### **UEFA Overview**

### The Union of European Football Associations (UEFA) is the administrative and controlling body for European football. Founded on June 15, 1954, in Basel, Switzerland, UEFA is one of the six continental confederations of world football's governing body FIFA. It consists of 55 member associations, each representing a country in Europe. UEFA organizes and oversees some of the most prestigious football competitions globally, including:

### **UEFA Champions League: An annual club football competition contested by top-division European clubs.**

### **UEFA Europa League: A secondary club competition for European teams.**

### **UEFA European Championship: Also known as the Euros, it is a tournament for national teams in Europe.**

### **UEFA Nations League: A competition involving the men's national teams of the member associations of UEFA.**

### UEFA's responsibilities include regulating rules of the game, organizing international competitions, and promoting football development and fair play.

### **Dataset Overview**

### The dataset provided consists of five CSV files: Goals, Matches, Players, Stadiums, and Teams. These files contain comprehensive data on various aspects of UEFA competitions, enabling detailed analysis and insights into football dynamics. The project focuses on analyzing these datasets using SQL to answer specific questions about teams, players, goals, matches, and stadiums.

### **Data Dictionary**

### **Goals.csv**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| **GOAL\_ID** | **String** | **Unique identifier for each goal** |
| **MATCH\_ID** | **String** | **Identifier for the match in which the goal was scored** |
| **PID** | **String** | **Identifier for the player who scored the goal** |
| **DURATION** | **Integer** | **Minute in the match when the goal was scored** |
| **ASSIST** | **String** | **Identifier for the player who assisted the goal** |
| **GOAL\_DESC** | **String** | **Description of how the goal was scored (e.g., right-footed shot, penalty)** |

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### **Matches.csv**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| **MATCH\_ID** | **String** | **Unique identifier for each match** |
| **SEASON** | **String** | **The season during which the match took place (e.g., "2021-2022")** |
| **DATE** | **String** | **The date when the match was played (in DD-MM-YYYY format)** |
| **HOME\_TEAM** | **String** | **The name of the home team** |
| **AWAY\_TEAM** | **String** | **The name of the away team** |
| **STADIUM** | **String** | **The name of the stadium where the match was played** |
| **HOME\_TEAM\_SCORE** | **Integer** | **The score of the home team** |
| **AWAY\_TEAM\_SCORE** | **Integer** | **The score of the away team** |
| **PENALTY\_SHOOT\_OUT** | **Integer** | **Indicator of whether there was a penalty shootout (1 = Yes, 0 = No)** |
| **ATTENDANCE** | **Integer** | **The number of spectators attending the match** |

### **Players.csv**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| **PLAYER\_ID** | **String** | **Unique identifier for each player** |
| **FIRST\_NAME** | **String** | **First name of the player** |
| **LAST\_NAME** | **String** | **Last name of the player** |
| **NATIONALITY** | **String** | **Nationality of the player** |
| **DOB** | **Date** | **Date of birth of the player (in YYYY-MM-DD format)** |
| **TEAM** | **String** | **Team that the player is currently playing for** |
| **JERSEY\_NUMBER** | **Float** | **Jersey number of the player** |
| **POSITION** | **String** | **Playing position of the player (e.g., Defender, Midfielder)** |
| **HEIGHT** | **Float** | **Height of the player (in centimeters)** |
| **WEIGHT** | **Float** | **Weight of the player (in kilograms)** |
| **FOOT** | **String** | **Preferred foot of the player (R = Right, L = Left)** |

### **Teams.csv**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| **TEAM\_NAME** | **String** | **Name of the team** |
| **COUNTRY** | **String** | **Country where the team is based** |
| **HOME\_STADIUM** | **String** | **Name of the team's home stadium** |

### **Stadium.csv**

| **column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| **Name** | **String** | **Name of the stadium** |
| **City** | **String** | **Name of the City** |
| **Country** | **String** | **Name of the Country** |
| **Capacity** | **Int** | **Capacity of the stadium** |

### **Tasks -**

### **Load up the 5 Tables in your Postgresql and try to solve the questions mentioned below. The link containing the CSV file of the tables is attached below.**

