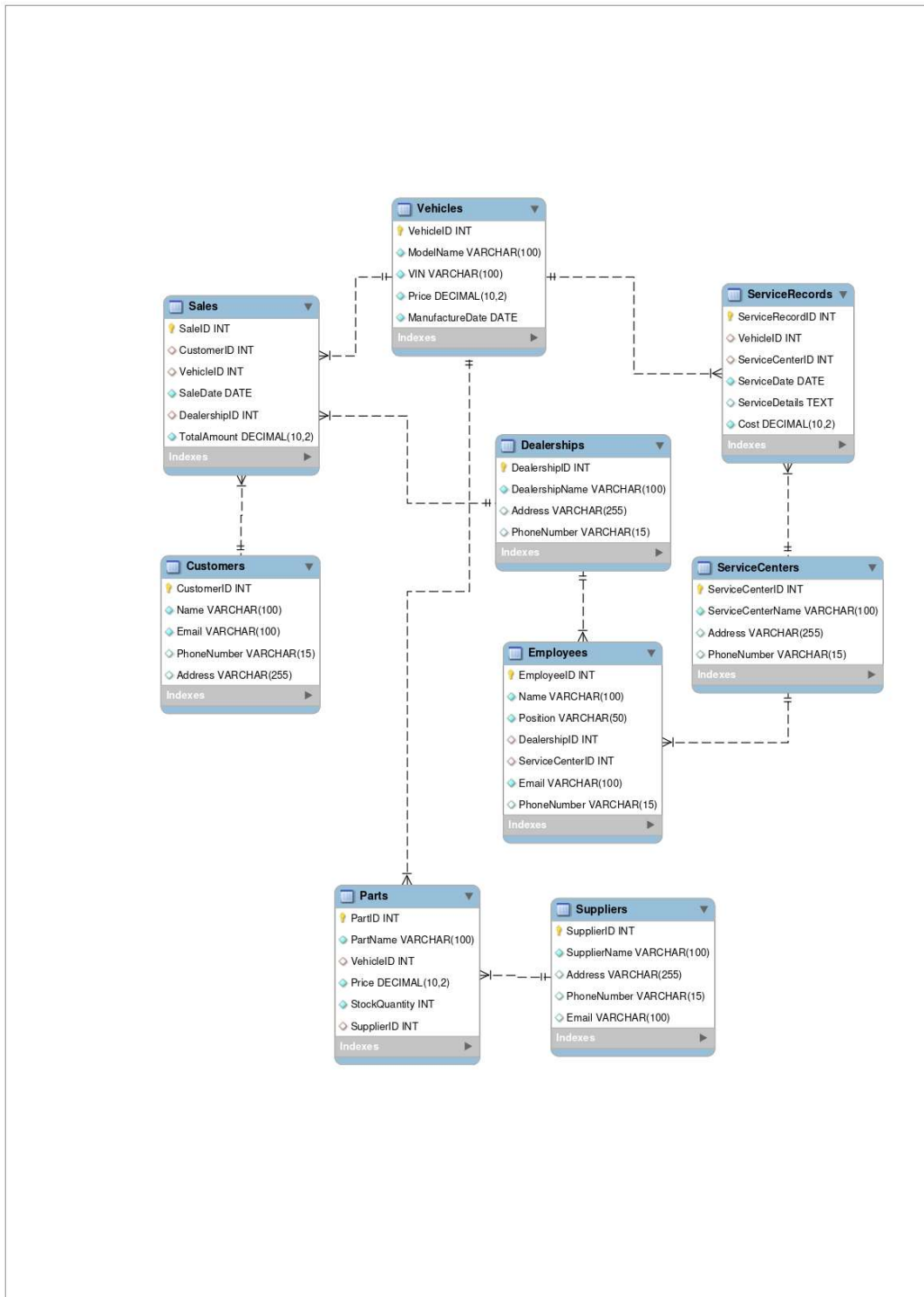


Project 1

ERD DIAGRAM



About the Table

1. Customers Table:

- Stores customer information such as `CustomerID`, `Name`, `Email`, `PhoneNumber`, and `Address`.
- `CustomerID` is the primary key, which uniquely identifies each customer.
- `Email` is marked as `UNIQUE` to ensure no duplicate emails.

