Sri Lanka Institute of Information Technology

Data Warehousing and Business Intelligence
IT3021
Assignment 2

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Batch: - Y3.S1.DS.WE.04

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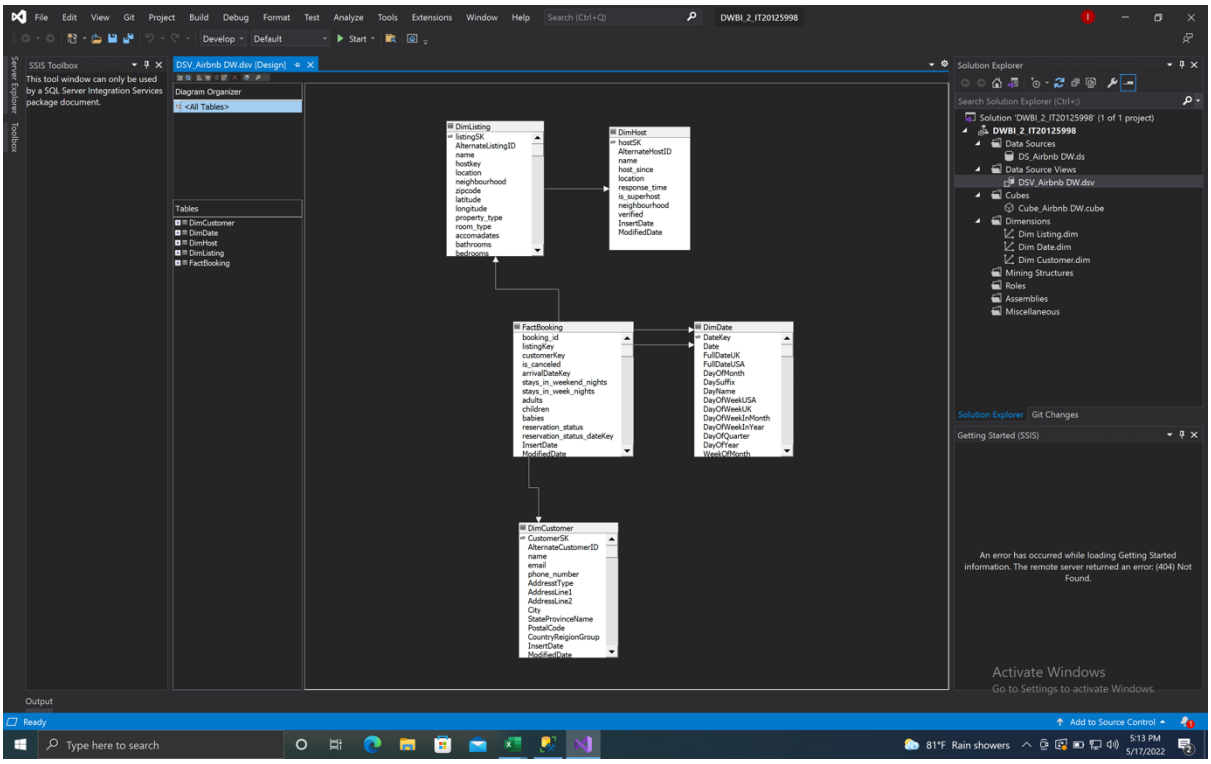
Data source

Data warehouse created for storing Airbnb bookings in the DWBI Assignment 01 was used for generating the cubes for this assignment.

