**STEP 1: ERD DESIGN (ON PAPER)**

**Entity Relationship Diagram (ERD)**.

**Entities and Attributes**

**1. Employee**

* employeeNumber (PK)
* firstName
* lastName
* address
* position
* telephone
* gender
* hiredDate
* departmentCode (FK → Department.departmentCode)

**2. Department**

* departmentCode (PK)
* departmentName
* grossSalary

**3. Salary**

* salaryId (PK)
* employeeNumber (FK → Employee.employeeNumber)
* grossSalary (from department)
* totalDeduction
* netSalary
* month

**Relationships**

* **Department** ↔ **Employee**: 1-to-many  
  → One department has many employees.
* **Employee** ↔ **Salary**: 1-to-many  
  → One employee can have multiple salary records (monthly basis).

**STEP 3: BACKEND SETUP (Node.js + Express + MySQL)**

**STEP 2: Creating Database Schema (MySQL)**

**3.1 Folder Structure**

Create your backend folder:

mkdir backend-project

cd backend-project

**3.2 Initialize Node.js Project**

npm init -y

**3.3 Install Required Dependencies**

npm install express mysql2 cors dotenv body-parser

**Explanation:**

* express: Web framework
* mysql2: MySQL driver
* cors: Enables cross-origin requests
* dotenv: For environment variables
* body-parser: To handle JSON requests

**📄 3.4 Create Project Files**

Inside backend-project, create these:

touch index.js db.js .env

mkdir routes controllers

**3.5 Setup .env for DB Configuration**

env

**3.6 Setup db.js for MySQL Connection**

**3.7 Setup Express Server (index.js)**

**3.8 Create Routes & Controllers**

**📁 routes/employee.js**

**📁 routes/department.js**

**📁 routes/salary.js**