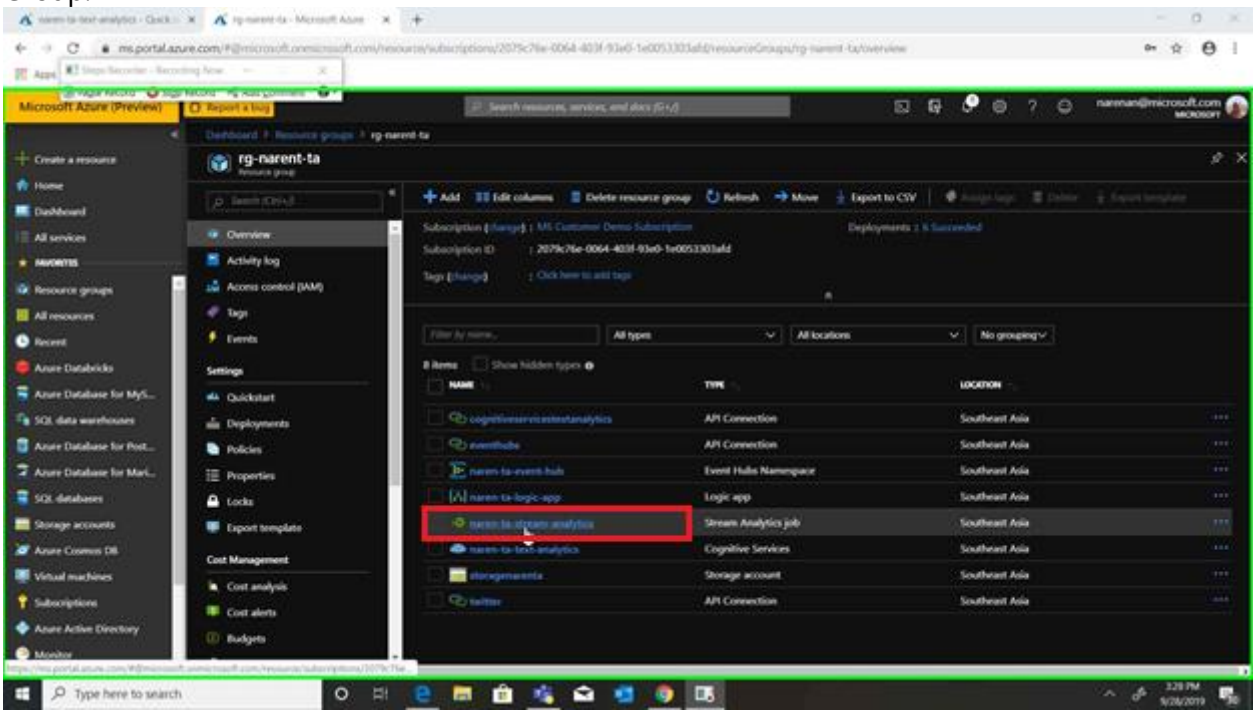
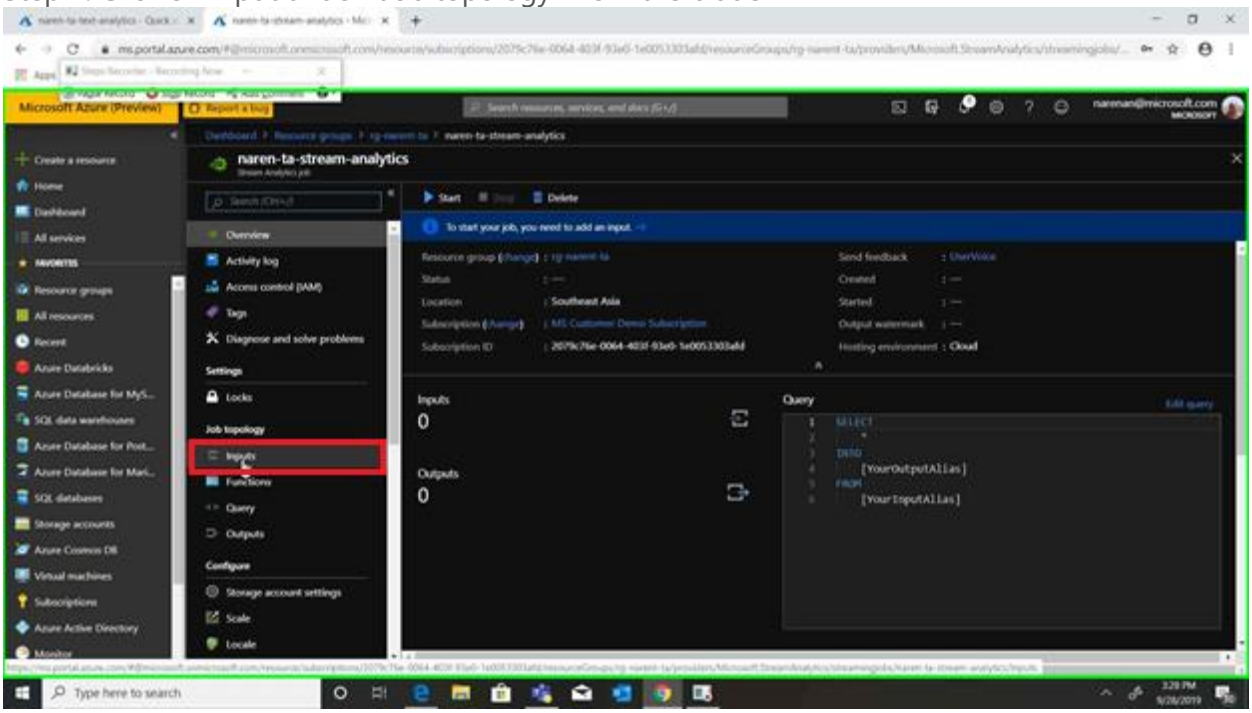
Configure Steam Analytics Job for Tweet Analytics

To work on Tweet analytics demo we will Configure Steam Analytics job which required for this demo.

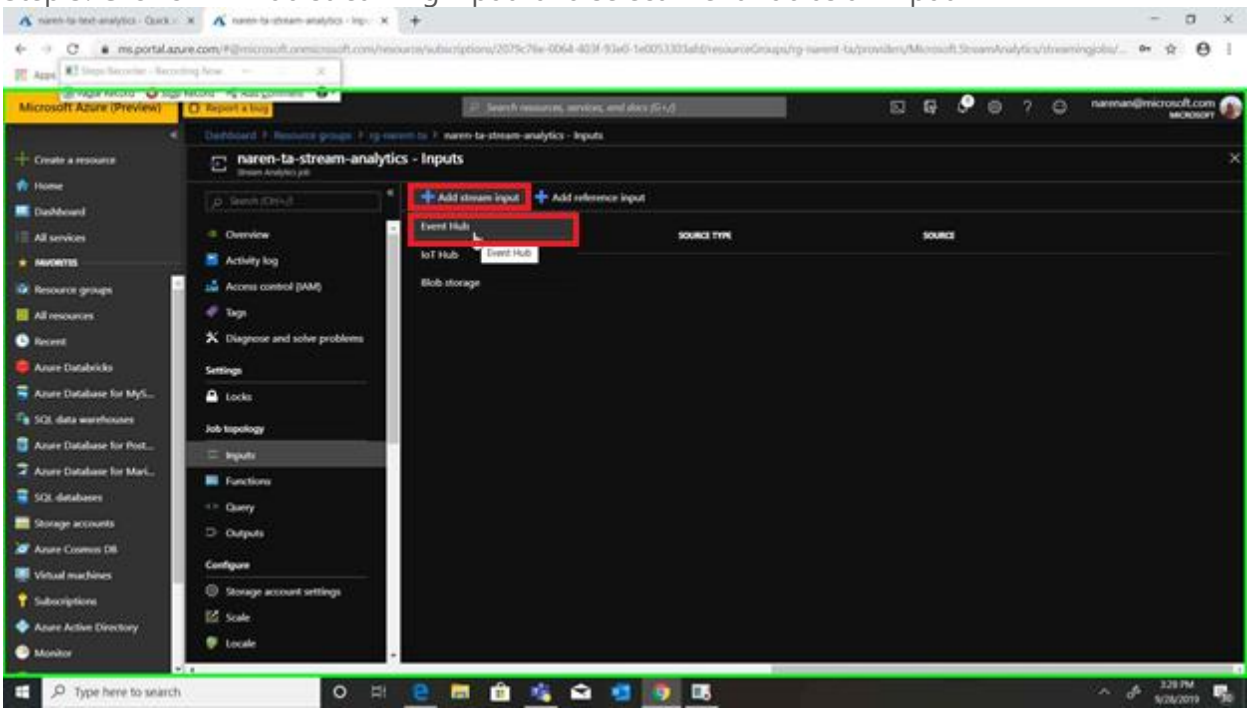
Step 1: Open Azure Portal and select Stream Analytics Job from the Resource Group which you have created for the Tweet Analytics Demo. In my case I have created rg-narent-ta as a Resource Group.



