

A PROJECT REPORT ON
Banking Management System



Submitted by

Mr. Prashanth S

Mr. Kushal sharma M.

Ms. Sreeja

Ms. Sudha R

Ms. Suma M R

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Batch No. 6773

Under the Guidance of Trainer

Mrs. Indrakka Mali Mam

BANKING MANAGEMENT SYSTEM

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BANKING MANAGEMENT SYSTEM

Introduction

The project “Banking Management System ” is developed using spring boot framework, which mainly focuses on basic operations of Online Banking. Like Withdrawn Amount, Deposit Amount, Transfer Amount, Insert customer Details , Delete customer Details and getting records of Customer Details based AccountId.

Online Banking allows customer of financial institution to conduct financial Transaction on secure website Operated by the institution ,Which can be a retail or virtual bank,credit union or building society.

Online Banking is practice of making bank Transaction or paying bills via the internet.people no longer leave the house to shop,Communicate,or even do their Banking.Online banking allows a customer to make deposits,withdrawals,and pay billsall with the by click.

Account Module:

- In the Account module the Bank can perform :
- Fetch all details of Account records.
- Fetch Account record by Particular Account id.
- Fetch customer record by Particular Account Id.
- .In the Account module Customer can Withdraw,Deposit ,Transfer Amount.
- In this Module Customer can delete their Account .

Customer Module:

- In the Customer Module :
- We Can Fetch all details of Customer records.
- In This module Customer Can Update Their Records like PhoneNo,password,etc.
- We can get the customer details and delete the record by using customer id.

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Objectives:

- The Main objective of study are
- To Understand the concept of Online Banking.
- To analyze the importance,function ,advantages and limitation of Online banking.
- To analyze the present e-banking scenario concerned with Atm,Internet banking,mobile Banking ,credit-debit card,Fund Transfer and other e-banking service.
- The Main objective is how e-banking provide efficient service to User.
- It provides “better and efficient” service”.
- Faster way to get information about the Customer And Account.
- Provide facility for proper monitoring and reduce paper work.
- All details will be available on a click.

System Overview:

- The Bank Management System will be automated the traditional system.
- There is no need to use paper and pen.
- Checking a Customer and Account details is very easy.
- Adding new Customer record is very easy.
- Deleting or updating a record of a particular Customer and Account is simple

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Requirements:

Software Requirement:

- Database: MySQL
- API- Spring Data JPA, spring web, spring security
- Tools: Postman, IDE-Spring Tool Suit4
- Coding language-Java 1.8:

Hardware Requirements:

- RAM: 4GB or above
- Processor: 64bit
- Memory: 512 MB
- Disk Space: 100GB
- Windows:Windows 10 Or above

Spring Tool Suit :-

STS is an Eclipse-based development environment that is customized for the development of spring applications.

It provides a ready-to-use environment to implement, debug, run and deploy your applications.

Postman :-

Postman is a standalone software testing API (Application ProgrammingInterface) platform to build, test, design, modify, and document APIs. It is a simple Graphic User Interface for sending and viewing HTTP requests and responses.

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MySQL:

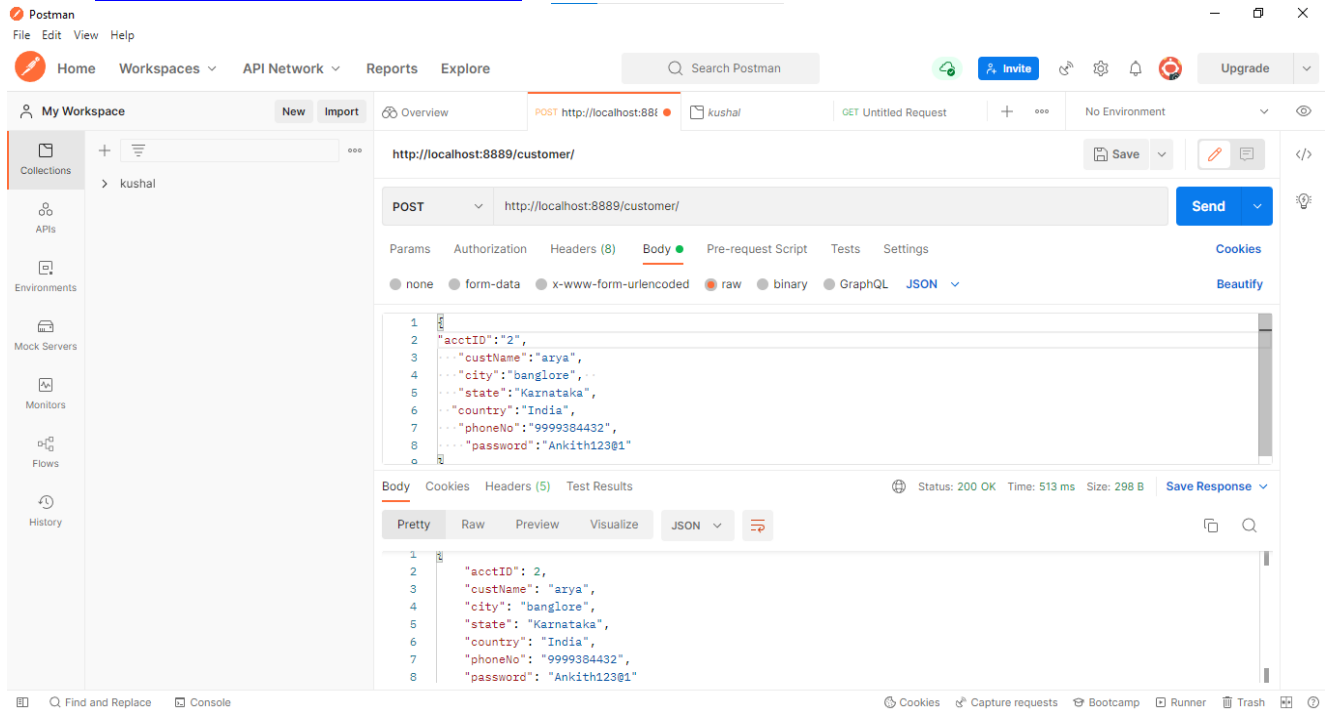
- MySQL is a relational database management system
- MySQL is open-source
- MySQL is free
- MySQL is ideal for both small and large applications
- MySQL is very fast, reliable, scalable, and easy to use
- MySQL is cross-platform

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Screenshots

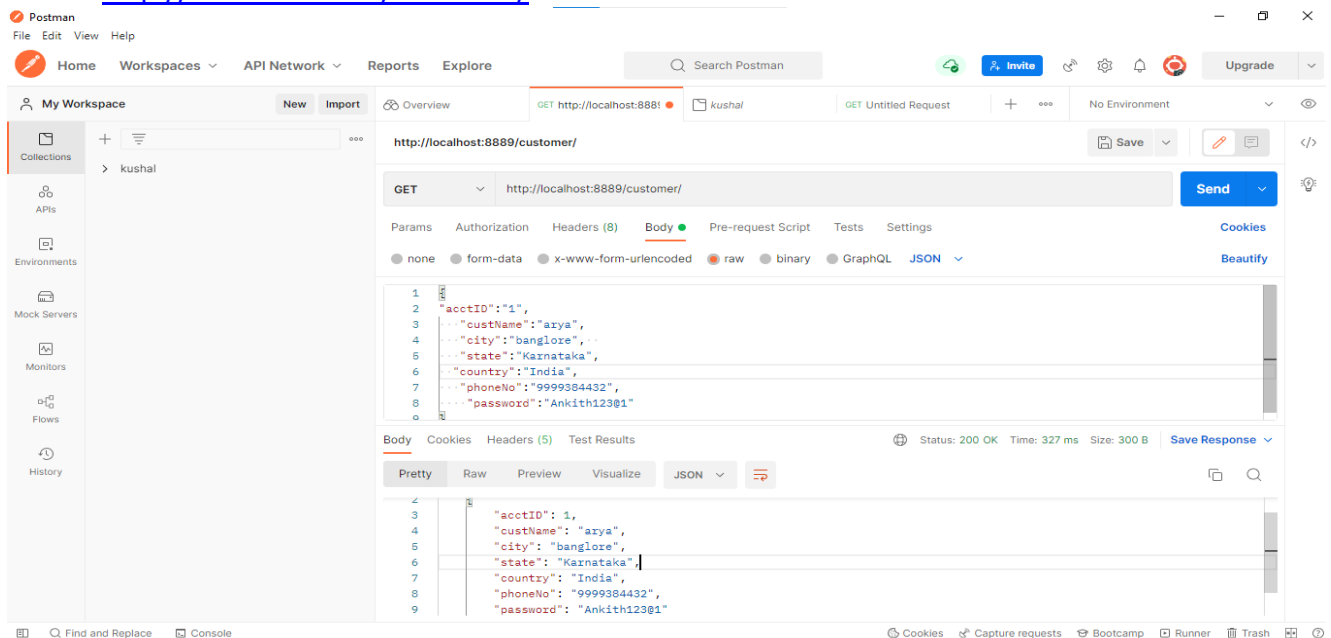
Step 1: we can Inserting the customer Details using post method.

