

EMPLOYEE MANAGEMENT SYSTEM

Database Design and ER Diagram

The entities of the Employee management system are:-

1. Employee
2. Department
3. Manager
4. Project
5. Salary
6. Attendance

1. Employee

- Attributes:

EmployeeID (Primary Key)

FullName

Email

Phone

Gender

Address

- Relationships:

One Employee can work in one Department (Many-to-One)

One employee can work on many Projects (many-to-many relationship).

One employee can have one Salary (one-to-one relationship).

One employee can have one Attendance record (one-to-one relationship).

Each employee cmanaged by a Manager (many-to-one relationship).

2. Department

- Attributes:

DepartmentID (Primary Key)

DepartmentName

ManagerID (Foreign Key)

Location

- Relationships:

One department can have many employees (one-to-many relationship).

Many department can have one manager (Many-to-one relationship).

3. Manager

- Attributes:

ManagerID (Primary Key)

ManagerName

Title

Email

- Relationships:

One manager can be associated with many departments (one-to-many from manager to department).

One manager can also manage one projects (one-to-one relationship).

One manager manages many Employee(one-to-many relationship).

4. Project

- Attributes:

ProjectID (Primary Key)

ManagerID(Foreign key)

ProjectName

StartDate

EndDate

Status

- Relationships:

One project can have many employees working on it (one-to-many relationship).

5. Salary

- Attributes:

SalaryID (Primary Key)

EmployeeID (Foreign key)

Salary

Bonus

Overtime

- Relationships:

Each salary record corresponds to exactly one employee (one-to-one relationship).

6. Attendance

- Attributes:

AttendanceID (Primary Key)

EmployeeID (Foreign key)

PresentDays

AbsentDays

- Relationships:

Each attendance record corresponds to exactly one employee. (One-to-one)

Table Structure

1. Employee

```
mysql> desc employee;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| employee_id | varchar(255) | NO | PRI | NULL |  |
| address | varchar(255) | YES |  | NULL |  |
| email | varchar(255) | NO |  | NULL |  |
| full_name | varchar(255) | NO |  | NULL |  |
| gender | varchar(255) | YES |  | NULL |  |
| phone_no | bigint | NO |  | NULL |  |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

2. Department

```
mysql> desc department;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| deptID | varchar(10) | NO | PRI | NULL |  |
| deptName | varchar(20) | NO |  | NULL |  |
| managerID | varchar(10) | NO |  | NULL |  |
| employeesCount | int | NO |  | NULL |  |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

3. Manager

```
mysql> desc manager;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| managerID | varchar(10) | NO | PRI | NULL |  |
| empID | varchar(10) | YES | MUL | NULL |  |
| deptID | varchar(10) | YES | MUL | NULL |  |
| projID | varchar(10) | YES | MUL | NULL |  |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

4. Project

```
mysql> desc project;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| projID | varchar(10) | NO | PRI | NULL |  |
| projName | varchar(40) | NO |  | NULL |  |
| managerID | varchar(10) | YES | MUL | NULL |  |
| startDate | date | NO |  | NULL |  |
| endDate | date | YES |  | NULL |  |
| status | varchar(20) | YES |  | NULL |  |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

5. Salary

```
mysql> desc salary;
```

Field	Type	Null	Key	Default	Extra
salaryID	varchar(10)	NO	PRI	NULL	
empID	varchar(10)	NO	MUL	NULL	
salary	float(15,2)	NO		NULL	
bonus	float(15,2)	YES		NULL	
overtime	float(15,2)	YES		NULL	

5 rows in set (0.00 sec)