Step 2: Click on Input under “Job topology” from the blade

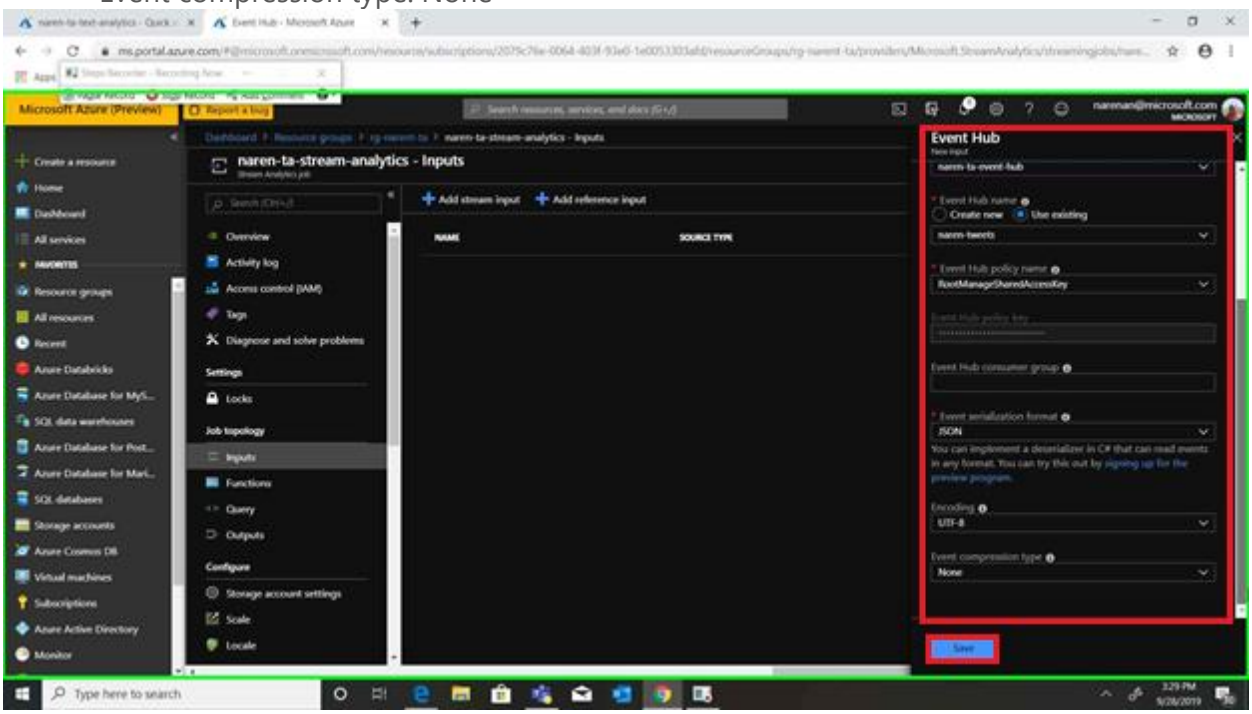


Step 3: Click on “+ Add streaming input” and select Event hub as an input

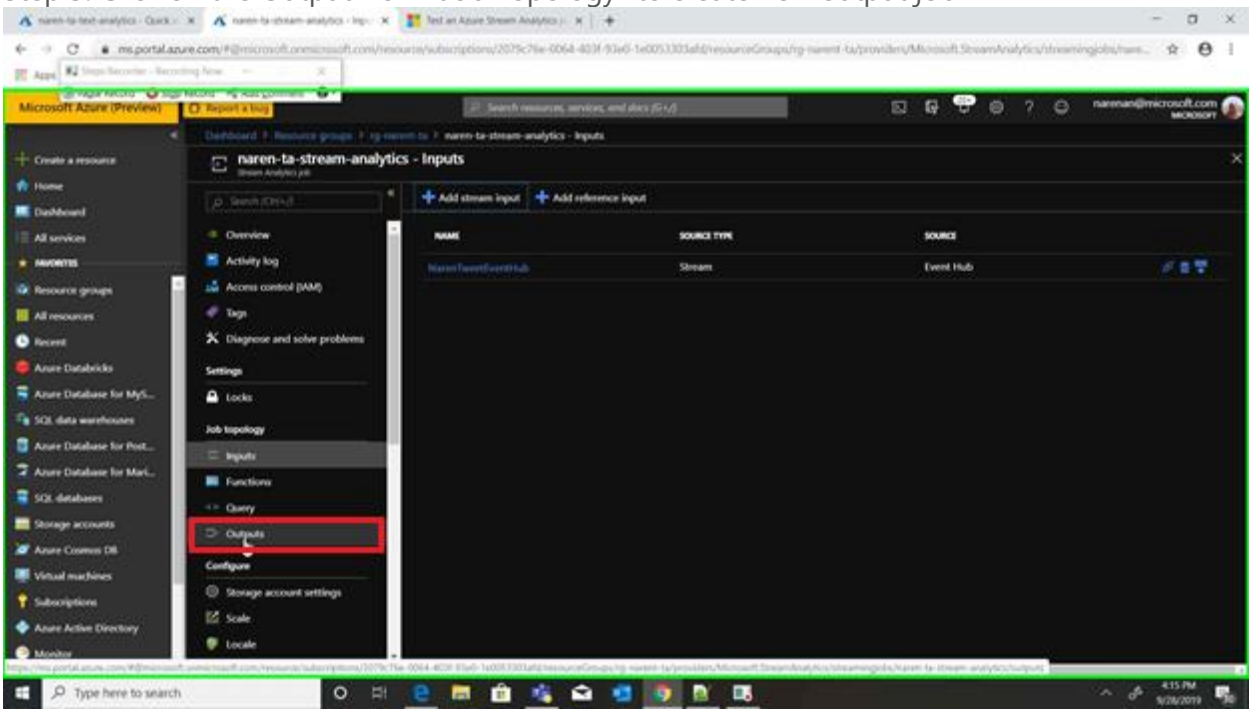


Step 4: In the input details blade enter the following information and click Save button to save the event hub input.

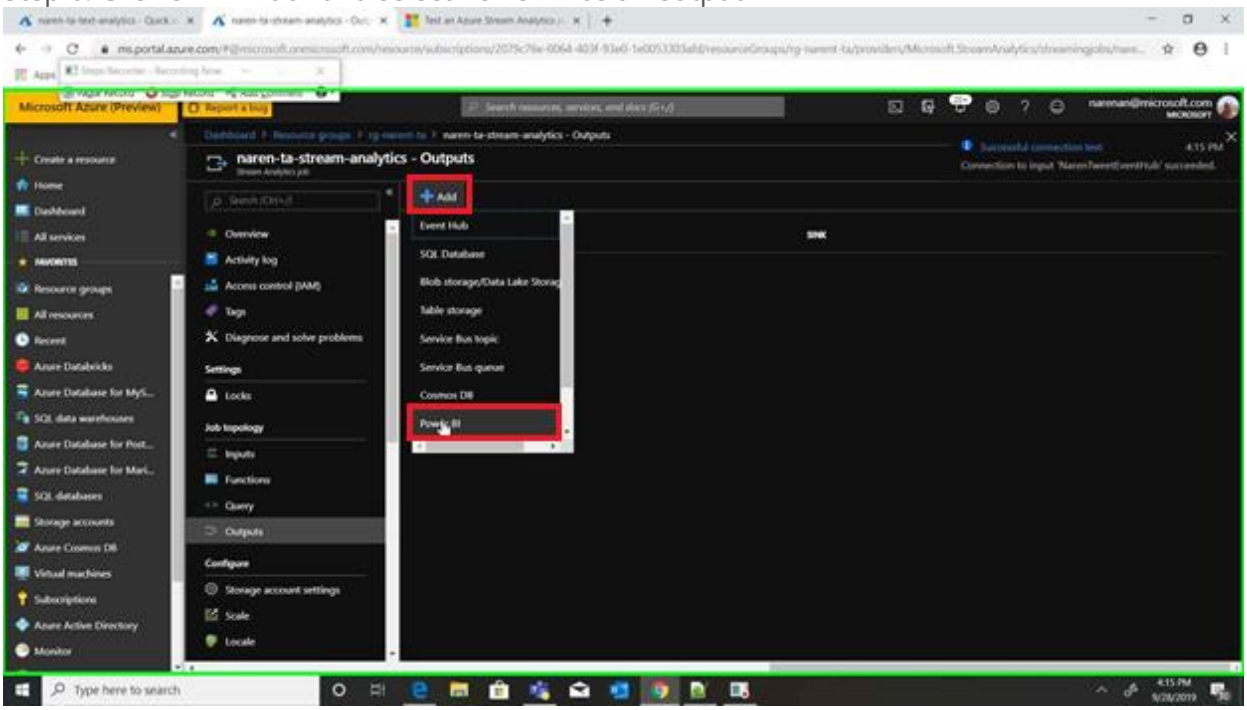
- Input alias: <Enter the input alias name>
- Enable “Select Event hub from your subscription”
- Subscription: <Select subscription from the drop-down list >
- Event hub Namespace: <Select Event hub Namespace from the drop-down list >
- Event hub Name: Enable Use Existing and <Select Event hub from the drop-down list>
- Event hub policy Name: <Select Event hub policy name from the drop-down list>
- Event serialization format: JSON
- Encoding: UTF-8
- Event compression type: None



Step 5: Click on the Output from "Job Topology" to create new output job

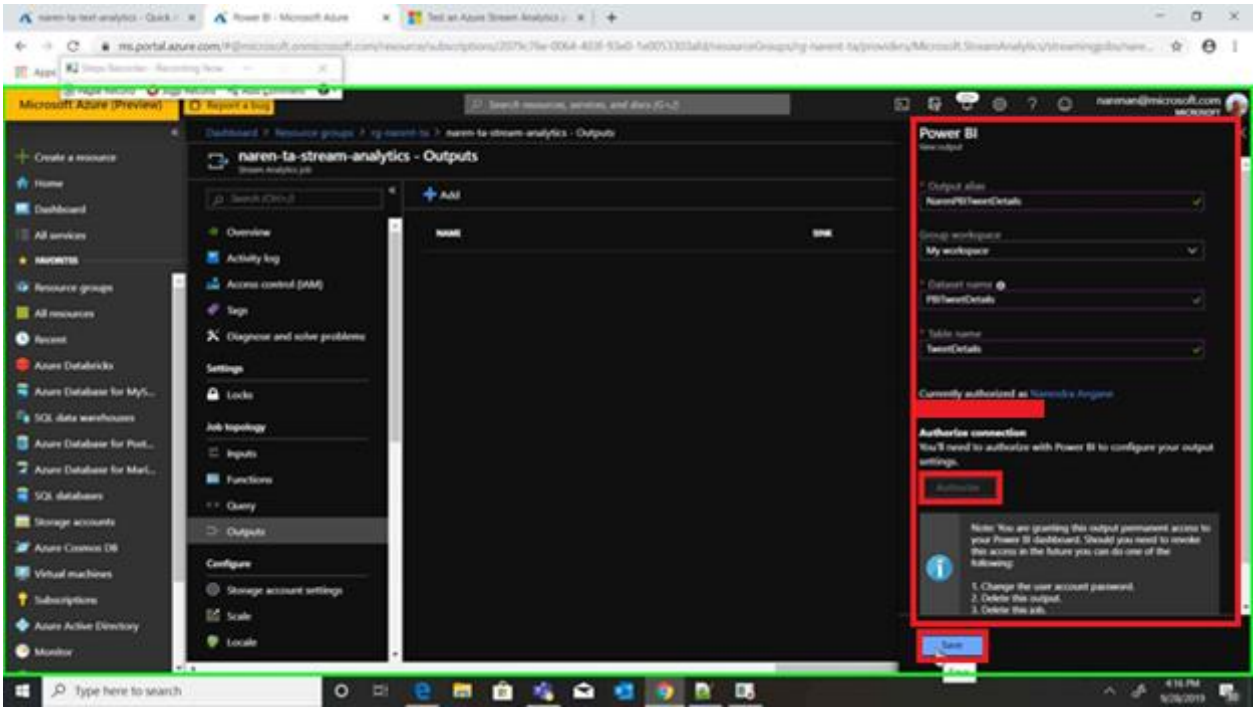


Step 6: Click on "+ Add" and select Power BI as an output

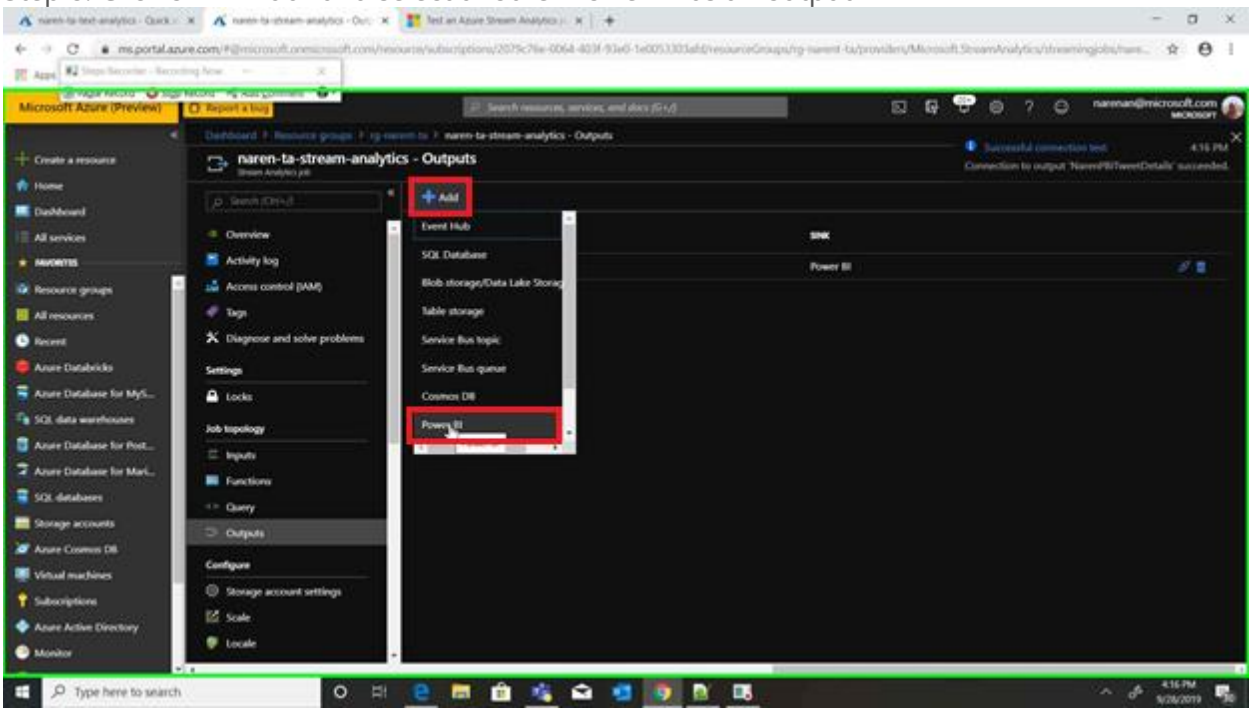


Step 7: In the Output details blade enter the following information and click Save button to save the Power BI Output. This output you will use to show the Tweet Details in Power BI. You will also need to Authorize the Power BI Account.