URL: <http://localhost:8889/customer/>



Step 2: Display All details of Customer Using Get Method.

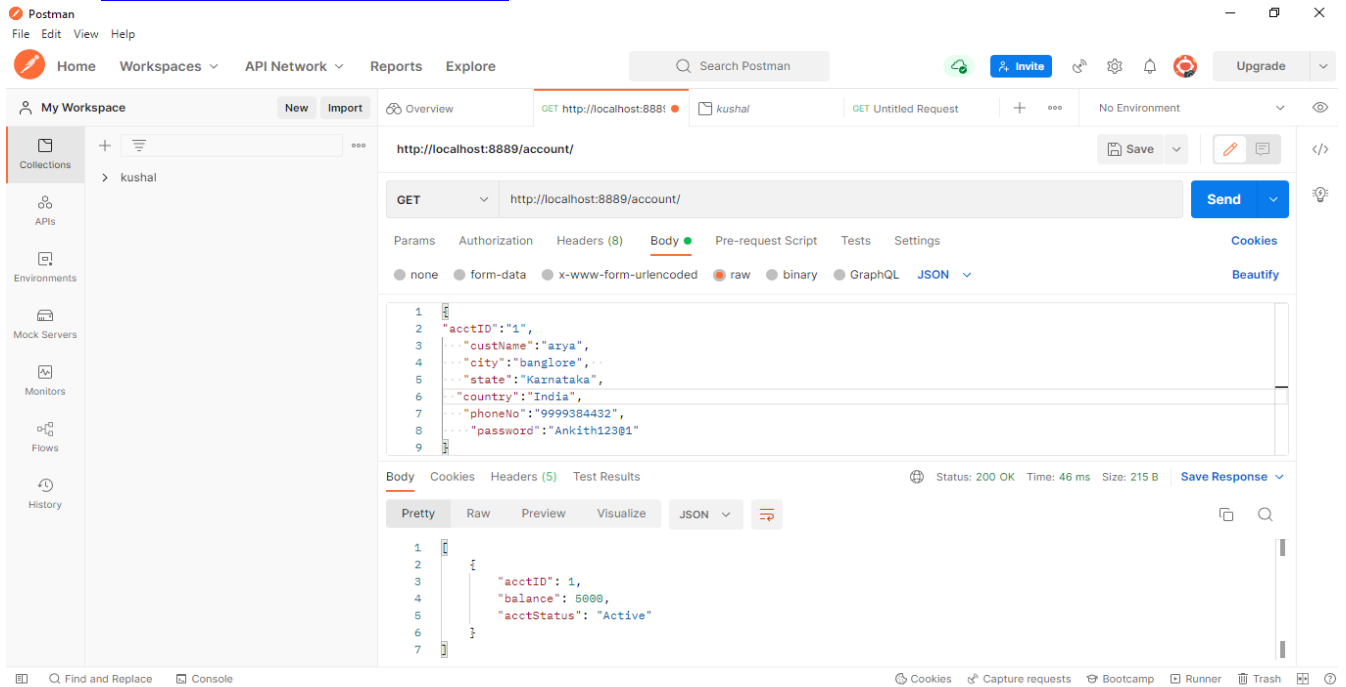
URL: <http://localhost:8889/customer/>



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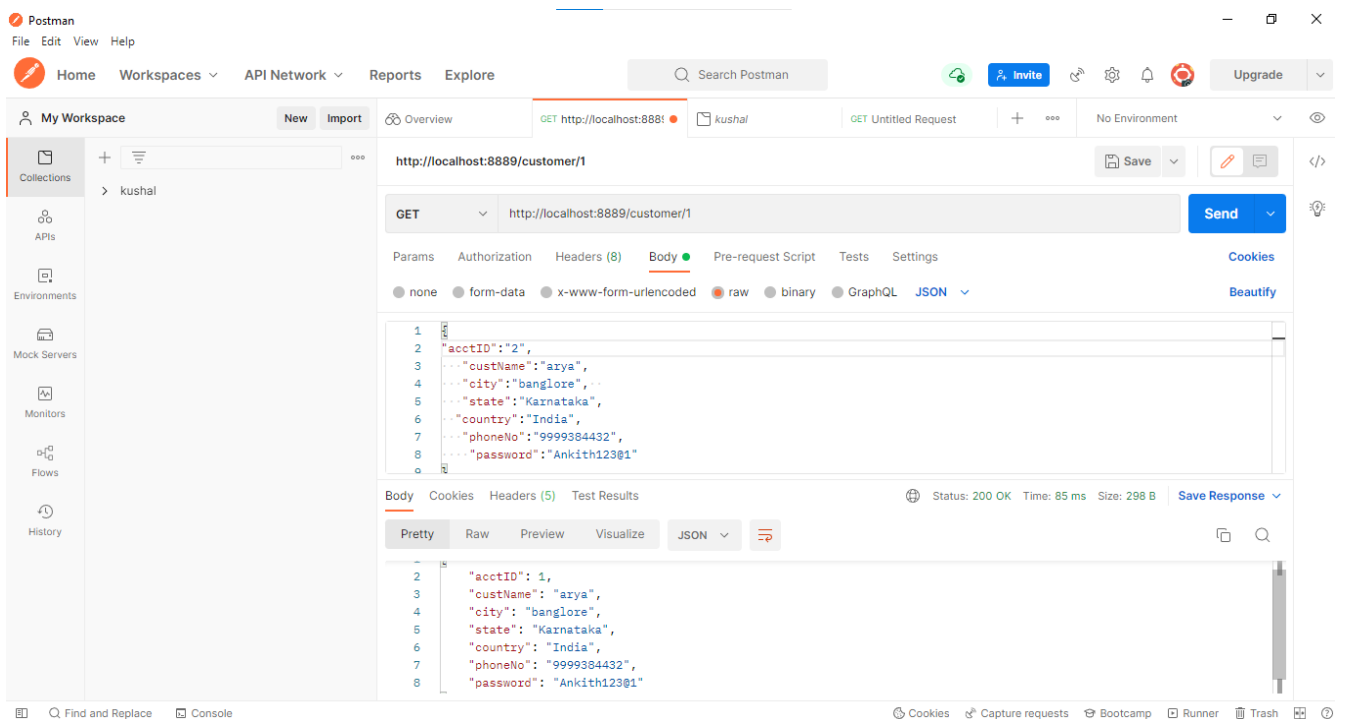
Step 3: Display All details of Account.

URL : <http://localhost:8889/account/>



Step 4: Get Particular details of customer based on id.

