Assignment #4: Soccer

Data Cowboys

ISM4212.001S19

April 26th, 2019

Team Leader:

Blake Rudder

Team Members:

Thomas McLaughlin

Dylan Stewart

Brandon Wolfram

Purpose:

This document is intended to be used in reference for creating a database for the Tampa Youth Soccer League. This document details the entities and attributes that are to be tracked in the database. The document's intention is to illustrate user stories and then generate user reports and test queries from the database design described.

Narrative:

The Tampa Youth Soccer League has multiple unique teams, each with its own sponsor and the player roster that are specific to their team. Every player has its own ID, and the league records the player's name, phone number, and date of birth. There is to be a player designated as the team captain on every team. Each match consists of two teams with its own unique ID, the score and a specific date of the match is to be tracked as well. Each players stats is to be tracked, this includes: their minutes played, goals scored, and penalties assessed. Matches have three parents that volunteer as referees, two linesmen, and one head ref. The league records the referee ID, name and phone number and each new referee are assigned an experienced ref as a mentor, not all experienced refs are mentors, and mentors can mentor multiple new refs.

Matches are played on different fields, and these fields have unique names where the league also records the address of the fields where matches are played. It is possible for a field to host multiple matches and also to host no matches. On every field, there are multiple vendors selling refreshments, but each vendor is to only sell at one particular match. Each vendor has a unique name and, their phone number, and what they sell whether it be food or beverages are to be recorded.

Requirements (actors, roles):

Team - Each team has at least one sponsor. Each team contains at least one player. Each team has one team captain.

Player - No player belongs to more than one team. It is possible for players to not participate in any matches. One player on each team is assigned as team captain. For each match, player statistics recorded include: minutes played, goals scored, and penalties assessed.

Match - Each match is played between two teams at a scheduled date and time. Match details are recorded such as final score, referees, time, and field. Three referees are assigned to each match, one head referee and two linesmen. Each match occurs at a single field at a certain time.

Referee - Parent volunteers serve as referees for matches. Each new referee is assigned to an experienced mentor referee. Not all experienced referees are mentors, but they can mentor more than one new referee at a time.

Field - Fields host multiple matches. Each field associated with several food and beverage vendors. Some fields closed when undergoing renovations with no scheduled matches.

Vendor - Vendors assigned matches at specific fields. Vendors sell refreshments at matches. Each vendor services only one field. Some vendors serve multiple types of food and beverage.

Entities Identified to be Tracked:

Team

Player

Match

Referee

Field

Vendor

Sponsor

Entities with Attributes Nested:

TEAM

ID

Team Name

Captain

PLAYER

Player ID

First name

Last name

Phone number

Date of Birth

Team

MATCH

Match ID

Date

Time

Teams (2)