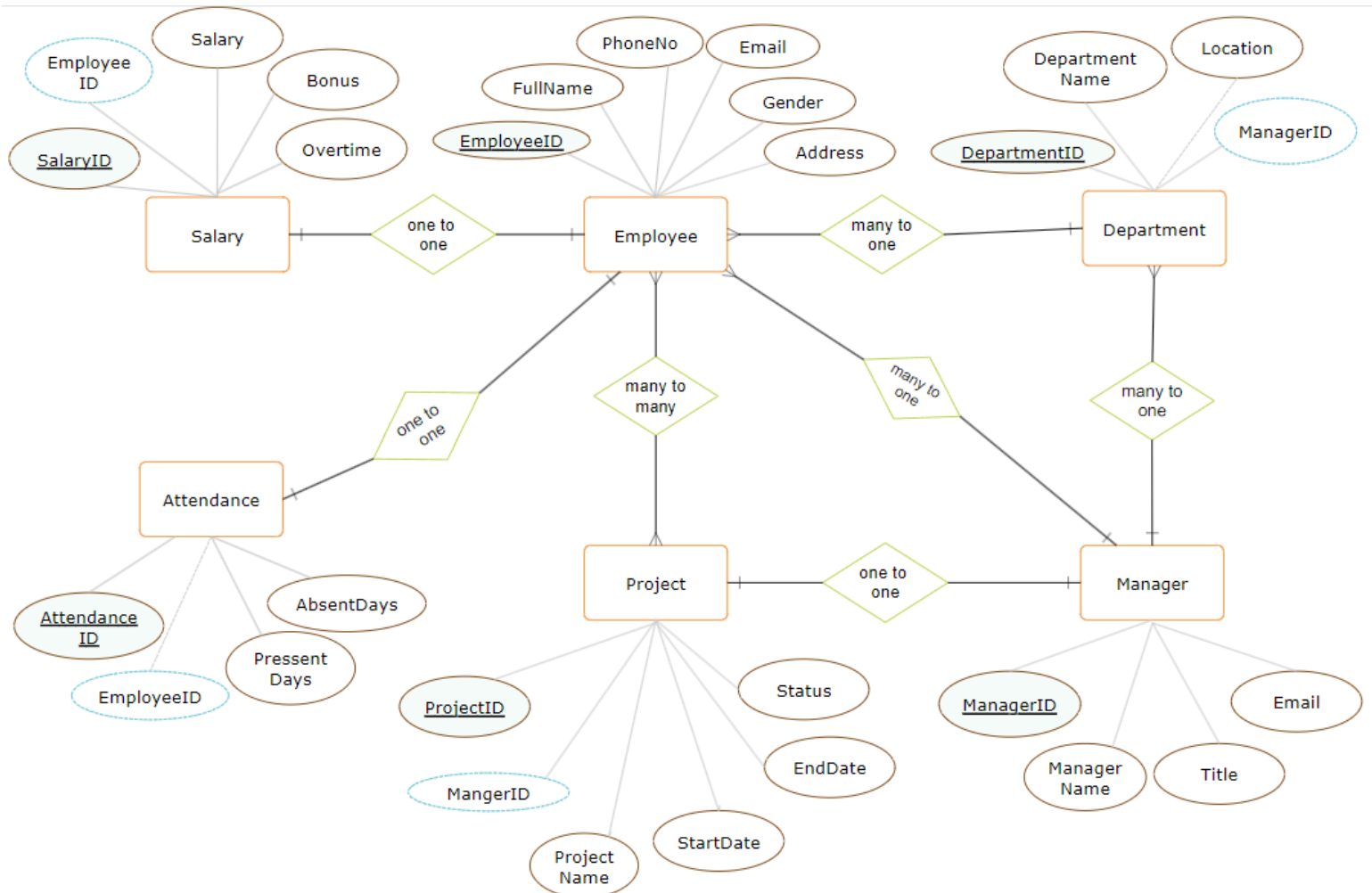
6. Attendance

```
mysql> desc attendance;
```

Field	Type	Null	Key	Default	Extra
attID	varchar(10)	NO	PRI	NULL	
empID	varchar(10)	YES	MUL	NULL	
presentDays	int	YES		NULL	
absentDays	int	YES		NULL	

4 rows in set (0.00 sec)

ER Diagram



Role of Group Members in Development of Project

Two members are involved in development of this project and each member is responsible for developing 3 entities each as per given list:

ANSHUL:-

- 1.Employee
- 2.Salary
- 3.Attendance

AVNEESH KAUSHIK:-

- 1.Department
- 2.Manager
- 3.Project