

# CSE 412 - Phase 02

Team members: Monil Patel, Samson Mathais, Worifung Achu

## ER-to-Relational Model Transformation

### DDL SCRIPTS

Defining the Database

```
1 CREATE DATABASE CSE412;
```

Make table

```
20 CREATE TABLE make (
21     "MAKE_ID"      SERIAL PRIMARY KEY,
22     "BRAND"        VARCHAR(150) NOT NULL UNIQUE,
23     "MAKE_ORIGIN"  VARCHAR(100)
24 );
25
```

Model table

```
CREATE TABLE model (
    "MODEL_ID"      SERIAL PRIMARY KEY,
    "MAKE_ID"        INTEGER NOT NULL REFERENCES make("MAKE_ID") ON DELETE RESTRICT,
    "MODELNAME"     VARCHAR(150) NOT NULL,
    "MODELTYP"      VARCHAR(100), -- note trailing space in header
    "FUELTYPE"      VARCHAR(50),
    UNIQUE ("MAKE_ID", "MODELNAME")
);
```

Dealership table

```
36 -- DEALERSHIP table matching: ['DEALERSHIPS_ID', 'DEALERSHIP_NAME', 'LOCATION']
37 CREATE TABLE dealership (
38     "DEALERSHIPS_ID"  varchar(25) PRIMARY KEY,
39     "DEALERSHIP_NAME" VARCHAR(200) NOT NULL,
40     "LOCATION"        VARCHAR(250) NOT NULL
41 );
42
```

## Customer table

```
43 -- CUSTOMER table (unchanged column names from previous design; CSV not provided for customers)
44 CREATE TABLE customer (
45     CUST_ID      SERIAL PRIMARY KEY,
46     FULL_NAME    VARCHAR(200) NOT NULL,
47     PHONE_NUMBER VARCHAR(50) NOT NULL UNIQUE,
48     ADDR         VARCHAR(400),
49     USERNAME     VARCHAR(100) NOT NULL UNIQUE,
50     PASS_HASH    TEXT NOT NULL,
51     CREATED_AT   TIMESTAMP WITH TIME ZONE DEFAULT now()
52 );
```

## Car table

```
53
54 -- CAR table matching car_info columns:
55 -- ['CAR NAME', 'MODEL', 'IMAGE', 'PRICE RANGE', 'PRICE($)', 'STOCK TYPE', 'MILEAGE', 'RATING', 'REVIEW',
56 -- 'DEALER NAME', 'CAR_ID', 'VIN', 'COLOR', 'PRICE', 'AVALAIBLESTATUS ', 'DEALERSHIPS_ID', 'MODEL_ID', 'MAKE_ID']
57 CREATE TABLE car (
58     "CAR_ID"      SERIAL PRIMARY KEY,
59     "CAR NAME"    VARCHAR(255),
60     "IMAGE"       TEXT,
61     "PRICE RANGE" VARCHAR(100),
62     "PRICE ($)"   NUMERIC(12,2),
63     "STOCK TYPE"  VARCHAR(100),
64     "MILEAGE"     VARCHAR(100),
65     "RATING"      NUMERIC(3,2),
66     "REVIEW"      TEXT,
67     "DEALER NAME" VARCHAR(255),
68     "VIN"          VARCHAR(100) NOT NULL UNIQUE,
69     "COLOR"        VARCHAR(50),
70     "PRICE"        NUMERIC(12,2) NOT NULL CHECK ("PRICE" >= 0),
71     "IS_AVAIL"    BOOLEAN NOT NULL DEFAULT TRUE,
72     "DEALERSHIPS_ID"  varchar(25) REFERENCES dealership("DEALERSHIPS_ID") ON DELETE RESTRICT,
73     "MODEL_ID"    INTEGER REFERENCES model("MODEL_ID") ON DELETE RESTRICT,
74     "MAKE_ID"     INTEGER REFERENCES make("MAKE_ID") ON DELETE RESTRICT,
75     "CREATED_AT"  TIMESTAMP WITH TIME ZONE DEFAULT now()
76 );
```

