

NBA 2024-2025 Statistics Database

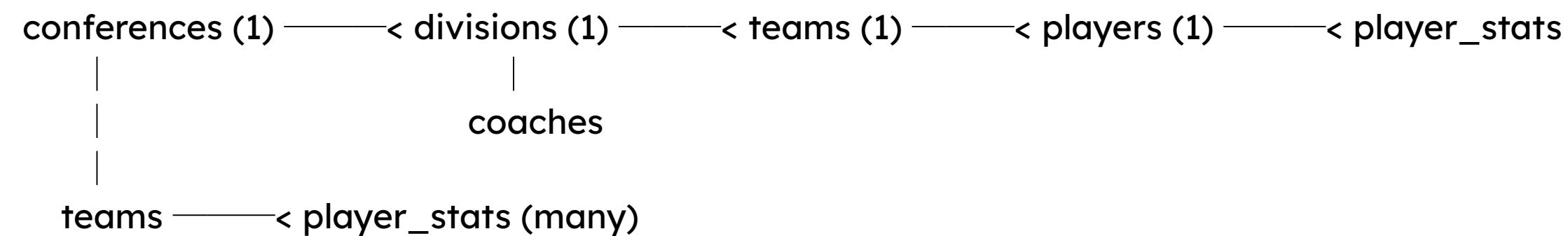
AZIZ UMARBAEV



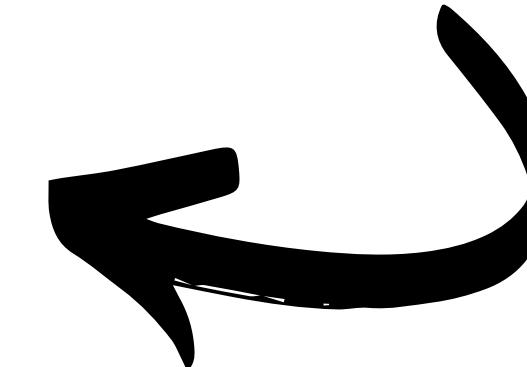
Fello!



DATABASE ARCHITECTURE



Core Objectives



DESIGN AND
IMPLEMENT A
COMPLETE DATABASE
SYSTEM

SHOWCASE
ADVANCED SQL
CAPABILITIES

IMPLEMENT REAL-
WORLD SPORTS
ANALYTICS

A COMPREHENSIVE
POSTGRESQL DATABASE
TRACKING THE COMPLETE 2024-
2025 NBA SEASON

Project Structure & Organization



```
NBA-DATABASE/  
|   └── DATABASE/  
|       └── SCHEMA/ # CREATE TABLE SCRIPTS  
|       └── DATA/   # REAL 2024-25 SEASON DATA  
|       └── FUNCTIONS/ # STORED PROCEDURES  
|       └── QUERIES/  # 50+ ANALYTICAL QUERIES  
|       └── DOCS/    # COMPLETE DOCUMENTATION  
|       └── README.MD # PROJECT OVERVIEW
```



DATA POPULATION STRATEGY:

1. FOUNDATIONAL DATA:
CONFERENCES → DIVISIONS →
TEAMS
2. TEAM DATA: COACHES → PLAYERS
→ PLAYER STATS
3. INCREMENTAL LOADING: TEAM-BY-TEAM APPROACH FOR TESTING

NORMALIZED SCHEMA (3NF)



Table	Purpose	Records
conferences	Eastern/Western conferences	2
divisions	6 NBA divisions	6
teams	30 NBA teams with stats	30
players	Player biographical data	150+
player_stats	Season averages per player	150+
coaches	Head coaches	30

Data Population Strategy



Foundational Data:
Conferences → Divisions → Teams



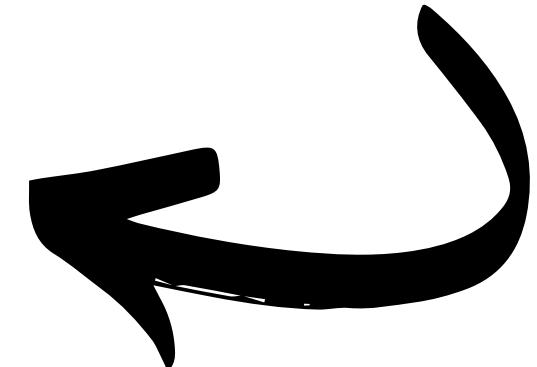
Incremental Loading:
Team-by-team approach for testing

Team Data:
Coaches → Players → Player Stats



Key Design Decisions

Realistic Data Modeling



```
-- Players can change positions season-to-season
CREATE TABLE player_stats (
    player_id INTEGER REFERENCES players(player_id),
    season VARCHAR(7),      -- '2024-25'
    position VARCHAR(2),    -- Position THIS season
    points_per_game DECIMAL(4,1)
    -- ... 30+ statistical columns
);
```

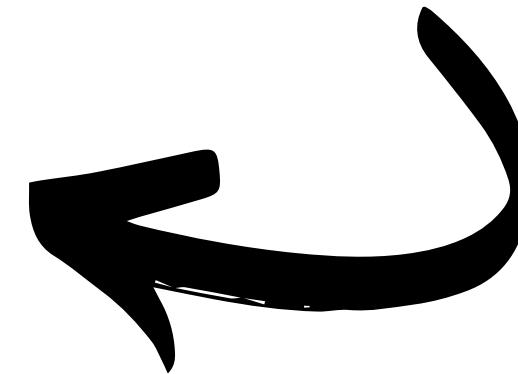




```
-- Constraint examples
ALTER TABLE players
ADD CONSTRAINT check_shoots
CHECK (shoots IN ('Right', 'Left'));
ALTER TABLE teams
ADD CONSTRAINT check_conference
CHECK (conference IN ('EAST', 'WEST'));
```

Data Integrity

Realistic Data Modeling





Thank
you!