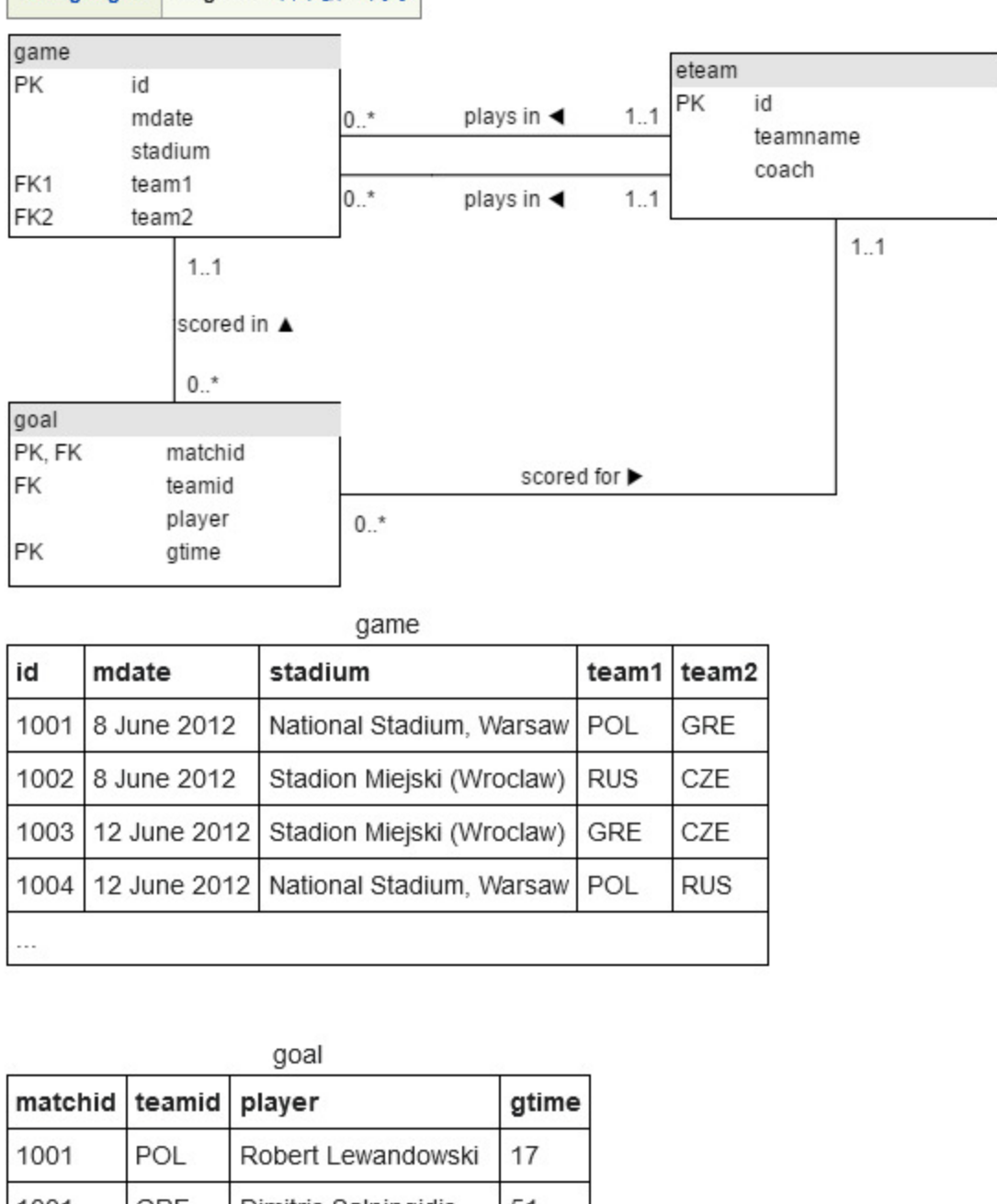


## The JOIN operation



goal				
matchid	teamid	player		gtime
1001	POL	Robert Lewandowski		17
1001	GRE	Dimitris Salpingidis		51
1002	RUS	Alan Dzagoev		15
1002	RUS	Roman Pavlyuchenko		82
...				

etean			
id	teamname	coach	
POL	Poland	Franciszek Smuda	
RUS	Russia	Dick Advocaat	
CZE	Czech Republic	Michal Bilek	
GRE	Greece	Fernando Santos	
...			

