CS 6083 GY Project Part 2

Property

List of Team Members:

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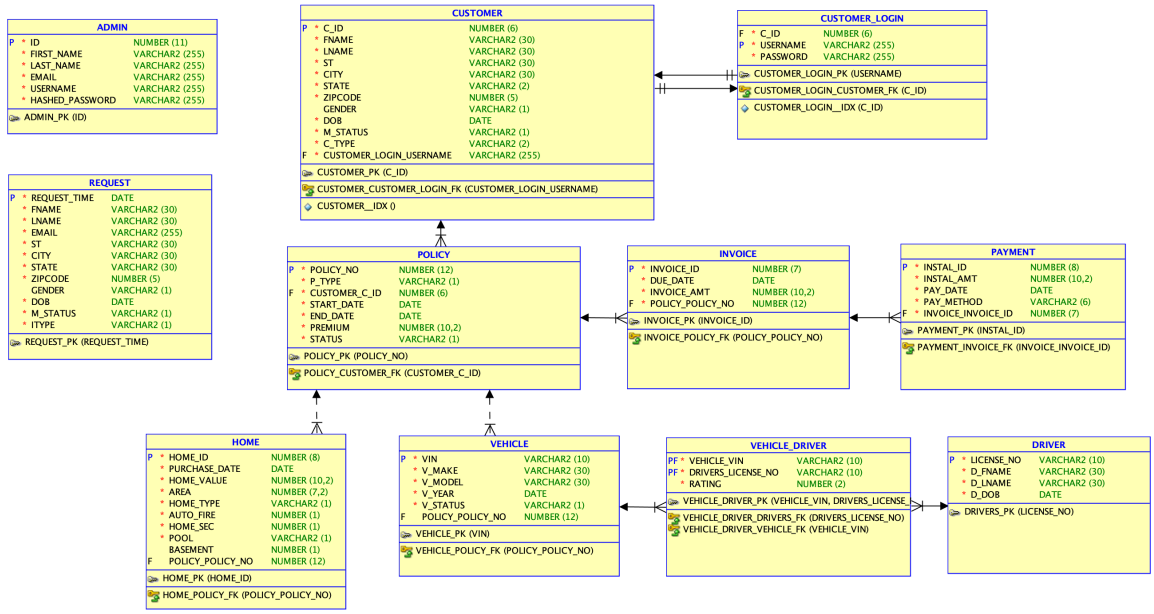
Revised Relational Model



The modifications that we have made after project part1 are:

1. Added an **Admin table** to aid login of admins (independent to the rest of the tables)
2. **Request table** to track policy quote requests ((independent to the rest of the tables)
3. **Customer Login** is a table that adds the customer username and passwords to the customer's table. It is kept separate since this allows a low query time and aids security.

Revised DDL of Project

```
-- phpMyAdmin SQL Dump
-- version 5.0.2
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: May 07, 2020 at 05:36 PM
-- Server version: 10.4.11-MariaDB
-- PHP Version: 7.4.4

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";
```

```
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;

--
-- Database: `wds`
--

-- --------------------------------------------------------

--
-- Table structure for table `customer`
--

CREATE TABLE `customer` (
  `Cid` decimal(6,0) NOT NULL COMMENT 'Customer Id',
  `Fname` varchar(30) NOT NULL COMMENT 'First Name',
  `Lname` varchar(30) NOT NULL COMMENT 'Last Name',
  `St` varchar(30) NOT NULL COMMENT 'Street Address',
  `City` varchar(30) NOT NULL COMMENT 'Name of the city',
  `State` varchar(2) NOT NULL COMMENT 'State Code',
  `Zipcode` decimal(5,0) NOT NULL COMMENT 'Postal Code',
  `Gender` varchar(1) DEFAULT NULL COMMENT 'Gender',
  `DOB` date NOT NULL COMMENT 'Date of Birth',
  `M_Status` varchar(1) NOT NULL COMMENT 'Marital Status',
  `C_Type` varchar(2) NOT NULL COMMENT 'Customer Type (A / H / AH)'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `customer`
--

INSERT INTO `customer` (`Cid`, `Fname`, `Lname`, `St`, `City`, `State`, `Zipcode`, `Gender`, `DOB`, `M_Status`, `C_Type`) VALUE
('100001', 'MARSHAL', 'ERICKSON', '215 BROADWAY', 'New York', 'NY', '11222', 'M', '1986-07-02', 'M', 'H'),
('100002', 'LILY', 'ALDRIN', '332 LAFAYETTE', 'NEW YORK', 'NY', '11224', 'F', '1986-06-24', 'M', 'AH'),
('100003', 'BARNEY', 'STINSON', '562 UPPER WEST', 'NEW YORK', 'NY', '11127', 'M', '1988-10-12', 'S', 'H'),
('100004', 'TED EVELYN', 'MOSBY', '215 BROADWAY', 'NEW YORK', 'NY', '11222', 'M', '1987-08-11', 'S', 'H'),
('100005', 'ROBIN', 'SCHERBATSKY', '452 WOODBRIDGE', 'BROOKLYN', 'NY', '11242', 'F', '1989-05-05', 'W', 'H'),
('100006', 'OSCAR', 'MYER', '224 DANBURY', 'COOKS COUNTY', 'WA', '12345', 'M', '1956-02-09', 'W', 'AH'),
('100007', 'QUINTIN', 'TARANTINTO', 'BEVERLY HILL', 'LOS ANGELES', 'CA', '23419', 'M', '1966-04-08', 'M', 'AH'),
('100008', 'MARK', 'ZUCKERBERG', '452 COFFEE LANE', 'REDMOND', 'WA', '89675', 'M', '1990-07-07', 'M', 'AH'),
('100009', 'ELON', 'MUSK', '333 83RD ST', 'BROOKLYN', 'NY', '11667', 'M', '1980-06-22', 'S', 'H'),
('100010', 'ANDY', 'HAMILTION', '111 LA GUARDIA', 'NEW YORK', 'NY', '11236', 'M', '1974-03-12', 'M', 'AH'),
('100011', 'YASH', 'JOSHI', '8020', 'BROOKLYN', 'NY', '89897', 'M', '1989-09-09', 'S', 'A'),
('100012', 'RACHANA', 'SWAMY', '555 25 ST', 'BROOKLYN', 'NY', '11217', 'F', '1966-05-08', 'S', 'A'),
('100013', 'JANE', 'DOE', '111 1ST', 'BROOKLYN', 'NY', '11111', NULL, '2001-01-01', 'W', 'H'),
('100020', 'Wayne', 'Rooney', 'Somewhere', 'Manchester', 'En', '11233', 'M', '2020-04-27', 'S', 'A'),
('100025', 'Alex', 'Ferguson', '556 83rd ST, Apt #1', 'BROOKLYN', 'NY', '11209', 'M', '2020-04-30', 'M', 'H'),
('100042', 'test', 'tetxt', 'TES', 'JKZKCKJZ', 'KJ', '12345', 'M', '2020-05-13', 'M', 'H'),
('100050', 'John', 'doe', 'Apt 1 Building', 'Gotham', 'NY', '10001', 'M', '2020-05-14', 'S', 'A');

-- --------------------------------------------------------

--
-- Table structure for table `drivers`
--

CREATE TABLE `drivers` (
  `License_no` varchar(10) NOT NULL COMMENT 'Driver''s license number',
  `D_Fname` varchar(30) NOT NULL COMMENT 'FIRST NAME',
  `D_Lname` varchar(30) NOT NULL COMMENT 'LAST NAME',
  `D_DOB` date NOT NULL COMMENT 'Driver''s date of birth'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `drivers`
--

INSERT INTO `drivers` (`License_no`, `D_Fname`, `D_Lname`, `D_DOB`) VALUES
('A116778148', 'JASON', 'BOURNE', '1984-03-12'),
