PIF

User Story 1
Database

Carvalho Diogo
1TPIFI

Content Table

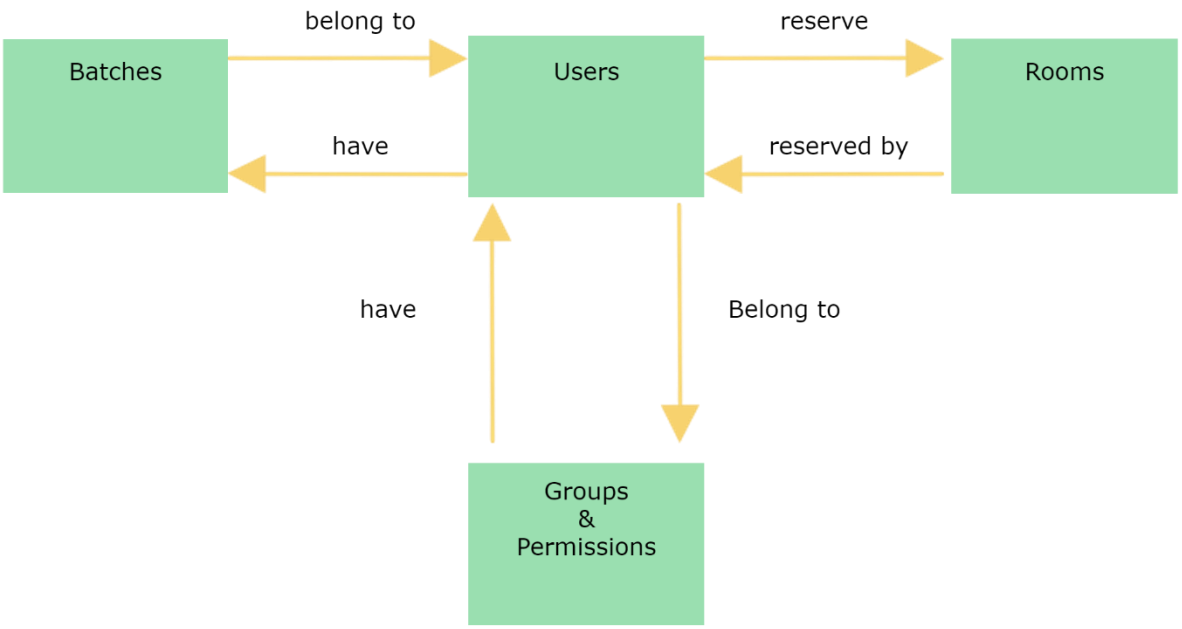
1. Introduction

This is a database for a company called DATACORP S.A that recently moved into a new office building and want to have a new way to schedule meetings and upgrade the way that the doors are opened by using badges that each employee will obtain.

DATACORP S.A.

2. MCD

To start I did the conceptual model of the database. All the tables must work together linked to Users table and all of them must be able to store data in an easily accessible away.



