

SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY
Malabe



Data Warehousing And Business Intelligence
IT 3021
Assignment 02

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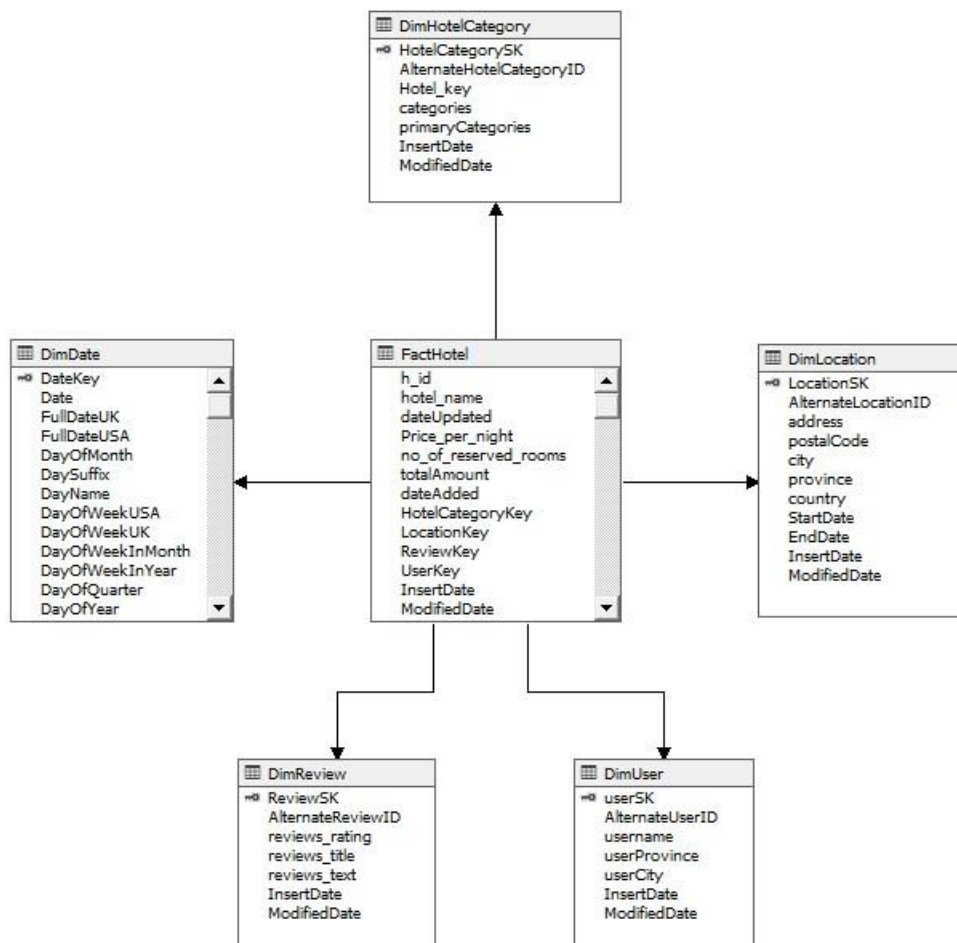
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Data Source

For this purpose use IT20188818_DW as Data warehouse which implemented in last Assignment (Assignment1).

