Intro To Azure

Sending data from an iot device to azure IoT hub and services

Step 1-Creating an azure account

-Go to https://azure.microsoft.com/en-in/

-Click on start free to create your free account

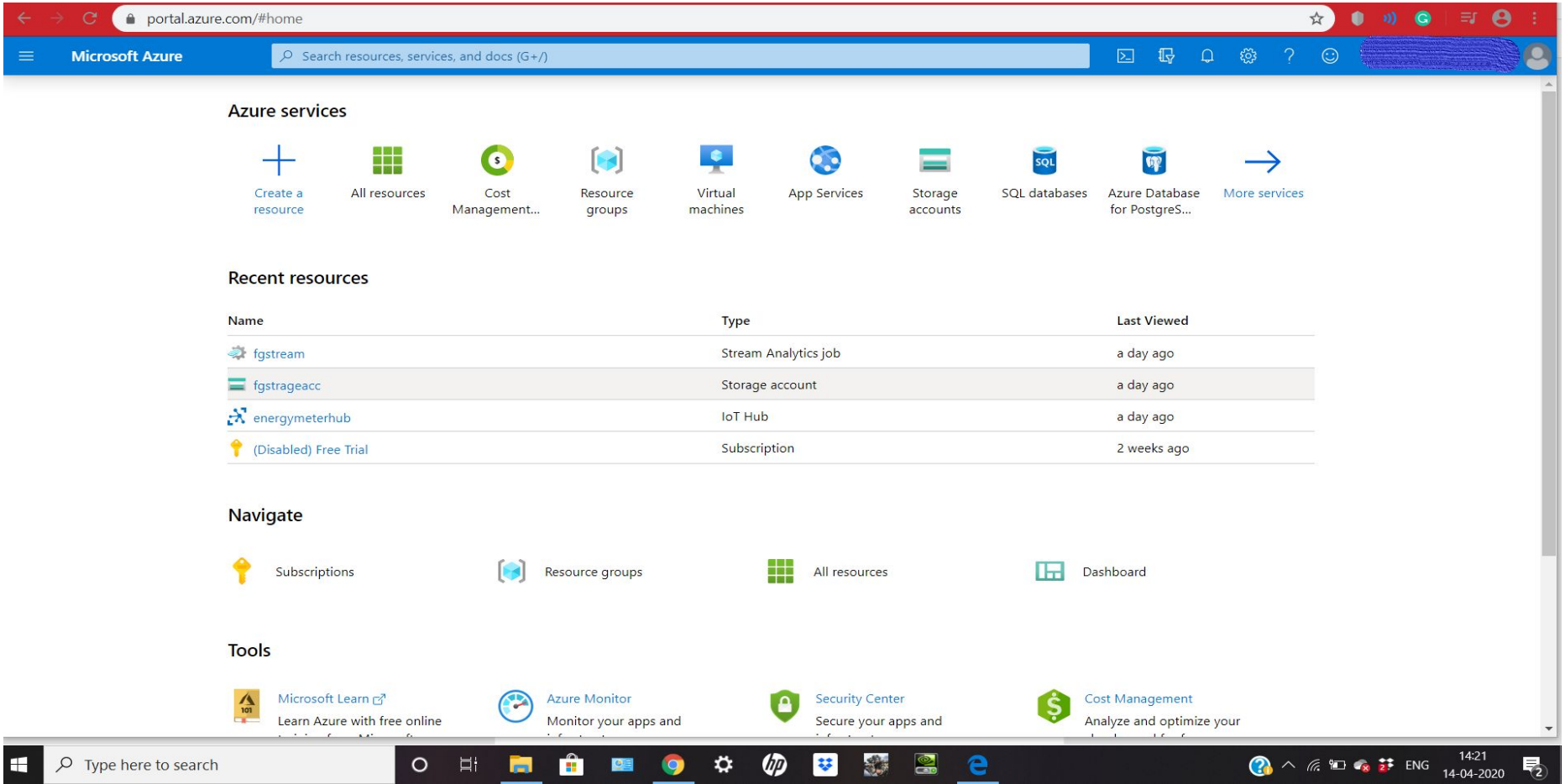
-Sign up using your Microsoft account or else create a new Microsoft account

-Enter the necessary details(NOTE- Azure allows the use of credit cards only)

