Domain Name: Employee Attendance Management System

Description: The Employee Attendance Management System is an essential part of managing your workforce. It helps keep tabs on when your employees are present, their working hours, and when they take time off. This system aids in handling payroll, assessing performance, and overall managing your team.

Relevance: Keeping track of attendance efficiently ensures that payroll is done accurately, that you comply with labor regulations, and it gives you insights into how your employees work and their productivity.

Tables

Employee: Stores Employee Details

Name	Type	Constraint
EmployeeID	VARCHAR	PRIMARY KEY, NOT NULL
Name	VARCHAR	NOT NULL
Address	VARCHAR	NOT NULL
Phone	VARCHAR	UNIQUE, NOT NULL
Email	VARCHAR	UNIQUE, NOT NULL

Department: Stores Department Details

Name	Type	Constraint
DepartmentID	VARCHAR	PRIMARY KEY, NOT NULL
DepartmentName	VARCHAR	UNIQUE, NOT NULL

Leave: Stores Leave Details

Name	Type	Constraint
LeaveID	VARCHAR	PRIMARY KEY, NOT NULL
LeaveType	VARCHAR	UNIQUE, NOT NULL

Holiday: Stores the Holiday Details

Name	Type	Constraint
HolidayID	VARCHAR	PRIMARY KEY, NOT NULL
Name	VARCHAR	UNIQUE, NOT NULL

Date	DATE	NOT NULL

EmployeeDepartmentMapping

Name	Type	Constraint
EmpDeptID	VARCHAR	PRIMARY KEY, NOT NULL
EmployeeID	VARCHAR	FOREIGN KEY, NOT NULL
DepartmentID	VARCHAR	FOREIGN KEY, NOT NULL
JobTitle	VARCHAR	NOT NULL
JoiningDate	DATE	NOT NULL

Attendance: Stores Attendance Details for that day

Name	Type	Constraint
AttendanceID	VARCHAR	PRIMARY KEY, NOT NULL
EmpDeptID	VARCHAR	FOREIGN KEY, NOT NULL
Date	DATE	NOT NULL
CheckInTime	TIME	NOT NULL
CheckOutTime	TIME	NOT NULL
NoOfHoursWorked	TIME	NOT NULL

Shift: Stores the shift details of employees

Name	Type	Constraint
ShiftID	VARCHAR	PRIMARY KEY, NOT NULL
EmpDeptID	VARCHAR	FOREIGN KEY, NOT NULL
StartTime	TIME	NOT NULL
EndTime	TIME	NOT NULL
BreakTime	TIME	NOT NULL

Overtime: Stores the overtime details of employees

Name	Type	Constraint
OvertimeID	VARCHAR	PRIMARY KEY, NOT NULL
EmpDeptID	VARCHAR	FOREIGN KEY, NOT NULL
Date	DATE	NOT NULL
NumberOfHours	TIME	NOT NULL
Reason	VARCHAR	NOT NULL

LeaveApplication: Stores the leave application details of employees

Name	Type	Constraint
LeaveAppID	VARCHAR	PRIMARY KEY, NOT NULL
EmpDeptID	VARCHAR	FOREIGN KEY, NOT NULL
LeaveID	VARCHAR	FOREIGN KEY, NOT NULL
StartDate	DATE	NOT NULL
EndDate	DATE	NOT NULL

LeaveApplicationStatus: Stores the leave application status details of employees

Name	Type	Constraint
LeaveStatusID	VARCHAR	PRIMARY KEY, NOT NULL
LeaveAppID	VARCHAR	FOREIGN KEY, NOT NULL
Status	VARCHAR	NOT NULL

