Sri Lanka Institute of Information Technology
Sri Lanka

BSc (Hons) in Information Technology

Modern Topics in Information Technology

IT4020

Assignment 04

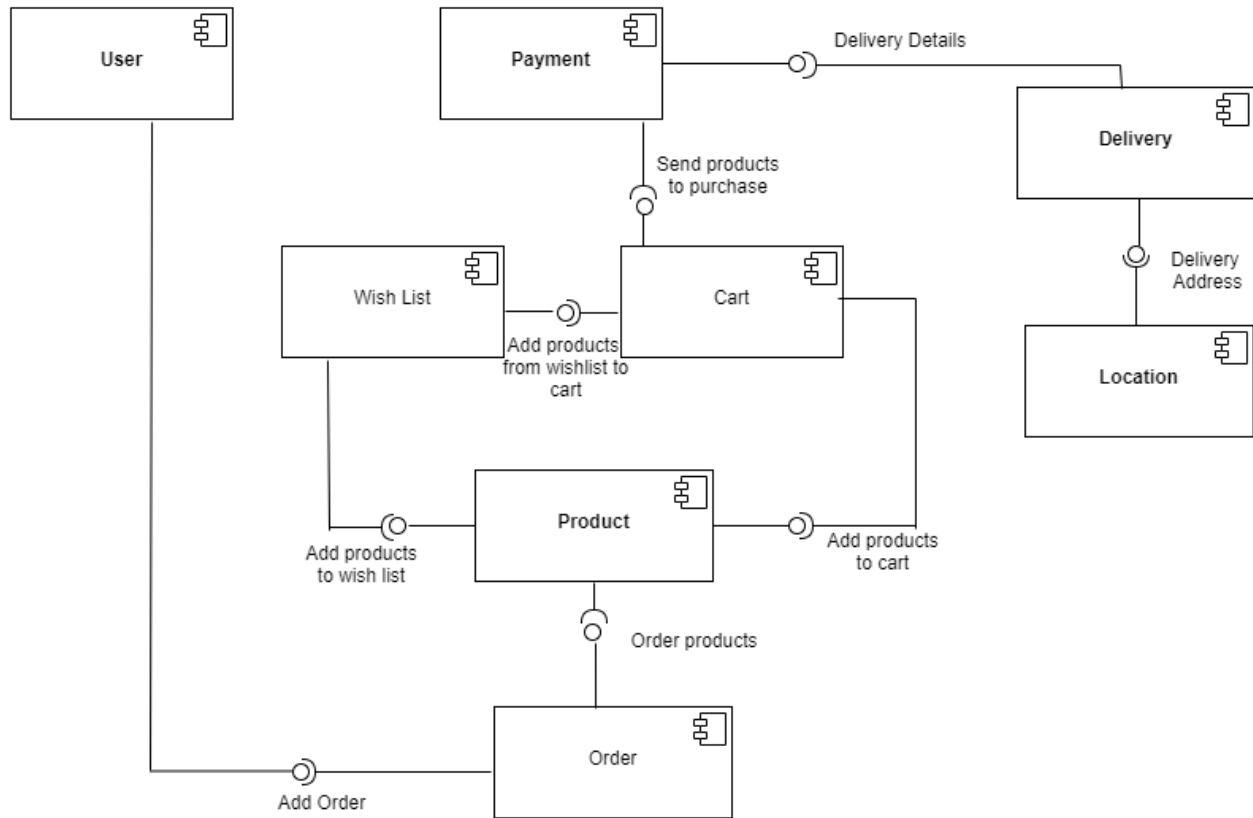| Student ID	Name
IT18108514	Wanigasekara.M.P.W.P.A
IT18091380	A. Vihanga Nivarthana
IT18175080	R.M Bawantha Thilan
IT18136234	Sathsarani B.G.K

1. INTRODUCTION

The services which are identified:

- User Service
- Product Service
- Order Service
- Payment Service
- Cart Service
- Wish List Service
- Location Service
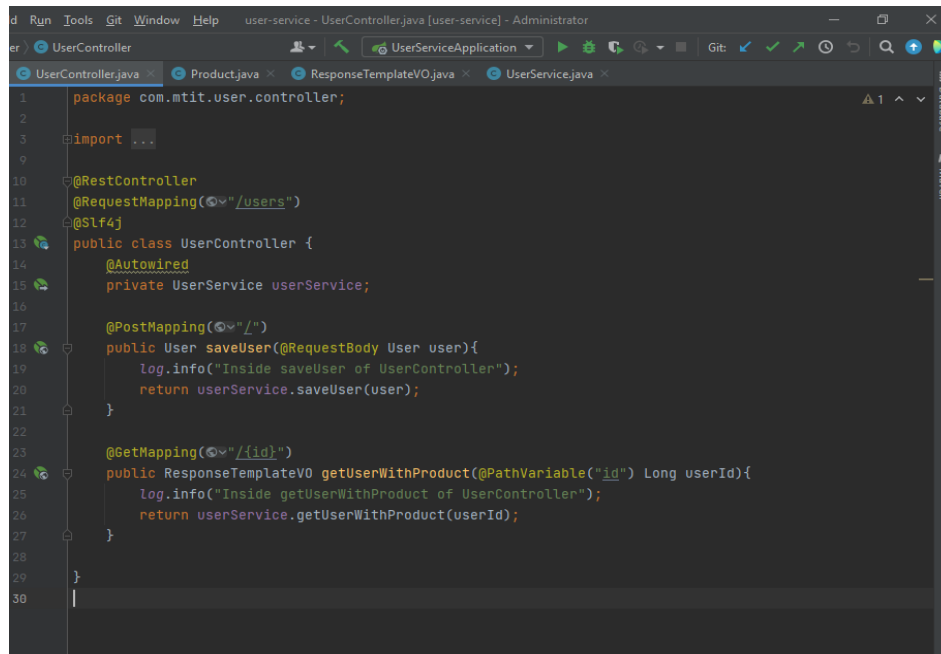- Delivery Service

