✅ Lesson 21: HR Analytics Dashboard – Full Project Plan

🎯 Project Goal

Build a dynamic and insightful HR Analytics Dashboard in Power BI to help HR professionals track:

- Employee performance & retention trends
- Department-level KPIs
- Engagement & satisfaction metrics

📁 Dataset Info

Table Name: Employee_Performance
Key Columns:

- Employment_id (unique key)
- Department, Job Title, Education_level
- Age, Hire_Date, Years_at_company
- Monthly_Salary, Performance_Score, Training_Hours
- Overtime_Hours, Sick_Days, Remote_Work_Frequency
- Resigned (Yes/No), Promotions, Employee_Satisfaction_Score

🛠️ Power Query Editor – Data Cleaning

1. Rename Columns: Follow CamelCase (e.g., Work_Hours_per_Week)
2. Change Data Types:
    - Dates: Hire_Date
    - Numbers: Salary, Age, Hours, etc.
    - Text: Department, Job Title, etc.

3. Remove Duplicates: Based on Employment_id
4. Create Calculated Columns:
    - Tenure_Category:

DAX

КопироватьРедактировать

```
Tenure Category =
SWITCH(
  TRUE(),
  [Years_at_company] <= 2, "New",
  [Years_at_company] <= 5, "Mid",
  "Veteran"
)
```

    - Overtime_Category:

DAX

КопироватьРедактировать

```
Overtime Category = IF([Overtime_Hours] > 10, "High", "Low")
```

5. Handle Nulls: Replace or remove based on relevance
6. Date Table:
    - Create a Date table → Mark as date table
    - Connect with Hire_Date (one-to-many)

🔗 Data Model

- Use star schema
- Join Date table to Hire_Date

- Optional Lookup Tables: Department, Job Title, Education Level
- Avoid circular references

🧮 DAX Measures (KPIs)

DAX

КопироватьРедактировать

```
Employee Count = COUNT(Employee_Performance[Employment_id])

Resignation Rate = DIVIDE(CALCULATE(COUNTROWS(Employee_Performance), Employee_Performance[Resigned] = "Yes"), [Employee Count])

Avg Performance Score = AVERAGE(Employee_Performance[Performance_Score])

Avg Monthly Salary = AVERAGE(Employee_Performance[Monthly_Salary])

Avg Training Hours = AVERAGE(Employee_Performance[Training_Hours])

Avg Employee Satisfaction = AVERAGE(Employee_Performance[Employee_Satisfaction_Score])

Overtime Utilization = AVERAGE(Employee_Performance[Overtime_Hours])

Sick Days per Employee = AVERAGE(Employee_Performance[Sick_Days])

Remote Work Adoption Rate = CALCULATE(COUNTROWS(Employee_Performance), Employee_Performance[Remote_Work_Frequency] <> "Never") / [Employee Count]

Promotion Rate = DIVIDE(SUM(Employee_Performance[Promotions]), [Employee Count])

Avg Tenure = AVERAGE(Employee_Performance[Years_at_company])
```

📊 Report Pages & Visuals

📄 Page 1 – Executive Summary

- Cards: Total Employees, Resignation Rate, Avg. Performance Score, Avg. Salary
- Line Chart: Resignation Rate over Time

- Column Chart: Department-wise Satisfaction

🏢 Page 2 – Department Insights

- Bar Chart: Employees per Department
- Heatmap: Avg. Salary vs Performance
- Pie Chart: Education Level Distribution
- KPI Card: Avg. Tenure by Department

😊 Page 3 – Employee Engagement

- Gauge: Employee Satisfaction
- Donut: Remote Work Frequency
- Column Chart: Avg. Overtime by Job Title
- Scatter: Training Hours vs Performance

🎯 Page 4 – Retention & Promotions

- Matrix: Promotions by Department & Education
- Bar Chart: Sick Days vs Resigned Employees
- Line: Training Trend over Years
- Card: Promotion Rate

🧰 Page 5 – Filters/Slicers

- Department, Job Title, Education, Tenure Category, Remote Work Frequency, Resigned (Yes/No)

🧩 Power BI Features

- DAX KPIs
- Bookmarks & Drillthroughs
- Custom tooltips & conditional formatting
- Sync slicers

- Grid-based layout with color themes
- Add company logo and icons

☁️ Publish & Share

- Create: HR Analytics Workspace
- Publish PBIX from Desktop
- Set: Scheduled Refresh
- Create Power BI App for viewers
- Permissions:
    - HR Team: View all
    - Managers: RLS (see only their department)

📱 Mobile Optimization

- Design phone layout
- Use fewer visuals per page

🛡️ Optional Advanced Features

- RLS: Filter views by manager's department
- Paginated Report: Print-friendly summary
- Power Automate: Alert when resignation rate > threshold
- Q&A Visual: Enable natural questions like “Avg salary in Sales?”

📌 Versioning & Maintenance

- Log updates in Power BI Service

- Keep .PBIX backup
- Add card: Last Refresh Date
- Monthly quality check on raw data