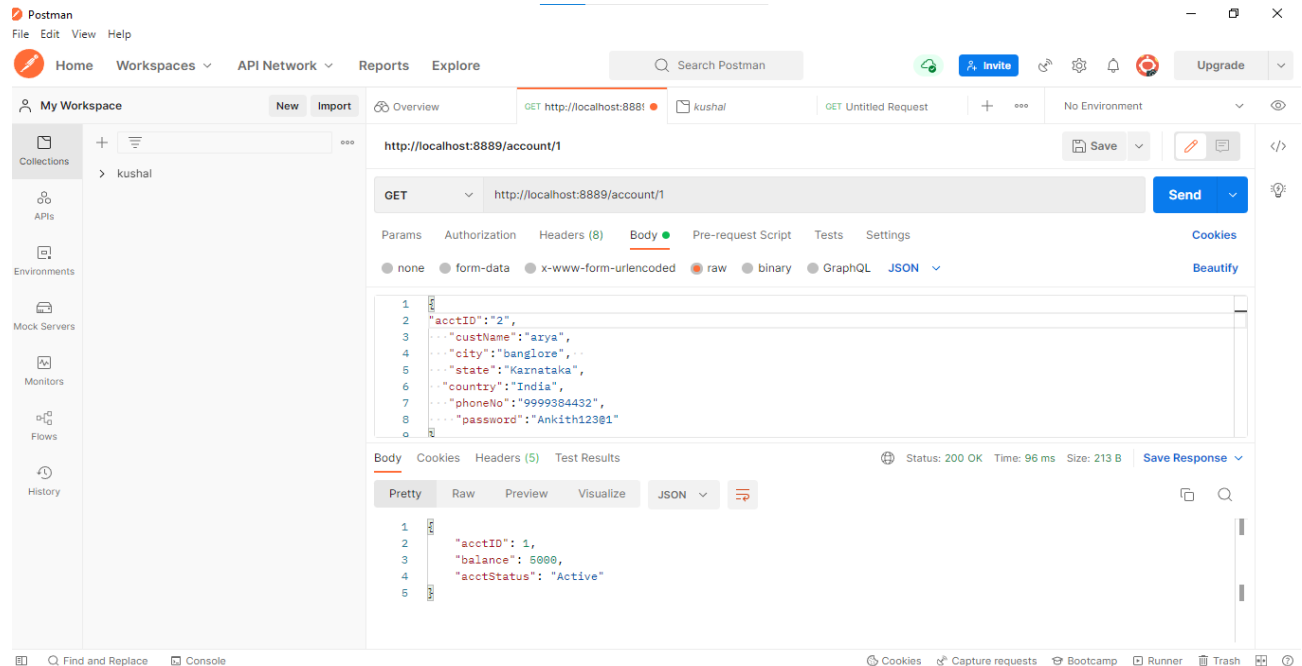
URL : <http://localhost:8889/customer/1>



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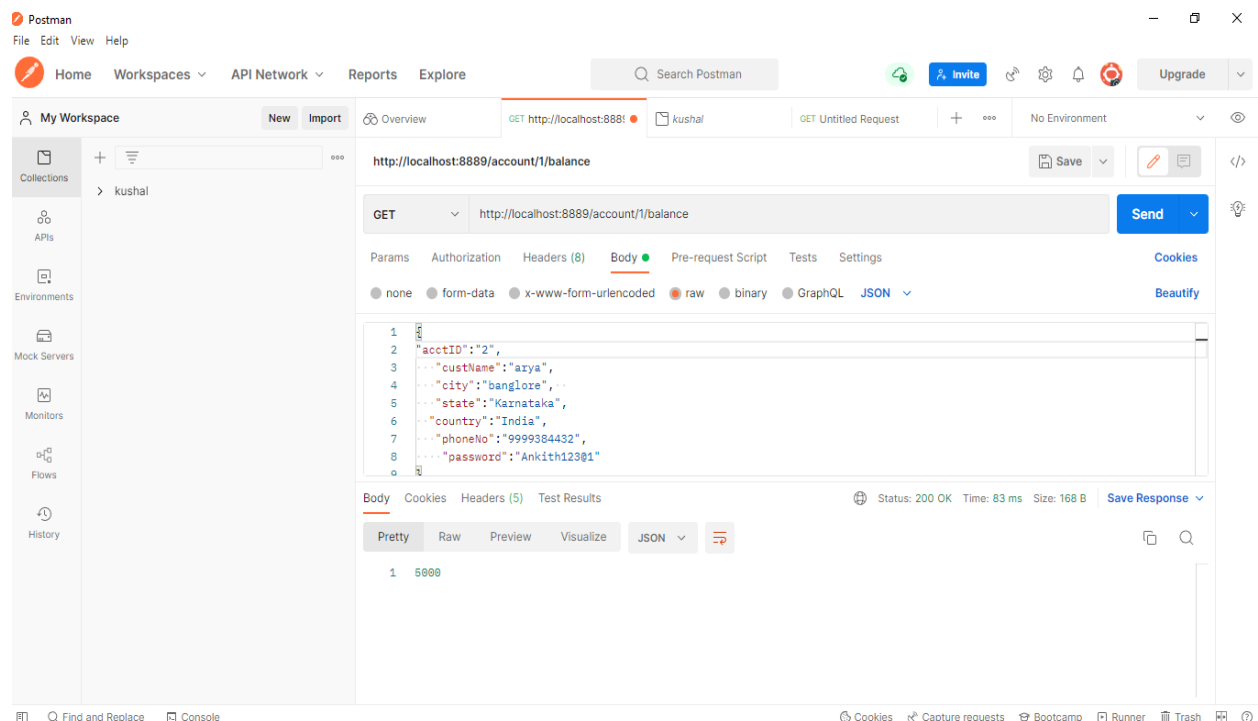
Step 5: Get Particular details of customer Account based on id Using Get Method.

URL : <http://localhost:8889/account/1>



Step 6: GET the balance of customer based on id

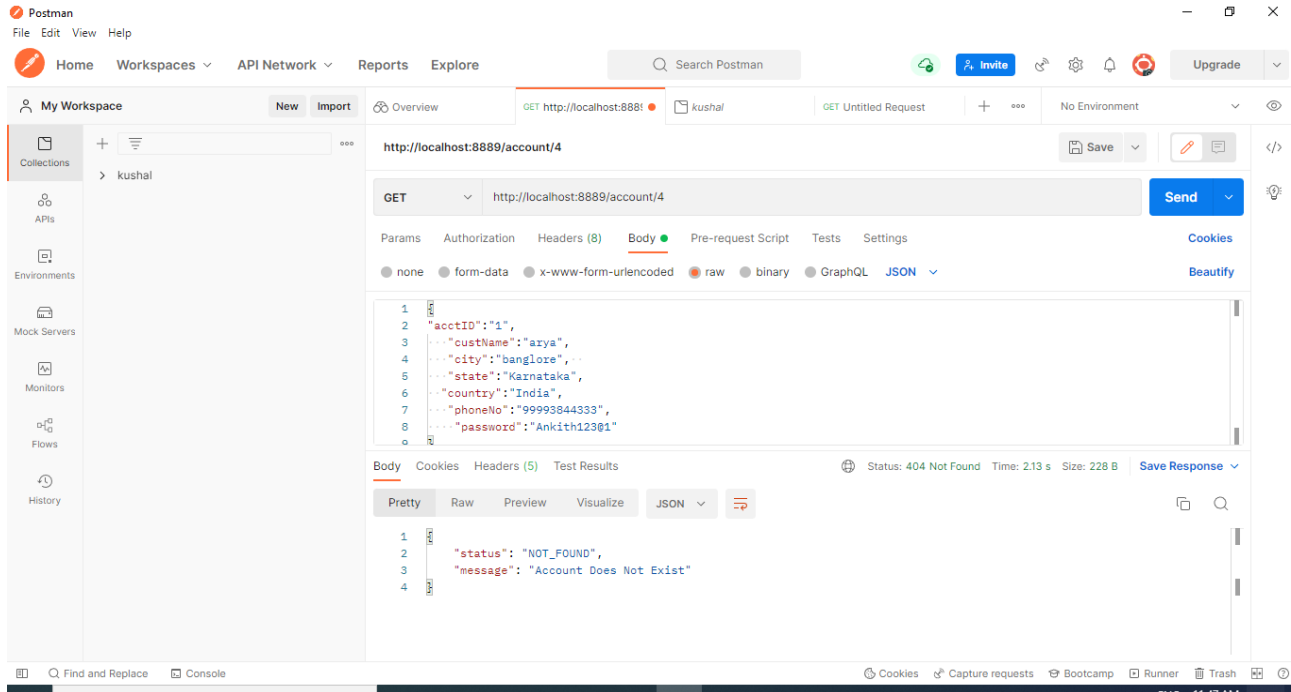
URL : <http://localhost:8889/account/1/balance>