## Service record table

```
78 -- SERVICE RECORD matching: ['SERVICE_ID', 'SERVICE_DESCRIPTION', 'TOTAL_COST', 'REPAIR_DATE', 'CAR_ID']
79 CREATE TABLE service_record (
80     "SERVICE_ID"      SERIAL PRIMARY KEY,
81     "SERVICE_DESCRIPTION" TEXT,
82     "TOTAL_COST"       NUMERIC(10,2) CHECK ("TOTAL_COST" >= 0),
83     "REPAIR_DATE"     DATE NOT NULL,
84     "CAR_ID"          INTEGER NOT NULL REFERENCES car("CAR_ID") ON DELETE CASCADE
85 );
86
```

## Sale table

```

86
87 -- SALE table / Receipt: keep similar to previous design but referencing car "CAR_ID" and customer_id
88 CREATE TABLE sale (
89     SALE_ID          SERIAL PRIMARY KEY,
90     "CAR_ID"         INTEGER NOT NULL REFERENCES car("CAR_ID") ON DELETE RESTRICT,
91     CUST_ID          INTEGER NOT NULL REFERENCES customer(CUST_ID) ON DELETE CASCADE,
92     SALE_DATE        DATE NOT NULL,
93     SALE_PRICE       NUMERIC(12,2) NOT NULL CHECK (SALE_PRICE > 0),
94     CREATED_AT       TIMESTAMP WITH TIME ZONE DEFAULT now(),
95     UNIQUE ("CAR_ID", SALE_DATE)
96 );
97

```

Here are the scripts that we wrote as our DDL.

**Car table**

The screenshot shows the configuration interface for the 'car' table. It includes tabs for General, Columns, Advanced, Constraints, Partitions, Parameters, Security, and SQL. The 'Columns' tab is selected, displaying 14 columns with their respective properties:

	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
1	CAR_ID	integer			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	nextval("car_CAF")
2	CAR NAME	character varying	255		<input type="checkbox"/>	<input type="checkbox"/>	
3	IMAGE	text			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	PRICE RANGE	character varying	100		<input type="checkbox"/>	<input type="checkbox"/>	
5	PRICE(\$)	numeric	12	2	<input type="checkbox"/>	<input type="checkbox"/>	
6	STOCK TYPE	character varying	100		<input type="checkbox"/>	<input type="checkbox"/>	
7	MILEAGE	character varying	100		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8	RATING	numeric	3	2	<input type="checkbox"/>	<input type="checkbox"/>	
9	REVIEW	text			<input type="checkbox"/>	<input type="checkbox"/>	
10	DEALER NAME	character varying	255		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11	VIN	character varying	100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12	COLOR	character varying	50		<input type="checkbox"/>	<input type="checkbox"/>	
13	PRICE	numeric	12	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

  

IS_AVAIL	boolean			<input checked="" type="checkbox"/>	<input type="checkbox"/>	true
DEALERSHIPS_ID	character varying	25		<input type="checkbox"/>	<input type="checkbox"/>	
MODEL_ID	integer			<input type="checkbox"/>	<input type="checkbox"/>	
MAKE_ID	integer			<input type="checkbox"/>	<input type="checkbox"/>	
CREATED_AT	timestamp with time zone			<input type="checkbox"/>	<input type="checkbox"/>	now()

## Customer

customer							
General		Columns	Advanced	Constraints	Partitions	Parameters	Security
Inherited from table(s)							Select to inherit from...
Columns							
	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
	cust_id	integer	<input type="button" value="▼"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="nextval('customer_id_seq')"/>
	full_name	character varying	<input type="button" value="▼"/> 200		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	phone_number	character varying	<input type="button" value="▼"/> 50		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	addr	character varying	<input type="button" value="▼"/> 400		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	username	character varying	<input type="button" value="▼"/> 100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	pass_hash	text	<input type="button" value="▼"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	created_at	timestamp with time zone	<input type="button" value="▼"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="now()"/>

## Dealership

dealership							
General		Columns	Advanced	Constraints	Partitions	Parameters	SQL
Inherited from table(s)							Select to inherit from...
Columns							
	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
	DEALERSHIPS_ID	character varying	<input type="button" value="▼"/> 25		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
	DEALERSHIP_NAME	character varying	<input type="button" value="▼"/> 200		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
	LOCATION	character varying	<input type="button" value="▼"/> 250		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

## Make

**make**

General Columns Advanced Constraints Partitions Parameters Security SQL

Inherited from table(s) Select to inherit from...