- Output Alias: <Enter Output Alias for Power BI Output>
- Group Workspace: <Select the Group Workspace from the drop-down list>
- Dataset Name: <Enter Dataset Name>
- Table Name: <Enter Table Name>
- Click on Authorize button to authorize Power BI

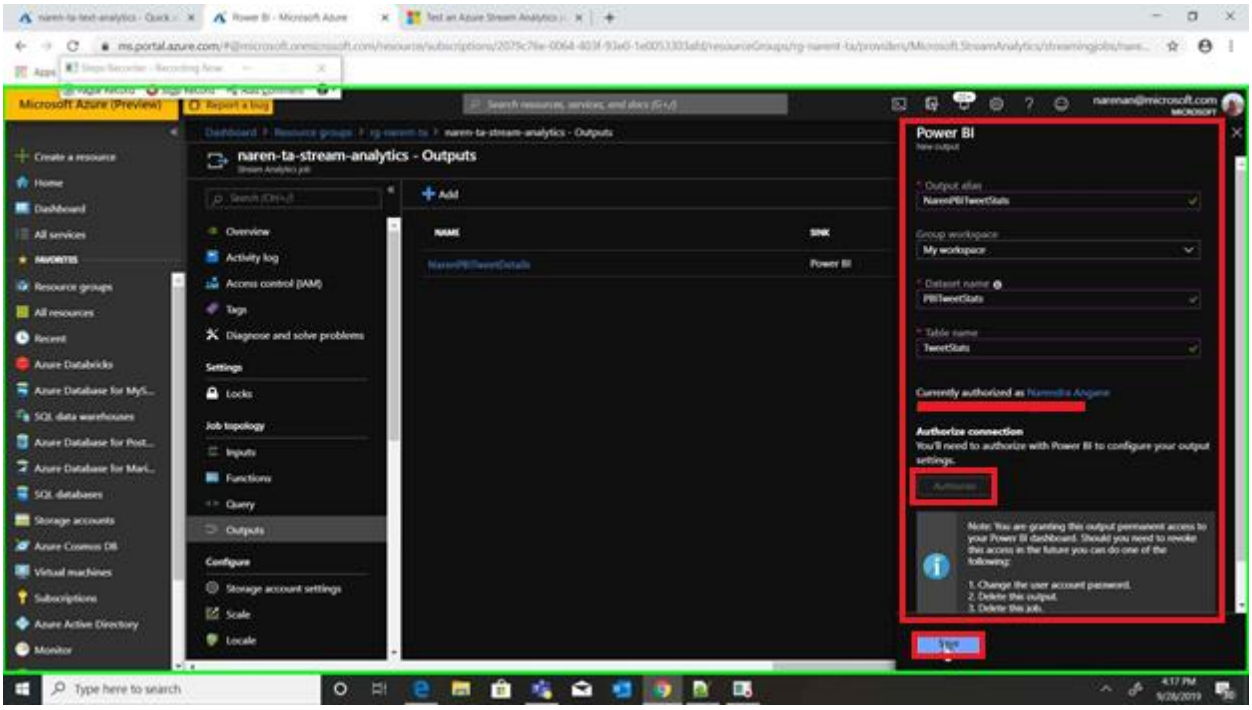


Step 8: Click on "+ Add" and select another Power BI as an output

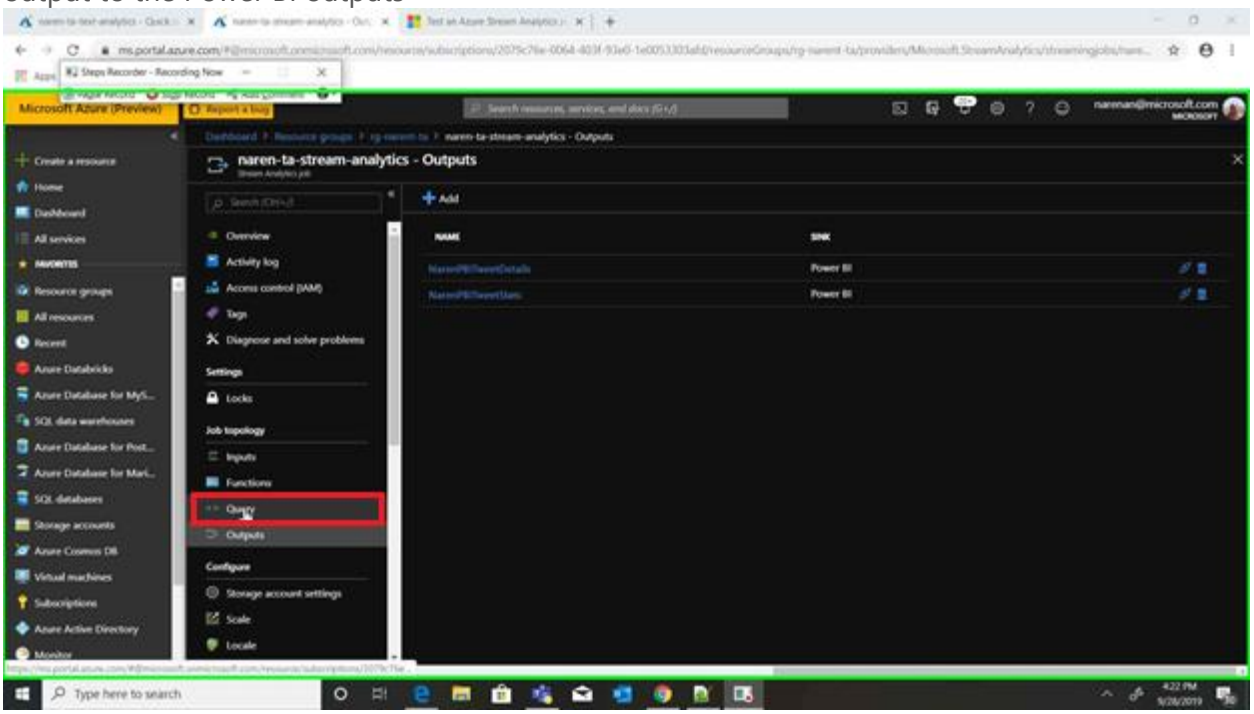


Step 9: In the Output details blade enter the following information and click Save button to save the Power BI Output. This output you will use to show the Tweet Stats in Power BI. You will also need to Authorize the Power BI Account.

- Output Alias: <Enter Output Alias for Power BI Output>
- Group Workspace: <Select the Group Workspace from the drop-down list>
- Dataset Name: <Enter Dataset Name>
- Table Name: <Enter Table Name>
- Click on Authorize button to authorize Power BI

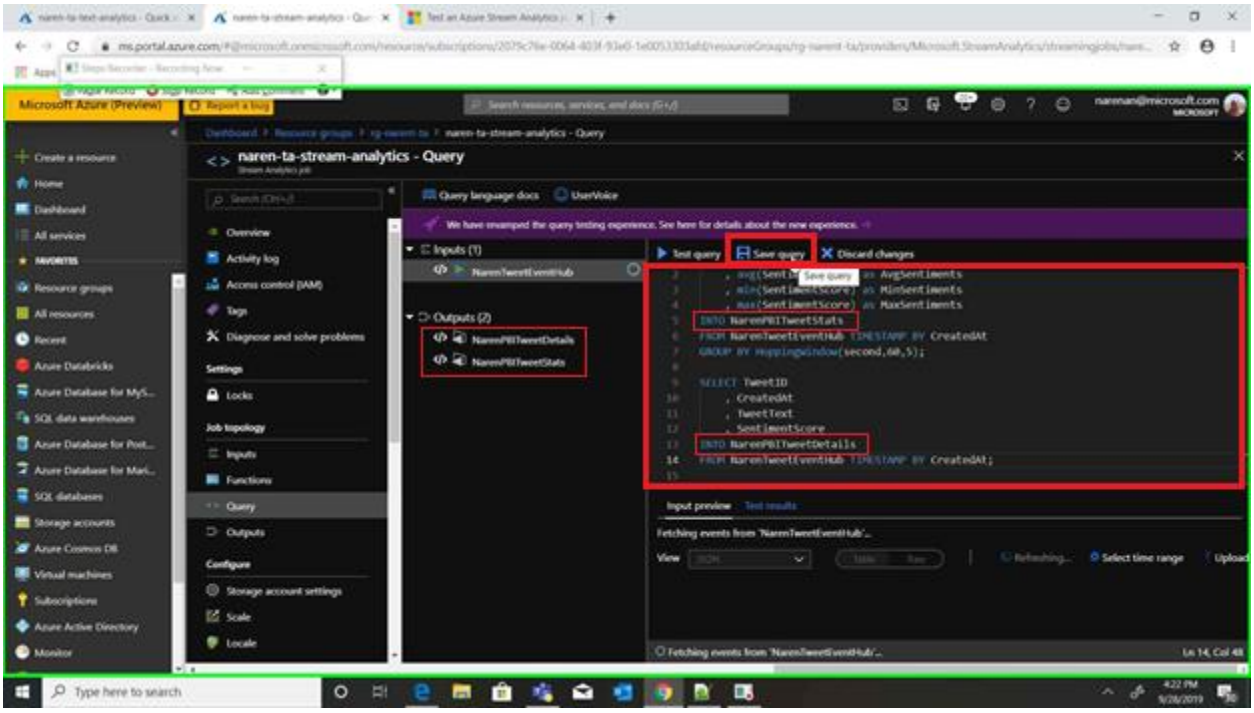


Step 10: Click on Query under “Job Topology” from the blade to write the query which send the output to the Power BI outputs

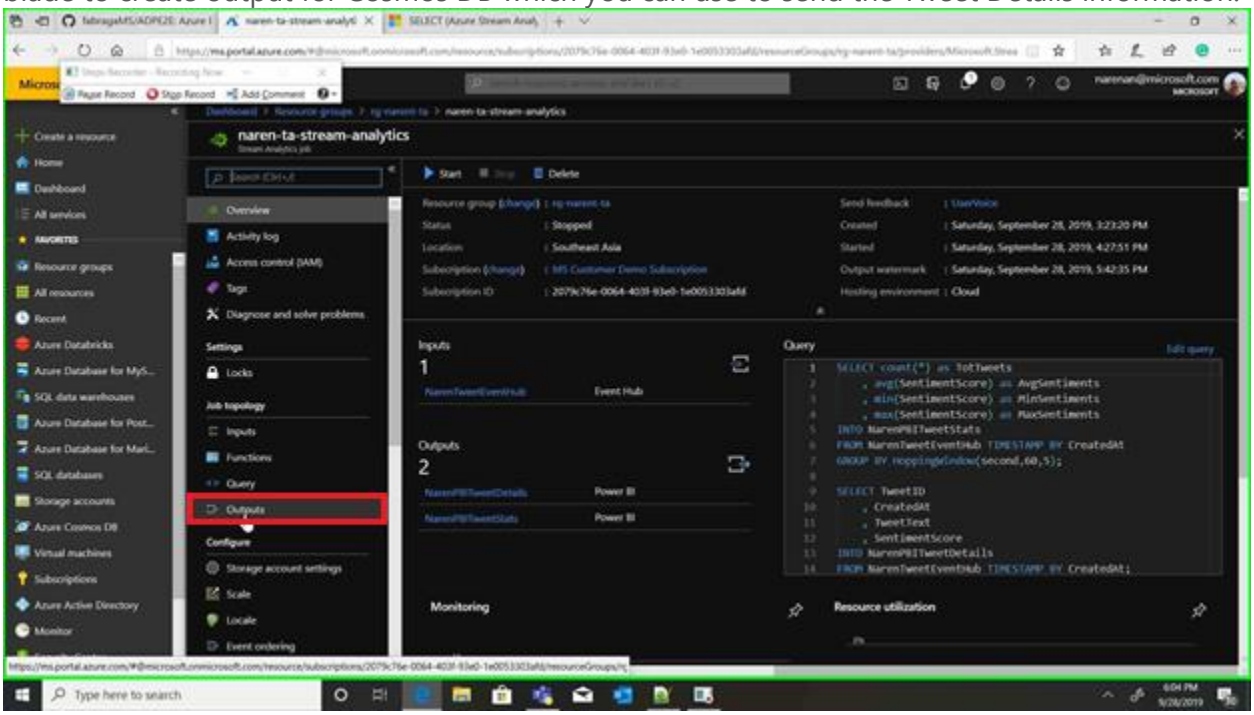


Step 11: Enter the following queries into the query window which send the output to the Power BI outputs which we have created for Tweet Details and Tweet Stats. Click Save Query button to Save the query.