Creating the SSAS cube

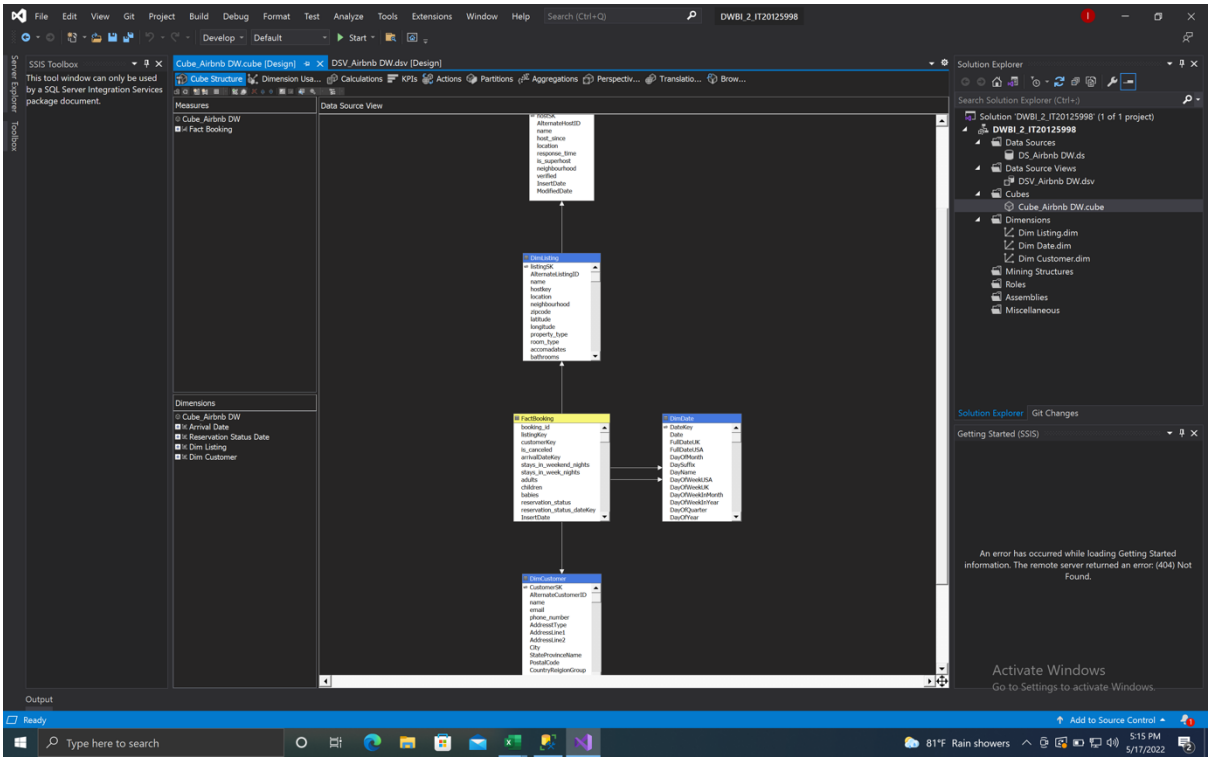
Creating the view

By connecting with the data warehouse as source a view named DSV_Airbnb was created.



