

SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Malabe



Data Warehousing And Business Intelligence

IT 3021

Assignment 02

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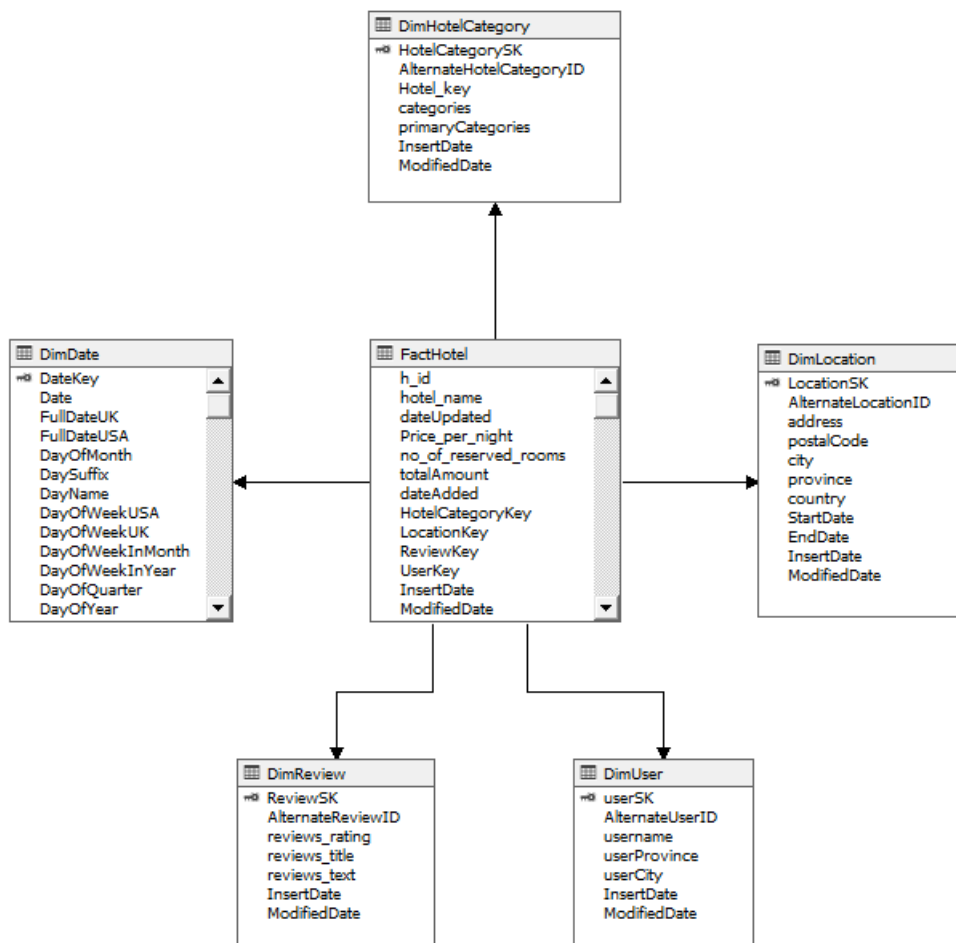
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Data Source