2. Vehicles Table:

- Contains information about vehicles.
- `VehicleID` is the primary key.
- Other fields include `ModelName`, `VIN` (Vehicle Identification Number), `Price`, and `ManufactureDate`.
- `VIN` is marked as `UNIQUE` to ensure no duplicate vehicle identification numbers.

3. Sales Table:

- Tracks sales transactions.
- `SaleID` is the primary key.
- `CustomerID` is a foreign key linking each sale to a customer in the `Customers` table.
- `VehicleID` is a foreign key linking each sale to a vehicle in the `Vehicles` table.
- `DealershipID` is a foreign key linking each sale to a dealership in the `Dealerships` table.
- Fields include `SaleDate` and `TotalAmount`.

4. Dealerships Table:

- Stores information about dealerships.
- `DealershipID` is the primary key.
- Other fields include `DealershipName`, `Address`, and `PhoneNumber`.

5. ServiceCenters Table:

- Manages information about service centers.
- `ServiceCenterID` is the primary key.
- Other fields include `ServiceCenterName`, `Address`, and `PhoneNumber`.

6. ServiceRecords Table:

- Tracks service records for vehicles.
- `ServiceRecordID` is the primary key.
- `VehicleID` is a foreign key linking each service record to a vehicle in the `Vehicles` table.
- `ServiceCenterID` is a foreign key linking each service record to a service center in the `ServiceCenters` table.

- Fields include `ServiceDate`, `ServiceDetails`, and `Cost`.

7. Parts Table:

- Stores information about vehicle parts.
- `PartID` is the primary key.
- `VehicleID` is a foreign key linking each part to a vehicle in the `Vehicles` table.
- Fields include `PartName`, `Price`, and `StockQuantity`.
- The table also has a `SupplierID` column added later with a foreign key constraint linking to the `Suppliers` table.

8. Employees Table:

- Contains information about employees.
- `EmployeeID` is the primary key.
- `DealershipID` and `ServiceCenterID` are foreign keys linking employees to their respective dealership or service center in the `Dealerships` and `ServiceCenters` tables.
- Other fields include `Name`, `Position`, `Email`, and `PhoneNumber`.

9. Suppliers Table:

- Manages supplier information.
- `SupplierID` is the primary key.
- Other fields include `SupplierName`, `Address`, `PhoneNumber`, and `Email`.

CODE

Table Creation

-- Create Customers table

```
CREATE TABLE Customers (
    CustomerID INT AUTO_INCREMENT PRIMARY KEY,
    Name VARCHAR(100) NOT NULL,
    Email VARCHAR(100) NOT NULL UNIQUE,
    PhoneNumber VARCHAR(15),
    Address VARCHAR(255)
);
```

-- Create Vehicles table

```
CREATE TABLE Vehicles (
    VehicleID INT AUTO_INCREMENT PRIMARY KEY,
```

```

    ModelName VARCHAR(100) NOT NULL,
    VIN VARCHAR(100) NOT NULL UNIQUE,
    Price DECIMAL(10, 2) NOT NULL,
    ManufactureDate DATE NOT NULL
);

-- Create Sales table
CREATE TABLE Sales (
    SaleID INT AUTO_INCREMENT PRIMARY KEY,
    CustomerID INT,
    VehicleID INT,
    SaleDate DATE NOT NULL,
    DealershipID INT,
    TotalAmount DECIMAL(10, 2) NOT NULL,
    FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID),
    FOREIGN KEY (VehicleID) REFERENCES Vehicles(VehicleID),
    FOREIGN KEY (DealershipID) REFERENCES Dealerships(DealershipID)
);

-- Create Dealerships table
CREATE TABLE Dealerships (
    DealershipID INT AUTO_INCREMENT PRIMARY KEY,
    DealershipName VARCHAR(100) NOT NULL,
    Address VARCHAR(255),
    PhoneNumber VARCHAR(15)
);

-- Create ServiceCenters table
CREATE TABLE ServiceCenters (
    ServiceCenterID INT AUTO_INCREMENT PRIMARY KEY,
    ServiceCenterName VARCHAR(100) NOT NULL,
    Address VARCHAR(255),
    PhoneNumber VARCHAR(15)
);

