Sri Lanka Institute of Information Technology

Data Warehousing & Business Intelligence

Assignment 02

IT Number – IT20083182

Submitted by – Senadeera N. A. J. N.

Batch – Year 03 Semester 01 (Y3S1.5.1 (DS))

Contents

01. Data Source 3

02. SSAS Cube Implementation 3

- *DimDate* 5
- *DimUser* 5
- *DimHotelCategory* 6
- *DimLocation* 6

03. OLAP Operation 8

- Roll Up 8
- *Drill-Down* 9
- *Slicing* 10
- Dice 10
- *Pivot* 11

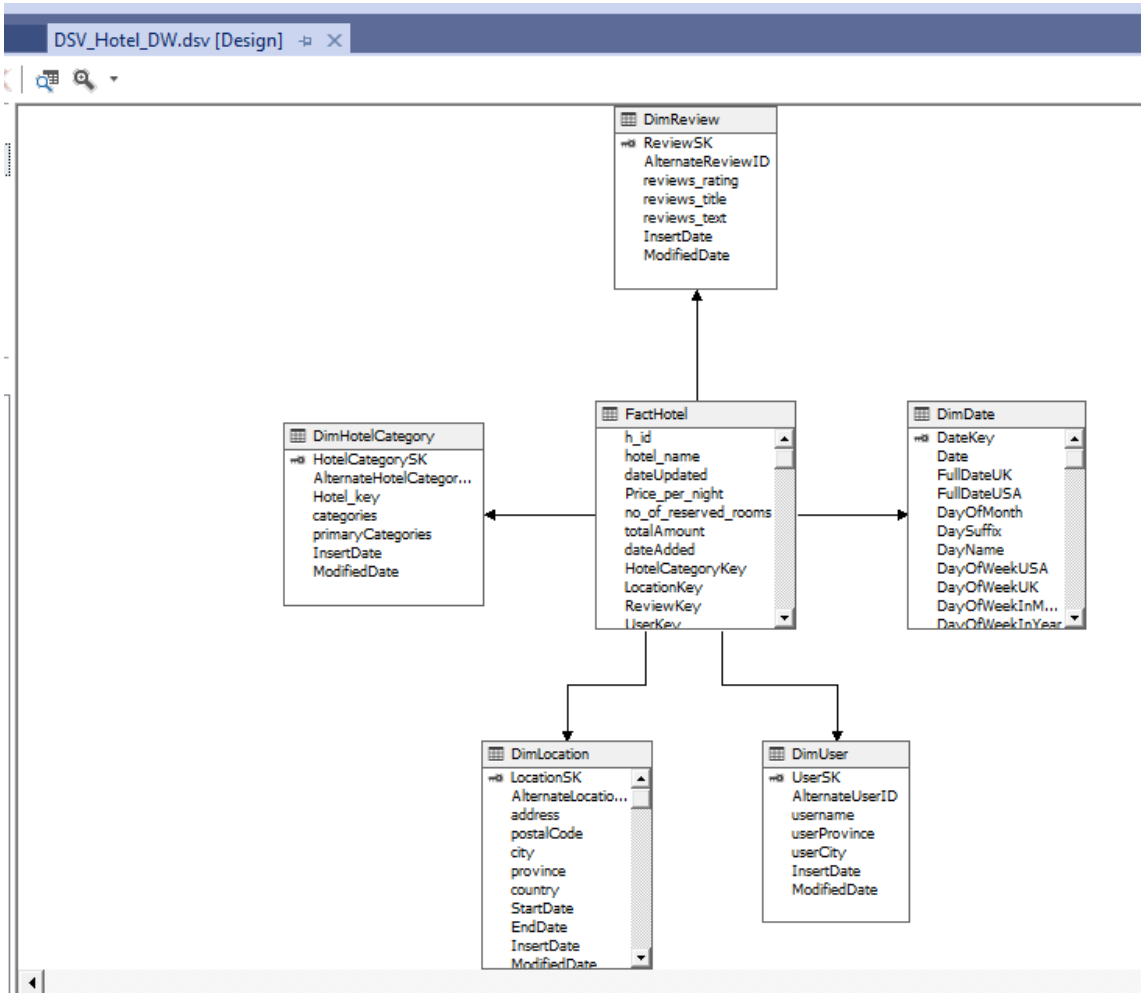
04. SSRS Reports 12

01. Data Source

For this purpose use Hotel_DW as Data warehouse which implemented in last Assignment (Assignment1).