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

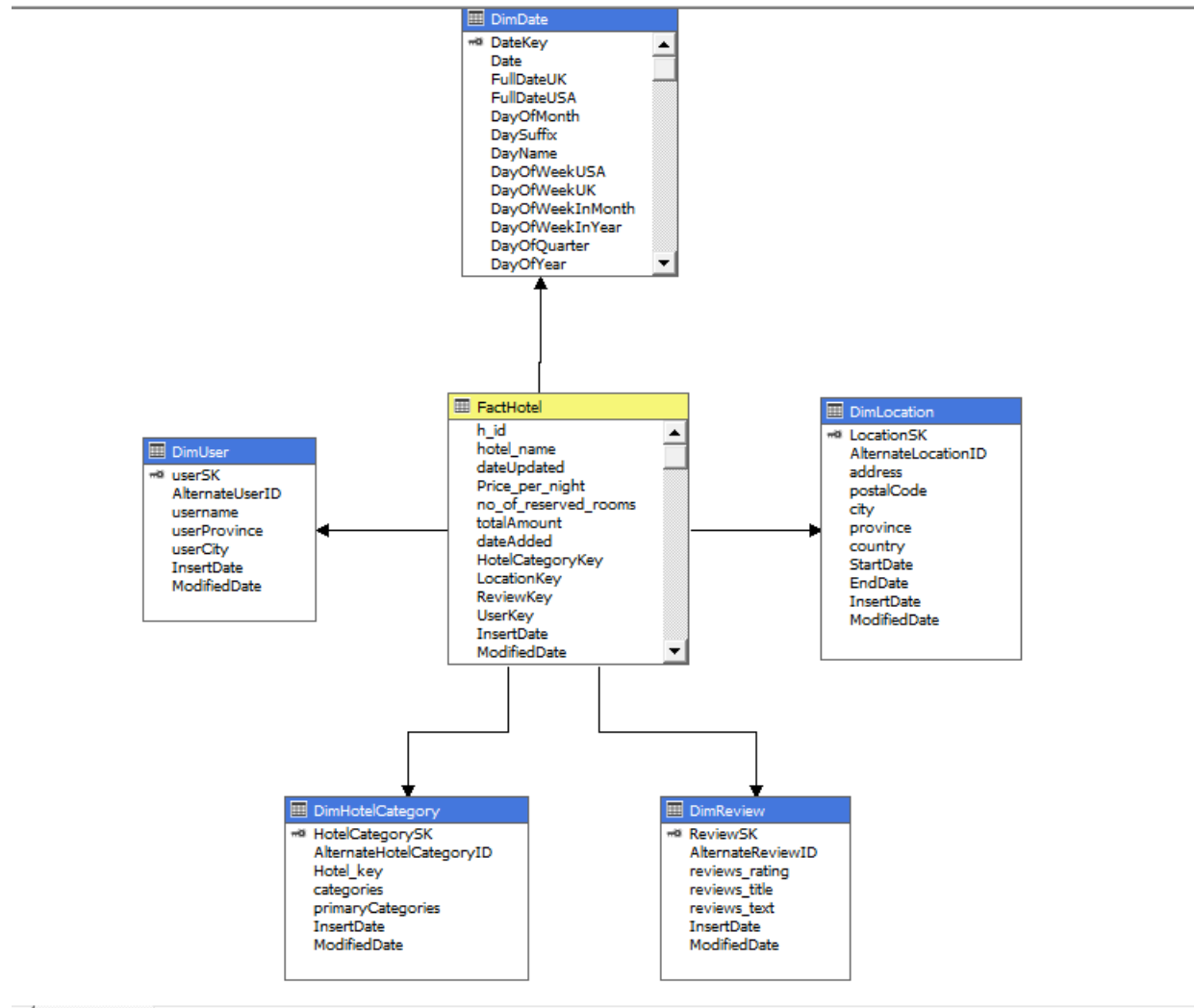
SSAS Cube

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



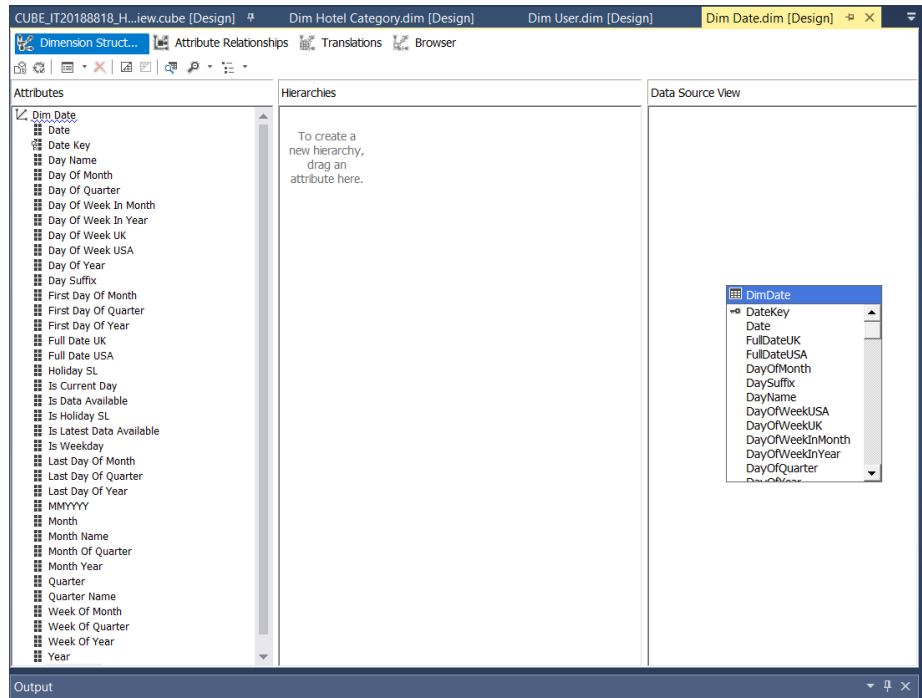
Then create Data Cube,

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

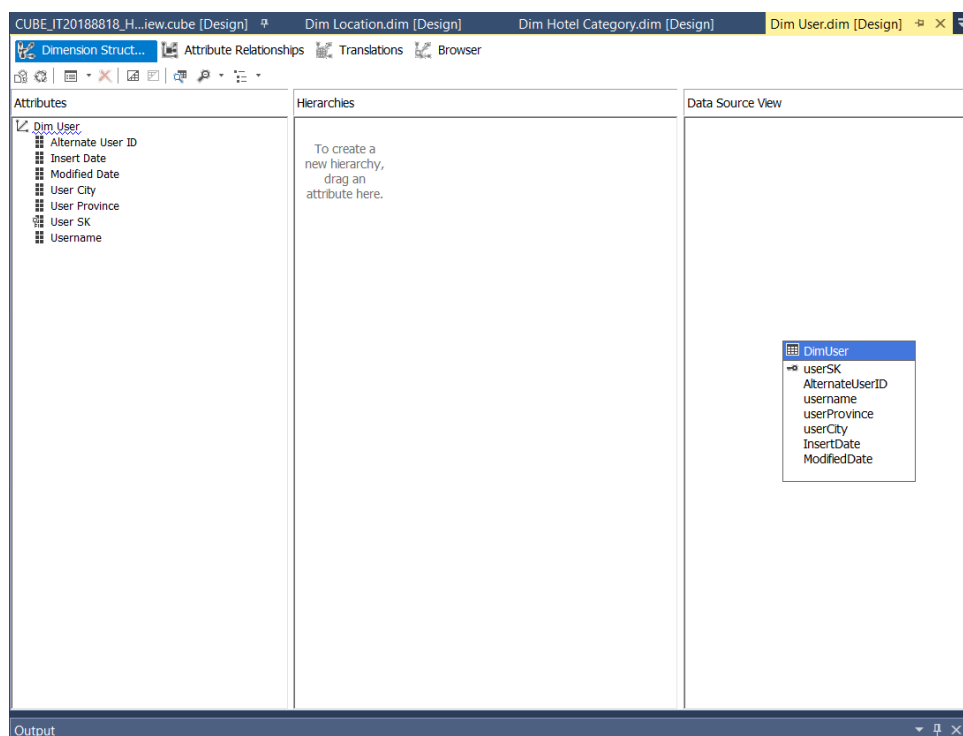


After that configure all the dimension with proper way.

- DimDate



- DimUser



- DimHotelCategory

The screenshot shows the Dimension Structure tool interface. The top menu bar includes 'Dimension Struct...', 'Attribute Relationships', 'Translations', and 'Browser'. Below the menu is a toolbar with various icons. The main workspace is divided into three panes: 'Attributes', 'Hierarchies', and 'Data Source View'. The 'Attributes' pane on the left lists the attributes for the 'Dim Hotel Category' dimension: 'Alternate Hotel Category ID', 'Categories', 'Hotel Category SK', 'Hotel Key', 'Insert Date', 'Modified Date', and 'Primary Categories'. The 'Hierarchies' pane in the center contains the text: 'To create a new hierarchy, drag an attribute here.' The 'Data Source View' pane on the right displays a preview of the dimension's data, showing a table with columns: 'DimHotelCategory', 'HotelCategorySK', 'AlternateHotelCategoryID', 'Hotel_key', 'categories', 'primaryCategories', 'InsertDate', and 'ModifiedDate'.