Swagger API Documentation Link:
https://drive.google.com/drive/folders/1ucw0Tm2cIPk4vhXf0Gr5ISiB2vSoBd8n?usp=sharing
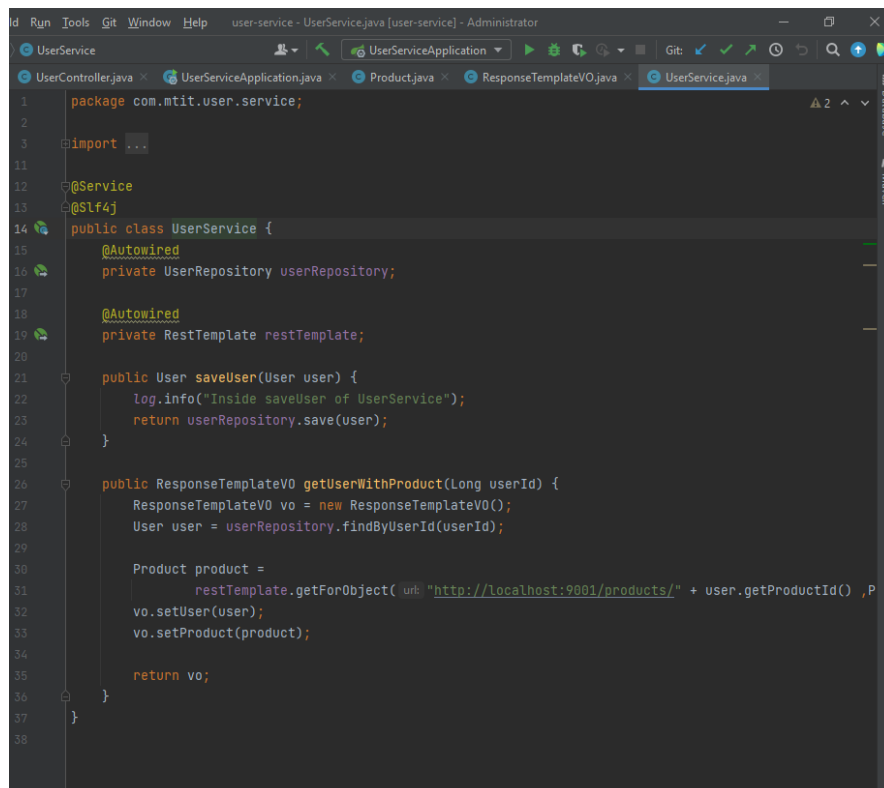
2. Component Diagram
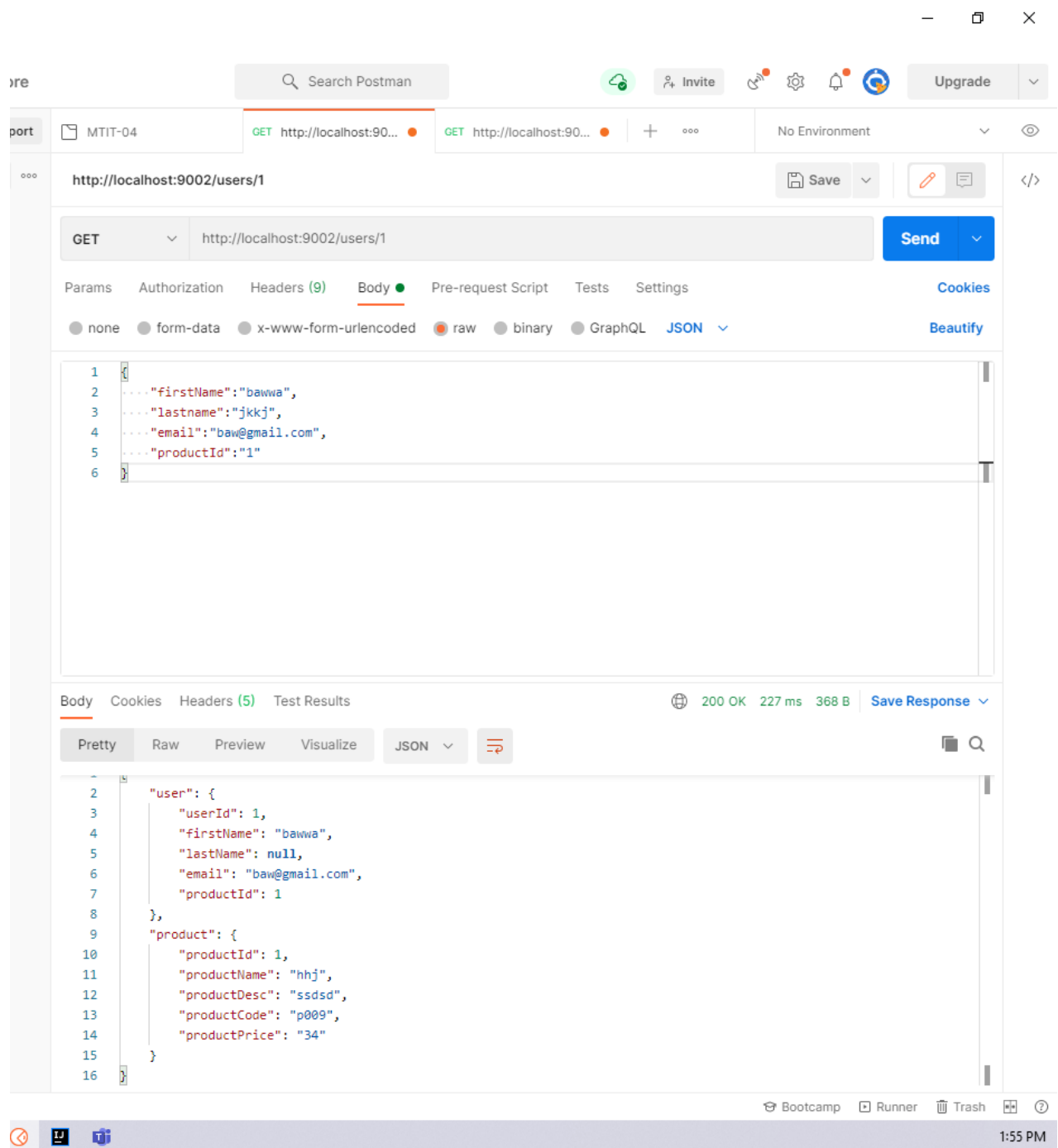
3. Microservices

