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?”.