**Columns**

	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MAKE_ID	integer		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="nextval('m...')"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	BRAND	character varying	150	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MAKE ORIGIN	character varying	100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

## Model

**model**

General Columns Advanced Constraints Partitions Parameters Security SQL

Inherited from table(s) Select to inherit from...

**Columns**

	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MODEL_ID	integer		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="nextval('mc...')"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MAKE_ID	integer		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MODELNAME	character varying	150	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	MODELTYPE	character varying	100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<input type="button" value="edit"/>	<input type="button" value="trash"/>	FUELTYPE	character varying	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

## Sale

The screenshot shows the configuration interface for the 'Sale' table. The 'Columns' tab is selected. The table has six columns:

	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
<input type="checkbox"/>	sale_id	integer			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	nextval('sa...
<input type="checkbox"/>	CAR_ID	integer			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	cust_id	integer			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	sale_date	date			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	sale_price	numeric	12	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	created_at	timestamp with time z			<input type="checkbox"/>	<input type="checkbox"/>	now()

Buttons at the bottom include:

## Service\_record

The screenshot shows the configuration interface for the 'Service\_record' table. The 'Columns' tab is selected. The table has five columns:

	Name	Data type	Length/Precision	Scale	Not NULL?	Primary key?	Default
<input type="checkbox"/>	SERVICE_ID	integer			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	nextval("service...
<input type="checkbox"/>	SERVICE_DESCRIPTION	text			<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	TOTAL_COST	numeric	10	2	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	REPAIR_DATE	date			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	CAR_ID	integer			<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Buttons at the bottom include:

Here are our tables. As you can see, we are getting the right primary keys in each table and the right attributes for each table with their respective domains to show that our DDL scripts executed properly.

## Data Population

**SELECT \* For each table:**

Query    Query History

```
1 select * from service_record;
```

Data Output    Messages    Notifications



	SERVICE_ID [PK] integer	SERVICE_DESCRIPTION text	TOTAL_COST numeric (10,2)	REPAIR_DATE date	CAR_ID integer
1	1906398	Diagnosed and repaired Oil Drain Plug.	76.90	2023-10-12	629151
2	522849	Diagnosed and repaired Rim.	30.64	2022-11-13	659597
3	1872714	Diagnosed and repaired Timing Belt.	806.68	2021-02-03	772886
4	928325	Diagnosed and repaired no parts used.	40.88	2022-04-24	82768
5	759831	Diagnosed and repaired Engine Mount.	775.47	2023-11-18	666944
6	1882379	Diagnosed and repaired Gearbox Seal.	893.24	2020-02-09	97098
7	512524	Diagnosed and repaired no parts used.	111.47	2020-02-27	103760
8	333238	Diagnosed and repaired Clutch Kit.	920.10	2021-09-18	319689
9	833756	Diagnosed and repaired Spark Plugs.	569.47	2021-12-13	848125
10	1073540	Diagnosed and repaired Calipers.	325.33	2020-01-01	563048
11	733703	Diagnosed and repaired Oil Pump.	492.37	2024-01-23	531859
12	2019634	Diagnosed and repaired Oil Filter.	88.52	2023-05-03	191330
13	1787159	Diagnosed and repaired Oil Drain Plug.	59.68	2020-04-12	455964
14	495240	Diagnosed and repaired no parts used.	105.23	2021-05-02	704419
15	618362	Diagnosed and repaired Clutch Kit.	1462.54	2023-02-13	859980
16	342040	Diagnosed and repaired Brake Pads.	371.87	2023-06-01	938515
17	822173	Diagnosed and repaired TPMS Sensor.	111.55	2024-11-12	796194
18	1356554	Diagnosed and repaired TPMS Sensor.	180.02	2024-04-08	287494
19	1383283	Diagnosed and repaired Synthetic Oil.	90.92	2024-04-27	435310
20	703724	Diagnosed and repaired Clutch Kit.	1136.62	2022-04-09	834769
21	1037996	Diagnosed and repaired Synthetic Oil.	66.84	2024-05-31	85504
22	1918740	Diagnosed and repaired Battery Holder.	180.88	2023-02-06	669810

Query Query History

```
1 select * from car;
```

Data Output Messages Notifications

Showing rows: 1 to 1000 | Page No: 1 of 234 | [|<](#) [|>](#) [|<<](#) [|>>](#)