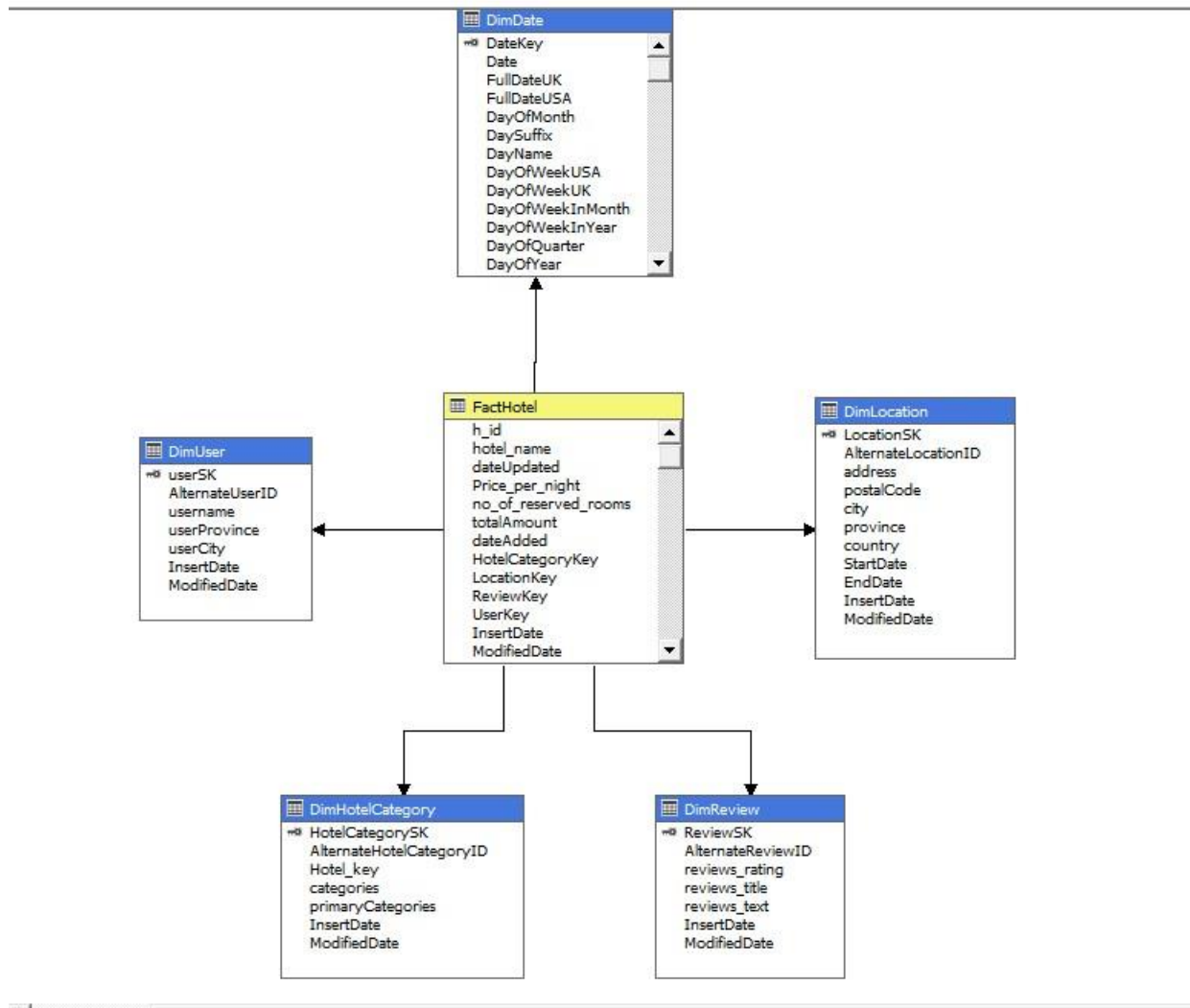
SSAS Cube

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



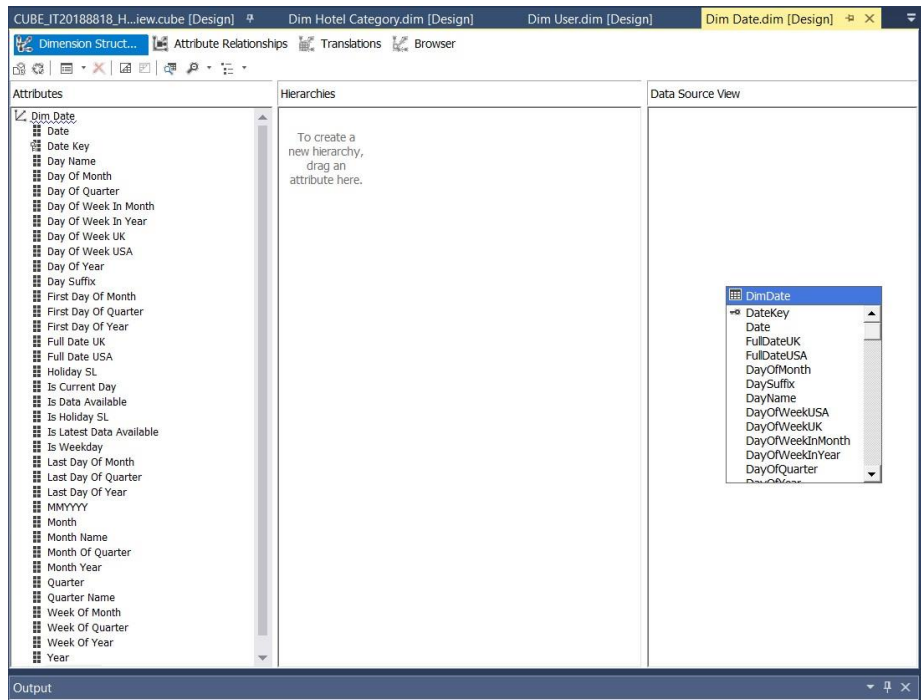
Then create Data Cube,