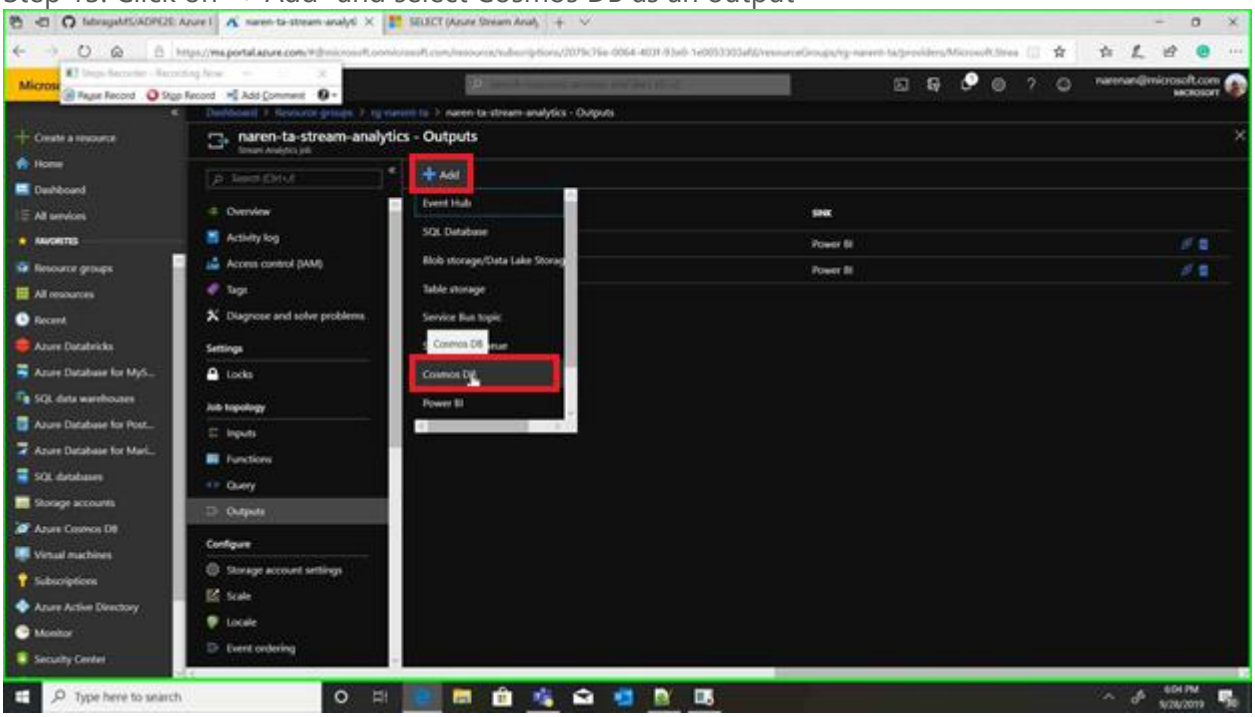
```
SELECT count(*) as TotTweets
   , avg(SentimentScore) as AvgSentiments
   , min(SentimentScore) as MinSentiments
   , max(SentimentScore) as MaxSentiments
INTO NarenPBITweetStats
FROM NarenTweetEventHub TIMESTAMP BY CreatedAt
GROUP BY HoppingWindow(second,60,5);

SELECT TweetID
        , CreatedAt
        , TweetText
        , SentimentScore
INTO NarenPBITweetDetails
FROM NarenTweetEventHub TIMESTAMP BY CreatedAt;
```



Step 12: After saving the queries successfully, click on the output under “Job Topology” from the blade to create output for Cosmos DB which you can use to send the Tweet Details information.

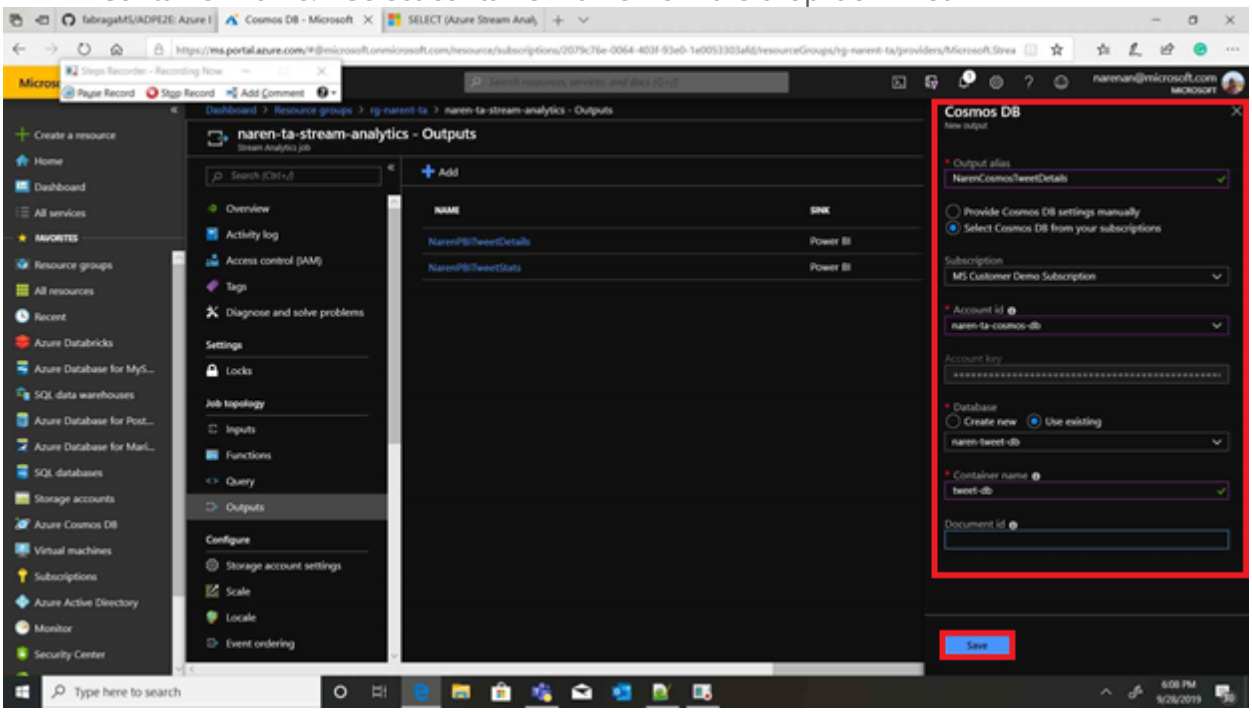


Step 13: Click on “+ Add” and select Cosmos DB as an output

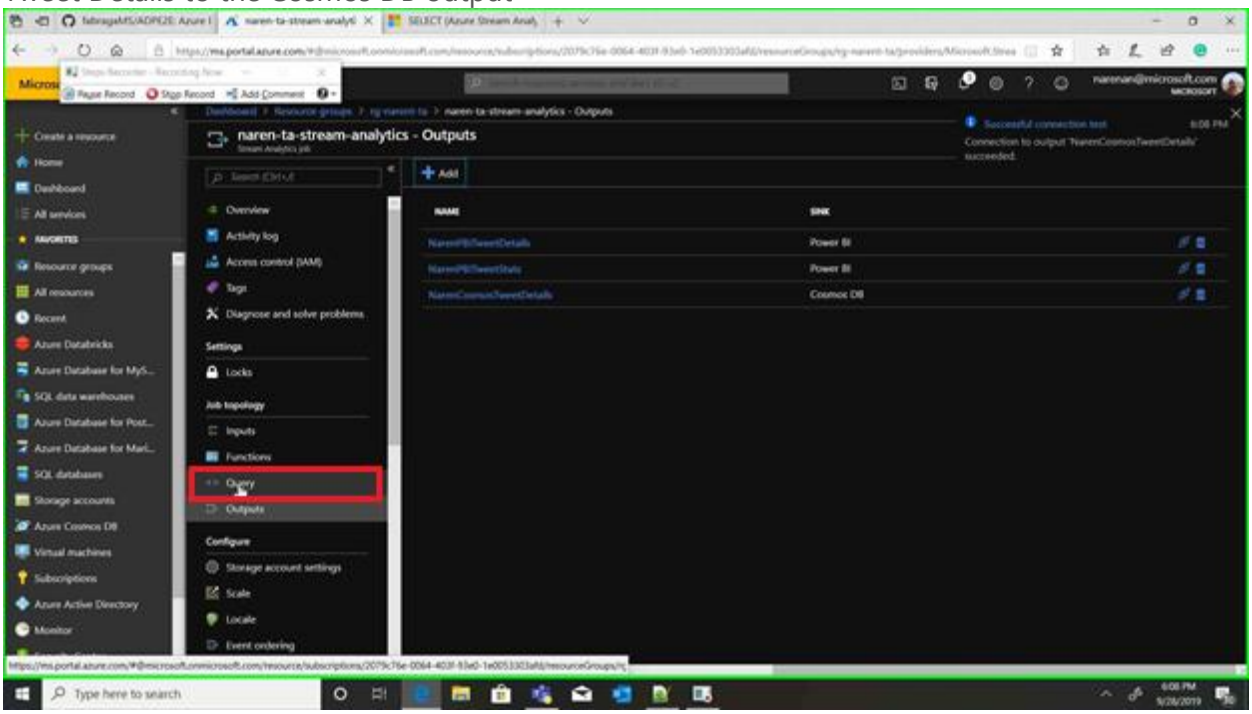


Step 14: In the Output details blade enter the following information and click Save button to save the Cosmos DB Output. This output you will use to send the Tweet Details to the Cosmos DB container.

- Output Alias: <Enter Output Alias for Cosmos DB Output>
- Enable “Select Cosmos DB from your subscription”
- Subscription: <Select Subscription from the drop-down list>
- Account id: <Select Account id from the drop-down list>
- Database: Select Use existing and <Select the database from the drop-down list>
- Container Name: <Select container name from the drop-down list>

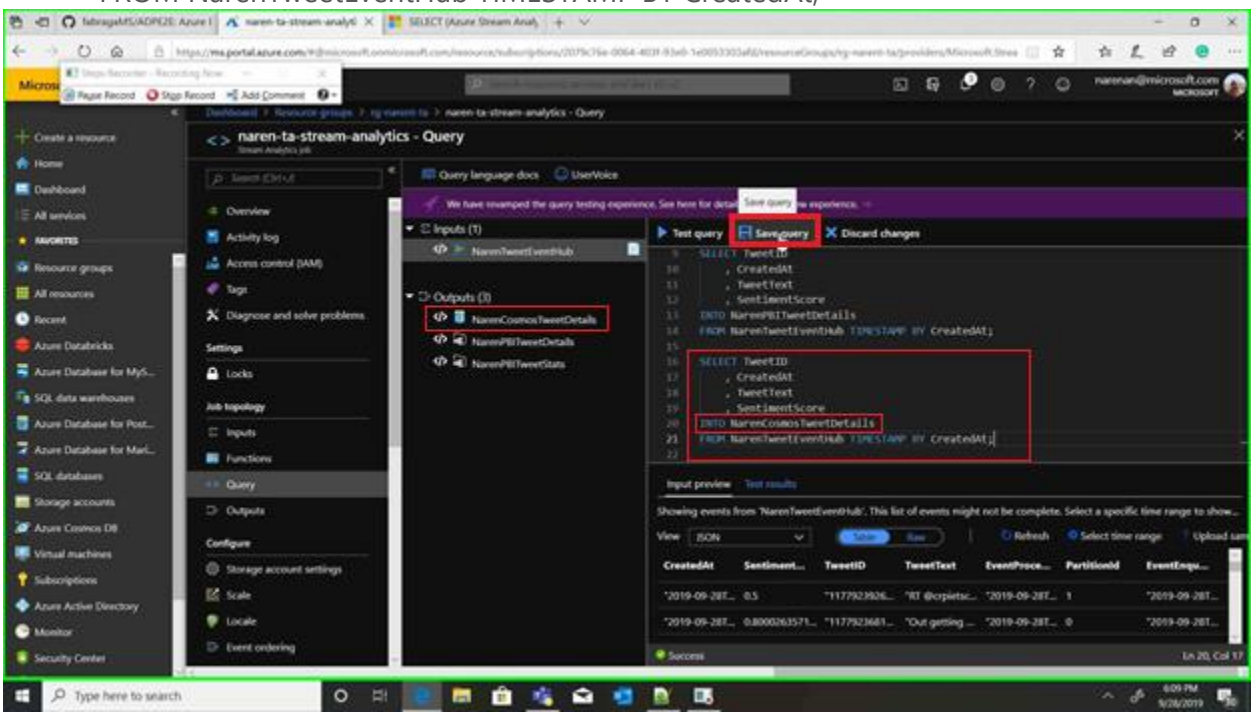


Step 15: Click on Query under “Job Topology” from the blade to write the query which send the Tweet Details to the Cosmos DB output