-Now you are good to go

-Go to https://portal.azure.com/#home

This is how Azure Home page looks like

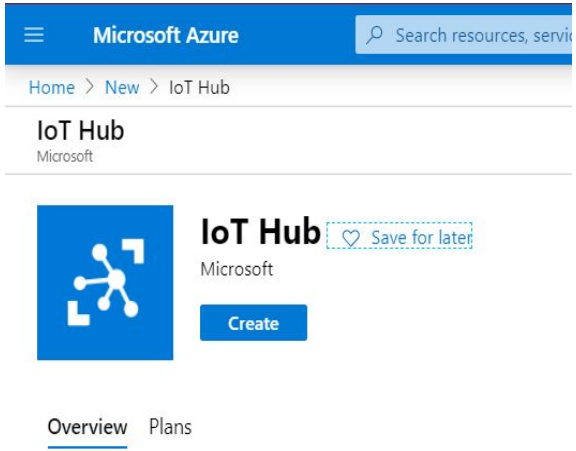


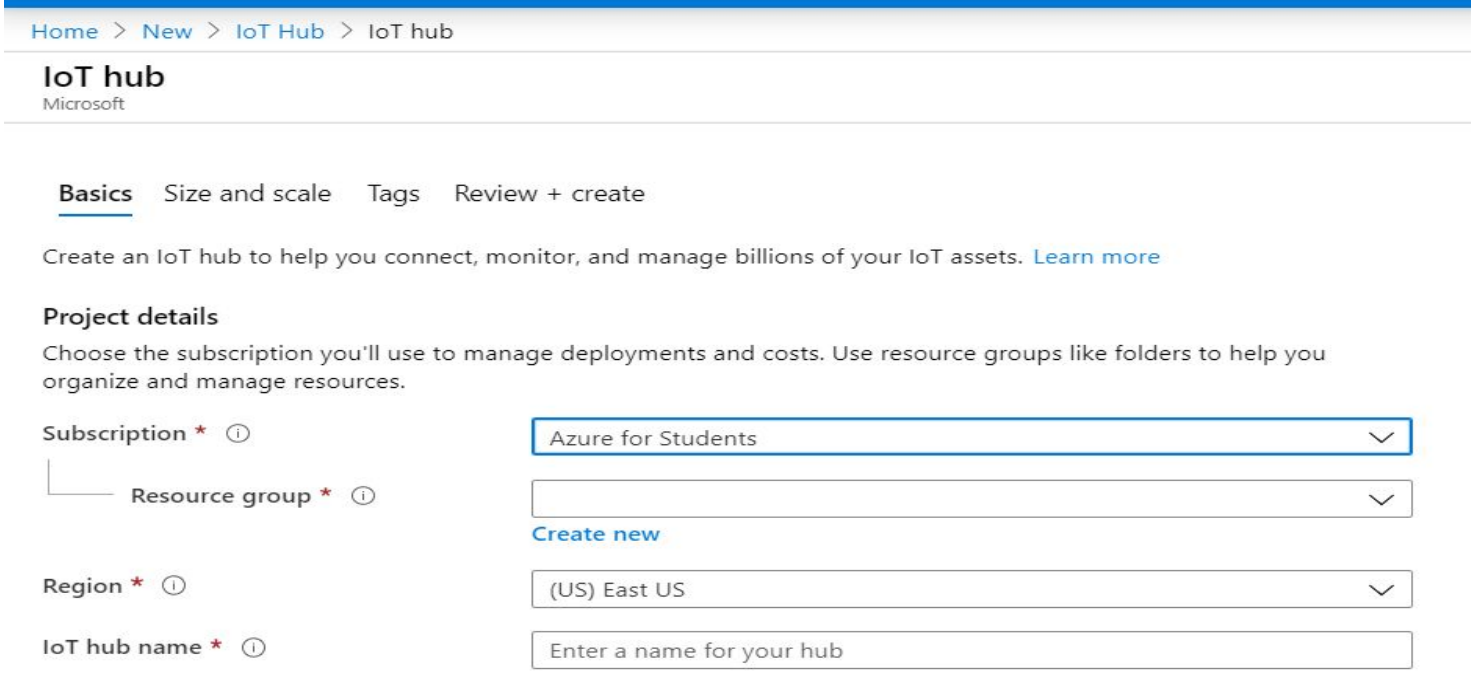
Step 2-Creating Azure IoT Hub

-On the home page>> click on create a resource

-Type IoT Hub and press enter

-Click on create

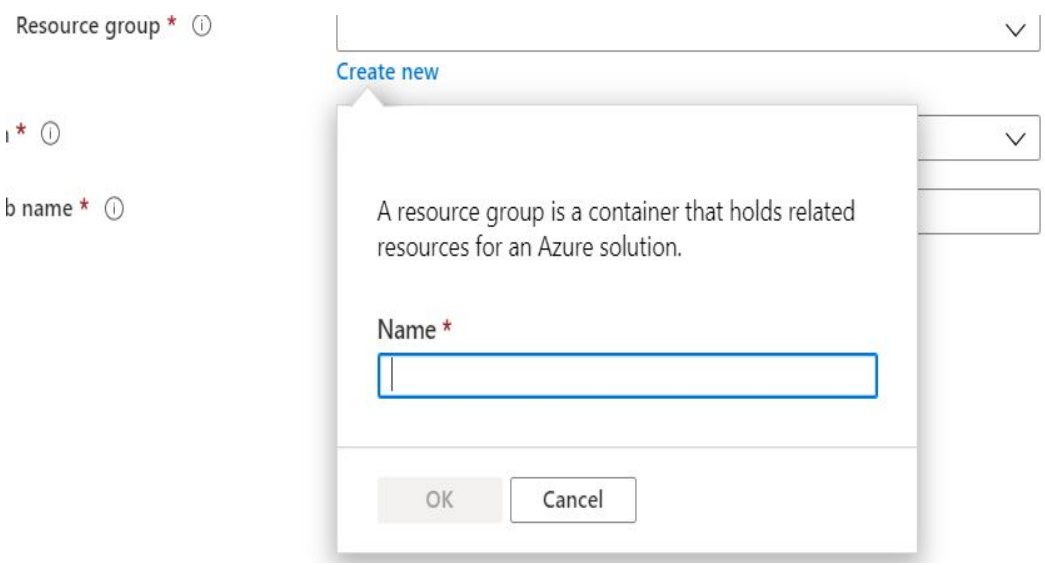




-Choose your subscription

-Since we have not created any resource group click on create new

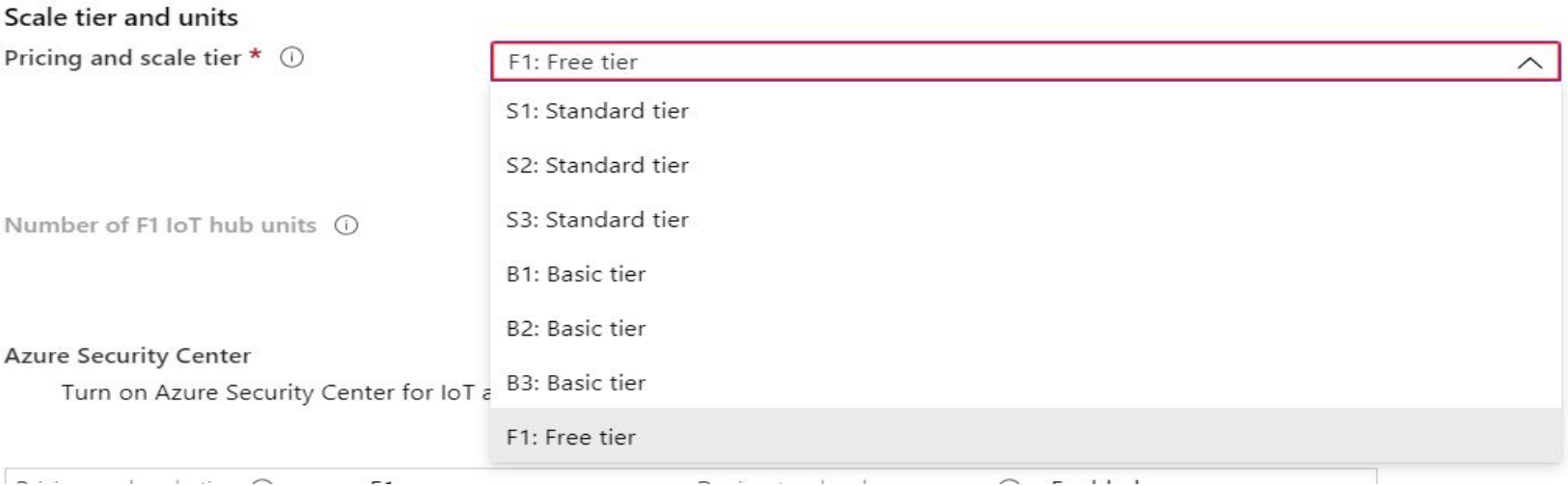
-Enter the name of your choice



-Next select region as (Asia Pacific) Central India

-Enter the name of your hub

-Click on Size and scale



-In the Pricing and scale tier choose F1:Free tier

-Below click on Review+create

-Then click on create

-You should see a message Deployment is in process

-Wait for 2-3 min for it to get deployed

Step 3-Creating a Storage Account

-Go to Home

