**Case Study: Employee Management System**

**Problem Statement:**

Design and implement an Employee Management System using Oracle SQL and PL/SQL. The system will be used to manage employee information, departments, and employee-department assignments. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle employee transfers and promotions.

**Requirements:**

1. **Employee Management**:
   * Implement the functionality to add, update, delete, and search for employees.
   * Ensure that each employee has attributes such as EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME, EMAIL, PHONE\_NUMBER, HIRE\_DATE, JOB\_ID, SALARY, DEPARTMENT\_ID.
2. **Department Management**:
   * Implement the functionality to add, update, delete, and search for departments.
   * Ensure that each department has attributes such as DEPARTMENT\_ID, DEPARTMENT\_NAME, and LOCATION.
3. **Employee-Department Assignments**:
   * Implement the functionality to assign employees to departments and handle transfers.
   * Track assignments with attributes such as ASSIGNMENT\_ID, EMPLOYEE\_ID, DEPARTMENT\_ID, START\_DATE, and END\_DATE.

**Tasks:**

1. **Design the Database Schema**:
   * Create the Employees, Departments, and Employee\_Assignments tables with the appropriate fields and constraints.
   * Define primary keys and foreign keys to maintain data integrity.
2. **Populate the Database with Sample Data**:
   * Insert sample records into the Employees, Departments, and Employee\_Assignments tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to transfer an employee from one department to another. The procedure should update the Employee\_Assignments table with the end date for the current department and create a new assignment for the new department.
   * Create a procedure to promote an employee. The procedure should update the employee's job ID and salary in the Employees table.

**Expected Outcomes:**

1. **Employees Table**:
   * Contains all information about the employees in the company.
2. **Departments Table**:
   * Contains details of all departments.
3. **Employee\_Assignments Table**:
   * Tracks the assignments of employees to departments, including start and end dates.
4. **PL/SQL Procedures**:
   * Efficiently manage employee transfers and promotions, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the Employees, Departments, and Employee\_Assignments tables.
2. SQL scripts to insert sample data into the tables.
3. PL/SQL scripts for the procedures to transfer employees and promote employees.
4. Documentation explaining how to set up and use the system, including how to run the PL/SQL procedures.

**Database Schema:**

1. **Employees Table**:
   * **EMPLOYEE\_ID**: Number, Primary Key
   * **FIRST\_NAME**: Varchar2(50)
   * **LAST\_NAME**: Varchar2(50)
   * **EMAIL**: Varchar2(100)
   * **PHONE\_NUMBER**: Varchar2(15)
   * **HIRE\_DATE**: Date
   * **JOB\_ID**: Varchar2(10)
   * **SALARY**: Number
   * **DEPARTMENT\_ID**: Number, Foreign Key References Departments(DEPARTMENT\_ID)
2. **Departments Table**:
   * **DEPARTMENT\_ID**: Number, Primary Key
   * **DEPARTMENT\_NAME**: Varchar2(100)
   * **LOCATION**: Varchar2(100)
3. **Employee\_Assignments Table**:
   * **ASSIGNMENT\_ID**: Number, Primary Key
   * **EMPLOYEE\_ID**: Number, Foreign Key References Employees(EMPLOYEE\_ID)
   * **DEPARTMENT\_ID**: Number, Foreign Key References Departments(DEPARTMENT\_ID)
   * **START\_DATE**: Date
   * **END\_DATE**: Date

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the tables.
* **Develop**: Write PL/SQL procedures for transferring employees and promoting employees.
* **Test**: Test the procedures with various scenarios (e.g., transferring an employee, promoting an employee, ensuring proper updates).