E-R Diagram
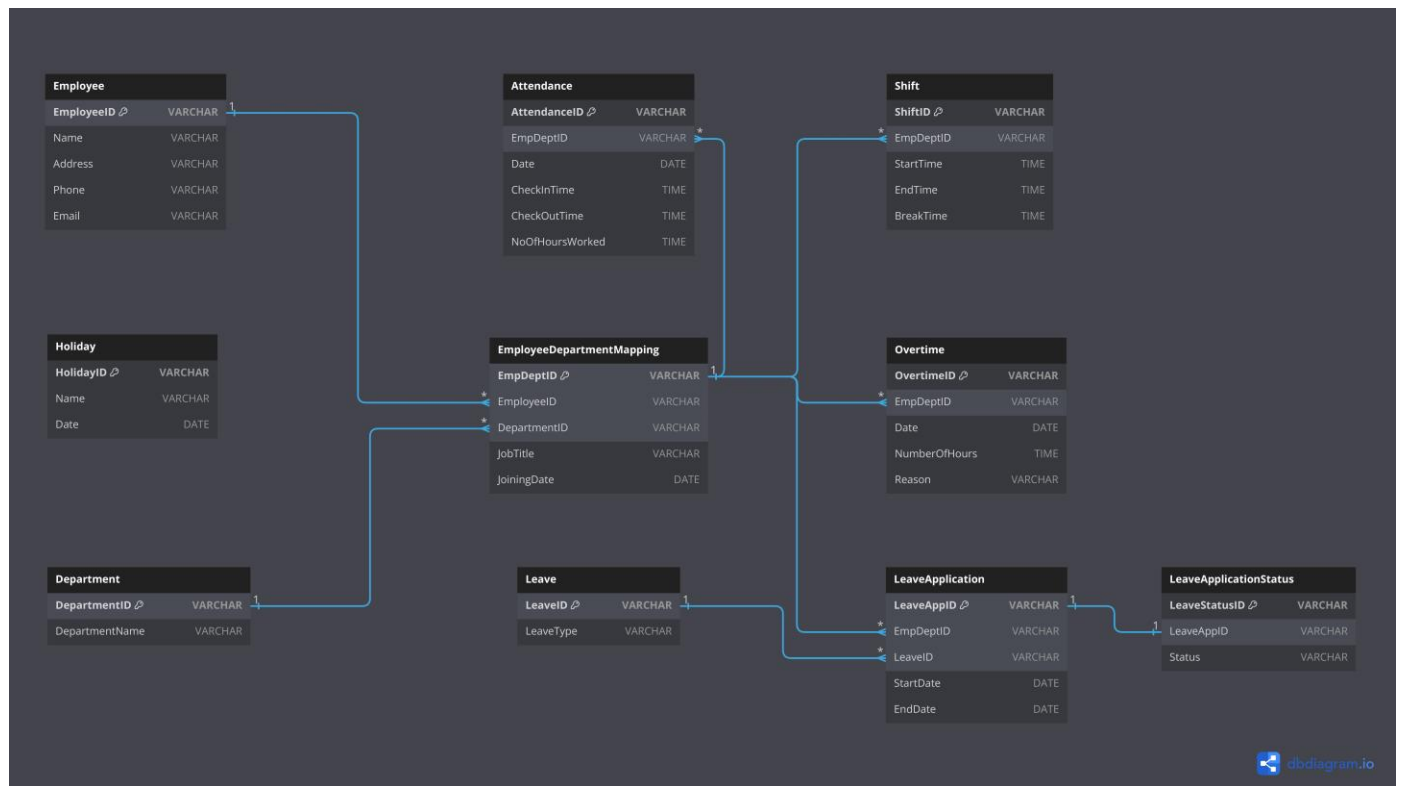
Normalized Tables

EMPLOYEE

EmployeeID	Name	Address	Phone	Email
E001	John Doe	123 Main St, City	555-1234	john.doe@email.com
E002	Jane Smith	456 Oak Ave, Town	555-5678	jane.smith@email.com
E003	Robert Johnson	789 Pine Rd, Village	555-9876	robert.j@email.com
E004	Sarah Brown	101 Elm Blvd, Metropolis	555-4321	sarah.brown@email.com
E005	Alex Turner	202 Cedar Lane, Suburb	555-8765	alex.turner@email.com
E006	Emma White	555 Birch Street, Town	555-3456	emma.white@email.com
E007	David Miller	789 Oakwood Drive, City	555-7890	david.miller@email.com
E008	Olivia Lee	321 Maple Ave, Suburb	555-2345	olivia.lee@email.com
E009	Michael Wilson	456 Pine Street, Village	555-6789	michael.wilson@email.com
E010	Sophia Davis	987 Cedar Lane, Town	555-1236	sophia.davis@email.com

DEPARTMENT

DepartmentID	DepartmentName
D001	IT Department
D002	HR Department
D003	Finance Department
D004	Marketing Department
D005	Operations Department

LEAVE

LeaveID	LeaveType
L001	Vacation
L002	Sick
L003	Personal
L004	Maternity
L005	Paternity
L006	Unpaid
L007	Special

