Sri Lanka Institute of Information Technology

Assignment 2

IT3021 - Data Warehousing and Business Intelligence 2022

IT20183554

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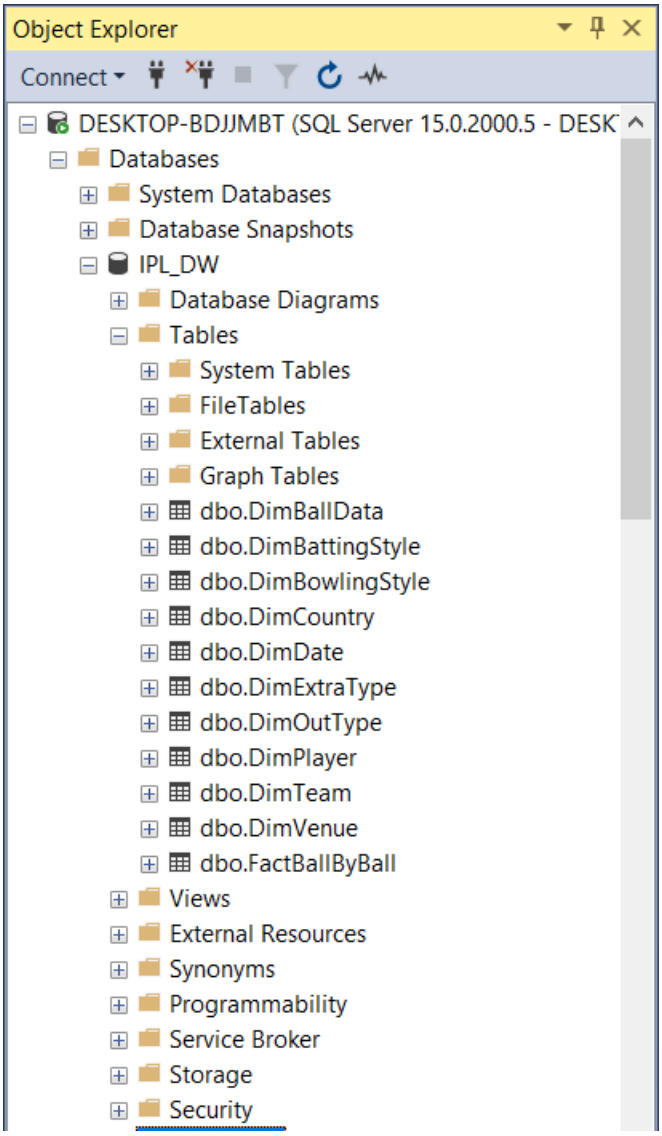
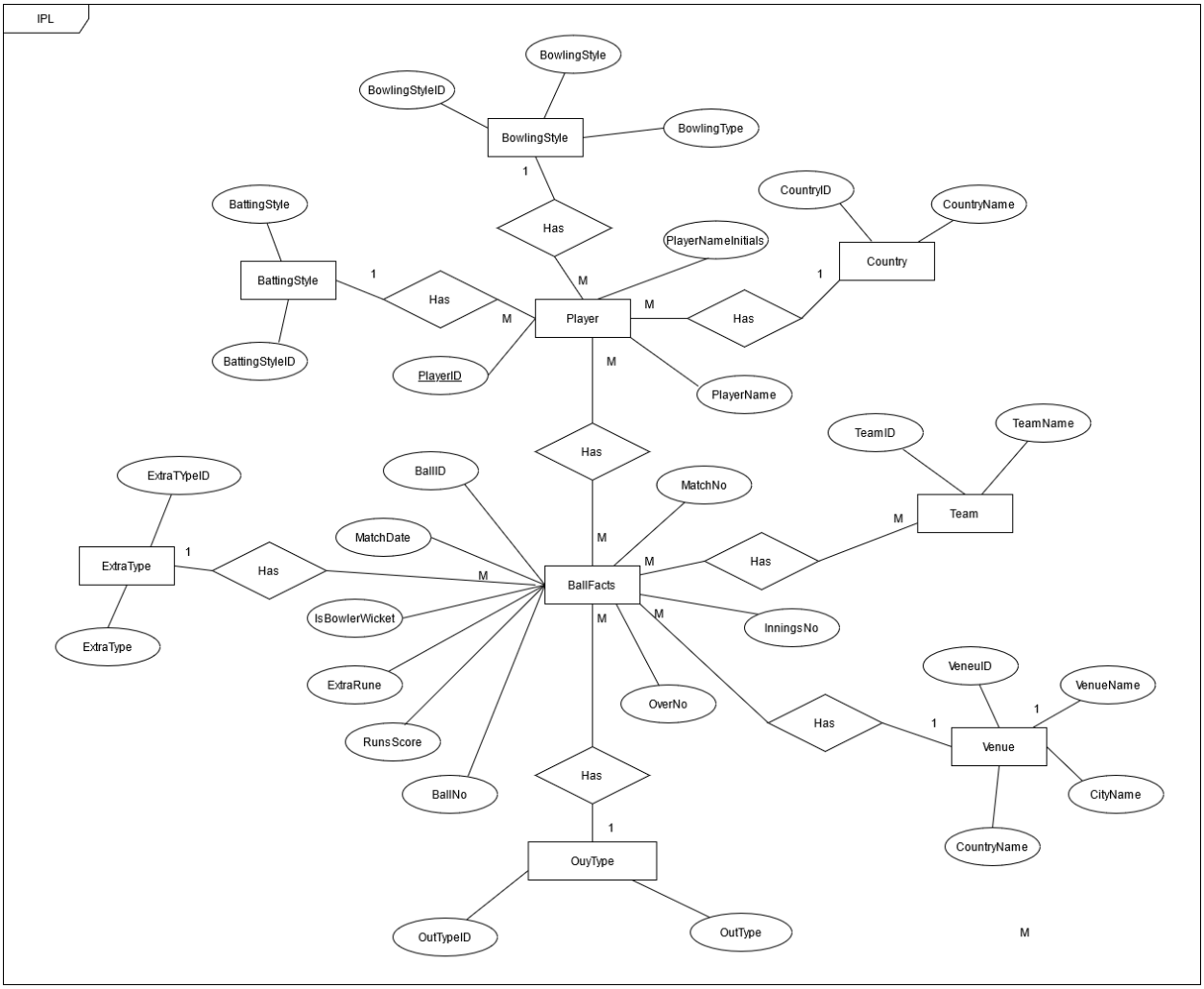
Data source for the assignment

I used data warehouse database (IPL_DW) as the data source which I created in Assignment 1.It consists of a snowflake schema and consists of ten dimensions and fact table.

