

# Ride-Sharing API Documentation

## Error Responses

The API returns standard HTTP status codes to indicate the success or failure of a request. In case of errors, additional information may be provided in the response body.

Example Error Response:

```
"error"  
"code"  404  
"message"  "Resource not found"
```

## Endpoints

### Users

- Create User
  - URL: `/users`
  - Method: `POST`
  - Description: Creates a new user.
  - Request Body:

```
{  
curl --location 'localhost:3000/user' \  
--header 'Content-Type: application/json' \  
--data '{  
  "name": "Rahul",  
  "gender": "M",  
  "age": "35"  
}'
```

- Response:
  - Status: `201 Created`

## Vehicles

- Add Vehicle
  - URL: `/vehicles`
  - Method: `POST`
  - Description: Adds a vehicle for a user.
  - Request Body:

```
{  "userId": 0,
  "model": "Swift",
  "licensePlate": "KA-01-12345"
}
```

- Response:
  - Status: `201 Created`

## Rides

- Offer Ride
  - URL: `/rides/offer`
  - Method: `POST`
  - Description: Offers a shared ride.
  - Request Body:

```
{
  "driverId": 0,
  "origin": "Hyderabad",
  "destination": "Bangalore",
  "seatsAvailable": 1,
  "vehicle": "Swift, KA-01-12345"
}
```

- Response:
  - Status: `201 Created`

- Select Ride
  - URL: `/rides/select`
  - Method: `POST`
  - Description: Selects a ride from multiple offered rides.
  - Request Body:

```
{  
  "userId": 1,  
  "source": "Hyderabad",  
  "destination": "Bangalore",  
  "seats": 1,  
  "selectionStrategy": "Most Vacant"  
}
```

- Response:
  - Status: 200 OK

- End Ride
  - URL: /rides/end
  - Method: POST
  - Description: Ends a ride.
  - Request Body:

"rideId" 1

- Response:
  - Status: 200 OK
  - Body:

"message" "Ride ended successfully"

- Get Ride Statistics
  - URL: /rides/statistics
  - Method: GET
  - Description: Retrieves ride statistics for all users.
  - Response:
    - Status: 200 OK
    - Body:

```
{
  "Nandini": {
    "taken": 1,
    "offered": 0
  },
  "Rohan": {
    "taken": 1,
    "offered": 1
  },
  "Shashank": {
    "taken": 0,
    "offered": 1
  },
  "Gaurav": {
    "taken": 1,
    "offered": 0
  },
  "Rahul": {
    "taken": 0,
    "offered": 0
  },
  "Shipra": {
    "taken": 0,
    "offered": 2
  }
}
```

#### Code Explanations:

- Models: User, Vehicle, Ride
  - Handlers
  - Services
  - Entry point to code: main.go
- 
- Logger will push file to **app.log** file

## Sample Log:

```
{"level":"info","ts":1714911397.387132,"caller":"services/ride_service.go:24","msg":"Offering ride","driverID":0}
{"level":"info","ts":1714911399.560197,"caller":"services/ride_service.go:24","msg":"Offering ride","driverID":0}
{"level":"info","ts":1714911400.282043,"caller":"services/ride_service.go:24","msg":"Offering ride","driverID":0}
{"level":"info","ts":1714911400.912111,"caller":"services/ride_service.go:24","msg":"Offering ride","driverID":0}
{"level":"info","ts":1714911406.7962592,"caller":"services/ride_service.go:37","msg":"Selecting ride","source":"Hyderabad","destination":"Bangalore"}
{"level":"info","ts":1714911410.980591,"caller":"services/ride_service.go:37","msg":"Selecting ride","source":"Hyderabad","destination":"Bangalore"}
{"level":"info","ts":1714911412.109652,"caller":"services/ride_service.go:37","msg":"Selecting ride","source":"Hyderabad","destination":"Bangalore"}
{"level":"info","ts":1714911413.2257888,"caller":"services/ride_service.go:37","msg":"Selecting ride","source":"Hyderabad","destination":"Bangalore"}
{"level":"info","ts":1714911414.323244,"caller":"services/ride_service.go:37","msg":"Selecting ride","source":"Hyderabad","destination":"Bangalore"}
```

To shutdown: Cntrl +c (Interrupt): On interrupt it will gracefully shutdown