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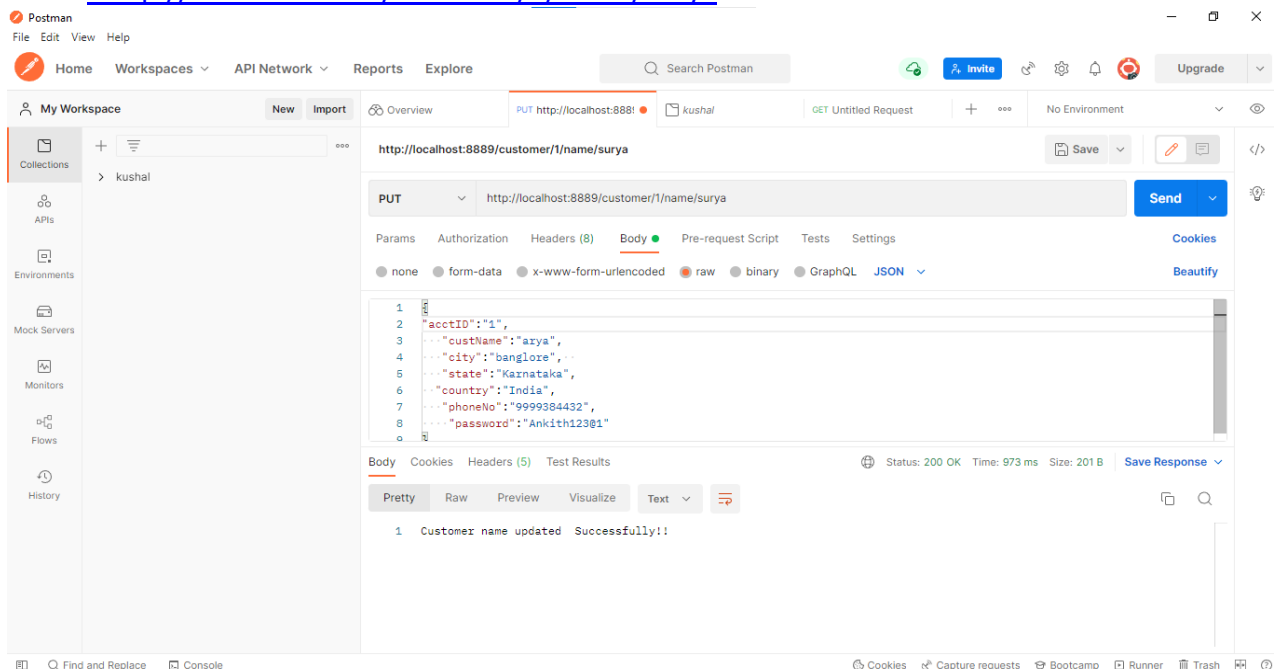
Step 7: If Customer doesn't have Account Or Their AccountID Then it shows exception like
"Account does not Found"

URL : <http://localhost:8889/account/4>



Step 8: If Customer wants to Change His Details like Name .We can update customer Details
Based on Id using PUT Method.

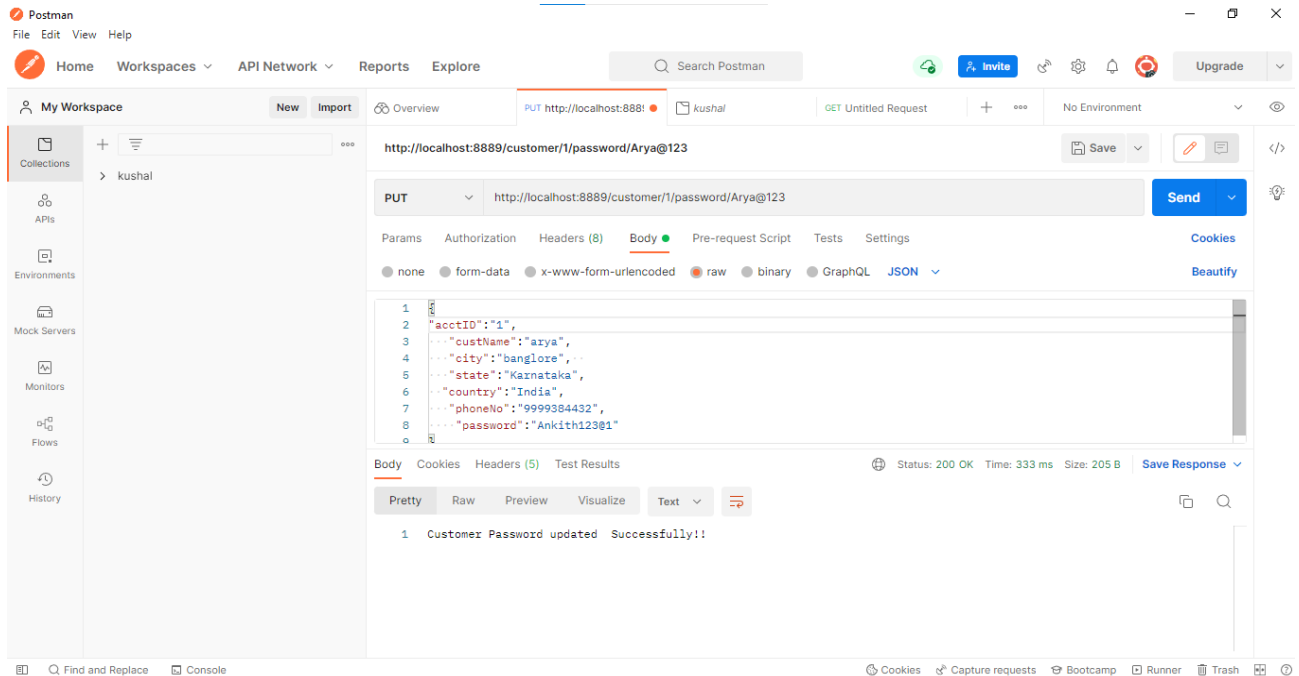
URL : <http://localhost:8889/customer/2/name/Surya>



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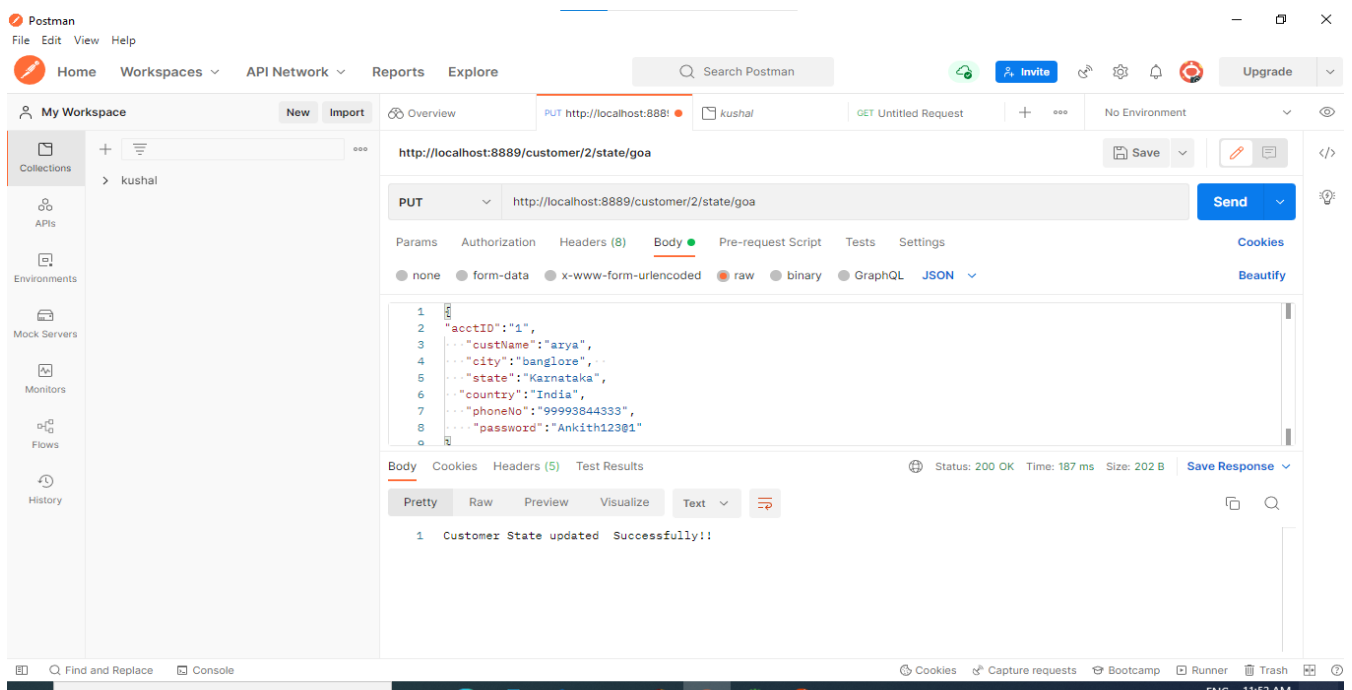
Step 9: IF Customer wants to Change His City based on id Using PUT Method.