('A156548148', 'MIKAELE', 'BLOMKWIST', '1972-04-11'),
('A226798148', 'RACHANA', 'SWAMY', '1966-05-08'),
('A432798148', 'MARK', 'ZUCKERBERG', '1990-07-07'),
('A450988148', 'LESLIE', 'BOURNE', '1974-03-12'),
('A453388148', 'ANDY', 'HAMILTION', '1974-03-12'),
('A455778148', 'QUINTIN', 'TARANTINTO', '1966-04-08'),
('A456788148', 'MARSHAL', 'ERICKSON', '1986-07-02'),
('A465488148', 'LISBETH', 'SALANDER', '1987-03-10'),
('A667888148', 'OSCAR', 'MYER', '1956-02-09'),
('A776788148', 'YASH', 'JOSHI', '1989-09-09'),
('A996478148', 'TEST', 'TESTINGS', '0001-01-01'),
('A996778148', 'CR&', 'Roonttyq', '2020-05-28'),
('ABCDE12345', 'TEST1', 'TEST1', '2020-04-29'),
('ABCDE12346', 'RODNEY', 'RODGERS', '2020-04-30');

-- --------------------------------------------------------
```

```
--
-- Table structure for table `home`
--

CREATE TABLE `home` (
  `Home_id` decimal(8,0) NOT NULL COMMENT 'Unique Id for each home insured',
  `Purchase_Date` date NOT NULL COMMENT 'Day the house was purchased',
  `Home_value` decimal(10,2) NOT NULL COMMENT 'Home purchase value',
  `Area` decimal(7,2) NOT NULL COMMENT 'Area in Sqft',
  `Home_type` varchar(1) NOT NULL COMMENT 'Type of Home',
  `Auto_fire` decimal(1,0) NOT NULL COMMENT 'Auto Fire Notification',
  `Home_sec` decimal(1,0) NOT NULL COMMENT 'Home Security System',
  `Pool` varchar(1) DEFAULT NULL COMMENT 'Swimming Pool',
  `Basement` decimal(1,0) NOT NULL COMMENT 'DOES THE HOUSE HAVE A BASEMENT',
  `Policy_no` decimal(12,0) DEFAULT NULL COMMENT 'Policy Number'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `home`
--

INSERT INTO `home` (`Home_id`, `Purchase_Date`, `Home_value`, `Area`, `Home_type`, `Auto_fire`, `Home_sec`, `Pool`, `Basement`,
('10000000', '2020-05-06', '2.00', '2.00', 'M', '1', '1', 'O', '1', '100000000201'),
('10000002', '2020-04-30', '10000.00', '1000.00', 'M', '1', '1', 'M', '1', '100000000032'),
('10003001', '2019-03-01', '400000.00', '1100.00', 'S', '1', '1', NULL, '0', '100000000201'),
('10003002', '2017-07-01', '250000.00', '700.00', 'M', '1', '1', NULL, '1', '100000000202'),
('10003003', '2019-09-13', '150000.00', '500.00', 'S', '1', '1', NULL, '0', '100000000203'),
('10003004', '2019-01-05', '190000.00', '800.00', 'M', '1', '1', 'O', '1', '100000000204'),
('10003005', '2018-03-04', '500000.00', '1500.00', 'T', '1', '1', 'I', '1', '100000000205'),
('10003006', '2017-10-19', '300000.00', '1100.00', 'C', '1', '0', NULL, '0', '100000000206'),
('10003007', '2019-10-18', '1400000.00', '2100.00', 'T', '1', '1', 'U', '0', '100000000207'),
('10003008', '2019-10-18', '2400000.00', '3100.00', 'T', '1', '1', 'M', '1', '100000000207'),
('10003009', '2017-10-16', '800000.00', '1300.00', 'C', '0', '1', NULL, '0', '100000000208'),
('10003010', '2015-03-25', '1000000.00', '1500.00', 'S', '1', '1', NULL, '0', '100000000209'),
('10003011', '2019-04-21', '600000.00', '12400.00', 'M', '1', '1', NULL, '1', '100000000210'),
('10003012', '2019-12-15', '500000.00', '900.00', 'S', '1', '1', NULL, '0', '100000000211'),
('10003013', '2019-12-15', '500000.00', '900.00', 'S', '1', '1', NULL, '0', '100000000211');

-- --------------------------------------------------------

--
-- Table structure for table `invoice`
--

CREATE TABLE `invoice` (
  `Invoice_id` decimal(7,0) NOT NULL COMMENT 'INVOICE NUMBER FOR HOME POLICY',
  `Due_Date` date NOT NULL COMMENT 'DAY PAYMENT IS DUE',
  `Invoice_amt` decimal(10,2) NOT NULL COMMENT 'AMOUNT DUE',
  `Policy_no` decimal(12,0) NOT NULL COMMENT 'Policy Number'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `invoice`
--

INSERT INTO `invoice` (`Invoice_id`, `Due_Date`, `Invoice_amt`, `Policy_no`) VALUES
('1000001', '2020-04-30', '997.00', '100000000102'),
('1000031', '2020-04-05', '8.00', '100000000101'),
('1000050', '2020-05-07', '50.00', '100000000050'),
('1001101', '2019-07-02', '425.00', '100000000101'),
('1001107', '2019-04-04', '2400.00', '100000000102'),
('1001109', '2017-12-14', '1400.00', '100000000103'),
('1001110', '2020-05-08', '2200.00', '100000000104'),
('1001113', '2019-11-14', '400.00', '100000000105'),
('1001114', '2019-05-07', '1200.00', '100000000106'),
('1001115', '2020-01-13', '900.00', '100000000107'),