Given below are the dimensions and facts of the data source;



ER diagram



SSAS Cube implementation

Following tools were used in creating the SSAS cube;

SSAS

SQL Server Management Studio

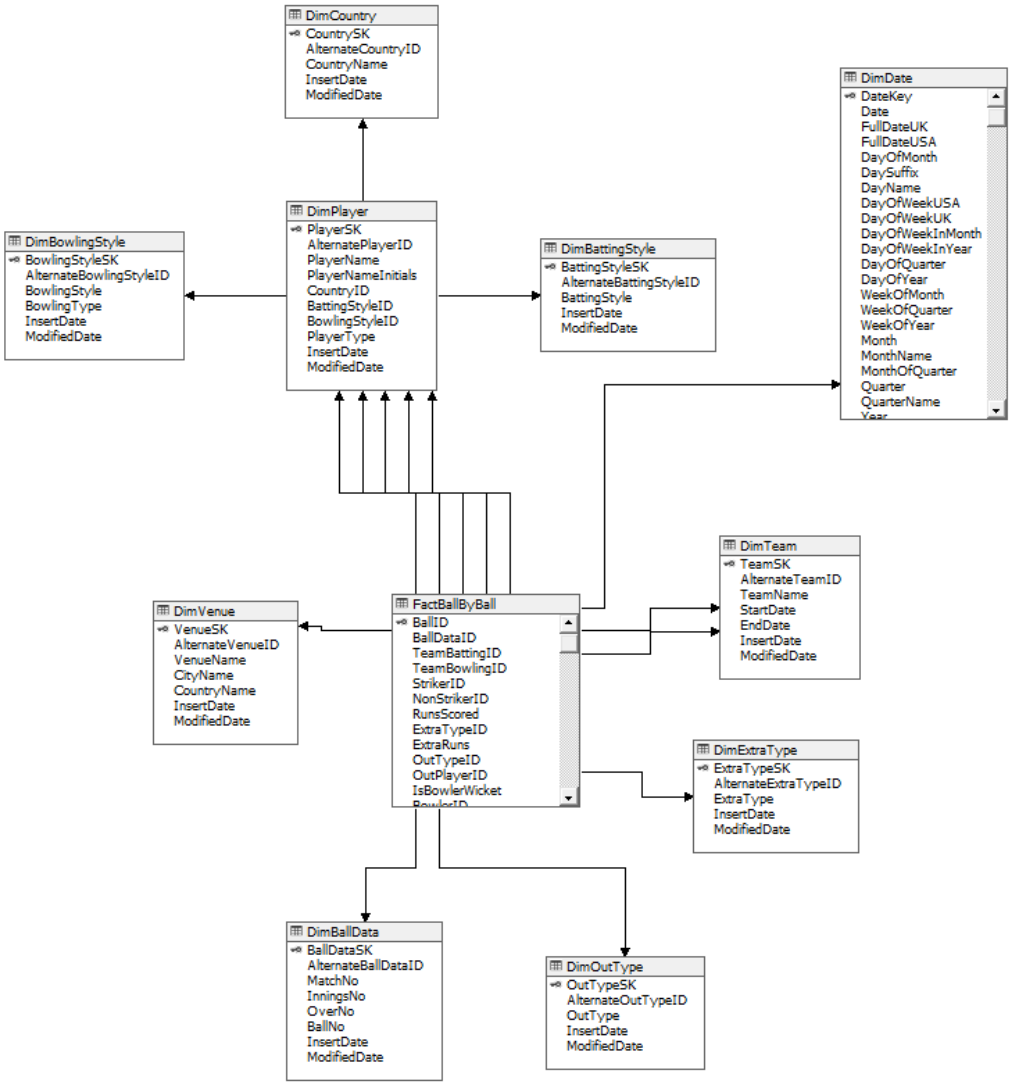
SSDT

Create a Data source

First data source was created in order to get data for the cube