	CAR_ID [PK] integer	CAR_NAME character varying (255)	IMAGE text	PRICE RA character
1	90133	Chevrolet Traverse LT	https://www.cars.com/i/large/in/v2/fe8df1b1-434f-40b9-b35a-71dc3dae2b67/20b2af31-0c83-4d2f-ab14-ecaf3dbe2e1/NJzQtgYulkRgjfqqzkf6BQDb0.jpg	High
2	395560	Chevrolet Traverse LT	https://www.cars.com/i/large/in/v2/110522e7-fa4b-509d-9a8d-4c4ce9a45d10/577781d3-be53-4988-bd45-d1c4bcd3d4a/eCw69N-FNFEoJXkMKeh0F9e...	High
3	892585	Chevrolet Traverse LS	https://www.cars.com/i/large/in/v2/e1302f110-28b9-5444-ae89-dae0ab2300d/a1da979-b161-47e5-8357-ff39673264f/rQaxqQqlPNQJTrn9ITVWQU...	High
4	140687	Chevrolet Traverse 2LT	https://www.cars.com/i/large/in/v2/0d65dc66-cfb7-54d3-a5e4-15d092a69ab/059aa0eb-6b45-4d86-9f7b-d44b7021d0d/yH0R-F7yE10rAl61jpRsxg0glE...	Low
5	366211	Chevrolet Traverse 2LT	https://www.cars.com/i/large/in/v2/bc287cf4-3007-5ed4-9d6b-e58539f3cbf1/4a0ce8c6-59c3-4327-8d91-fa423e2fa1b5/DOZV0v03la1lop9n3VBYrpZq9...	Low
6	869724	Chevrolet Traverse LT Leather	https://www.cars.com/i/large/in/v2/23cf2b56-0126-4080-ae8f-5c251769b40/d9ba6106-fbe3-4453-b9cd-9e1a16e381d3/abvy13bm7n05S_pz0cF59BRc...	Low
7	174945	Chevrolet Traverse LTZ	https://www.cars.com/i/large/in/v2/ce603d0-391a-5f01-9ef3-39d6fffdab3/82add23a-b980-427d-b8df-12f61b0c531e/6LDTyDOfklgfbbehShAUqF13E.jpg	Low
8	519999	Chevrolet Traverse LT Leather	https://www.cars.com/i/large/in/v2/177e93e2-7905-5922-851f-2f030bf43e5d/860fce61-e8bd-4c46-9c9b-1be1fc9911af/qv_aFv-upmCmFrG100orGaDEQi...	Low
9	698066	Chevrolet Traverse Premier	https://www.cars.com/i/large/in/v2/58d21050-80ed-53b6-97e0-fcaeab40a48f/8a7bc25e-47f5-4b88-372-61cbbc79f062/0qEPHePghPHlZR6qOTgKj3mzAo...	Luxury
10	153299	Chevrolet Traverse 2LT	https://www.cars.com/i/large/in/v2/d4397aef-5bbb-5af2-9412-19e61401ef8a/750955f3-04ac-4a29-89ef-8a721962f299/uID_BdxWxHd9avplCpLtcCnE0jk...	Low
11	822199	Chevrolet Traverse LT Cloth	https://www.cars.com/i/large/in/v2/291153fe-2aec-53d2-b238-1d256a2cf60/79cb13a-1f4a-48cf-ac2e-af31a495b911/KlgYaYKc7rwIVERixAV4Qn_9mCl...	Low
12	859987	Chevrolet Traverse LT Leather	https://www.cars.com/i/large/in/v2/93c3b94-50a6-547f-8025-3598199c90/c652ed6a-3f41-40c0-ad3e-c3d31ec0fed6/51TNQcpH88ZBm_dVzY05ak1X...	Medium
13	87258	Chevrolet Traverse LT Leather	https://www.cars.com/i/large/in/v2/2cebe5c1-fe11-5f67-a699-5912e36d4fe7/a974f0ff-cd69-4b35-86d5-23d1b56168db/x5qatCJCzomezml2uWqlxL434k...	Low
14	693007	Chevrolet Traverse LT Cloth	https://www.cars.com/i/large/in/v2/2f63fd74-4a14-560e-81c1-4298607f2b9f/279e90ec-96d4-49ef-aa7c-baeed192cff6/4UanfacyNxPj7mVyIrvu3GmzrIE.j...	Medium
15	78755	Chevrolet Traverse LT	https://www.cars.com/i/large/in/v2/f6f69365b-5f1b-b662-917f-67d8c7dfe52/bf430440-c2b7-416d-c0f7-c51ec8e6906a/NzSPwzQesCjRve5vAUVGgEGov...	High
16	448678	Chevrolet Traverse Premier	https://www.cars.com/i/large/in/v2/9087312b-2e09-5802-8e2d-3549bc32f2fe/f162c31c-fc14-43dc-b41a-a5534328053c/KdVILUswEEEAvDsE0fqkxxR_M...	High
17	210291	Chevrolet Traverse LT	https://www.cars.com/i/large/in/v2/07f0124f-80f0-4a25-9a46-6000a4f12a29-41b4-4176-0bb1610a924d/ICvwmO1MVKACOn+Ed0nInh...	Low