('1001116', '2018-08-07', '900.00', '100000000108'),
('1001120', '2016-12-14', '220.00', '100000000110'),
('1001121', '2019-08-02', '200.00', '100000000111'),
('1001201', '2019-03-28', '1000.00', '100000000201'),
('1001202', '2017-08-01', '1100.00', '100000000202'),
('1001203', '2019-10-13', '700.00', '100000000203'),
('1001204', '2019-02-01', '900.00', '100000000204'),
('1001205', '2018-05-04', '5000.00', '100000000205'),
('1001206', '2018-10-04', '6000.00', '100000000205'),
('1001208', '2017-12-14', '9000.00', '100000000206'),
('1001211', '2019-11-14', '20000.00', '100000000207'),
('1001212', '2019-12-14', '9000.00', '100000000207'),
('1001217', '2017-11-14', '12000.00', '100000000208'),
('1001218', '2015-04-14', '10000.00', '100000000209'),
('1001219', '2019-10-14', '300.00', '100000000109'),
('1001222', '2019-11-14', '2400.00', '100000000210'),
('1001223', '2020-01-14', '4400.00', '100000000211'),
('1008008', '2020-04-28', '5.00', '100000000102');

-- --------------------------------------------------------
```

```
--
-- Table structure for table `payment`
--

CREATE TABLE `payment` (
  `Instal_ID` decimal(8,0) NOT NULL COMMENT 'INSTALLMENT ID',
  `Instal_amt` decimal(10,2) NOT NULL COMMENT 'AMOUT PAID IN INSTALMENT',
  `Pay_date` date NOT NULL COMMENT 'PAYMENT DATE',
  `Pay_method` varchar(6) NOT NULL COMMENT 'Method of PAYMENT',
  `Invoice_id` decimal(7,0) NOT NULL COMMENT 'INVOICE NUMBER'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `payment`
--

INSERT INTO `payment` (`Instal_ID`, `Instal_amt`, `Pay_date`, `Pay_method`, `Invoice_id`) VALUES
('10000000', '101.00', '2020-04-30', 'PAYPAL', '1000001'),
('10000050', '50.00', '2020-05-13', 'CREDIT', '1000050'),
('10001101', '420.00', '2019-07-01', 'CREDIT', '1001101'),
('10001102', '2400.00', '2019-04-02', 'PAYPAL', '1001202'),
('10001103', '1500.00', '2017-12-01', 'CHEQUE', '1001203'),
('10001104', '2200.00', '2020-05-01', 'CHEQUE', '1001204'),
('10001105', '400.00', '2019-11-09', 'PAYPAL', '1001205'),
('10001106', '1200.00', '2019-05-01', 'CREDIT', '1001206'),
('10001107', '900.00', '2020-01-15', 'DEBIT', '1001107'),
('10001108', '900.00', '2018-08-07', 'DEBIT', '1001208'),
('10001109', '300.00', '2019-10-14', 'DEBIT', '1001109'),
('10001110', '220.00', '2016-12-11', 'DEBIT', '1001110'),
('10001111', '200.00', '2019-08-01', 'PAYPAL', '1001110'),
('10001201', '1000.00', '2019-03-18', 'CHEQUE', '1001201'),
('10001202', '1100.00', '2017-08-01', 'DEBIT', '1001202'),
('10001203', '700.00', '2019-10-13', 'DEBIT', '1001203'),
('10001204', '900.00', '2019-01-15', 'DEBIT', '1001204'),
('10001205', '5000.00', '2018-05-04', 'CHEQUE', '1001205'),
('10001206', '9000.00', '2017-12-10', 'CHEQUE', '1001206'),
('10001207', '10000.00', '2019-11-10', 'CHEQUE', '1001107'),
('10001208', '10000.00', '2019-11-13', 'CHEQUE', '1001107'),
('10001209', '10000.00', '2017-11-01', 'CHEQUE', '1001208'),
('10001210', '2000.00', '2017-11-04', 'CREDIT', '1001208'),
('10001211', '10000.00', '2017-04-04', 'CREDIT', '1001219'),
('10001212', '2400.00', '2019-10-14', 'CREDIT', '1001211'),
('10001213', '4400.00', '2020-01-02', 'CHEQUE', '1001211');

-- --------------------------------------------------------

--
-- Table structure for table `policy`
--

CREATE TABLE `policy` (
  `Policy_no` decimal(12,0) NOT NULL COMMENT 'Policy Number',
  `P_Type` varchar(1) NOT NULL COMMENT 'Primary Type (A/H)',
  `Cid` decimal(6,0) NOT NULL COMMENT 'Customer ID',
  `Start_Date` date NOT NULL COMMENT 'POLICY START DATE',
  `End_Date` date NOT NULL COMMENT 'POLICY END DATE',
  `Premium` decimal(10,2) NOT NULL COMMENT 'MONTHLY PREMIUM AMOUNT',
  `Status` varchar(1) NOT NULL COMMENT 'POLICY STATUS ( Current/Expired)'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `policy`
--

INSERT INTO `policy` (`Policy_no`, `P_Type`, `Cid`, `Start_Date`, `End_Date`, `Premium`, `Status`) VALUES
('100000000031', 'A', '100020', '2020-04-01', '2020-04-02', '10.00', 'C'),
('100000000032', 'H', '100004', '2020-04-21', '2020-04-23', '500.00', 'C'),
('100000000046', 'H', '100020', '2020-04-23', '2020-04-29', '101.00', 'C'),
('100000000050', 'A', '100050', '2020-05-13', '2020-05-20', '100.00', 'C'),
('100000000101', 'A', '100001', '2019-07-01', '2020-06-30', '425.00', 'C'),