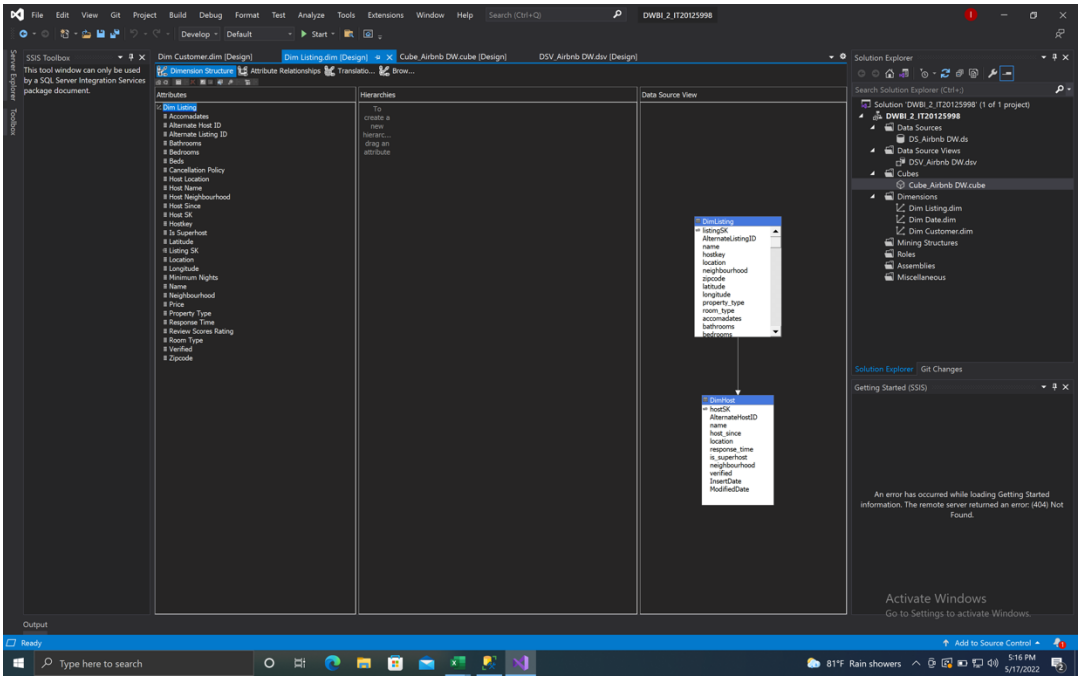
Designing the cube

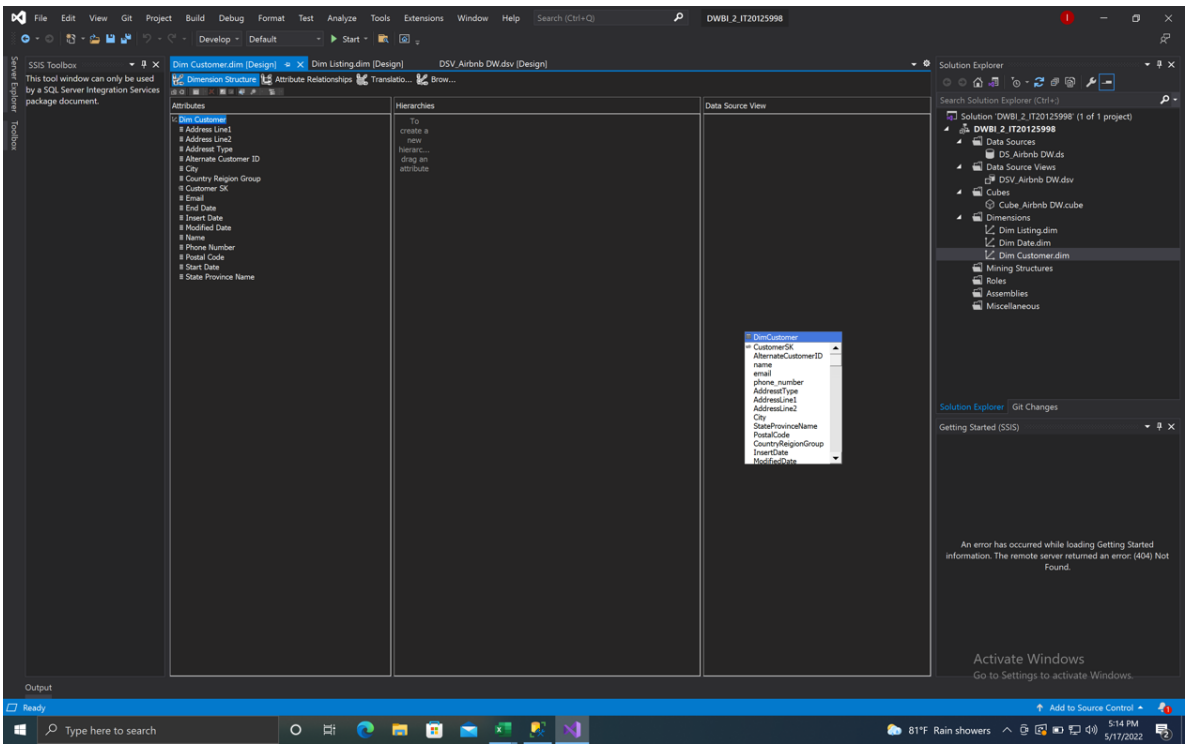
I designed the cube selecting the FactBooking, DimCustomer, DimListing, DimHost and DimDate tables.