URL : <http://localhost:8889/customer/4/city/Bangalore>



Step 10: IF Customer wants to Change His State based on id Using PUT Method.

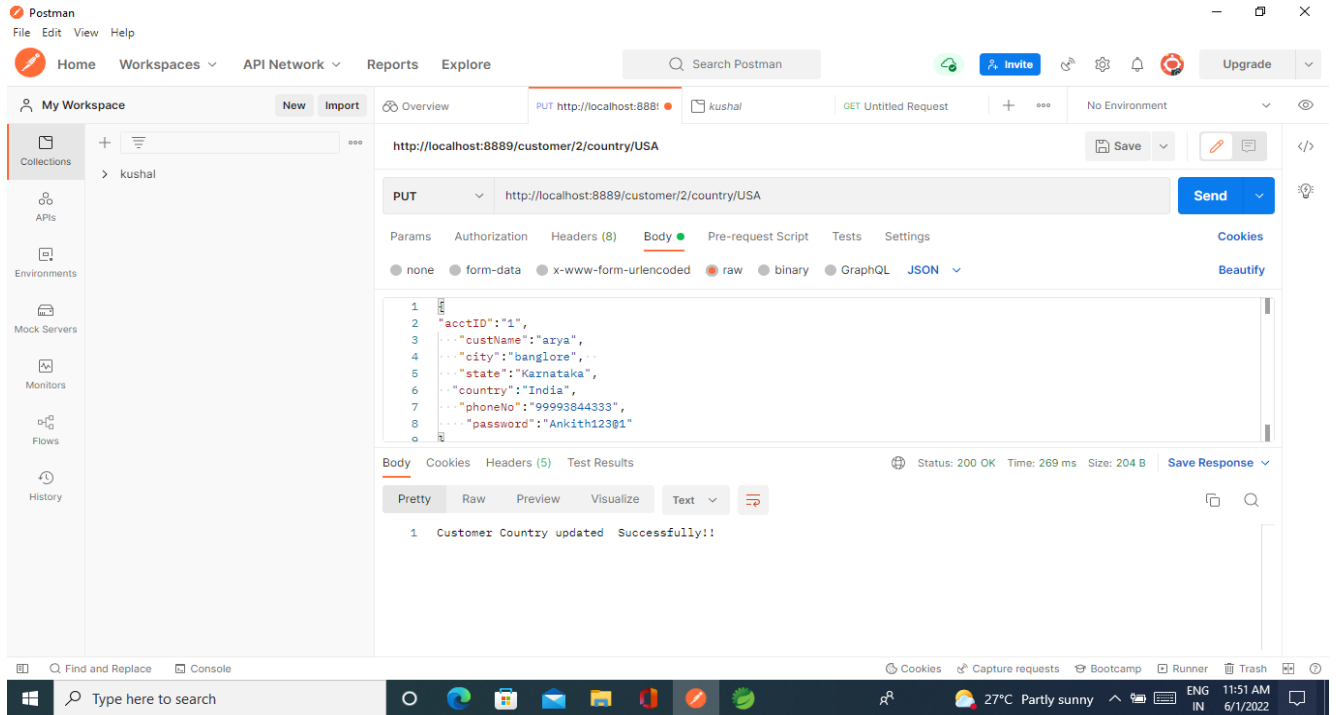
URL : <http://localhost:8889/customer/2/city/AndraPradesh>



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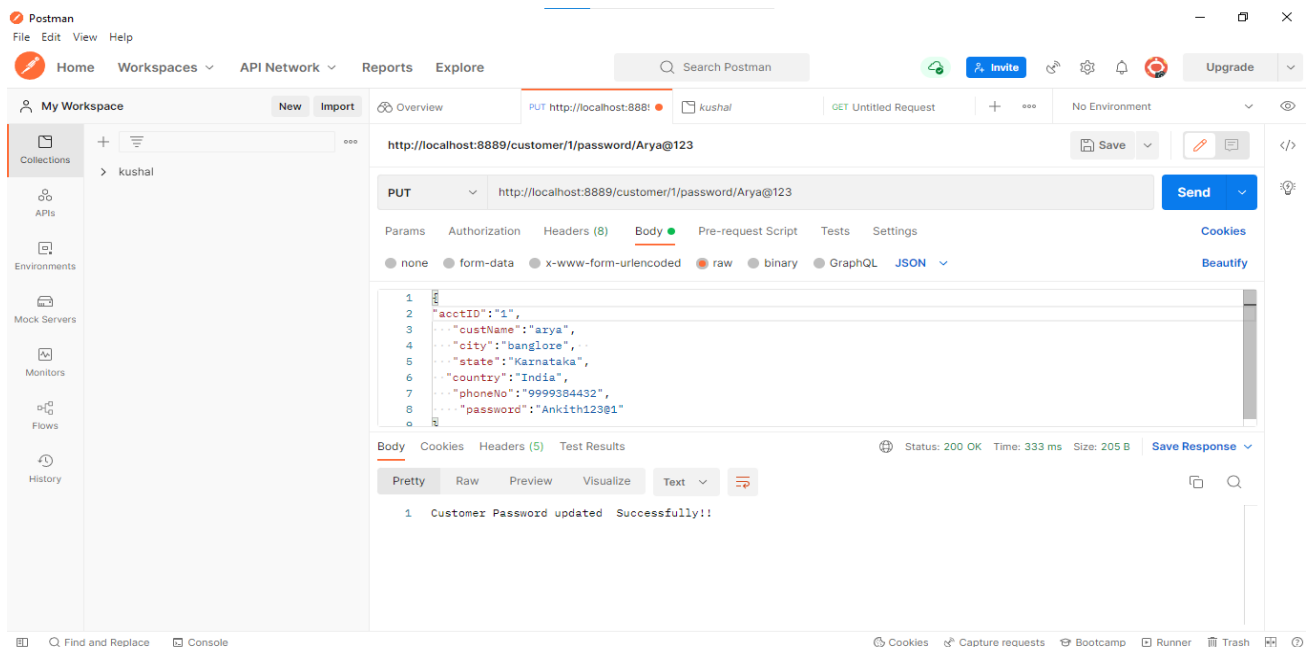
Step 11: IF Customer wants to Change His Country based on id Using PUT Method.

URL : <http://localhost:8889/customer/2/country/USA>



Step 12: IF Customer wants to Change His Password Details.

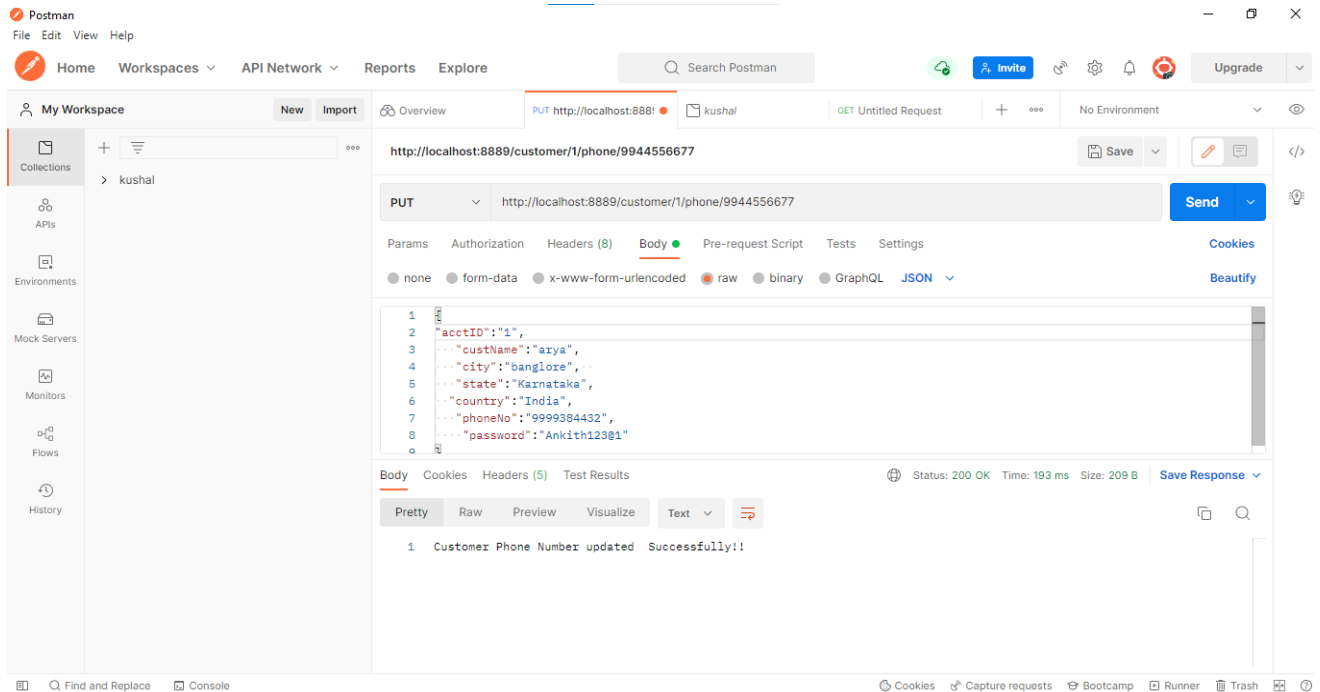
URL : <http://localhost:8889/customer/4/password/prash123>