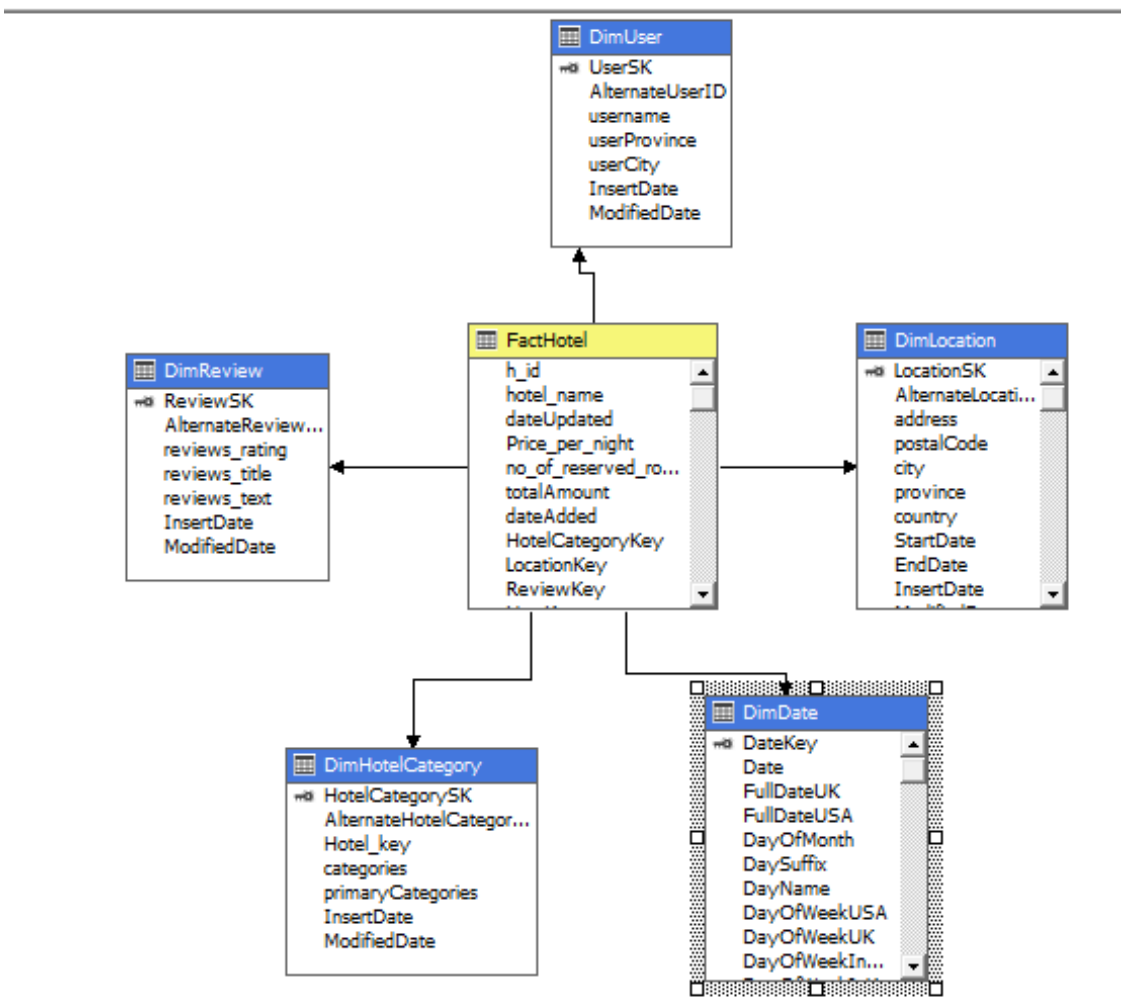
02. SSAS Cube Implementation

In here first create data source view using previous implemented data dimensions and fact table.



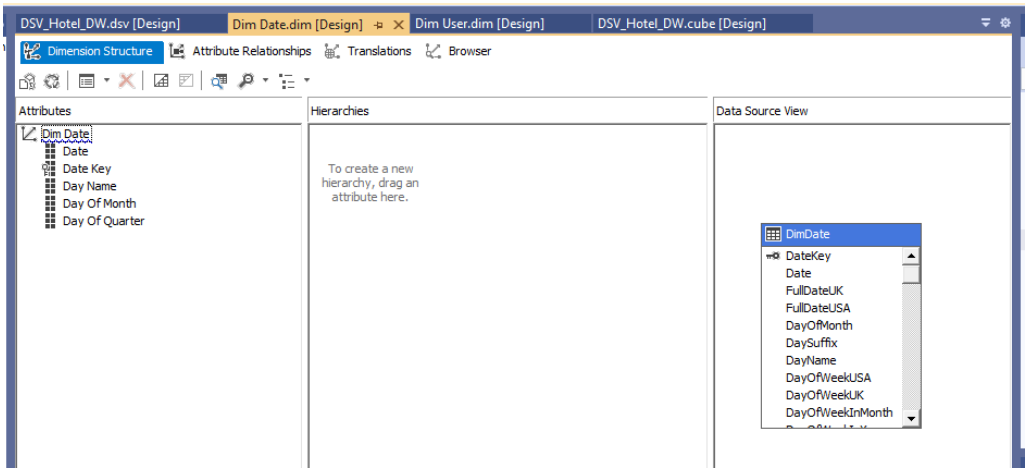
Then create Data Cube,

In here I choose FactHotel as measure group, DimDate, DimLocation, DimHotelcategory, DimUser and DimReview as dimensions.

