Database that is used for this project is my-SQL

```
spring:
  datasource:
    url: jdbc:mysql://localhost:3306/SweetHome
    username: root
    password: admin
    driver-class-name: com.mysql.cj.jdbc.Driver
```

Create the database named SweetHome in My-SQL workbench
And change the username and Password accordingly

Microservices that we used in this project are:

Name	Port
Service registry	8761
Api gateway	9191
Booking	8081
Payment	8083

ServiceRegistry : This is our Eureka Discovery Server, all other micro services are discovery client , which are registered to this Service [Service Registry]

Api-gateway : Added this optional service to our project , you can access Booking and Payment service using this api gateway, this service is registered with eureka server and in application.ylm file we defined the routes for Booking service and for Payment service

Booking Service and Payment Service :

Booking service is responsible for taking input from users

Sample input:

```
{
    "fromDate":"2021-06-20",
    "toDate":"2021-06-25",
    "aadharNumber":"Sample-Aadhar-Number",
    "numOfRooms":3
}
```

Booking Service has 3 layer: controller , service , Repo

1. GET : http://localhost:9191/hotel/booking this endpoint will display the all the booking details [extra feature]

2. POST : http://localhost:9191/hotel/booking : this is one of the important endpoint, Upon providing the user input, this endpoint will hit the controller layer,
   Where in controller layer we have mapper, which converts DTO to entity

   After that our request will reach to service layer of BOOKING-SERVICE

   In service layer we are calculating the price and available rooms using Helper class

   And then save the result into the database
3. POST   ttp://localhost:9191/hotel/booking/1/transaction

This end point is for making the transaction , this endpoint is defined in booking service

Payload

```
{
    "paymentMode": "CARD",
    "bookingId": 1,
    "upiId": "",
    "cardNumber": "Card Details"
}
```

Upon submitting this request it will hit booking service controller , and in controller mapping happens between DTO and Entity , after that it will hit service layer makePayment() method, In that method , we do some validation , before saving into database

We check Boking Id is already present in the database, if not we are going to raise the custom exception and this exception will get caught by our Global Exception handler

If bookingId in payload is not matching in what we passed in request, then also we are throwing custom exception

We are taking only two mode of payment UPI and CARD (lowercase and Uppercase, both are allowed)

If we pass Other mode of payment , then we are throwing the custom exception, which is then handled by our Global Exception Handler

If it passes all the validation, then we are communicating with our payment Service using rest template and we are creating the bean in MyConfig class

To get hold of PAYMENT-SERVICE, instance from the Eureka, we are making use of load balancer

```
ServiceInstance paymentServiceInstance = loadBalancerClient.choose("PAYMENT-SERVICE");
```

If it is not present in the loadbalancer then we are throwing the IllegalStateException

Else we are communicating with this end point : **http://localhost:9191/payment/transaction**

Which is defined in the payment service , this endpoint will generate the transactionId for the payment, after receiving the response from this endpoint and we are updating the Booking-service table entry with transaction Id

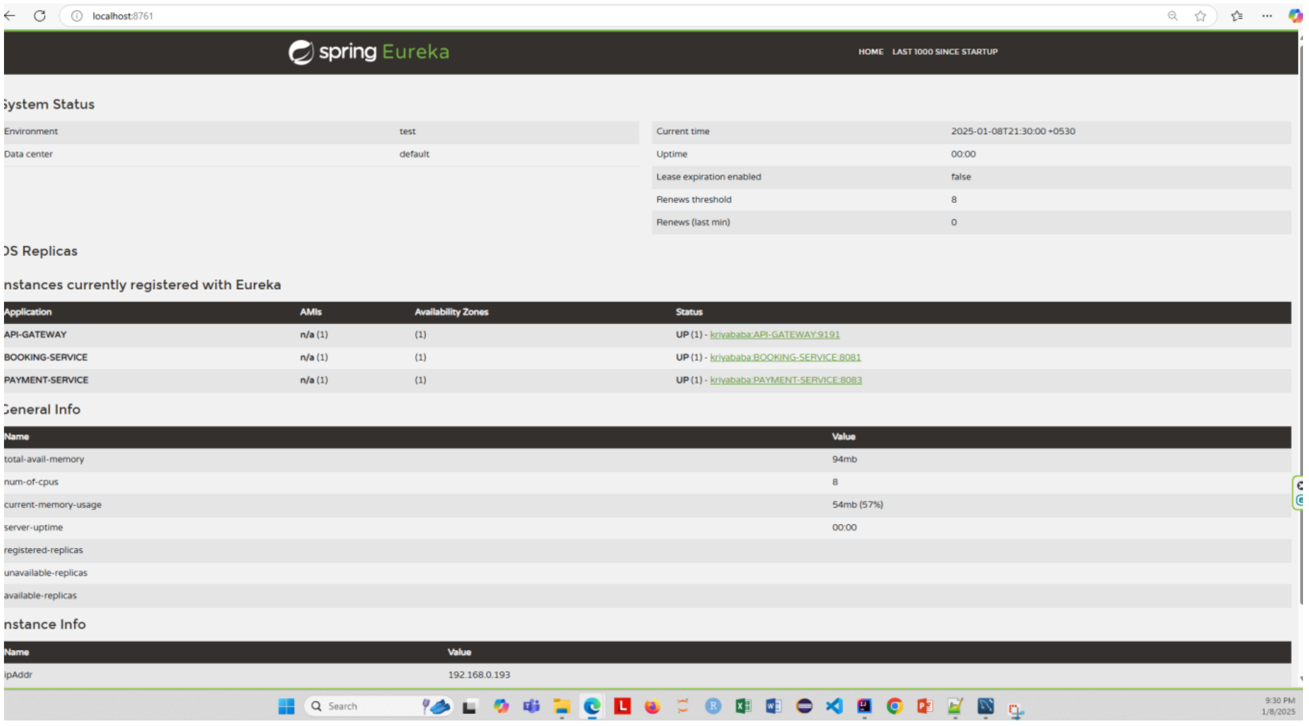
After successful transaction we are displaying the successful booking confirmation message with aadhar number in console