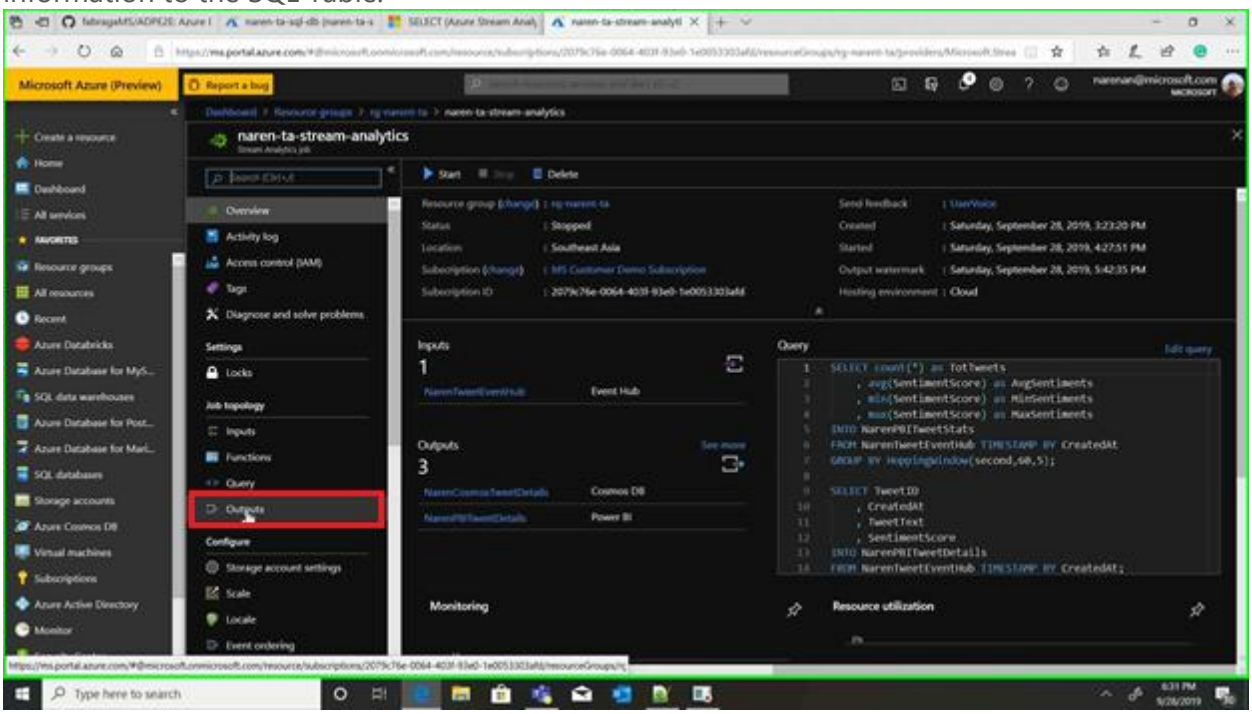


Step 16: In the query window go to the end of the query and enter the following query which send the Tweet Details output to the Cosmos DB Container. Click Save query button to save the query

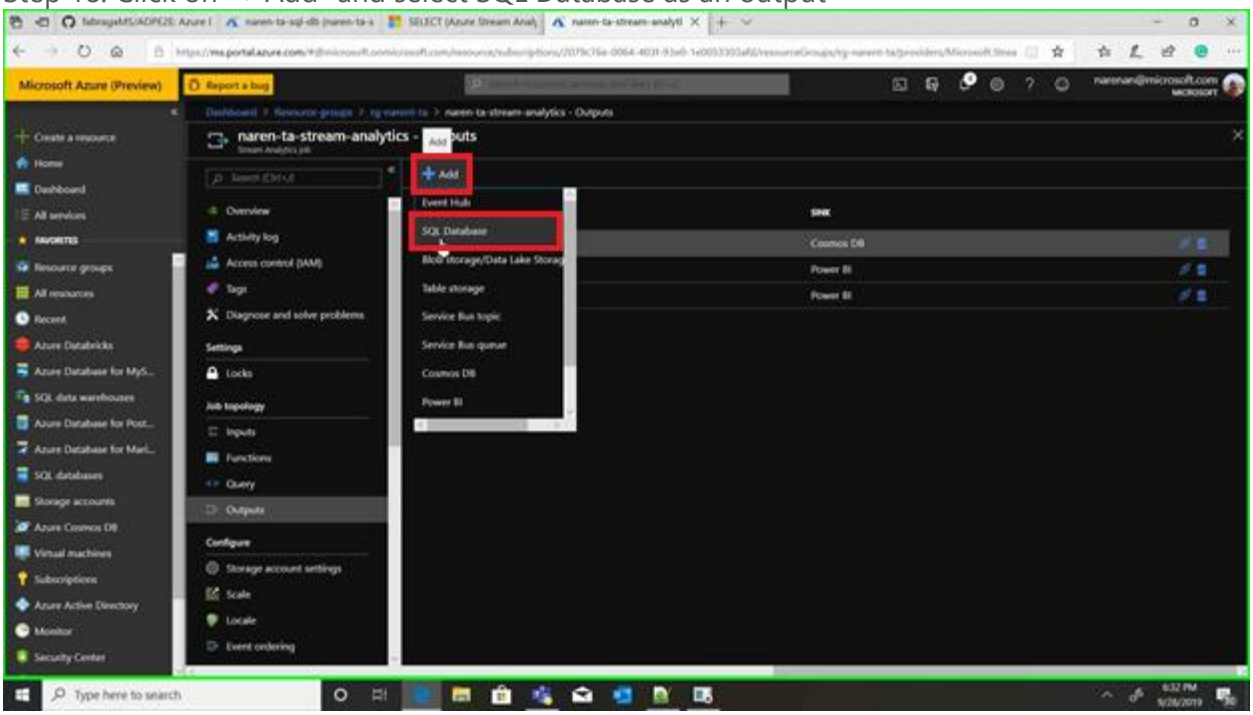
```
SELECT TweetID
    , CreatedAt
    , TweetText
    , SentimentScore
INTO NarenCosmosTweetDetails
FROM NarenTweetEventHub TIMESTAMP BY CreatedAt;
```



Step 17: After saving the queries successfully, click on the output under “Job Topology” from the blade to create output for SQL Database which you can use to send the Tweet Details information to the SQL Table.

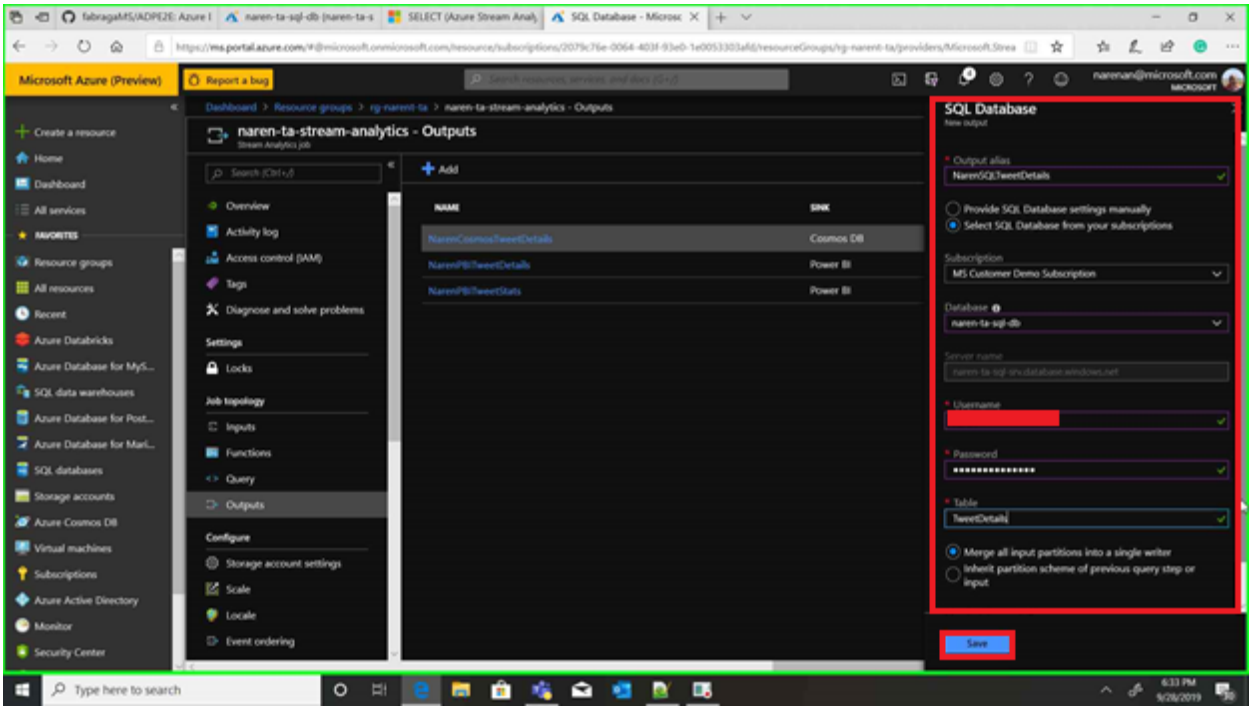


Step 18: Click on “+ Add” and select SQL Database as an output

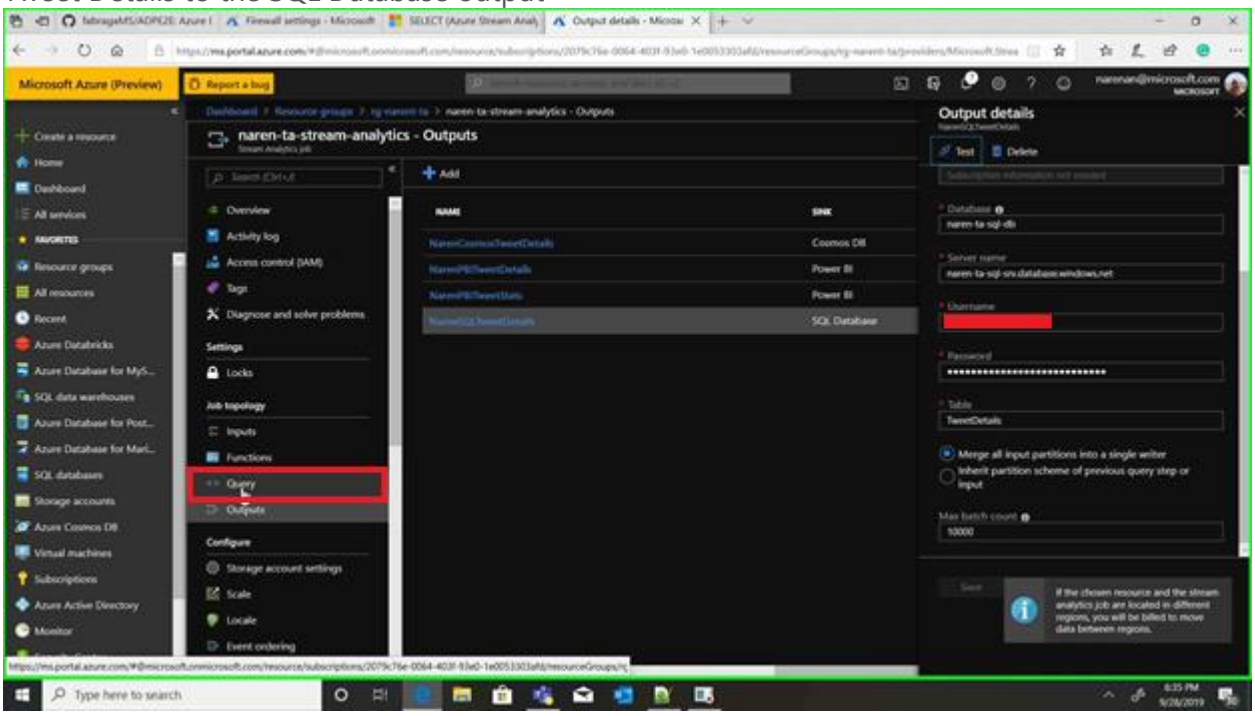


Step 19: In the Output details blade enter the following information and click Save button to save the SQL Database Output. This output you will use to send the Tweet Details to the SQL Table.