### [**https://drive.google.com/drive/folders/1wo-LFBqkH-6MmwxTMoefVKv1HrLIL3Xi?usp=sharing**](https://drive.google.com/drive/folders/1wo-LFBqkH-6MmwxTMoefVKv1HrLIL3Xi?usp=sharing)

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### **Goal Analysis (From the Goals table)**

1. **Which player scored the most goals in a each season?**
2. **How many goals did each player score in a given season?**
3. **What is the total number of goals scored in a particular match?**
4. **Which player assisted the most goals in a each season?**
5. **Which players have scored goals in more than 10 matches?**
6. **What is the average number of goals scored per match in a given season?**
7. **Which player has the most goals in a single match?**
8. **Which team scored the most goals in the all seasons?**
9. **Which stadium hosted the most goals scored in a single season?**

### **Match Analysis (From the Matches table)**

1. **What was the highest-scoring match in a particular season?**
2. **How many matches ended in a draw in a given season?**
3. **Which team had the highest average score (home and away) in the season 2021-2022?**
4. **How many penalty shootouts occurred in a each season?**
5. **What is the average attendance for home teams in the 2021-2022 season?**
6. **Which stadium hosted the most matches in a each season?**
7. **What is the distribution of matches played in different countries in a season?**
8. **What was the most common result in matches (home win, away win, draw)?**

### **Player Analysis (From the Players table)**

1. **Which players have the highest total goals scored (including assists)?**
2. **What is the average height and weight of players per position?**
3. **Which player has the most goals scored with their left foot?**
4. **What is the average age of players per team?**
5. **How many players are listed as playing for a each team in a season?**
6. **Which player has played in the most matches in the each season?**
7. **What is the most common position for players across all teams?**
8. **Which players have never scored a goal?**

### **Team Analysis (From the Teams table)**

1. **Which team has the largest home stadium in terms of capacity?**
2. **Which teams from a each country participated in the UEFA competition in a season?**
3. **Which team scored the most goals across home and away matches in a given season?**
4. **How many teams have home stadiums in a each city or country?**
5. **Which teams had the most home wins in the 2021-2022 season?**

### **Stadium Analysis (From the Stadiums table)**

1. **Which stadium has the highest capacity?**
2. **How many stadiums are located in a particular country or city?**
3. **Which stadium hosted the most matches during a season?**
4. **What is the average stadium capacity for teams participating in a specific season?**
5. **How many teams play in stadiums with a capacity of more than 50,000?**
6. **Which stadium had the highest attendance on average during a season?**
7. **What is the distribution of stadium capacities by country?**

### **Cross-Table Analysis (Combining multiple tables)**

1. **Which players scored the most goals in matches held at a specific stadium?**
2. **Which team won the most home matches in the season 2021-2022 (based on match scores)?**
3. **Which players played for a team that scored the most goals in the 2021-2022 season?**
4. **How many goals were scored by home teams in matches where the attendance was above 50,000?**
5. **Which players played in matches where the score difference (home team score - away team score) was the highest?**
6. **How many goals did players score in matches that ended in penalty shootouts?**
7. **What is the distribution of home team wins vs away team wins by country for all seasons?**
8. **Which team scored the most goals in the highest-attended matches?**
9. **Which players assisted the most goals in matches where their team lost?**
10. **What is the total number of goals scored by players who are positioned as defenders?**
11. **Which players scored goals in matches that were held in stadiums with a capacity over 60,000?**
12. **How many goals were scored in matches played in cities with specific stadiums in a season?**
13. **Which players scored goals in matches with the highest attendance (over 100,000)?**

### **Additional Complex Queries (Combining multiple aspects)**

1. **What is the average number of goals scored by each team in the first 30 minutes of a match?**
2. **Which stadium had the highest average score difference between home and away teams?**
3. **How many players scored in every match they played during a given season?**
4. **Which teams won the most matches with a goal difference of 3 or more in the 2021-2022 season?**
5. **Which player from a specific country has the highest goals per match ratio?**
6. **What is the correlation between stadium capacity and average match attendance?**
7. **How many goals did teams score in matches where their home stadium was over 80% full?**
8. **Which player has scored the most goals in matches played in a specific stadium?**
9. **How many times did a team lose despite having the highest possession in a match (if possession data were included)?**
10. **Which team had the lowest goals conceded average per match in the 2021-2022 season?**