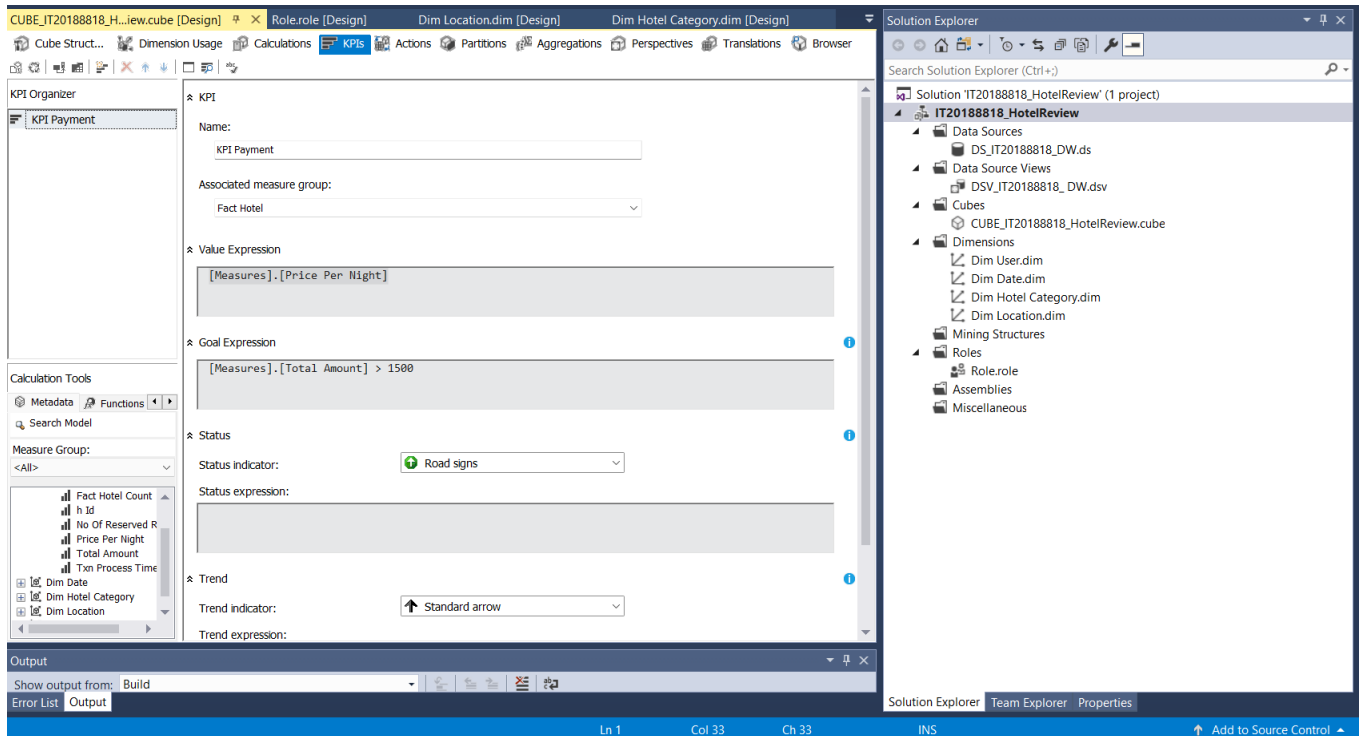
- DimLocation

The screenshot shows the Dimension Structure tool interface with multiple tabs open at the top: 'CUBE_IT2018818_H...iew.cube [Design]', 'Role.role [Design]', 'Dim Location.dim [Design]', and 'Dim Hotel Category.dim [Design]'. The 'Dim Location.dim [Design]' tab is active. The interface layout is identical to the previous screenshot, with 'Attributes', 'Hierarchies', and 'Data Source View' panes. The 'Attributes' pane lists attributes for 'Dim Location': 'Address', 'Alternate Location ID', 'City', 'Country', 'End Date', 'Insert Date', 'Location SK', 'Modified Date', 'Postal Code', 'Province', and 'Start Date'. The 'Hierarchies' pane contains the same text: 'To create a new hierarchy, drag an attribute here.' The 'Data Source View' pane shows a preview of the 'DimLocation' dimension data with columns: 'DimLocation', 'LocationSK', 'AlternateLocationID', 'address', 'postalCode', 'city', 'province', 'country', 'StartDate', 'EndDate', 'InsertDate', and 'ModifiedDate'.