3.1 User Service

User Service – Controller

User Service Request – Postman

Api Documentation 1.0

[Base URL: localhost:9002/]

http://localhost:9002/v2/api-docs

Api Documentation

Terms of service

Apache 2.0

basic-error-controller Basic Error Controller ⟩

user-controller User Controller ⌄

POST	/users/ saveUser

Parameters	Cancel
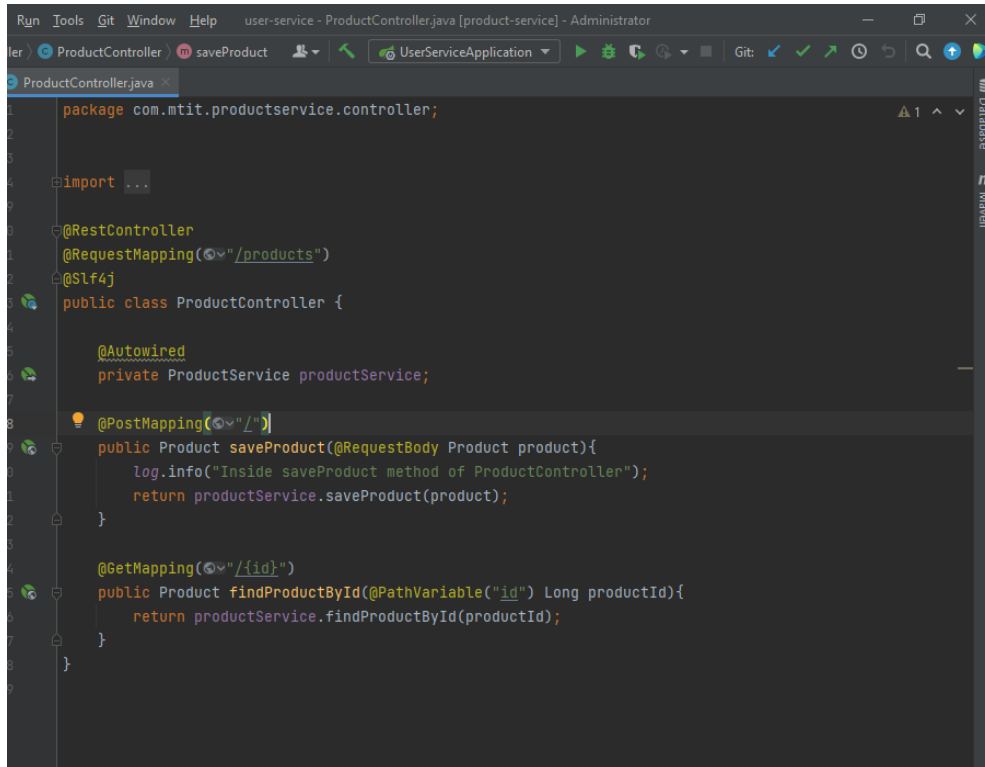
Name	Description

User Service – Swagger API - 1

Name	Description
user * required (body)	user Example Value Model ```{
"email":
"bawantha@gmail.com",
"firstName":
"bawantha",
"lastName":
"thilan",
"productId": 4,
"userId": 3
}```

Cancel

Parameter content type

application/json

Execute	Clear

User Service – Swagger API - 1
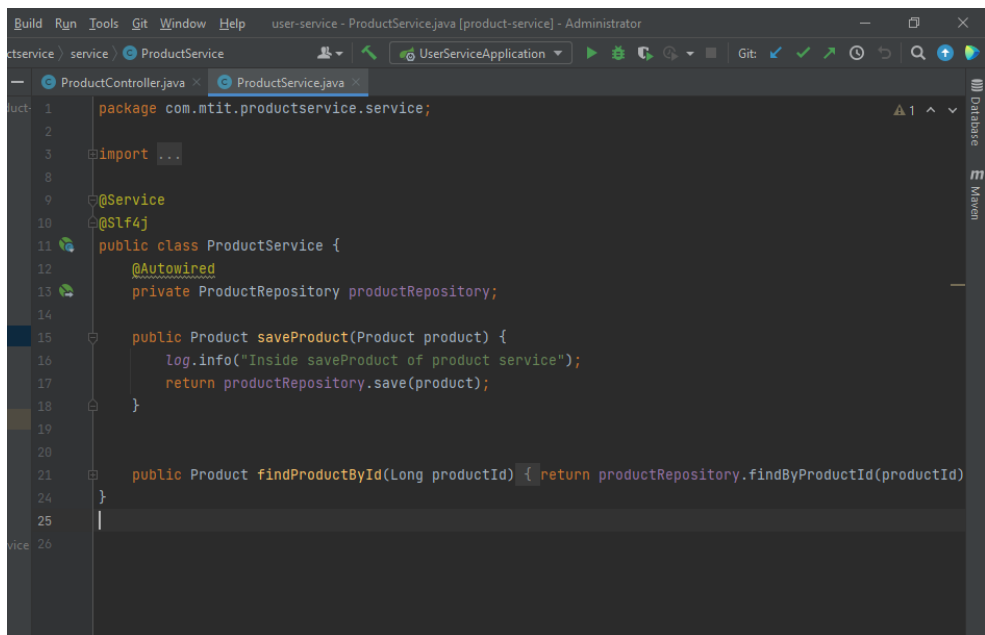
Code	Details

200

Response body

```
{
  "userId": 1,
  "firstName": "bawantha",
  "lastName": "thilan",
  "email": "bawantha@gmail.com",
  "productId": 4
}
```

Download

Response headers

```
connection: keep-alive
content-type: application/json
date: Wed, 19 May 2021 15:54:29 GMT
keep-alive: timeout=60
transfer-encoding: chunked
```