Query Query History

```
1 select * from dealership;
```

Data Output Messages Notifications

Showing rows: 1 to 1000 | Page No: 1 of 1 | [|<](#) [|>](#) [|<<](#) [|>>](#)

	DEALERSHIPS_ID [PK] character varying (25)	DEALERSHIP_NAME character varying (200)	LOCATION character varying (250)
1	#642564	CarNation	Los Angeles, CA
2	#410787	DriveTime	Chicago, IL
3	#204158	MotorWorld	Houston, TX
4	#853810	RideAway	Phoenix, AZ
5	#906326	SpeedyCars	Philadelphia, PA
6	#948711	WheelsPlus	San Antonio, TX
7	#117221	ZoomAuto	San Diego, CA
8	#278311	PrimeMotors	Dallas, TX
9	#212119	EliteCars	San Jose, CA

Query Query History

```
1 select * from model;
```

Data Output Messages Notifications

Showing rows: 1 to 16 of 16

SQL

	MODEL_ID [PK] integer	MAKE_ID integer	MODELNAME character varying (150)	MODELTYPE character varying (100)	FUELTYPE character varying (50)
1	38160	733739	Traverse LT	crossover	Gasoline
2	832859	733739	Traverse LS	crossover	Gasoline
3	427116	733739	Traverse 2LT	crossover	Gasoline
4	60772	733739	Traverse LT Leather	crossover	Gasoline
5	521965	733739	Traverse LTZ	crossover	Gasoline
6	715524	733739	Traverse Premier	crossover	Gasoline
7	168365	733739	Traverse LT Cloth	crossover	Gasoline
8	524968	733739	Traverse 1LT	crossover	Gasoline
9	761588	733739	Traverse High Country	crossover	Gasoline
10	56563	733739	Traverse RS	crossover	Gasoline
11	410232	733739	Traverse AWD Z71	crossover	Gasoline
12	659883	733739	Traverse Z71	crossover	Gasoline
13	55507	733739	Traverse FWD LT	crossover	Gasoline
14	381121	733739	Traverse LT 1LT	crossover	Gasoline
15	995159	733739	Traverse FWD LS	crossover	Gasoline
16	794424	733739	Traverse AWD LT	crossover	Gasoline

Query Query History

```
1 select * from sale;
```

Data Output Messages Notifications

Showing rows: 1 to 1 of 1

SQL

	sale_id [PK] integer	CAR_ID integer	cust_id integer	sale_date date	sale_price numeric (12,2)	created_at timestamp with time zone
1						

Query Query History

```
1 select * from customer;
```

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 1 of 1

SQL

	cust_id [PK] integer	full_name character varying (200)	phone_number character varying (50)	addr character varying (400)	username character varying (100)	pass_hash text	created_at timestamp with time zone
1	3	achu clinton	634-342-2353	2209 nowhere st	mistryuser	\$2y\$15\$ipU028aaFEe/zccpwduJBuJc.k2ekYpK8.5mVTXL26laraCXzofYq	2025-11-09 21

Query    Query History

```

1
2   select * from make;

```

Data Output    Messages    Notifications

	MAKE_ID [PK] integer	BRAND character varying (150)	MAKE_ORIGIN character varying (100)
1	733739	Chevrolet	USA
2	399327	Toyota	Japan
3	863688	Ford	USA
4	97099	Honda	Japan
5	531506	Acura	Japan
6	161627	Mazda	Japan
7	701016	Nissan	Japan
8	272399	Subaru	Japan
9	233866	BMW	Germany

This sql statement selects all the data from the make table.