4. Post **http://localhost:9191/payment/transaction** this endpoint is defined in payment service, and it generates the transactionId for the specified bokingId

5. Get **http://localhost:9191/payment/transaction** this end point is defined in payment service , and it gives the transaction details based on transaction Id

Providing the screenshot for all of these:

Registered the Api-gateway, booking service, payment service with eureka client



ystem Status

Environment	test
Data center	default

Current time	2025-01-08T21:30:00 +0530
Uptime	00:00
Lease expiration enabled	false
Renews threshold	8
Renews (last min)	0

S Replicas

nstances currently registered with Eureka

Application	AMIs	Availability Zones	Status
API-GATEWAY	n/a (1)	(1)	UP (1) - kriyababa:API-GATEWAY:9191
BOOKING-SERVICE	n/a (1)	(1)	UP (1) - kriyababa:BOOKING-SERVICE:8081
PAYMENT-SERVICE	n/a (1)	(1)	UP (1) - kriyababa:PAYMENT-SERVICE:8083

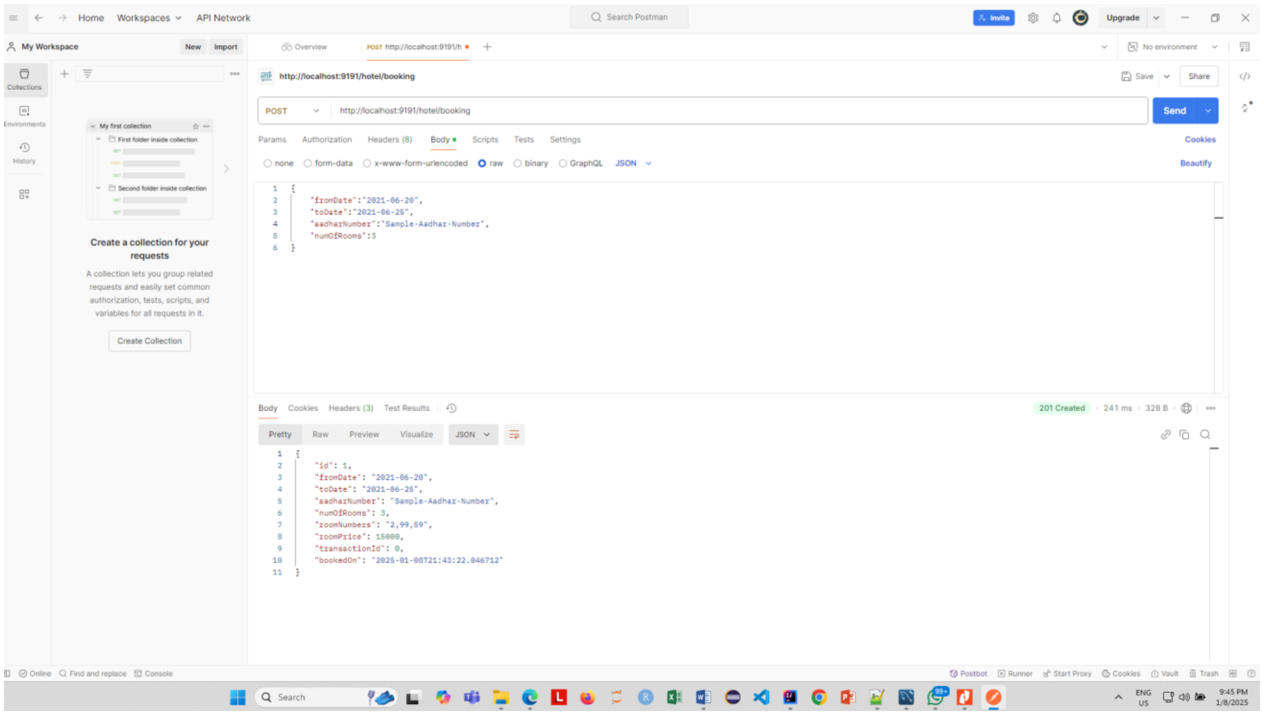
eneral Info

Name	Value
total-avail-memory	94mb
num-of-cpus	8
current-memory-usage	54mb (57%)
server-uptime	00:00
registered-replicas	
unavailable-replicas	
available-replicas	

nstance Info

Name	Value
ipAddr	192.168.0.193

Accessing the booking service using api gateway and making the booking


POST http://localhost:9191/hotel/booking

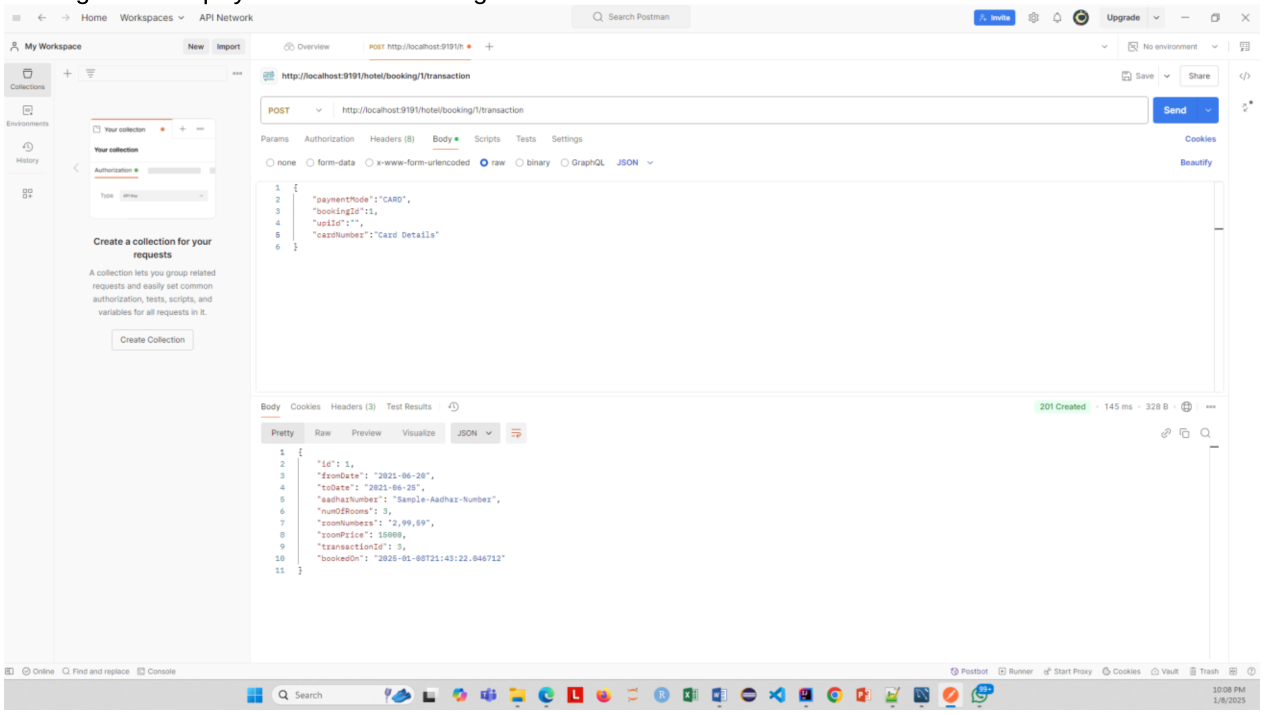
Body: raw JSON

```
{
    "fromDate":"2021-06-20",
    "toDate":"2021-06-25",
    "aadharNumber":"Sample-Aadhar-Number",
    "numOfRooms":3
}
```

