

## Task Completion Report: Analyse the dataset and perform task create a view which store information for each employee's department

### Objective:

To analyze the dataset and create a view that stores information about each employee's department. This view should combine data from the Employees, Departments, and Manager tables to provide a comprehensive view of employee-to-department relationships.

### Step 1: Understand the Dataset

#### Tables Involved:

1. **Employees Table:** Contains employee details including Employee\_ID, FirstName, LastName, Job\_ID, Manager\_ID, and Salary.
2. **Departments Table:** Contains department details including Department\_ID, Department\_Name, Manager\_ID, and Location\_ID.
3. **Manager Table:** Contains manager details including Manager\_ID, Manager\_Name, and Employee\_ID.

#### Key Relationships:

- Each employee has a Manager\_ID that links them to a manager.
- Each department has a Manager\_ID that links to a manager in the Manager table.

### Step 2: Create the Employee Department View

#### Objective:

Create a view that stores information for each employee's department in the CompanyDB database. This view will include relevant details from both the Employee, Manager and Departments tables.

Create a view named EmployeeDepartmentView that provides a detailed overview of each employee and their respective department information.

```
CREATE VIEW EmployeeDepartmentView AS
```

```
SELECT
```

```
e.Employee_ID,
```

```
e.FirstName,  
e.LastName,  
e.Phone_No,  
e.Email,  
e.Job_ID,  
e.Salary,  
e.Hire_Date,  
d.Department_ID,  
d.Department_Name,  
d.Location_ID,  
m.Manager_Name  
FROM  
Employees e  
LEFT JOIN  
Departments d ON e.Department_ID = d.Department_ID  
LEFT JOIN  
Manager m ON d.Manager_ID = m.Manager_ID;  
GROUP BY  
e.Employee_ID,  
e.FirstName,  
e.LastName,  
e.Phone_No,  
e.Email,  
e.Job_ID,  
e.Salary,  
e.Hire_Date,  
d.Department_ID,  
d.Department_Name,  
d.Location_ID,  
m.Manager_Name;
```

### Explanation of the SQL Query:

- **SELECT Clause:** Specifies the columns to be included in the view, combining employee information with department details.
- **FROM Employees e:** The primary table from which to start the join operations.
- **JOIN Departments d ON e.Job\_ID = d.Department\_ID:** Joins the Departments table with the Employees table on Job\_ID
- **JOIN Manager m ON d.Manager\_ID = m.Manager\_ID:** Joins the Manager table to include the manager's name for each department.
- **GROUP BY Clause:** Groups the results by every selected column. This ensures that the view correctly organizes the data by each unique combination of employee and department attributes.

### Step 3: Query the View

#### Objective:

Query the EmployeeDepartmentView to retrieve data and verify that it contains the correct information for each employee's department.

```
SELECT * FROM EmployeeDepartmentView;
```

#### Detailed Report:

**Report Summary:** The EmployeeDepartmentView provides a consolidated view of employee and department information, including:

- Employee details: Employee\_ID, FirstName, LastName, Phone\_No, Email, Job\_ID, Salary, Hire\_Date
- Department details: Department\_ID, Department\_Name, Location\_ID
- Manager details: Manager\_Name

#### Expected Output:

| Emp<br>loye<br>e_ID | First<br>Nam<br>e | Last<br>_Na<br>me | Pho<br>ne_<br>No   | Email                            | Sala<br>ry | Hire_D<br>ate  | Depa<br>rtme<br>nt_ID | Depart<br>ment_N<br>ame | Job_I<br>D | Loca<br>tion<br>_id | Manag<br>er_Na<br>me |
|---------------------|-------------------|-------------------|--------------------|----------------------------------|------------|----------------|-----------------------|-------------------------|------------|---------------------|----------------------|
| 101                 | John              | Doe               | 1234<br>5678<br>90 | john.do<br>e@exa<br>mple.c<br>om | 750<br>00  | 2021-<br>01-15 | 101                   | Sales                   | 1          | 1                   | Rohit<br>Sharm<br>a  |