Score

Referee

- ID
- Position

REFEREE

Referee ID

First Name

Last name

Phone number

FIELD

ID

Name

Street

City

State

Zip

Status

VENDOR

ID

Name

Phone

Type

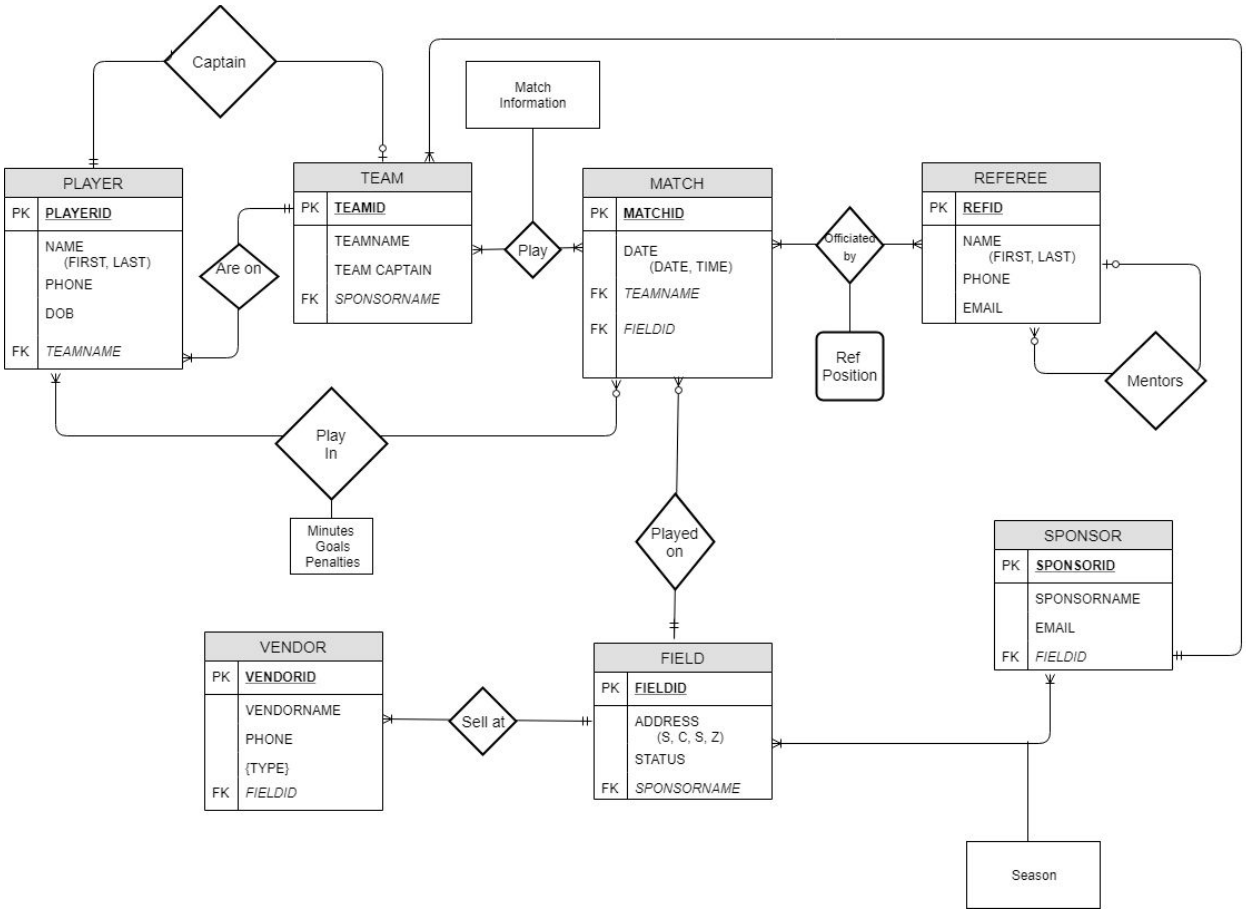
SPONSOR

ID

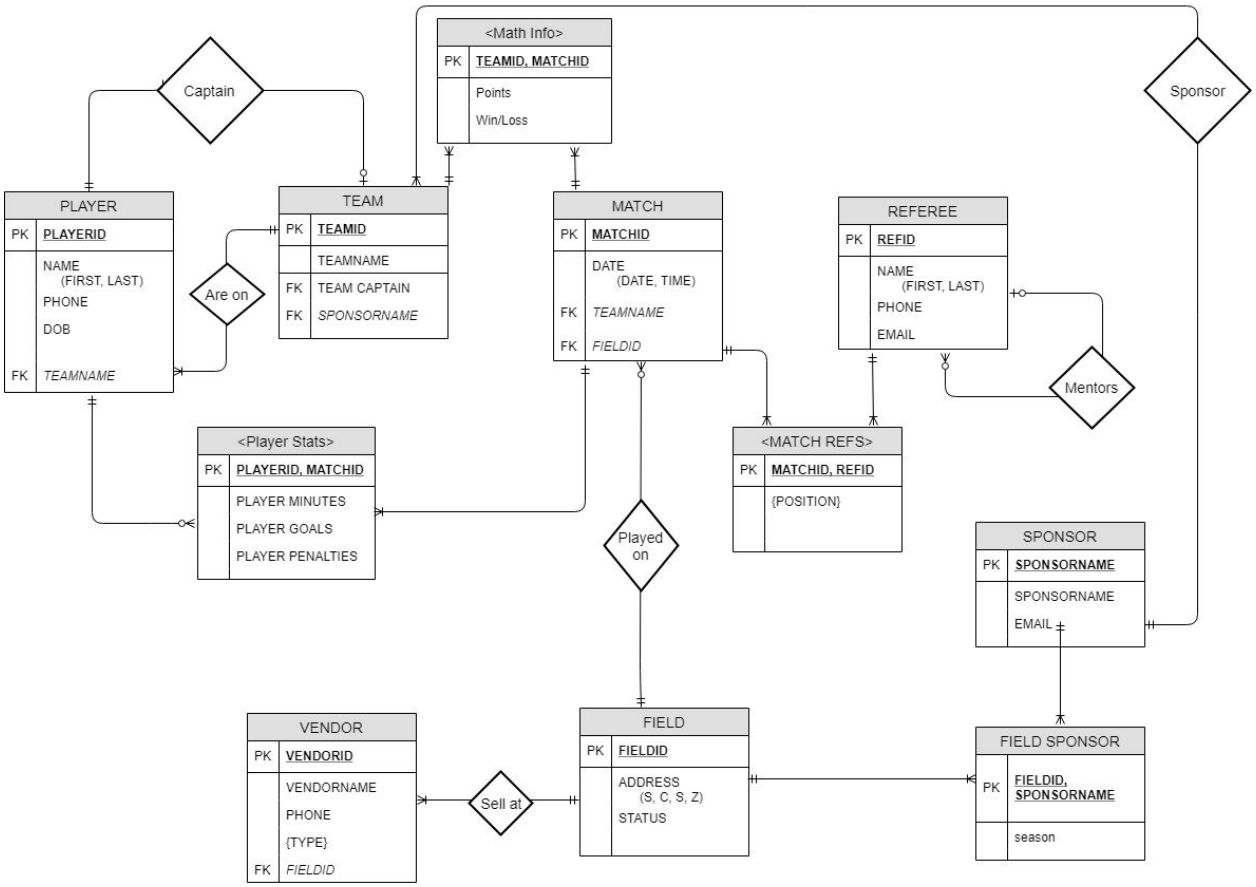
Name

Email

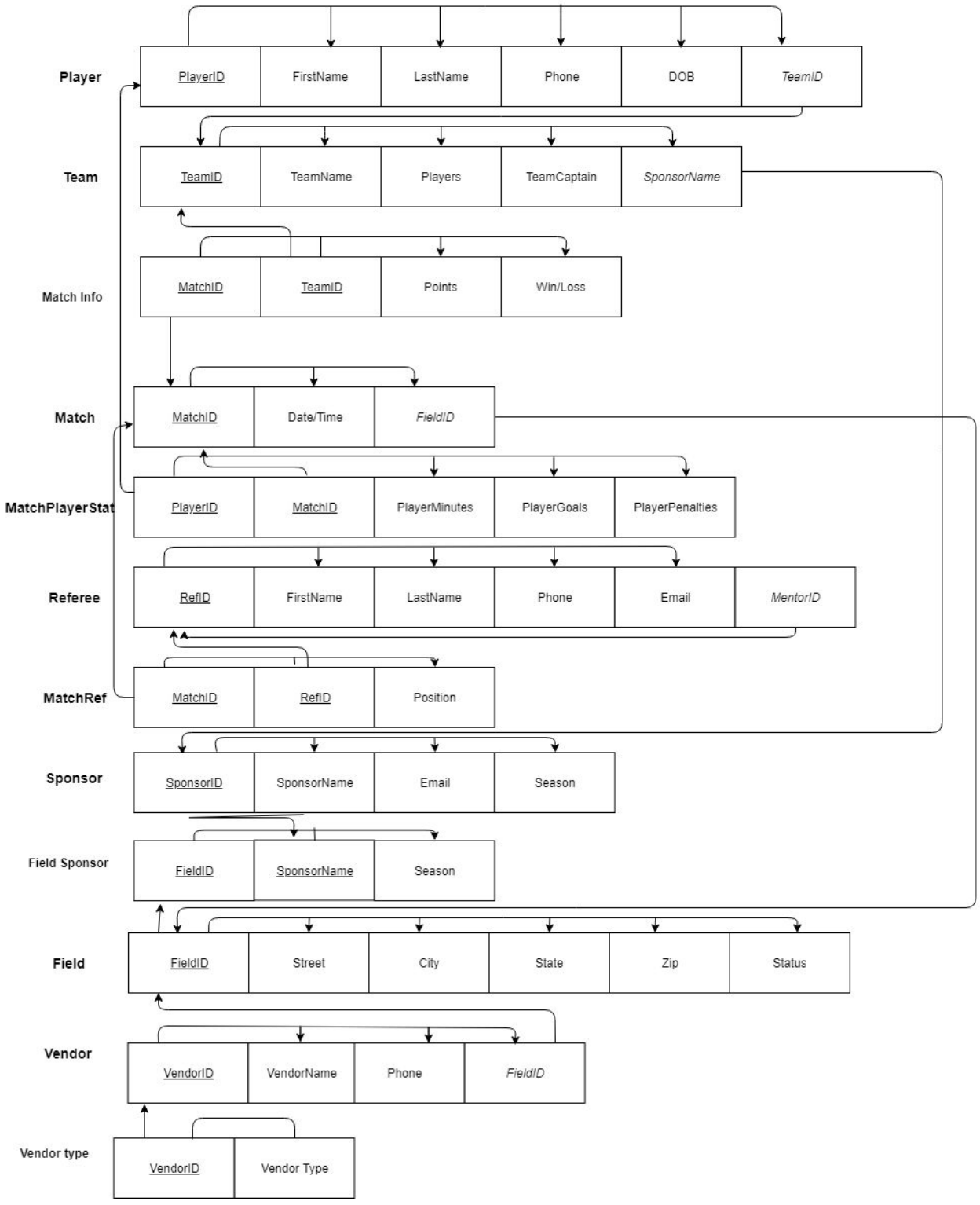
ERD:


