Universidad de Guadalajara

Centro Universitario de Ciencias Exactas e Ingenierías

Actividad: Implementacion del modelo relacional

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Introduction:

For this activity, we will be building our database for our software using MySQL from MariaDB. All of this will be based on our relational model to ensure proper data management and accurate data storage.

Information:

This is our database, which consists of 7 tables with their respective primary and foreign keys that help us establish the connections and relationships between them.

```
MariaDB [(none)]> use barbermanager;
Database changed
MariaDB [barbermanager]> show tables;
+-------------------------+
| Tables_in_barbermanager |
+-------------------------+
| barbero                 |
| cita                    |
| comentarios             |
| productos               |
| servicios               |
| usuario                 |
| ventas                  |
+-------------------------+
7 rows in set (0.002 sec)
```

Barbero:

In this table, we store the information of the barbers so they can be registered in our system and selected for appointments. We include contact information, name, and a section to upload the barber's image to our system.

```
MariaDB [barbermanager]> describe  barbero;
+----------------+--------------------------+------+-----+---------+----------------+
| Field          | Type                     | Null | Key | Default | Extra          |
+----------------+--------------------------+------+-----+---------+----------------+
| id_barbero     | int(11)                  | NO   | PRI | NULL    | auto_increment |
| nombre_barbero | varchar(25)              | NO   |     | NULL    |                |
| telefono       | varchar(12)              | NO   |     | NULL    |                |
| imagenes       | varchar(100)             | NO   |     | NULL    |                |
| estado         | enum('ACTIVO','INACTIVO') | NO   |     | ACTIVO  |                |
+----------------+--------------------------+------+-----+---------+----------------+
5 rows in set (0.020 sec)
```

Cita:

One of our most important tables, where we store all the appointment data — some with foreign keys and others as plain data. We store the time and date, which will be necessary for the notification system.

```
MariaDB [barbermanager]> describe  cita;
+-------------+-----------------------------------------+------+-----+-----------+----------------+
| Field       | Type                                    | Null | Key | Default   | Extra          |
+-------------+-----------------------------------------+------+-----+-----------+----------------+
| id_cita     | int(11)                                 | NO   | PRI | NULL      | auto_increment |
| id_barbero  | int(11)                                 | NO   | MUL | NULL      |                |
| id_usuario  | int(11)                                 | NO   | MUL | NULL      |                |
| id_servicio | int(11)                                 | NO   | MUL | NULL      |                |
| hora_cita   | time                                    | NO   |     | NULL      |                |
| fecha       | date                                    | NO   |     | NULL      |                |
| estado      | enum('PENDIENTE','FINALIZADA','CANCELADA') | NO   |     | PENDIENTE |                |
+-------------+-----------------------------------------+------+-----+-----------+----------------+
7 rows in set (0.019 sec)
```

Usuario;

Table used to store our users' personal and account information, which they will use to log in to our system.

```
MariaDB [barbermanager]> describe  usuario;
+--------------------+--------------------------+------+-----+---------+----------------+
| Field              | Type                     | Null | Key | Default | Extra          |
+--------------------+--------------------------+------+-----+---------+----------------+
| id_usuario         | int(11)                  | NO   | PRI | NULL    | auto_increment |
| nombre_usuario     | varchar(50)              | NO   |     | NULL    |                |
| correo_electronico | varchar(35)              | NO   |     | NULL    |                |
| contraseña         | varchar(12)              | NO   |     | NULL    |                |
| estado             | enum('Activo','Inactivo') | NO   |     | Activo  |                |
| telefono_usuario   | varchar(12)              | NO   |     | NULL    |                |
+--------------------+--------------------------+------+-----+---------+----------------+
6 rows in set (0.015 sec)
```

Servicios:

Table where we can store our services, including their details and prices, which users will be able to view and choose from when making a reservation.

```
MariaDB [barbermanager]> describe  servicios;
+-----------------+--------------------------+------+-----+---------+----------------+
| Field           | Type                     | Null | Key | Default | Extra          |
+-----------------+--------------------------+------+-----+---------+----------------+
| id_servicio     | int(11)                  | NO   | PRI | NULL    | auto_increment |
| servicios       | varchar(50)              | NO   |     | NULL    |                |
| precio          | float                    | NO   |     | NULL    |                |
| estado          | enum('ACTIVO','INACTIVO') | NO   |     | ACTIVO  |                |
| nombre_servicio | varchar(35)              | NO   |     | NULL    |                |
+-----------------+--------------------------+------+-----+---------+----------------+
5 rows in set (0.018 sec)
```

Productos:

Table for our products, where we will store their category to better organize them, along with their price, name, and an image.

```
MariaDB [barbermanager]> describe  productos;
+-----------------+---------------------------+------+-----+---------+----------------+
| Field           | Type                      | Null | Key | Default | Extra          |
+-----------------+---------------------------+------+-----+---------+----------------+
| id_producto     | int(11)                   | NO   | PRI | NULL    | auto_increment |
| categoria       | varchar(30)               | NO   |     | NULL    |                |
| precio          | float                     | NO   |     | NULL    |                |
| estado          | enum('ACTIVO','INACTIVO') | NO   |     | ACTIVO  |                |
| Nombre_producto | varchar(30)               | NO   |     | NULL    |                |
| imagen_producto | varchar(100)              | NO   |     | NULL    |                |
+-----------------+---------------------------+------+-----+---------+----------------+
6 rows in set (0.014 sec)
```

Comentarios:

Here we will store the comments left by our users and display them in our system, along with a rating system for our barbers as well as for the barbershop in general.

```
MariaDB [barbermanager]> describe comentarios;
+---------------+-----------+------+-----+---------------------+----------------+
| Field         | Type      | Null | Key | Default             | Extra          |
+---------------+-----------+------+-----+---------------------+----------------+
| id_comentario | int(11)   | NO   | PRI | NULL                | auto_increment |
| id_barbero    | int(11)   | NO   | MUL | NULL                |                |
| comentario    | text      | NO   |     | NULL                |                |
| fecha         | timestamp | YES  |     | current_timestamp() |                |
+---------------+-----------+------+-----+---------------------+----------------+
4 rows in set (0.022 sec)
```

Ventas;

This table will be important for our barbershop administrator, as it will allow us to review all the operations of the barbershop — how many appointments were made, which barber was the most requested, and which services were the most popular — generating weekly and monthly reports.

```
MariaDB [barbermanager]> describe ventas;
+-------------+--------------------------+------+-----+---------+----------------+
| Field       | Type                     | Null | Key | Default | Extra          |
+-------------+--------------------------+------+-----+---------+----------------+
| id_venta    | int(11)                  | NO   | PRI | NULL    | auto_increment |
| id_cita     | int(11)                  | NO   | MUL | NULL    |                |
| fecha       | timestamp                | NO   |     | NULL    |                |
| tipo_pago   | int(11)                  | NO   |     | NULL    |                |
| monto_final | float                    | NO   |     | NULL    |                |
| estado      | enum('ACTIVO','INACTIVO') | NO   |     | ACTIVO  |                |
+-------------+--------------------------+------+-----+---------+----------------+
6 rows in set (0.014 sec)
```

Conclusion:

This activity helped us establish our database and, from there, connect the interface to it, verify data entry, and ensure the data is properly saved. It also helped us refine the relationships and fill in any missing data for each table.