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Project 1

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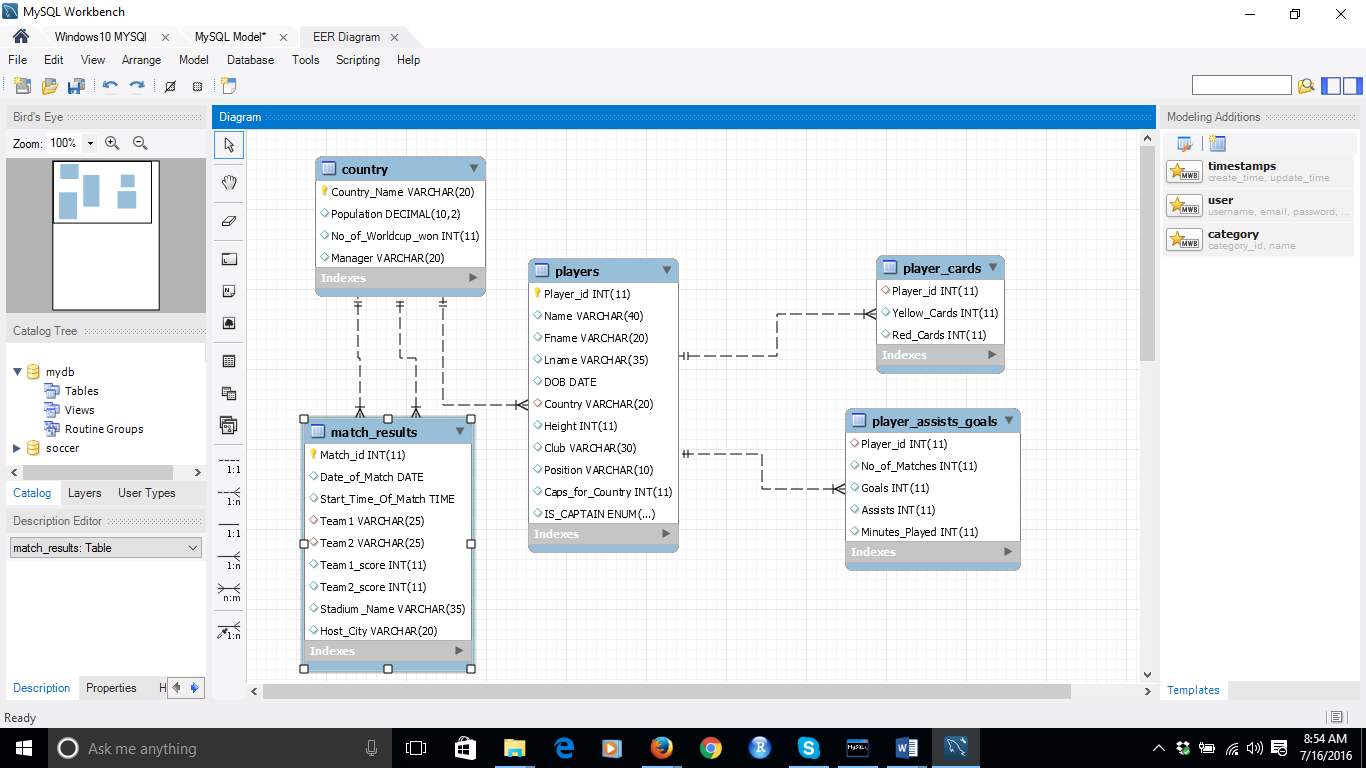
# 1. Software environment & tools

* MySQl 5.7.13
* MySQL Workbench

# 2. Creation of Table for SOCCER database

* The SOCCER database was created & DDL queries to create tables COUNTRY, PLAYER, MATCH\_RESULTS, PLAYER\_ASSISTS\_GOALS, PLAYER\_CARDS with the constraints were written in TableCreation\_1.txt file, the output is spooled in spool\_TableCreation\_1.out
* Text file with queries TableCreation\_1.txt is attached.
* spool\_TableCreation\_1.out spool file is attached.

## 2.1 Schema diagram



## 2.2 Load the records from files to tables in SOCCER DB

* Load Infile command was executed from MySQL from Loaddata\_2.txt file which contains the scripts below for loading the data from the CSV files in to the respective tables.
* Loaddata\_2.txt script file is attached.
* Spool file spool\_Loaddata\_2.out is attached.