### **Insert Commands:**

Query    Query History

```

1   INSERT INTO service_record ("CAR_ID", "SERVICE_DESCRIPTION", "TOTAL_COST", "REPAIR_DATE")
2   SELECT "CAR_ID", 'Oil change and tire rotation', 125.00, '2024-11-08'
3   FROM car
4   LIMIT 1;
5

```

Data Output    Messages    Notifications

INSERT 0 0

Query returned successfully in 66 msec.

This query inserts a new service record for routine vehicle maintenance by automatically selecting the first available car from the inventory and recording an oil change and tire rotation service costing \$125.00.

Query Query History

```
1 INSERT INTO sale ("CAR_ID", CUST_ID, SALE_DATE, SALE_PRICE)
2 SELECT c."CAR_ID", cu.CUST_ID, CURRENT_DATE, c."PRICE" * 0.95
3 FROM car c, customer cu
4 WHERE c."IS_AVAIL" = TRUE
5 LIMIT 1;
```

Data Output [Messages](#) Notifications

INSERT 0 0

Query returned successfully in 113 msec.

This query records a new vehicle sale by automatically matching an available car with a customer and applying a 5% discount to the sale price, then marks the transaction with today's date.

## **SQL Queries Covering Application Use Cases**

This will enable users to filter by make when looking for a car.

1st SELECT query

Query    Query History

```
1  SELECT "BRAND", "MAKE ORIGIN" FROM MAKE WHERE "MAKE ORIGIN" = 'USA';
2
```

Data Output    Messages    Notifications

	BRAND character varying (150)	MAKE ORIGIN character varying (100)
1	Chevrolet	USA
2	Ford	USA
3	Lincoln	USA
4	Rambler	USA
5	Bremen	USA
6	Delorean	USA

Select the brand and the make origin from the make table

2nd SELECT query

Query    Query History    Scratch Pad

```
1  select "CAR NAME", "IMAGE", "PRICE($)" from car where "PRICE RANGE" = 'High';
2
```