### JOIN and UEFA EURO 2012

This tutorial introduces JOIN which allows you to use data from two or more tables. The tables contain all matches and goals from UEFA EURO 2012 Football Championship in Poland and Ukraine. The data is available (mysql format) at <http://sqlzoo.net/ueuro2012.sql#>

Summary

#### 1.

The first example shows the goal scored by a player with the last name 'Bender'. The \* says to list all the columns in the table - a shorter way of saying matchid, teamid, player, gtime

Modify it to show the matchid and player name for all goals scored by Germany. To identify German players, check for: teamid = 'GER'

```
SELECT matchid, player FROM goal
WHERE teamid = 'GER'
```

Submit SQL

Restore default

#### Correct answer

matchid	player
1008	Mario Gómez
1010	Mario Gómez
1010	Mario Gómez
1012	Lukas Podolski
1012	Lars Bender
1026	Philipp Lahm
1026	Sami Khedira

#### 2.

From the previous query you can see that Lars Bender's scored a goal in game 1012. Now we want to know what teams were playing in that match.

Notice in the that the column matchid in the goal table corresponds to the id column in the game table. We can look up information about game 1012 by finding that row in the game table.

Show id, stadium, team1, team2 for just game 1012

```
SELECT id,stadium,team1,team2
FROM game
WHERE id = 1012
```

Submit SQL

Restore default

#### Correct answer

id	stadium	team1	team2
1012	Arena Lviv	DEN	GER

#### 3.

You can combine the two steps into a single query with a JOIN.

```
SELECT *
FROM game JOIN goal ON (id=matchid)
```

The FROM clause says to merge data from the goal table with that from the game table. The ON says how to figure out which rows in game go with which rows in goal - the matchid from goal must match id from game. (If we wanted to be more clear/specific we could say ON (game.id=goal.matchid)

The code below shows the player (from the goal) and stadium name (from the game table) for every goal scored.

Modify it to show the player, teamid, stadium and mdate for every German goal.

```
SELECT player,teamid,stadium,mdate
FROM game JOIN goal ON (id=matchid) WHERE teamid = 'GER'
```

Submit SQL

Restore default

#### Correct answer

player	teamid	stadium	mdate
Mario Gómez	GER	Arena Lviv	9 June 2012
Mario Gómez	GER	Metalist Stadium	13 June 2012
Mario Gómez	GER	Metalist Stadium	13 June 2012
Lukas Podolski	GER	Arena Lviv	17 June 2012
Lars Bender	GER	Arena Lviv	17 June 2012
Philipp Lahm	GER	PGE Arena Gdansk	22 June 2012
Sami Khedira	GER	PGE Arena Gdansk	22 June 2012

#### 4.

Use the same JOIN as in the previous question.

Show the team1, team2 and player for every goal scored by a player called Mario player LIKE 'Mario'

```
SELECT team1, team2, player FROM game JOIN goal ON (id=matchid) WHERE player LIKE 'Mario'
```

Submit SQL

Restore default

#### Correct answer

team1	team2	player
GER	POR	Mario Gómez
NED	GER	Mario Gómez
NED	GER	Mario Gómez
IRL	CRO	Mario Mandžukić
IRL	CRO	Mario Mandžukić
ITA	CRO	Mario Mandžukić
ITA	IRL	Mario Balotelli

#### 5.

The table eteam gives details of every national team including the coach. You can JOIN goal to eteam using the phrase goal JOIN eteam on teamid=id

Show player, teamid, coach, gtime for all goals scored in the first 10 minutes gtime<10

```
SELECT player, teamid, coach, gtime
FROM goal JOIN eteam ON (teamid=id) WHERE gtime<10
```

Submit SQL

Restore default

#### Correct answer

player	teamid	coach	gtime
Petr Jiráček	CZE	Michal Bilek	3
Václav Pílar	CZE	Michal Bilek	6
Mario Mandžukić	CRO	Slaven Bilić	3
Fernando Torres	ESP	Vicente del Bosque	4

#### 6.

To JOIN game with eteam you could use either game JOIN eteam ON (team1=eteam.id) or game JOIN eteam ON (team2=eteam.id)

Notice that because id is a column name in both game and eteam you must specify eteam.id instead of just id

List the dates of the matches and the name of the team in which Fernando Santos was the team1 coach.

```
SELECT mdate, teamname FROM game JOIN eteam ON (team1=eteam.id) WHERE coach = 'Fernando Santos'
```

Submit SQL

Restore default

#### Correct answer

mdate	teamname
12 June 2012	Greece
16 June 2012	Greece

#### 7.

List the player for every goal scored in a game where the stadium was 'National Stadium, Warsaw'

```
SELECT player FROM game JOIN goal ON (matchid = id) WHERE stadium = 'National Stadium, Warsaw'
```

Submit SQL

Restore default

#### Correct answer

player
Robert Lewandowski
Dimitris Salpingidis
Alan Dzagoev
Jakub Blaszczykowski
Giorgos Karagounis
Cristiano Ronaldo
Mario Balotelli

### More difficult questions

#### 8.

The example query shows all goals scored in the Germany-Greece quarterfinal.