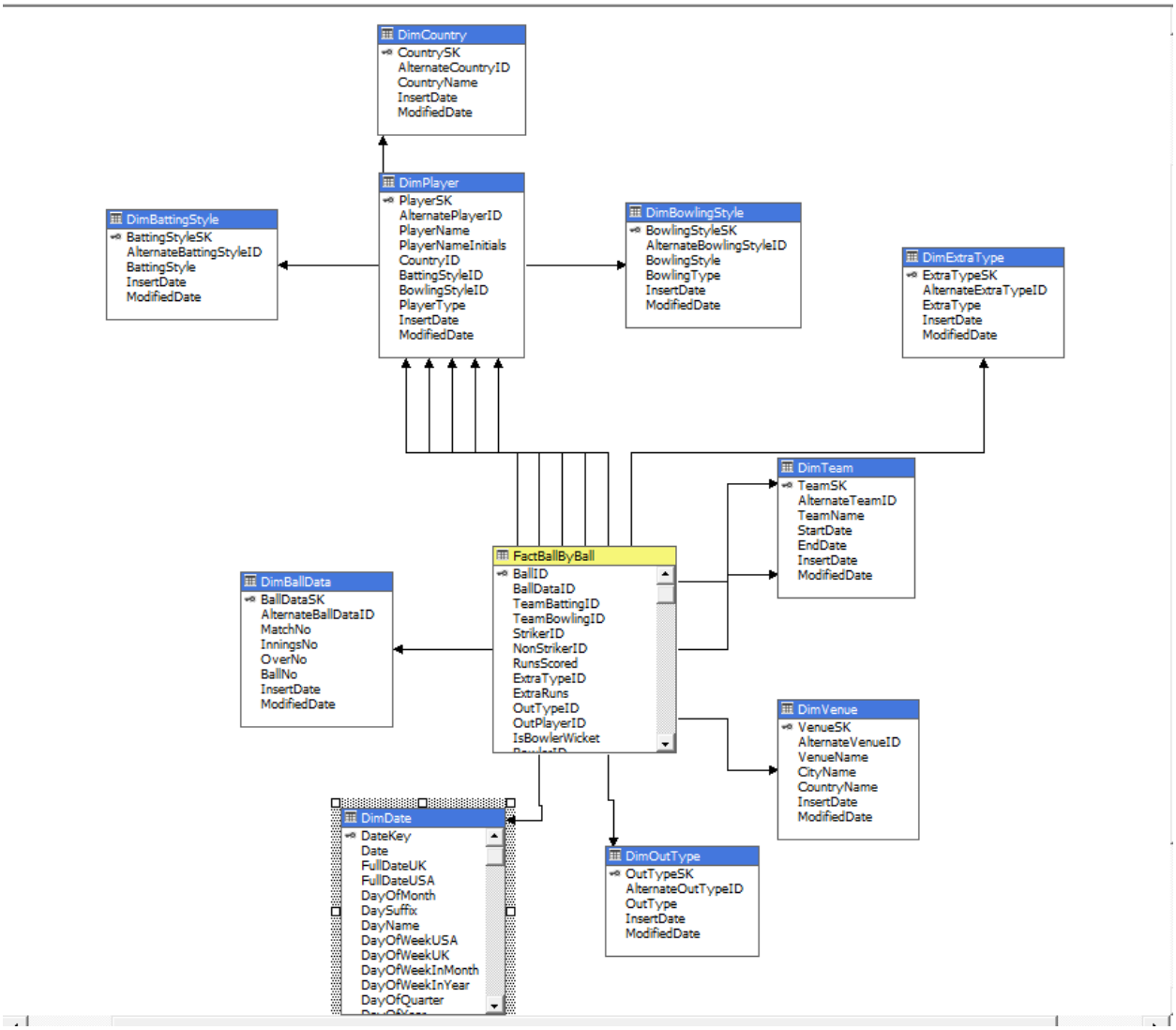
Create a Data Source View

As second step data source view was created as DSV_IPL_DW



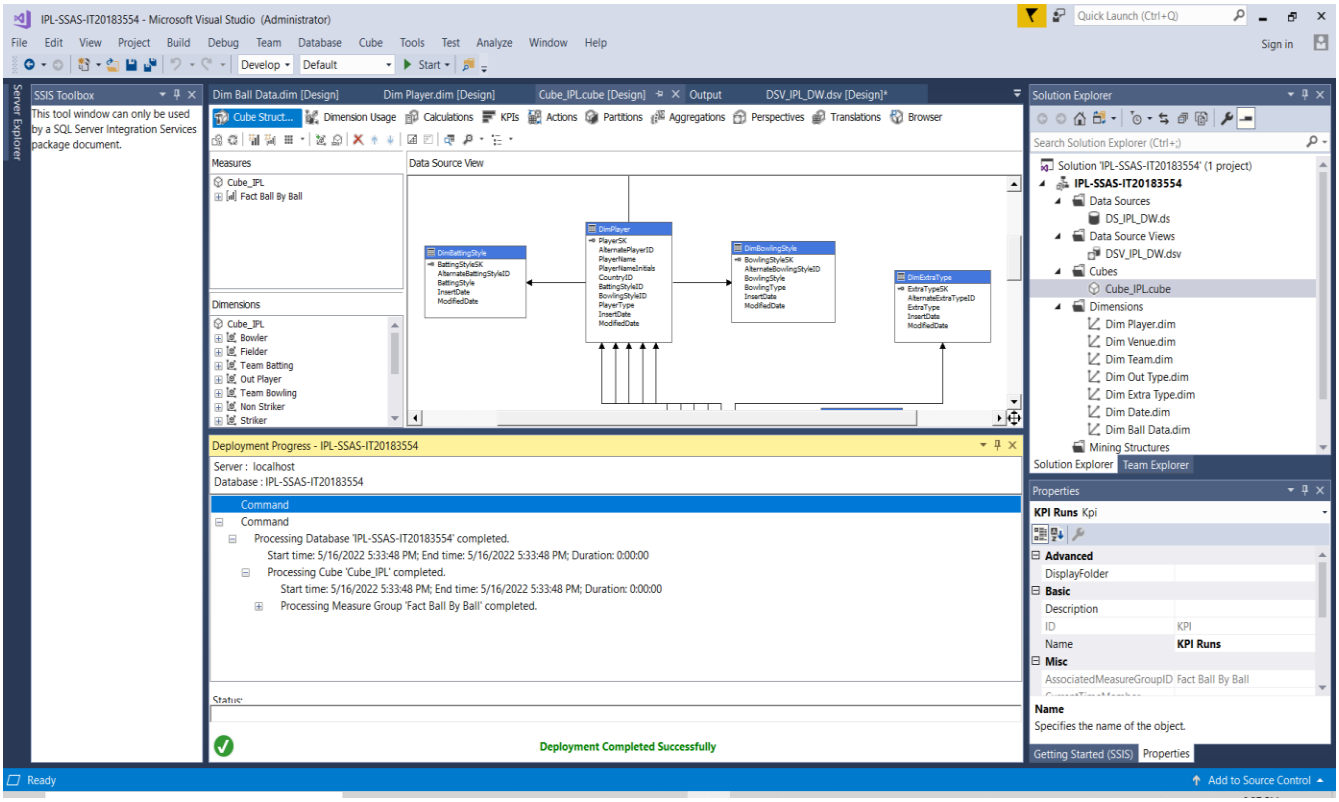
Create the Cube

As the third step SSAS cube was created



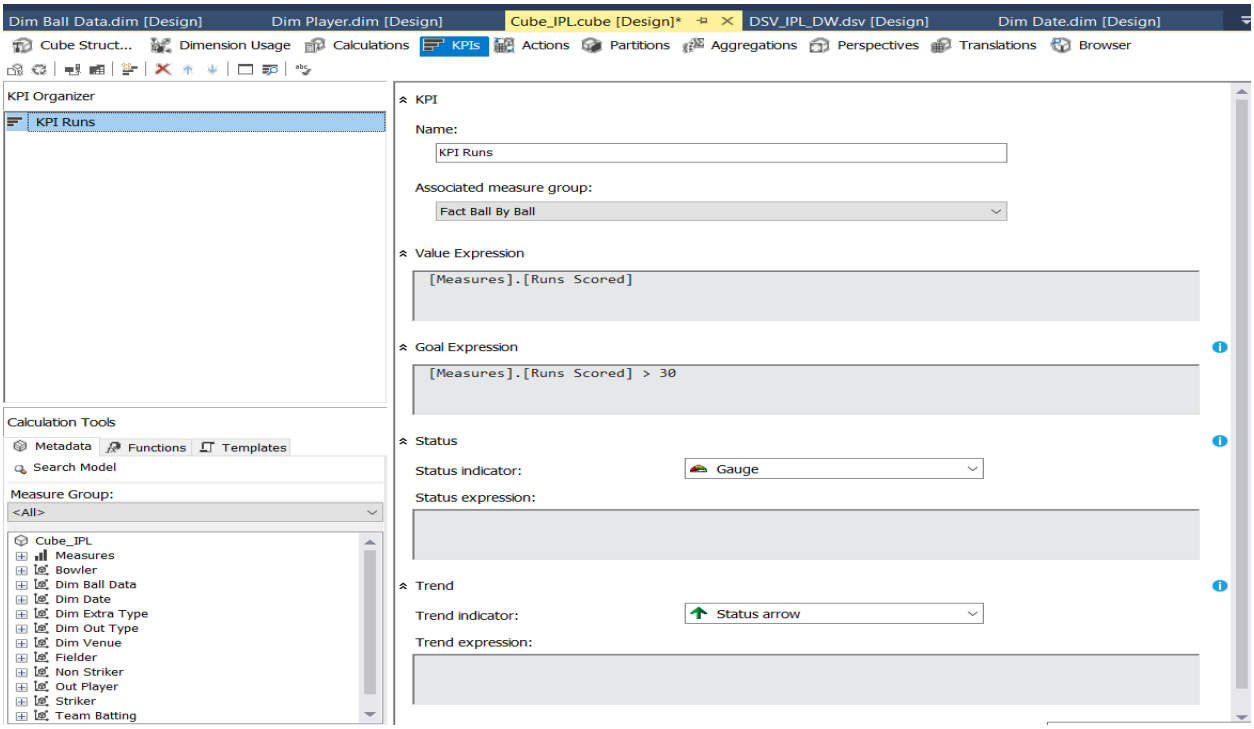
Deploy the Cube

Next the attributes were added to the dimensions and deployed the cube.