Then Deploy the Cube.

Create KPI

KPI Use for monitoring measures.



After deploying of this Cube look like this,

The screenshot shows a BI tool interface for a cube named **CUBE_IT20188818_HotelReview**. The interface includes a metadata pane on the left, a central query editor, and a data grid at the bottom.

Metadata Pane (Left):

- 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

Query Editor (Center):

```
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
```

Data Grid (Bottom):

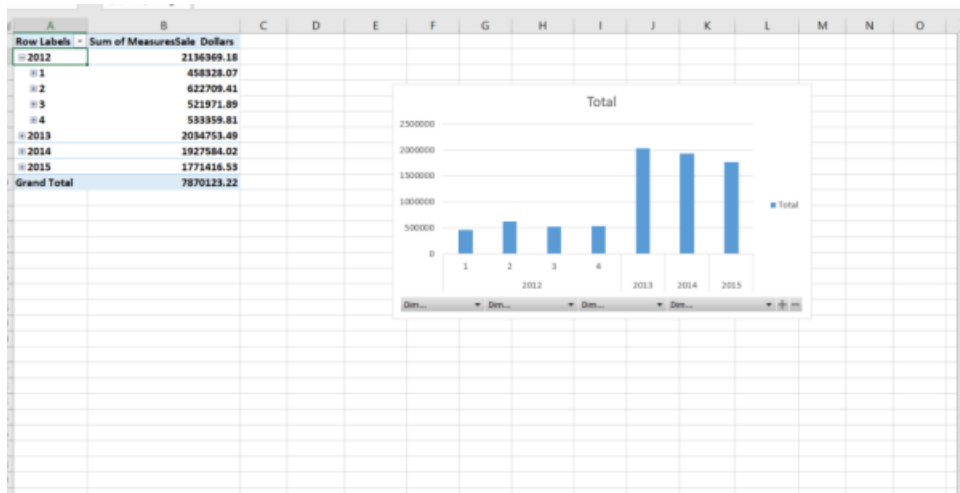
Address	Fact Hotel Count	Total Amount	Price Per Night	KPI Payment Goal
1 Benn...	26	30650	9370	True
1 Dillon...	16	817.419998...	257.6399974...	False
1 Gran...	42	35620	11910	True
1 Ham...	4	11208	3180	True
1 Hold...	10	6071.80029...	3056.733398...	True
1 Indu...	16	184.280000...	64.24000024...	False
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 Rldg...	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