('100000000102', 'A', '100006', '2019-04-04', '2020-04-03', '2400.00', 'C'),
('100000000103', 'A', '100007', '2017-10-14', '2018-10-03', '1400.00', 'P'),
('100000000104', 'H', '100007', '2020-04-08', '2022-04-07', '2200.00', 'P'),
('100000000105', 'A', '100008', '2019-10-14', '2021-10-03', '400.00', 'C'),
('100000000106', 'A', '100009', '2019-04-07', '2020-03-07', '1200.00', 'C'),
('100000000107', 'A', '100010', '2019-11-14', '2021-11-03', '900.00', 'C'),
('100000000108', 'A', '100010', '2018-07-07', '2019-07-06', '900.00', 'P'),
('100000000109', 'A', '100011', '2019-09-14', '2021-09-03', '300.00', 'C'),
('100000000110', 'A', '100011', '2016-10-14', '2017-10-13', '220.00', 'P'),
('100000000111', 'A', '100012', '2019-07-02', '2021-07-02', '200.00', 'C'),
('100000000201', 'H', '100002', '2019-02-28', '2020-03-30', '1000.00', 'C'),
('100000000202', 'H', '100003', '2017-08-01', '2020-09-30', '1100.00', 'P'),
('100000000203', 'H', '100004', '2019-09-13', '2020-09-12', '700.00', 'C'),
('100000000204', 'H', '100005', '2019-01-01', '2020-06-01', '900.00', 'C'),
('100000000205', 'H', '100006', '2018-04-04', '2020-04-03', '11000.00', 'C'),
('100000000206', 'H', '100007', '2017-10-14', '2018-10-13', '9000.00', 'P'),
```

```
('100000000207', 'H', '100008', '2019-10-14', '2020-10-13', '29000.00', 'C'),
('100000000208', 'H', '100010', '2017-10-14', '2021-10-13', '12000.00', 'C'),
('100000000209', 'H', '100010', '2015-03-14', '2017-03-13', '10000.00', 'P'),
('100000000210', 'H', '100013', '2019-10-14', '2021-11-03', '2400.00', 'C'),
('100000000211', 'H', '100013', '2019-12-14', '2021-11-03', '4400.00', 'C');

-- --------------------------------------------------------

--
-- Table structure for table `vehicle`
--

CREATE TABLE `vehicle` (
  `Vin` varchar(10) NOT NULL COMMENT 'VEHICLE IDENTIFICATION NUMBER',
  `V_make` varchar(30) NOT NULL COMMENT 'VEHICLE MAKE AND MODEL',
  `V_model` varchar(30) NOT NULL COMMENT 'Vehicle Model',
  `V_year` year(4) NOT NULL COMMENT 'YEAR THE CAR WAS BOUGHT',
  `V_status` varchar(1) NOT NULL COMMENT 'STATUS IS L,F,O',
  `Policy_no` decimal(12,0) NOT NULL COMMENT 'POLICY NUMBER'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `vehicle`
--

INSERT INTO `vehicle` (`Vin`, `V_make`, `V_model`, `V_year`, `V_status`, `Policy_no`) VALUES
('1234567890', 'GM', 'Outback', 2020, 'L', '100000000050'),
('ABCDE12345', 'TEST', 'TEST', 0000, 'L', '100000000031'),
('ABCDE12346', 'test', 'test', 0000, 'F', '100000000101'),
('C167731467', 'VW', 'Polo', 2019, 'O', '100000000110'),
('C177894532', 'BAJAJ', 'CHETAK', 2015, 'O', '100000000109'),
('D990131479', 'VW', 'POLO', 2018, 'O', '100000000111'),
('M121105964', 'HONDA', 'CRV', 2016, 'L', '100000000103'),
('M121314121', 'HONDA', 'ACCORD', 2018, 'O', '100000000101'),
('M128299909', 'BMW', 'M3', 2019, 'O', '100000000102'),
('M128537088', 'VW', 'POLO', 2019, 'O', '100000000102'),
('N122644567', 'VW', 'PASSAT', 2015, 'F', '100000000104'),
('N125277889', 'VW', 'POLO', 2017, 'L', '100000000105'),
('N332314978', 'BMW', 'M5', 2017, 'F', '100000000106'),
('O121314123', 'HONDA', 'DYNAMO', 2015, 'L', '100000000108'),
('O456314111', 'AUDI', 'Q7', 2020, 'F', '100000000107'),
('testtestte', 'tester', 'test', 2020, 'L', '100000000104');

-- --------------------------------------------------------

--
-- Table structure for table `vehicle_driver`
--

CREATE TABLE `vehicle_driver` (
  `Vin` varchar(10) NOT NULL COMMENT 'Vehicle Id Number',
  `License_no` varchar(10) NOT NULL COMMENT 'Driver''s license number',
  `Rating` decimal(2,0) NOT NULL COMMENT 'DRIVER RATINGS'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `vehicle_driver`
--

INSERT INTO `vehicle_driver` (`Vin`, `License_no`, `Rating`) VALUES
('ABCDE12345', 'ABCDE12345', '5'),
('C167731467', 'A432798148', '8'),
('C167731467', 'A465488148', '9'),
('C167731467', 'A996778148', '10'),
('C177894532', 'A465488148', '7'),
('D990131479', 'A432798148', '8'),
('D990131479', 'A465488148', '9'),
('M121105964', 'A455778148', '8'),
('M121314121', 'A432798148', '7'),
('M121314121', 'A456788148', '8'),
('M128299909', 'A667888148', '6'),
('M128537088', 'A455778148', '9'),
('N122644567', 'A453388148', '5'),
('N125277889', 'A776788148', '9'),