Captain
Match Information
PLAYER
PK PLAYERID
NAME (FIRST, LAST)
PHONE
DOB
FK TEAMNAME
Are on
TEAM
PK TEAMID
TEAMNAME
TEAM CAPTAIN
FK SPONSORNAME
Play
MATCH
PK MATCHID
DATE (DATE, TIME)
FK TEAMNAME
FK FIELDID
Officiated by
REFEREE
PK REFID
NAME (FIRST, LAST)
PHONE
EMAIL
Ref Position
Mentors
Play In
Minutes Goals Penalties
Played on
SPONSOR
PK SPONSORID
SPONSORNAME
EMAIL
FK FIELDID
VENDOR
PK VENDORID
VENDORNAME
PHONE
{TYPE}
FK FIELDID
Sell at
FIELD
PK FIELDID
ADDRESS (S, C, S, Z)
STATUS
FK SPONSORNAME
Season

EERD:


<Math Info>
PK TEAMID, MATCHID
Points
Win/Loss
Captain
Sponsor
PLAYER
PK PLAYERID
NAME (FIRST, LAST)
PHONE
DOB
FK TEAMNAME
Are on
TEAM
PK TEAMID
TEAMNAME
FK TEAM CAPTAIN
FK SPONSORNAME
MATCH
PK MATCHID
DATE (DATE, TIME)
FK TEAMNAME
FK FIELDID
REFEREE
PK REFID
NAME (FIRST, LAST)
PHONE
EMAIL
Mentors
<Player Stats>
PK PLAYERID, MATCHID
PLAYER MINUTES
PLAYER GOALS
PLAYER PENALTIES
<MATCH REFS>
PK MATCHID, REFID
{POSITION}
Played on
SPONSOR
PK SPONSORNAME
SPONSORNAME
EMAIL
VENDOR
PK VENDORID
VENDORNAME
PHONE
{TYPE}
FK FIELDID
Sell at
FIELD
PK FIELDID
ADDRESS (S, C, S, Z)
STATUS
FIELD SPONSOR
PK FIELDID, SPONSORNAME
season

RS:


Player
PlayerID
FirstName
LastName
Phone
DOB
TeamID
Team
TeamID
TeamName
Players
TeamCaptain
SponsorName
Match Info
MatchID
TeamID
Points
Win/Loss
Match
MatchID
Date/Time
FieldID
MatchPlayerStat
PlayerID
MatchID
PlayerMinutes
PlayerGoals
PlayerPenalties
Referee
RefID
FirstName
LastName
Phone
Email
MentorID
MatchRef
MatchID
RefID
Position
Sponsor
SponsorID
SponsorName
Email
Season
Field Sponsor
FieldID
SponsorName
Season
Field
FieldID
Street
City
State
Zip
Status
Vendor
VendorID
VendorName
Phone
FieldID
Vendor type
VendorID
Vendor Type

Data Dictionary:

Table: Player

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
PlayerID	ID assigned to Player	int		Y	Y				Y
FirstName	First name of Player	varchar	20						
LastName	Last name of Player	varchar	30						
PlayerPhone	Street address of Player	varchar	10				([0-9][0-9][0-9])-[0-9][0-9][0-9][0-9]		
DOB	Date of birth for player	date							
TeamID	Team that player is on	int							Y

Table: Team

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
TeamID	ID assigned to Team	int		Y	Y				Y
TeamName	Name of Team	varchar	20						
TeamCaptian	FK to player	int							Y
SponsorID	FK to Sponsor	int							Y

Table: Match

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
MatchID	ID assigned to Match	int		Y	Y				Y
DateTime	Date and time match played	datetime							
FieldID	FK to field	int							Y

Table: MatchPlayerStats

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
PlayerID	FK to player	int			Y				Y
TeamID	FK to team	int							Y
PlayerMinutes	Events for player	time							
PlayerGoals	Number of goals player scored in match	int							
PlayerPenalties	Number of Penalties for player	int							

Table: Referee

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
RefID	ID assigned to Referee	int		Y	Y				Y
FirstName	First name of Referee	varchar	20						
LastName	Last name of Referee	varchar	30						
RefereePhone	Street address of Referee	varchar	10				([0-9][0-9][0-9])-[0-9][0-9][0-9][0-9]		
RefereeeMail	Email Address of Referee	varchar	50						
MentorID	FK to referee mentor	int							Y

Table: MatchRef

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
MatchID	FK to Match	int			Y				Y
RefID	FK to Referee	int							Y
Position	Position of referee in match	varchar	10						

Table: Sponsor

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
SponsorID	ID assigned to sponsor	int		Y	Y				Y
SponsorName	Name of sponsor	varchar	20						
SponsorEmail	Email of Sponsor	varchar	50						
Season	Season sponsor is in	varchar	10						

Table: FieldSponsor

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
FieldID	ID assigned to sponsor	int			Y				Y
SponsorID	Name of sponsor	int							
Season	Season sponsor is in	varchar	10						

