

Cardinality:

* Team to captain: One to one (there is only one captain per team)
* Team to player: One to many (there are multiple players per team)
* Player to Injury Record: one to many (one player can have multiple injuries)
* Team to game: Many to many (multiple teams play multiple games)

Participation:

* Team to captain: total, every team has a captain.
* Team to player: Total, every team has players
* Player to injury record: Partial, since some players do not sustain injury
* Team to game: total, since all teams play games



* **Player**(player\_id, player\_name, position, skill\_level);
  + Player\_id is the primary key
* **Team**(team\_id, team\_name, coach, city, captain);
  + captain is the foreign key referencing Player(player\_name)
  + team\_id is the primary key
* **injury\_record**(record\_id, description, player\_id);
  + player\_id is the foreign key referencing Player(player\_id)
  + record\_id is the primary key
* **game**(game\_id, host\_team, guest\_team, date, score);
  + game\_id is the primary key
  + host\_team is foreign key references **team**(team\_name)
  + guest\_team is foreign key references **team**(team\_name)



DROP TABLE IF EXISTS Game;

DROP TABLE IF EXISTS Injury\_Record;

DROP TABLE IF EXISTS Team;

DROP TABLE IF EXISTS Player;

CREATE TABLE Player (

player\_id INT PRIMARY KEY AUTO\_INCREMENT,

player\_name VARCHAR(255) NOT NULL,

skill\_level INT NOT NULL,

position VARCHAR(255) NOT NULL,

UNIQUE INDEX idx\_player\_name (player\_name)

);

CREATE TABLE Team (

team\_id INT PRIMARY KEY AUTO\_INCREMENT,

team\_name VARCHAR(255) NOT NULL,

coach VARCHAR(255) NOT NULL,

city VARCHAR(255) NOT NULL,

captain VARCHAR(255),

FOREIGN KEY (captain) REFERENCES Player(player\_name)

);

CREATE TABLE Injury\_Record (

record\_id INT PRIMARY KEY AUTO\_INCREMENT,

description VARCHAR(255) NOT NULL

);

CREATE TABLE Game (

game\_id INT PRIMARY KEY AUTO\_INCREMENT,

host\_team INT NOT NULL,

guest\_team INT NOT NULL,

date DATE NOT NULL,

score VARCHAR(10) NOT NULL,

FOREIGN KEY (host\_team) REFERENCES Team(team\_id),

FOREIGN KEY (guest\_team) REFERENCES Team(team\_id)

);

INSERT INTO Player (player\_name, skill\_level, position)

VALUES

('Chris Kreider', 0, 'Position details'),

('Tony DeAngelo', 0, 'Position details'),

('Oliver Ekman-Larsson', 0, 'Position details'),

('Lawson Crouse', 0, 'Position details');

INSERT INTO Team (team\_name, coach, city, captain)

VALUES

('New York Rangers', 'David Quinn', 'New York', 'Chris Kreider'),

('Arizona Coyotes', 'Rick Tocchet', 'Arizona', 'Oliver Ekman-Larsson');

INSERT INTO Injury\_Record (description)

VALUES ('Pulled hamstring on 10/22/2020. Cannot play for two weeks.');

INSERT INTO Game (host\_team, guest\_team, date, score)

VALUES

(1, 2, '2019-03-04', '4-2'),

(2, 1, '2020-10-22', '3-4');

-- select \* from team

SELECT

p1.player\_name AS Host,

p2.player\_name AS Guest,

g.date AS Date,

g.score AS Score

FROM

Game g

INNER JOIN Team tH ON g.host\_team = tH.team\_id

INNER JOIN Team tG ON g.guest\_team = tG.team\_id

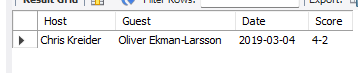
INNER JOIN Player p1 ON tH.captain = p1.player\_name

INNER JOIN Player p2 ON tG.captain = p2.player\_name

WHERE

g.date = '2019-03-04';

**RESULTS:**

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