('N332314978', 'A226798148', '8'),
('O121314123', 'A156548148', '9'),
('O121314123', 'A226798148', '1'),
('O121314123', 'A450988148', '1'),
('O456314111', 'A450988148', '8');

--
-- Indexes for dumped tables
--

--
-- Indexes for table `customer`
--
```

```
ALTER TABLE `customer`
  ADD PRIMARY KEY (`Cid`);

--
-- Indexes for table `drivers`
--
ALTER TABLE `drivers`
  ADD PRIMARY KEY (`License_no`);

--
-- Indexes for table `home`
--
ALTER TABLE `home`
  ADD PRIMARY KEY (`Home_id`),
  ADD KEY `policy_no` (`Policy_no`);

--
-- Indexes for table `invoice`
--
ALTER TABLE `invoice`
  ADD PRIMARY KEY (`Invoice_id`),
  ADD KEY `policy_no` (`Policy_no`);

--
-- Indexes for table `payment`
--
ALTER TABLE `payment`
  ADD PRIMARY KEY (`Instal_ID`),
  ADD KEY `invoice_id` (`Invoice_id`);

--
-- Indexes for table `policy`
--
ALTER TABLE `policy`
  ADD PRIMARY KEY (`Policy_no`),
  ADD KEY `c_id` (`Cid`);

--
-- Indexes for table `vehicle`
--
ALTER TABLE `vehicle`
  ADD PRIMARY KEY (`Vin`),
  ADD KEY `policy_no` (`Policy_no`);

--
-- Indexes for table `vehicle_driver`
--
ALTER TABLE `vehicle_driver`
  ADD PRIMARY KEY (`Vin`,`License_no`),
  ADD KEY `license_no` (`License_no`);

--
-- Constraints for dumped tables
--

--
-- Constraints for table `home`
--
ALTER TABLE `home`
  ADD CONSTRAINT `home_ibfk_1` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `home_policy_fk` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CASCA

--
-- Constraints for table `invoice`
--
ALTER TABLE `invoice`
  ADD CONSTRAINT `invoice_ibfk_1` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CASCA
  ADD CONSTRAINT `invoice_policy_fk` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CA

--
-- Constraints for table `payment`
--
ALTER TABLE `payment`
  ADD CONSTRAINT `payment_ibfk_1` FOREIGN KEY (`Invoice_id`) REFERENCES `invoice` (`Invoice_id`) ON DELETE CASCADE ON UPDATE CA
  ADD CONSTRAINT `payment_invoice_fk` FOREIGN KEY (`Invoice_id`) REFERENCES `invoice` (`Invoice_id`) ON DELETE CASCADE ON UPDAT

--
-- Constraints for table `policy`
--
ALTER TABLE `policy`
  ADD CONSTRAINT `pk_customer_policy` FOREIGN KEY (`Cid`) REFERENCES `customer` (`Cid`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `policy_ibfk_1` FOREIGN KEY (`Cid`) REFERENCES `customer` (`Cid`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `policy_ibfk_2` FOREIGN KEY (`Cid`) REFERENCES `customer` (`Cid`) ON DELETE CASCADE ON UPDATE CASCADE;

--
-- Constraints for table `vehicle`
--
```

```
ALTER TABLE `vehicle`
  ADD CONSTRAINT `vehicle_ibfk_1` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CASCA
  ADD CONSTRAINT `vehicle_policy_fk` FOREIGN KEY (`Policy_no`) REFERENCES `policy` (`Policy_no`) ON DELETE CASCADE ON UPDATE CA

--
-- Constraints for table `vehicle_driver`
--
ALTER TABLE `vehicle_driver`
  ADD CONSTRAINT `vehicle_driver_drivers_fk` FOREIGN KEY (`License_no`) REFERENCES `drivers` (`License_no`) ON DELETE CASCADE O
  ADD CONSTRAINT `vehicle_driver_ibfk_1` FOREIGN KEY (`License_no`) REFERENCES `drivers` (`License_no`) ON DELETE CASCADE ON UP
  ADD CONSTRAINT `vehicle_driver_ibfk_2` FOREIGN KEY (`Vin`) REFERENCES `vehicle` (`Vin`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `vehicle_driver_vehicle_fk` FOREIGN KEY (`Vin`) REFERENCES `vehicle` (`Vin`) ON DELETE CASCADE ON UPDATE CASCA
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Summary of Development Environment:

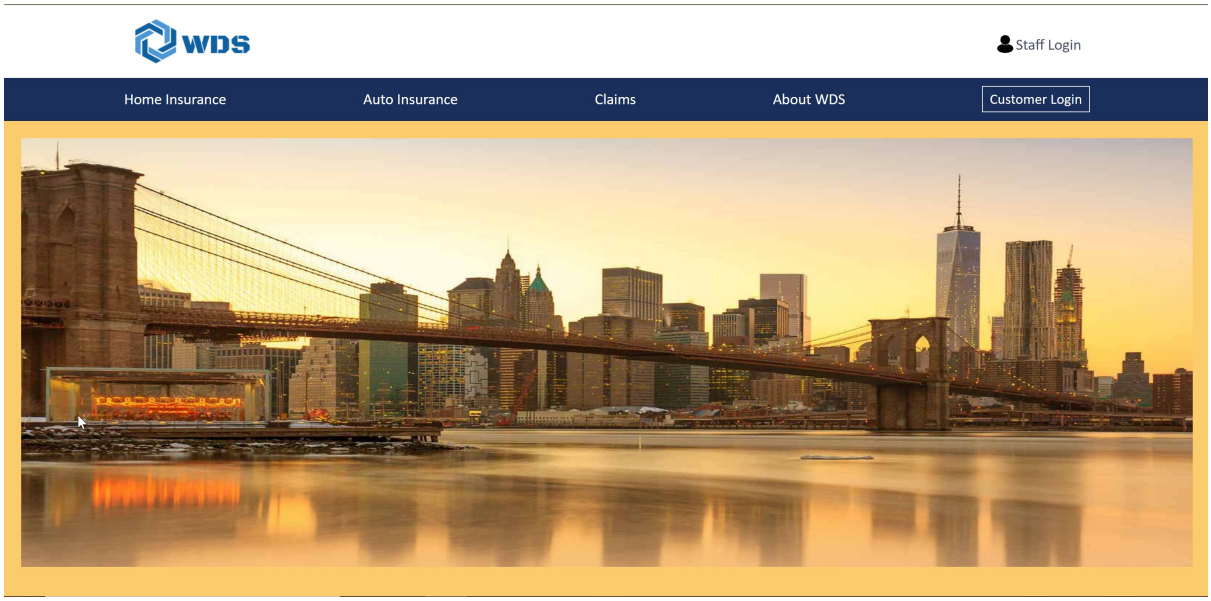
- The database was developed on **Maria DB** servers using **MySQL.**
- **Php** was used for server side scripting
- HTML and CSS were used for front end scripting.
- The whole projects was hosted using Apache server on the local machine.

Summary of Features

The website was designed keeping in mind the RESTful API structure, heavily relying on $_GET and $_POST super globals.

Website Flow

1. A customer applies for a quote
2. The employee/admin will approve the application after gathering more information from the customer
3. The employee will then add all the customer policy and other related information to the databases
4. The admin then provides the customer with the username and password for thier login. The customer has the option to change the password.