201 Created · 241 ms · 328 B

```
{
    "id": 1,
    "fromDate": "2021-06-20",
    "toDate": "2021-06-25",
    "aadharNumber": "Sample-Aadhar-Number",
    "numOfRooms": 3,
    "roomNumbers": "2,99,59",
    "roomPrice": 15000,
    "transactionId": 0,
    "bookedOn": "2025-01-08T21:43:22.046712"
}
```

Making the valid payment for the booking:


POST http://localhost:9191/hotel/booking/1/transaction

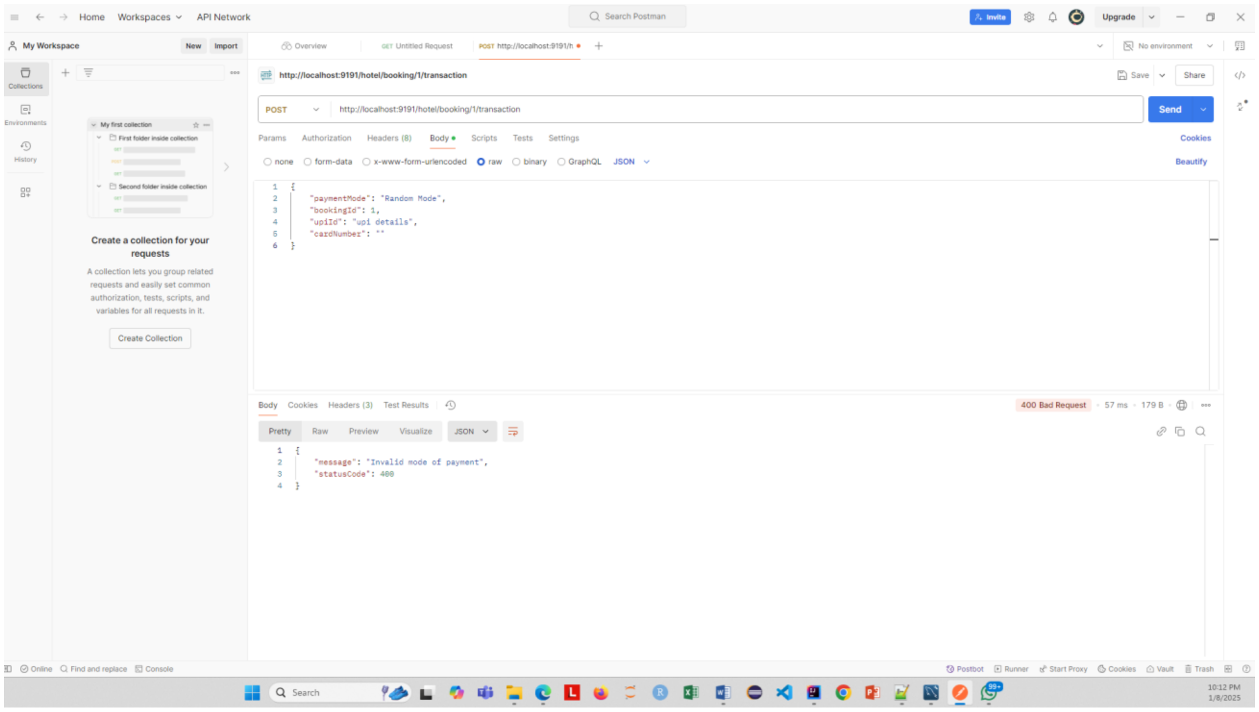
Body: raw JSON

```
{
    "paymentMode":"CARD",
    "bookingId":1,
    "upiId":"",
    "cardNumber":"Card Details"
}
```

201 Created · 145 ms · 328 B

```
{
    "id": 1,
    "fromDate": "2021-06-20",
    "toDate": "2021-06-25",
    "aadharNumber": "Sample-Aadhar-Number",
    "numOfRooms": 3,
    "roomNumbers": "2,99,59",
    "roomPrice": 15000,
    "transactionId": 3,
    "bookedOn": "2025-01-08T21:43:22.046712"
}
```