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

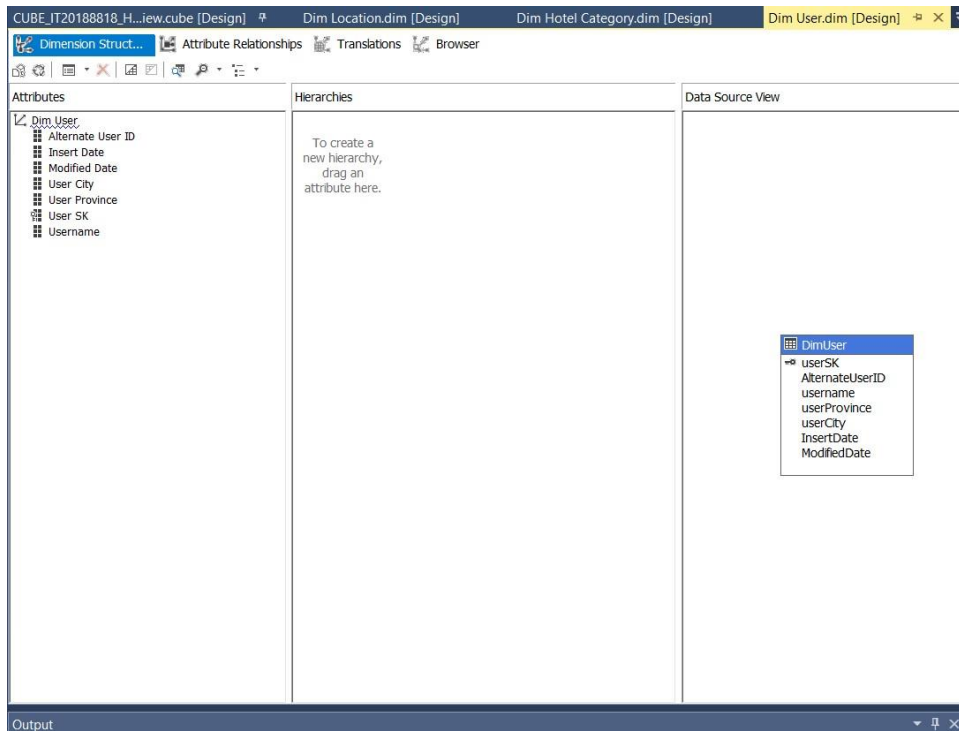


After that configure all the dimension with proper way.