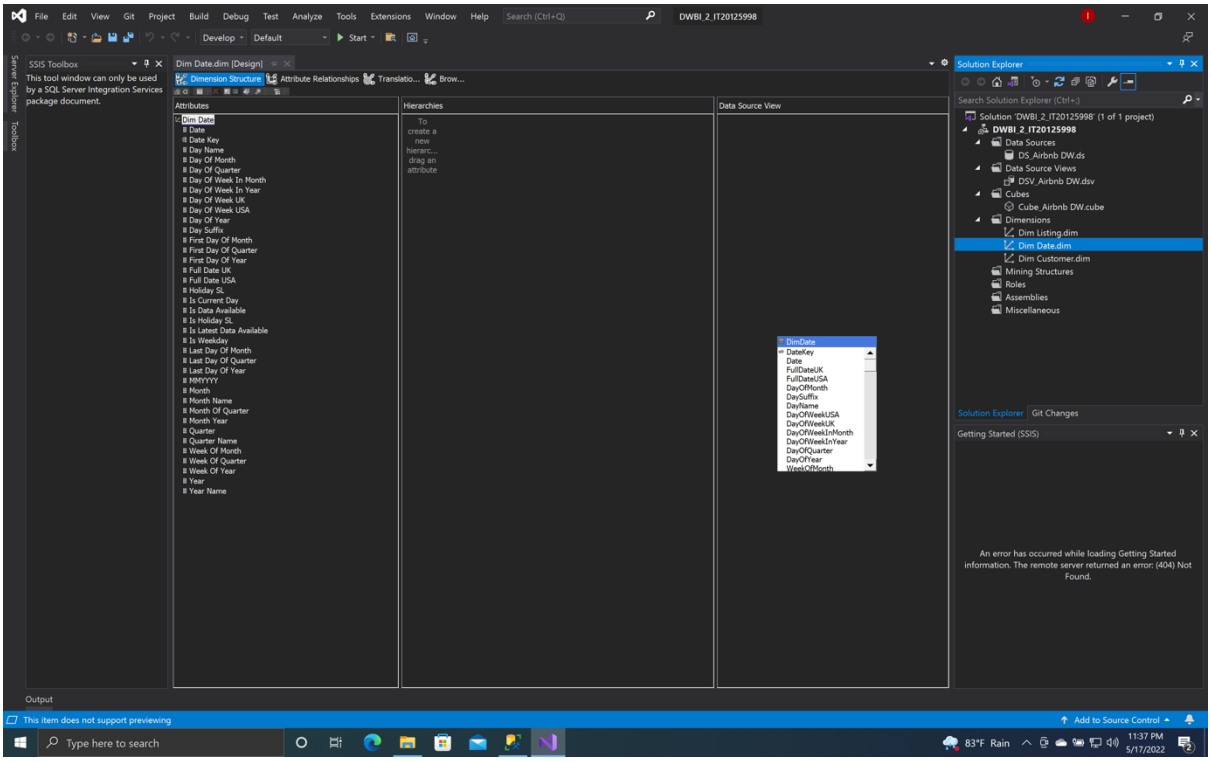


Listing the missing attributes

Since only key attributes of the dimensions are visible other attributes were added manually by dragging and dropping from the dimension tables.




File Edit View Git Project Build Debug Format Test Analyze Tools Extensions Window Help
DWBI_2_IT20125998
SSIS Toolbox
This tool window can only be used by a SQL Server Integration Services package document.
Dim Customer.dim [Design]
Dim Listing.dim [Design]
DSV_Airbnb DW.dsv [Design]
Dimension Structure
Attribute Relationships
Translatio...
Brow...
Attributes
Hierarchies
Data Source View
Dim Customer
Address Line1
Address Line2
Addresst Type
Alternate Customer ID
City
Country Reigion Group
Customer SK
Email
End Date
Insert Date
Modified Date
Name
Phone Number
Postal Code
Start Date
State Province Name
To create a new hierarc... drag an attribute
DimCustomer
CustomerSK
AlternateCustomerID
name
email
phone_number
AddresstType
AddressLine1
AddressLine2
City
StateProvinceName
PostalCode
CountryReigionGroup
InsertDate
ModifiedDate
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DWBI_2_IT20125998' (1 of 1 project)
DWBI_2_IT20125998
Data Sources
DS_Airbnb DW.ds
Data Source Views
DSV_Airbnb DW.dsv
Cubes
Cube_Airbnb DW.cube
Dimensions
Dim Listing.dim
Dim Date.dim
Dim Customer.dim
Mining Structures
Roles
Assemblies
Miscellaneous
Solution Explorer
Git Changes
Getting Started (SSIS)
An error has occurred while loading Getting Started information. The remote server returned an error: (404) Not Found.
Activate Windows
Go to Settings to activate Windows.
Output
Ready
Add to Source Control
Type here to search
81°F Rain showers
5:14 PM
5/17/2022