Invalid mode of payment



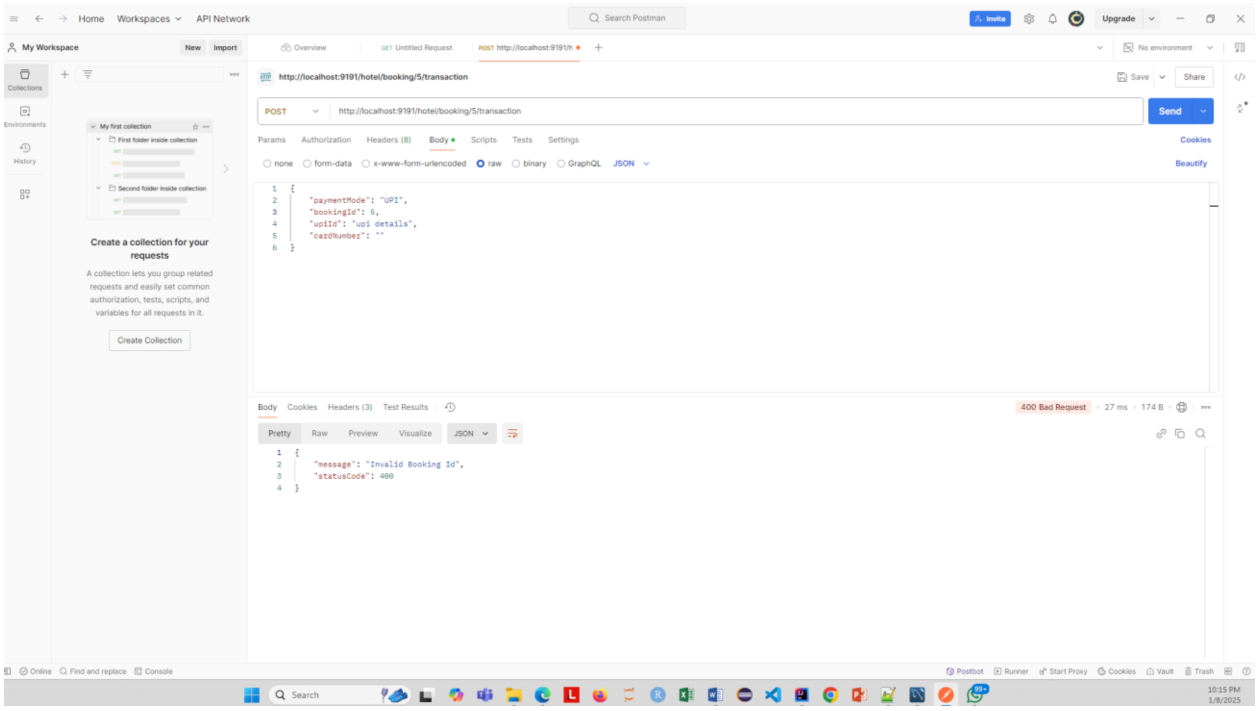
POST http://localhost:9191/hotel/booking/1/transaction

```
{
    "paymentMode": "Random Mode",
    "bookingId": 1,
    "upiId": "upi details",
    "cardNumber": ""
}
```

400 Bad Request · 57 ms · 179 B

```
{
    "message": "Invalid mode of payment",
    "statusCode": 400
}
```

Making the payment for Invalid booking id:



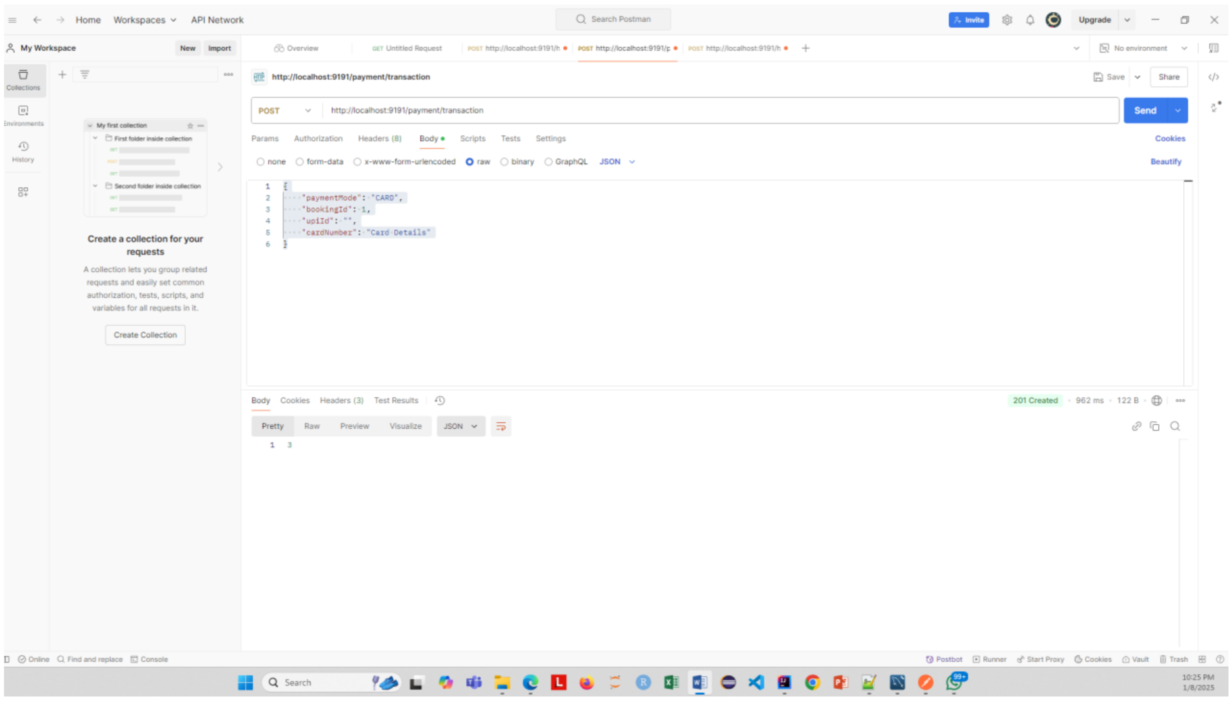
POST http://localhost:9191/hotel/booking/5/transaction

```
{
    "paymentMode": "UPI",
    "bookingId": 5,
    "upiId": "upi details",
    "cardNumber": ""
}
```