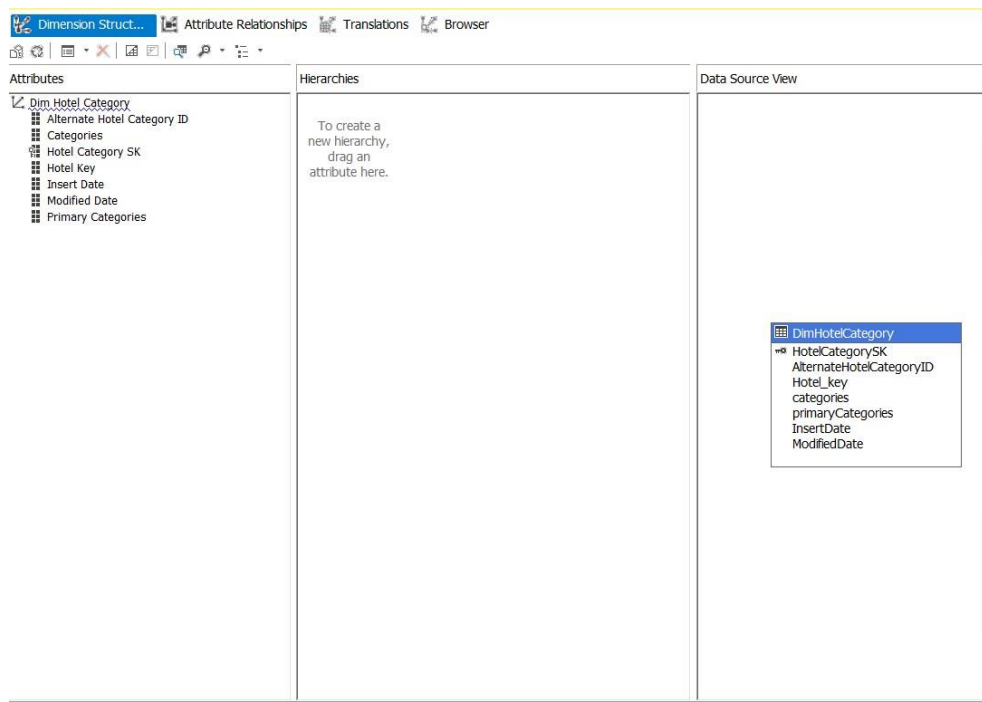
- DimDate



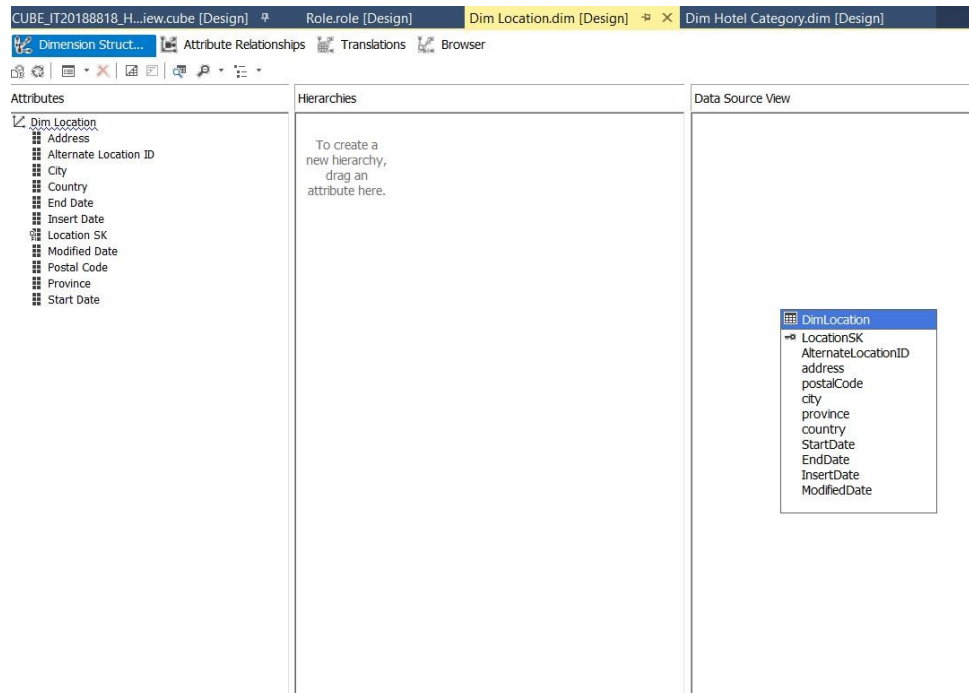
- DimUser



- DimHotelCategory



- DimLocation



Then Deploy the Cube.

Create KPI

KPI Use for monitoring measures.

CUBE_IT20188818_H...iew.cube [Design] Role.role [Design] Dim Location.dim [Design] Dim Hotel Category.dim [Design]

Cube Struct... Dimension Usage Calculations **KPIs** Actions Partitions Aggregations Perspectives Translations Browser

KPI Organizer
 KPI Payment

Calculation Tools
 Metadata Functions
 Search Model
 Measure Group: <All>
 Fact Hotel Count
 h Id
 No Of Reserved R
 Price Per Night
 Total Amount
 Txn Process Time
 Dim Date
 Dim Hotel Category
 Dim Location

KPI
 Name: KPI Payment
 Associated measure group: Fact Hotel
Value Expression
 [Measures].[Price Per Night]
Goal Expression
 [Measures].[Total Amount] > 1500
Status
 Status indicator: Road signs
 Status expression:
Trend
 Trend indicator: Standard arrow
 Trend expression:

Output
 Show output from: Build
 Error List Output

Solution Explorer
 Search Solution Explorer (Ctrl+;)

Solution TT20188818_HotelReview' (1 project)
 IT20188818_HotelReview
 Data Sources
 DS_IT20188818_DW.ds
 Data Source Views
 DSV_IT20188818_DW.dsv
 Cubes
 CUBE_IT20188818_HotelReview.cube
 Dimensions
 Dim User.dim
 Dim Date.dim
 Dim Hotel Category.dim
 Dim Location.dim
 Mining Structures
 Roles
 Role.role
 Assemblies
 Miscellaneous

Solution Explorer Team Explorer Properties
 Ln 1 Col 33 Ch 33 INS Add to Source Control

After deploying of this Cube look like this,

CUBE_IT20188818_HotelReview [Browse]

Language: Default

Edit as Text Import... MDX

CUBE_IT20188818_HotelReview

Metadata Functions

Search Model

Measure Group:

<All>

CUBE_IT20188818_HotelReview

- Measures
 - Fact Hotel
 - Fact Hotel Count
 - h Id
 - No Of Reserved Rooms
 - Price Per Night
 - Total Amount
 - Txn Process Time Hours
 - KPIs
 - KPI Payment
 - Value
 - Goal
- 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

```
SELECT NON EMPTY { [Measures].[Fact Hotel Count], [Measures].[Total Amount], KPIValue("KPI Payment"), KPIGoal("KPI Payment") } ON COLUMNS, NON EMPTY { ([Dim Location].[Address], [Address].ALLMEMBERS ) } DIMENSION PROPERTIES MEMBER_CAPTION, MEMBER_UNIQUE_NAME ON ROWS FROM [CUBE_IT20188818_HotelReview] CELL PROPERTIES VALUE, BACK_COLOR, FORE_COLOR, FORMATTED_VALUE, FORMAT_STRING, FONT_NAME, FONT_SIZE, FONT_FLAGS
```

Address	Fact Hotel Count	Total Amount	Price Per Night	KPI Payment Goal
1 Benn...	26	30650	9370	True
1 Dillon...	16	817.419998...	257.6399974...	False
1 Gran...	42	35620	11910	True
1 Ham...	4	11208	3180	True
1 Hold...	10	6071.80029...	3056.733398...	True
1 Indu...	16	184.280000...	64.24000024...	False
1 Maid...	14	3760	1760	True
1 Old G...	6	24400000	10400000	True
1 Park ...	4	9118	3636	True
1 Pine ...	4	4240	2120	True
1 Ridg...	4	57.8200016...	23.11999988...	False
10 Ave...	2	364.5	60.75	False
10 Ca...	4	13.6799998...	2.740000009...	False
10 Cen...	2	26058	8686	True

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 Measures	Price 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	
Andover	2.74000001	
Ankeny	2120	

Sheet2

Sheet1



Drill-Down

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	
205 N Breckinridge Pl	1
2720 N MacArthur Dr	1
5975 Richmond Hwy	1