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
DWBI_2_IT20125998
SSIS Toolbox
This tool window can only be used by a SQL Server Integration Services package document.
Dim Date.dim [Design]
Dimension Structure
Attribute Relationships
Translatio...
Brow...
Attributes
Hierarchies
Data Source View
Dim Date
Date
Date Key
Day Name
Day Of Month
Day Of Quarter
Day Of Week In Month
Day Of Week In Year
Day Of Week UK
Day Of Week USA
Day Of Year
Day Suffix
First Day Of Month
First Day Of Quarter
First Day Of Year
Full Date UK
Full Date USA
Holiday SL
Is Current Day
Is Data Available
Is Holiday SL
Is Latest Data Available
Is Weekday
Last Day Of Month
Last Day Of Quarter
Last Day Of Year
MMYYYY
Month
Month Name
Month Of Quarter
Month Year
Quarter
Quarter Name
Week Of Month
Week Of Quarter
Week Of Year
Year
Year Name
To create a new hierarc... drag an attribute
DimDate
DateKey
Date
FullDateUK
FullDateUSA
DayOfMonth
DaySuffix
DayName
DayOfWeekUSA
DayOfWeekUK
DayOfWeekInMonth
DayOfWeekInYear
DayOfQuarter
DayOfYear
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DWBI_2_IT20125998' (1 of 1 project)
DWBI_2_IT20125998
Data Sources
DS_Airbnb DW.ds
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DSV_Airbnb DW.dsv
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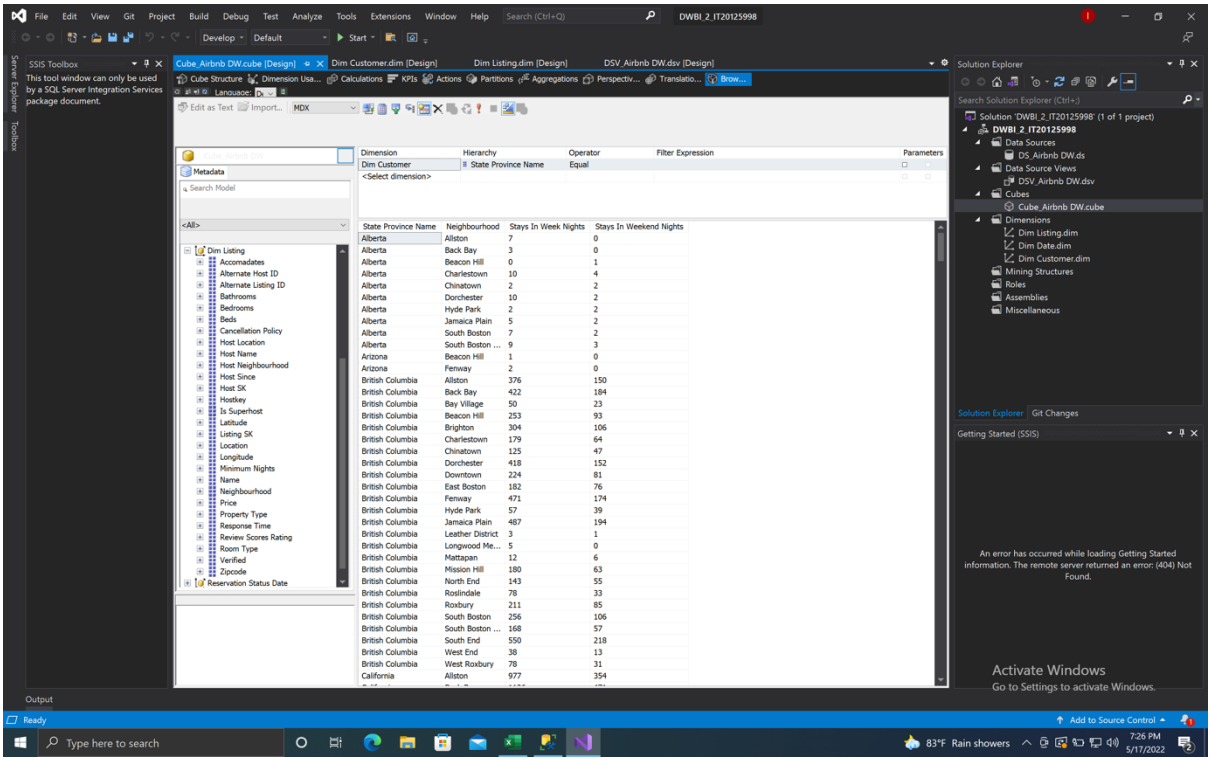
An error has occurred while loading Getting Started information. The remote server returned an error: (404) Not Found.
Output
This item does not support previewing
Add to Source Control
Type here to search
83°F Rain
11:37 PM
5/17/2022

