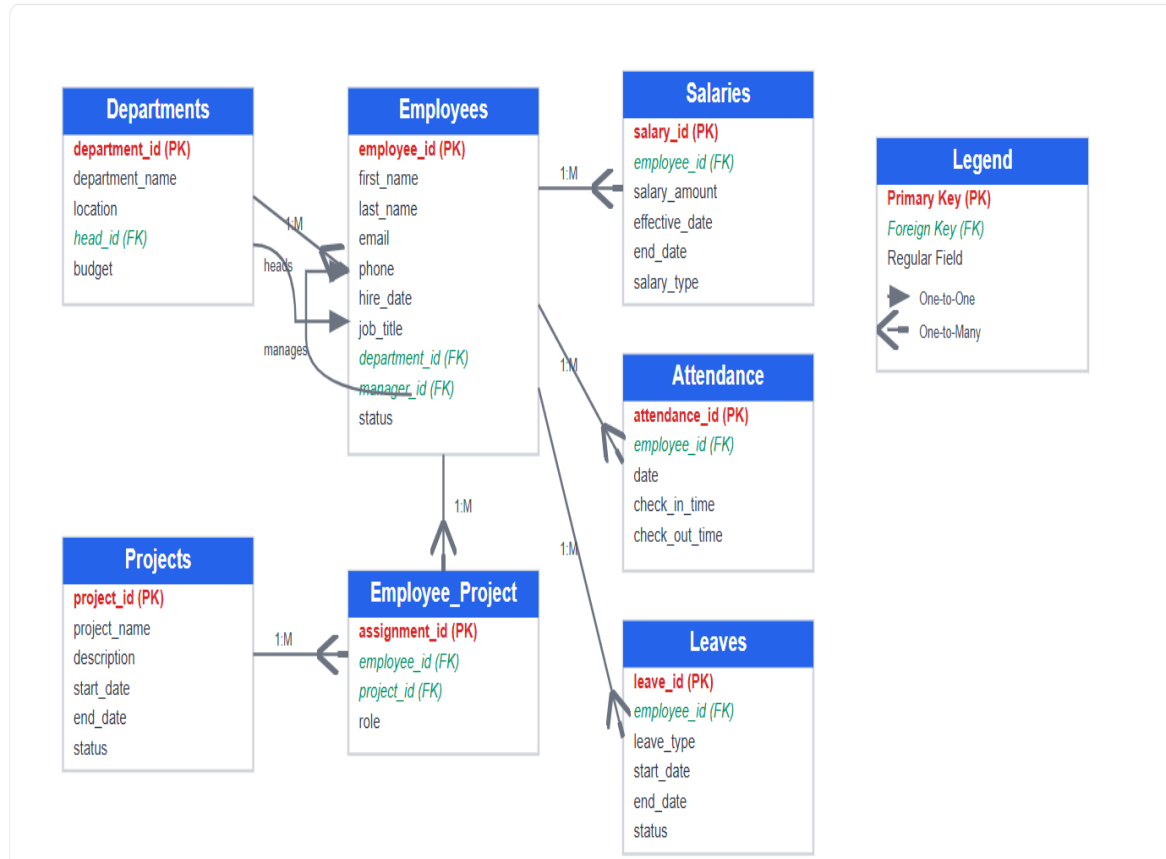# Employee Management System

Entity Relationship Diagram (ERD)

Database Schema - 7 Tables with Normalized Design

Tables and Their Purpose

1. Departments

Purpose: Stores organizational department information.
Key Features:

- Department head reference

- Budget tracking

- Location & description

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2. Employees

Purpose: Central hub for employee information.
Key Features:

- Department assignment

- Manager hierarchy (self-referencing)

- Contact details & hire date

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3. Salaries

Purpose: Tracks employee salary history and pay details.
Key Features:

- Salary components: basic, bonus, deductions, net salary

- Pay date and effective periods

- Historical salary records

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4. Attendance

Purpose: Records daily employee attendance.
Key Features:

- Check-in and check-out timestamps

- Status (Present, Absent, Leave)

- Daily records for each employee

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5. Leaves

Purpose: Manages employee leave requests and approvals.
Key Features:

- Leave types (Casual, Sick, Paid, etc.)

- Start and end dates

- Approval workflow (Pending, Approved, Rejected)

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6. Projects

Purpose: Stores project lifecycle and allocation details.
Key Features:

- Project timelines (start & end dates)

- Department association

- Budget and description

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7. Employee Project (Junction Table)

Purpose: Links employees to multiple projects (many-to-many relationship).
Key Features:

- Employee role in the project

- Allocated hours

- Supports cross-department collaboration

Key Relationships

- **Department → Employees**: One department can have many employees.

- **Employee → Department Head**: A single employee can lead one department.

- **Employee → Manager**: Employees follow a self-referencing hierarchy (manager → subordinate).

- **Employee → Salaries/Attendance/Leaves**: One-to-many relationship for payroll, attendance, and leave tracking.

- **Employee ↔ Projects**: Many-to-many relationship via the **Employee Project** table.