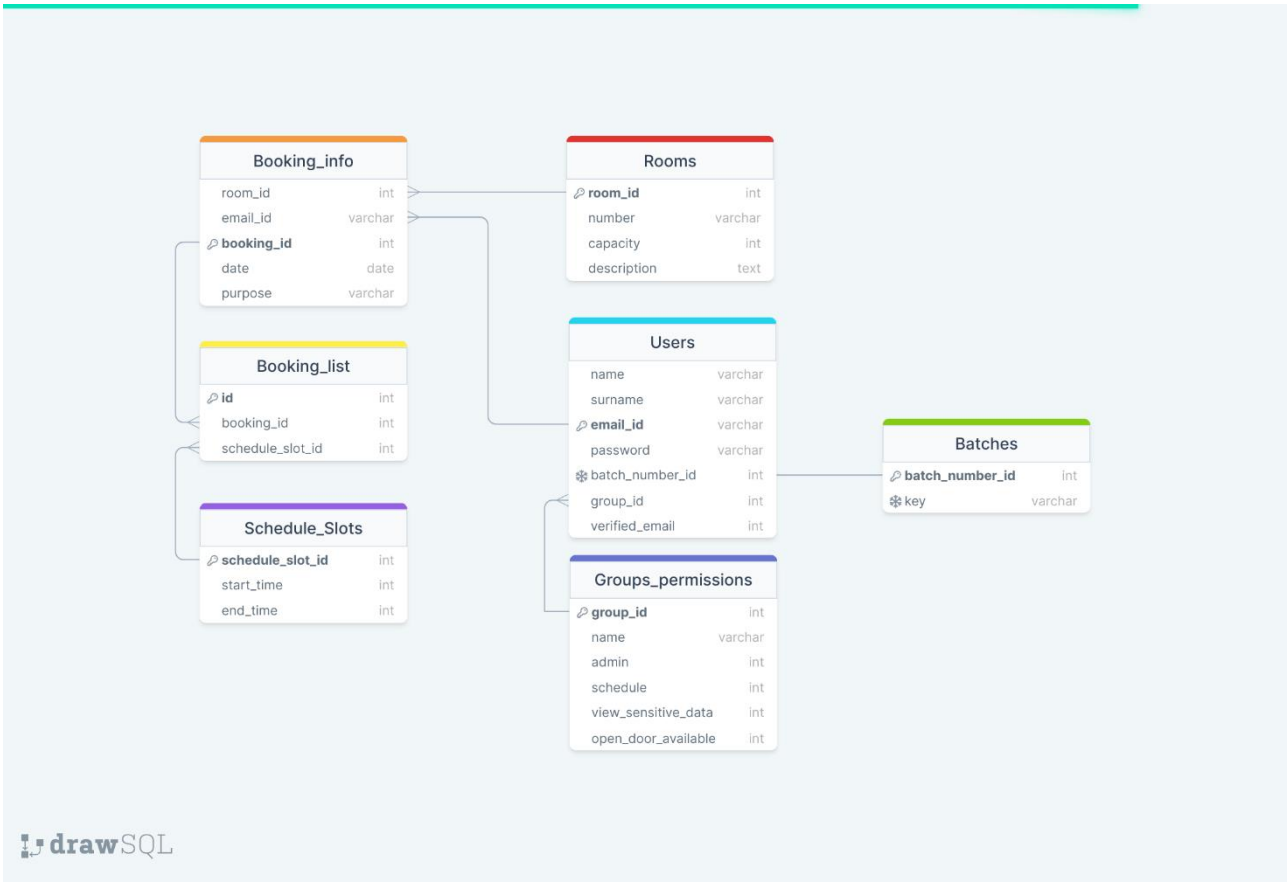
3. MLD

For MLD I used https://drawsql.app/, I created all tables with their columns and their data types, after that I added all connections between them.