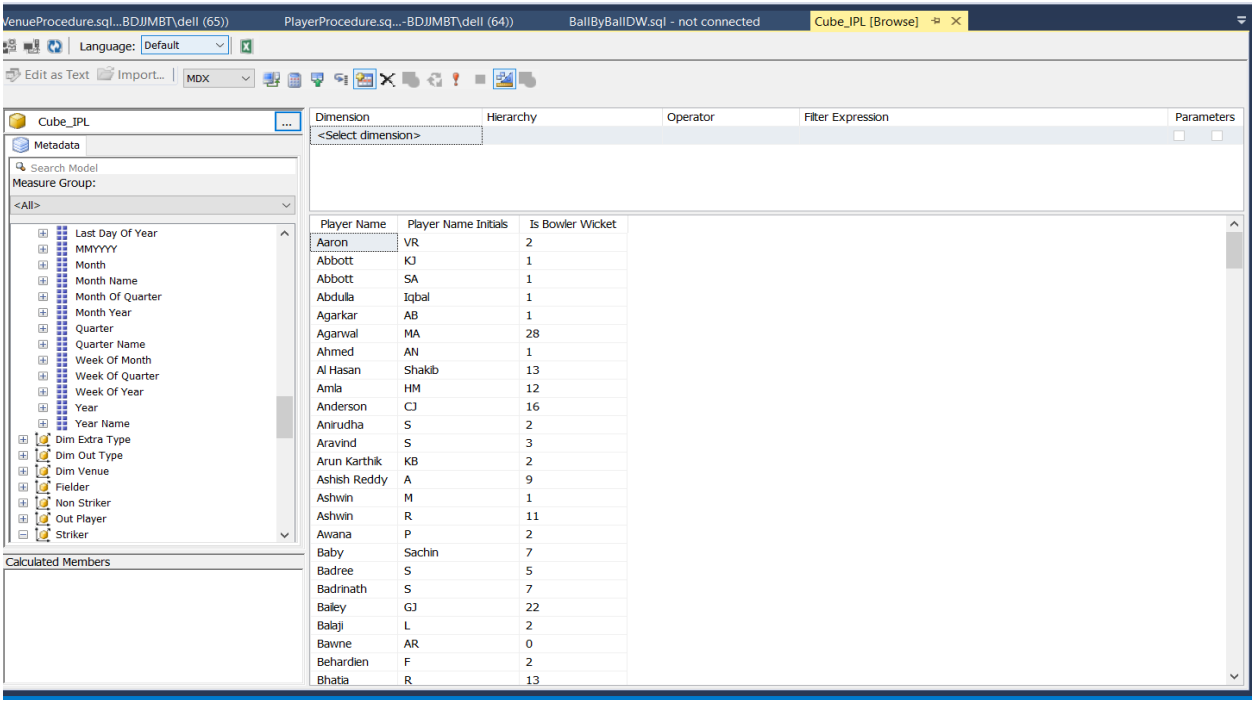


Create KPI

Next a KPI was created to get the players who have scored more than 30.



Browse Cube Data

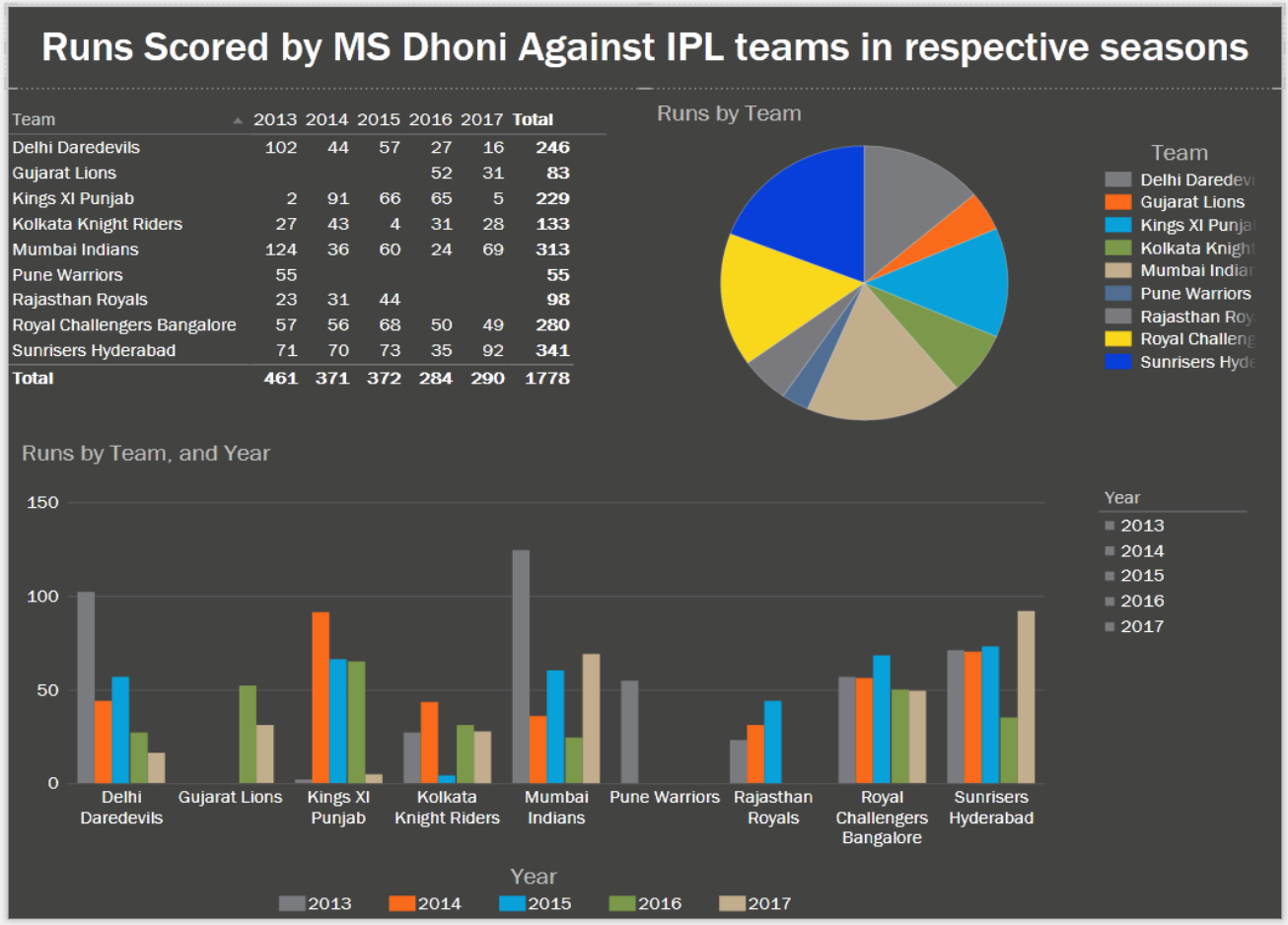


Demonstration of OLAP operations

Slice

Runs scored by Dhoni against IPL teams is show by the below table and charts. We can slice the data according to the season/year using the year slicer.