Responses

Code	Description

200

OK

Example Value   Model

```
{
  "email": "string",
  "firstName": "string",
  "lastName": "string",
  "productId": 0,
  "userId": 0
}
```

User Service – Swagger API - 2

3.2 Product Service

Product Service – Controller Class

Product Service – Service Implementation Class

Order Service – Service Implementation Class
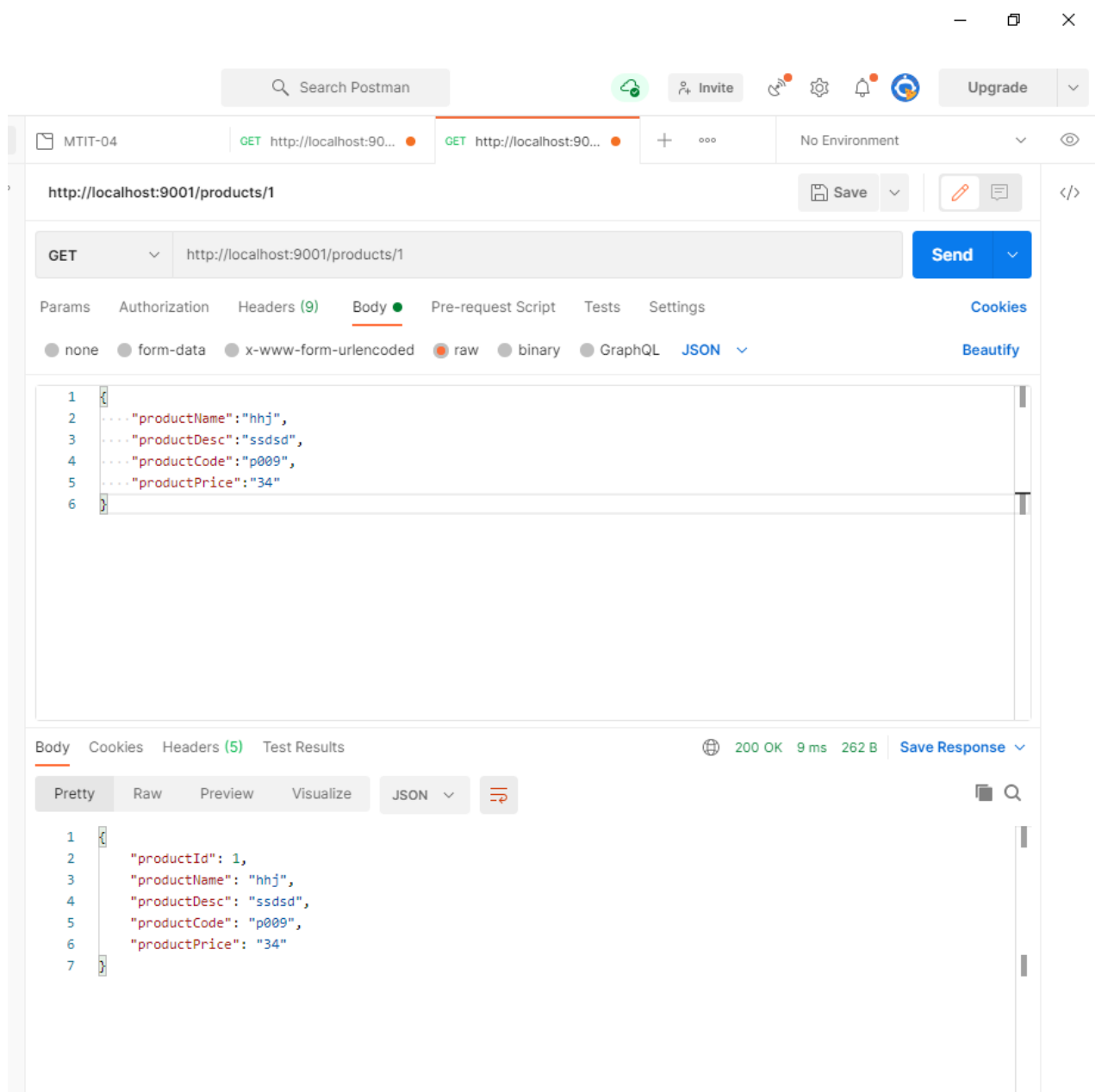
Product Service Request – Postman

Api Documentation 1.0

[Base URL: localhost:9001/]

http://localhost:9001/v2/api-docs

Api Documentation

Terms of service

Apache 2.0

basic-error-controller Basic Error Controller >

product-controller Product Controller ⌄

POST   /products/ saveProduct

Parameters   Cancel

Name   **Description**

Product Service – Swagger API - 1

Name	Description

product * required

(body)

product

Example Value   Model

```
{
  "productCode":
"P0004",
  "productDesc":
"Kitchen item",
  "productId": 3,
  "productName":
"knife",
  "productPrice":
"100"
}
```

Cancel

Parameter content type

application/json

Execute	Clear

Responses   Response content type   */*

Curl

```
curl -X POST
"http://localhost:9
001/products/" -H
"accept: */*" -H
"Content-Type:
application/json" -
d "{
```

Request URL

```
http://localhost:9001/products/
```

Server response

Product Service – Swagger API - 1

Code	Details
200	**Response body**

```
{
  "productId": 1,
  "productName": "knife",
  "productDesc": "Kitchen item",
  "productCode": "P0004",
  "productPrice": "300"
}
```

Download

Response headers

```
connection: keep-alive
content-type: application/json
date: Wed, 19 May 2021 15:56:15 GMT
keep-alive: timeout=60
transfer-encoding: chunked
```

Responses

Code	Description
200	OK

Example Value   Model

```
{
  "productCode": "string",
  "productDesc": "string",
  "productId": 0,
  "productName": "string",
  "productPrice": "string"
}
```