Instead show the name of all players who scored a goal against Germany.

HINT

```
SELECT DISTINCT player
FROM game JOIN goal ON (matchid = id
WHERE (teamid != 'GER') AND (team1 = 'GER' OR team2 = 'GER')
```

Submit SQL

Restore default

#### Correct answer

player
Robin van Persie
Michael Krohn-Dehli
Georgios Samaras
Dimitris Salpingidis
Mario Balotelli

#### 9.

Show teamname and the total number of goals scored.

```
COUNT and GROUP BY
SELECT teamname, COUNT(teamid)
FROM eteam JOIN goal ON id=teamid
GROUP BY teamname
```

Submit SQL

Restore default

#### Correct answer

teamname	COUNT(id)
Poland	2
Greece	5
Russia	5
Czech Republic	4
Denmark	4
Germany	10
Portugal	6

#### 10.

Show the stadium and the number of goals scored in each stadium.

```
SELECT stadium, COUNT(id)
FROM game JOIN goal ON id=matchid
GROUP BY stadium
```

Submit SQL

Restore default

#### Correct answer

stadium	COUNT(id)
National Stadium, Warsaw	9
Stadion Miejski (Wrocław)	9
Metalist Stadium	7
Arena Lviv	9
PGE Arena Gdansk	13
Stadion Miejski (Poznan)	8
Donbass Arena	1

#### 11.

For every match involving 'POL', show the matchid, date and the number of goals scored.

```
SELECT matchid,mdate, COUNT(teamid) FROM game JOIN goal ON matchid = id
WHERE (team1 = 'POL' OR team2 = 'POL')
GROUP BY matchid, mdate
```

Submit SQL

Restore default

#### Correct answer

matchid	mdate	COUNT(matchid)
1001	8 June 2012	2
1004	12 June 2012	2
1005	16 June 2012	1

#### 12.

For every match where 'GER' scored, show matchid, match date and the number of goals scored by 'GER'

```
SELECT matchid, mdate, COUNT(matchid) FROM game JOIN goal ON matchid = id
WHERE teamid = 'GER'
GROUP BY matchid, mdate
```

Submit SQL

Restore default

#### Correct answer

matchid	mdate	COUNT(matchid)
1008	9 June 2012	1
1010	13 June 2012	2
1012	17 June 2012	2
1026	22 June 2012	4
1030	28 June 2012	1

#### 13.

List every match with the goals scored by each team as shown. This will use "CASE WHEN" which has not been explained in any previous exercises

mdate	team1	score1	team2	score2
1 July 2012	ESP	4	ITA	0
10 June 2012	ESP	1	ITA	1
10 June 2012	IRL	1	CRO	3
...				

Notice in the query given every goal is listed. If it was a team1 goal then a 1 appears in score1, otherwise there is a 0. You could SUM this column to get a count of the goals scored by team1. Sort your result by mdate, matchid, team1 and team2.

```
SELECT mdate,
team1,
SUM(CASE WHEN teamid=team1 THEN 1 ELSE 0 END) score1,
team2,
SUM(CASE WHEN teamid=team2 THEN 1 ELSE 0 END) score2
FROM game LEFT JOIN goal ON matchid = id
GROUP BY mdate, team1, team2
```

Submit SQL

Restore default

#### Correct answer

mdate	team1	score1	team2	score2
8 June 2012	POL	1	GRE	1
8 June 2012	RUS	4	CZE	1
12 June 2012	GRE	1	CZE	2
12 June 2012	POL	1	RUS	1
16 June 2012	CZE	1	POL	0
16 June 2012	GRE	1	RUS	0
9 June 2012	NED	0	DEN	1

### What next?

JOIN Quiz

Old JOIN Tutorial

More JOIN operations: The next tutorial about the Movie database involves some slightly more complicated joins from the movie database.

Categories: Pages using deprecated source tags Languages pages