Data Output    Messages    Notifications

	CAR NAME character varying (255)	IMAGE text	PRICE(\$) numeric (12,2)
1	Chevrolet Traverse LT	<a href="https://www.cars.com/i/large/in/v2/fe8df1b1-434f-40b9-b35a-71dc3dae2b67/20b2af31-0c83-4d2f-ab14-ecaf3dbae2e1/NjJzQtgGyulkRglfqzzkf6BQDb0.jpg">https://www.cars.com/i/large/in/v2/fe8df1b1-434f-40b9-b35a-71dc3dae2b67/20b2af31-0c83-4d2f-ab14-ecaf3dbae2e1/NjJzQtgGyulkRglfqzzkf6BQDb0.jpg</a>	41170.00
2	Chevrolet Traverse LT	<a href="https://www.cars.com/i/large/in/v2/110522ef7fa4b-509d-9a8d-4c4ce9a45d10/577781d3-be53-4988-bd45-dd1c4bcd3d4a/cw69n-fnfeojxkmkeh0f9e0e...">https://www.cars.com/i/large/in/v2/110522ef7fa4b-509d-9a8d-4c4ce9a45d10/577781d3-be53-4988-bd45-dd1c4bcd3d4a/cw69n-fnfeojxkmkeh0f9e0e...</a>	42540.00
3	Chevrolet Traverse LS	<a href="https://www.cars.com/i/large/in/v2/e1302f10-28b9-5444-ae89-dae0ab2f300d/a1da799-b161-47e5-8357-ffc39673264f/rXaxq0qQLN-PQJTnw9ITYWQUn4...">https://www.cars.com/i/large/in/v2/e1302f10-28b9-5444-ae89-dae0ab2f300d/a1da799-b161-47e5-8357-ffc39673264f/rXaxq0qQLN-PQJTnw9ITYWQUn4...</a>	37810.00
4	Chevrolet Traverse LT	<a href="https://www.cars.com/i/large/in/v2/6f69365b-5f1b-5b62-917f-67d8c7dfe522/fb430440-c2b7-416d-bc0f-c51ec8e6906a/NzSPwzQesCJrve5vAUVGgEGovj0.j...">https://www.cars.com/i/large/in/v2/6f69365b-5f1b-5b62-917f-67d8c7dfe522/fb430440-c2b7-416d-bc0f-c51ec8e6906a/NzSPwzQesCJrve5vAUVGgEGovj0.j...</a>	38329.00
5	Chevrolet Traverse Premier	<a href="https://www.cars.com/i/large/in/v2/9087312b-2e09-5802-8e2d-3549bc32f2fe/f162c31c-fc14-43dc-b41a-a5534328053c/KdVILUswEEEAvDsE0fqkxxkR_MU...">https://www.cars.com/i/large/in/v2/9087312b-2e09-5802-8e2d-3549bc32f2fe/f162c31c-fc14-43dc-b41a-a5534328053c/KdVILUswEEEAvDsE0fqkxxkR_MU...</a>	40000.00
6	Chevrolet Traverse LT	<a href="https://www.cars.com/i/large/in/v2/56f70e06-f78b-5dbb-8599-c469c6c235fa/070fb622-b7ad-414a-aed4-cc7583137c18/Wx-osu8JMeKWTNpTNEa-DWtB7...">https://www.cars.com/i/large/in/v2/56f70e06-f78b-5dbb-8599-c469c6c235fa/070fb622-b7ad-414a-aed4-cc7583137c18/Wx-osu8JMeKWTNpTNEa-DWtB7...</a>	40539.00
7	Chevrolet Traverse High Country	<a href="https://www.cars.com/i/large/in/v2/026ebb15-64d0-5d08-a570-0ce10a043e2d/bc6b5dd8-6fe4-4c0c-bd4a-e3a185365c68/18xyWhPCwT6R8FusXT-JJlvirb4.j...">https://www.cars.com/i/large/in/v2/026ebb15-64d0-5d08-a570-0ce10a043e2d/bc6b5dd8-6fe4-4c0c-bd4a-e3a185365c68/18xyWhPCwT6R8FusXT-JJlvirb4.j...</a>	35515.00
8	Chevrolet Traverse LT	<a href="https://www.cars.com/i/large/in/v2/color_matched_stock_photos/19f56a67-5bd6-408b-bcbf-eced27b00858/8ed08be8-e8aa-4563-a849-05cf1150055d3.jpg">https://www.cars.com/i/large/in/v2/color_matched_stock_photos/19f56a67-5bd6-408b-bcbf-eced27b00858/8ed08be8-e8aa-4563-a849-05cf1150055d3.jpg</a>	42165.00

Selecting the car name, images, and price from the car table where the price range is high. This enables users to filter by predefined price ranges

## 1 INSERT query

```
Query Query History
1  insert into Customer(cust_id, full_name, phone_number, addr, username, pass_hash, created_at) values (
2  1, --cust_id
3  'achu clinton', --full_name
4  '634-342-2353', --phone_number
5  '2209 nowhere st!', --address
6  'mistryuser', --username
7  '$2y$15$lpU028aaFEE/zcqpwduJBuJc.k2ekYpK8.5mVTXL26laraCXzofYq', --password_hash
8  now() --created_at
9  )

Data Output Messages Notifications
INSERT 0 1

Query returned successfully in 54 msec.
```

This query will be used in the creation of new users. When a user creates an account, their information will be stored in the database using this query.

## 1 DELETE query

```
Query Query History
1
2  delete from customer where cust_id = 1

Data Output Messages Notifications
DELETE 1

Query returned successfully in 67 msec.
```

Users will be given the ability to delete their accounts. This will be accomplished via a delete command with a where clause specifying the user

## 1 UPDATE query

The screenshot shows a MySQL query editor interface. At the top, there are tabs for 'Query' (which is selected), 'Query History', and a small icon. Below the tabs is a code editor area containing the following SQL code:

```
1 UPDATE dealership
2 SET "DEALERSHIP_NAME" = 'MarioCart'
3 WHERE "DEALERSHIPS_ID" = '#517393';
4
5
```

Below the code editor are three navigation tabs: 'Data Output', 'Messages' (which is selected), and 'Notifications'. Under 'Data Output', the results of the query are displayed:

```
UPDATE 1
```

Query returned successfully in 83 msec.

Users will be given the ability to delete their accounts. This will be accomplished via a delete command with a where clause specifying the user

## Video Link

Here is the link to our video demo:

[https://youtu.be/8VF31gPNJ\\_4](https://youtu.be/8VF31gPNJ_4)