NBA DBA (NBA Database Assignment)

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Background and Uses

This database will be used for representing the year 2016 for the NBA, including the players, owners coaches, points scored per game and so on. People can use this database for reference of teams, or for statistical analysis of players and their performance throughout the season, and compare players and teams to each other.

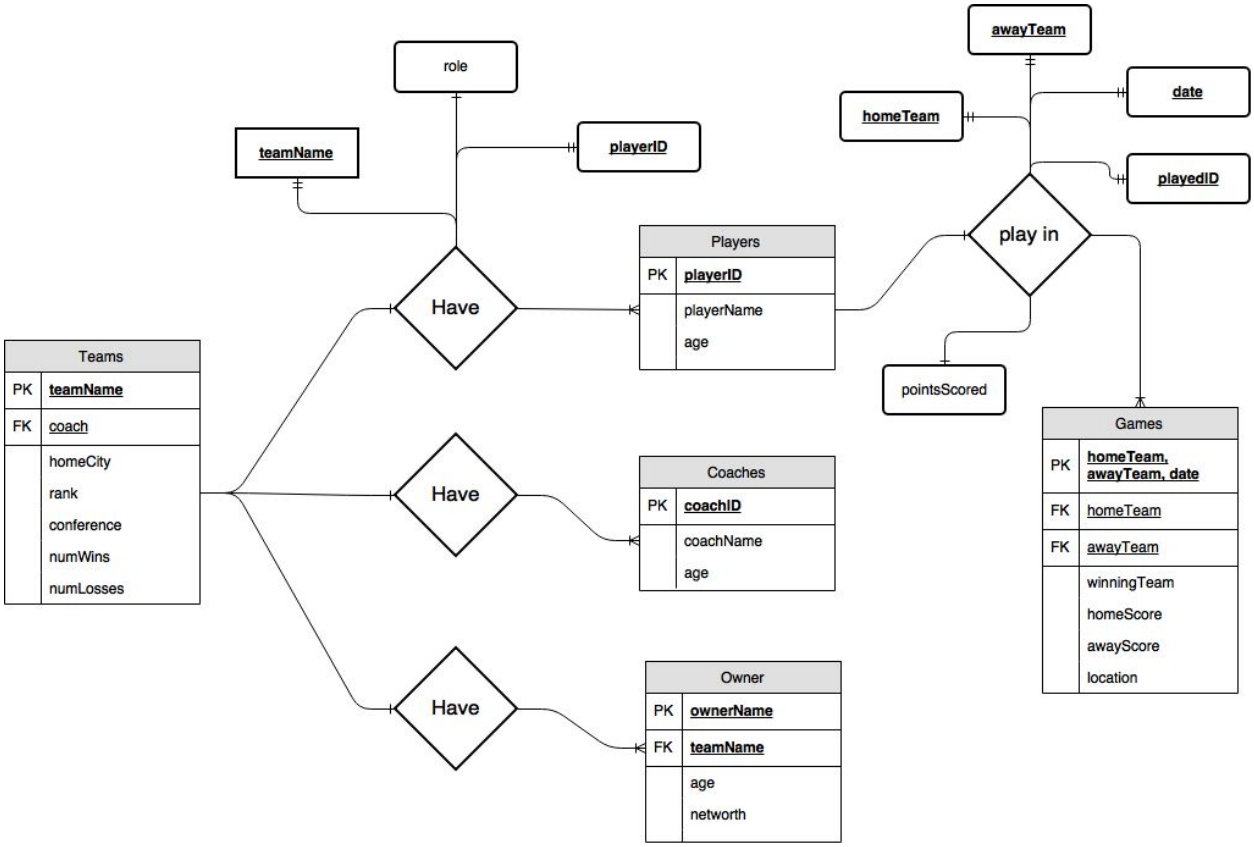
We are going to get most of the data automatically from stats.nba.com. For example http://stats.nba.com/stats/commonallplayers/?LeagueID=00&Season=2015-16&IsOnlyCurrentSeason=1 returns a JSON object with all of the players from the 2015-16 season.

Data Description

The Teams table has the information for a specific team in the NBA. The Players table has the data for each player in the NBA and a generated ID to differentiate players with the same name. The Games table relates two teams together to represent a game on a specific date, showing the WinningTeam as 'Home' or 'Away', the total score for each team, and the location is in place for games where the home team doesn't play at the home stadium, such as the NBA Finals. TeamRoster is a relation between the players and the team they are on, showing what role they play. Coaches is the table for the head coach of each team. Owner is the table for the owner or owners of each team, showing the information of the owner in the many to one relation from owners to teams. PointsPerGame is the relation between Games and Players, storing the points a specific player stored in a game. Please note that the primary keys are underlined.

1. Teams (TeamName, HomeCity, Rank, Conference, numWins, numLosses, Coach)
    a. Foreign Key (Coach) references Coaches
2. Players (PlayerId, PlayerName,age)
3. Games (HomeTeam, AwayTeam, Date, WinningTeam, HomeScore, AwayScore, Location)
    a. Foreign key (Home Team) references Teams
    b. Foreign Key (AwayTeam) references Teams
4. TeamRoster (PlayerID, TeamName, Role)
    a. Foreign Key (PlayerID) references Players
    b. Foreign Key (TeamName) references Teams
5. Coaches (CoachID, CoachName, age)
6. Owner (OwnerName, Age, networth, TeamName)
    a. Foreign key (TeamName) references Teams
7. PointsPerGame (HomeTeam, AwayTeam, Date, PlayerID, PointsScored)
    a. Foreign Key (HomeTeam, AwayTeam, Date) References Games
    b. Foreign Key (PlayerID) references Players

Entity-Relation Diagram



The line with the one cross denotes an optional attribute/entity, while the line with the two crosses denotes a mandatory attribute. Hence, in the diagram, the entities in the relations that were mandatory/could not be null (i.e. primary keys) had to be denoted with the two crosses.