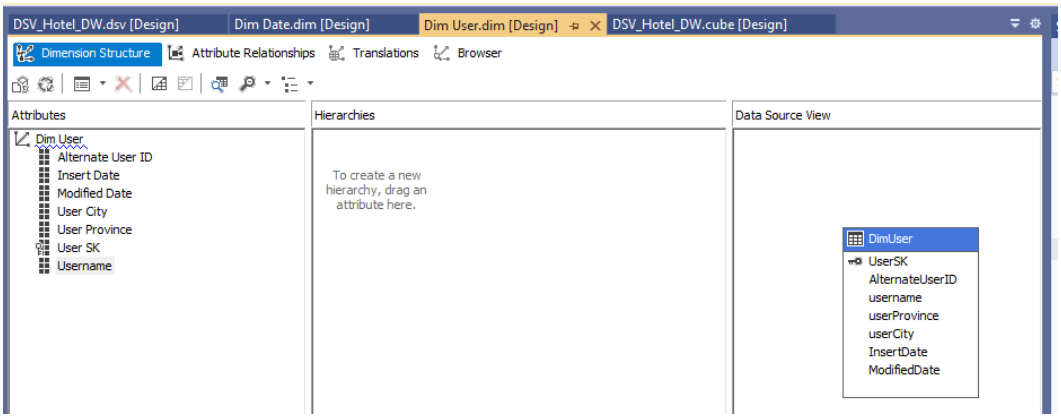


After that configure all the dimension with proper way

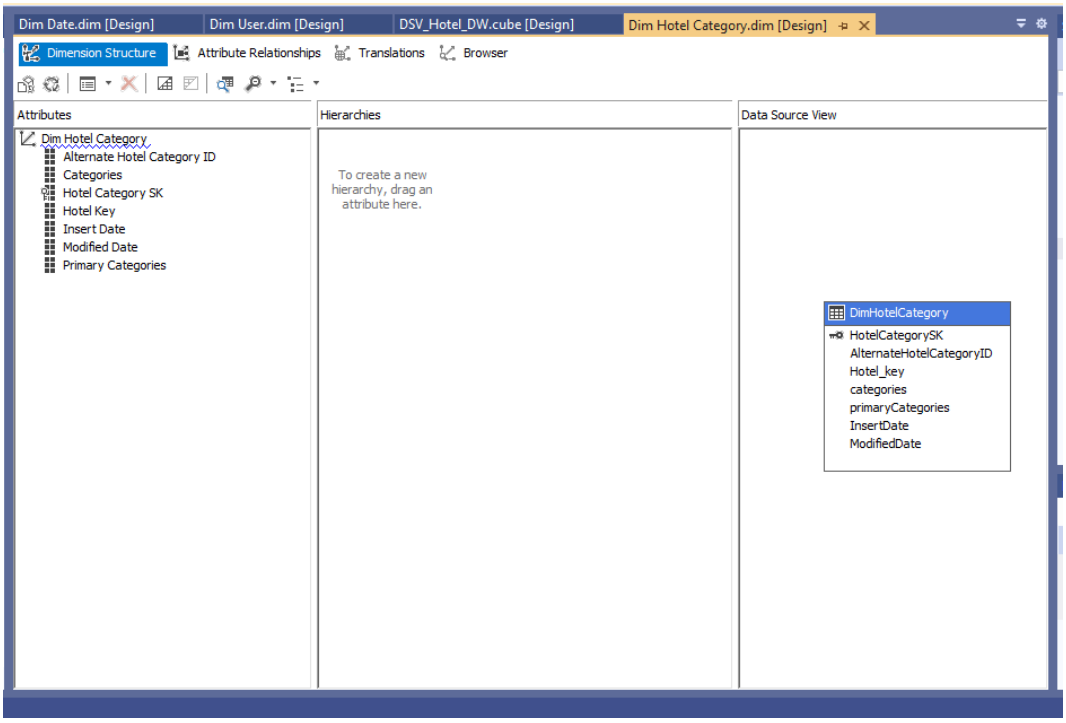
- *DimDate*



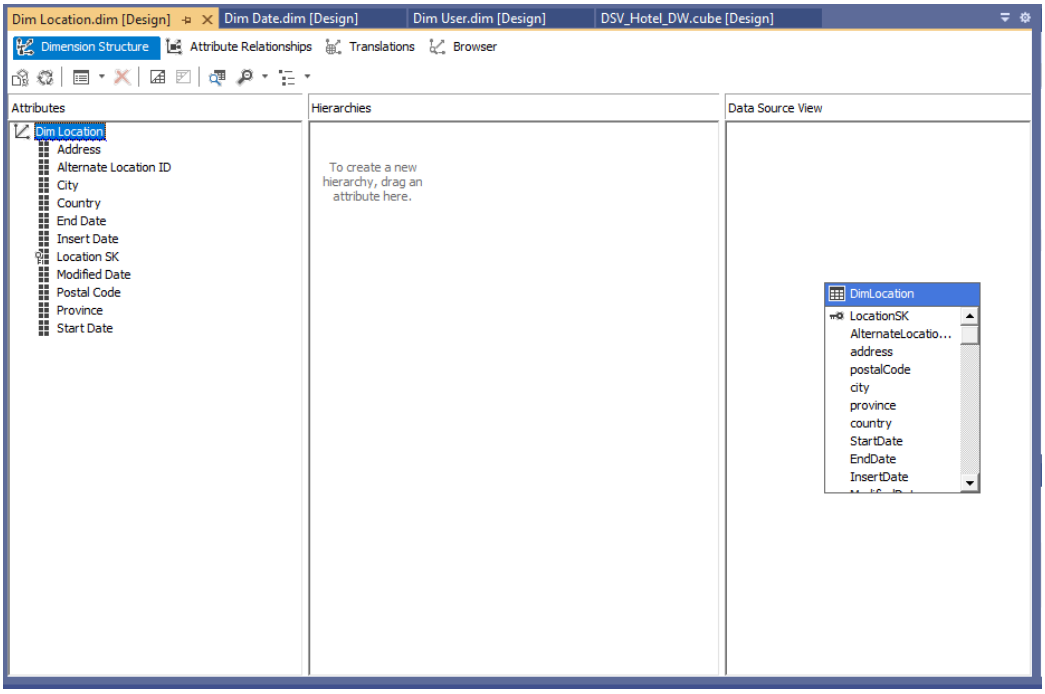
- *DimUser*



- *DimHotelCategory*

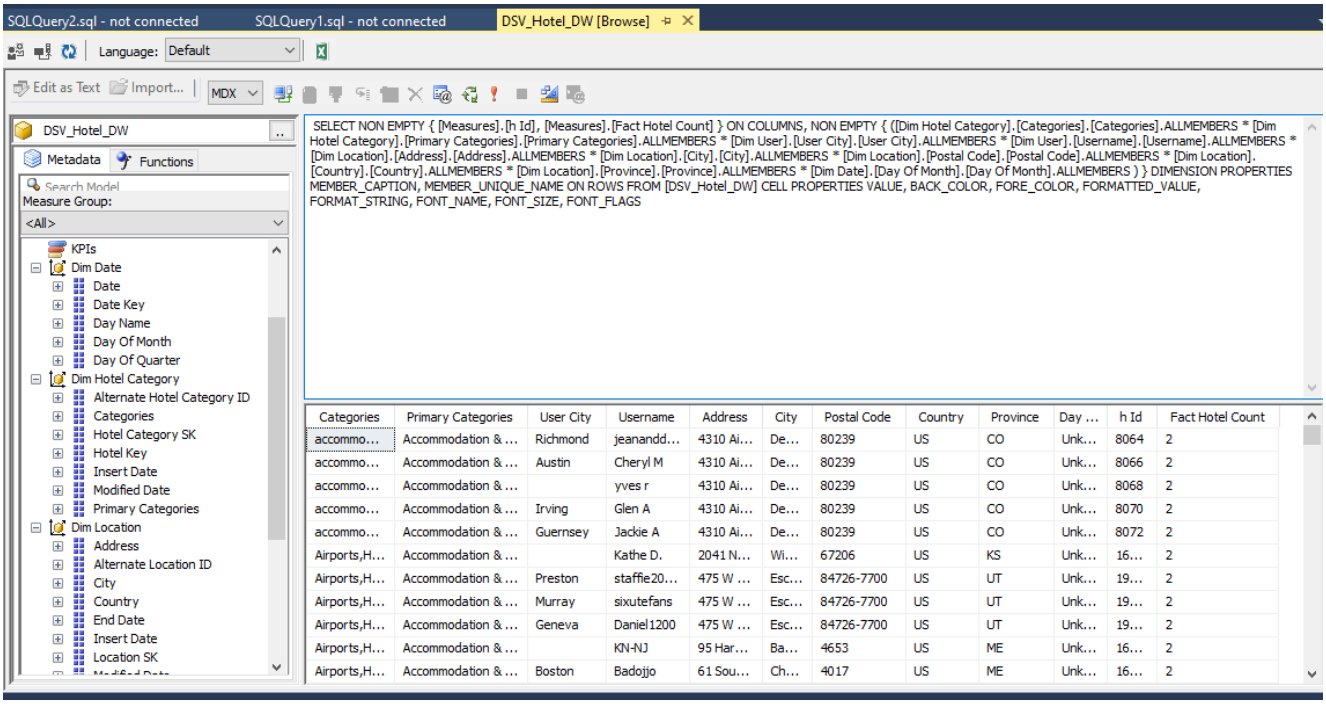


- *DimLocation*



Then Deploy the Cube.