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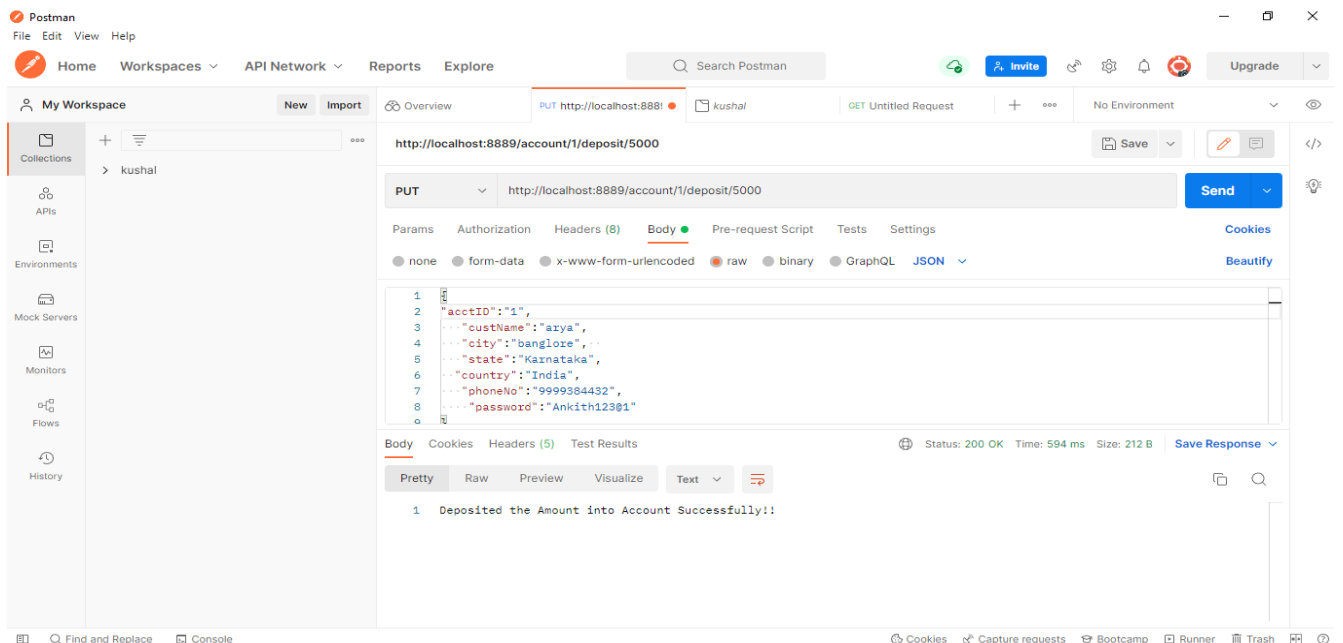
Step 13: If Customer wants to Change His Phone Number details.

URL :<http://localhost:8889/customer/4/phone/9980765432>



Step 14: Account Holder Can to Deposit there some money into his Account Based on Account Id Using Put Method.

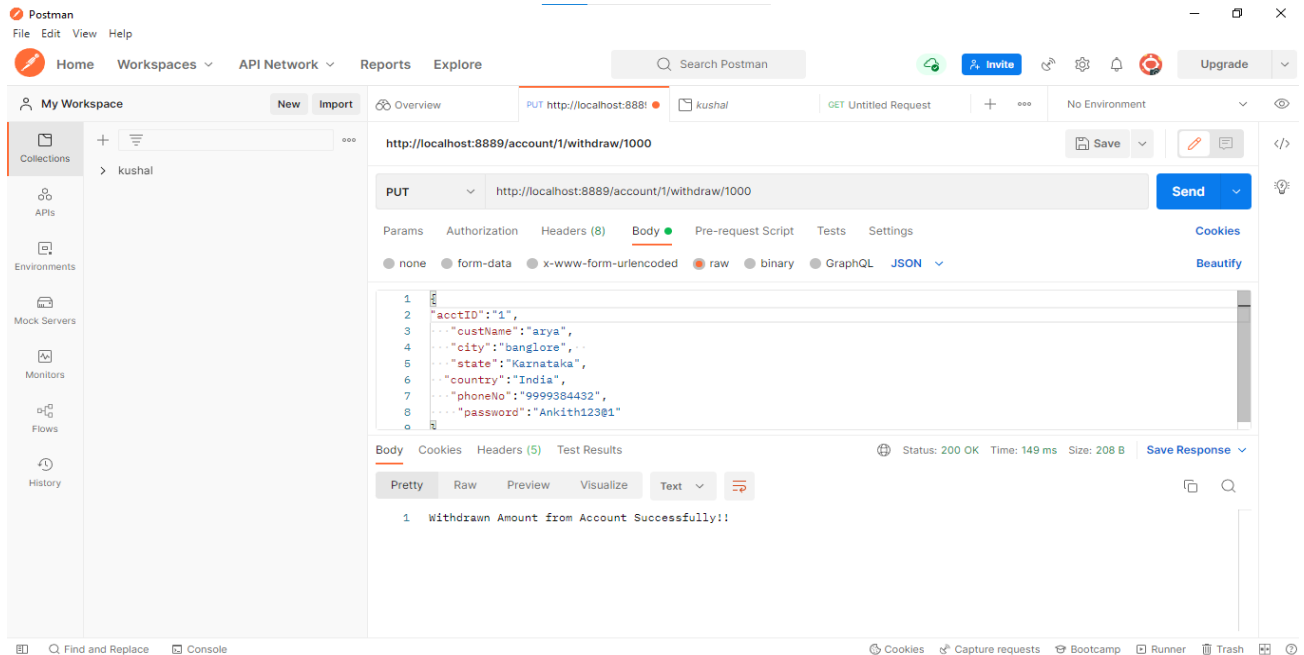
URL :<http://localhost:8889/account/3/deposit/60000>