Table: Field

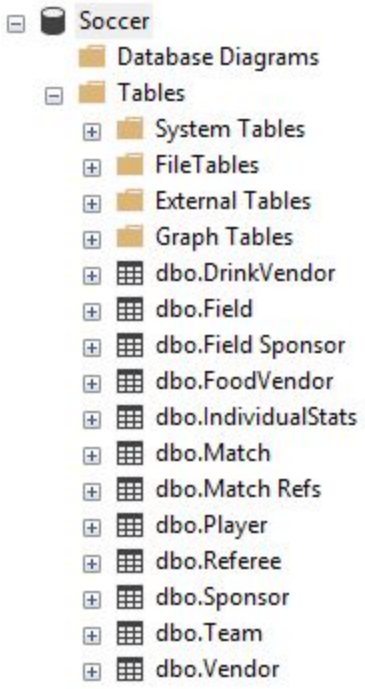
Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
FieldID	ID assigned to Field	int		Y	Y				Y
Street	Street address of field	varchar	50						
City	City field is located in	varchar	30						
State	State of field	varchar	2				[A-Z][A-Z]		
Zip	Zip code of field	varchar	10						
Status	If field is open or closed	varchar	10						

Table: Vendor

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
VendorID	ID assigned to Team	int		Y	Y				Y
VendorPhone	Name of Team	varchar	10				([0-9][0-9][0-9])-[0-9][0-9][0-9][0-9]		
Type	Food or Drink vendor	binary							
FieldID	FK to fieldID	int							Y

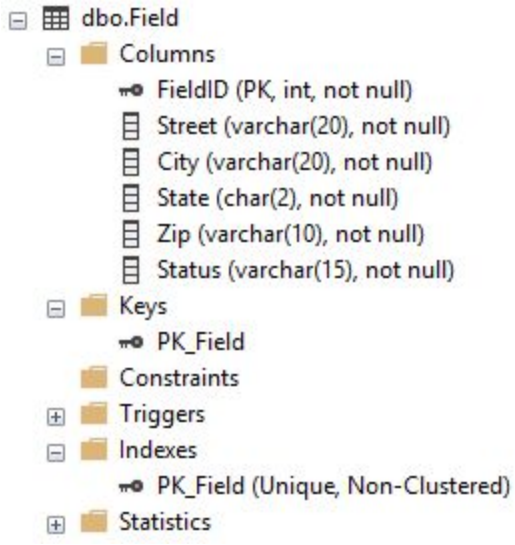
Tables By Schema:

- View of all tables created in the database:

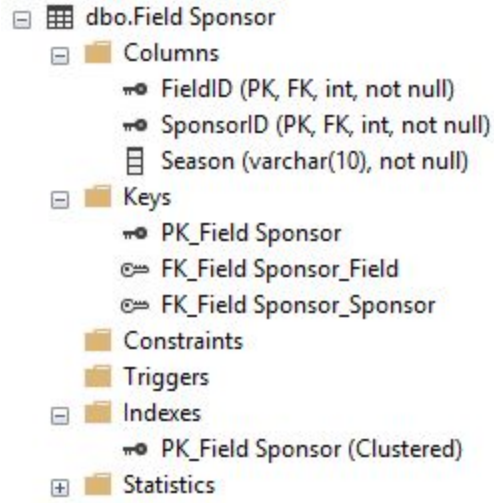


Tables Broken Down Individually:

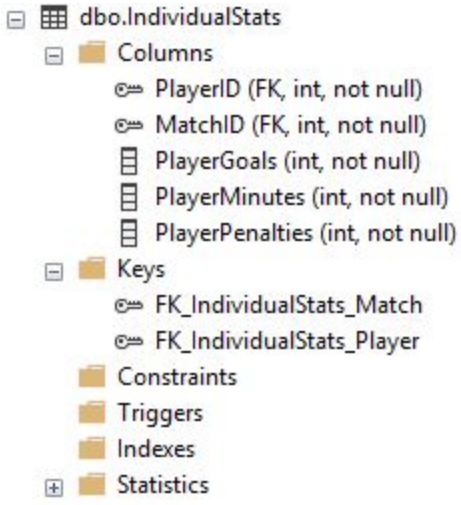
Field Table: Fields host multiple matches. Fields are tracked by the FieldID generated in the database. Fields change their status to closed when undergoing renovations with no scheduled matches.



Field Sponsor Table:
Uses generated attributes FieldID and SponsorID as the primary key. Season is used to record the year that a sponsor was associated with a specific field.

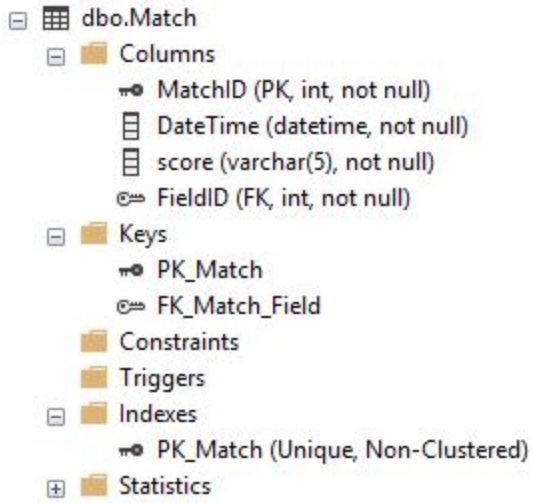


IndividualStats Table: The IndividualStats table tracks individual player statistics such as their goals, penalties, and minutes played per match. Players are related to this table by their generated PlayerID, and matches are related by their generated MatchID.

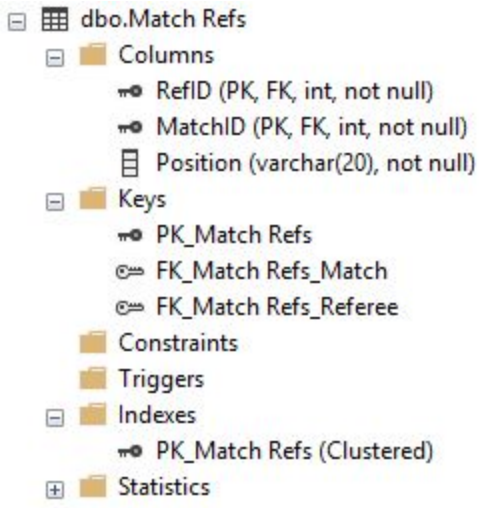


Match Table:

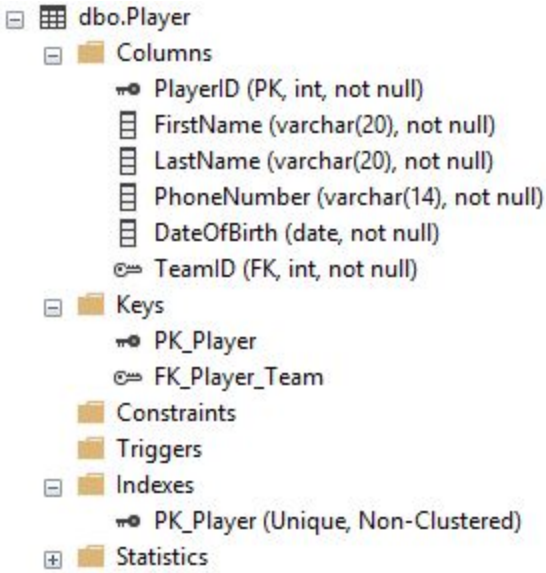
Each match is played between two teams at a scheduled date and time. Matches are tracked by their generated MatchID. Match details are recorded such as final score, referees, date, time, and field. Three referees are assigned to each match, one head referee and two linesmen.