After deploying of this Cube look like this,

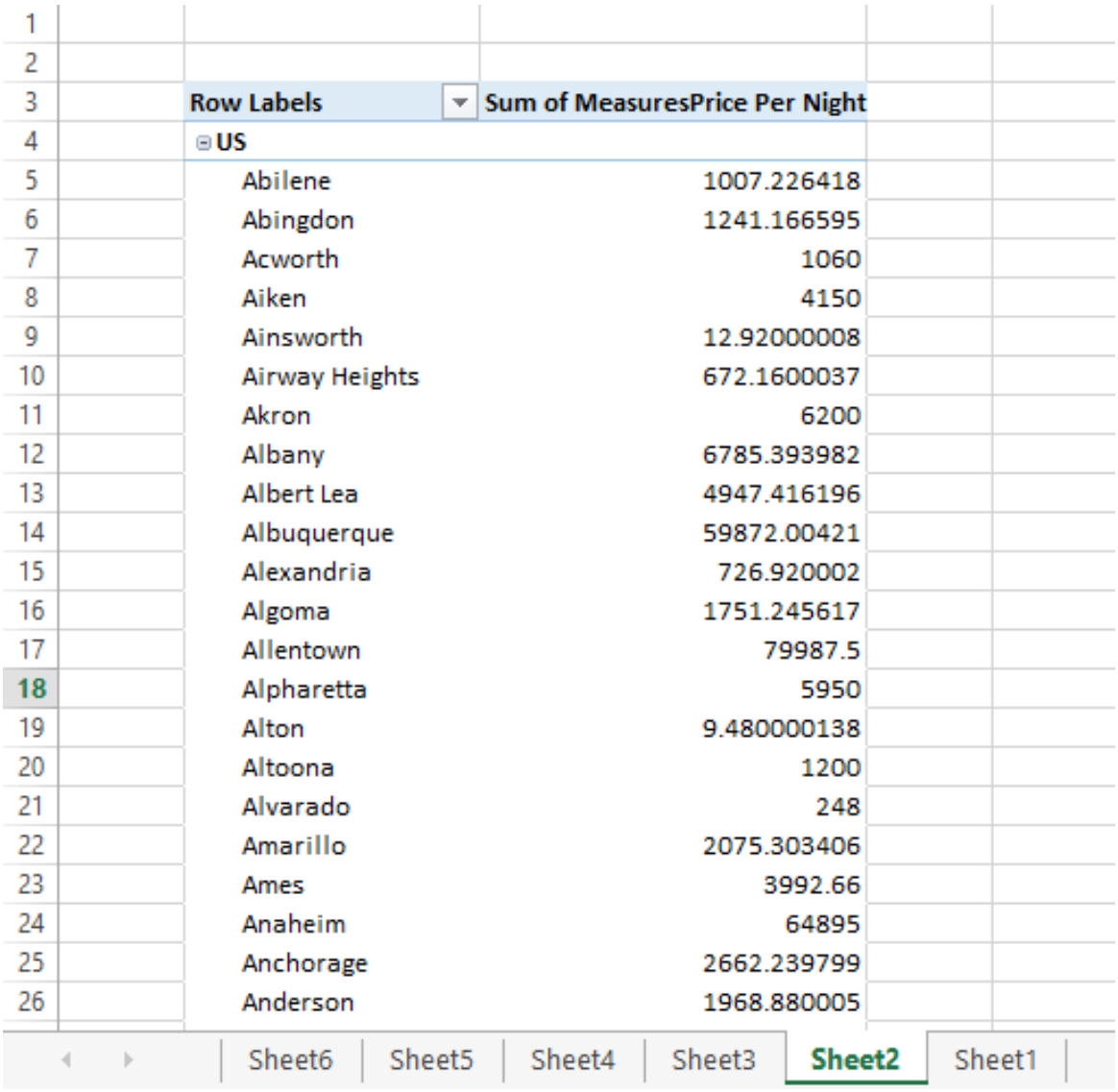

SQLQuery2.sql - not connected
SQLQuery1.sql - not connected
DSV_Hotel_DW [Browse]
Language: Default
Edit as Text
Import...
MDX
DSV_Hotel_DW
Metadata
Functions
Search Model
Measure Group:
<All>
KPIs
Dim Date
Date
Date Key
Day Name
Day Of Month
Day Of Quarter
Dim Hotel Category
Alternate Hotel Category ID
Categories
Hotel Category SK
Hotel Key
Insert Date
Modified Date
Primary Categories
Dim Location
Address
Alternate Location ID
City
Country
End Date
Insert Date
Location SK
SELECT NON EMPTY { [Measures].[h Id], [Measures].[Fact Hotel Count] } ON COLUMNS, NON EMPTY { ([Dim Hotel Category].[Categories].[Categories].ALLMEMBERS * [Dim Hotel Category].[Primary Categories].[Primary Categories].ALLMEMBERS * [Dim User].[User City].[User City].ALLMEMBERS * [Dim User].[Username].[Username].ALLMEMBERS * [Dim Location].[Address].[Address].ALLMEMBERS * [Dim Location].[City].[City].ALLMEMBERS * [Dim Location].[Postal Code].[Postal Code].ALLMEMBERS * [Dim Location].[Country].[Country].ALLMEMBERS * [Dim Location].[Province].[Province].ALLMEMBERS * [Dim Date].[Day Of Month].[Day Of Month].ALLMEMBERS) } DIMENSION PROPERTIES MEMBER_CAPTION, MEMBER_UNIQUE_NAME ON ROWS FROM [DSV_Hotel_DW] CELL PROPERTIES VALUE, BACK_COLOR, FORE_COLOR, FORMATTED_VALUE, FORMAT_STRING, FONT_NAME, FONT_SIZE, FONT_FLAGS
Categories | Primary Categories | User City | Username | Address | City | Postal Code | Country | Province | Day ... | h Id | Fact Hotel Count
accommo... | Accommodation & ... | Richmond | jeanandd... | 4310 Ai... | De... | 80239 | US | CO | Unk... | 8064 | 2
accommo... | Accommodation & ... | Austin | Cheryl M | 4310 Ai... | De... | 80239 | US | CO | Unk... | 8066 | 2
accommo... | Accommodation & ... | | yves r | 4310 Ai... | De... | 80239 | US | CO | Unk... | 8068 | 2
accommo... | Accommodation & ... | Irving | Glen A | 4310 Ai... | De... | 80239 | US | CO | Unk... | 8070 | 2
accommo... | Accommodation & ... | Guernsey | Jackie A | 4310 Ai... | De... | 80239 | US | CO | Unk... | 8072 | 2
Airports,H... | Accommodation & ... | | Kathe D. | 2041 N... | Wi... | 67206 | US | KS | Unk... | 16... | 2
Airports,H... | Accommodation & ... | Preston | staffie20... | 475 W ... | Esc... | 84726-7700 | US | UT | Unk... | 19... | 2
Airports,H... | Accommodation & ... | Murray | sixutefans | 475 W ... | Esc... | 84726-7700 | US | UT | Unk... | 19... | 2
Airports,H... | Accommodation & ... | Geneva | Daniel1200 | 475 W ... | Esc... | 84726-7700 | US | UT | Unk... | 19... | 2
Airports,H... | Accommodation & ... | | KN-NJ | 95 Har... | Ba... | 4653 | US | ME | Unk... | 16... | 2
Airports,H... | Accommodation & ... | Boston | Badojjo | 61 Sou... | Ch... | 4017 | US | ME | Unk... | 16... | 2