The database has

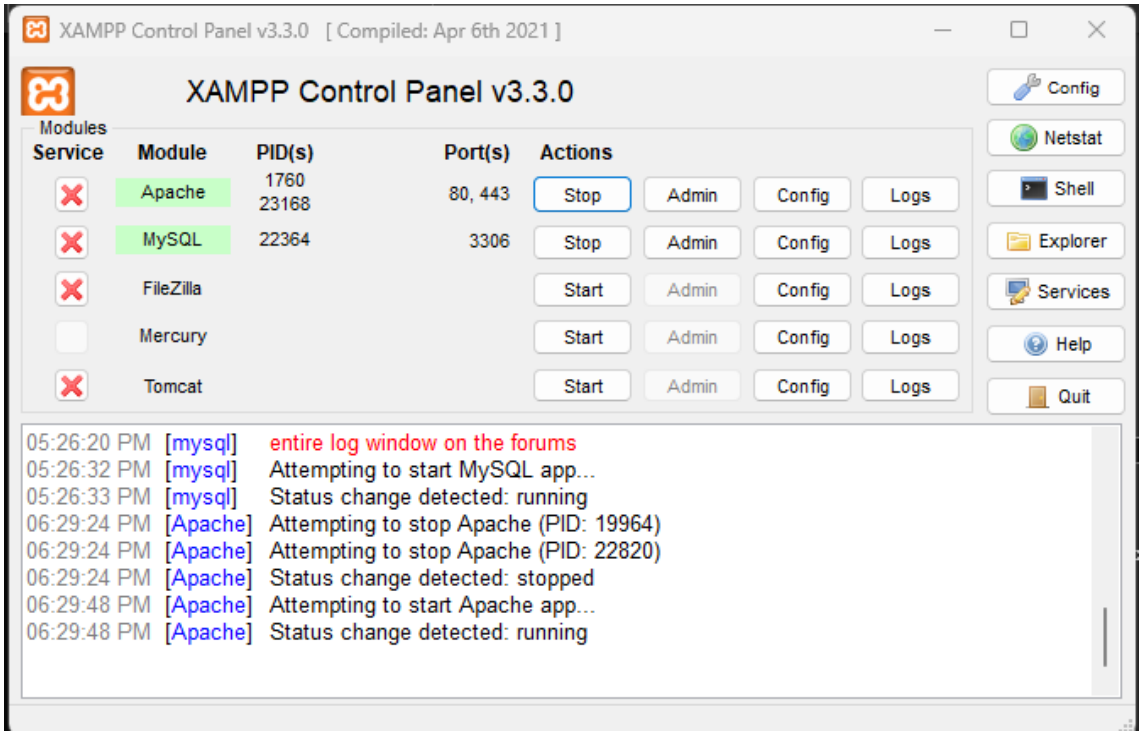
- **Users table with the name, surname, email as the id of each user, password that will be hashed, batch_number_id as a FK from Batches Table, the group_id as a FK from Groups_permissions table, and verified_email checking if during the registration the user verified his email.**
- **Batches table with the key to each different batch.**
- **Groups_permissions table with all different group name and different permissions defined by a Boolean value.**
- **Room table that is to insert each different meeting rooms with the room_id, the number, the capacity, and a description.**
- **Booking_info table with the room_id that says what room will be, the user's email that says what user booked, the booking_id that will auto_increment, the date of the meeting and the purpose.**
- **Booking_list table with the id and with the schedule_slot_id so it's inserted each slot that is reserved in each reservation.**
- **Schedule_slots table with pre-inserted all possible slots from 8:00 to 17:00 like in the ex:**

slot_id	start_time	end_time
1	08:00	09:00
2	09:00	10:00
3	10:00	11:00
4	11:00	12:00
5	12:00	13:00
6	13:00	14:00
7	14:00	15:00
8	15:00	16:00
9	16:00	17:00


Booking_info
room_id int
email_id varchar
booking_id int
date date
purpose varchar
Booking_list
id int
booking_id int
schedule_slot_id int
Schedule_Slots
schedule_slot_id int
start_time int
end_time int
Rooms
room_id int
number varchar
capacity int
description text
Users
name varchar
surname varchar
email_id varchar
password varchar
batch_number_id int
group_id int
verified_email int
Groups_permissions
group_id int
name varchar
admin int
schedule int
view_sensitive_data int
open_door_available int
Batches
batch_number_id int
key varchar
drawSQL

4. Local development environment

For the Local development environment, I used XAMPP that contains Apache as the local server and phpMyAdmin as the manager with the SQL code.



After that I checked in phpMyAdmin if all the tables were created:

	Table	Action	Rows	Type	Collation	Size	Overhead
☐	batches	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	booking_info	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐	booking_list	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐	groups_permissions	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	rooms	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	schedule_slots	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	users	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
	7 tables	Sum	0	InnoDB	utf8mb4_general_ci	208.0 KiB	0 B

