



Sri Lanka Institute of Information Technology

Assignment 2

IT3021 - Data Warehousing and Business Intelligence 2022

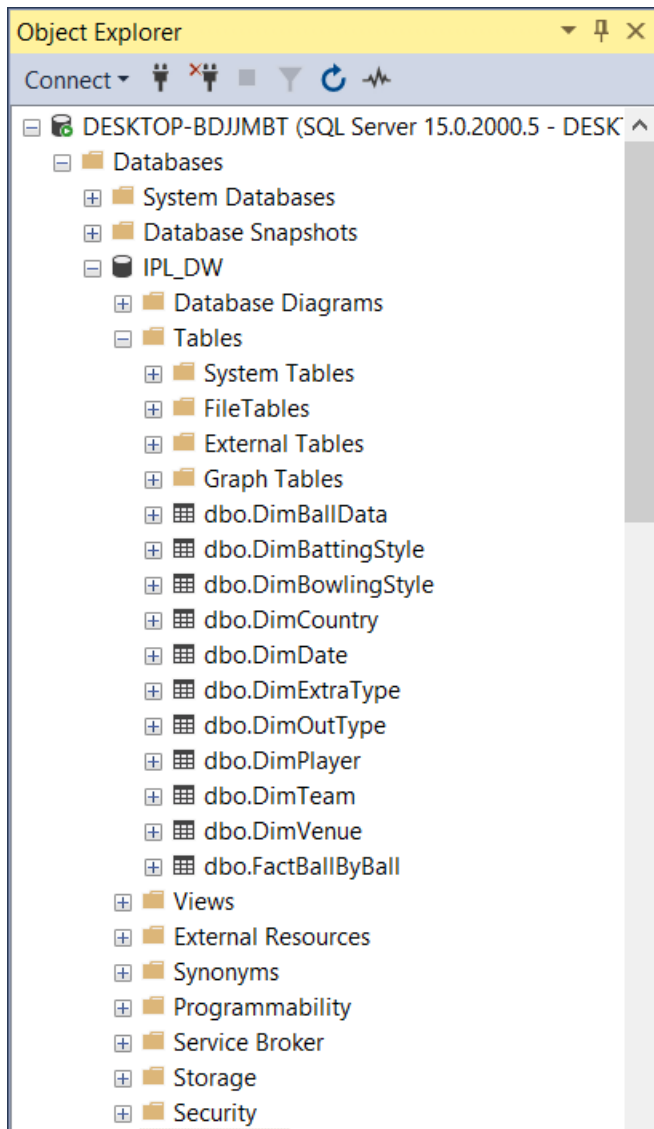
IT20183554

Chandrasena M.C

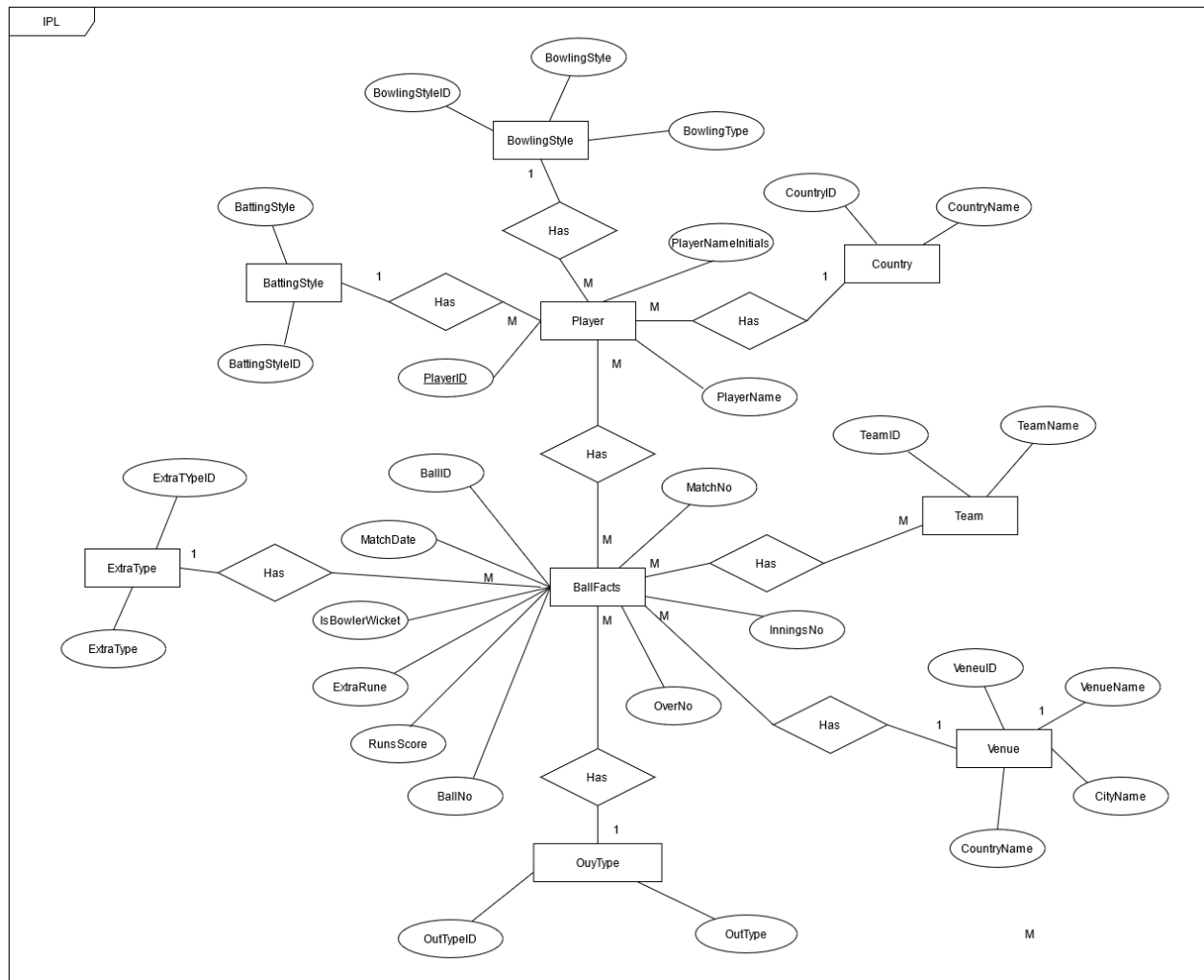
Data source for the assignment

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

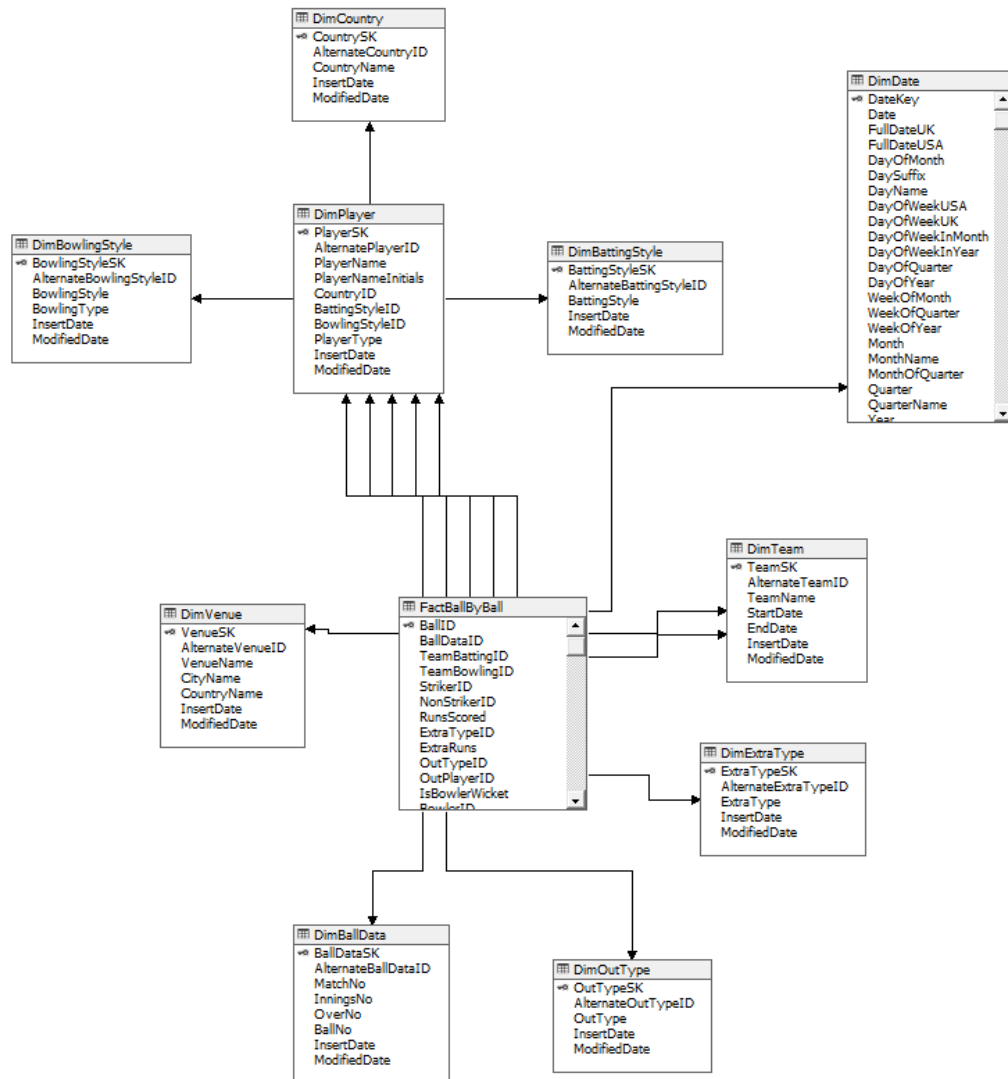
SSDT

Create a Data source

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

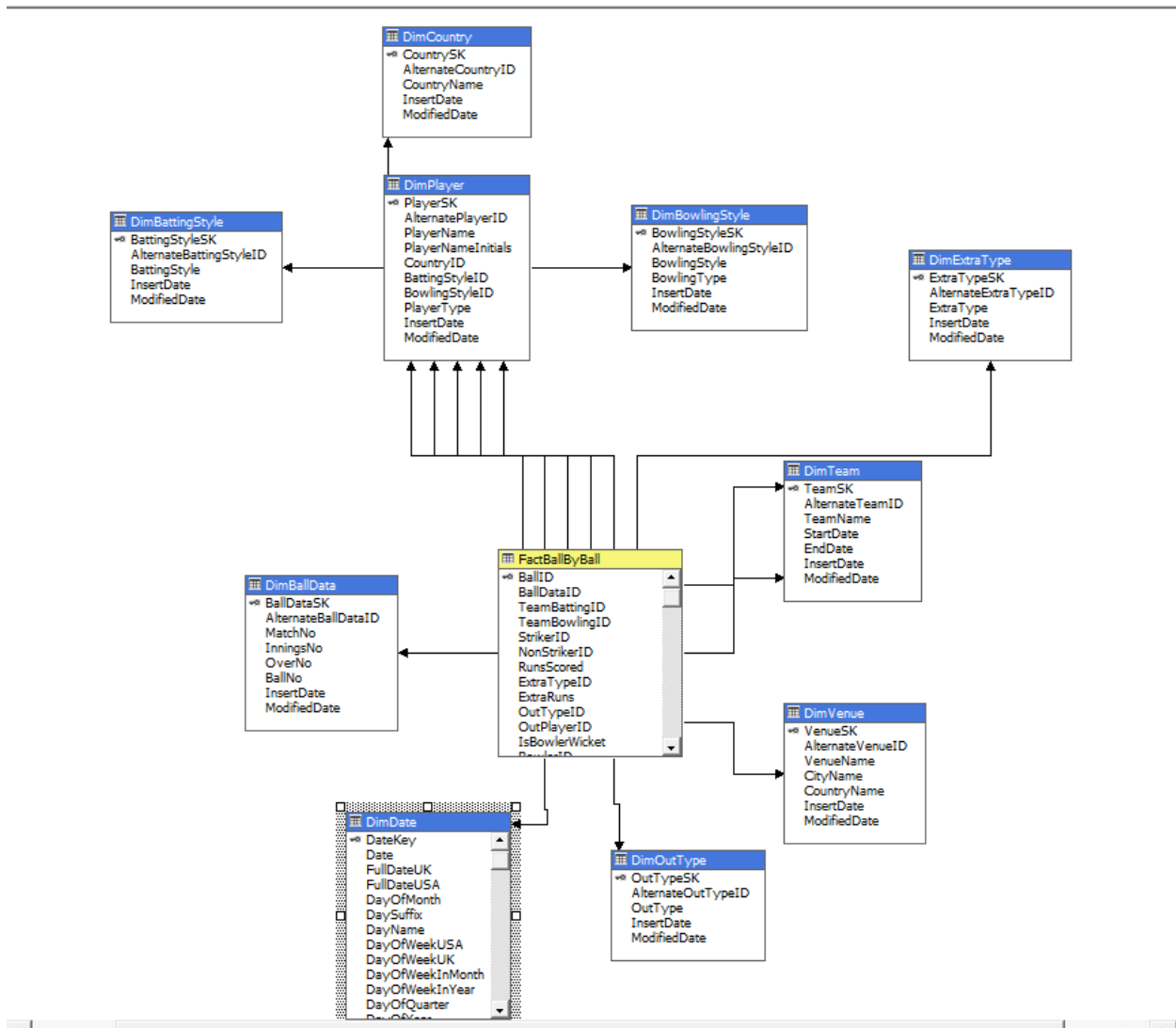
Create a Data Source View

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.

The screenshot shows the Microsoft Visual Studio (Administrator) interface with the 'IPL-SSAS-IT20183554' project. The main window displays the 'Deployment Progress - IPL-SSAS-IT20183554' window, which shows