```

-- Create ServiceRecords table

```
CREATE TABLE ServiceRecords (  
    ServiceRecordID INT AUTO_INCREMENT PRIMARY KEY,  
    VehicleID INT,  
    ServiceCenterID INT,  
    ServiceDate DATE NOT NULL,  
    ServiceDetails TEXT,  
    Cost DECIMAL(10, 2) NOT NULL,  
    FOREIGN KEY (VehicleID) REFERENCES Vehicles(VehicleID),  
    FOREIGN KEY (ServiceCenterID) REFERENCES ServiceCenters(ServiceCenterID)  
);
```

-- Create Parts table

```
CREATE TABLE Parts (  
    PartID INT AUTO_INCREMENT PRIMARY KEY,  
    PartName VARCHAR(100) NOT NULL,  
    VehicleID INT,  
    Price DECIMAL(10, 2) NOT NULL,  
    StockQuantity INT NOT NULL,  
    FOREIGN KEY (VehicleID) REFERENCES Vehicles(VehicleID)  
);
```

ALTER TABLE Parts

ADD COLUMN SupplierID INT,

ADD CONSTRAINT FK_Supplier_Part FOREIGN KEY (SupplierID) REFERENCES Suppliers(SupplierID);

-- Create Employees table

```
CREATE TABLE Employees (  
    EmployeeID INT AUTO_INCREMENT PRIMARY KEY,  
    Name VARCHAR(100) NOT NULL,  
    Position VARCHAR(50) NOT NULL,  
    DealershipID INT,  
    ServiceCenterID INT,  
    Email VARCHAR(100) NOT NULL,
```

```
PhoneNumber VARCHAR(15),  
FOREIGN KEY (DealershipID) REFERENCES Dealerships(DealershipID),  
FOREIGN KEY (ServiceCenterID) REFERENCES ServiceCenters(ServiceCenterID)  
);
```

-- Create Suppliers table

```
CREATE TABLE Suppliers (  
    SupplierID INT AUTO_INCREMENT PRIMARY KEY,  
    SupplierName VARCHAR(100) NOT NULL,  
    Address VARCHAR(255),  
    PhoneNumber VARCHAR(15),  
    Email VARCHAR(100)  
);
```