03. OLAP Operation

Using Excel Power Pivot, we can do all OLAP operation

- Roll Up

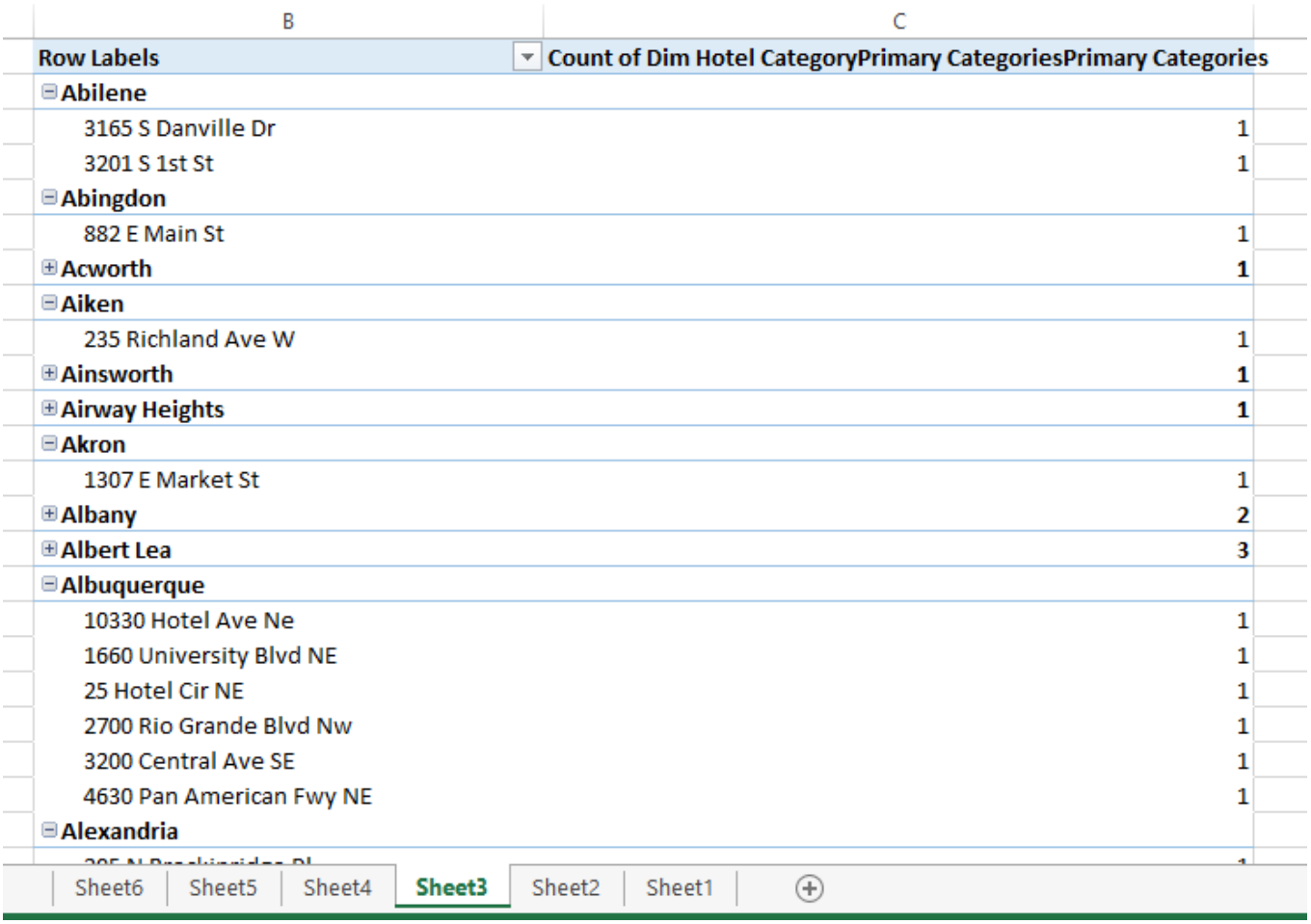
  The roll-up operation performs aggregation on a data cube, either by climbing up a hierarchy or by climbing down a hierarchy**.**



Row Labels	Sum of MeasuresPrice Per Night
US	
Abilene	1007.226418
Abingdon	1241.166595
Acworth	1060
Aiken	4150
Ainsworth	12.92000008
Airway Heights	672.1600037
Akron	6200
Albany	6785.393982
Albert Lea	4947.416196
Albuquerque	59872.00421
Alexandria	726.920002
Algoma	1751.245617
Allentown	79987.5
Alpharetta	5950
Alton	9.480000138
Altoona	1200
Alvarado	248
Amarillo	2075.303406
Ames	3992.66
Anaheim	64895
Anchorage	2662.239799
Anderson	1968.880005

- *Drill-Down*

The Drill down operation is the reverse of roll up. It navigates from less detailed data to more detailed data.

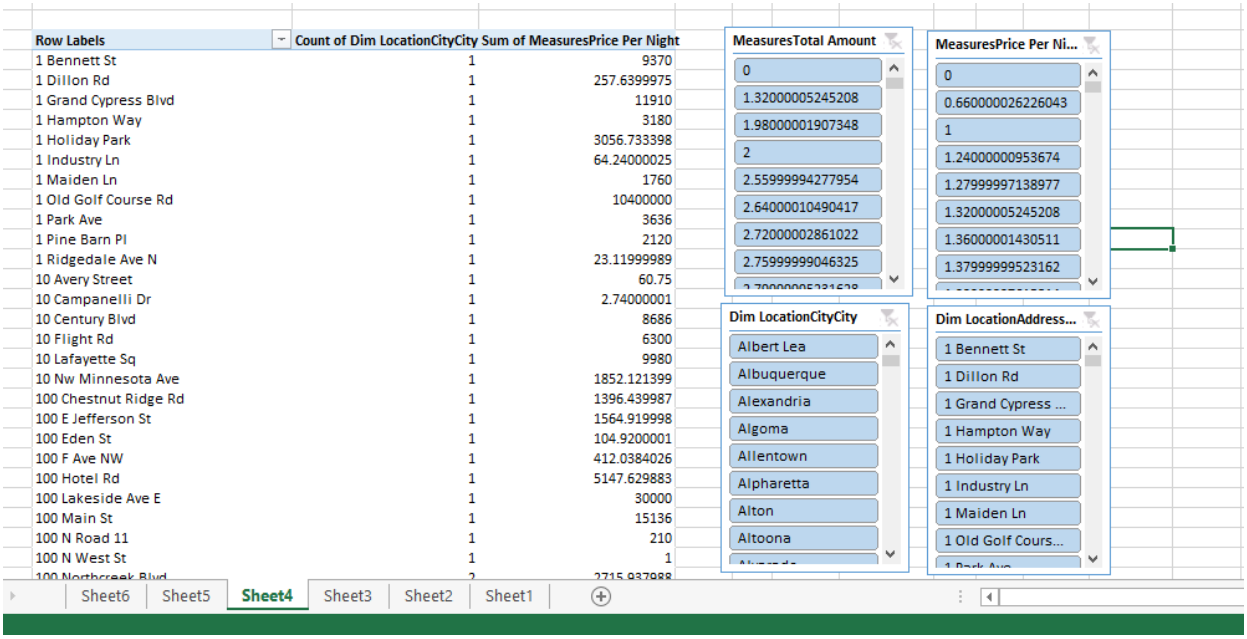


B	C
Row Labels	**Count of Dim Hotel CategoryPrimary CategoriesPrimary Categories**
Abilene	
3165 S Danville Dr	1
3201 S 1st St	1
Abingdon	
882 E Main St	1
Acworth	**1**
Aiken	
235 Richland Ave W	1
Ainsworth	**1**
Airway Heights	**1**
Akron	
1307 E Market St	1
Albany	**2**
Albert Lea	**3**
Albuquerque	
10330 Hotel Ave Ne	1
1660 University Blvd NE	1
25 Hotel Cir NE	1
2700 Rio Grande Blvd Nw	1
3200 Central Ave SE	1
4630 Pan American Fwy NE	1
Alexandria	