the status of the deployment. The 'Command' tab is selected, showing a list of commands and their completion status. The 'Status' tab shows a green checkmark and the text 'Deployment Completed Successfully'. The 'Solution Explorer' on the right shows the project structure, including 'IPL-SSAS-IT20183554', 'Data Sources', 'Data Source Views', 'Cubes', 'Dimensions', and 'Mining Structures'. The 'Properties' window on the right shows the properties for the 'KPI Runs Kpi' object, including 'Name', 'ID', and 'AssociatedMeasureGroupID'.

Deployment Progress - IPL-SSAS-IT20183554

Server: localhost
Database: IPL-SSAS-IT20183554

Command

- Command
 - Processing Database 'IPL-SSAS-IT20183554' completed.
Start time: 5/16/2022 5:33:48 PM; End time: 5/16/2022 5:33:48 PM; Duration: 0:00:00
 - Processing Cube 'Cube_IPL' completed.
Start time: 5/16/2022 5:33:48 PM; End time: 5/16/2022 5:33:48 PM; Duration: 0:00:00
 - Processing Measure Group 'Fact Ball By Ball' completed.

Status

Deployment Completed Successfully

Solution Explorer

- Solution 'IPL-SSAS-IT20183554' (1 project)
 - IPL-SSAS-IT20183554
 - Data Sources
 - DS_IPL_DW.ds
 - Data Source Views
 - DSV_IPL_DW.dsv
 - Cubes
 - Cube_IPL.cube
 - Dimensions
 - Dim Player.dim
 - Dim Venue.dim
 - Dim Team.dim
 - Dim Out Type.dim
 - Dim Extra Type.dim
 - Dim Date.dim
 - Dim Ball Data.dim
 - Mining Structures

Properties

KPI Runs Kpi

Advanced

DisplayFolder

Basic

Description

ID KPI

Name KPI Runs

Misc

AssociatedMeasureGroupID Fact Ball By Ball

Name

Specifies the name of the object.