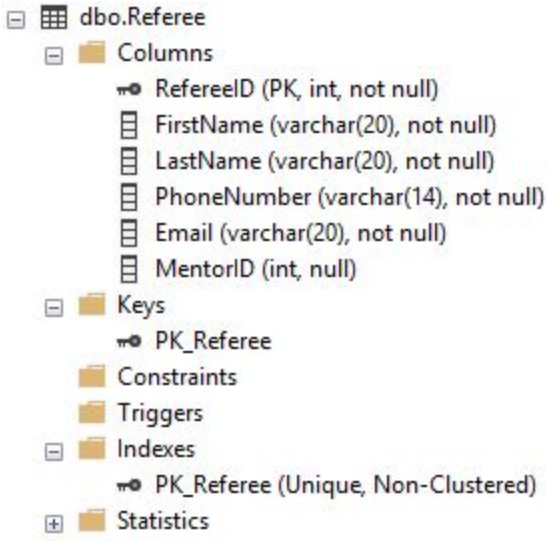
Match Ref Table: Each match is played between two teams at a scheduled date and time. Match details are recorded such as final score, referees, time, and field. Three referees are assigned to each match, one head referee and two linesmen. Each match occurs at a single field at a certain time.



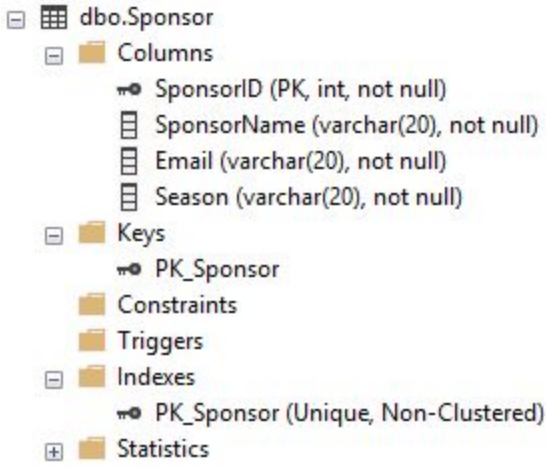
Player Table: Each player is associated with one and only one team. Players are tracked by their generated PlayerID. Personal information is also recorded such as their name, phone number, and date of birth. One player on each team is assigned as team captain.



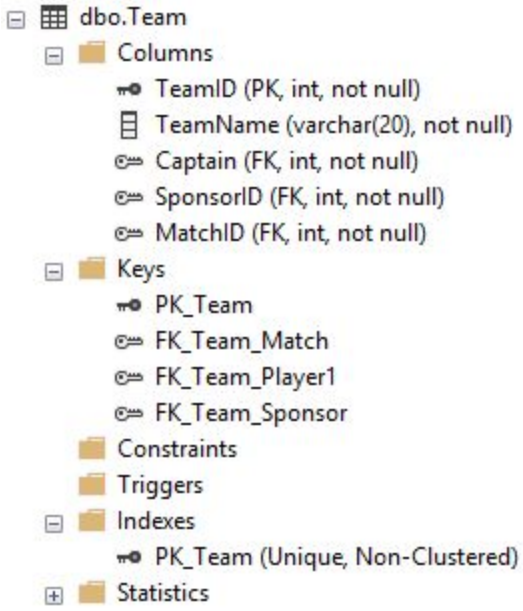
Referee Table: Parent volunteers serve as referees for matches. Referees are uniquely tracked by their generated RefereeID. Information such as name, phone number, and email address are also recorded for each referee. Each new referee is assigned to an experienced mentor referee.



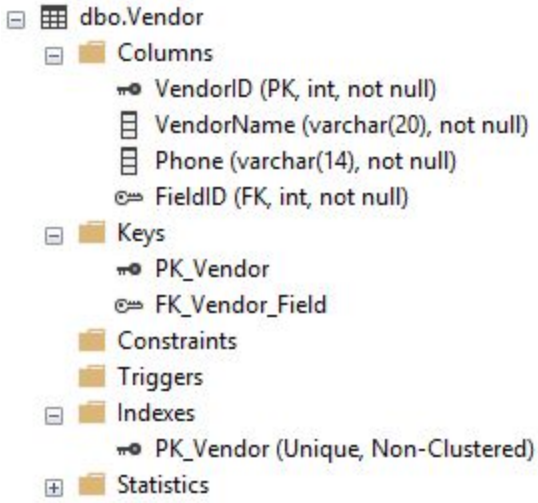
Sponsor Table: Sponsors are tracked by the SponsorID generated in the database. The SponsorName and Email columns show the name and contact email of the sponsor. The Season column records the year for which the sponsor has funded.



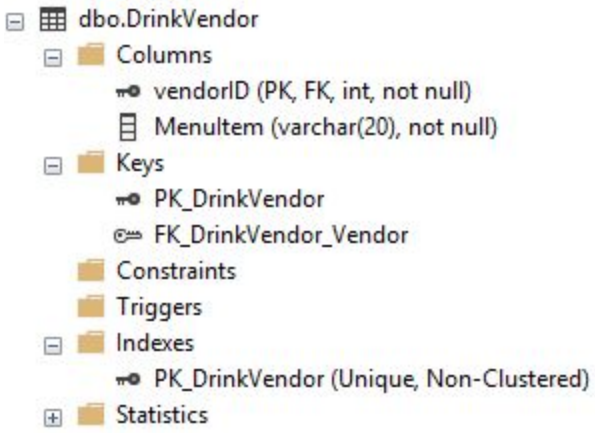
Team Table: Teams are tracked by their generated TeamID. Each team contains at least one player. Each team has at least one sponsor. Each team records TeamName, and designates one player as team captain.



Vendor Table: Vendors assigned matches at specific fields. Vendors sell refreshments at matches. Each vendor services only one field. Some vendors serve multiple types of food and beverage.



Drink Vendor Table:
Vendors are tracked by generated VendorID. Drink items are recorded in the MenuItem column.