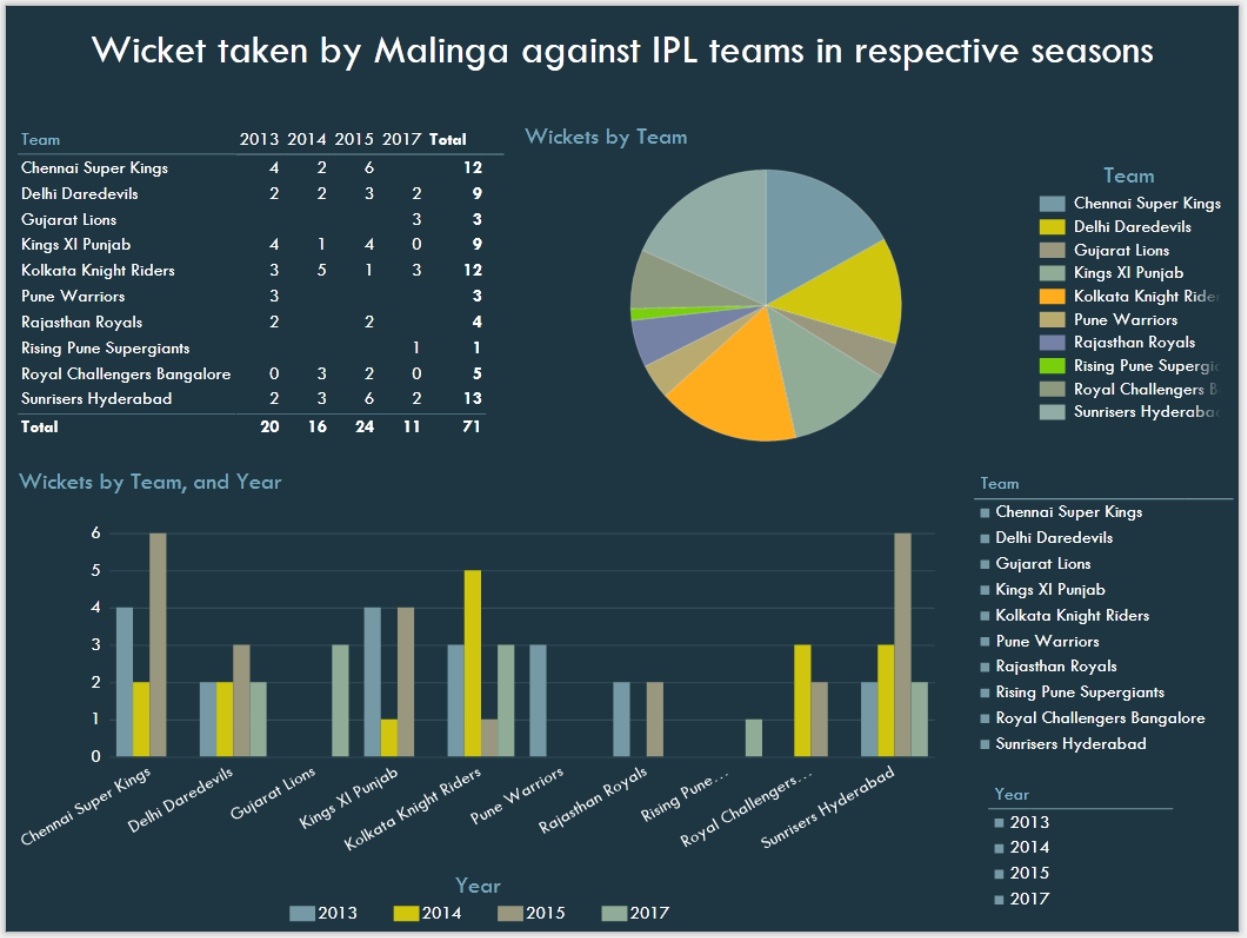
Note – In any of these table null values are not set to zero because having null values doesn't mean the player hasn't scored runs or wickets, it means that he has not played that ball, over or match.



Team	2013	2014	2015	2016	2017	Total
Delhi Daredevils	102	44	57	27	16	**246**
Gujarat Lions				52	31	**83**
Kings XI Punjab	2	91	66	65	5	**229**
Kolkata Knight Riders	27	43	4	31	28	**133**
Mumbai Indians	124	36	60	24	69	**313**
Pune Warriors	55					**55**
Rajasthan Royals	23	31	44			**98**
Royal Challengers Bangalore	57	56	68	50	49	**280**
Sunrisers Hyderabad	71	70	73	35	92	**341**
Total	**461**	**371**	**372**	**284**	**290**	**1778**

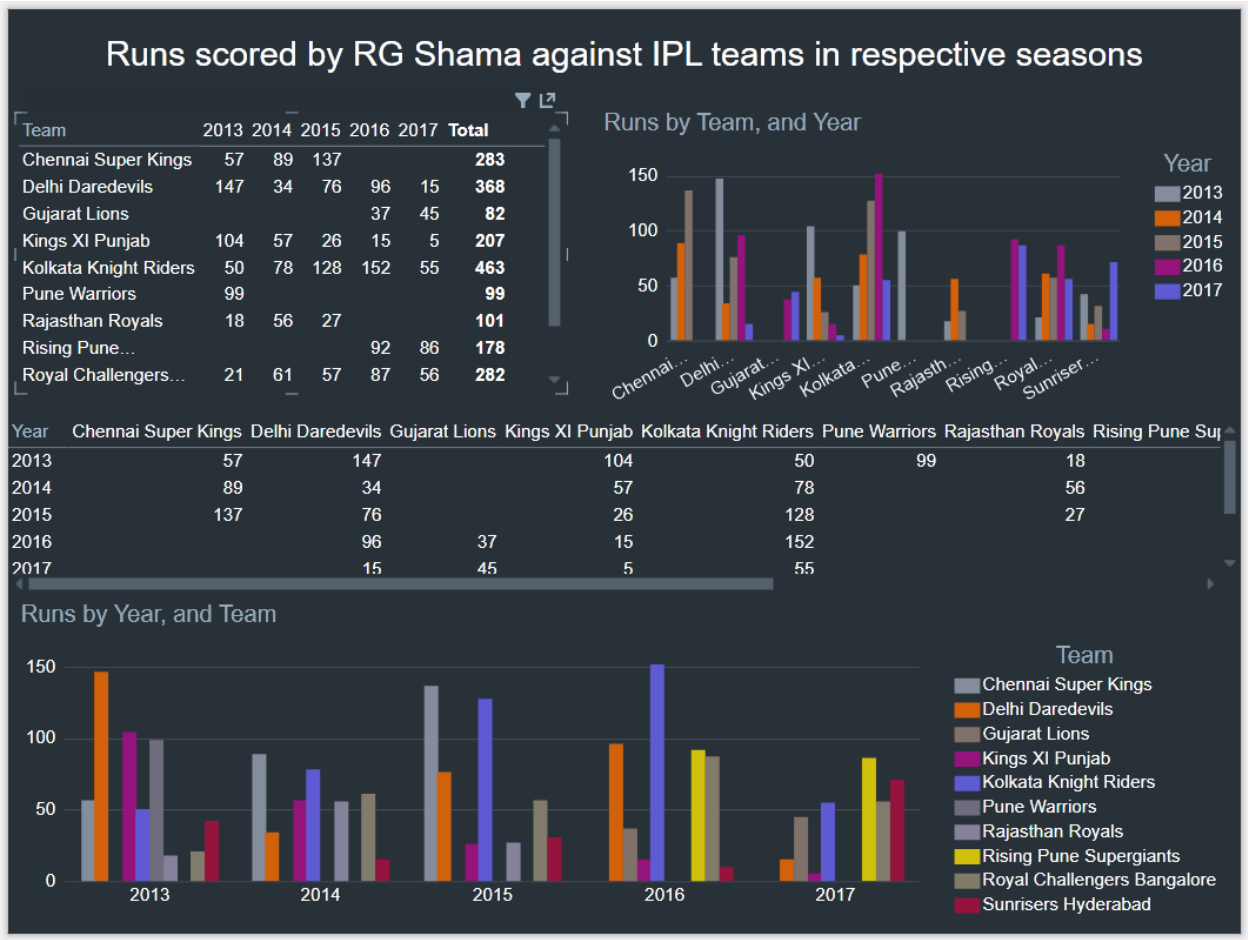
Dice

Wickets taken by Malinga against IPL teams is show by the below table and graphs. We can dice the data according to the season/year and team using the year slicer and team slicer.