The Drill

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

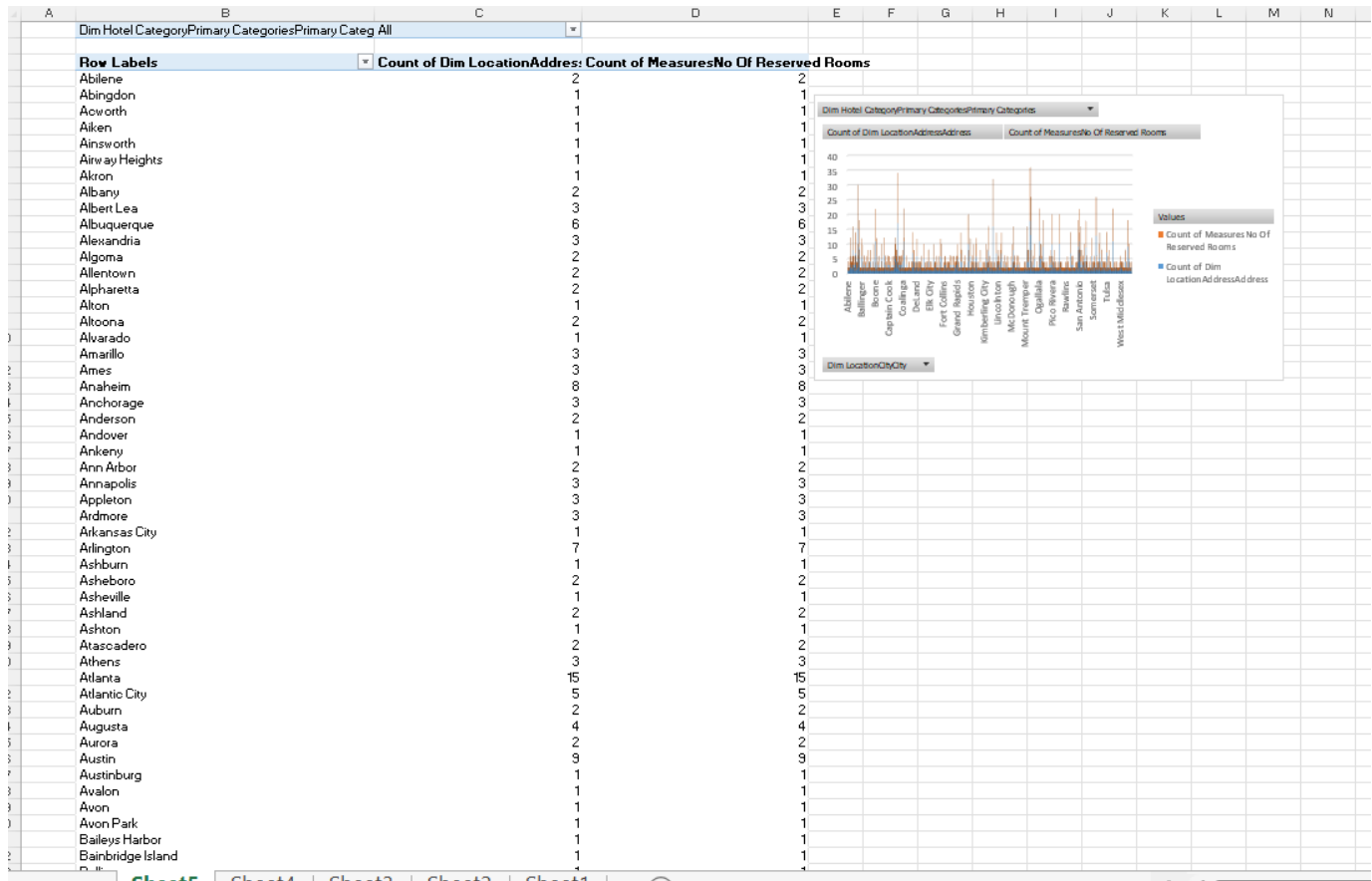
Slicing

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

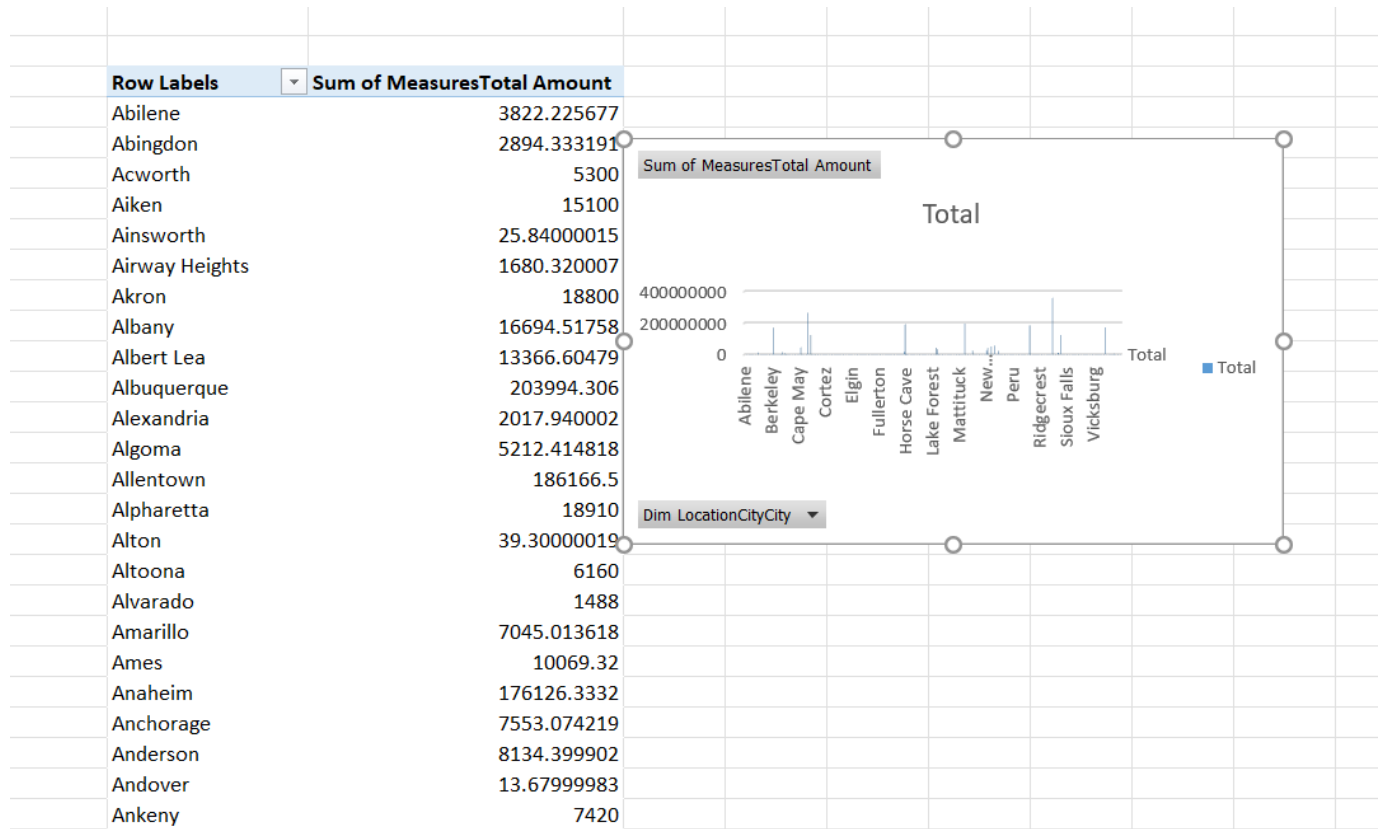
	B	C	D	E	F	G	H	I	J	K	L
1											
2											
3	Row Labels	Count of Dim LocationCityCity	Sum of MeasuresPrice Per Night		MeasuresTotal A...			MeasuresPrice Pe...			
4	1 Bennett St	1	9370		0			0			
5	1 Dillon Rd	1	257.6399975		1.32000005245208			0.660000026226043			
6	1 Grand Cypress Blvd	1	11910		1.98000001907348			1			
7	1 Hampton Way	1	3180		2			1.24000000953674			
8	1 Holiday Park	1	3056.733398		2.55999994277954			1.27999997138977			
9	1 Industry Ln	1	64.24000025		2.64000010490417			1.32000005245208			
10	1 Maiden Ln	1	1760		2.72000002861022			1.36000001430511			
11	1 Old Golf Course Rd	1	10400000		2.75999999046325			1.37999999523162			
12	1 Park Ave	1	3636								
13	1 Pine Barn Pl	1	2120								
14	1 Ridgedale Ave N	1	23.11999989								
15	10 Avery Street	1	60.75								
16	10 Campanelli Dr	1	2.74000001								
17	10 Century Blvd	1	8686								
18	10 Flight Rd	1	6300								
19	10 Lafayette Sq	1	9980								
20	10 Nw Minnesota Ave	1	1852.121399								
21	100 Chestnut Ridge Rd	1	1396.439987								
22	100 E Jefferson St	1	1564.919998								
23	100 Eden St	1	104.9200001								
24	100 F Ave NW	1	412.0384026								
25	100 Hotel Rd	1	5147.629883								
26	100 Lakeside Ave E	1	30000								
27	100 Main St	1	15136								
28	100 N Road 11	1	210								

