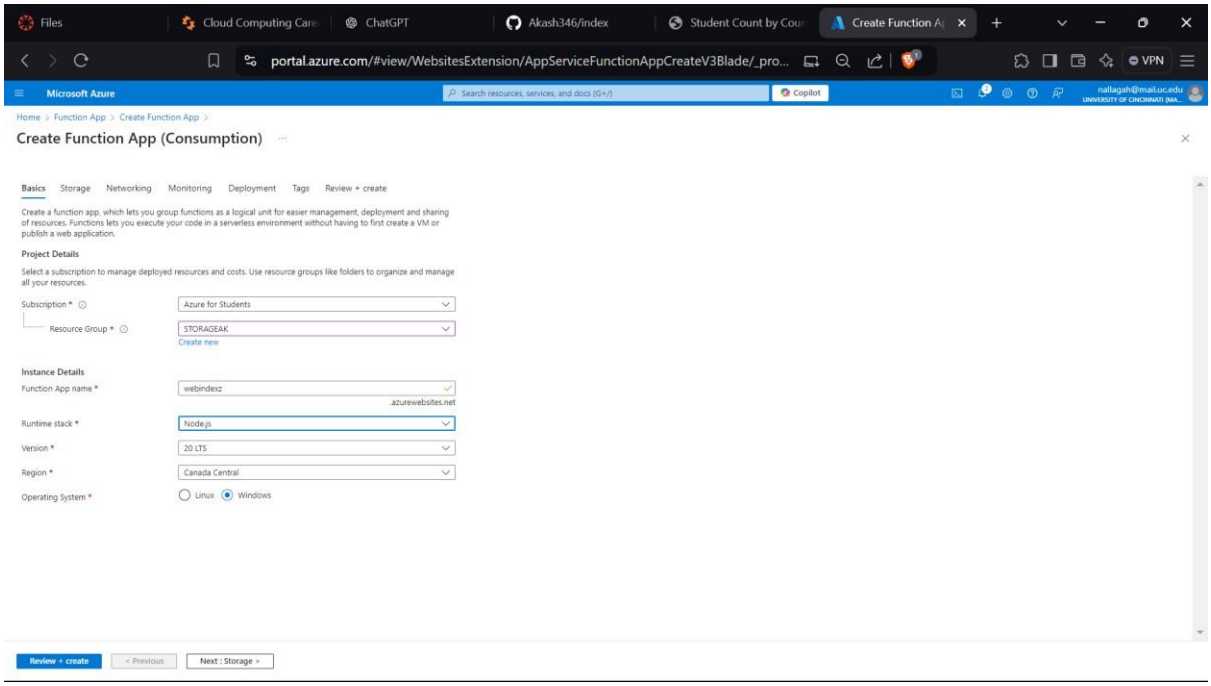
FINAL RESULT

SS 17:- QUERYING (STUDENT COUNT BY COUNTRY)

