

Power BI Assignment: The HR Insights Dashboard

Your First Project as a Data Analyst

1. Your First Mission as a Data Analyst

Congratulations on your new role as a Junior Data Analyst!

On your first day, you have a meeting with the Head of Human Resources. She explains the current business problem:

'Welcome to the team! We have a rich database with years of employee information, but we're flying blind. We have no easy way to visualize our workforce. I'm constantly asked basic questions by executives, and it takes us days to get the answers. We need to understand the structure of our company at a glance. Why is this so hard?'

She continues, giving you your first assignment:

'Your first task is to take that employee database and build a simple, one-page dashboard in Power BI. This dashboard will be our single source of truth for all high-level HR questions. It needs to be clear, accurate, and easy for someone with no technical background to understand. Can you help us?'

2. The Stakeholder's Request

The Head of HR has provided a specific list of questions she wants the dashboard to answer. These will define the Key Performance Indicators (KPIs) and visuals for your project.

Key Metrics (KPIs) Needed:

- What is the total number of employees we have on record?
- How many departments make up our company?
- What is the current average salary across the entire company?

Key Questions to Answer with Charts:

- How are our employees distributed across the different departments?
- What is the gender breakdown of our workforce (Male vs. Female)?
- Who are the current managers for each department?

3. Connecting Power BI to Your MySQL Database

To build the dashboard, you first need to get the data from the MySQL database into Power BI. This is a two-step process.

Step 3.1: The One-Time Setup (MySQL Connector)

To help Power BI 'talk' to your MySQL database, you need to install a small, official translator program called an ODBC Connector. You only have to do this once.

- 1 Go to the official MySQL download page:
<https://dev.mysql.com/downloads/connector/odbc/>
- 2 Download and run the installer, accepting the default options.
- 3 **Important:** If Power BI was open, close and reopen it after the installation is complete.

Step 3.2: Getting the Data into Power BI

- 1 In Power BI, go to the **Home** tab and click **Get Data**.
- 2 Search for and select **MySQL database**.
- 3 In the dialog box, enter:
 - Server: **localhost**
 - Database: **employees**
- 4 Click **OK**. If prompted for credentials, enter the username and password for your MySQL server.
- 5 The Power BI **Navigator** window will appear. Check the boxes for all 6 tables (employees, departments, salaries, etc.).
- 6 Click **Load**. Power BI will import the data. This might take a few minutes.
- 7 Once loaded, go to the **Model view** (third icon on the left bar) to see the tables. Power BI is usually smart enough to create the relationships (the lines between the tables) for you.

4. Building Your HR Dashboard

Now for the fun part! Go to the **Report view** (the first icon on the left bar) and start building the visuals to answer the stakeholder's questions.

Create the KPI Cards:

Use the **Card** visual from the Visualizations pane. Create three separate cards for:

1. Total Employees (Count of emp_no from the employees table).
2. Department Count (Count of dept_no from the departments table).
3. Average Salary (Average of salary from the salaries table, filtered for current salaries where to_date is '9999-01-01').

Chart 1: Employees by Department

Use a **Clustered bar chart**.

- Put department name (dept_name) on the Y-axis.
- Put the count of employees (emp_no) on the X-axis.
- Remember to filter for current employees only!

Chart 2: Gender Distribution

Use a **Donut chart**.

- Use gender for the Legend.
- Use the count of employees (emp_no) for the Values.

Chart 3: Department Managers List

Use a **Table** visual.

- Add columns for department name (dept_name), and the manager's first and last name.
- You will need to use the relationships between departments, dept_manager, and employees to get this information.
- Filter for current managers only (where to_date is '9999-01-01').

5. Final Touches and Submission

Dashboard Design:

- Add a title to your dashboard (e.g., 'HR Insights Dashboard') using a **Text Box**.
- Arrange your three KPI cards at the top.
- Place your three charts neatly below the cards.
- Use the **Format** pane to give your charts clear titles and a consistent color scheme.

What to Submit:

When your dashboard is complete, save your work. Please submit the final Power BI file:
YourName_HR_Dashboard.pbix

Good luck! Your work will provide valuable insights and help the company make better data-driven decisions.