5. The customer can then login and check their policy details

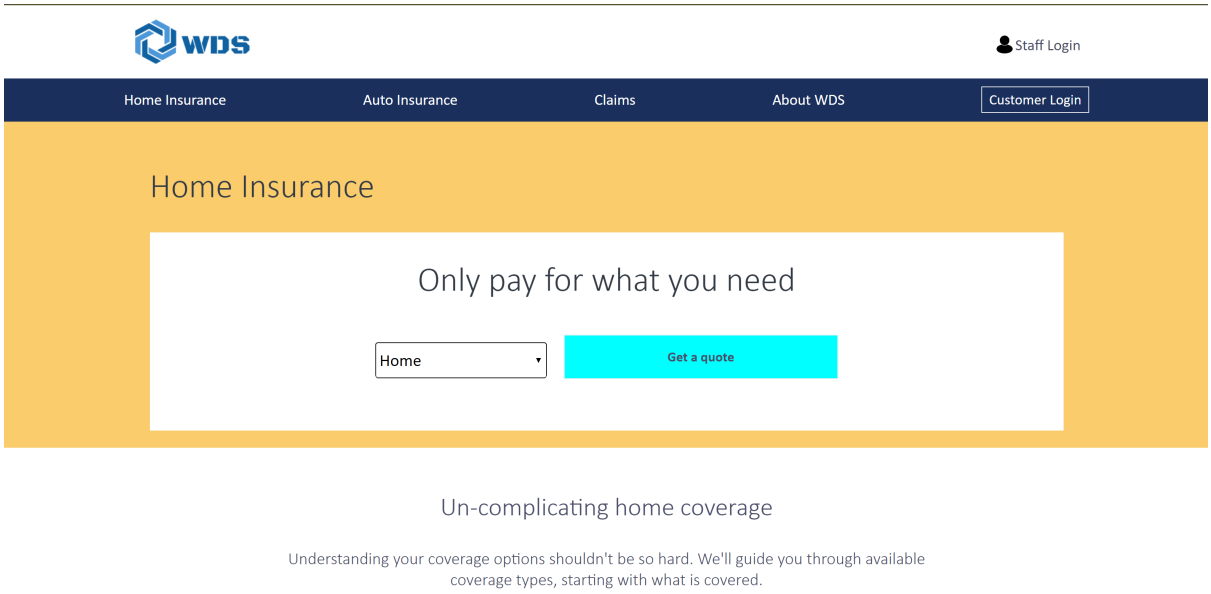


The website is divided into two main parts: **Customer Section** and **Admin Section.**

Customer Section

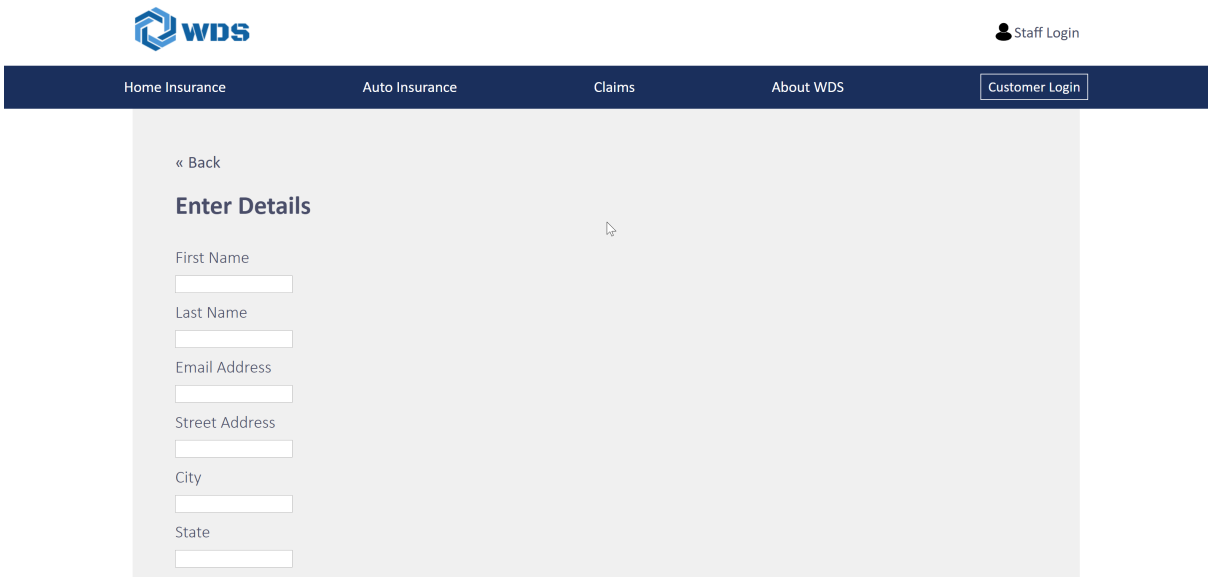
The customer section allows a customer to ask for a quote/purchase an insurance policy. An existing customer can log in to their account and view their policy.

- New Customer Request:



Here the customer can select whether they need a policy for their HOME, AUTOMOBILE or BOTH.