Deploying the cube

Then cube was processed and deployed.

After the deployment of the cube and browsing, it will look like this.

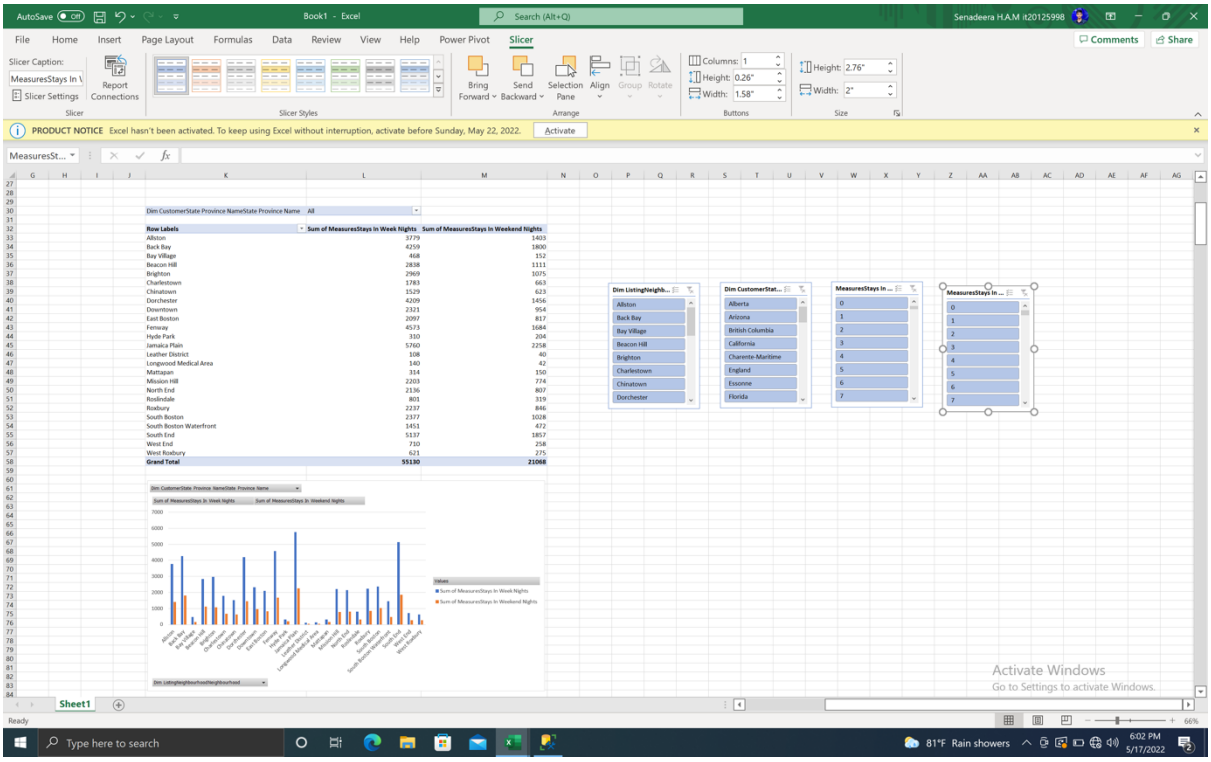


OLAP Operation

Microsoft Excel's PowerPivot function is used to do the OLAP operations.