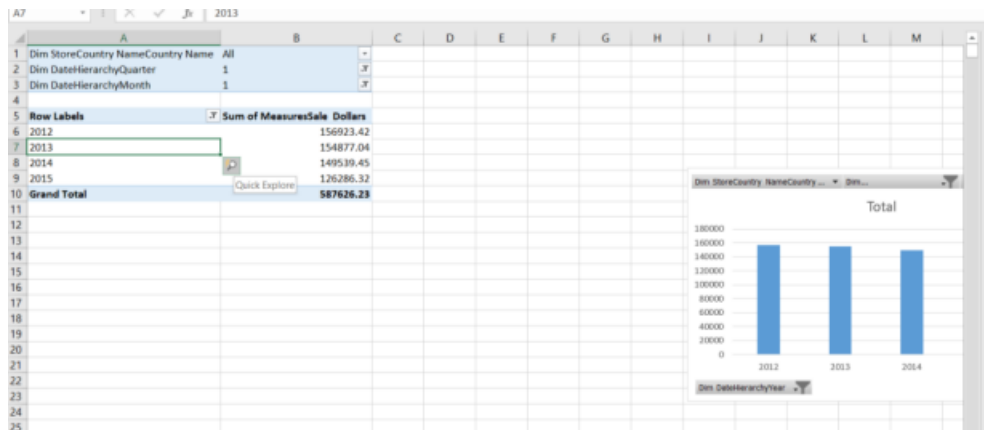
□ Roll Up

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



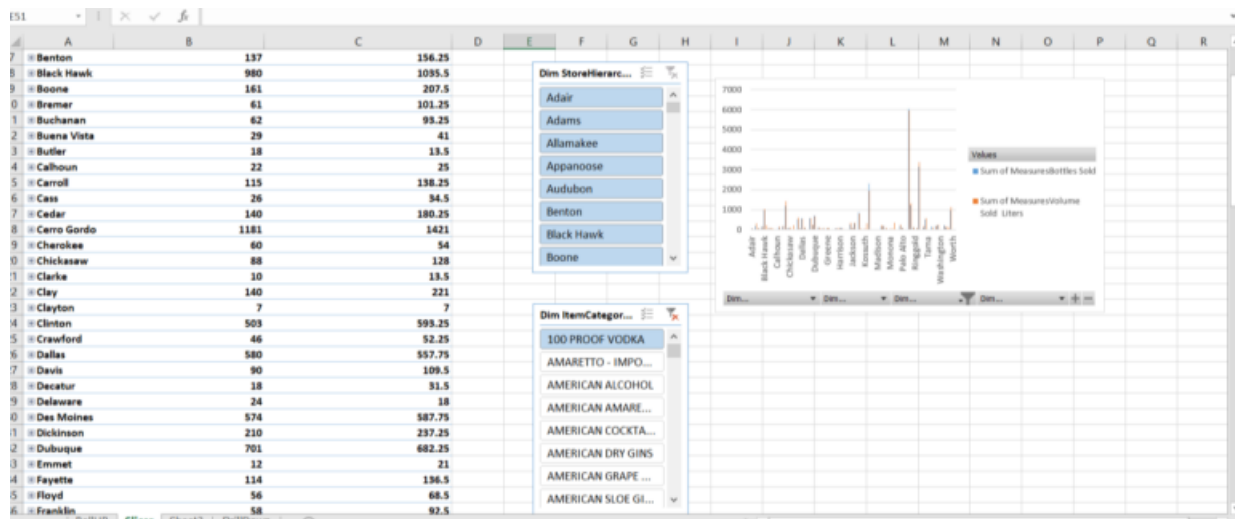
□ Drill-Down

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.