-Click on Create a resource

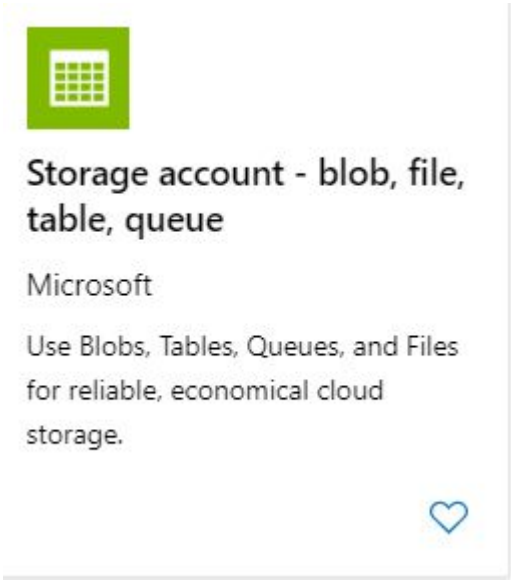
-Type Storage Account and press enter

-Click on create

-Choose your subscription

-Choose the Resource group you have created by

Clicking on the downward arrow



-Enter a name for your account

-Location choose Central India

-Performance-Standard

-Account kind choose -Storage(General Purpose v1)

Replication choose-Locally redundant storage

-Click on Review+create

-Wait until it gets deployed

Create storage account

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * : Azure for Students

Resource group * : Energymeterfg

Create new

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. Choose classic deployment model

Storage account name * : demoacctt

Location * : (Asia Pacific) Central India

Performance : Standard / Premium

Account kind : Storage (general purpose v1)

Replication : Locally-redundant storage (LRS)

