Project 7 - Seattle Airbnb Data

Seattle Airbnb Open Data - SQL Project
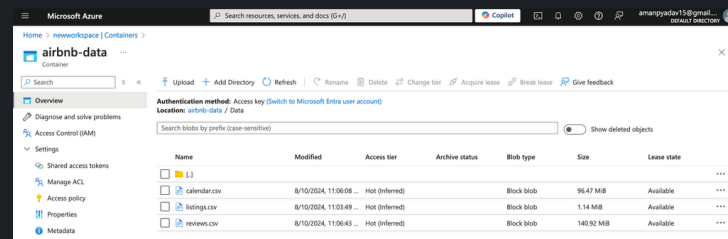
Analysis of Airbnb activity in Seattle, WA

For the dataset, I've used the Airbnb Data Set.

Objective:

To conduct a comprehensive analysis of the feasibility and profitability of establishing an Airbnb accommodation in Seattle, Washington, in order to determine whether such an endeavor would be economically advantageous and align with strategic business objectives.

Uploading Dataset on Storage Account

First I've uploaded my Dataset into the my storage account under a new container **airbnb-data** → **Data** → **calendar.csv**, **listing.csv** and **reviews.csv**

Creating Data Source & External

To establish a connection between the dataset and Power BI, it is necessary to create an external table within Synapse Studio. I've used the following script to create an External Data Source, Creating a schema and creating external table

```
1   --Creating a external Data Source
2   CREATE EXTERNAL DATA SOURCE airbnb_data_source
3   WITH(
4       LOCATION = 'abfss://airbnb-data@newworkspace.dfs.core.windows.net/Data'
5   )
6
7   --Creating a CSV File Format
8   IF NOT EXISTS (SELECT * FROM sys.external_file_formats WHERE name ='csv_file_format')
9     CREATE EXTERNAL FILE FORMAT csv_file_format
10    WITH (
11        FORMAT_TYPE = DELIMITEDTEXT,
12        FORMAT_OPTIONS (
13          FIELD_TERMINATOR = ','
14        , STRING_DELIMITER = '"'
15        , First_Row = 2
16        , USE_TYPE_DEFAULT = FALSE
17        , Encoding = 'UTF8'
18        , PARSER_VERSION = '2.0' )
19        );
20   --Using the nyc_taxi_ldw database
21   USE nyc_taxi_ldw
22   GO
23   --Creating a schema
24   CREATE SCHEMA airbnb
25   GO
26   --Creating External table for calendar
27   CREATE EXTERNAL TABLE airbnb.calendar
28     (   location_id SMALLINT ,
29         borough VARCHAR(15) ,
30         zone VARCHAR(50) ,
31         service_zone VARCHAR(15) )
32     WITH (
33          LOCATION = 'Data/calendar.csv',
34          DATA_SOURCE = airbnb_data_source,
35          FILE_FORMAT = csv_file_format,
36          REJECT_VALUE = 10,
37          REJECTED_ROW_LOCATION = 'rejections/taxi_zone'
```
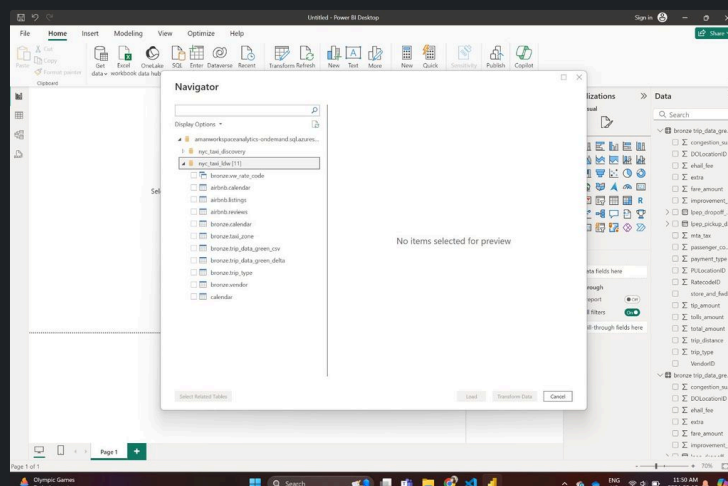
```
38          );
39   --Creating External table for listing
40   CREATE EXTERNAL TABLE airbnb.listings
41       (    location_id SMALLINT ,
42            borough VARCHAR(15) ,
43            zone VARCHAR(50) ,
44            service_zone VARCHAR(15) )
45       WITH (
46                LOCATION = 'Data/listings.csv',
47                DATA_SOURCE = airbnb_data_source,
48                FILE_FORMAT = csv_file_format,
49                REJECT_VALUE = 10,
50                REJECTED_ROW_LOCATION = 'rejections/taxi_zone'
51       );
52   --Creating External table for reviews
53   CREATE EXTERNAL TABLE airbnb.reviews
54       (    location_id SMALLINT ,
55            borough VARCHAR(15) ,
56            zone VARCHAR(50) ,
57            service_zone VARCHAR(15) )
58       WITH (
59                LOCATION = 'Data/reviews.csv',
60                DATA_SOURCE = airbnb_data_source,
61                FILE_FORMAT = csv_file_format,
62                REJECT_VALUE = 10,
63                REJECTED_ROW_LOCATION = 'rejections/taxi_zone'
64       );
65
66
```
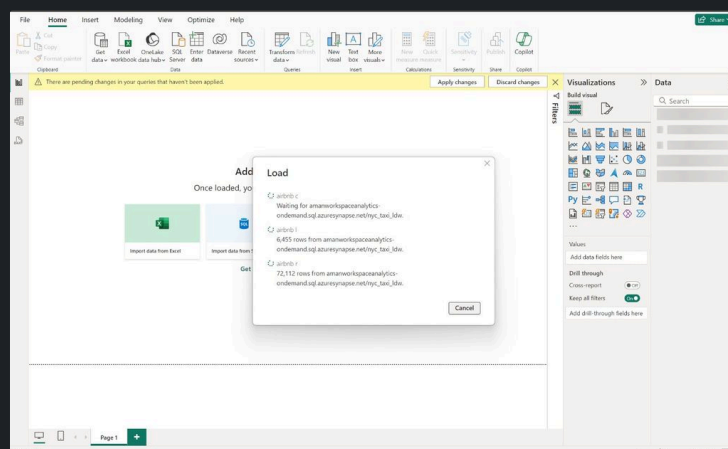
Connecting Dataset to PowerBI