400 Bad Request · 27 ms · 174 B

```
{
    "message": "Invalid Booking Id",
    "statusCode": 400
}
```

Making the payment from payment end point:



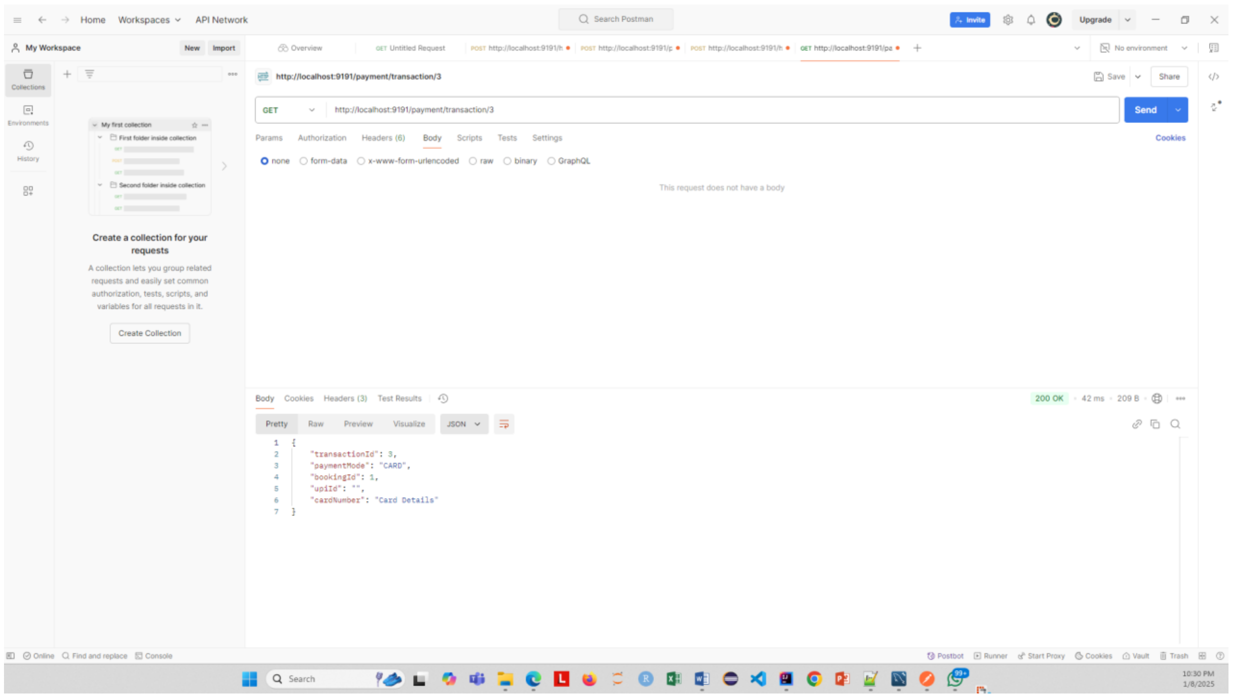
POST http://localhost:9191/payment/transaction

```
{
    "paymentMode": "CARD",
    "bookingId": 1,
    "upiId": "",
    "cardNumber": "Card Details"
}
```

201 Created · 962 ms · 122 B

```
3
```

Fetching the transaction:



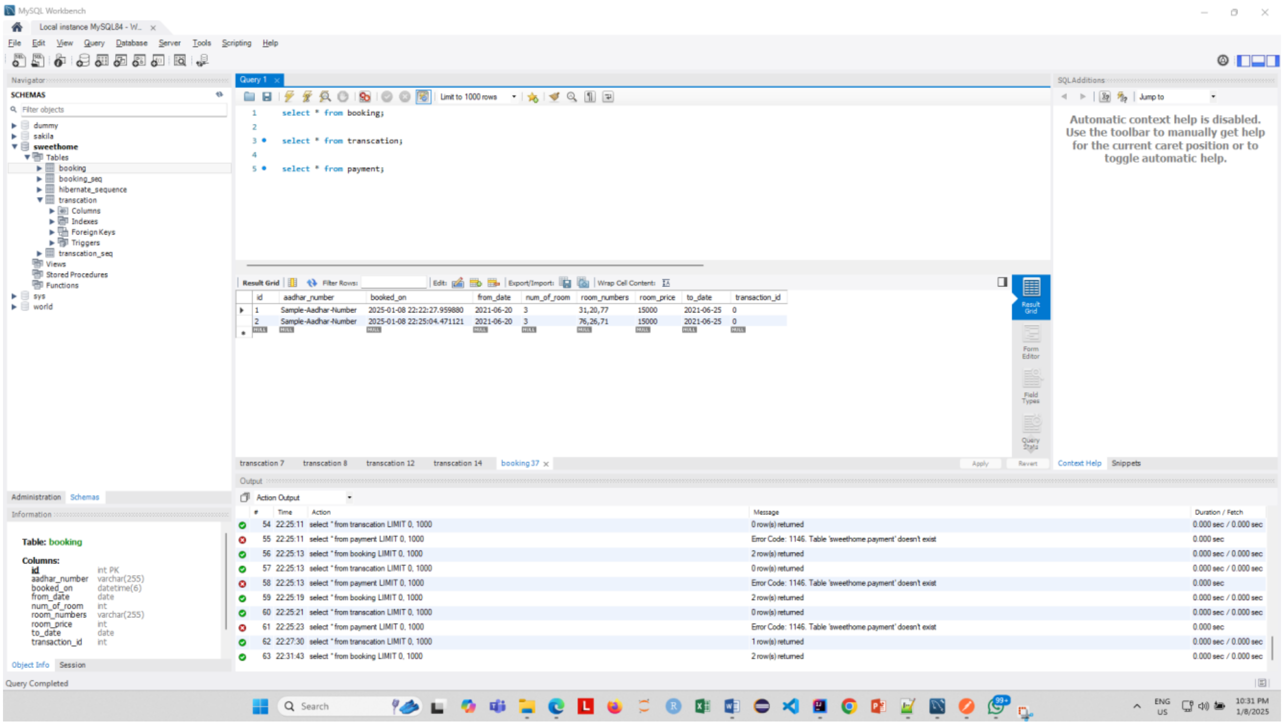
GET http://localhost:9191/payment/transaction/3

This request does not have a body

200 OK · 42 ms · 209 B

```
{
    "transactionId": 3,
    "paymentMode": "CARD",
    "bookingId": 1,
    "upiId": "",
    "cardNumber": "Card Details"
}
```

Sanpshot from datab



```sql
select * from booking;

select * from transcation;

select * from payment;
```