Step 4- Create Stream Analytics Job

-Go to Home

-Click on Create a resource

-Type Stream analytics job and press enter

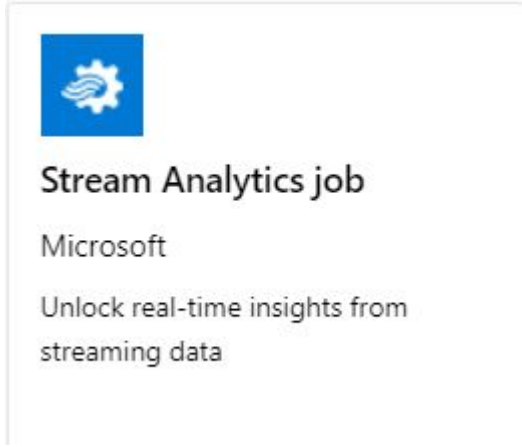
-Click on create

-Enter job name

-Choose subscription

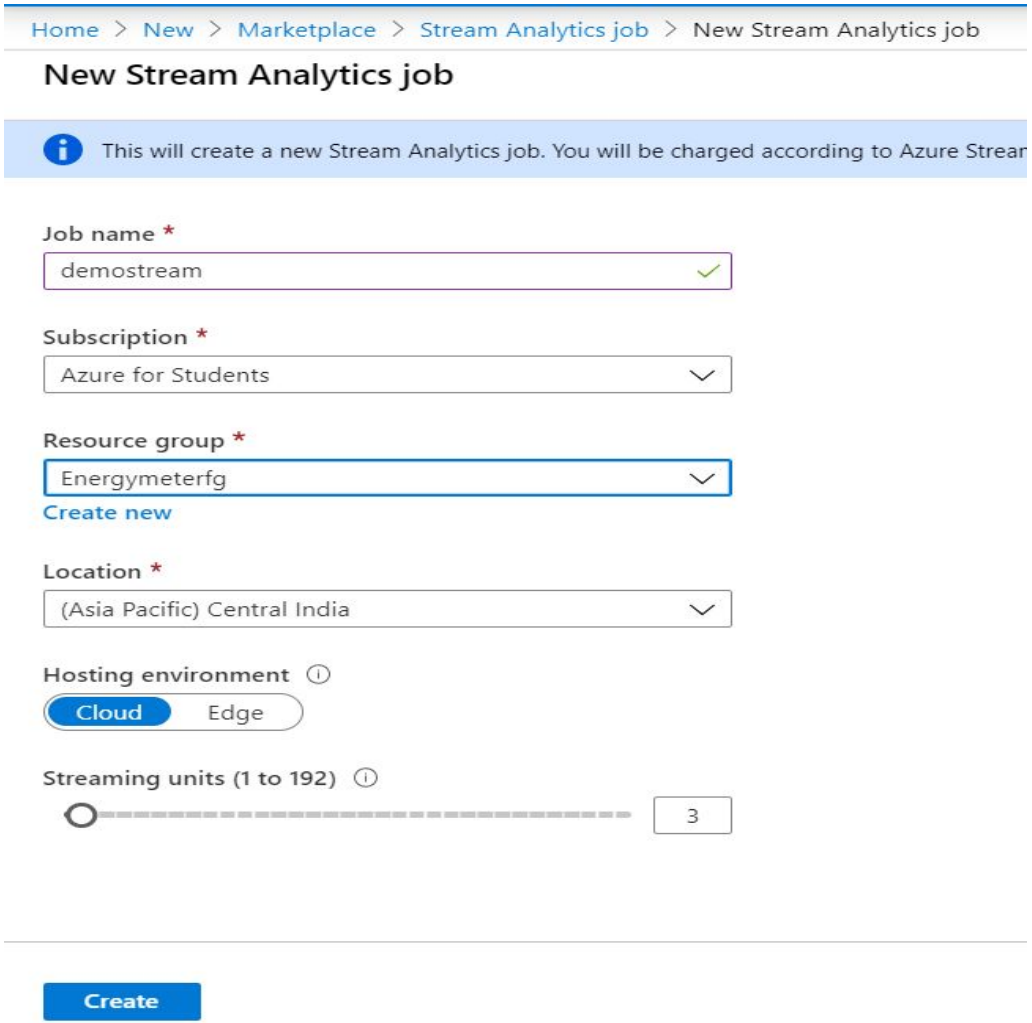
-Choose existing resource group

-Choose Central India as location



-Click on create

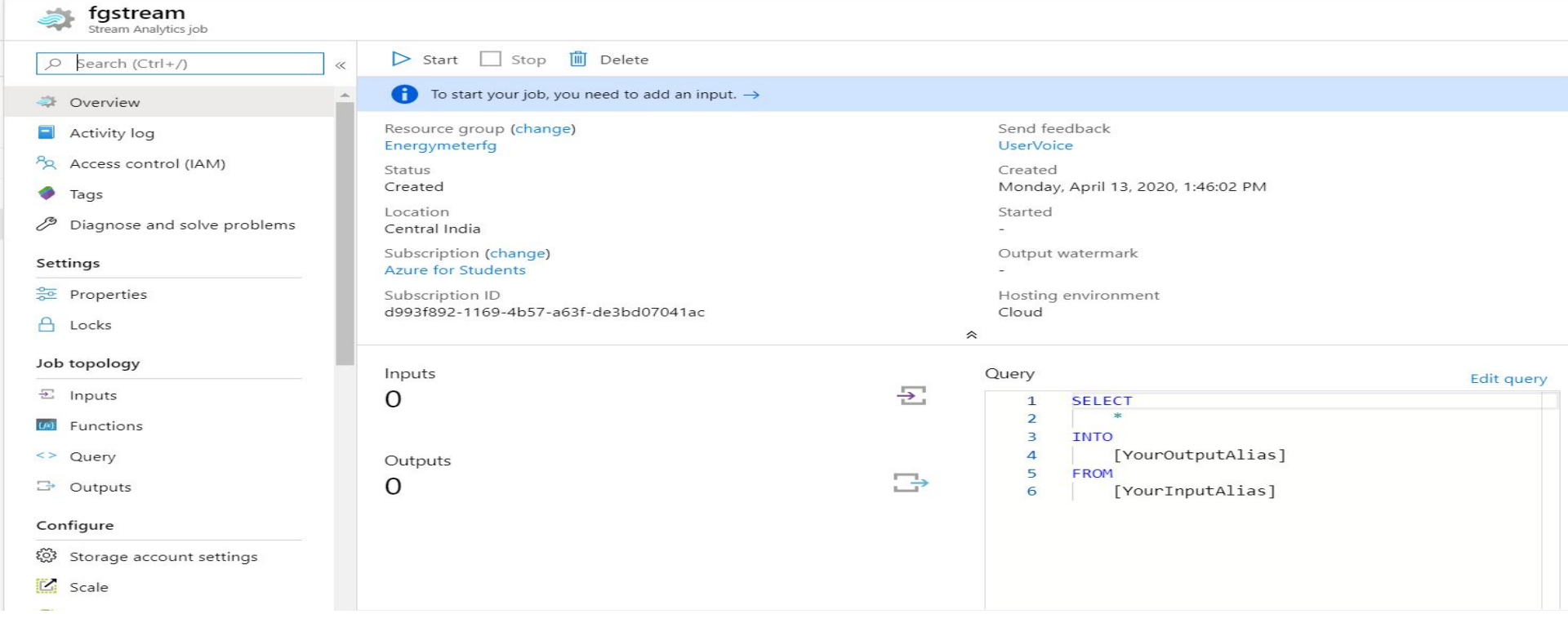
-Wait till it gets deployed



Step 5- Setting up Stream Analytics Job

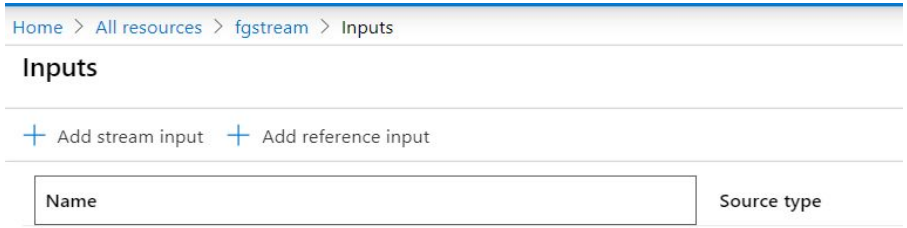