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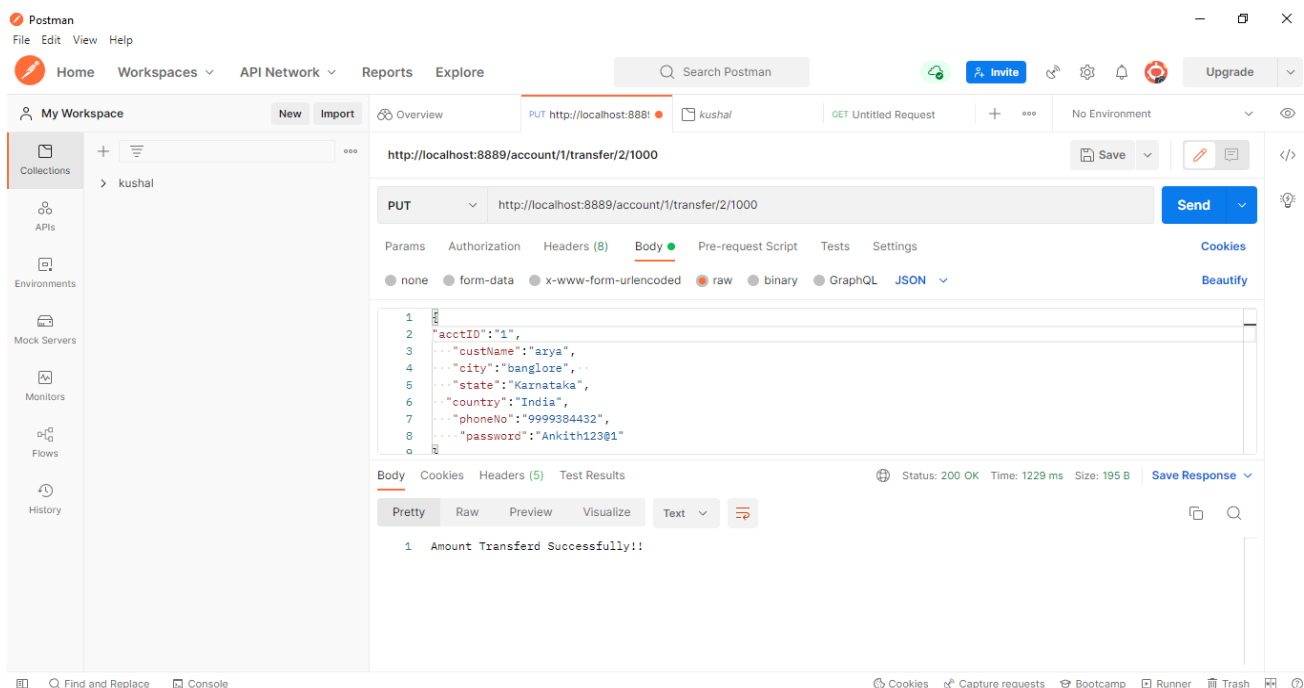
Step 15: Account Holder Can Withdraw some money into his Account Based on Account Id.

URL :<http://localhost:8889/account/1/withdraw/60000>



Step 16: Account Holder Can Transfer money from one Account into Another Account Based on ID Using Put Method.

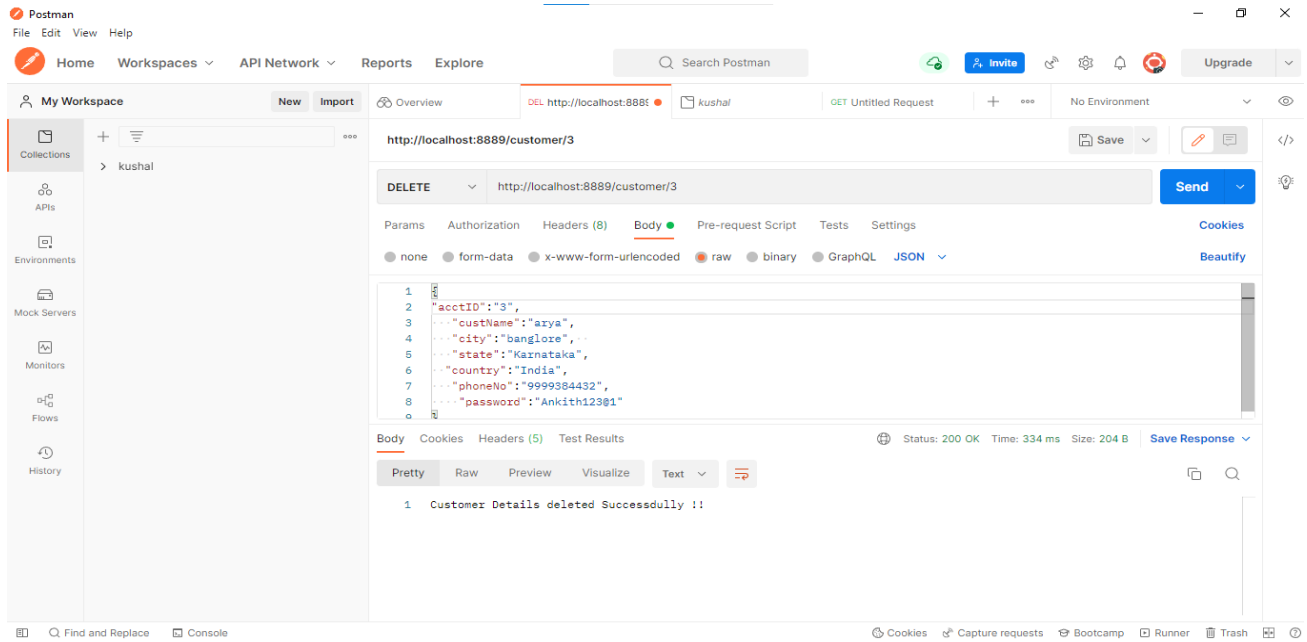
URL :<http://localhost:8889/account/1/transfer/3/10000>



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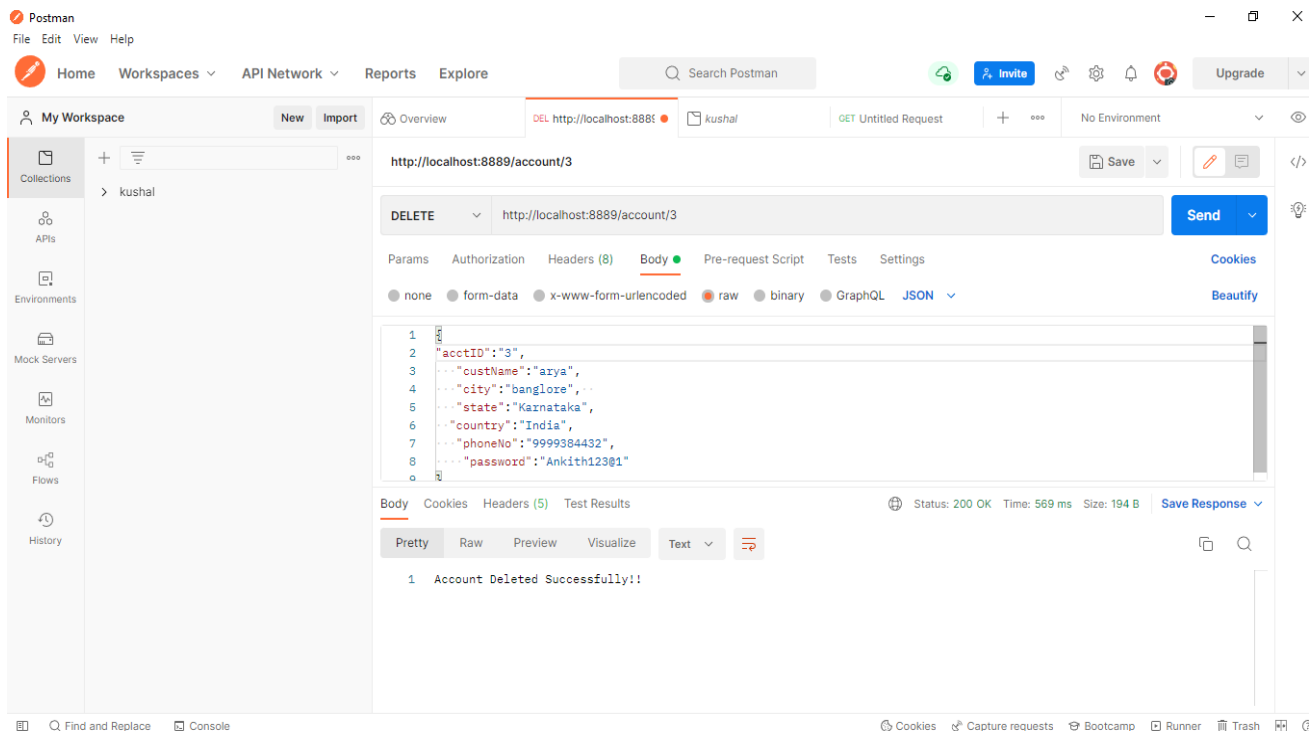
Step 17: Bank can delete their customer details based on id Using Delete Method.

URL : <http://localhost:8889/customer/2>



Step 18: Bank delete their account details based on id Using Delete Method.

URL : <http://localhost:8889/account/2>



Annotations:

1. @Service:

We mark beans with @Service to indicate that they're holding the business logic. Besides being used in the service layer, there isn't any other special use for this annotation.

2. @Repository:

@Repository's job is to catch persistence-specific exceptions and re-throw them as one of spring's unified unchecked exceptions.

3. @Autowired:

The spring framework enables automatic dependency injection. In other words, by declaring all the bean dependencies in a spring configuration file, Spring container can autowire relationships between collaborating beans. This is called spring bean autowiring.

