Create a professional, interactive Power BI dashboard that showcases IPL match insights, team performance, player analysis, and match outcomes.

1. Import Data into Power BI

1. **Open Power BI Desktop**.
2. **Get Data → Text/CSV**.
    - Import both deliveries.csv and matches.csv.
3. **Load Data** directly without transformations (we'll handle transformations in Power Query).

2. Data Modeling – Create Relationships

1. Go to **Model View (Diagram Icon)**.
2. Create relationships:
    - Drag matches[id] to deliveries[match_id] → **[1 to Many]** relationship.
    - This links match-level data to ball-by-ball data.

      Result: Matches (1) → (Many) Deliveries

3. Data Transformation (Power Query)

- **Home → Transform Data**.

  In matches table (Steps):

- **Date Format:**
    - **Change date to Date Format (Right-click → Change Type → Date).**

Add Columns

Add Season Year:

Year = YEAR(matches[date])

In deliveries table (Steps):

- **Extras Handling:**
    - Replace **NULL** in extras_type with None.

Wicket Type:

Wicket Type = IF([is_wicket] = 1, [dismissal_kind], "Not Out")

Run Type (Boundary or Non-Boundary):

Run Type = IF([batsman_runs] >= 4, "Boundary", "Regular")

4. Calculated Columns and Measures (DAX)

Calculated Columns (Row-Level Calculations):

Total Runs (Per Ball):
Total Runs Per Ball = SUM(deliveries[total_runs])

Strike Rate (Per Batter):
Strike Rate =
DIVIDE(SUM(deliveries[batsman_runs]), COUNTROWS(deliveries)) * 100

Match Win/Loss (In Matches Table):
Win or Loss = IF(matches[winner] = matches[team1], "Win", "Loss")

Measures (Aggregated Calculations):

Total Matches Played:
Total Matches = COUNT(matches[id])

Total Wickets:
Total Wickets = COUNTROWS(FILTER(deliveries, deliveries[is_wicket] = 1))

Average Runs Per Over:
Avg Runs Per Over = AVERAGE(deliveries[total_runs])

Top Players by Runs:
Total Runs by Player = SUMX(deliveries, deliveries[batsman_runs])

Highest Margin Victory:
Highest Margin = MAX(matches[result_margin])

5. Visualizations (Reports View)

1. Match Summary

- **Card Visuals:**
  - Total Matches (Total Matches).
  - Total Wickets (Total Wickets).
  - Average Runs Per Over (Avg Runs Per Over).
- **Bar Chart:**
  - **X-axis:** Season
  - **Y-axis:** Total Matches
  - **Legend:** Win or Loss
- **Slicer:**

    - Filter by Venue or Team.

2. Player Performance

- **Table Visual:**
    - **Columns:** batter, Total Runs by Player, Strike Rate
- **Bar Chart:**
    - **X-axis:** batter
    - **Y-axis:** Total Runs by Player
    - Filter by Year.

3. Match Analysis by Venue

- **Pie Chart:**
    - **Legend:** venue
    - **Values:** Total Matches
- **Bar Chart:**
    - **X-axis:** venue
    - **Y-axis:** Highest Margin

4. Wicket Analysis

- **Stacked Column Chart:**
    - **X-axis:** Wicket Type
    - **Y-axis:** Total Wickets
- **Matrix:**
    - Show bowler, Wicket Type, Total Wickets.

5. Filters and Interactivity

- **Add Slicers for:**
    - Season
    - Winner
    - Venue
    - Batter

6. Formatting for Professional Look

1. **Theme:**
    - Use a **professional theme** (View → Themes).
2. **Font & Color:**
    - Ensure **consistent fonts and color codes** (team colors, highlight boundaries).
3. **Conditional Formatting:**

    - Highlight top-performing players or bowlers.
4. **Titles & Headers:**
    - Use **descriptive titles** for each visual.
5. **Interactions:**
    - Enable cross-filtering between charts.

7. Advanced Features (Optional but Impressive)

1. **Drill-through**:
    - Right-click on the batter → **Drill-through to see ball-by-ball analysis**.
2. **Bookmarks**:
    - Create bookmarks to switch between **Player Stats** and **Team Stats**.
3. **Page Navigation**:
    - Add navigation buttons to switch between **Match Insights, Player Analysis, and Venue Reports**.

8. Key Tips for Interview Success

- **Explain Relationships:**
    - Highlight the **1-to-Many relationship** between matches and deliveries.
- **Show Aggregation:**
    - Use SUM, AVG, COUNT, and MAX functions dynamically with slicers.
- **Interactive Demo:**
    - Interact with filters to show data changing in real time.
- **Storytelling with Data:**
    - Focus on insights like “Who is the highest run scorer?” or “Which venue had the highest margins?”.