Sheet6 | Sheet5 | Sheet4 | **Sheet3** | Sheet2 | Sheet1

- *Slicing*

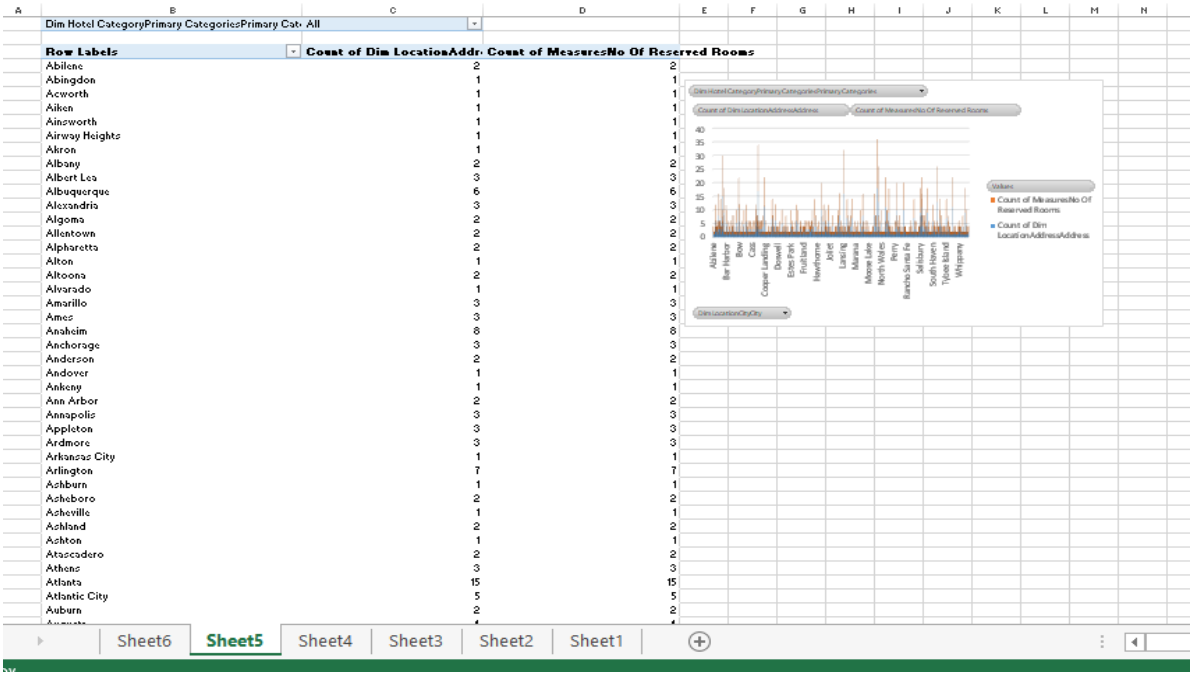
  Slice performs a selection on one dimension of the given cube, thus resulting in a sub cube.



Row Labels	Count of Dim LocationCityCity	Sum of MeasuresPrice Per Night
1 Bennett St	1	9370
1 Dillon Rd	1	257.6399975
1 Grand Cypress Blvd	1	11910
1 Hampton Way	1	3180
1 Holiday Park	1	3056.733398
1 Industry Ln	1	64.24000025
1 Maiden Ln	1	1760
1 Old Golf Course Rd	1	10400000
1 Park Ave	1	3636
1 Pine Barn Pl	1	2120
1 Ridgedale Ave N	1	23.11999989
10 Avery Street	1	60.75
10 Campanelli Dr	1	2.74000001
10 Century Blvd	1	8686
10 Flight Rd	1	6300
10 Lafayette Sq	1	9980
10 Nw Minnesota Ave	1	1852.121399
100 Chestnut Ridge Rd	1	1396.439987
100 E Jefferson St	1	1564.919998
100 Eden St	1	104.9200001
100 F Ave NW	1	412.0384026
100 Hotel Rd	1	5147.629883
100 Lakeside Ave E	1	30000
100 Main St	1	15136
100 N Road 11	1	210
100 N West St	1	1
100 Northcreek Blvd	2	2715.937988

- Dice

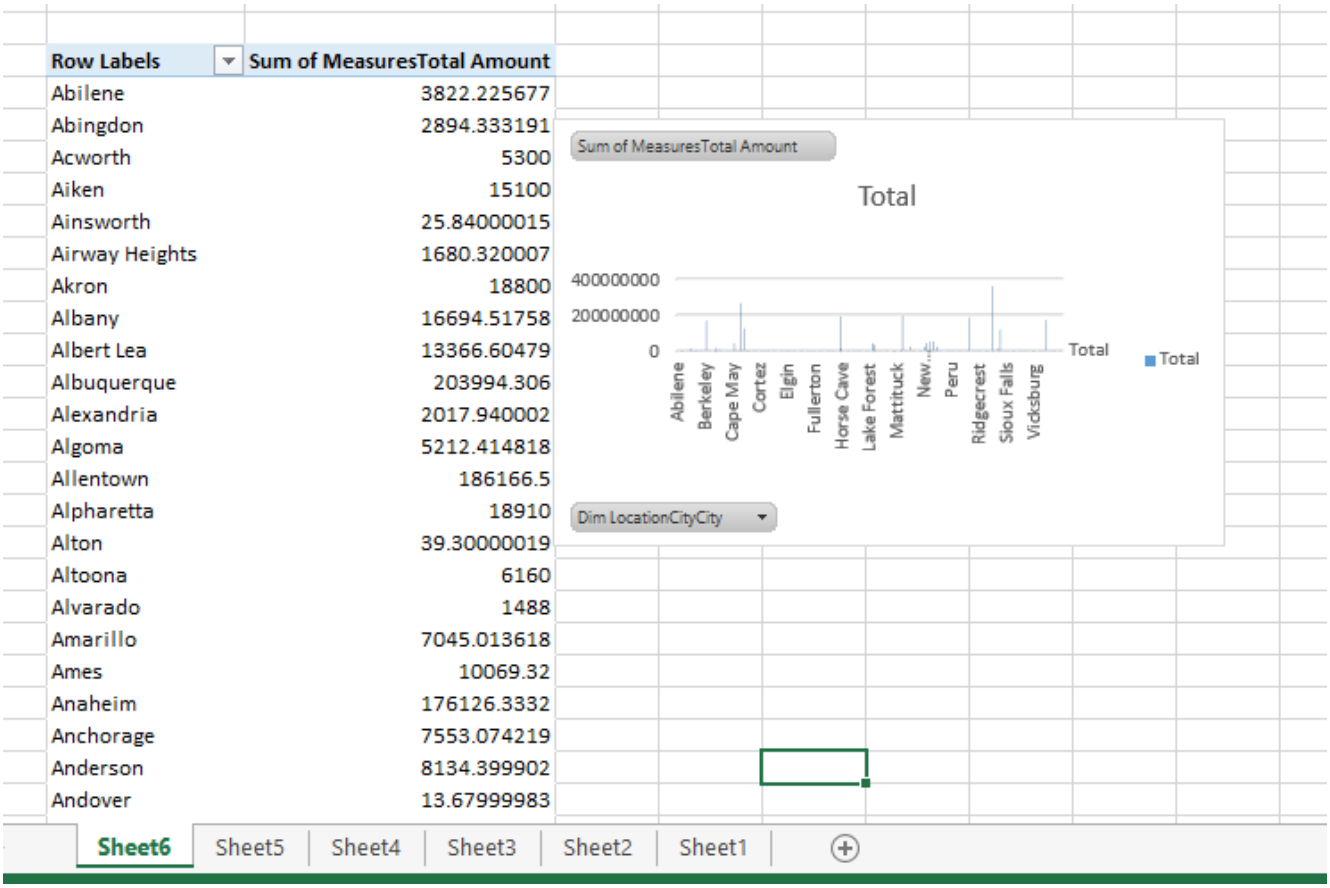
  The dice operation defines a sub cube by performing a selection on two or more dimensions.