Getting Started (SSIS) Properties

Create KPI

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

KPI Organizer

KPI

Name: KPI Runs

Associated measure group: Fact Ball By Ball

Value Expression

[Measures].[Runs Scored]

Goal Expression

[Measures].[Runs Scored] > 30

Status

Status indicator: Gauge

Status expression:

Trend

Trend indicator: Status arrow

Trend expression:

Browse Cube Data

Cube_IPL

Dimension | **Hierarchy** | **Operator** | **Filter Expression** | **Parameters**

<Select dimension>

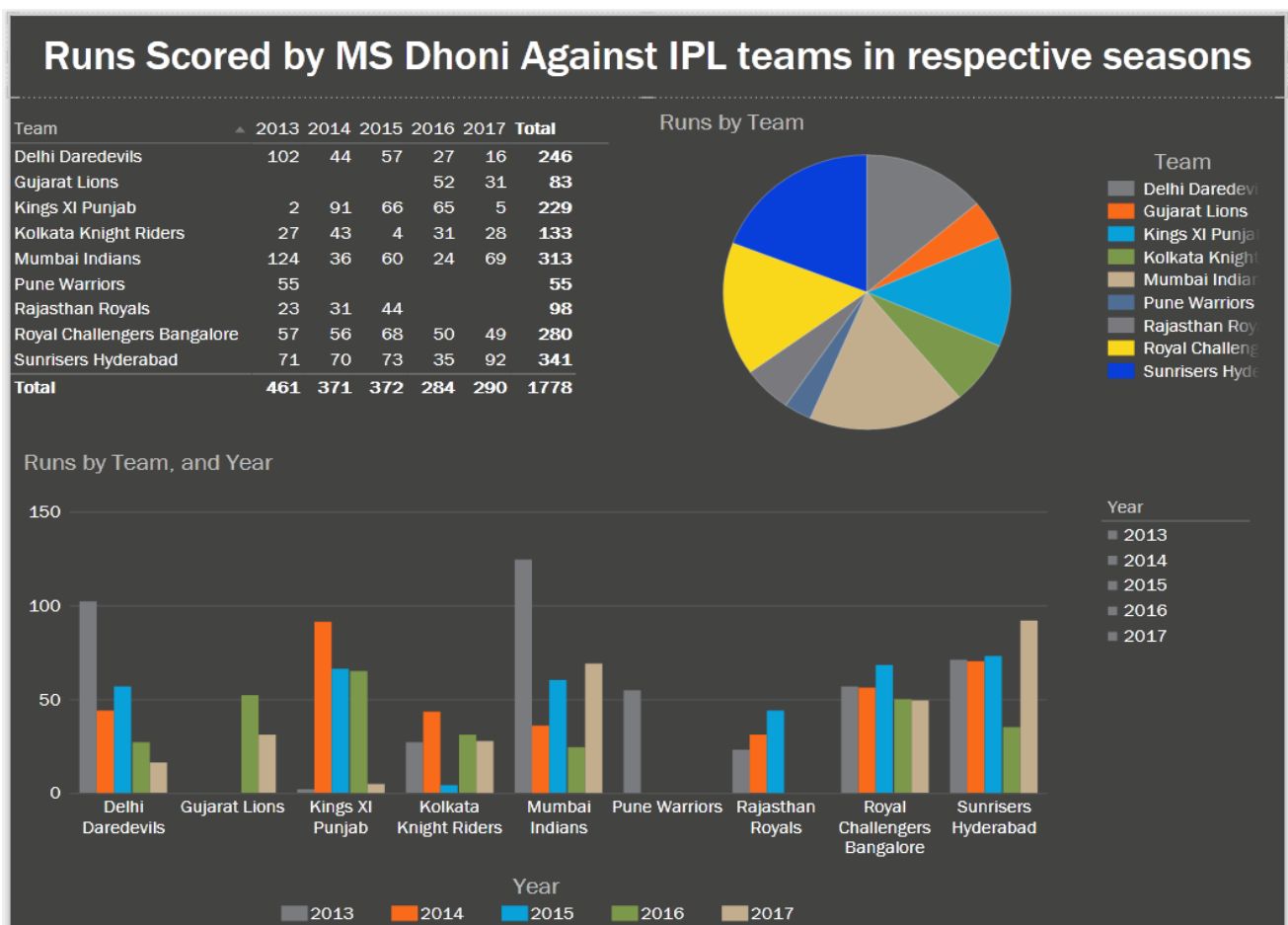
Player Name	Player Name Initials	Is Bowler Wicket
Aaron	VR	2
Abbott	KJ	1
Abbott	SA	1
Abdulla	Iqbal	1
Agarkar	AB	1
Agarwal	MA	28
Ahmed	AN	1
Al Hasan	Shakib	13
Amila	HM	12
Anderson	CJ	16
Anirudha	S	2
Aravind	S	3
Arun Karthik	KB	2
Ashish Reddy	A	9
Ashwin	M	1
Ashwin	R	11
Awana	P	2
Baby	Sachin	7
Badree	S	5
Badrinath	S	7
Bailey	GJ	22
Balaji	L	2
Bawne	AR	0
Behardien	F	2
Bhatia	R	13