Food Vendor Table:
Vendors are tracked by generated VendorID. Food items are recorded in the MenuItem column.

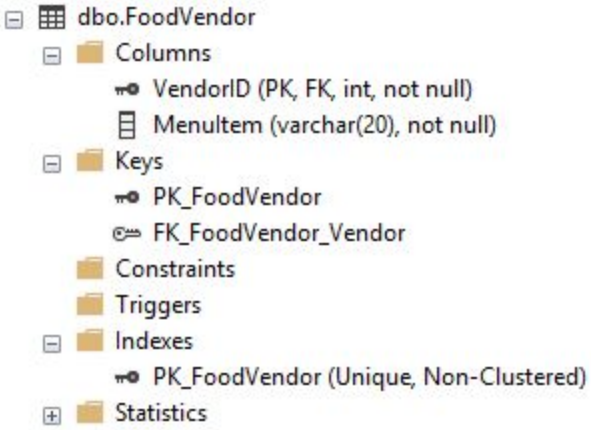
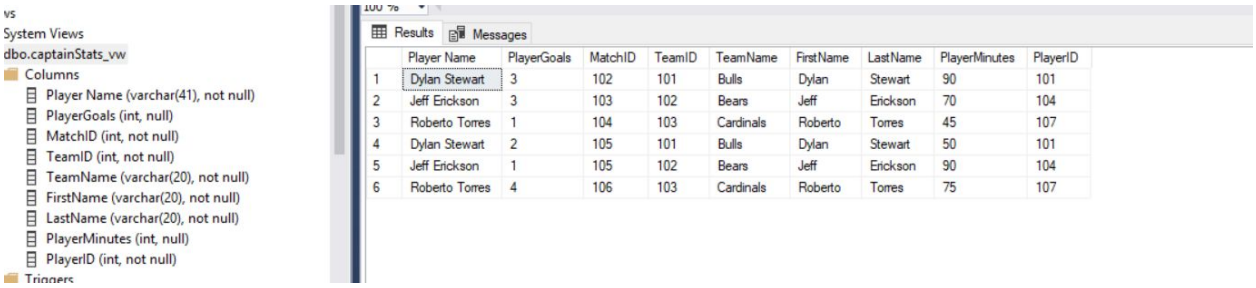
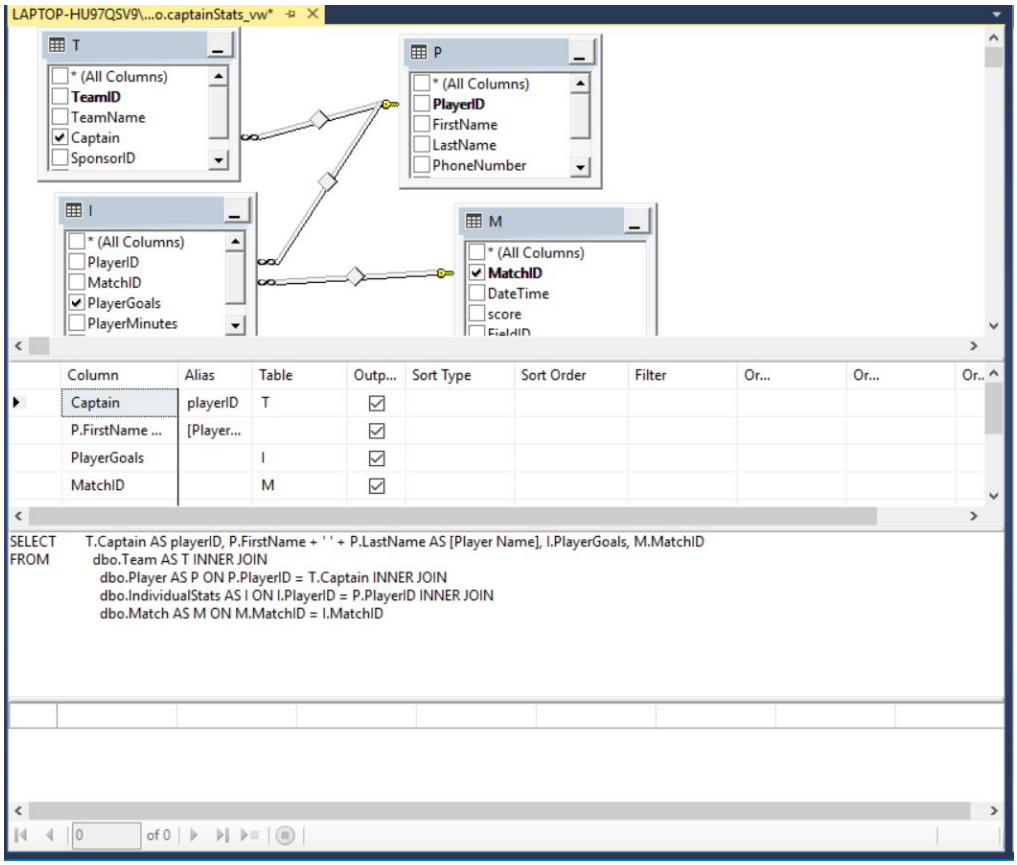


Table Views:

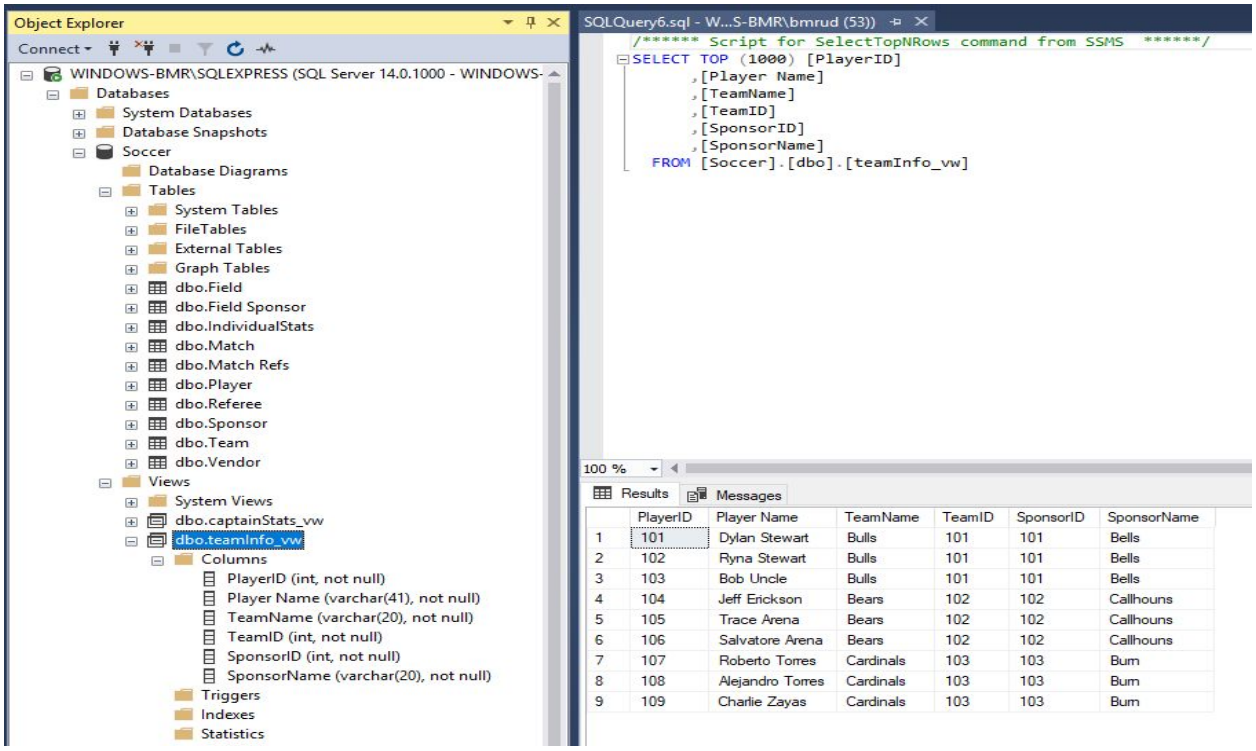
#1- This view shows a list of all the Team Captains and the number of goals that they have scored:

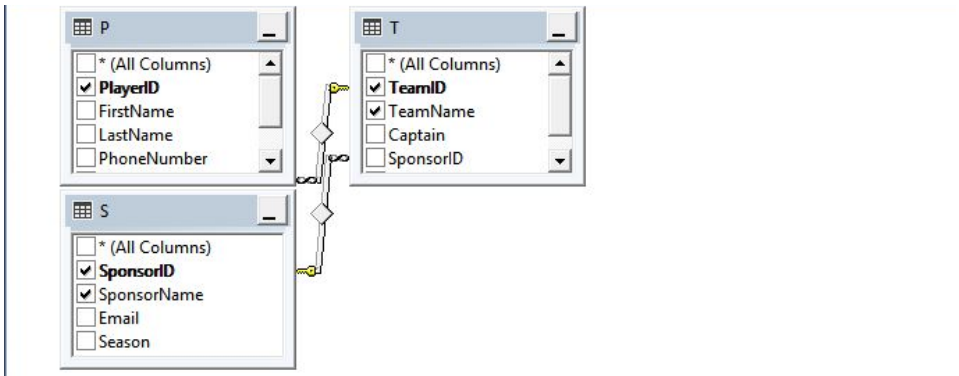


	Player Name	PlayerGoals	MatchID	TeamID	TeamName	FirstName	LastName	PlayerMinutes	PlayerID
1	Dylan Stewart	3	102	101	Bulls	Dylan	Stewart	90	101
2	Jeff Erickson	3	103	102	Bears	Jeff	Erickson	70	104
3	Roberto Torres	1	104	103	Cardinals	Roberto	Torres	45	107
4	Dylan Stewart	2	105	101	Bulls	Dylan	Stewart	50	101
5	Jeff Erickson	1	105	102	Bears	Jeff	Erickson	90	104
6	Roberto Torres	4	106	103	Cardinals	Roberto	Torres	75	107



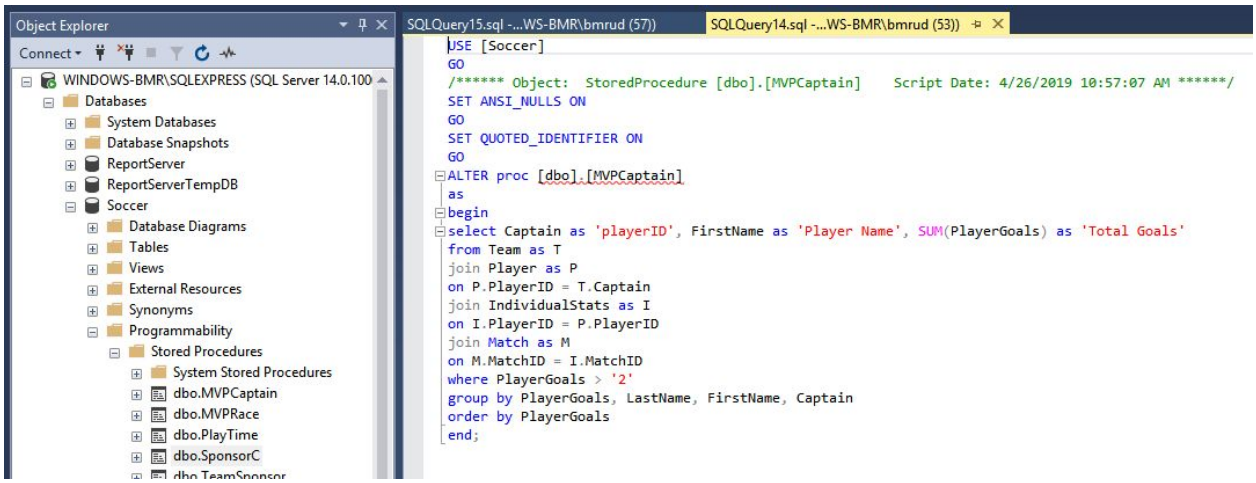
#2- This view shows the list of every player, the team they belong to, as well as their sponsor:

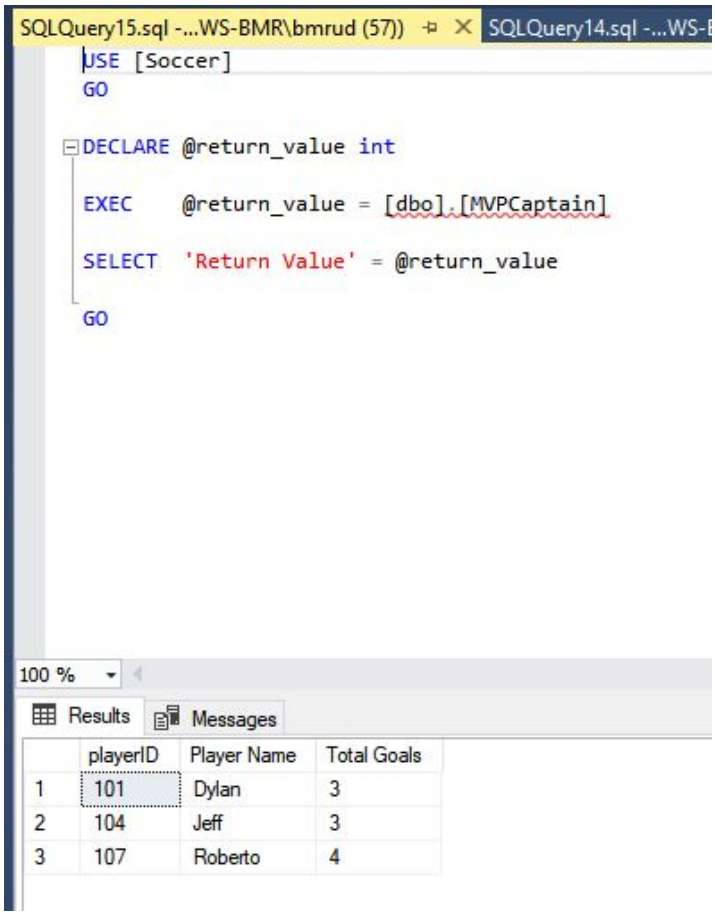




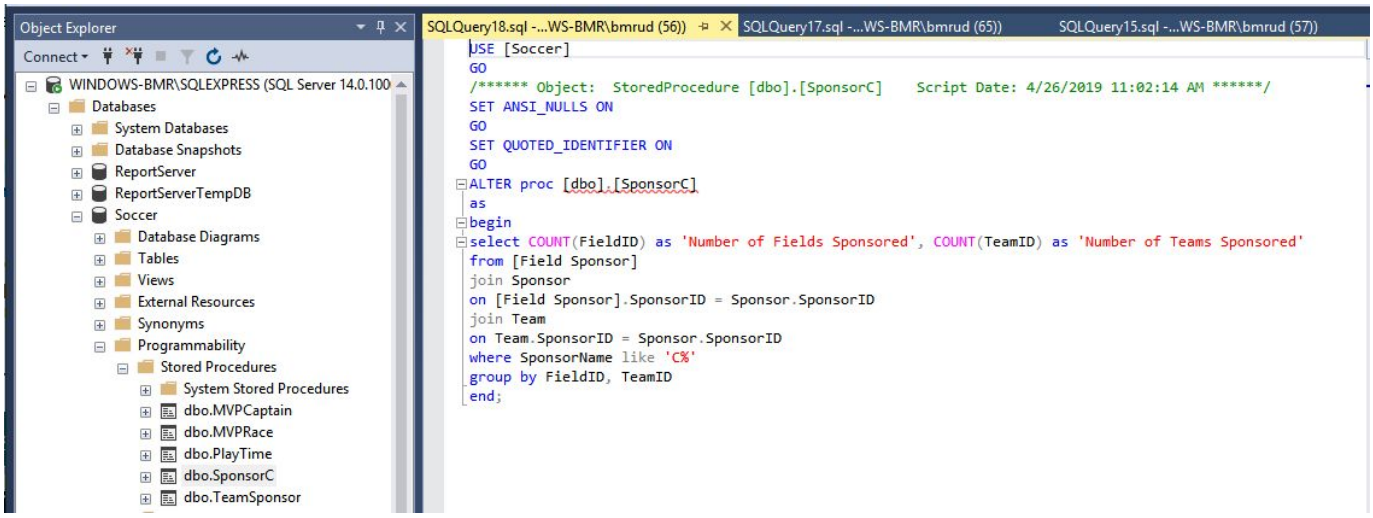
SPROC:

#1- This SPROC shows only the team captains who have scored more than 2 goals, and puts them in the running for team captain MVP:





#2- This SPROC shows the number of fields and teams sponsored by sponsors who start with the letter C:




```
USE [Soccer]
GO

DECLARE @return_value int

EXEC    @return_value = [dbo].[SponsorC]

SELECT  'Return Value' = @return_value

GO
```

100 %

Results | Messages

	Number of Fields Sponsored	Number of Teams Sponsored
1	1	1
2	1	1

Reports & UAT:

This user acceptance test checks teams players and their number of goals who have played in games:

```
select T.TeamID, P.PlayerID, P.FirstName, P.LastName,
 isnull(convert(varchar(14),SUM(PlayerGoals)), 'Has Not Played') as 'Total Goals'

from Player as P
left join IndividualStats as I
on I.PlayerID = P.PlayerID
join Team as T
on T.TeamID = P.TeamID
group by T.TeamID, P.PlayerID, P.FirstName, P.LastName
order by Sum(PlayerGoals) Desc
end;
```

MVP Race

Team ID	Player ID	First Name	Last Name	Total Goals
101				
	101	Dylan	Stewart	5
	103	Bob	Uncle	2
	102	Ryna	Stewart	0
	110	Roberto	Roberts	Has Not Played
102				
	104	Jeff	Erickson	4
	105	Trace	Arena	Has Not Played
	106	Salvatore	Arena	Has Not Played
	111	Dan	Maker	Has Not Played
103				
	107	Roberto	Torres	5
	108	Alejandro	Torres	1
	109	Charlie	Zayas	0

This user acceptance test checks for that amount of minutes played by players during matches:

```
create PROC PlayTime
as
begin
select P.PlayerID, P.FirstName, P.LastName, I.MatchID, I.PlayerMinutes
from Player as P
join IndividualStats as I
on P.PlayerID = I.PlayerID
where I.PlayerMinutes is not null
end;
```

Play Time

First Name	Last Name	Match ID	Player Minutes
Dylan	Stewart		
		102	90
		105	50
		Total Minutes	140
Ryna	Stewart		
		102	45
		105	40
		Total Minutes	85
Bob	Uncle		
		102	80
		Total Minutes	80
Jeff	Erickson		
		103	70
		105	90
		Total Minutes	160
Roberto	Torres		
		104	45
		106	75
		Total Minutes	120

This user acceptance test is checking who the sponsors are, and how many teams they sponsor:

```
as
begin
select S.SponsorID, S.SponsorName, COUNT(TeamID) as 'number of teams sponsored'
from Sponsor as S
inner join Team as T
on S.SponsorID = T. SponsorID
group by S.SponsorID, S.SponsorName
end;
```

Team Sponsorship

Sponsor Name	number of teams sponsored
Bells	2
Callhouns	2
Burn	1