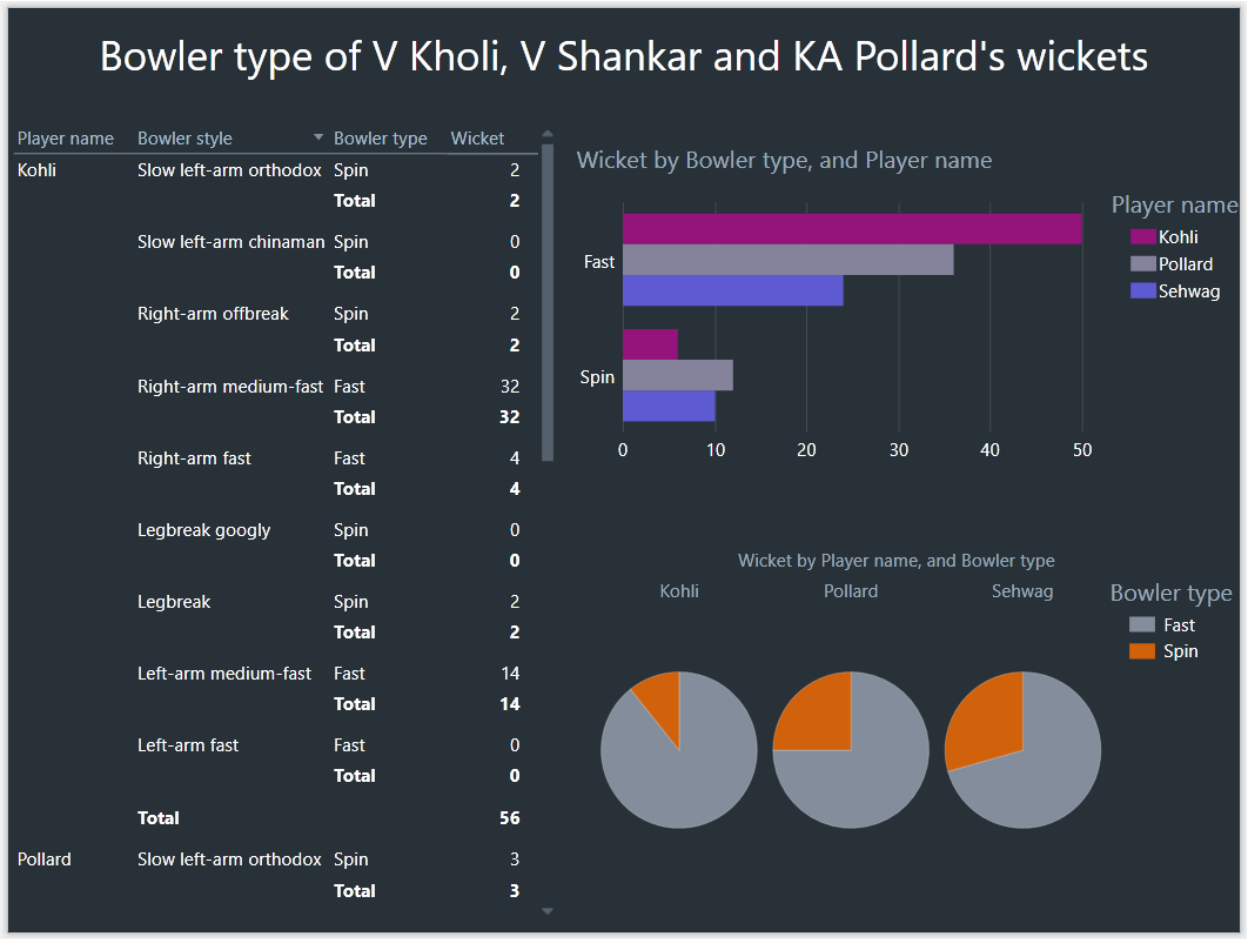
Pivot

Runs scored by Sharma against IPL teams is show by the below table and charts. The pivot table and chart using team and year is show in bottom diagrams.



Roll-up

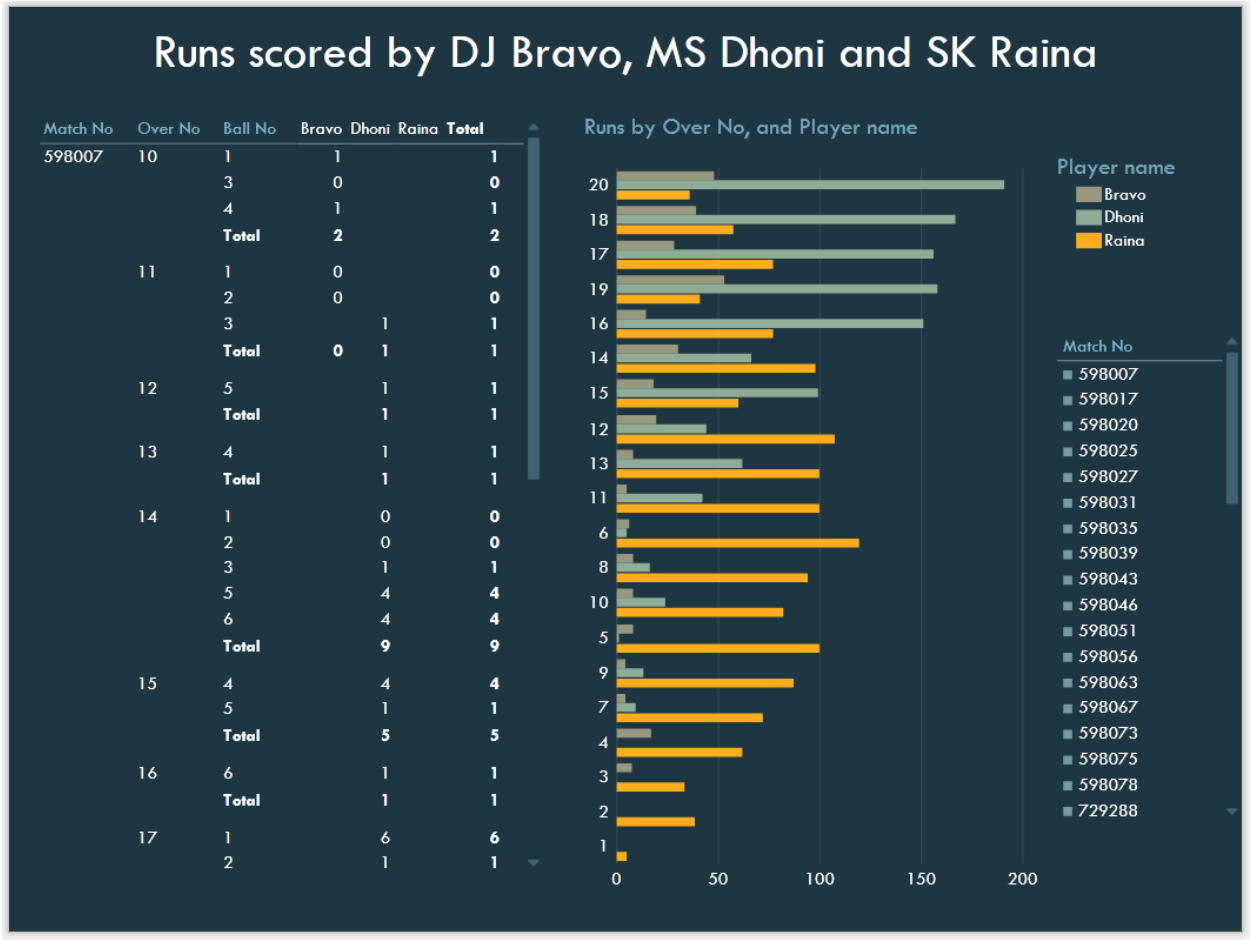
Bowler type of Kholi, Shankar, pollard's wickets is show by the below table and charts. We can roll-up by bowler style and bowler type.