This is the code:

```
DROP DATABASE PIFDatabase;
create database PIFDatabase;
use PIFDatabase;


CREATE TABLE `Groups_permissions`(
    `group_id` INT AUTO_INCREMENT PRIMARY KEY NOT NULL,
    `name` VARCHAR(255) NOT NULL,
    `admin` INT NOT NULL,
    `schedule` INT NOT NULL,
    `view_sensitive_data` INT NOT NULL,
    `open_door_available` INT NOT NULL
);



CREATE TABLE `Users`(
    `name` VARCHAR(255) NOT NULL,
    `surname` VARCHAR(255) NOT NULL,
    `email_id` VARCHAR(255) NOT NULL PRIMARY KEY,
    `password` VARCHAR(255) NOT NULL,
    `batch_number_id` INT NOT NULL UNIQUE,
    `group_id` INT NOT NULL,
    `verified_email` INT NOT NULL
);


CREATE TABLE `Rooms`(
    `room_id` INT AUTO_INCREMENT PRIMARY KEY NOT NULL,
    `number` VARCHAR(255) NOT NULL,
    `capacity` INT NOT NULL,
    `description` TEXT NOT NULL
);


CREATE TABLE `Booking_info`(
    `room_id` INT NOT NULL,
    `email_id` VARCHAR(255) NOT NULL,
    `booking_id` INT AUTO_INCREMENT PRIMARY KEY NOT NULL,
    `date` DATE NOT NULL,
    `purpose` VARCHAR(255) NOT NULL
);
```

```
CREATE TABLE `Schedule_Slots`(
    `schedule_slot_id` INT AUTO_INCREMENT PRIMARY KEY NOT NULL,
    `start_time` INT NOT NULL,
    `end_time` INT NOT NULL
);


CREATE TABLE `Batches`(
    `batch_number_id` INT AUTO_INCREMENT PRIMARY KEY NOT NULL,
    `key` VARCHAR(255) NOT NULL UNIQUE
);


CREATE TABLE `Booking_list`(
    `id` INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    `booking_id` INT,
    `schedule_slot_id` INT NOT NULL
);


ALTER TABLE
    `Users` ADD CONSTRAINT `users_group_id_foreign` FOREIGN
KEY(`group_id`) REFERENCES `Groups_permissions`(`group_id`);
ALTER TABLE
    `Booking_info` ADD CONSTRAINT `booking_info_email_id_foreign`
FOREIGN KEY(`email_id`) REFERENCES `Users`(`email_id`);
ALTER TABLE
    `Booking_info` ADD CONSTRAINT `booking_info_room_id_foreign`
FOREIGN KEY(`room_id`) REFERENCES `Rooms`(`room_id`);
ALTER TABLE
    `Booking_list` ADD CONSTRAINT `booking_list_booking_id_foreign`
FOREIGN KEY(`booking_id`) REFERENCES `Booking_info`(`booking_id`);
ALTER TABLE
    `Booking_list` ADD CONSTRAINT
`booking_list_schedule_slot_id_foreign` FOREIGN
KEY(`schedule_slot_id`) REFERENCES
`Schedule_Slots`(`schedule_slot_id`);
ALTER TABLE
    `Users` ADD CONSTRAINT `users_batch_number_id_foreign` FOREIGN
KEY(`batch_number_id`) REFERENCES `Batches`(`batch_number_id`);
```

5. Inserting sample data

Groups_permissions:

group_id	name	admin	schedule	view_sensitive_data	open_door_available
1	Admin	1	1	1	1

Batches:

batch_number_id	key
1	EOO80DC52D829

Users:

name	surname	email_id	password	batch_number_id	group_id	verified_email
Diogo	Fernandes	cardi782@school.lu	5994471abb01112afcc18159f6cc74b4f511b99806da59b3ca...	1	1	1

Rooms:

room_id	number	capacity	description
1	B14	15	This is the meeting room.

Booking_info:

room_id	email_id	booking_id	date	purpose
1	cardi782@school.lu	1	2022-11-18	Discuss about PIF.

Schedule_slots:

reserve_time_id	start_time	end_time
1	8	9
2	9	10
3	10	11
4	11	12
5	12	13
6	13	14
7	14	15
8	15	16
9	16	17

Booking_list:

id	booking_id	schedule_slot_id
1	1	1
2	1	2