HOLIDAY

HolidayID	Name	Date
H001	Republic Day	2023-01-26

H002	Holi	2023-03-17
H003	Eid al-Fitr	2023-04-23
H004	Eid al-Adha	2023-07-31
H005	Independence Day	2023-08-15
H006	Ganesh Chaturthi	2023-09-05
H007	Gandhi Jayanti	2023-10-02
H008	Dussehra	2023-10-08
H009	Diwali	2023-10-19
H010	Christmas	2023-12-25

EmployeeDepartmentMapping

EmpDeptID	EmployeeID	DepartmentID	JobTitle	JoiningDate
ED001	E001	D001	Software Engineer	2021-07-15
ED002	E002	D002	HR Specialist	2022-04-02
ED003	E003	D004	Marketing Manager	2023-11-20
ED004	E004	D004	Sales Executive	2020-09-08
ED005	E005	D001	IT Manager	2021-12-30
ED006	E006	D003	Accountant	2022-06-18
ED007	E007	D005	Project Manager	2020-03-12
ED008	E008	D004	Marketing Specialist	2023-02-25
ED009	E009	D002	Data Analyst	2021-08-04
ED010	E010	D001	Software Developer	2022-10-14

ATTENDANCE

AttendanceID	EmpDeptID	Date	CheckInTime	CheckOutTime	NoOfHoursWorked
A001	ED001	2023-12-16	09:00:00	13:00:00	04:00:00
A002	ED001	2023-12-16	14:00:00	18:00:00	04:00:00
A003	ED002	2023-12-16	09:04:00	18:32:00	09:28:00
A004	ED003	2023-12-16	10:00:00	18:00:00	08:00:00
A005	ED004	2023-12-16	09:10:00	13:15:00	04:05:00
A006	ED004	2023-12-16	14:00:00	18:00:00	04:00:00
A007	ED005	2023-12-16	09:00:00	13:00:00	04:00:00
A008	ED005	2023-12-16	09:00:00	13:00:00	04:00:00
A009	ED006	2023-12-16	09:00:00	18:00:00	09:00:00
A010	ED007	2023-12-16	10:00:00	17:30:00	07:30:00
A011	ED008	2023-12-16	09:00:00	18:00:00	09:00:00
A012	ED009	2023-12-16	09:15:00	13:00:00	03:45:00
A013	ED009	2023-12-16	14:00:00	18:00:00	04:00:00

| A014 | ED010 | 2023-12-16 | 10:00:00 | 18:45:00 | 09:45:00D |

SHIFT

ShiftID	EmpDeptID	StartTime	EndTime	BreakTime
S001	E001	09:00:00	18:00:00	13:00:00 – 14:00:00
S002	E002	09:00:00	18:00:00	13:00:00 – 14:00:00
S003	E003	09:00:00	18:00:00	13:00:00 – 14:00:00
S004	E004	09:00:00	18:00:00	13:00:00 – 14:00:00
S005	E005	09:00:00	18:00:00	13:00:00 – 14:00:00
S006	E006	09:00:00	18:00:00	13:00:00 – 14:00:00
S007	E007	09:00:00	18:00:00	13:00:00 – 14:00:00
S008	E008	09:00:00	18:00:00	13:00:00 – 14:00:00
S009	E009	09:00:00	18:00:00	13:00:00 – 14:00:00
S010	E010	09:00:00	18:00:00	13:00:00 – 14:00:00

OVERTIME

OvertimeID	EmpDeptID	Date	NumberOfHours	Reason
OT001	E03	2023-12-12	02:30	Meeting
OT002	E05	2023-12-13	01:45	Project Deadline
OT003	E06	2023-12-10	03:00	Client Presentation
OT004	E08	2023-12-15	02:15	Year-End Review

LEAVEAPPLICATION

LeaveAppID	EmpDeptID	LeaveID	StartDate	EndDate
LA001	ED001	L001	2023-12-18	2023-12-27
LA002	ED002	L003	2023-12-19	2023-12-20
LA003	ED005	L002	2023-12-21	2023-12-22
LA004	ED009	L008	2023-12-20	2023-12-30

LEAVEAPPLICATIONSTATUS

LeaveStatusID	LeaveAppID	Status
LS001	LA001	Rejected
LS002	LA002	Approved
LS003	LA003	Approved
LS004	LA004	Pending