Connecting the PowerBI with azure synapse studio

Loading the dataset

PowerBI Dashboard

SEATTLE AIRBNB ANALYSIS
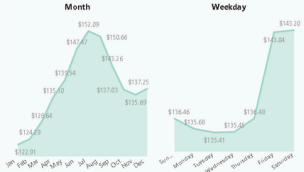
(Jan 2016 – Dec 2016)

Neighbourhood
All

LOCATION OF LISTINGS BY AVERAGE PRICE

Search

Top 5 Neighbourhoods by Average Price

Neighbourhood	Average Price
Magnolia	$177.67
Queen Anne	$157.22
Downtown	$154.41
West Seattle	$141.36
Cascade	$140.10

Neighbourhood by Average Price and Listings

Neighbourhood	Count of Listings	Average Price
Magnolia	61	$177.67
Queen Anne	295	$157.22
Downtown	530	$154.41
West Seattle	203	$141.36
Cascade	89	$140.10
Capitol Hill	567	$131.59
Central Area	368	$129.51
Ballard	230	$124.68
Interbay	11	$119.73
Seward Park	44	$108.48
Beacon Hill	118	$94.67
University District	122	$93.64
Lake City	67	$92.67
Rainier Valley	159	$91.90
Northgate	80	$88.55
Delridge	79	$83.28

AVERAGE PRICE TREND

Month

$152.09
$150.68
$147.47
$143.26
$137.25
$137.54
$135.40
$137.03
$135.69
$129.84
$124.15
$122.91

Weekday

$143.20
$141.04
$136.46
$135.68
$135.48
$135.41

Average Price by Property Type

Property Type	Average Price
Boat	$192.38
Condominium	$155.11
Loft	$135.70
House	$132.59
Townhouse	$129.46
Apartment	$122.95
Camper/RV	$120.66
Bungalow	$115.60
Bed & Breakfast	$112.05
Cabin	$104.67
Treehouse	$105.00
Yurt	$100.00
Chalet	$98.50
Other	$94.68
Tent	
Dorm	