





**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**  
**FAKULTI TEKNOLOGI DAN KEJURUTERAAN ELEKTRONIK DAN KOMPUTER**

**BERR 2243**

**DATABASE & CLOUD SYSTEM**

**SEM 2 2024/2025**

**EXERCISE: WEEK 5**

No	Name	Matrix No	Photo
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## 1. ERD Diagram:

[https://drive.google.com/file/d/1OWL8NuBGLV7otm-wa2UznoRCFV\\_EOxVF/view?usp=sharing](https://drive.google.com/file/d/1OWL8NuBGLV7otm-wa2UznoRCFV_EOxVF/view?usp=sharing)

## 2. Schema Definitions:

List of collections, fields, and data types.

### a) User

- `_id` (ObjectId) – ID for each user
- `name` (String) – user name
- `email` (String, unique) – email
- `password` (String) – users password
- `phoneNumber` (String) – users phone number
- `role` (String) – User role customer/driver/admin
- `createdAt` (Date) – user register date

### b) Ride

- `_id` (ObjectId) – Unique ID for each ride.
- `customerId` (ObjectId → User) – ID of the user who made the booking.
- `driverId` (ObjectId → User) – ID of the driver who accepted the booking.
- `pickupLocation` (Object: { `lat`: Number, `lng`: Number }) – Starting location.
- `destination` (Object: { `lat`: Number, `lng`: Number }) – Destination location.
- `status` (String) – Ride status: "requested", "accepted", "in\_progress", "completed", "cancelled".
- `fare` (Number) – Fare amount.
- `createdAt` (Date) – Date and time the booking was made.

### c) Vehicle

- `_id` (ObjectId) – Unique ID for each vehicle.
- `driverId` (ObjectId → User) – ID of the driver who owns the vehicle.
- `plateNumber` (String) – Vehicle plate number.
- `model` (String) – Vehicle model.
- `color` (String) – Vehicle color.
- `type` (String) – Type of vehicle: "car", "motorcycle".
- `year` (Number) – Vehicle manufacturing year.

#### d) Payment

- `_id` (ObjectId) – Unique ID for each payment.
- `rideId` (ObjectId → Ride) – ID of the related ride.
- `amount` (Number) – Payment amount.
- `paymentMethod` (String) – Payment method: "credit\_card", "cash", "e-wallet".
- `paymentStatus` (String) – Payment status: "pending", "completed", "failed".
- `paidAt` (Date) – Payment date.

#### e) Rating

- `_id` (ObjectId) – Unique ID for each rating.
- `rideId` (ObjectId → Ride) – ID of the ride being rated.
- `givenBy` (ObjectId → User) – User who gave the rating.
- `givenTo` (ObjectId → User) – User who received the rating.
- `score` (Number) – Rating score (1 to 5).
- `comment` (String) – Additional comments or feedback.
- `createdAt` (Date) – Date the rating was given.

## 1. ERD Diagram:

[https://lucid.app/lucidspark/68f30f4d-5024-40fd-a2cc-1eb1575d355e/edit?viewport\\_loc=-809%2C-450%2C2846%2C1318%2C0\\_0&invitationId=inv\\_8d192388-80da-46ee-9bec-c09051438c43](https://lucid.app/lucidspark/68f30f4d-5024-40fd-a2cc-1eb1575d355e/edit?viewport_loc=-809%2C-450%2C2846%2C1318%2C0_0&invitationId=inv_8d192388-80da-46ee-9bec-c09051438c43)

## 2. Schema Definitions:

List of collections, fields, and data types.

User (customer, driver, admin)	
Field	Data Types
_id	ObjectId
name	String
email	String, unique
password	String
role	String: role “customer” , “driver” , “admin”
status	String: active, block

Rides	
Field	Data Types
_id	ObjectId
customer_id	ObjectId: customerId
driverId	ObjectId: driverId
VehicleId	
pickup	String
destination	String
dateTime	DateTime
fare	Number
status (request, accepted, rejected)	String: requested, accepted, rejected

Vehicles	
Field	Data Types
_id	ObjectId
driverId	ObjectId: driverId
vehicleType	String
plateNumber	String
color	String
Status (available, unavailable)	String: available, unavailable