Demonstration of OLAP operations

Slice

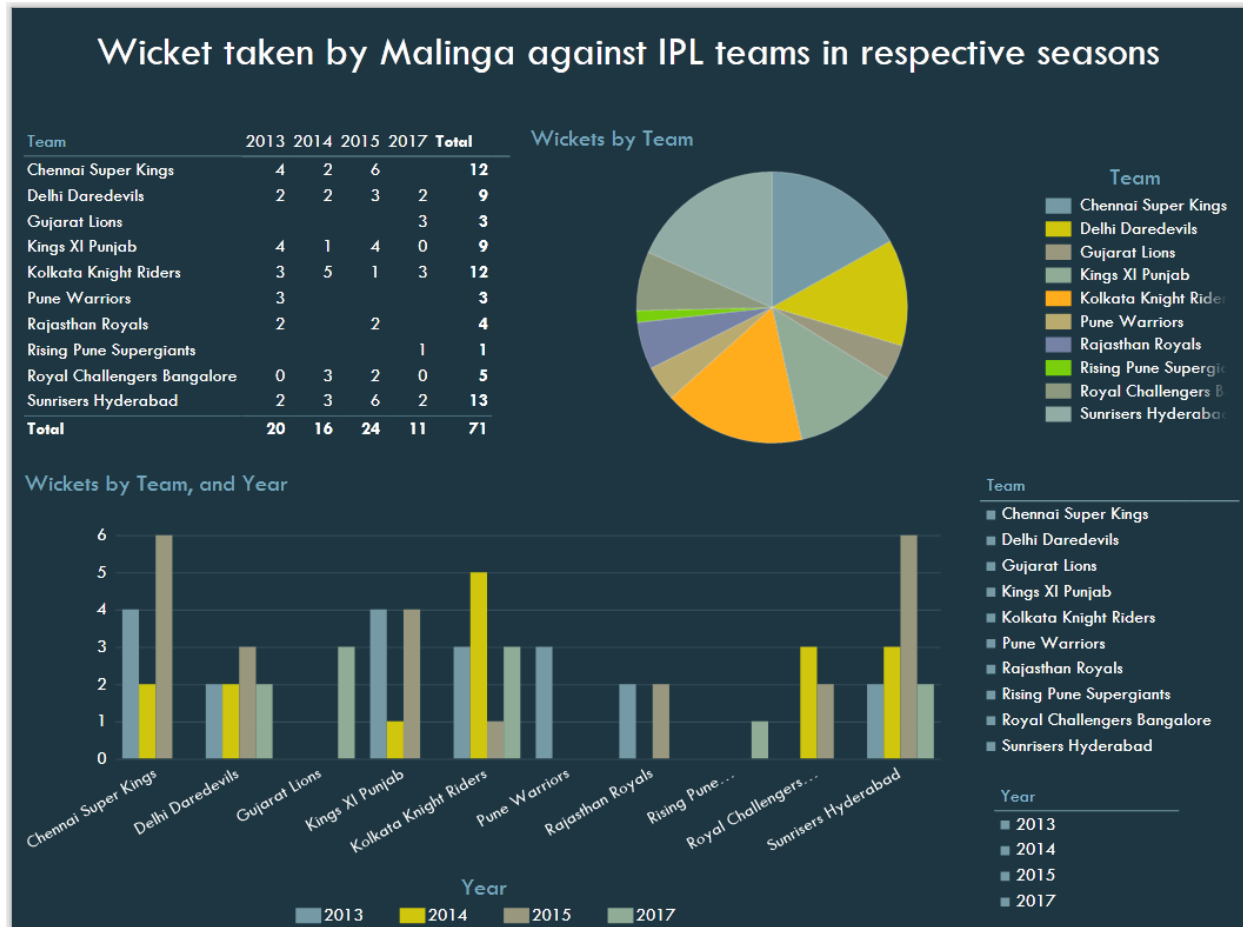
Runs scored by Dhoni against IPL teams is shown by the below table and charts. We can slice the data according to the season/year using the year slicer.

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.