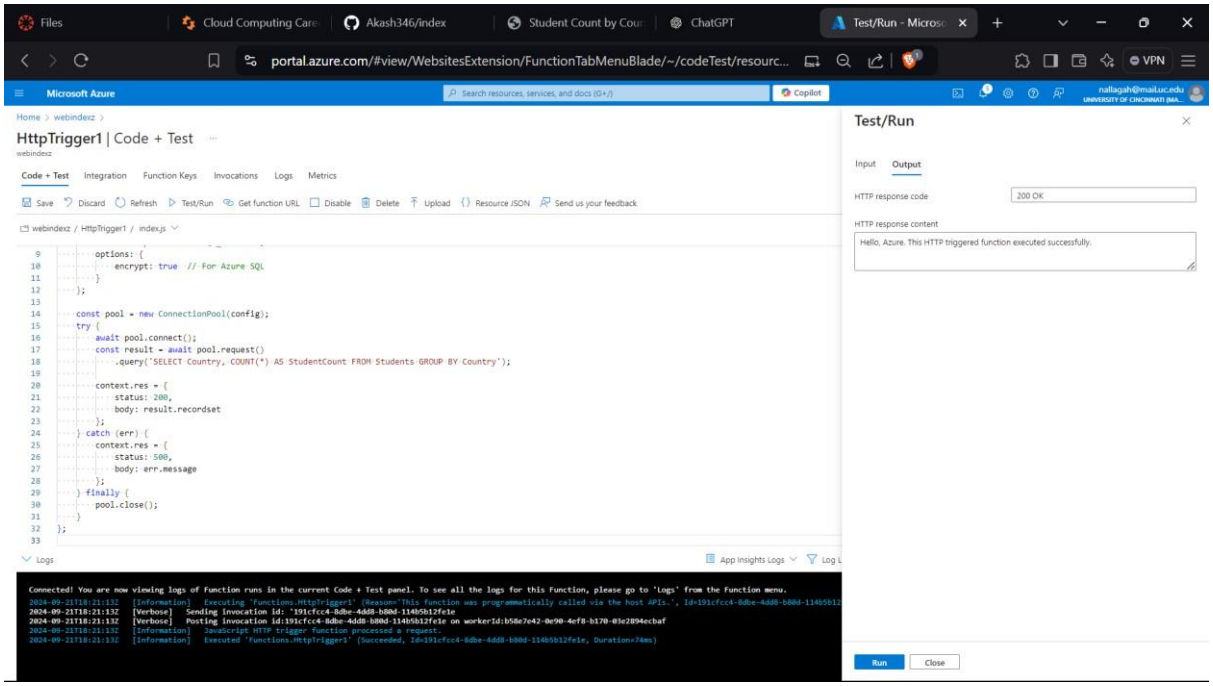


FUNCTION APP

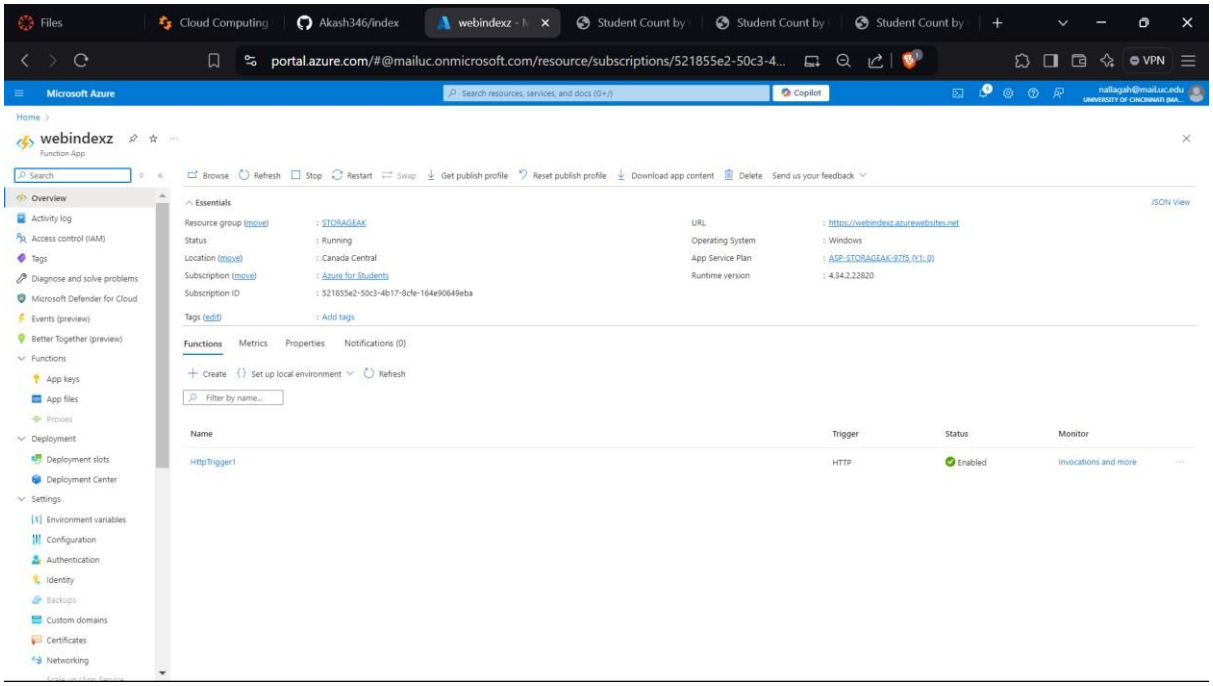
SS1:- CREATE FUNCTION APP



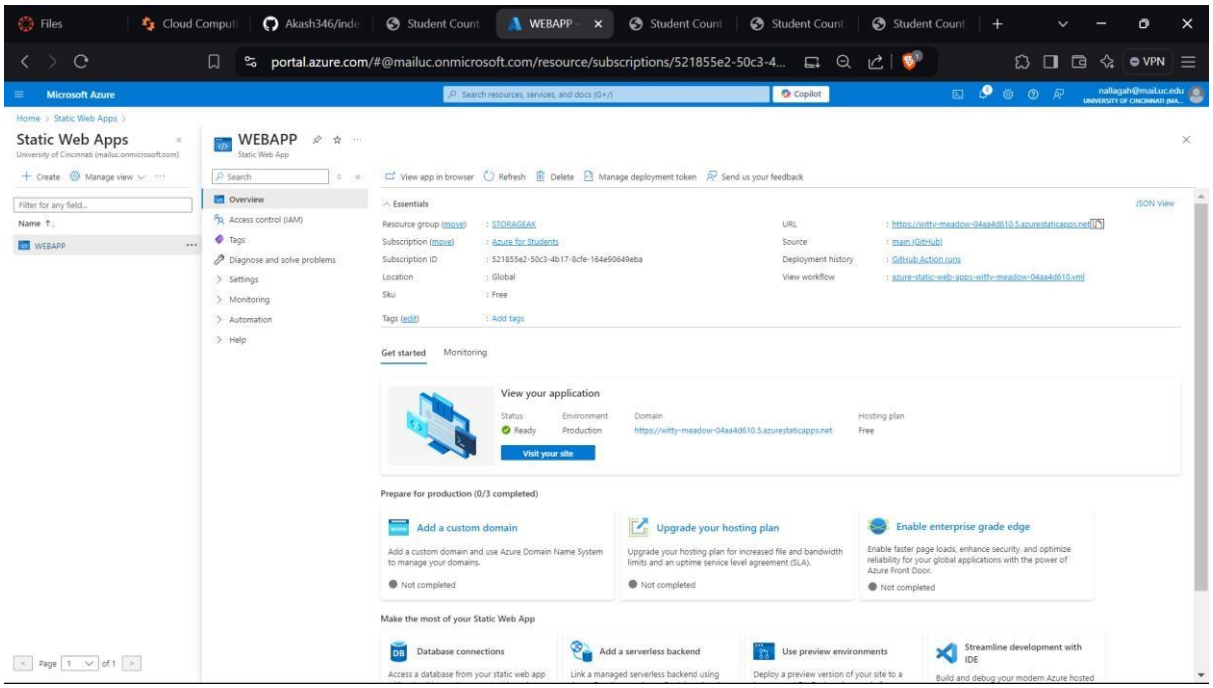
SS2:- CREATE HTTP TRIGGER TEMPLATE.



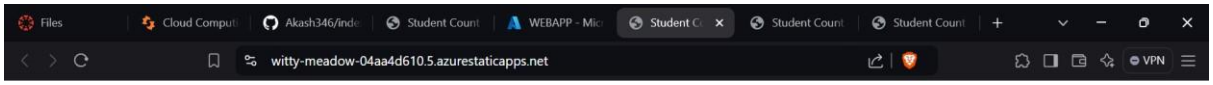
SS3:- DEPLOYED HTTP TRIGGER TEMPLATE



S4:- STATIC WEBAPP



SS5:- FINAL RESULT(STUDENT COUNT BY COUNTRY IN A LINK)



Student Count by Country

Country	Student Count
USA	1200
India	800
China	600
Germany	400
Brazil	300