❑ Dice

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

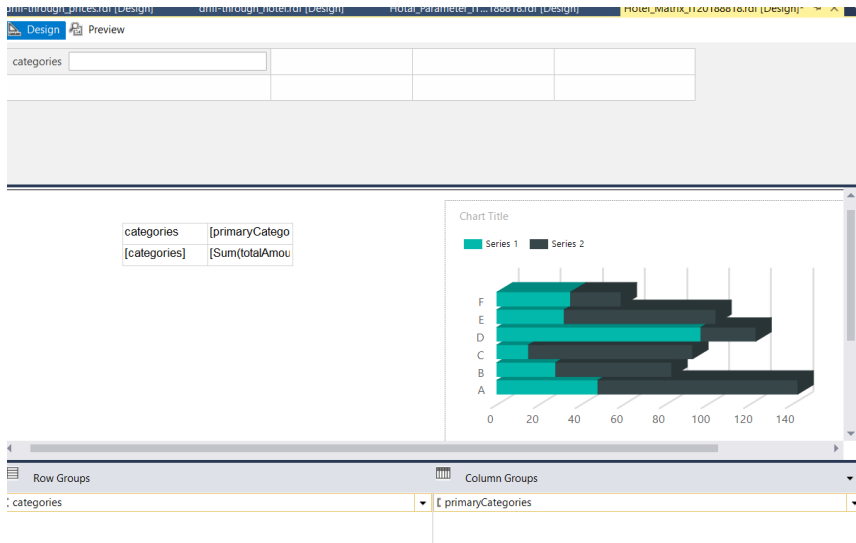
	D	C	D	C	F
1					
2					
3	Row Labels	Average of Price_per_night	Sum of no_of_reserved_rooms	Average of totalAmount	
4	1906 Lodge At Coronado Beach	\$13.91	4	\$27.81	
5	250 Main Hotel	\$598.50	12	\$1,797.00	
6	AC Hotel by Marriott Boston Downtown	\$600.00	8	\$2,400.00	
7	AC Hotel Chicago Downtown	\$21.55	60	\$58.55	
8	AC Hotel Miami Beach	\$34.03	6	\$102.09	
9	Acadia Suites	\$6.50	12	\$19.50	
10	Ace Hotel Chicago	\$21.38	28	\$74.63	
11	Ace Hotel New Orleans	\$409.83	18	\$1,230.50	
12	Admiral Hotel	\$435.00	6	\$1,305.00	
13	Admiral's Ocean Inn	\$17,890.50	10	\$45,008.50	
14	Alakai Hotel & Suites	\$2,380.00	8	\$9,520.00	
15	Alamo Motel	\$430.00	8	\$1,720.00	
16	Algoma Beach Motel	\$25.40	4	\$50.80	
17	Alicia's Eagle Rock Lodge	\$49.00	6	\$147.00	
18	Aloft Arundel Mills	\$50.00	26	\$108.33	
19	Aloft Bolingbrook	\$362.50	8	\$1,450.00	
20	Aloft Buffalo Airport	\$26.09	26	\$68.41	
21	Aloft Cleveland Downtown	\$220.00	22	\$806.67	
22	Aloft Denver Downtown	\$840.00	6	\$2,520.00	
23	Aloft Detroit at The David Whitney	\$909.00	10	\$2,279.50	
24	Aloft Durham Downtown	\$162.50	8	\$327.50	
25	Aloft Greenville Downtown	\$260.00	4	\$520.00	
26	Aloft Houston by the Galleria	\$1,600.00	4	\$3,200.00	
27	Aloft Jacksonville Tapestry Park	\$170.00	30	\$512.00	
28	Aloft New Orleans Downtown	\$163.82	288	\$603.87	

SSRS Reports

Report 01:

Report with Matrix

In here yearly Hotel report Category vs Primary category and Total price more than 10000 USD had. And there is one parameter called HotelCategory.

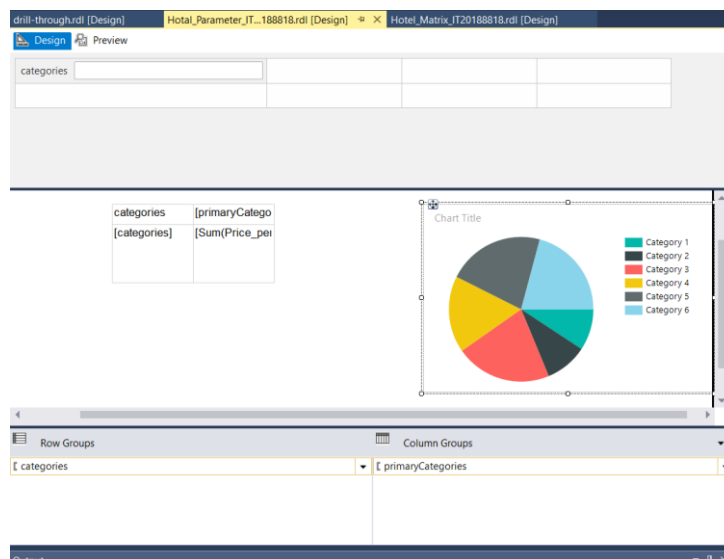


Report 2:

Report with more than one parameter This report has

3 parameters

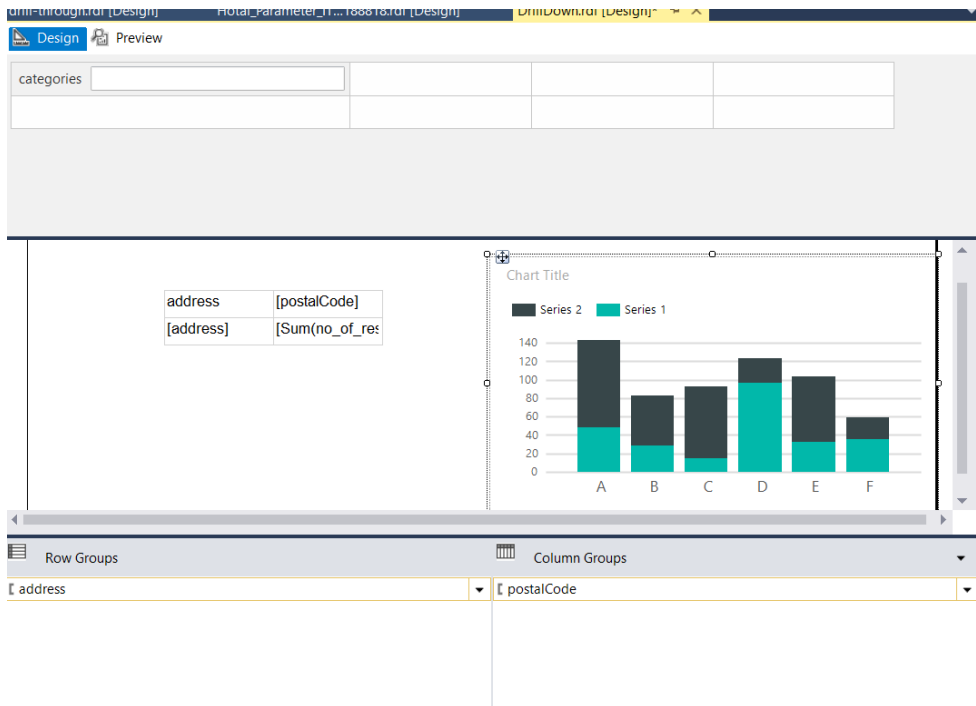
- Categories
- Primary Categories
- Price per night



Report 3:

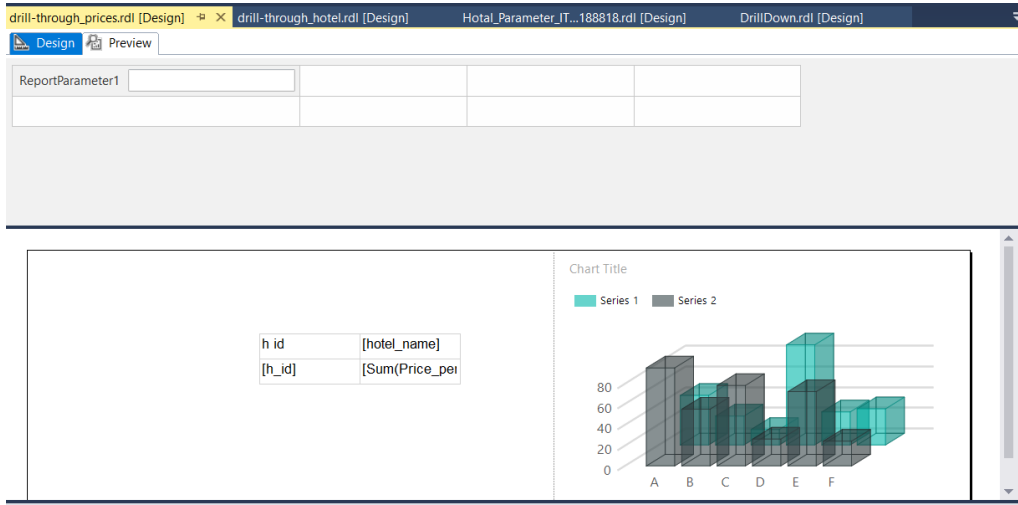
SSRS drill-down report

This report is yearly total price of the hotel.



Report 4:

SSRS drill-through report



In this report link through the category