Drill-Down

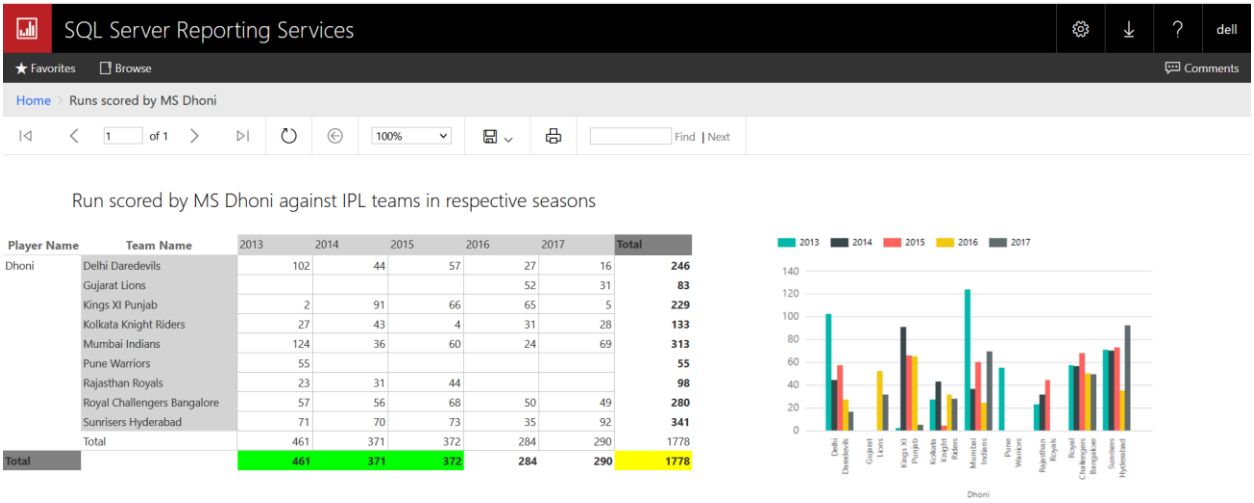
Runs scored by Bravo. Dhoni, Raina is show by the below table and charts.

We can Drill-Down by Match number, over number and ball number..



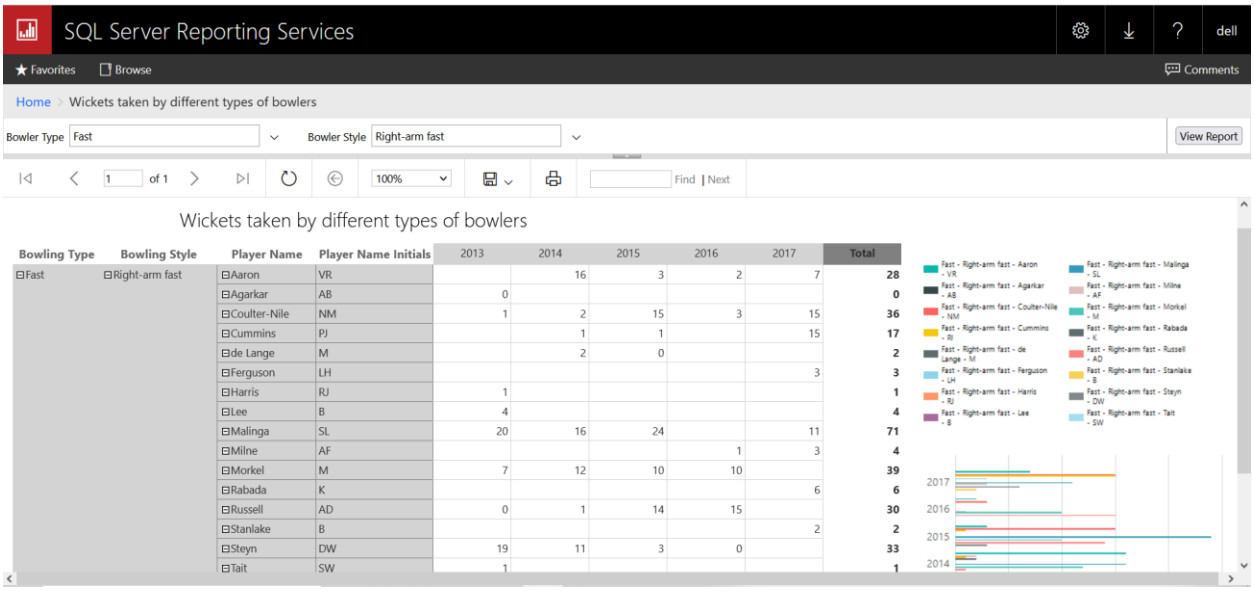
SSRS Reports

Report with a matrix



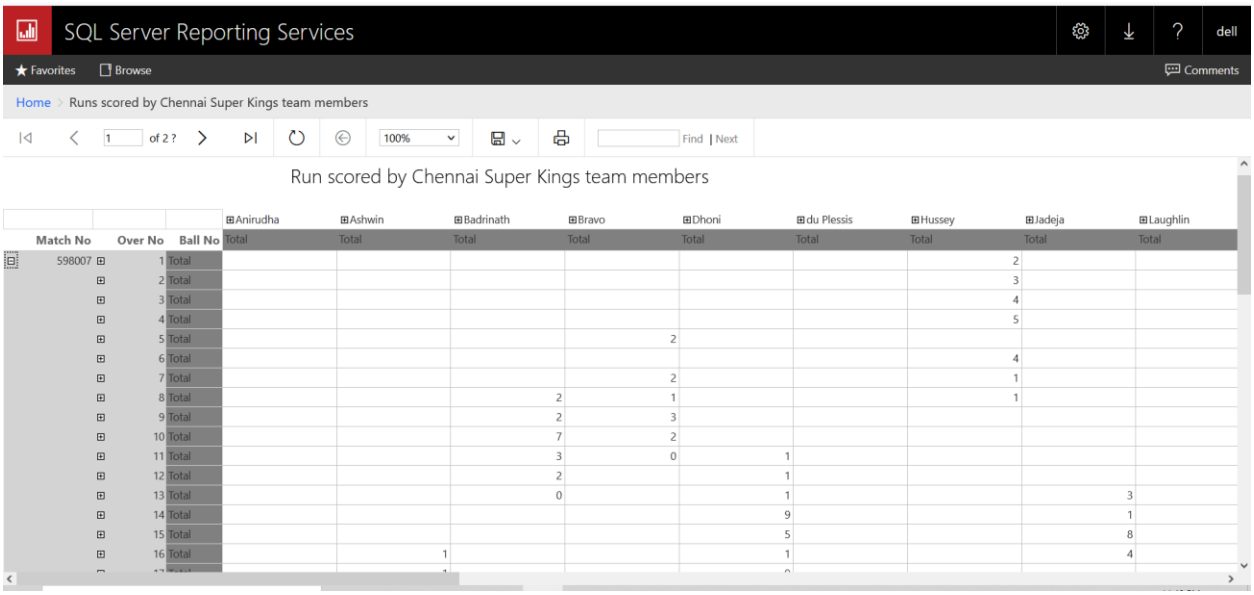
Player Name	Team Name	2013	2014	2015	2016	2017	Total
Dhoni	Delhi Daredevils	102	44	57	27	16	246
	Gujarat Lions				52	31	83
	Kings XI Punjab	2	91	66	65	5	229
	Kolkata Knight Riders	27	43	4	31	28	133
	Mumbai Indians	124	36	60	24	69	313
	Pune Warriors	55					55
	Rajasthan Royals	23	31	44			98
	Royal Challengers Bangalore	57	56	68	50	49	280
	Sunrisers Hyderabad	71	70	73	35	92	341
	Total	461	371	372	284	290	1778
Total		461	371	372	284	290	1778

