

NBA Database - Project2

Database Account: yh3290

Web Front-End App URL: <http://34.139.184.252:8111/>

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Description

1. Create composite types. Add **Full_Name** as a new composite type in player table to replace the old **First_Name** and **Last_Name**. Use one composite type to represent name. So you can either treat them as whole or separately.
2. Add arrays. Add **Career_Stats** as array type in player table to replace the old **Career_PTS**, **Career_AST** and **Career_REB**. Use array to represent player's career contribute, which provide more scalability. You can easily add like Block or Steal for every player.
3. Add trigger. Add trigger function **if_roll_back()** and trigger **check_player_del**. This trigger will make sure every team at least has one player. If you want to delete all players in a team. It will stop. Make sure the at least one player constrain of the team.

Command Line

```
CREATE TYPE Full_Name AS (  
  First_Name VARCHAR(30),  
  Last_Name VARCHAR(30)  
);  
  
CREATE TABLE aNew_Player (  
  Player_ID INTEGER,  
  Name Full_Name,  
  Date_Birth DATE,  
  Height INTEGER,  
  Weight INTEGER,  
  Jersey INTEGER,  
  Position CHARACTER(30),  
  Team_ID INTEGER,  
  CAREER_STATS DECIMAL [],  
  ALL_STAR_NUM INTEGER,  
  PRIMARY KEY (Player_ID),  
  FOREIGN KEY (Team_ID) REFERENCES Team  
);  
  
CREATE TRIGGER check_player_del  
BEFORE DELETE ON new_player  
FOR EACH ROW  
EXECUTE FUNCTION if_roll_back();  
  
CREATE OR REPLACE FUNCTION if_roll_back() RETURNS TRIGGER AS $example_table$  
BEGIN
```

```
IF (SELECT COUNT(*) FROM new_player WHERE team_id = old.team_id) <= 1 THEN
RETURN NULL;
ELSE
RETURN OLD;
END IF;
END;
$example_table$ LANGUAGE plpgsql;
```

Interesting Queries

1.

```
SELECT COUNT(*) FROM New_Player
WHERE (name).First_Name = 'John';
```

Check how many player's first name is John.

2.

```
SELECT * FROM New_Player
WHERE Career_Stats[1] >= 20 AND Career_Stats[2] >= 5 AND Career_Stats[3] >= 5;
```

20+5+5 is considered all-around player. Get all all-around players. Maybe in the future when we add Block and Steal, we can make the standard as 20+5+5+1+1.

3.

```
DELETE FROM New_Player
WHERE team_id = 1610612738;
```

Delete all players of Celtics. There will be one player left, because we set the trigger to ensure at least one player for every team.