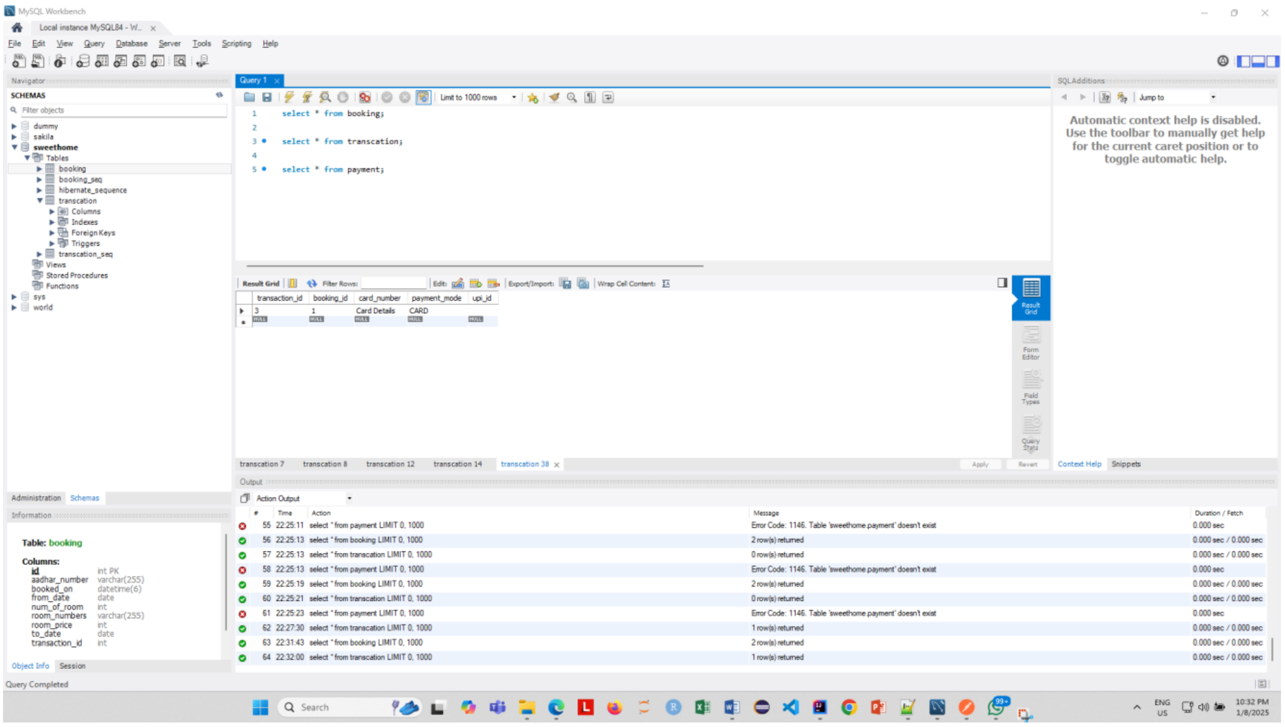
id	aadhar_number	booked_on	from_date	num_of_room	room_numbers	room_price	to_date	transaction_id
1	Sample-Aadhar-Number	2025-01-08 22:22:27.959880	2021-06-20	3	31,20,77	15000	2021-06-25	0
2	Sample-Aadhar-Number	2025-01-08 22:25:04.471121	2021-06-20	3	76,26,71	15000	2021-06-25	0
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Table: booking

Columns:

id	int PK
aadhar_number	varchar(255)
booked_on	datetime(6)
from_date	date
num_of_room	int
room_numbers	varchar(255)
room_price	int
to_date	date
transaction_id	int

```
#   Time      Action                                      Message                                                   Duration / Fetch
54  22:25:11  select * from transcation LIMIT 0, 1000     0 row(s) returned                                         0.000 sec / 0.000 sec
55  22:25:11  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
56  22:25:13  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
57  22:25:13  select * from transcation LIMIT 0, 1000     0 row(s) returned                                         0.000 sec / 0.000 sec
58  22:25:13  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
59  22:25:19  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
60  22:25:21  select * from transcation LIMIT 0, 1000     0 row(s) returned                                         0.000 sec / 0.000 sec
61  22:25:23  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
62  22:27:30  select * from transcation LIMIT 0, 1000     1 row(s) returned                                         0.000 sec / 0.000 sec
63  22:31:43  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
```



```sql
select * from booking;

select * from transcation;

select * from payment;
```

transaction_id	booking_id	card_number	payment_mode	upi_id
3	1	Card Details	CARD	
NULL	NULL	NULL	NULL	NULL

Table: booking

Columns:

id	int PK
aadhar_number	varchar(255)
booked_on	datetime(6)
from_date	date
num_of_room	int
room_numbers	varchar(255)
room_price	int
to_date	date
transaction_id	int

```
#   Time      Action                                      Message                                                   Duration / Fetch
55  22:25:11  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
56  22:25:13  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
57  22:25:13  select * from transcation LIMIT 0, 1000     0 row(s) returned                                         0.000 sec / 0.000 sec
58  22:25:13  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
59  22:25:19  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
60  22:25:21  select * from transcation LIMIT 0, 1000     0 row(s) returned                                         0.000 sec / 0.000 sec
61  22:25:23  select * from payment LIMIT 0, 1000         Error Code: 1146. Table 'sweethome.payment' doesn't exist 0.000 sec
62  22:27:30  select * from transcation LIMIT 0, 1000     1 row(s) returned                                         0.000 sec / 0.000 sec
63  22:31:43  select * from booking LIMIT 0, 1000         2 row(s) returned                                         0.000 sec / 0.000 sec
64  22:32:00  select * from transcation LIMIT 0, 1000     1 row(s) returned                                         0.000 sec / 0.000 sec
```