- Output Alias: <Enter Output Alias for SQL Database Output>
- Enable “Select SQL Database from your subscription”
- Subscription: <Select Subscription from the drop-down list>
- Database: Select Use existing and <Select the database from the drop-down list>
- Username: <Enter Username>
- Password: <Enter Password>
- Table: <Enter Table name>

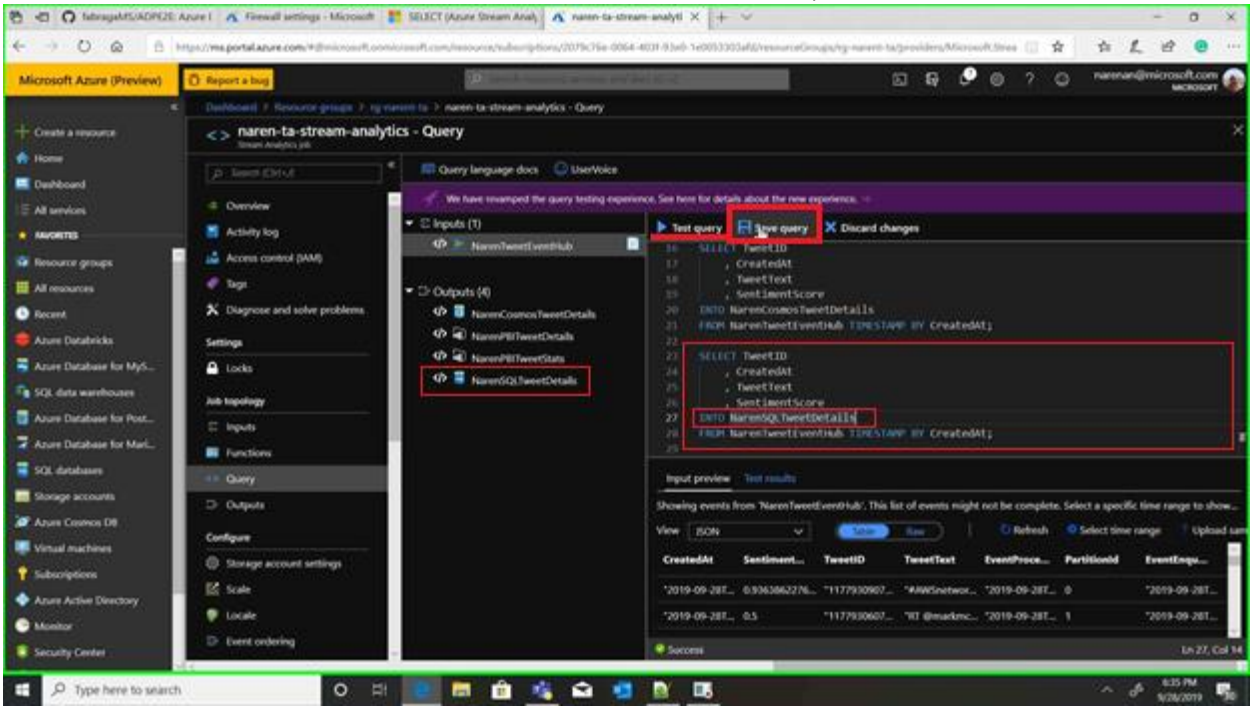


Step 20: Click on Query under “Job Topology” from the blade to write the query which send the Tweet Details to the SQL Database output

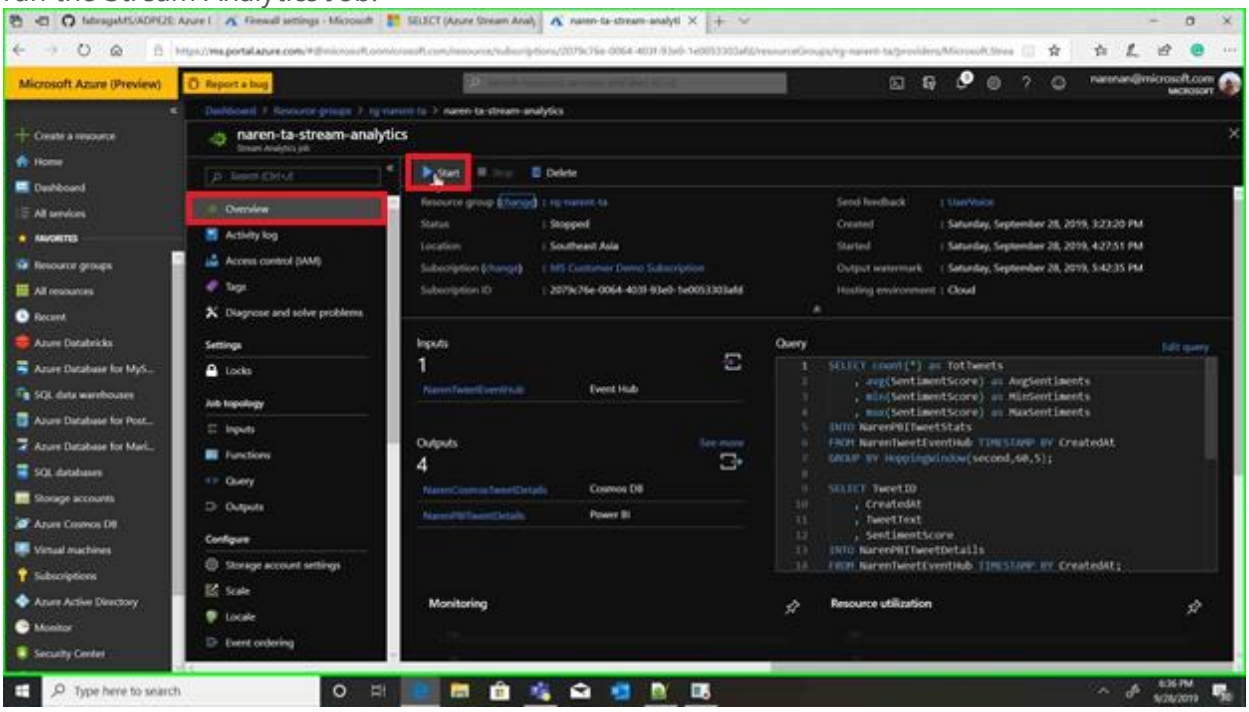


Step 21: In the query window go to the end of the query and enter the following query which send the Tweet Details output to the SQL Database table. Click Save query button to save the query. Also, you can click Test query button to test the query and validate the result set.

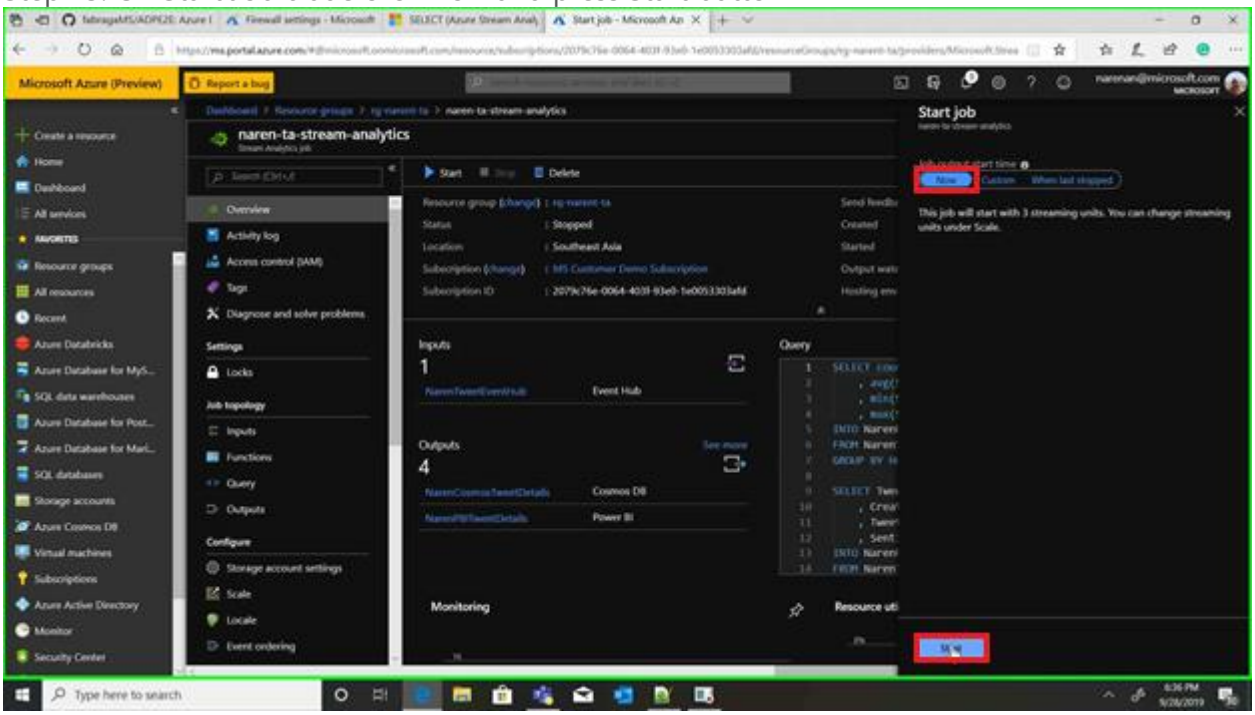
```
SELECT TweetID
      , CreatedAt
      , TweetText
      , SentimentScore
INTO NarenSQLTweetDetails
FROM NarenTweetEventHub TIMESTAMP BY CreatedAt;
```



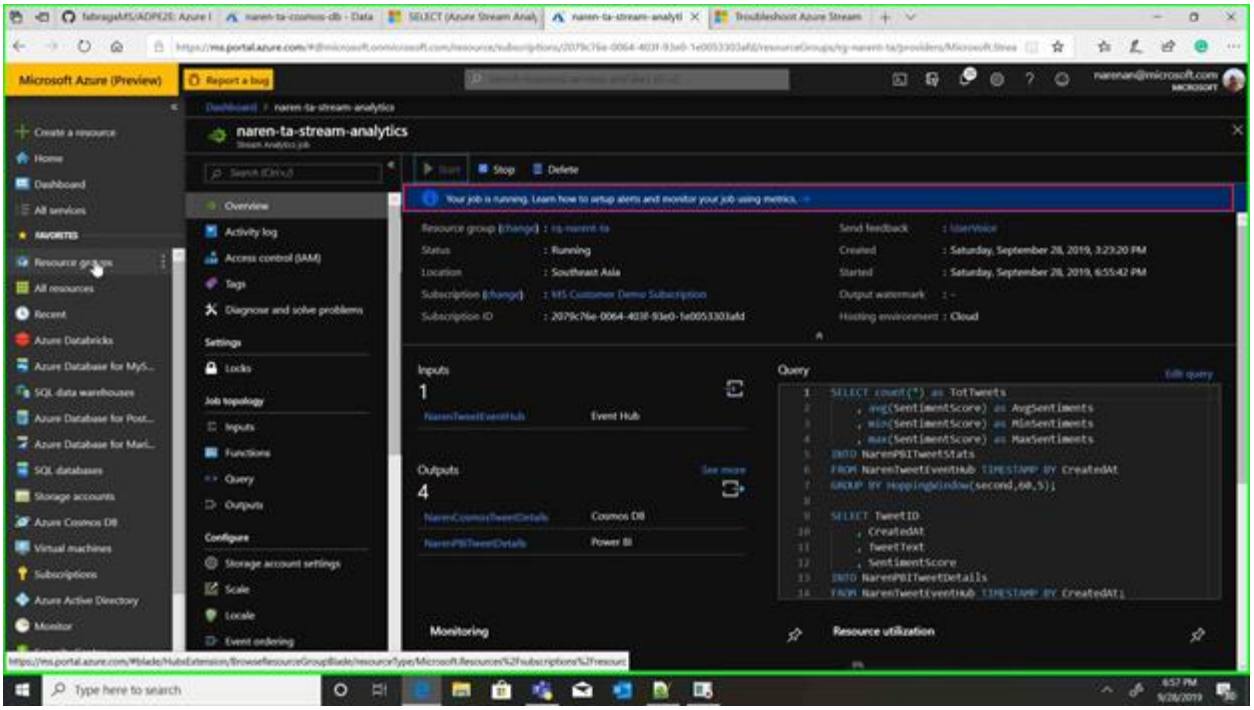
Step 22: After saving the queries successfully, go to the overview tab and click Start button to run the Stream Analytics Job.



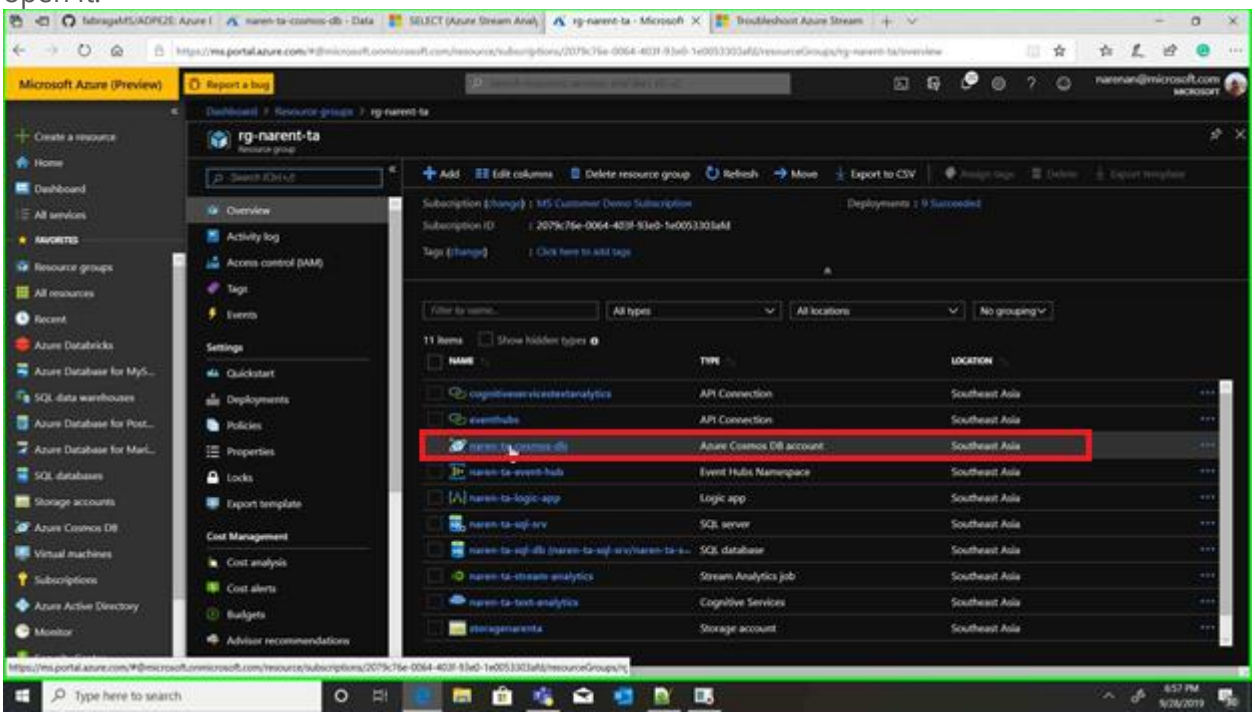
Step 23: On Start Job blade click Now and press Start button