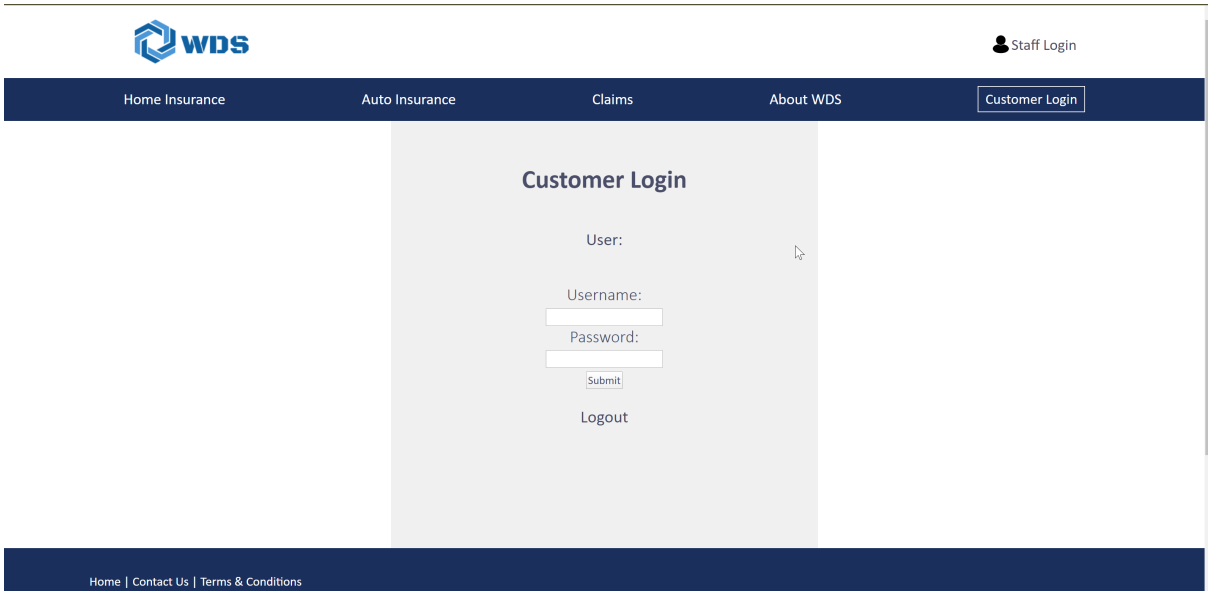
Application Form:

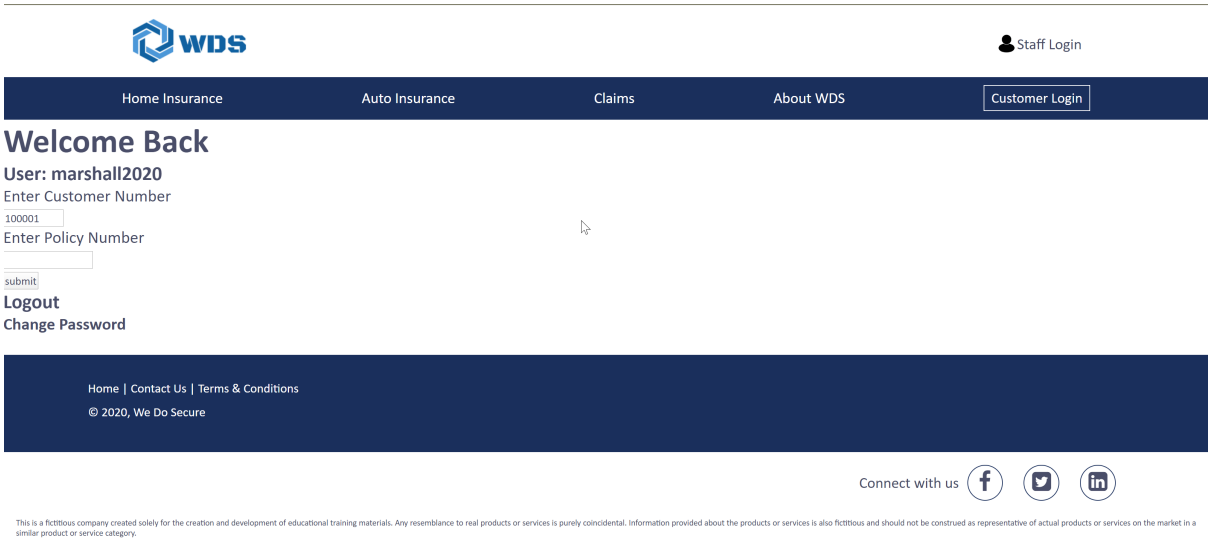


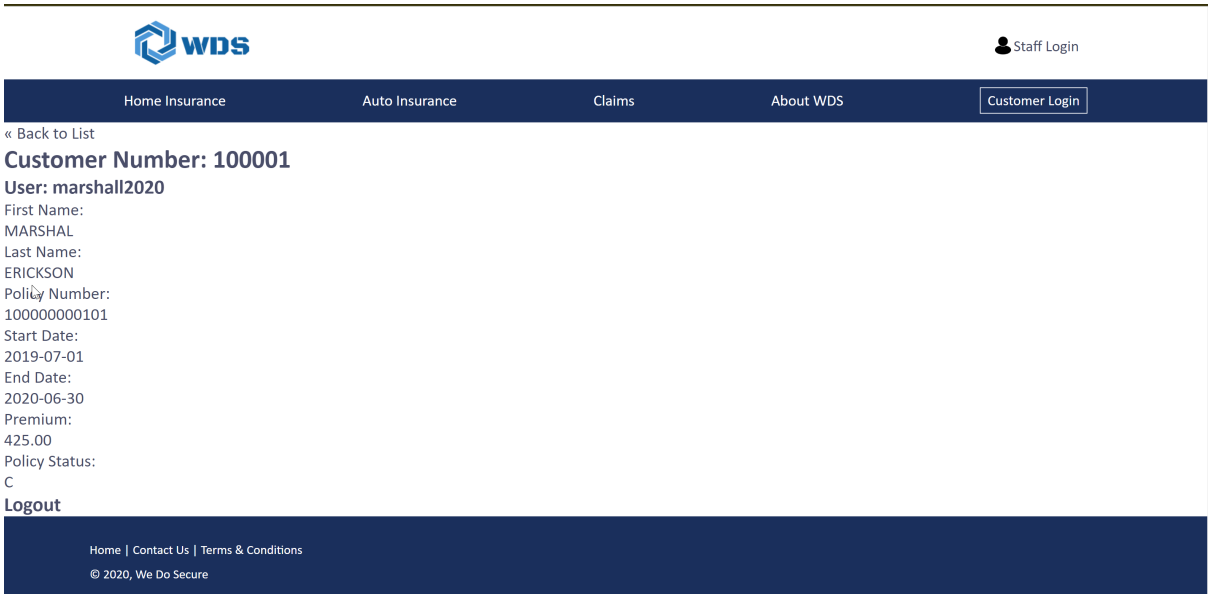
Application Confirmation Page:

Customer Login

We use SESSIONS to maintain the user, the password is encrpyted using one way BCRYPT encryption.







Admin Section

Just like the customer session we use SESSIONS to maintain the uses and a BCRYPT encrypted pasword.

The admin can view all tables and has complete CRUD access to all data rows.