Product Service – Swagger API - 2

3.3 Order Service

```java
package com.sliit.mtit.microservice.orderservice.controller;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.ResponseBody;
import org.springframework.web.bind.annotation.RestController;

import com.sliit.mtit.microservice.orderservice.dto.OrderRequest;
import com.sliit.mtit.microservice.orderservice.dto.OrderResponse;
import com.sliit.mtit.microservice.orderservice.service.OrderServiceImpl;

@RestController
@RequestMapping("/order")
public class OrderController {

    @Autowired
    private OrderServiceImpl orderServiceImpl;

    @PostMapping(consumes = "application/json", produces = "application/json")
    public @ResponseBody OrderResponse selectProduct(@RequestBody OrderRequest request) {

        System.out.println("Order Details : " +  request);

        return orderServiceImpl.makePayment(request);

    }

}
```

Order Service – Controller Class

```java
package com.sliit.mtit.microservice.orderservice.service;

import java.util.UUID;

@Service
public class OrderServiceImpl {

    @Autowired
    private RestTemplate restTemplate;

    public OrderResponse makePayment(OrderRequest orderRequest) {

        MakePaymentRequest makePaymentRequest = new MakePaymentRequest();
        makePaymentRequest.setCardNo(orderRequest.getCardNo());
        makePaymentRequest.setCardType(orderRequest.getCardType());
        makePaymentRequest.setAmount(orderRequest.getAmount());
        makePaymentRequest.setQty(orderRequest.getQty());

        ResponseEntity<MakePaymentResponse> makePaymentResponse =  restTemplate.postForEntity("http://localhost:8089/payment", makePaymentRequest , MakePaymentResponse.class);

        OrderResponse orderResponse = new OrderResponse();
        orderResponse.setOrderId(UUID.randomUUID().toString());
        orderResponse.setPaymentId(makePaymentResponse.getBody().getPaymentId());
        orderResponse.setMessage("Create order successfully");

        return orderResponse;

    }

    @Bean
    public RestTemplate restTemplate(RestTemplateBuilder builder) {
        return builder.build();
    }
}
```
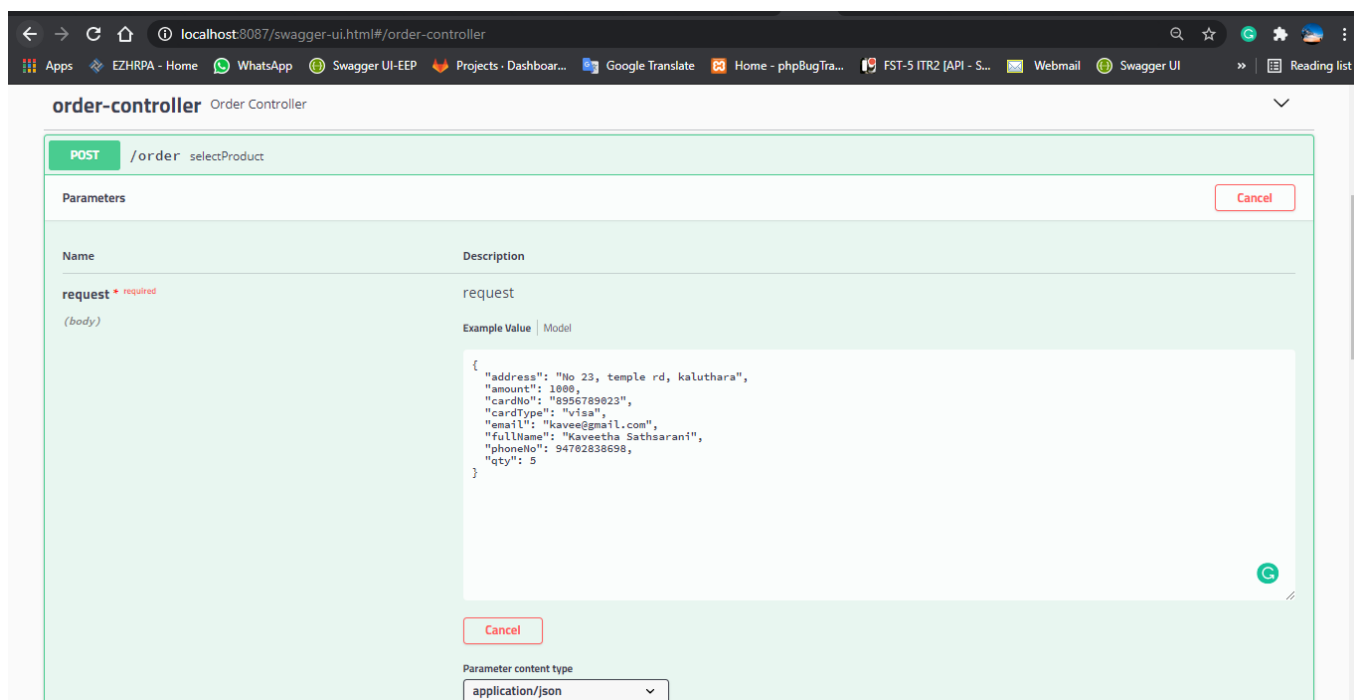
Order Service – Service Implementation Class