LOAD DATA LOCAL INFILE 'D:/DB1/Files/Country.csv' INTO TABLE SOCCER.COUNTRY FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';

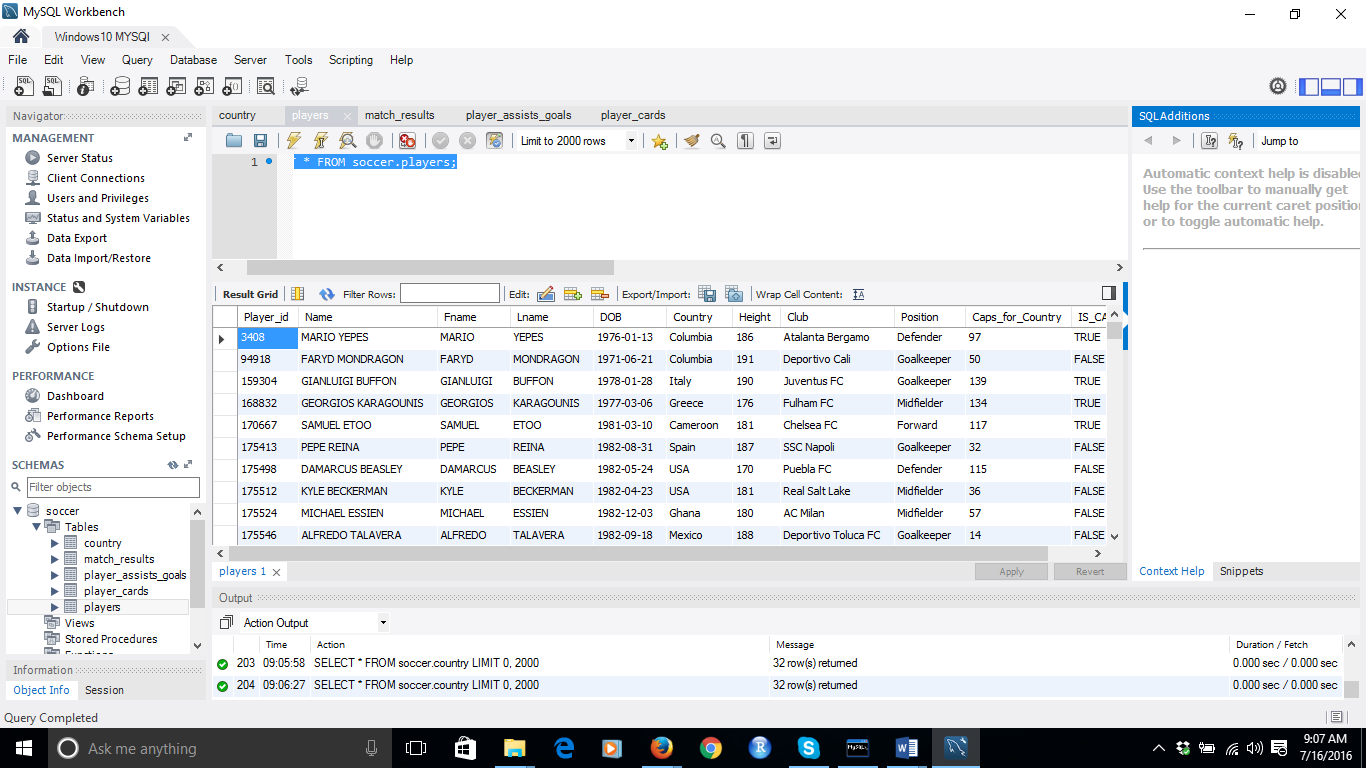
LOAD DATA LOCAL INFILE 'D:/DB1/Files/Players.csv' INTO TABLE SOCCER.PLAYERS FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';

LOAD DATA LOCAL INFILE 'D:/DB1/Files/Match\_results.csv' INTO TABLE SOCCER.MATCH\_RESULTS FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';

LOAD DATA LOCAL INFILE 'D:/DB1/Files/Player\_cards.csv' INTO TABLE SOCCER.PLAYER\_CARDS FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';

LOAD DATA LOCAL INFILE 'D:/DB1/Files/Player\_assists\_goals.csv' INTO TABLE SOCCER.PLAYER\_ASSISTS\_GOALS FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';

## 2.3 Loaded data screenshot



# 3. SQL Queries

* Text file with queries Queries\_3.txt is attached.
* spool\_Queries\_3.out spool file is attached.

1. Retrieve the name, position, club, and Caps\_for\_Country for the players whose country is ‘Germany’

**select Name,Position,Club,** **Caps\_for\_Country from SOCCER.players where Country='Germany';**

1. Retrieve the names of countries participating in the 2014 world cup (this database) that have won the world cup at least once.

**select Country\_Name from soccer.country where No\_of\_Worldcup\_won>0;**

1. Retrieve the names of countries participating in the 2014 world cup (this database) that have never won the world cup.

**select Country\_Name from soccer.country where No\_of\_Worldcup\_won=0;**

1. Retrieve the name and country of the player with the most yellow cards in the 2014 world cup.

**select Name,Country from PLAYERS where PLAYERS.Player\_Id in (select Player\_Id from PLAYER\_CARDS where Yellow\_Cards=(select max(Yellow\_Cards) from PLAYER\_CARDS));**

1. For each Host city, retrieve the HostCity and the total number of games played in that city.

**select Host\_City,count(Host\_City) as 'Total games' from MATCH\_RESULTS group by Host\_city;**

1. For each country, retrieve the country name and the number of games they played as Team1 in the MATCH\_RESULTS table, and the total goals scored (SUM of Team1\_score) and the goals against (SUM of Team2\_score).