Dim Hotel CategoryPrimary CategoriesPrimary Cat: All

Row Labels	Count of Dim LocationAddr	Count of MeasuresNo Of Reserved Rooms
Abilene	2	2
Abingdon	1	1
Acworth	1	1
Aiken	1	1
Ainsworth	1	1
Airway Heights	1	1
Akron	1	1
Albany	2	2
Albert Lea	3	3
Albuquerque	6	6
Alexandria	3	3
Algoma	2	2
Allentown	2	2
Alpharetta	2	2
Alton	1	1
Altoona	2	2
Alvarado	1	1
Amarillo	3	3
Ames	3	3
Anaheim	8	8
Anchorage	3	3
Anderson	2	2
Andover	1	1
Ankeny	1	1
Ann Arbor	2	2
Annapolis	3	3
Appleton	3	3
Ardmore	3	3
Arkansas City	1	1
Arlington	7	7
Ashburn	1	1
Asheboro	2	2
Asheville	1	1
Ashland	2	2
Ashton	1	1
Atascadero	2	2
Athens	3	3
Atlanta	15	15
Atlantic City	5	5
Auburn	2	2

- *Pivot*



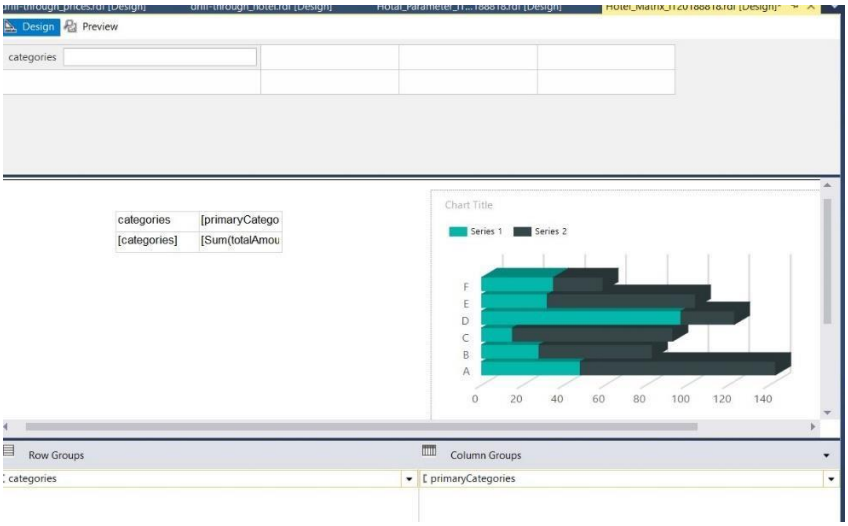
Row Labels	Sum of MeasuresTotal Amount
Abilene	3822.225677
Abingdon	2894.333191
Acworth	5300
Aiken	15100
Ainsworth	25.84000015
Airway Heights	1680.320007
Akron	18800
Albany	16694.51758
Albert Lea	13366.60479
Albuquerque	203994.306
Alexandria	2017.940002
Algoma	5212.414818
Allentown	186166.5
Alpharetta	18910
Alton	39.30000019
Altoona	6160
Alvarado	1488
Amarillo	7045.013618
Ames	10069.32
Anaheim	176126.3332
Anchorage	7553.074219
Anderson	8134.399902
Andover	13.67999983

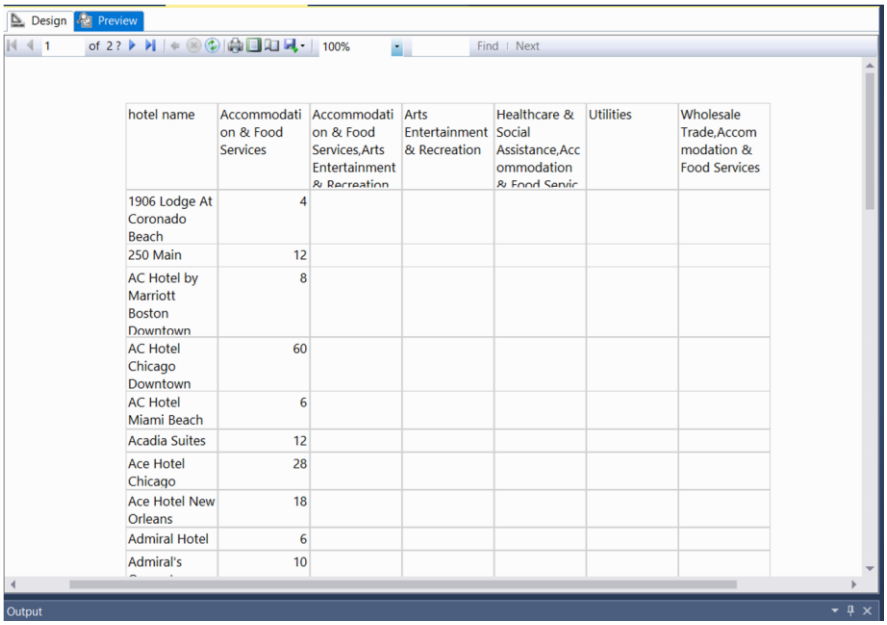
04. SSRS Reports

Report 01:

Report with Matrix

In here yearly Hotel report Hotel name , Primary category and Price_Per_Room





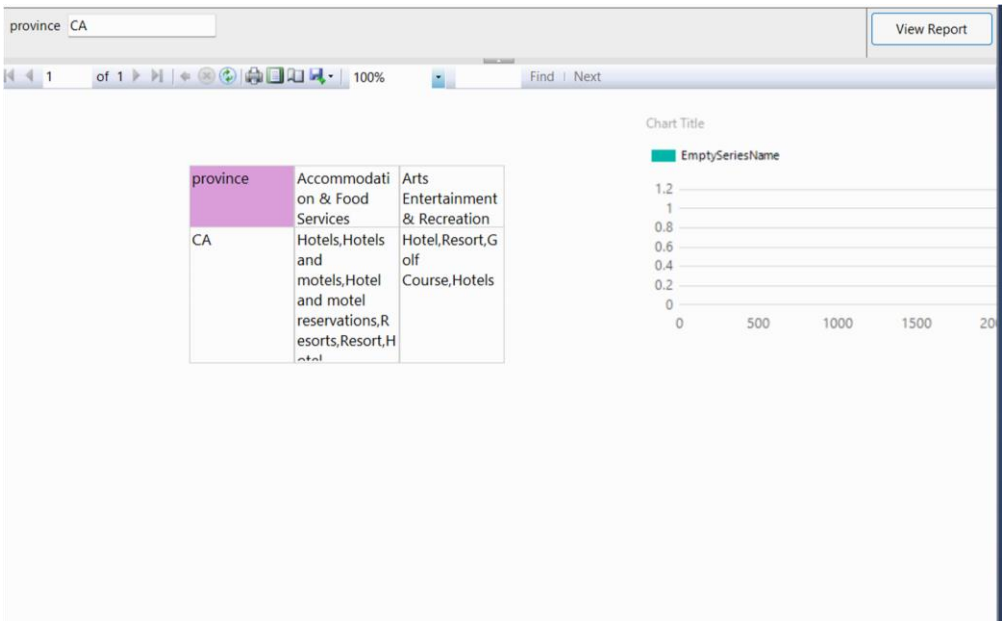
hotel name	Accommodation & Food Services	Accommodation & Food Services,Arts Entertainment & Recreation	Arts Entertainment & Recreation	Healthcare & Social Assistance,Accommodation & Food Servic	Utilities	Wholesale Trade,Accommodation & Food Services
1906 Lodge At Coronado Beach	4					
250 Main	12					
AC Hotel by Marriott Boston Downtown	8					
AC Hotel Chicago Downtown	60					
AC Hotel Miami Beach	6					
Acadia Suites	12					
Ace Hotel Chicago	28					
Ace Hotel New Orleans	18					
Admiral Hotel	6					
Admiral's	10					

Report 2:

Report with more than one parameter this report has

3 parameters

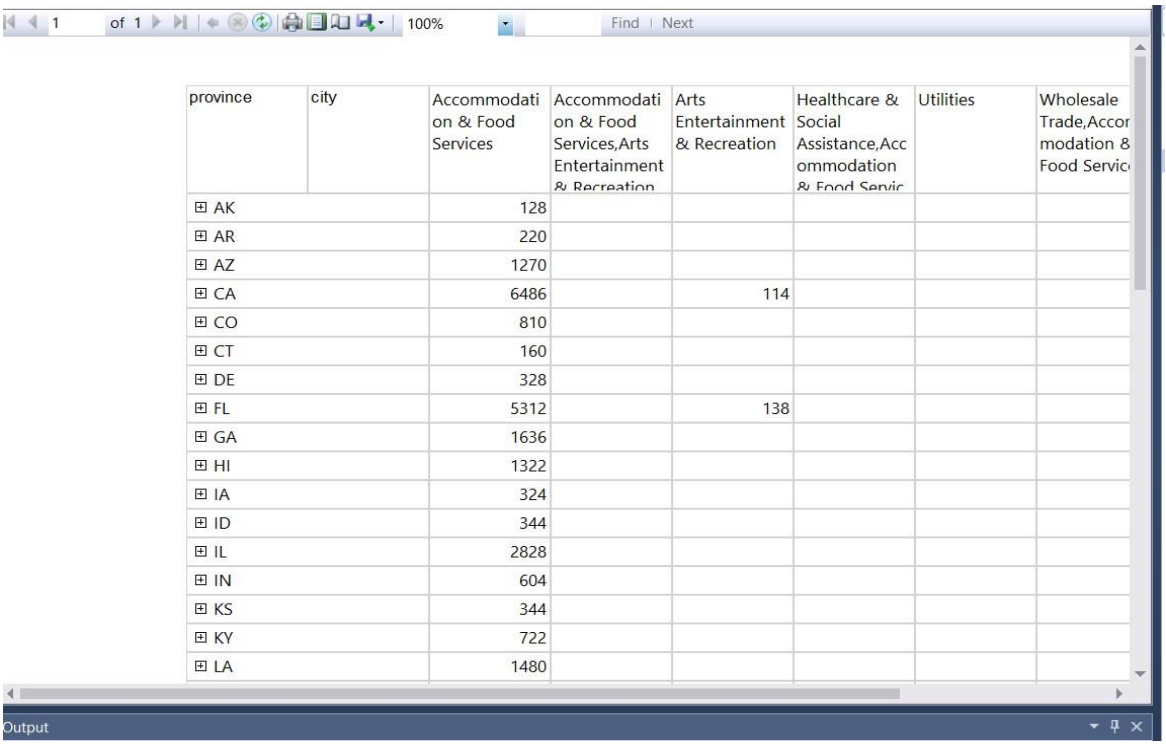
- Categories
- Primary Categories
- Province



Report 3:

SSRS drill-down report

This report is yearly total price of the hotel.



province	city	Accommodation & Food Services	Accommodation & Food Services,Arts Entertainment & Recreation	Arts Entertainment & Recreation	Healthcare & Social Assistance,Accommodation & Food Servic	Utilities	Wholesale Trade,Accommodation & Food Servic
⊞ AK		128					
⊞ AR		220					
⊞ AZ		1270					
⊞ CA		6486		114			
⊞ CO		810					
⊞ CT		160					
⊞ DE		328					
⊞ FL		5312		138			
⊞ GA		1636					
⊞ HI		1322					
⊞ IA		324					
⊞ ID		344					
⊞ IL		2828					
⊞ IN		604					
⊞ KS		344					
⊞ KY		722					
⊞ LA		1480					

Report 4:

SSRS drill-through report

In this repot link through the Hotel_ID (h_id)

h id	province
1	CA
2	CA
3	CA
4	MD
5	MD
6	MD
7	MD
8	MD
9	MD
10	WA
11	WA
12	WA
13	WA
14	WA
15	WA
16	MO
17	MO
18	MO
19	MO