-Go to All resources in Home

-Click on your stream analytics job name and the below page should appear



-Click on Inputs

-Click on Add stream input



-Choose IoT Hub

-**Give an input alias name(Eg- input 1)**

-Choose the option Select IoT Hub from your subscriptions

Click on save

-You can see that a new input has been created

-Go back to stream analytics homepage which is shown in slide 13

-Click on output

-Click on add

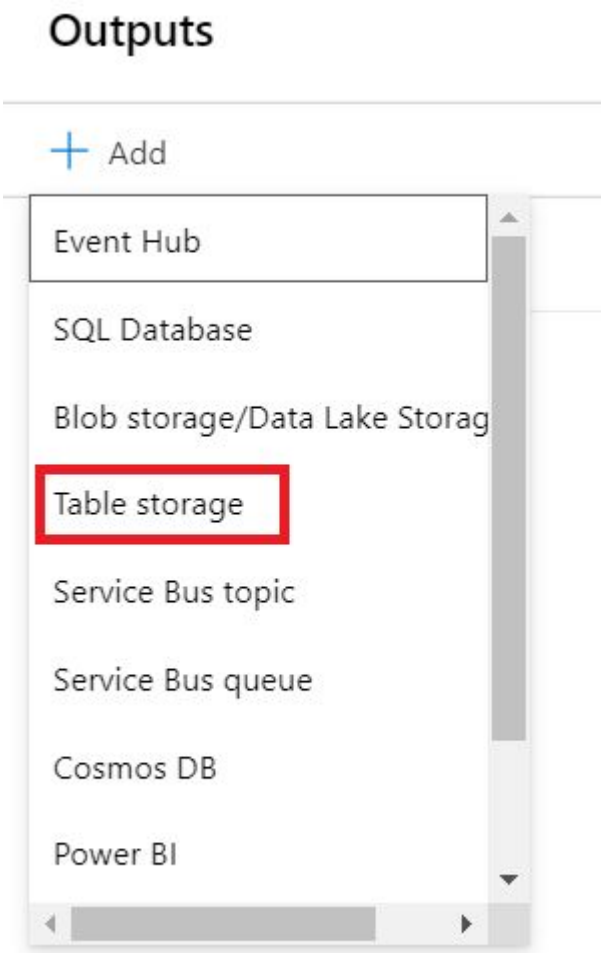
-Choose Table storage from the drop down menu