**select Team1 'Country Name', count(Team1) as 'No Games Played' ,sum(Team1\_score) as 'Total Goals Scored', sum(Team2\_score) as 'Goals Against' FROM soccer.match\_results group by Team1;**

1. For each country, retrieve the country name and the number of games they played as Team2 in the MATCH\_RESULTS table, and the total goals scored (SUM of Team12\_score) and the goals against (SUM of Team1\_score)

**select Team2 'Country Name', count(Team2) as 'No Games Played' ,sum(Team2\_score) as 'Total Goals Scored', sum(Team1\_score) as 'Goals Against' FROM soccer.match\_results group by Team2;**

1. Write a query that combines the results of the queries in 5. and 6. to get the total number of games each country has played (either as Team1 or as Team2), their total goals scored and their total goals against. Create a view TEAM\_SUMMARY that has the following data attributes to hold the result of the combined query: CountryName, NoOfGames, TotalGoalsFor, TotalGoalsAgainst. Order in descending order of number of games played.

**create view TEAM\_SUMMARY as**

**select a.Team1 as 'Country Name',sum(a.aa+b.bb) as NoofGames, sum(a.gf+b.gf) as 'Total Goals For',sum(a.ga+b.ga) as 'Total Goals Against' from**

**(select count(Team1) as aa, Team1,sum(Team1\_score) as gf,sum(Team2\_score) as ga FROM soccer.match\_results group by Team1) a,**

**(select count(Team2) as bb,Team2,sum(Team2\_score) as gf,sum(Team1\_score) as ga FROM soccer.match\_results group by Team2) b**

**where a.Team1=b.Team2 group by Team1 order by NoofGames desc;**

1. Find all the matches played with country ‘USA’ as Team1 or Team2.

**select \* from MATCH\_RESULTS where Team1='USA' or Team2='USA';**

1. Retrieve the names of the players who have scored at least one goal, the player’s country, and the number of goals each player scored. Order the result by number of goals scored in descending order.

**select b.Name,b.Country as 'Players Country', a.Goals as 'No of Goals' from**

**PLAYER\_ASSISTS\_GOALS a,PLAYERS b where a.Player\_id=b.Player\_id and a.Goals>0 order by a.Goals desc;**

1. Repeat 11. but only for the players who have more than 2 goals.

**select b.Name,b.Country as 'Players Country', a.Goals as 'No of Goals' from**

**PLAYER\_ASSISTS\_GOALS a,PLAYERS b where a.Player\_id=b.Player\_id and a.Goals>2 order by a.Goals desc;**

1. Make a list of participating countries and their population, ordered in descending order of population.

**select Country\_Name as 'Participating Countries',Population from country order by Population desc;**

# 4. Integrity constraints violation-Insert

* Text file with queries Insert\_Delete\_Violation\_\_Valid Insert\_4\_5\_6.txt is attached.
* spool\_ Insert\_Delete\_Violation\_\_Valid Insert\_4\_5\_6.out spool file is attached.

Australia already exists in the COUNTRY Table causing a ‘PRIMARY’ key or key violation.

**insert into COUNTRY(Country\_Name,Population,No\_of\_Worldcup\_won,Manager) Values**

**('Australia',25,0,'Perth');**

Referential Integrity or Foreign key constraint fails because ‘Antartica’ does not exist in CONTRY tables Country\_Name

**Insert into PLAYERS(Player\_id,Name,Fname,Lname,DOB,Country,Height,Club,Position,Caps\_for\_Country,IS\_CAPTAIN)**

**values (12345,'ABDELMOUMENE DJABOU','ABDELMOUMENE','DJABOU','1987-01-31','Antartica',168,'Club Africain','Forward',7,'FALSE');**

Entity Integrity constraint fails as Country\_Name which is the primary key cannot be null.

**insert into COUNTRY(Country\_Name,Population,No\_of\_Worldcup\_won,Manager) Values**

**(null,25,0,'Perth');**

# 5. Referential Integrity constraint violation-Delete

Referential Integrity or Foreign key constraint fails on delete as ‘Australia’ is referenced by PLAYERS & MATCH\_RESULTS table.

**delete from country where Country\_Name='Australia';**

# 6. Integrity constraints –Inserts not violating

Three records are inserted as they do not violate any constraints

**insert into**

**COUNTRY(Country\_Name,Population,No\_of\_Worldcup\_won,Manager) Values**

**('Newcountry1',10,0,'newcity1');**

**Insert into PLAYERS(Player\_id,Name,Fname,Lname,DOB,Country,Height,Club,Position,Caps\_for\_Country,IS\_CAPTAIN)**

**values (12345,'ABDELMOUMENE DJABOU','ABDELMOUMENE','DJABOU','1987-01-31','Newcountry1',168,'Club Africain','Forward',7,'FALSE');**

**Insert into MATCH\_RESULTS(Match\_id,Date\_of\_Match,Start\_Time\_Of\_Match,Team1,Team2,Team1\_score,Team2\_score,Stadium\_Name,Host\_city) values**

**(100,'2016-07-17','17:00:00','Newcountry1','Croatia',3,1,'Arena de Sao Paulo','Sao Paulo');**