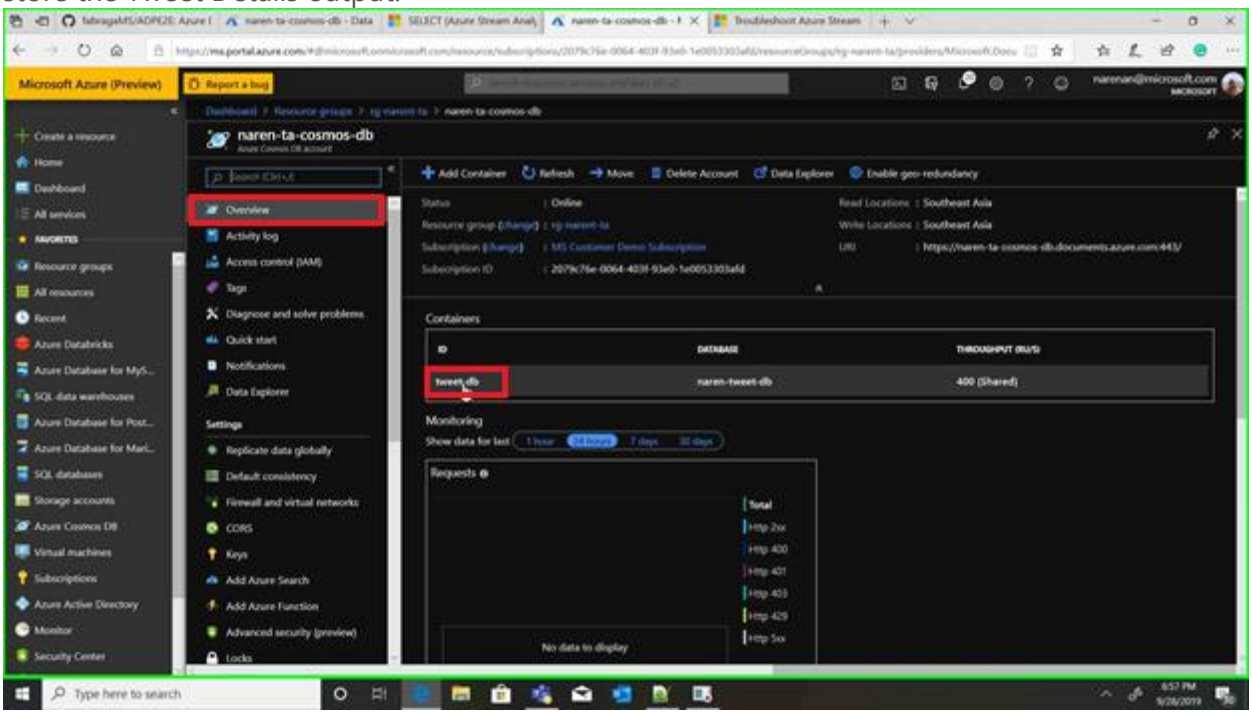
Step 24: Stream Analytics job is started now. This job will use tweets details for "#Azure" word as an input send by the event hub (thru logic apps) and forward it to the Power BI for real-time analytics. It also forwards this as a table to the SQL Database and as collection to the Cosmos DB.



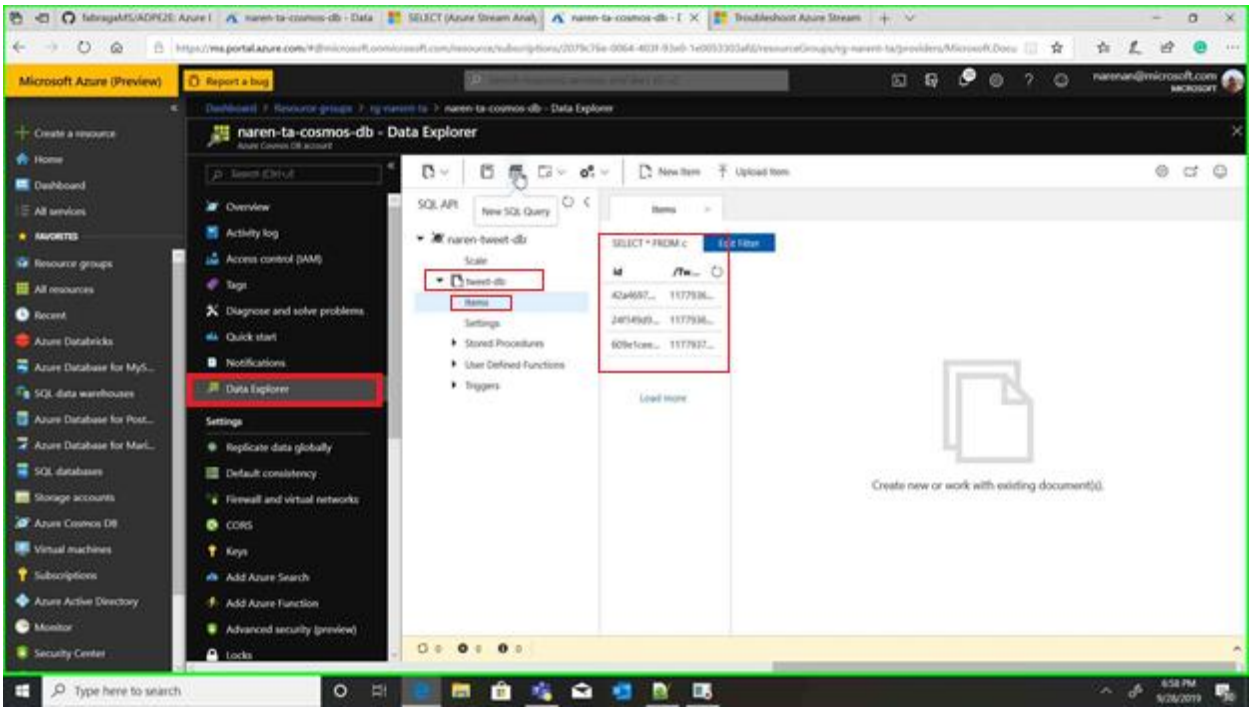
Step 25: Let's find out in Cosmos DB whether tweet details are storing it in collection or not. For this will go to the resource group where Cosmos DB is created and click on Cosmos DB name to open it.



Step 26: Click Overview tab on Cosmos DB blade and select the container which we have used to store the Tweet Details output.

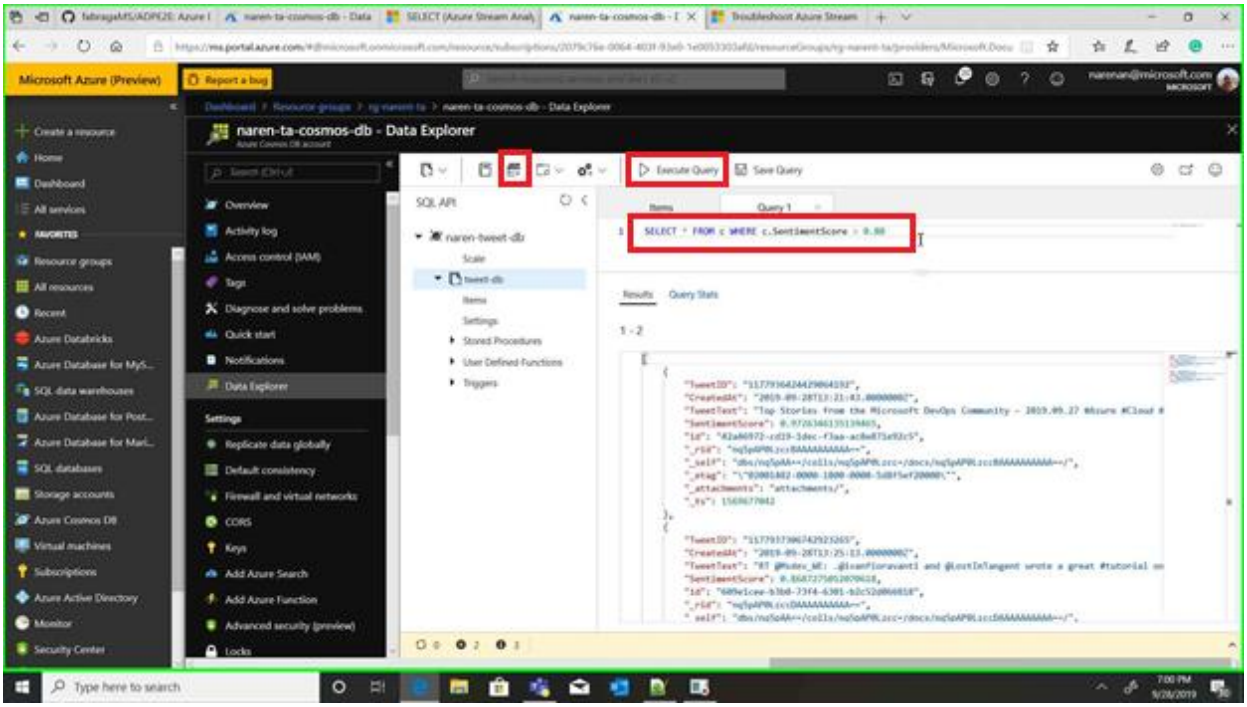


Step 27: Open the Data Explorer. Select appropriate containers. You will see that tweet details in Item Tabs

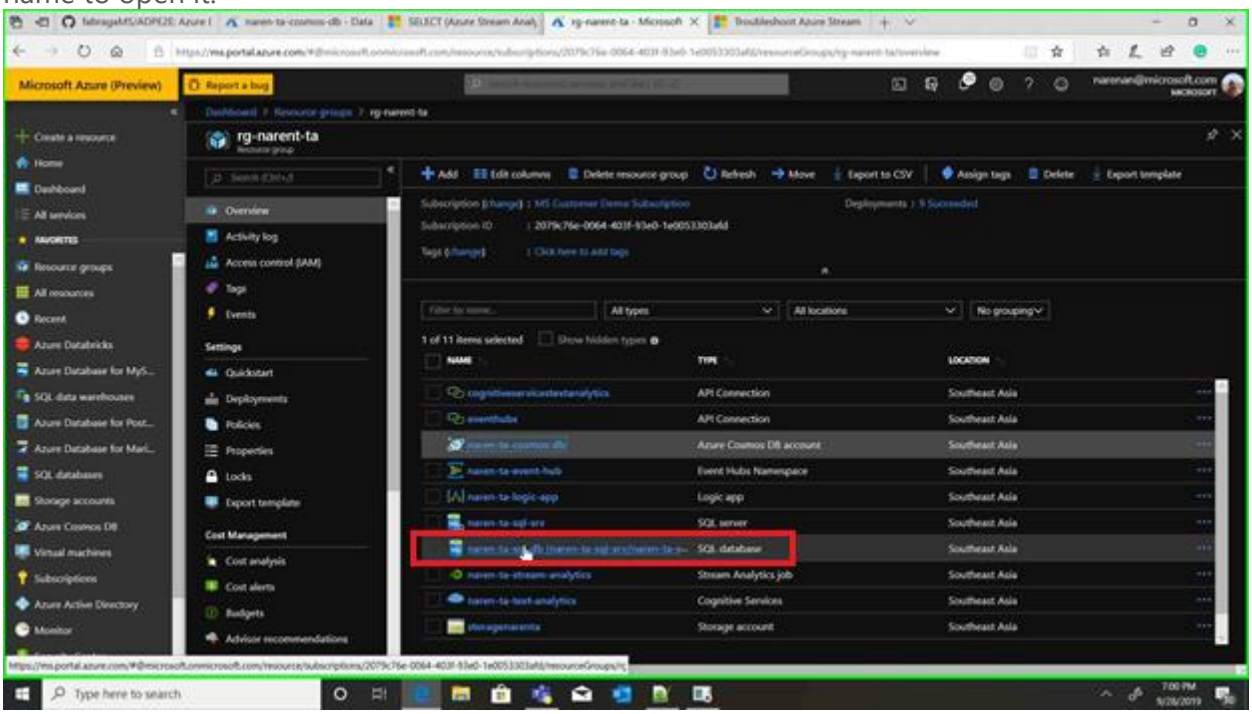


Step 28: Additionally, you can open the new query window and run the following query to view the tweet details where SentimentScore > 0.80. Now you can create application which use this container as a source, and you will enjoy the power of Cosmos DB.