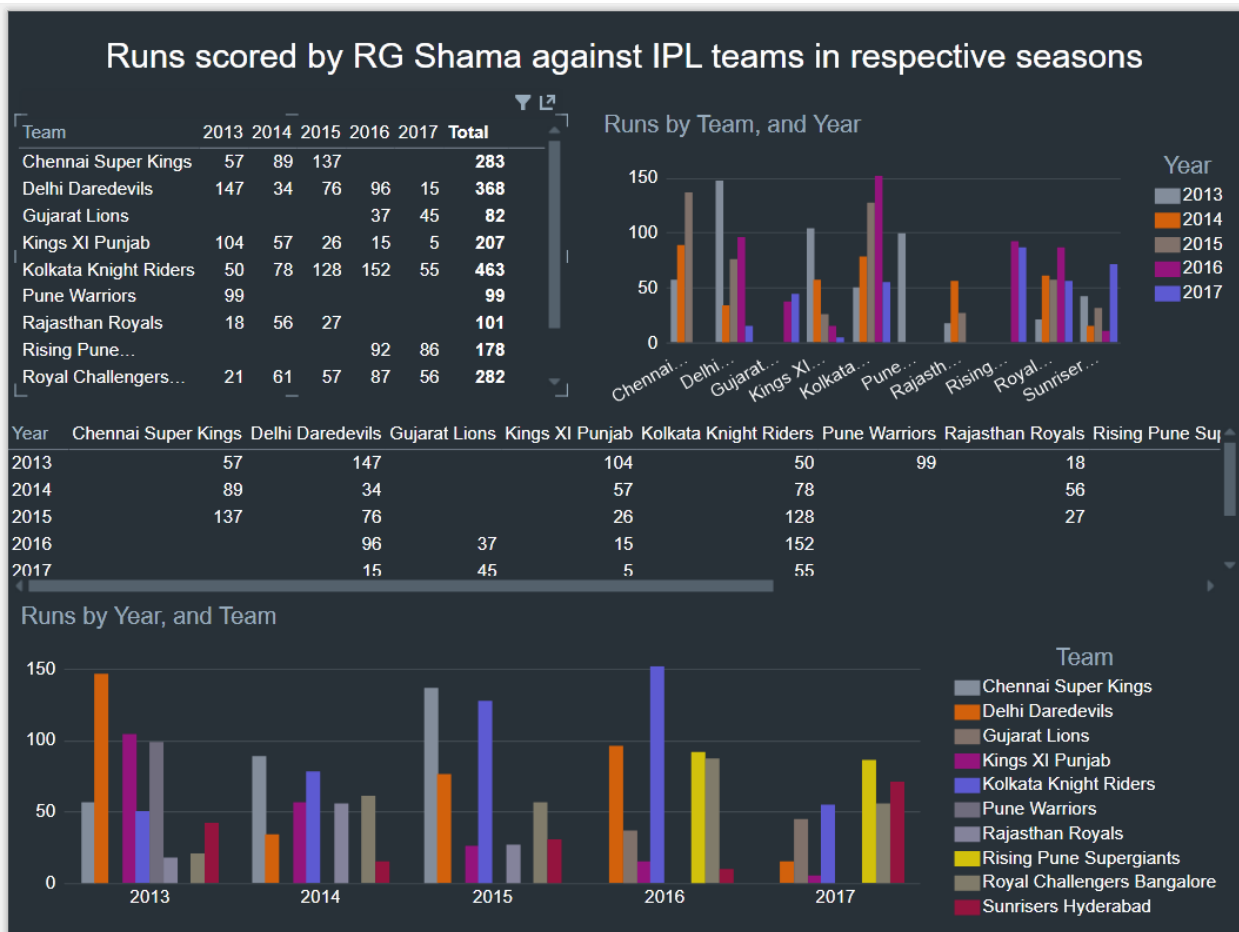
Dice

Wickets taken by Malinga against IPL teams is shown 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.