|     |           |           |              |                                |       |            |     |                          |    |    |               |
|-----|-----------|-----------|--------------|--------------------------------|-------|------------|-----|--------------------------|----|----|---------------|
| 102 | Jane      | Smith     | 123-456-7891 | jane.smith@example.com         | 65000 | 2021-02-20 | 102 | Marketing                | 2  | 2  | Priya Singh   |
| 103 | Michael   | Johnson   | 123-456-7892 | michael.johnson@example.com    | 70000 | 2021-03-22 | 103 | Finance                  | 3  | 3  | Anjali Verma  |
| 104 | Patricia  | Williams  | 123-456-7893 | patricia.williams@example.com  | 72000 | 2021-04-10 | 104 | Human Resource           | 4  | 4  | Sandeep Patel |
| 105 | Robert    | Brown     | 123-456-7894 | robert.brown@example.com       | 68000 | 2021-05-05 | 105 | Engineering              | 5  | 5  | Kavita Nair   |
| 106 | Linda     | Jones     | 123-456-7895 | linda.jones@example.com        | 69000 | 2021-06-15 | 106 | Customer Support         | 6  | 6  | Vikram Mehta  |
| 107 | William   | Garcia    | 123-456-7896 | william.garcia@example.com     | 71000 | 2021-07-25 | 107 | Legal                    | 7  | 7  | Neha Gupta    |
| 108 | Elizabeth | Martinez  | 123-456-7897 | elizabeth.martinez@example.com | 75000 | 2021-08-30 | 108 | Operations               | 8  | 8  | Amitabh Rao   |
| 109 | David     | Hernandez | 123-456-7898 | david.hernandez@example.com    | 67000 | 2021-09-10 | 109 | IT                       | 9  | 9  | Ritu Jain     |
| 110 | Barbara   | Lopez     | 123-456-7899 | barbara.lopez@example.com      | 76000 | 2021-10-15 | 110 | Administration           | 10 | 10 | Sunil Desai   |
| 111 | Richard   | Gonzalez  | 123-456-7800 | richard.gonzalez@example.com   | 74000 | 2021-11-20 | 111 | Research and Development | 11 | 11 | Pooja Joshi   |
| 112 | Susan     | Wilson    | 123-456-7801 | susan.wilson@example.com       | 73000 | 2021-12-25 | 112 | Procurement              | 12 | 12 | Rajesh Kumar  |

|     |                     |              |                      |   |           |                |     |                                  |    |    |                      |
|-----|---------------------|--------------|----------------------|---|-----------|----------------|-----|----------------------------------|----|----|----------------------|
|     |                     |              |                      | ple.co<br>m   |           |                |     |                                  |    |    |                      |
| 113 | Jose<br>ph          | Ande<br>rson | 123-<br>456-<br>7802 | joseph.<br>anders<br>on@ex<br>ample.<br>com         | 720<br>00 | 2022-<br>01-05 | 113 | Quality<br>Assuran<br>ce         | 13 | 13 | Deepik<br>a Rao      |
| 114 | Marg<br>aret        | Tho<br>mas   | 123-<br>456-<br>7803 | margar<br>et.thom<br>as@exa<br>mple.c<br>om         | 710<br>00 | 2022-<br>02-10 | 114 | Product<br>Develop<br>ment       | 14 | 14 | Vivek<br>Kapoor      |
| 115 | Char<br>les         | Taylo<br>r   | 123-<br>456-<br>7804 | charles<br>.taylor<br>@exam<br>ple.co<br>m          | 700<br>00 | 2022-<br>03-15 | 115 | Public<br>Relation<br>s          | 15 | 15 | Meena<br>Iyer        |
| 116 | Jessi<br>ca         | Moor<br>e    | 123-<br>456-<br>7805 | jessica.<br>moore<br>@exam<br>ple.co<br>m           | 780<br>00 | 2022-<br>04-20 | 116 | Training                         | 16 | 16 | Arjun<br>Das         |
| 117 | Chri<br>stop<br>her | Jack<br>son  | 123-<br>456-<br>7806 | christo<br>pher.ja<br>ckson<br>@exam<br>ple.co<br>m | 740<br>00 | 2022-<br>05-25 | 117 | Logistics                        | 17 | 17 | Smita<br>Roy         |
| 118 | Kare<br>n           | Marti<br>n   | 123-<br>456-<br>7807 | karen.<br>martin<br>@exam<br>ple.co<br>m            | 730<br>00 | 2022-<br>06-30 | 118 | Project<br>Manage<br>ment        | 18 | 18 | Karan<br>Thakur      |
| 119 | Matt<br>hew         | Lee          | 123-<br>456-<br>7808 | matthe<br>w.lee@<br>exampl<br>e.com                 | 710<br>00 | 2022-<br>07-10 | 119 | Facilitie<br>s<br>Manage<br>ment | 19 | 19 | Rekha<br>Shukla      |
| 120 | Ashl<br>ey          | Perez        | 123-<br>456-<br>7809 | ashley.<br>perez@<br>exampl<br>e.com                | 720<br>00 | 2022-<br>08-15 | 120 | Corporat<br>e<br>Strategy        | 20 | 20 | Manoj<br>Agarwa<br>l |

#### Step 4: Verification

**Objective:**

Ensure the view accurately reflects the data relationships in the original tables.

- **Verification Query:**

- Use the `SELECT * FROM EmployeeDepartmentView;` to confirm that all entries are correct.

- **Expected Outcome:**

- The data in the view should match the respective employee, department, and manager information in the source tables.

**Final Notes:**

- The view `EmployeeDepartmentView` is now created and contains accurate data for each employee's department, including their department name, manager's name, and location.
- This view simplifies querying department-specific data related to employees and can be used for further analysis and reporting.