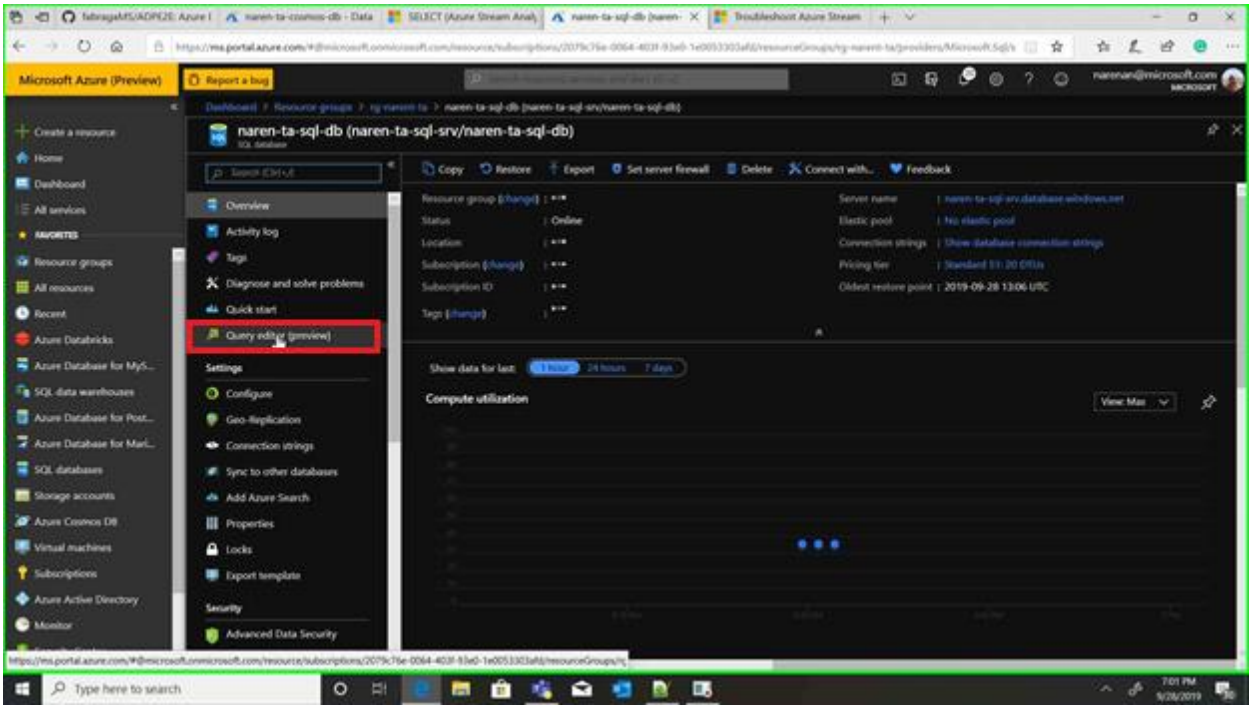
SELECT * FROM c WHERE c.SentimentScore > 0.80



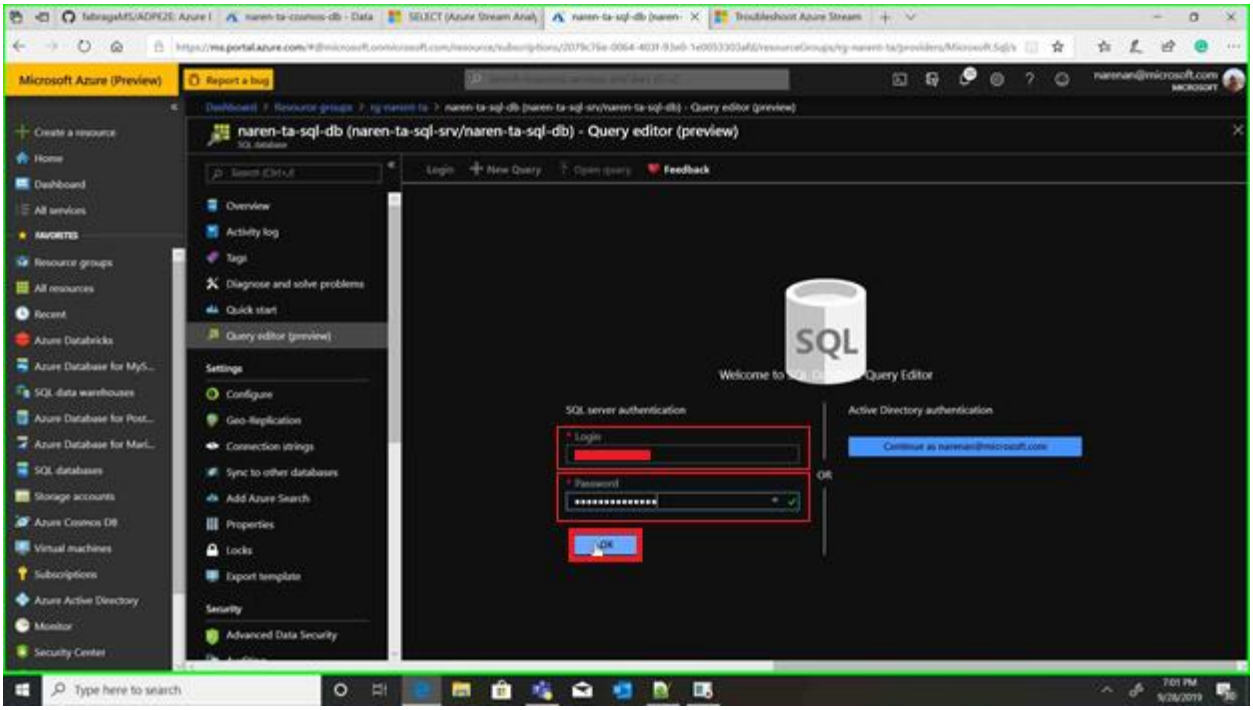
Step 29: Let's find out in SQL Database whether tweet details are storing it in the table or not. For this will go to the resource group where SQL Database is created and click on SQL Database name to open it.



Step 30: On SQL Database blade click on Query Edition to query the Table where we have stored tweet details.

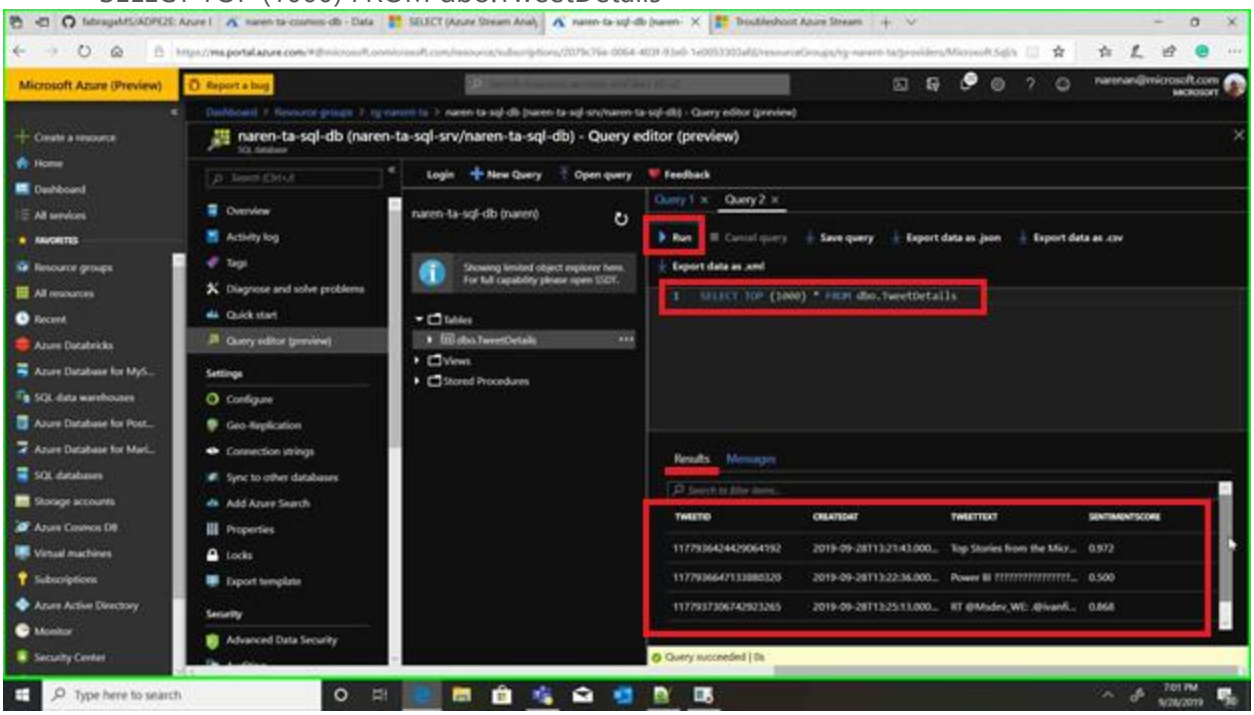


Step 31: Use SQL Authentication to connect to the SQL Database. Enter Username, Password and click OK button to connect.



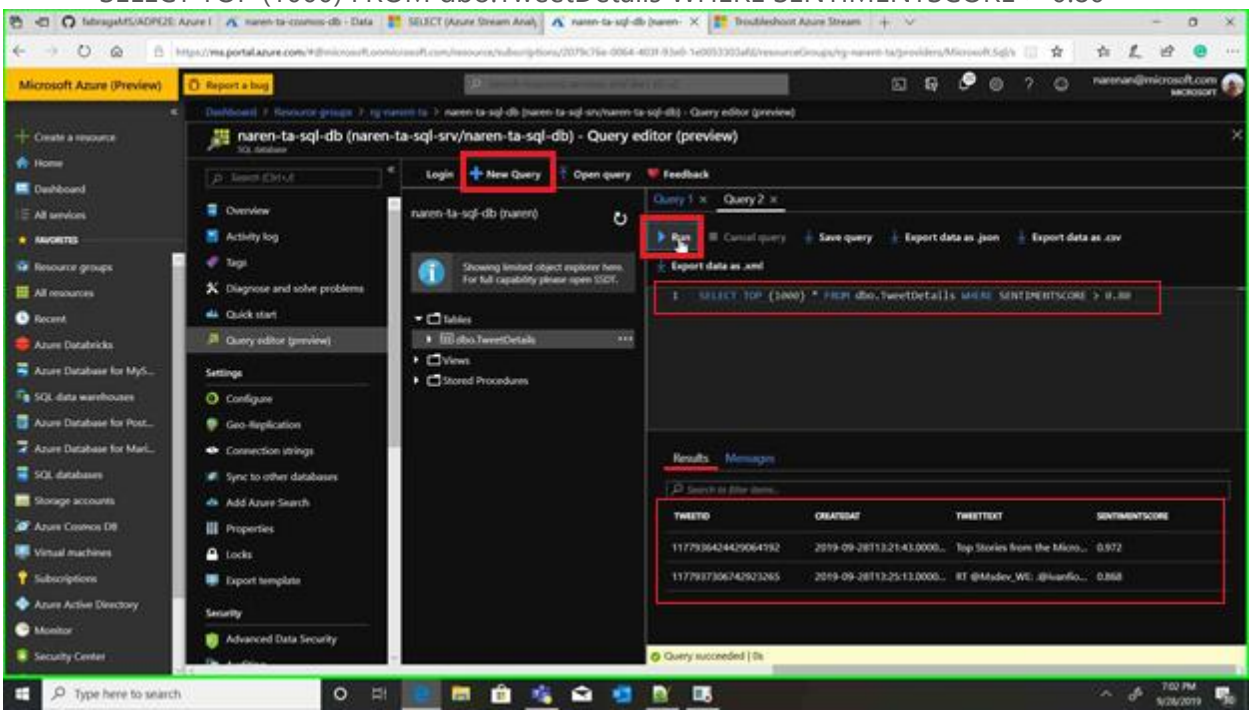
Step 32: In query window type the following query and execute the Run button. You will see the query result in the result pane.

SELECT TOP (1000) FROM dbo.TweetDetails



Step 33: Additionally, you can open the new query window and run the following query to view the tweet details where SentimentScore > 0.80. Now you can create application which use this container as a source, and you will enjoy the power of SQL Database.

SELECT TOP (1000) FROM dbo.TweetDetails WHERE SENTIMENTSCORE > 0.80



Congratulations! Stream Analytics Job got executed successfully.