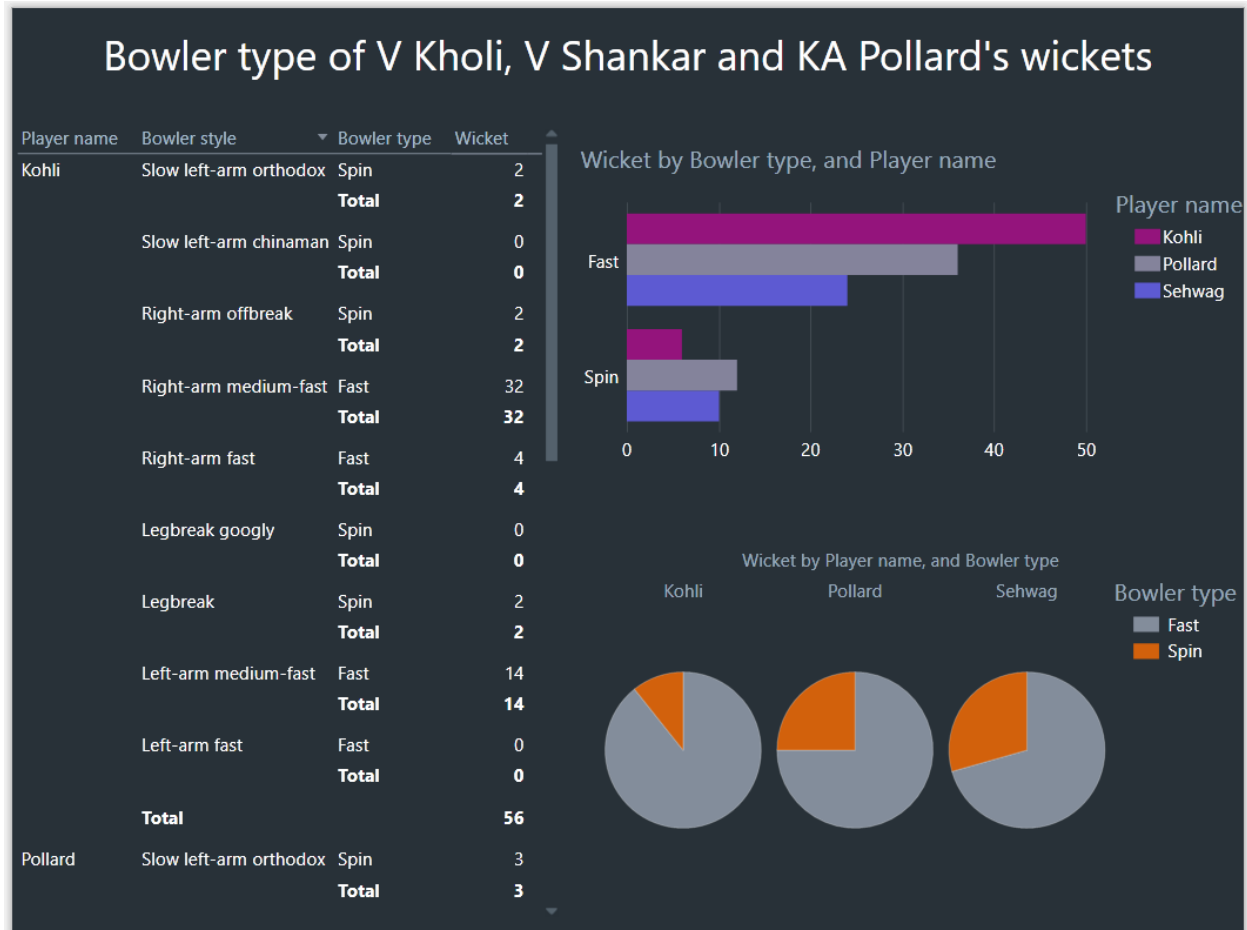
Pivot

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

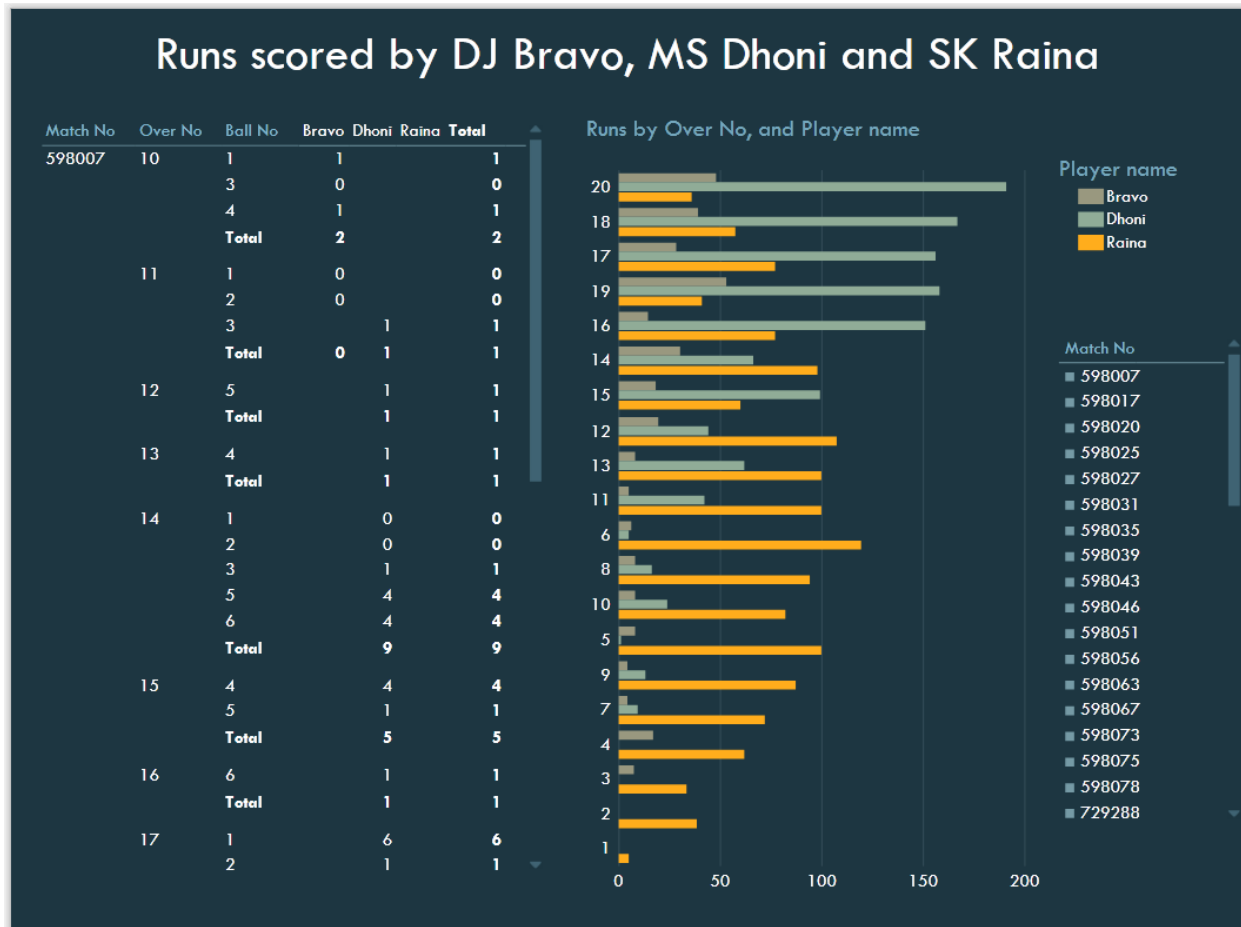
Bowler type of Kohli, Shankar, pollard's wickets is show by the below table and charts. We can roll-up by bowler style and bowler type.



Drill-Down

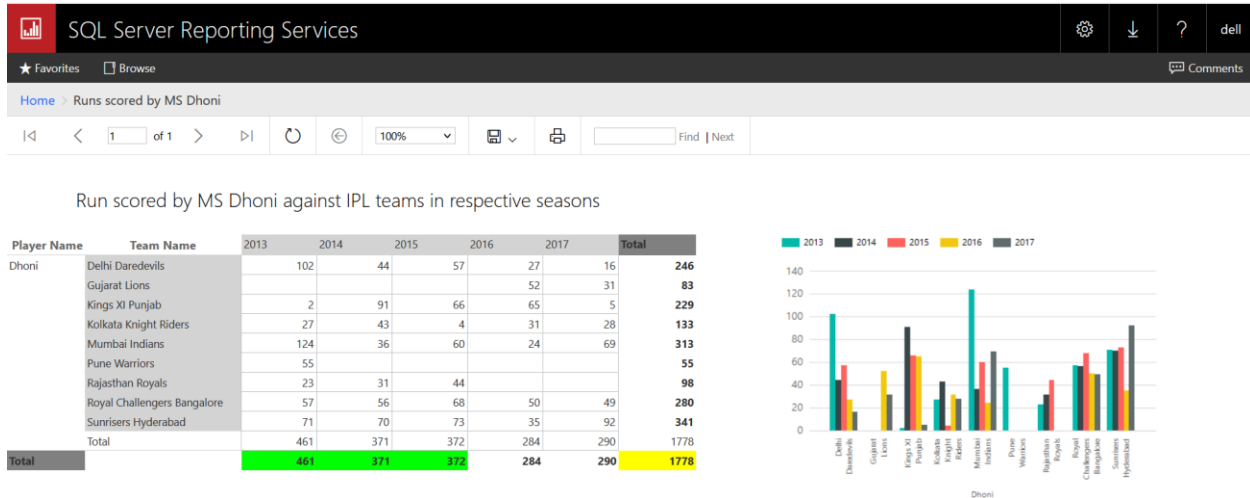
Runs scored by Bravo, Dhoni, Raina is show by the below table and charts.