You can view all the data rows on one table as follows:

WDS Staff Area

Main Menu User: yashodhan1400 Logout

Customers

Create Customer

Cid	Fname	Lname	St	City	State	Zipcode	Gender	DOB	M_Status	C_Type			
100001	MARSHAL	ERICKSON	215 BROADWAY	New York	NY	11222	M	1986-07-02	M	H	View	Edit	Delete
100002	LILY	ALDRIN	332 LAFAYETTE	NEW YORK	NY	11224	F	1986-06-24	M	AH	View	Edit	Delete
100003	BARNEY	STINSON	562 UPPER WEST	NEW YORK	NY	11127	M	1988-10-12	S	H	View	Edit	Delete
100004	TED EVELYN	MOSBY	215 BROADWAY	NEW YORK	NY	11222	M	1987-08-11	S	H	View	Edit	Delete
100005	ROBIN	SCHERBATSKY	452 WOODBRIDGE	BROOKLYN	NY	11242	F	1989-05-05	W	H	View	Edit	Delete
100006	OSCAR	MYER	224 DANBURY	COOKS COUNTY	WA	12345	M	1956-02-09	W	AH	View	Edit	Delete
100007	QUINTIN	TARANTINTO	BEVERLY HILL	LOS ANGELES	CA	23419	M	1966-04-08	M	AH	View	Edit	Delete
100008	MARK	ZUCKERBERG	452 COFFEE LANE	REDMOND	WA	89675	M	1990-07-07	M	AH	View	Edit	Delete
100009	ELON	MUSK	333 83RD ST	BROOKLYN	NY	11667	M	1980-06-22	S	H	View	Edit	Delete
100010	ANDY	HAMILTION	111 LA GUARDIA	NEW YORK	NY	11236	M	1974-03-12	M	AH	View	Edit	Delete
100011	YASH	JOSHI	8020	BROOKLYN	NY	89897	M	1989-09-09	S	A	View	Edit	Delete
100012	RACHANA	SWAMY	555 25 ST	BROOKLYN	NY	11217	F	1966-05-08	S	A	View	Edit	Delete
100013	JANE	DOE	111 1ST	BROOKLYN	NY	11111		2001-	W	H	View	Edit	Delete

Each row can be viewed individually, and the it can be edited or deleted

The admin can also add a data row.

Similarly all the other tables have full CRUD options for the ADMIN login

View:

WDS Staff Area

Main Menu User: yashodhan1400 Logout

« Back to List

Customer Number: 100001

First Name: MARSHAL
Last Name: ERICKSON
Street Address: 215 BROADWAY
City: New York
State: NY
Zipcode: 11222
Gender: M
Date of Birth: 1986-07-02
Maritial Status: M
Customer Type: H

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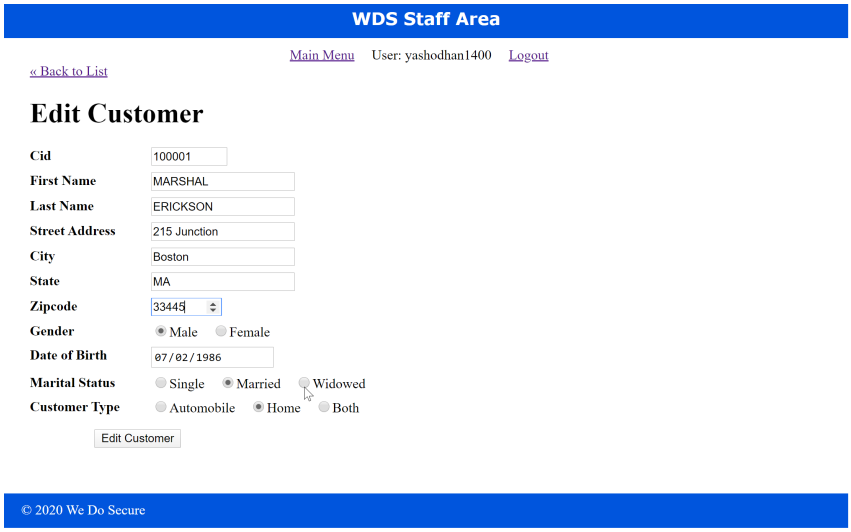
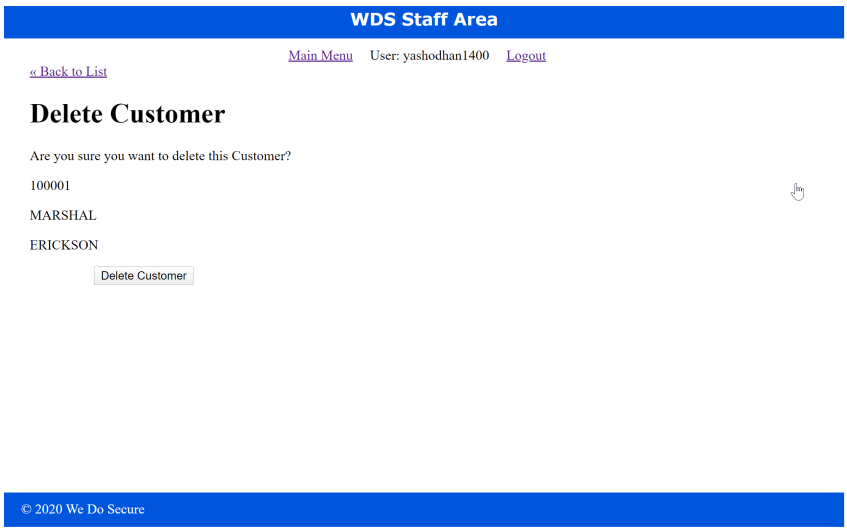
Edit: (The Address has been edited)



Delete:



Create:

Authentication

Authentication is necessary for both customer and admin. The authentications is done using stored usernames and passwords(hashed versions of passwords).

Seperate databases are maintained for admin login and customer login. Passwords are encrypted before logging in.

Encryption

The passwords have one way BCRYPT has encyption. Hence everytime a user logs in, the password which is inputed then encypted and then compared with the stored hashed_password.

Hash Function maps one piece of data to another.

```
$hashed_password = password_hash($customer_login['hashed_password'], PASSWORD_BCRYPT);
```

The password_hash is a PHP function that has strong one-way encryption. The first element is the one getting encrypted while the second one describes the type of encryption algorithm.

BCRYPT is a hashing algorithm based on the Blow Fish Encryption Algorithm.

We use the following code to check the password:

```
password_verify($password, $admin['hashed_password'])
```

password_verify checks if $password matches its hash, i.i $admin['hashed_password'].

SQL Injection prevention

To prevent SQL injection one of the easiest things is to tackle the single quotes. For this we created a function:

```
function db_escape($connection, $string){
  return mysqli_real_escape_string($connection,$string);
}
```

mysqli_real_escape_string escapes special characters in a string for use in an SQL query, taking into account the current character set of the connection. We also used quote to escapy any sql injection queries.

Cross Site Scripting

We santise any inputs to pages using **htmlspecialcharacters** containing no arguments.

(htmlspecialchars — Convert special characters to HTML entities)

We use **urlencode** function to allow special characters in the URL.

(Returns a string in which all non-alphanumeric characters except -_. have been replaced with a percent (%) sign)

```
function u($string=""){
  return urlencode($string);
}

function h($string=""){
  return htmlspecialchars($string);
  }
```

Cascade Delete

If you delete the entry in a parent table the corresponding row in the child table will be deleted too.

This was set using the foreign key constraint itself.