Report with more than one parameter



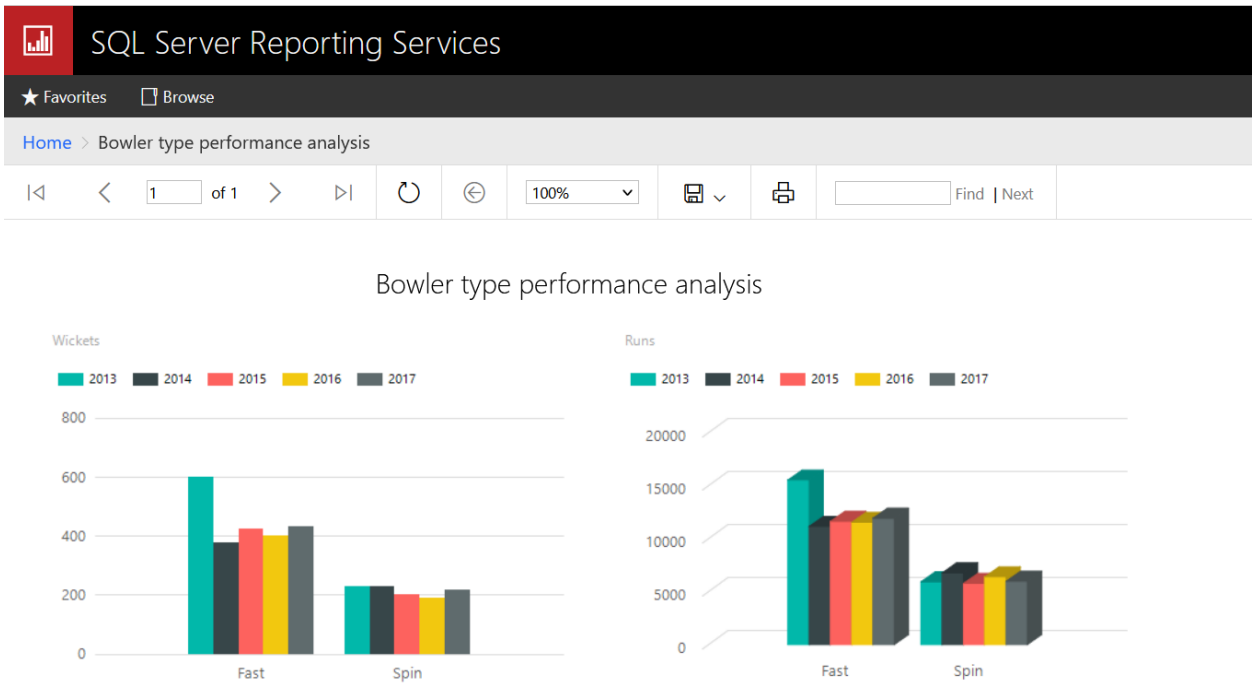
Bowling Type	Bowling Style	Player Name	Player Name Initials	2013	2014	2015	2016	2017	Total
⊟Fast	⊟Right-arm fast	⊟Aaron	VR		16	3	2	7	28
		⊟Agarkar	AB	0					0
		⊟Coulter-Nile	NM	1	2	15	3	15	36
		⊟Cummins	PJ		1	1		15	17
		⊟de Lange	M		2	0			2
		⊟Ferguson	LH					3	3
		⊟Harris	RJ	1					1
		⊟Lee	B	4					4
		⊟Malinga	SL	20	16	24		11	71
		⊟Milne	AF				1	3	4
		⊟Morkel	M	7	12	10	10		39
		⊟Rabada	K					6	6
		⊟Russell	AD	0	1	14	15		30
		⊟Stanlake	B					2	2
		⊟Steyn	DW	19	11	3	0		33
		⊟Tait	SW	1					1

SSRS drill-down report

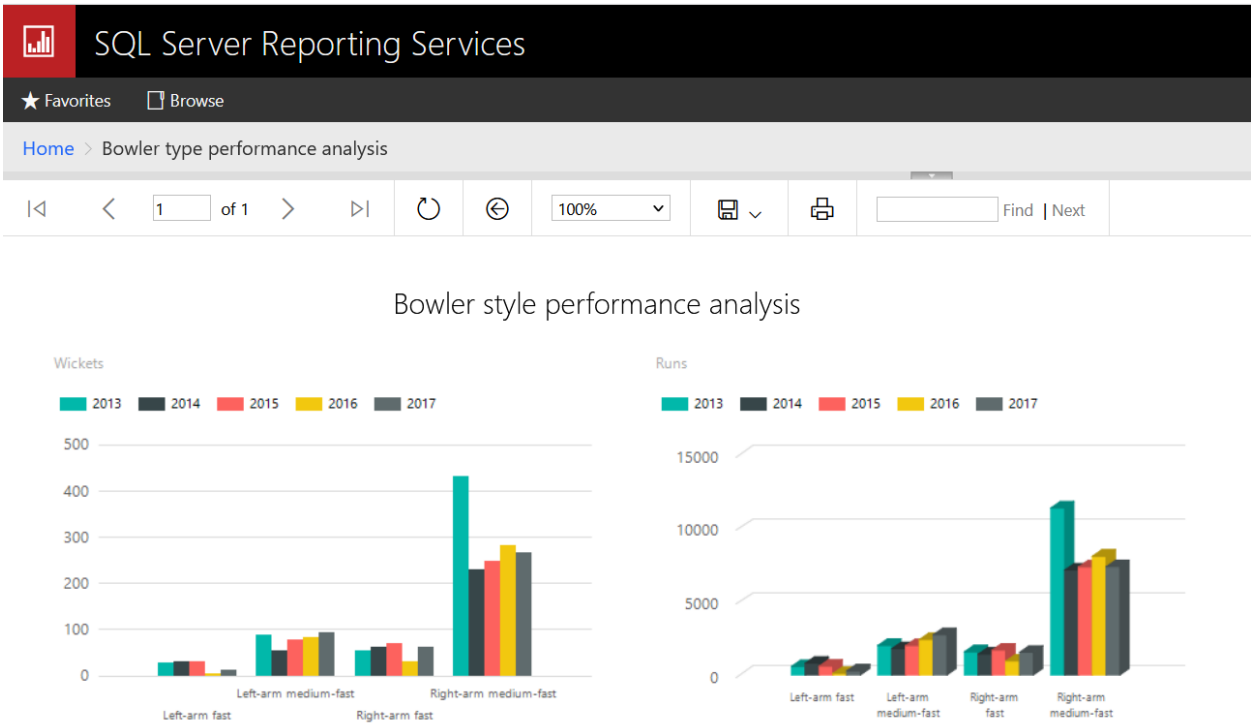


SSRS drill-through report

View 1



View 2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Favorites
Browse
Home
Bowler type performance analysis
1
of 1
100%
Find
Next
Bowler style performance analysis
Wickets
2013
2014
2015
2016
2017
500
400
300
200
100
0
Left-arm fast
Left-arm medium-fast
Right-arm fast
Right-arm medium-fast
Runs
2013
2014
2015
2016
2017
15000
10000
5000
0
Left-arm fast
Left-arm medium-fast
Right-arm fast
Right-arm medium-fast