Insert Queries

```
INSERT INTO Customers (Name, Email, PhoneNumber, Address) VALUES  
( 'Krish Parekh', 'krishparekh@gmail.com', '9123456789', 'New Delhi'),  
( 'Abhijeet Ghosh', 'abhijeetghosh@gmail.com', '9234567890', 'Pune'),  
( 'Payas Thapliyal', 'payasthapliyal@gmail.com', '9345678901', 'Jaipur'),  
( 'Rohit Kumar', 'rohitkumar@gmail.com', '9456789012', 'Agra'),  
( 'Anjali Thakur', 'anjalithakur@gmail.com', '9567890123', 'New Delhi'),  
( 'Prerna Nidhi', 'prernanidhi@gmail.com', '9678901234', 'Pune');
```

```
INSERT INTO Vehicles (ModelName, VIN, Price, ManufactureDate) VALUES  
( 'Swift', '2JFDK94755B111223', 325478.91, '2007-11-23'),  
( 'Dzire', '3KGLM06877C100112', 789213.56, '2015-03-08'),  
( 'Baleno', '4HNOP12999D099001', 456789.00, '2022-07-19'),  
( 'Wagon R', '5IQRP24100E088009', 234567.89, '2003-04-05'),  
( 'Ertiga', '6JSQT36111F077008', 987654.32, '2018-12-26');
```

```
INSERT INTO Dealerships (DealershipName, Address, PhoneNumber) VALUES  
( 'Sunny Showroom', '456 Oak Ave', '7654321098'),  
( 'Varun Motor', '123 Maple St', '9234567890');
```

```
('Thapli Motor', '987 Elm Ct', '9876543120'),  
( 'Big Toy Cars', '321 Birch Ln', '8432109876'),  
( 'Unicorn Showroom', '654 Cedar Rd', '9345678901');
```

```
INSERT INTO Sales (CustomerID, VehicleID, SaleDate, DealershipID, TotalAmount) VALUES
```

```
(1, 1, '2007-11-24', 1, 325478.91),  
(2, 2, '2015-03-10', 2, 789213.56),  
(3, 3, '2022-07-20', 3, 456789.00),  
(4, 4, '2003-04-15', 4, 234567.89),  
(5, 5, '2018-12-30', 5, 987654.32);
```

```
INSERT INTO ServiceCenters (ServiceCenterName, Address, PhoneNumber) VALUES
```

```
('Maruti Service Center', 'Jaipur', '5544332211'),  
( 'Varun Service Center', 'Pune', '9012345678'),  
( 'Maruti Service Center', 'Jaipur', '2468024680'),  
( 'Maruti Service Center', 'Jaipur', '3792581463'),  
( 'Varun Service Center', 'Pune', '6159472385');
```

```
INSERT INTO ServiceRecords (VehicleID, ServiceCenterID, ServiceDate, ServiceDetails, Cost) VALUES
```

```
(1, 1, '2007-11-29', 'Brake pad inspection and fluid check', 9034),  
(2, 2, '2015-03-15', 'Battery health test and cabin air filter replacement', 6659),  
(3, 3, '2022-07-30', 'Engine air filter change and coolant system flush', 7878),  
(4, 4, '2003-04-30', 'Transmission fluid check and differential service', 5762),  
(5, 5, '2018-12-31', 'Wiper blade replacement and headlight alignment', 5141);
```

```
INSERT INTO Parts (PartName, VehicleID, Price, StockQuantity) VALUES
```

```
('Brake Pads', 1, 4145, 100),  
( 'Battery', 2, 4795, 200),  
( 'Engine Air Filter', 3, 4707, 300),  
( 'Transmission fluid', 4, 2762, 400),  
( 'Differential fluid', 5, 2700, 500);
```

```
INSERT INTO Employees (Name, Position, DealershipID, ServiceCenterID, Email, PhoneNumber) VALUES
('Alex Turner', 'Sales Associate', 1, NULL, 'alexturner@gmail.com', '9123456789'),
('Ben Carter', 'Automotive Technician', 2, 1, 'bencarter@gmail.com', '9234567890'),
('Chloe Davis', 'Marketing Manager', 3, NULL, 'chloedavis@gmail.com', '9345678901'),
('Daniel Evans', 'Parts Manager', 4, 2, 'danielevans@gmail.com', '9456789012'),
('Emily Fisher', 'Finance Manager', 5, NULL, 'emilyfisher@gmail.com', '9567890123');
```

```
INSERT INTO Suppliers (SupplierName, Address, PhoneNumber, Email) VALUES
('Reliable Tire Distributors', '456 Oak Ave', '5554321098', 'tire@gmail.com'),
('Champion Auto Glass', '123 Elm Ct', '9876543210', 'glass@gmail.com'),
('Apex Engine Performance', '321 Birch Ln', '1234567890', 'apex@gmail.com'),
('Eco Friendly Car Wash', '789 Willow Ln', '2345678901', 'carwash@gmail.com'),
('Speedy Muffler & Brakes', '567 Pine Ave', '8765432109', 'brakes@gmail.com');
```

Permissions

-- Create roles

```
CREATE ROLE Admin;
```

```
CREATE ROLE SalesManager;
```

```
CREATE ROLE ServiceTechnician;
```

-- Grant permissions to Admin

```
GRANT ALL PRIVILEGES ON . TO 'admin_user'@'localhost' IDENTIFIED BY 'admin_password';
```

For the Sales Manager User:

```
GRANT SELECT, INSERT, UPDATE, DELETE ON project.Sales TO 'sales_manager_user'@'localhost';
```

```
GRANT SELECT, INSERT, UPDATE ON project.Customers TO 'sales_manager_user'@'localhost';
```

```
GRANT SELECT ON project.Vehicles TO 'sales_manager_user'@'localhost';
```

```
GRANT SELECT ON project.Dealerships TO 'sales_manager_user'@'localhost';
```

-- Grant permissions to ServiceTechnician

```
GRANT SELECT, INSERT, UPDATE, DELETE ON project.ServiceRecords TO 'service_technician_user'@'localhost';
```

```
GRANT SELECT ON project.Vehicles TO 'service_technician_user'@'localhost';
```

```
GRANT SELECT, UPDATE ON project.Parts TO 'service_technician_user'@'localhost';
```

```
GRANT SELECT ON project.ServiceCenters TO 'service_technician_user'@'localhost';
```


Project Done By:

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