-**Enter an output alias name(Eg-Output 1)**

-Click on create new

-Enter table name

-Enter xyz for partition and row key



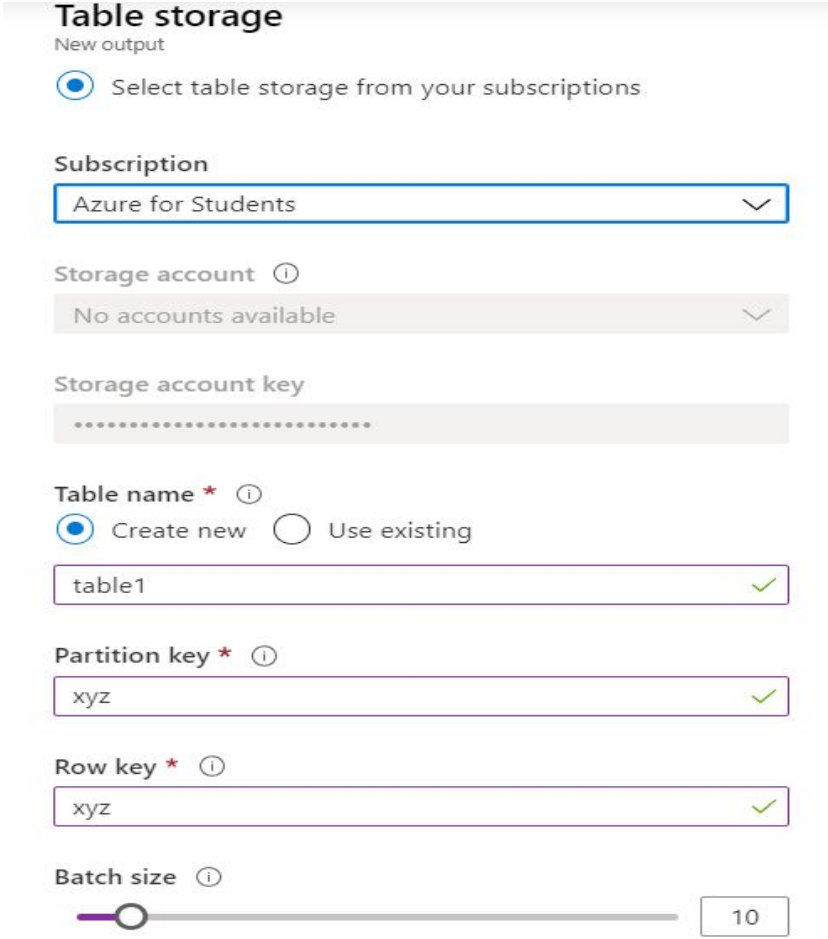
-Batch size choose 10

-Click on save

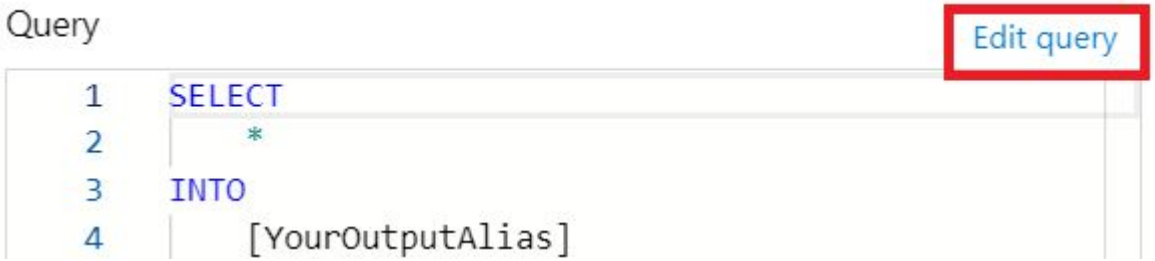
-Go back to Stream

analytics page

as show in slide 13



-Click on edit query

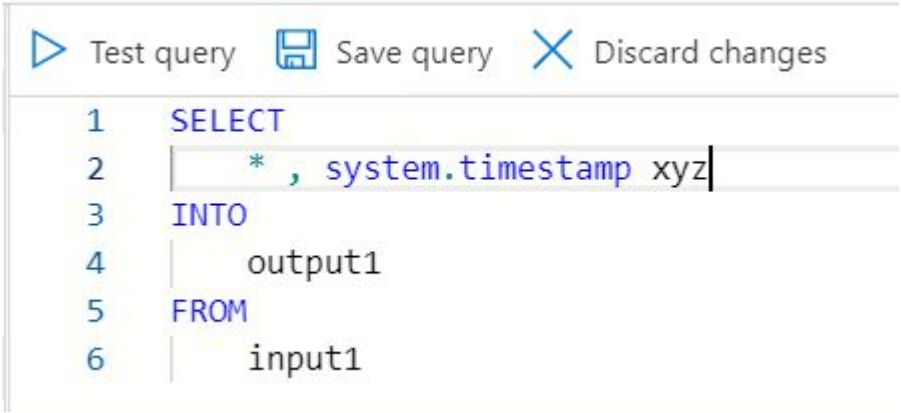


-In Input Alias enter your input alias name given in slide 14

-In Output Alias enter your output alias name given in slide 16

-Enter the details as shown below(exactly as shown in the picture below)

-Click on save query



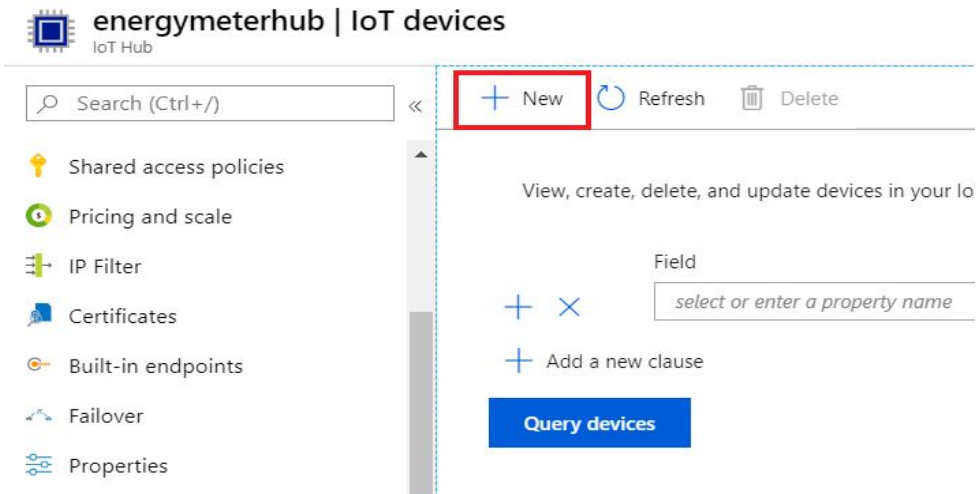
-Go back to stream analytics page and click on start