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

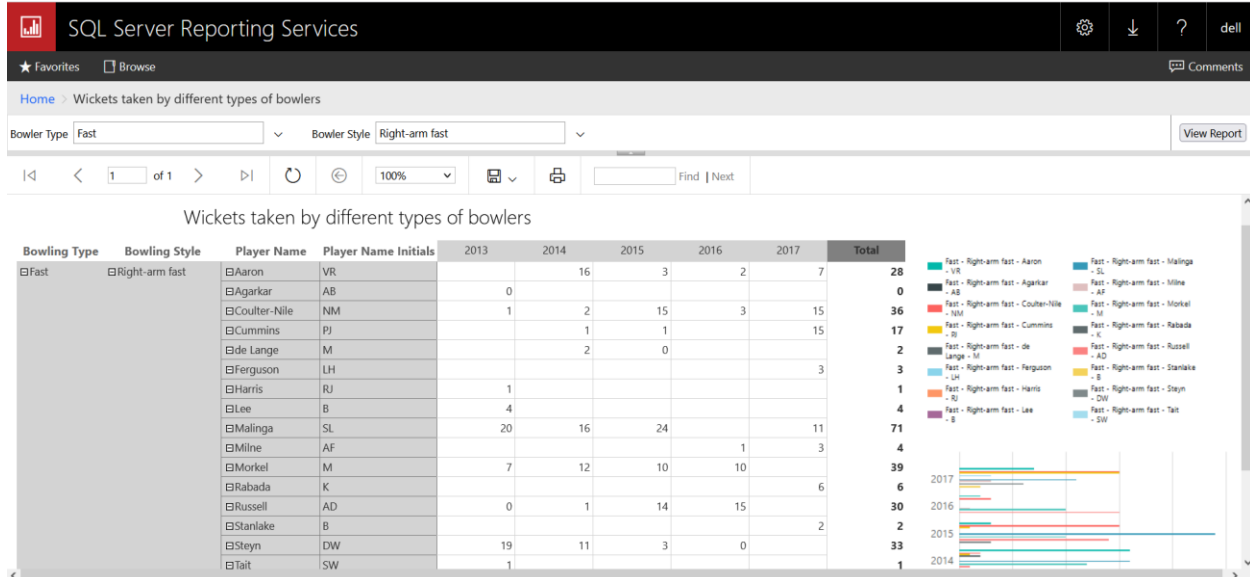


SSRS Reports

Report with a matrix



Report with more than one parameter



SSRS drill-down report

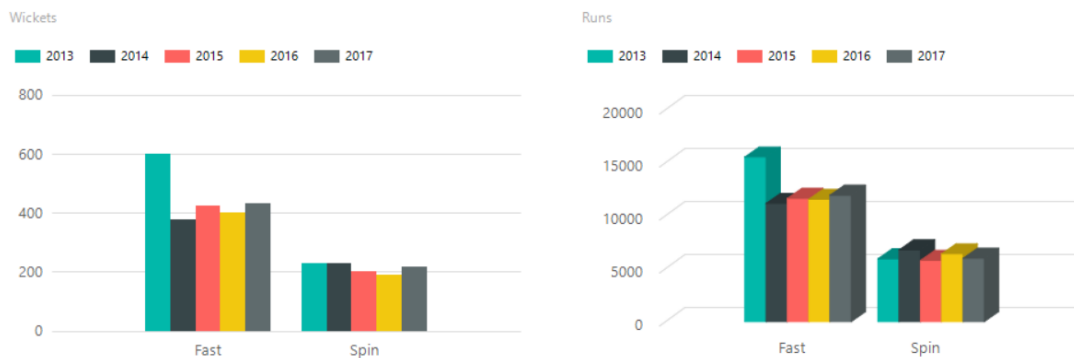
SQL Server Reporting Services										
★ Favorites Browse										
Home > Runs scored by Chennai Super Kings team members										
< < 1 of 2 ? > > ↺ ↻ 100% ⏏ ⏴ Find Next										
Run scored by Chennai Super Kings team members										
Match No	Over No	Ball No	Anirudha Total	Ashwin Total	Badrinath Total	Bravo Total	Dhoni Total	du Plessis Total	Hussey Total	Jadeja Total
598007	1	Total								2
	2	Total								3
	3	Total								4
	4	Total								5
	5	Total					2			
	6	Total								4
	7	Total					2			1
	8	Total				2	1			1
	9	Total				2	3			
	10	Total				7	2			
	11	Total				3	0	1		
	12	Total				2		1		
	13	Total				0		1		3
	14	Total						9		1
	15	Total						5		8
	16	Total			1			1		4

SSRS drill-through report


View 1

SQL Server Reporting Services										
★ Favorites Browse										
Home > Bowler type performance analysis										
< < 1 of 1 > > ↺ ↻ 100% ⏏ ⏴ Find Next										

Bowler type performance analysis



View 2

 SQL Server Reporting Services

★ Favorites ☐ Browse

Home > Bowler type performance analysis

1 of 1

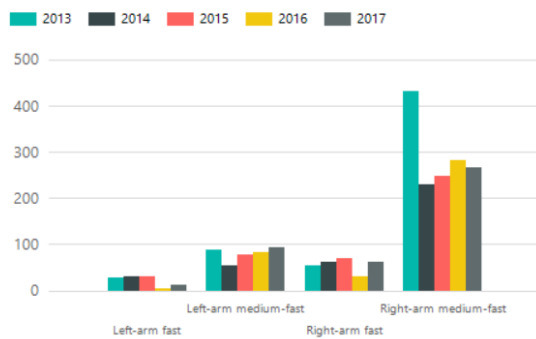
< >

100%

Find | Next

Bowler style performance analysis

Wickets



Runs