Dice

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



Pivot

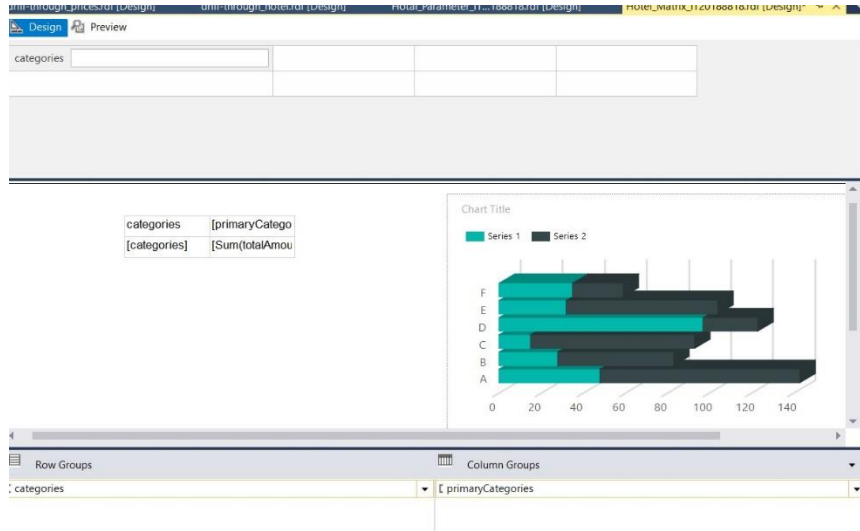


SSRS Reports

Report 01:

Report with Matrix

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



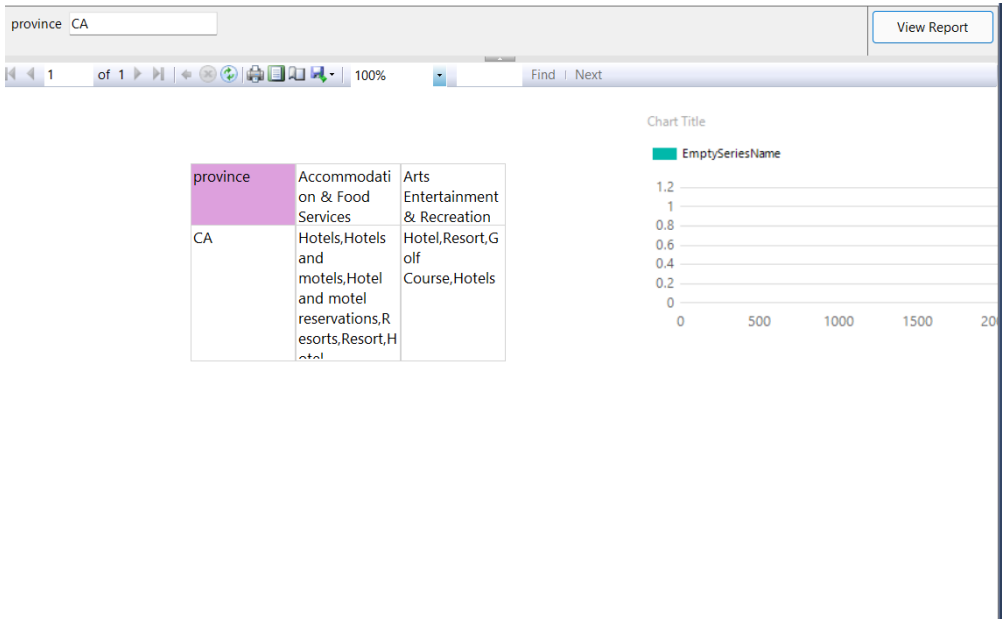
The screenshot shows the SSRS Report Designer interface in 'Preview' mode. The data table is displayed with the following columns: 'hotel name', 'Accommodati on & Food Services', 'Accommodati on & Food Services,Arts Entertainment & Recreation', 'Arts Entertainment & Recreation', 'Healthcare & Social Assistance,Acc ommodation & Food Servic', 'Utilities', and 'Wholesale Trade,Accommodation & Food Services'. The table has the following data:

hotel name	Accommodati on & Food Services	Accommodati on & Food Services,Arts Entertainment & Recreation	Arts Entertainment & Recreation	Healthcare & Social Assistance,Acc ommodation & 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.

1 of 1 100% Find | Next

province	city	Accommodati on & Food Services	Accommodati on & Food Services,Arts Entertainment & Recreation	Arts Entertainment & Recreation	Healthcare & Social Assistance,Acc ommodation & Food Servic	Utilities	Wholesale Trade,Accor modation & Food Service
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					

Output

Report 4:

SSRS drill-through report

In this report 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