BI LAB Project
European Soccer Analysis

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Initial Information

- +25,000 matches
- +10,000 players
- 11 European Countries with their lead championship
- Seasons 2008 to 2016
- Players and Teams' attributes* sourced from EA Sports' FIFA video game series, including the weekly updates
- Team line up with squad formation (X, Y coordinates)
- Betting odds from up to 10 providers
- Detailed match events (goal types, possession, corner, cross, fouls, cards etc...) for +10,000 matches
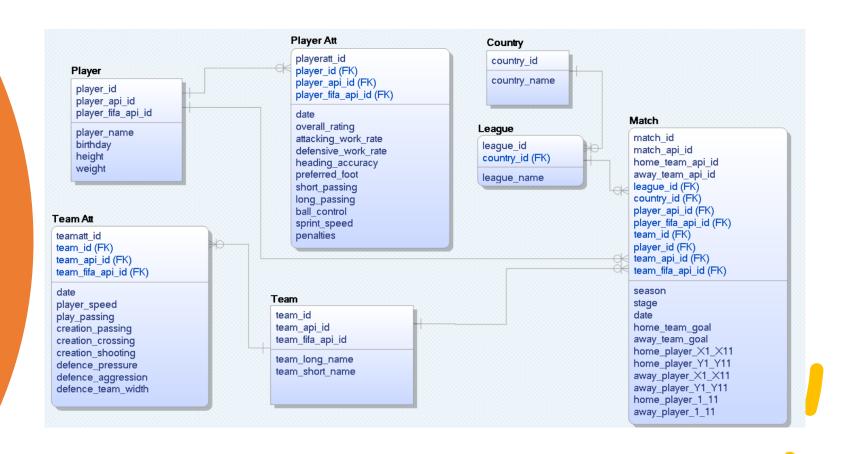
- European Soccer Database | Kaggle

Initial Information (con't)

database.sqlite (313.09 MB)

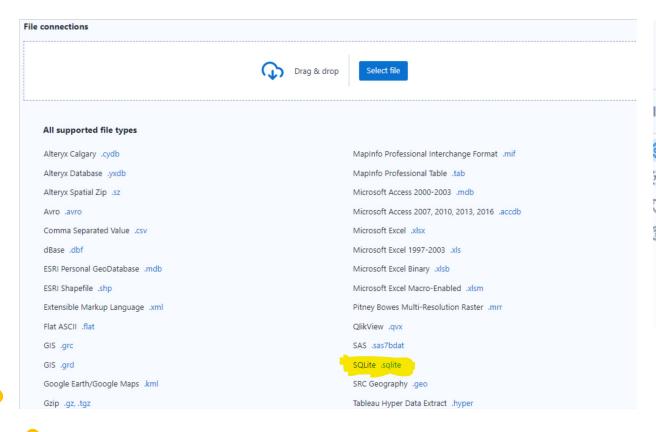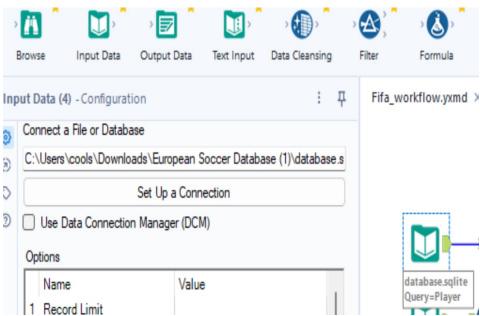| Table	Total Rows	Total Columns
Country	11	2
League	11	3
Match	25979	115
Player	11060	7
Player_Attributes	183978	42
Team	299	5
Team_Attributes	1458	25