Slicing

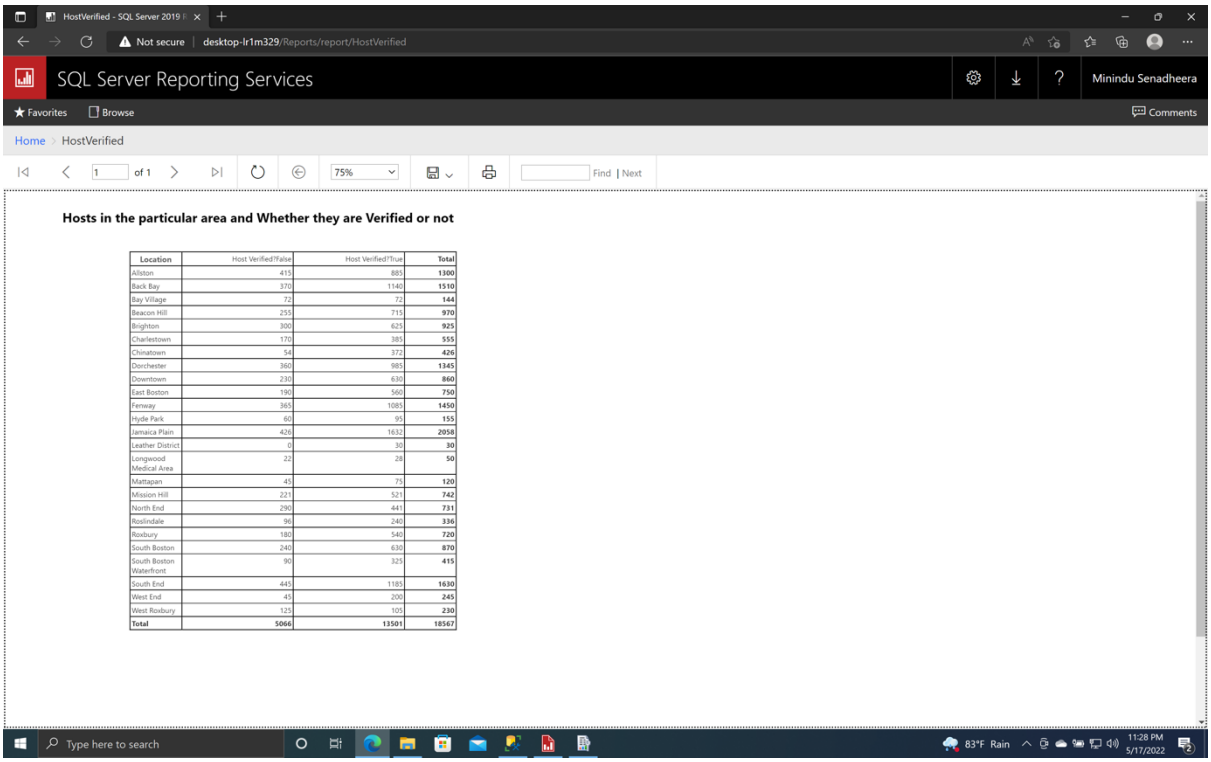
The Slicing is filtering your data to focus on just a subset it is more likely a "where" statement.



SSRS Reports

Report with Matrix

Total number of hosts in the areas and whether those hosts are verified or not.



Location	Host Verified?False	Host Verified?True	Total
Allston	415	885	1300
Back Bay	370	1140	1510
Bay Village	72	72	144
Beacon Hill	255	715	970
Brighton	300	625	925
Charlestown	170	385	555
Chinatown	54	372	426
Dorchester	360	985	1345
Downtown	230	630	860
East Boston	190	560	750
Fenway	365	1085	1450
Hyde Park	60	95	155
Jamaica Plain	426	1632	2058
Leather District	0	30	30
Longwood Medical Area	22	28	50
Mattapan	45	75	120
Mission Hill	221	521	742
North End	290	441	731
Roslindale	96	240	336
Roxbury	180	540	720
South Boston	240	630	870
South Boston Waterfront	90	325	415
South End	445	1185	1630
West End	45	200	245
West Roxbury	125	105	230
Total	5066	13501	18567