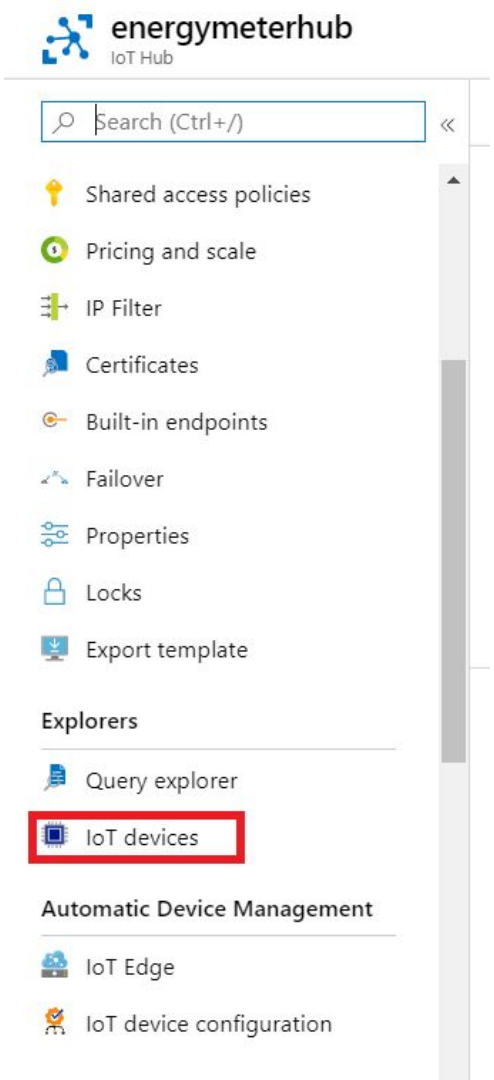
Step 6- To copy the connection string

-Go to All resources on your Azure Home page

-Click on your IoT Hub name

-Click on IoT devices

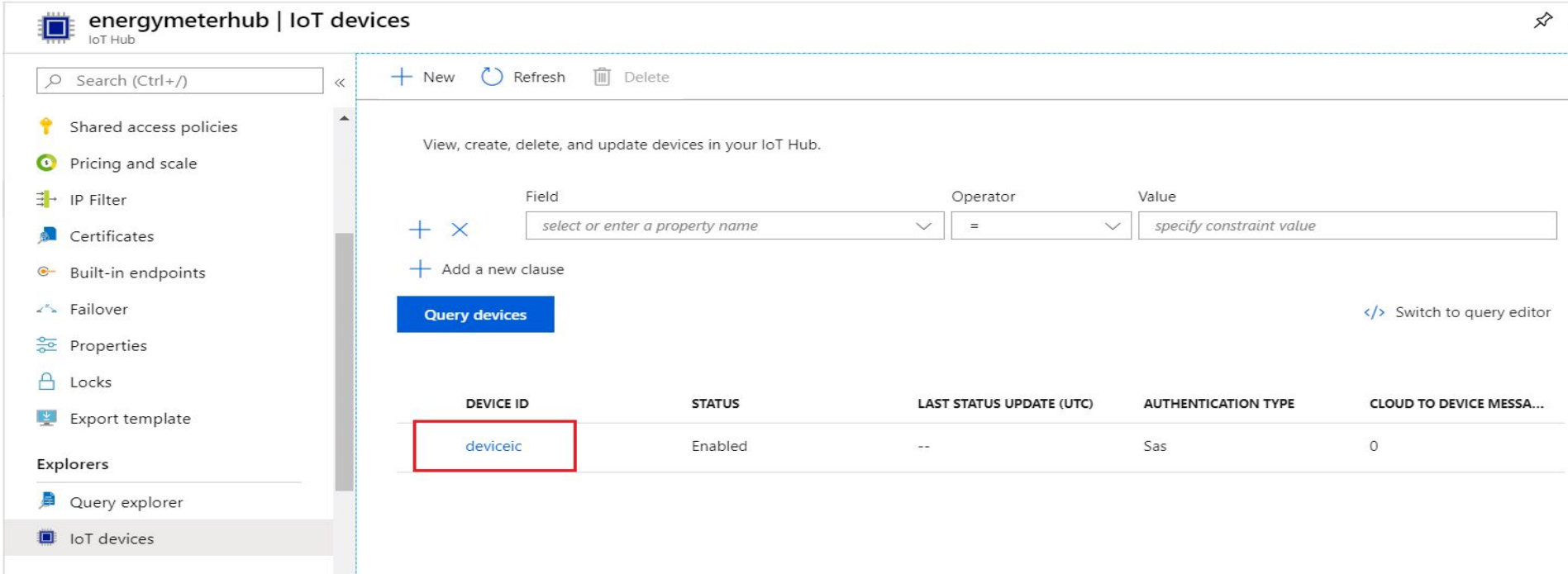


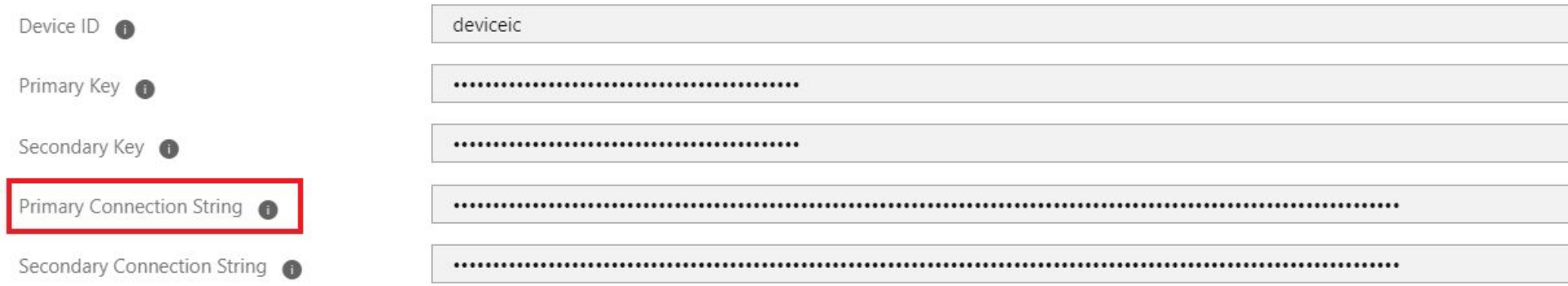


-Click on new

-Enter the name of the device and click on save

-Go back to IoT devices and click on the device id you have created





-Copy the Primary Connection String

Step 7- Running python code

-Open command prompt and navigate to the folder where the python file(which you need to download) is stored(Eg- if you have stored the python file in documents use the command **cd “space”** C:\Users\Name\Documents)