Entity Relationship Diagram

Alteryx Flow- steps

- Step 1: Load the SQLlite files
- Clean the data
- Generate the csv files
- Load the collections as-is into Mongodb
- Make joins based on entity relationship
- Load the join output to Mongodb directly from Alteryx flow
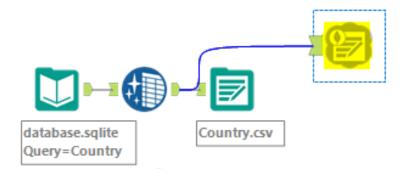
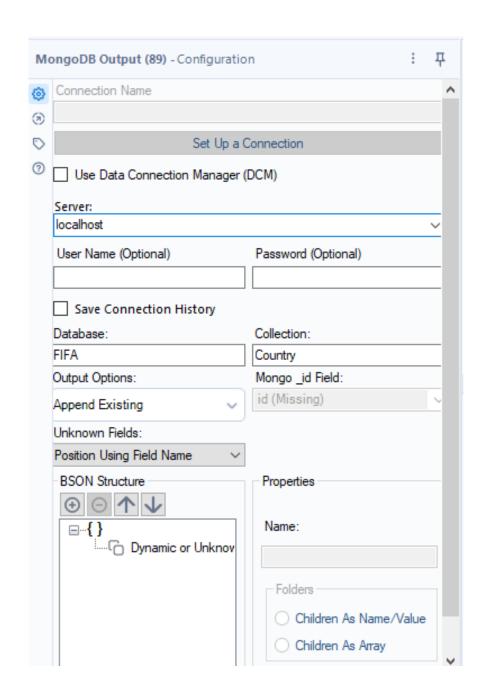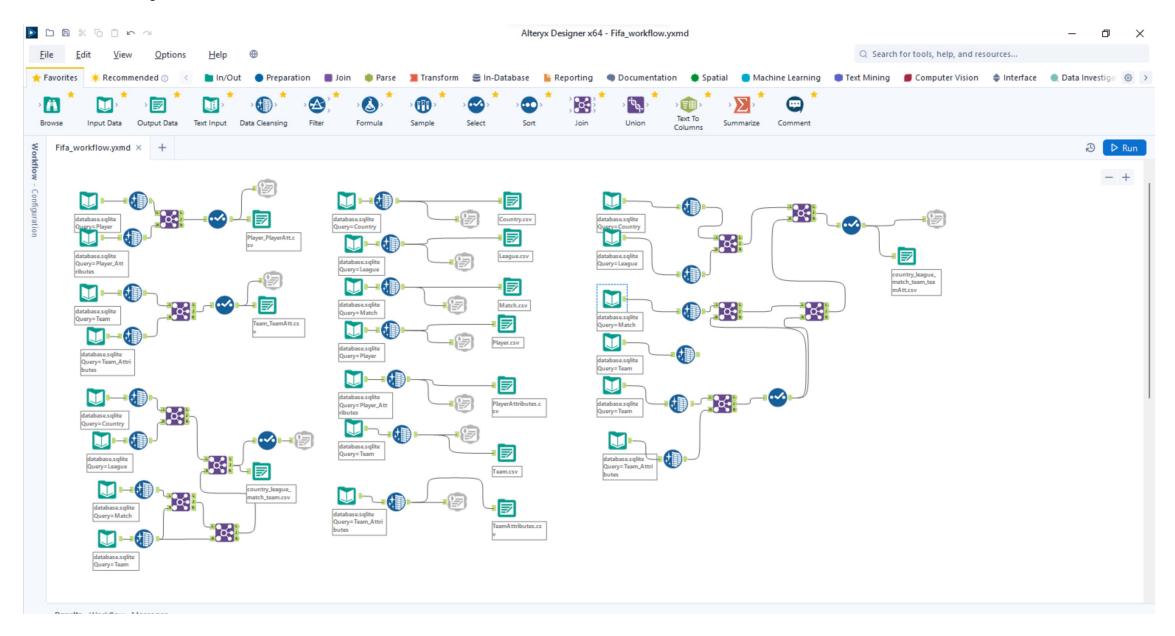# Sqllite connection