Order Service – console

Order Service Request – Postman
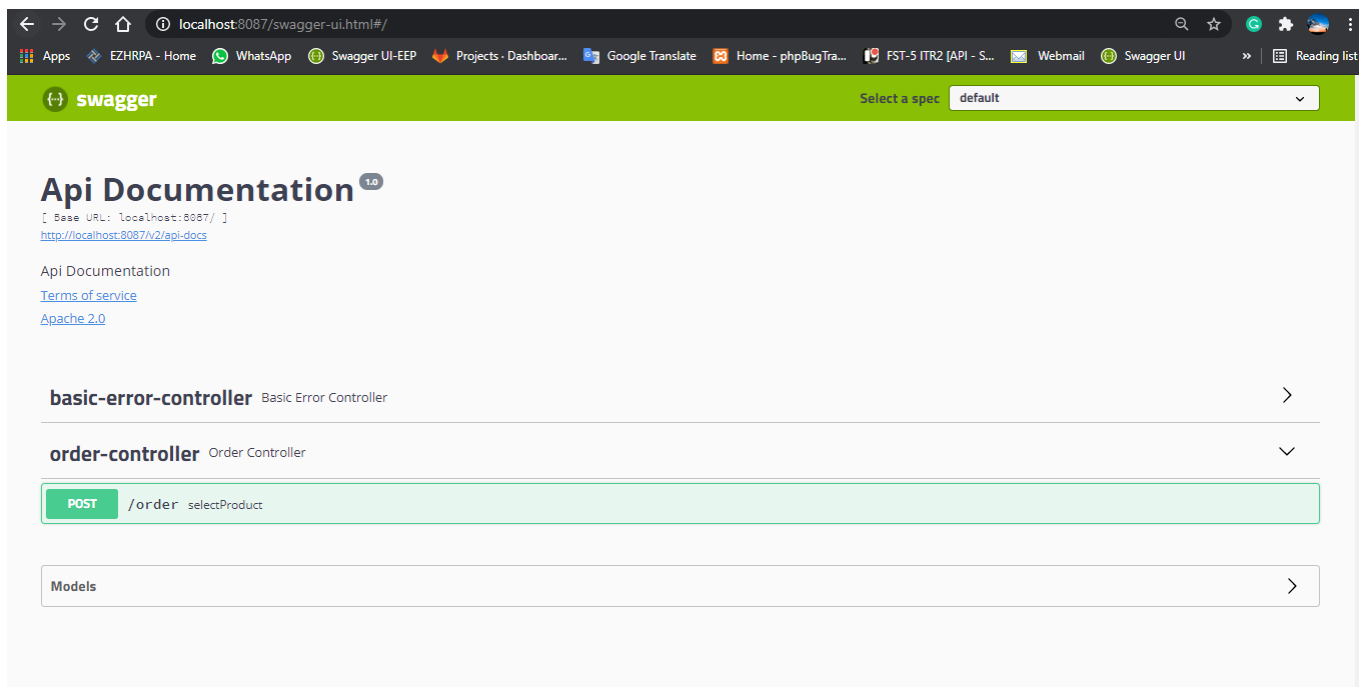
Order Service – Swagger API – 1

Order Service – Swagger API - 2

Responses

Response content type   application/json

Curl

```
curl -X POST "http://localhost:8087/order" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"address\": \"No 23, temple rd, kaluthara\", \"amount\": 1000,
\"cardNo\": \"8956789023\", \"cardType\": \"visa\", \"email\": \"kavee@gmail.com\", \"fullName\": \"Kaveetha Sathsarani\", \"phoneNo\": 94782838698, \"qty\": 5}"
```

Request URL

```
http://localhost:8087/order
```

Server response

Code	Details
200	**Response body**

```
{
    "orderId": "44211083-8661-4492-b727-35fc2aa8ffdf",
    "paymentId": "253ab688-9928-4e83-a4d8-ce57f7354314",
    "message": "Create order successfully"
}
```

Download

Response headers

```
connection: keep-alive
content-type: application/json
date: Tue, 18 May 2021 21:21:39 GMT
keep-alive: timeout=60
transfer-encoding: chunked
```

Responses

Code	Description

Order Service – Swagger API – 3

3.4 Payment Service


```java
package com.sliit.mtit.microservice.paymentservice.controller;

import java.math.BigDecimal;
import java.util.Date;
import java.util.UUID;

import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.ResponseBody;
import org.springframework.web.bind.annotation.RestController;

import com.sliit.mtit.microservice.paymentservice.dto.PaymentRequest;
import com.sliit.mtit.microservice.paymentservice.dto.PaymentResponse;

@RestController
@RequestMapping("/payment")
public class PaymentConroller {

    @PostMapping(consumes = "application/json", produces = "application/json")
    public @ResponseBody PaymentResponse makePayment(@RequestBody PaymentRequest request) {

        System.out.println("Payment Details : " + request);

        BigDecimal qty = new BigDecimal(request.getQty());

        BigDecimal totalAmount = (request.getAmount()).multiply(qty);

        PaymentResponse paymentResponse = new PaymentResponse();
        paymentResponse.setPaymentId(UUID.randomUUID().toString());
        paymentResponse.setPaymentDate(new Date());
        paymentResponse.setTotal(totalAmount);
        paymentResponse.setStatus("Make payment successfully!!!!");

        return paymentResponse;
    }
}
```