- Next copy the following command and paste it on the terminal

pip install azure-iot-device

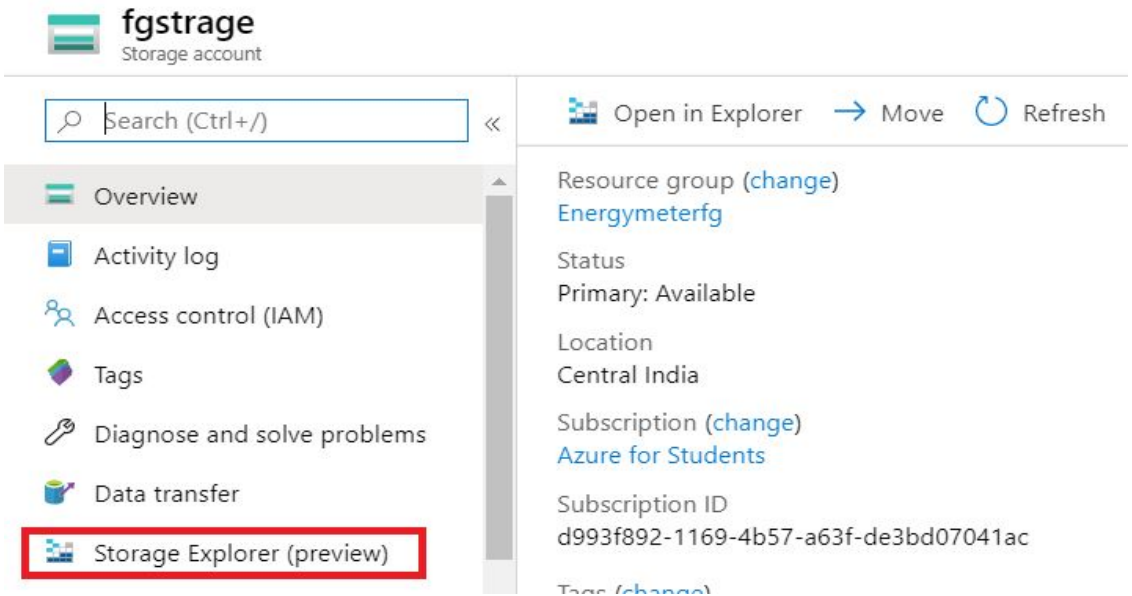
-After installation open the python code which you have downloaded and enter your IoT Hub **device** connection string

-Run the python file and you should be able to see data being sent to IoT Hub(Please refer the video for reference)

Step 8- Viewing the stored data

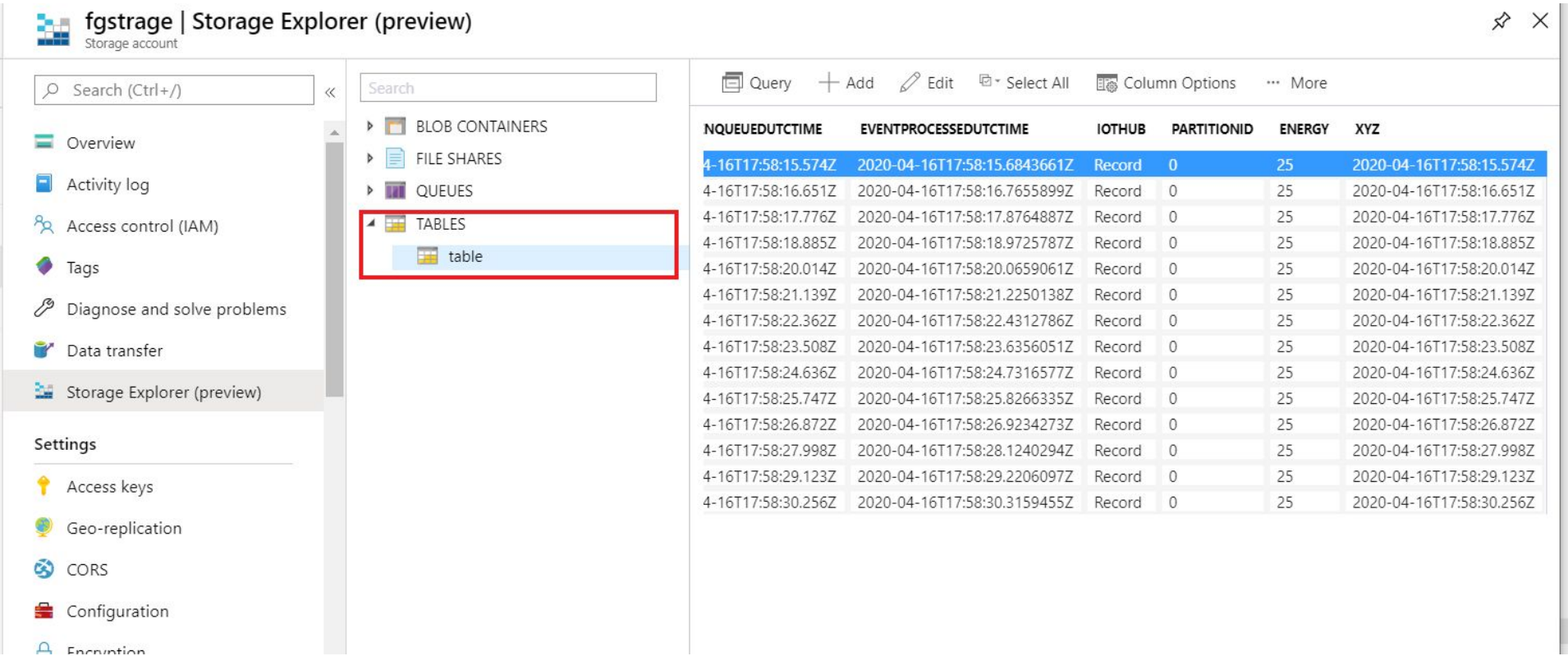
-Go to your azure Storage Account

-Click on Storage Explorer(preview)



-Click on TABLES

-Click on your table name and you should see your data being stored



THANK YOU