- Connection from Alteryx
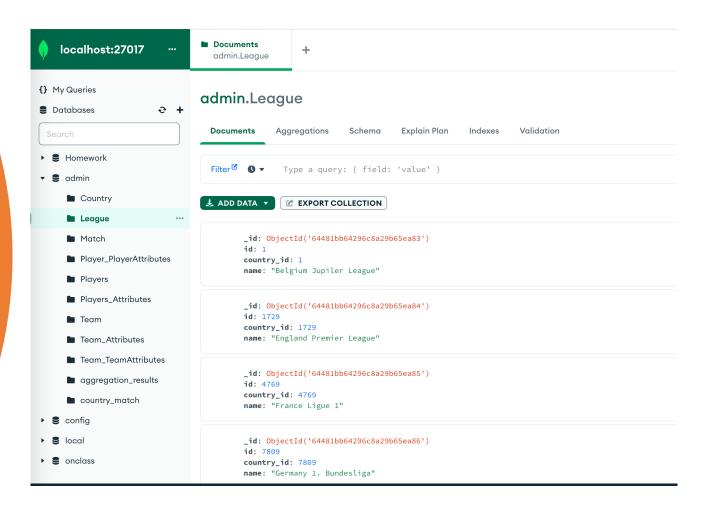
MongoDB

- Connection from Alteryx

Alteryx Flow

MongoDB: Files

admin.League

Documents   Aggregations   Schema   Explain Plan   Indexes   Validation

Filter ⧉   🕓 ▾   Type a query: { field: 'value' }

⬇ ADD DATA ▾   ⧉ EXPORT COLLECTION

```
_id: ObjectId('64481bb64296c8a29b65ea83')
id: 1
country_id: 1
name: "Belgium Jupiler League"
```

```
_id: ObjectId('64481bb64296c8a29b65ea84')
id: 1729
country_id: 1729
name: "England Premier League"
```

```
_id: ObjectId('64481bb64296c8a29b65ea85')
id: 4769
country_id: 4769
name: "France Ligue 1"
```

```
_id: ObjectId('64481bb64296c8a29b65ea86')
id: 7809
country_id: 7809
name: "Germany 1. Bundesliga"
```

Navigation sidebar:

localhost:27017 ···

{} My Queries
🗄 Databases

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  - 🗀 Players
  - 🗀 Players_Attributes
  - 🗀 Team
  - 🗀 Team_Attributes
  - 🗀 Team_TeamAttributes
  - 🗀 aggregation_results
  - 🗀 country_match
- ▸ 🗄 config
- ▸ 🗄 local
- ▸ 🗄 onclass

Documents
admin.League

MongoDB

- Calculation of new variables
- Aggregation on Country, League, Season
- Input is the file generated by Alteryx

```
{
  _id: {
    country_name: 'England',
    league_name: 'England Premier League',
    season: '2015/2016'
  },
  number_of_stages: 38,
  number_of_teams: 20,
  avg_home_team_scores: 1.4921052631578948,
  avg_away_team_goals: 1.2078947368421054,
  avg_goal_difference: 0.2842105263157947,
  avg_goals: 2.7,
  total_goals: 1026
}
{
```

MongoDB: Code

```
> db.country_match.aggregate([
    { $match: { country_name: { $in: ['Spain', 'Germany', 'France', 'Italy', 'England'] } } },
    { $group: {
      _id: { country_name: "$country_name", league_name: "$league_name", season: "$season" },
      number_of_stages: { $addToSet: "$stage" },
      number_of_teams: { $addToSet: "$home_team" },
      avg_home_team_scores: { $avg: "$home_team_goal" },
      avg_away_team_goals: { $avg: "$away_team_goal" },
      avg_goal_difference: { $avg: { $subtract: ["$home_team_goal", "$away_team_goal"] } },
      avg_goals: { $avg: { $add: ["$home_team_goal", "$away_team_goal"] } },
      total_goals: { $sum: { $add: ["$home_team_goal", "$away_team_goal"] } }
    } },
    { $addFields: {
      number_of_stages: { $size: "$number_of_stages" },
      number_of_teams: { $size: "$number_of_teams" }
    } },
    { $match: { number_of_stages: { $gt: 10 } } },
    { $sort: { "_id.country_name": 1, "_id.league_name": 1, "_id.season": -1 } }
]);
```

Dashboard: Team Strategy

- For comparing multiple teams on their strategy over period of time created this dashboard. Through this chart we can analyze their defensive and offensive strategy.

Dashboard: Player Statistics

• Created Players dashboard for scouts who checks the overall rating and performance of footballer based on these categories.

Dashboard: League Comparision

- Calculated No. Of goals scored in each league over period of time and the difference of home goal and away goal in each league.