4. @GetMapping:

The @GetMapping annotation is a specialized version of @RequestMapping annotation that acts as a shortcut for @RequestMapping(method = RequestMethod.GET).

5. @PostMapping:

The @PostMapping is specialized version of @RequestMapping annotation that acts as a shortcut for @RequestMapping(method = RequestMethod.POST). The @PostMapping annotated methods in the @Controller annotated classes handle the HTTP POST requests matched with given URI expression.

6. @Configuration:

Spring @Configuration annotation helps in spring annotation based configuration. @Configuration annotation indicates that a class declares one or more @Bean methods and may be processed by the spring container to generate bean definitions and service requests for those beans at runtime

7. @OneToMany:

A one-to-many relationship between two entities is defined by using the @OneToMany annotation in Spring Data JPA. It declares the mappedBy element to indicate the entity that owns the bidirectional relationship. Usually, the child entity is one that owns the relationship and the parent entity contains the @OneToMany annotation.

8. @generated Value:

Marking a field with the @GeneratedValue annotation specifies that a value will be automatically generated for that field. This is primarily intended for primary key fields but Object DB also supports this annotation for non-key numeric persistent fields as well

9. @entity:

The @Entity annotation specifies that the class is an entity and is mapped to a database table. The @Table annotation specifies the name of the database table to be used for mapping.

10. @ExceptionHandler:

The @ExceptionHandler is an annotation used to handle the specific exceptions and sending the custom responses to the client.

11. @ControllerAdvice:

@ControllerAdvice is a specialization of the @Component annotation which allows to handle exceptions across the whole application in one global handling component. It can be viewed as an interceptor of exceptions thrown by methods annotated with @RequestMapping and similar.

12. @BeanAnnotation:

Spring @Bean annotation tells that a method produces a bean to be managed by the spring container. It is a method-level annotation. During Java configuration (@Configuration), the method is executed and its return value is registered as a bean within a BeanFactory.

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13.@Modifying:

The @Modifying annotation is used to enhance the @query annotation so that we can execute not only select queries, but also Insert, Update, Delete, and even DDL queries.

14.@Transactional:

The @Transactional annotation is that specifies the semantics of the transactions on a method. We have two ways to rollback a transaction: declarative and programmatic.

The @Transactional annotation makes use of the attributes noRollbackFor or noRollbackForClassName to avoid rollback on listed exceptions. The default rollback behavior in the declarative approach will rollback on runtime exceptions.

15.@Query

The @Query annotation can only be used to annotate repository interface methods. The call of the annotated methods will trigger the execution of the statement found in it, and their usage is pretty straightforward. The @Query annotation supports both native SQL and JPQL.

16.@Delete Mapping.

@DeleteMapping is a specialized version that acts as a shortcut for Request Mapping. The DELETE HTTP method is used to delete the resource and @DeleteMapping annotation maps the HTTP DELETE requests onto specific handler methods of a Spring controller. You can use this annotation only at the method level. You can use only the @RequestMapping annotation at the class level.

17.@Rest Controller.

@RestController is used for making restful web services with the help of the @RestController annotation. This annotation is used at the class level and allows the class to handle the requests. The RestController allows to handle all REST APIs such as GET, POST, Delete, PUT requests.

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Database Table Design:

Customer Table:

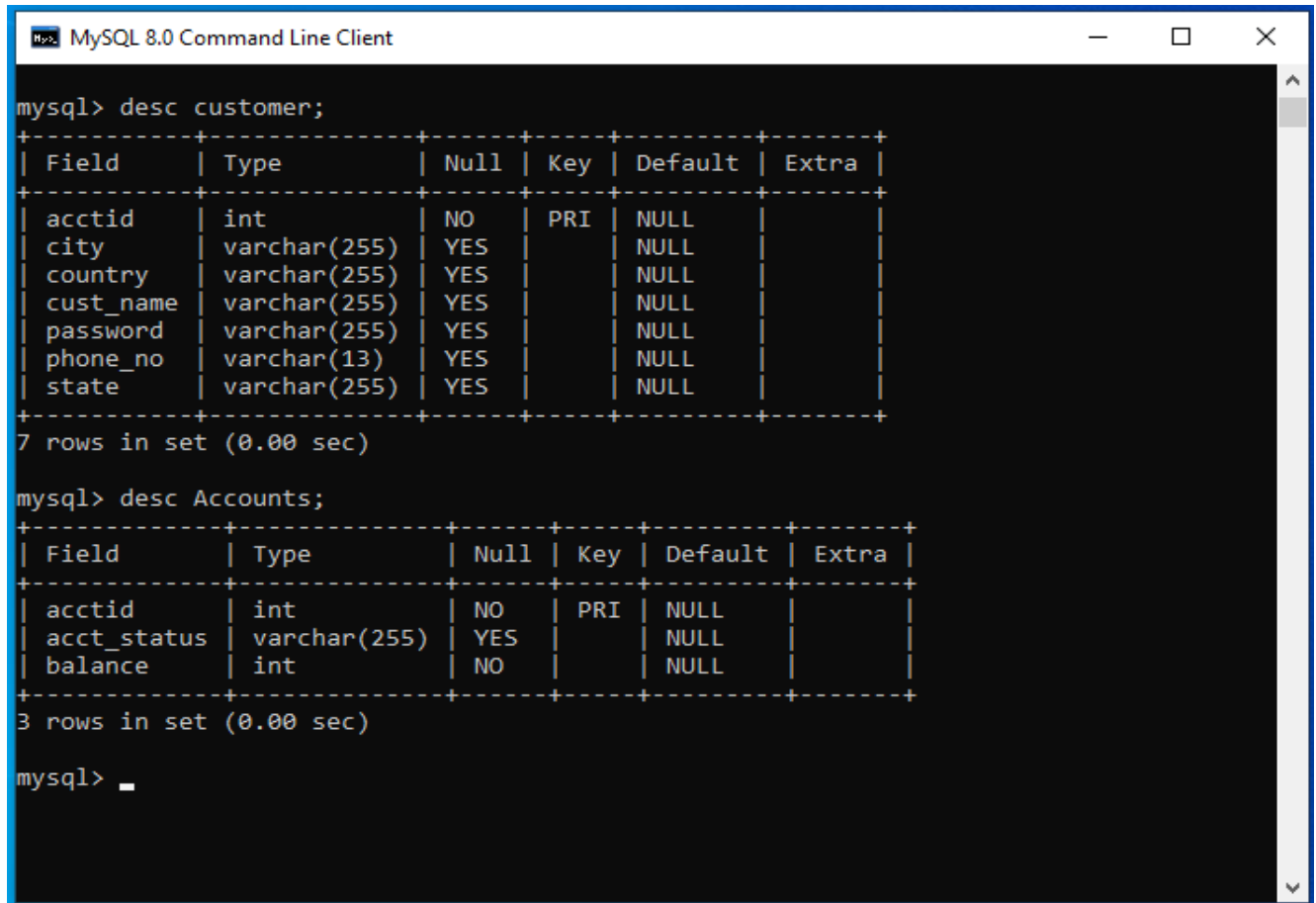
SL NO	Field Name	Data Type
1	ID	Int
2	Name	String
3	City	String
4	State	String
5	Country	String
6	Phone Number	String
7	Password	String

Account Table:

SL NO	Field Name	Data Type
1	ID	Int
2	Balance	Int
3	Account Status	String

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My SQL Database Table Design:



```
mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| acctid     | int           | NO   | PRI | NULL    |       |
| city       | varchar(255)  | YES  |     | NULL    |       |
| country    | varchar(255)  | YES  |     | NULL    |       |
| cust_name  | varchar(255)  | YES  |     | NULL    |       |
| password   | varchar(255)  | YES  |     | NULL    |       |
| phone_no   | varchar(13)   | YES  |     | NULL    |       |
| state      | varchar(255)  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> desc Accounts;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| acctid         | int           | NO   | PRI | NULL    |       |
| acct_status    | varchar(255)  | YES  |     | NULL    |       |
| balance        | int           | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

Conclusion:

This Project is developed to nature the needs of user in a banking Sector by embedding all the tasks of transaction take place in the bank

Bank Management System make online banking Service more accessible to customer By giving them an Easy place to find and sort Information like get their Account Information details, Online ,modify their details online and Transfer their Money to another Account etc..

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