Payment Service - controller class

Payment Service - console

Payment Service Request - Postman
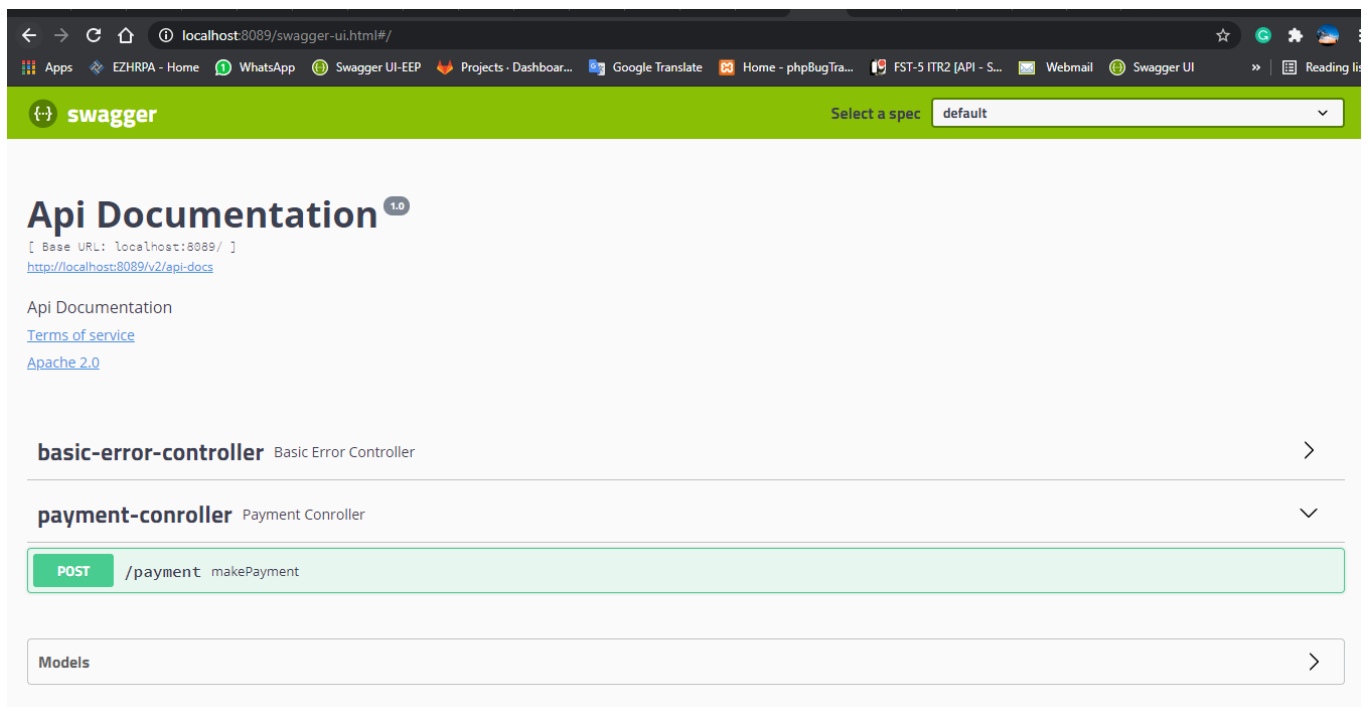
Payment Service - Swagger API - 1
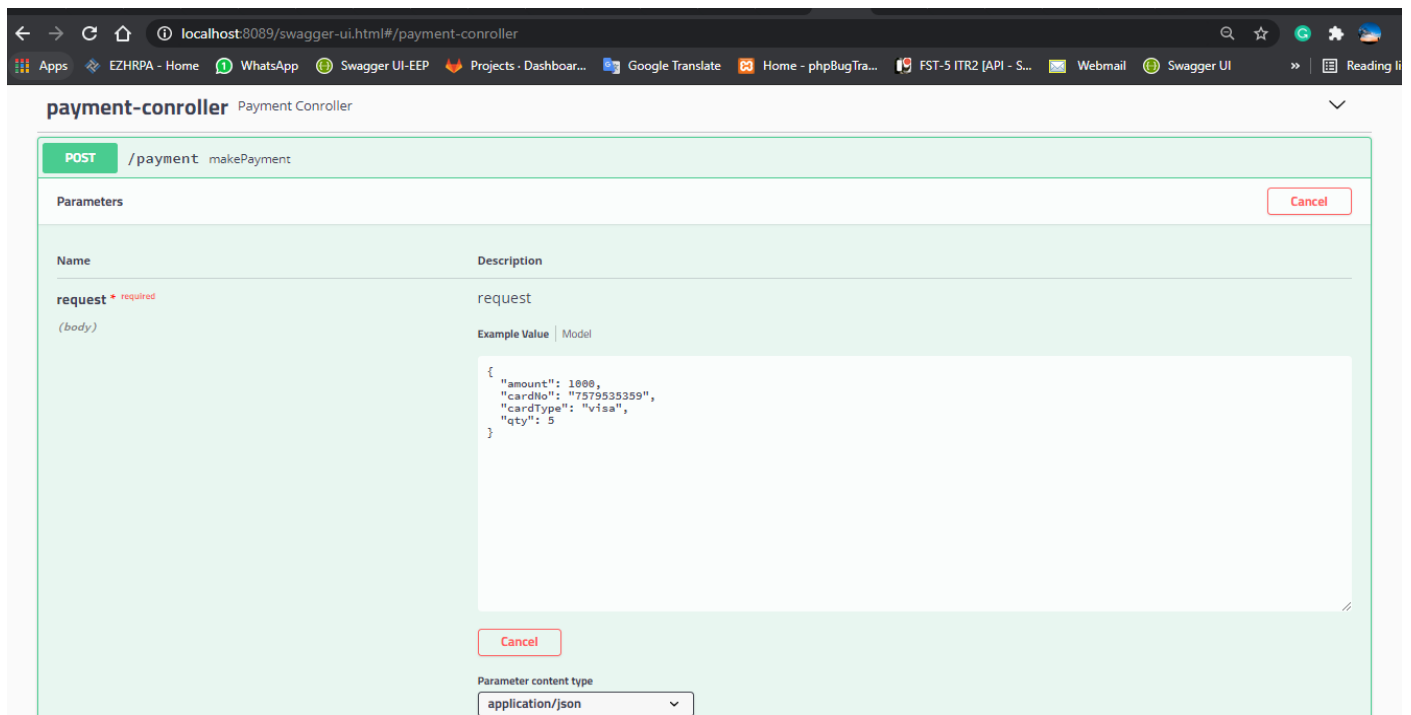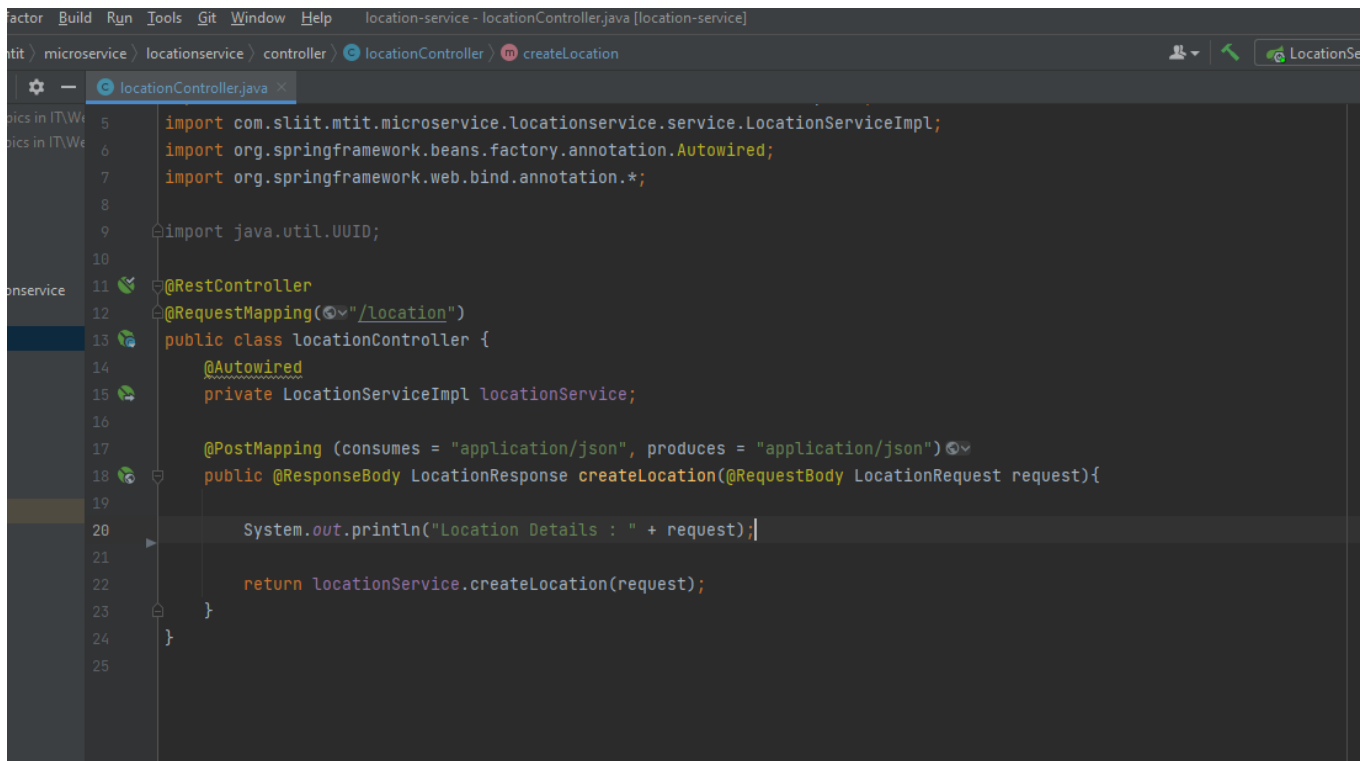
Payment Service - Swagger API -2
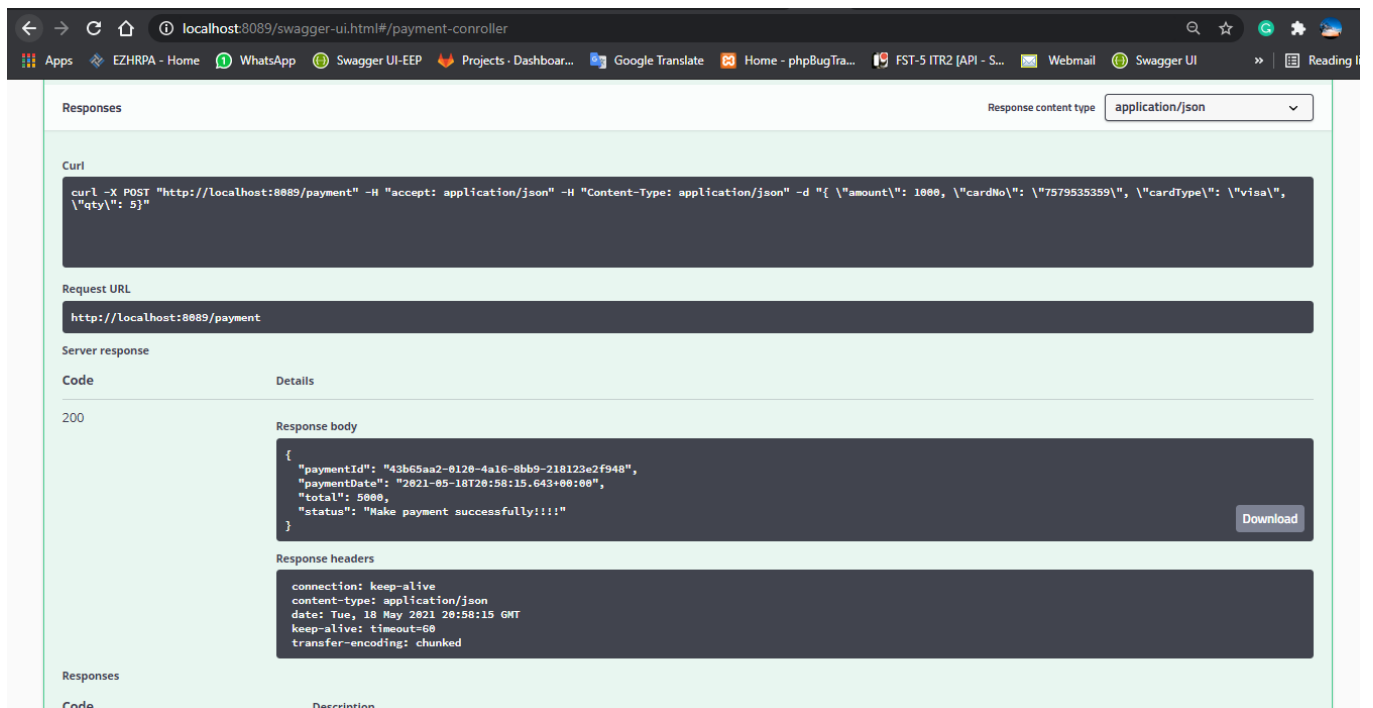
Payment Service - Swagger API - 3

3.5 Location Service


```java
import com.sliit.mtit.microservice.locationservice.service.LocationServiceImpl;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.*;

import java.util.UUID;

@RestController
@RequestMapping("/location")
public class locationController {
    @Autowired
    private LocationServiceImpl locationService;

    @PostMapping (consumes = "application/json", produces = "application/json")
    public @ResponseBody LocationResponse createLocation(@RequestBody LocationRequest request){

        System.out.println("Location Details : " + request);

        return locationService.createLocation(request);

    }
}
```
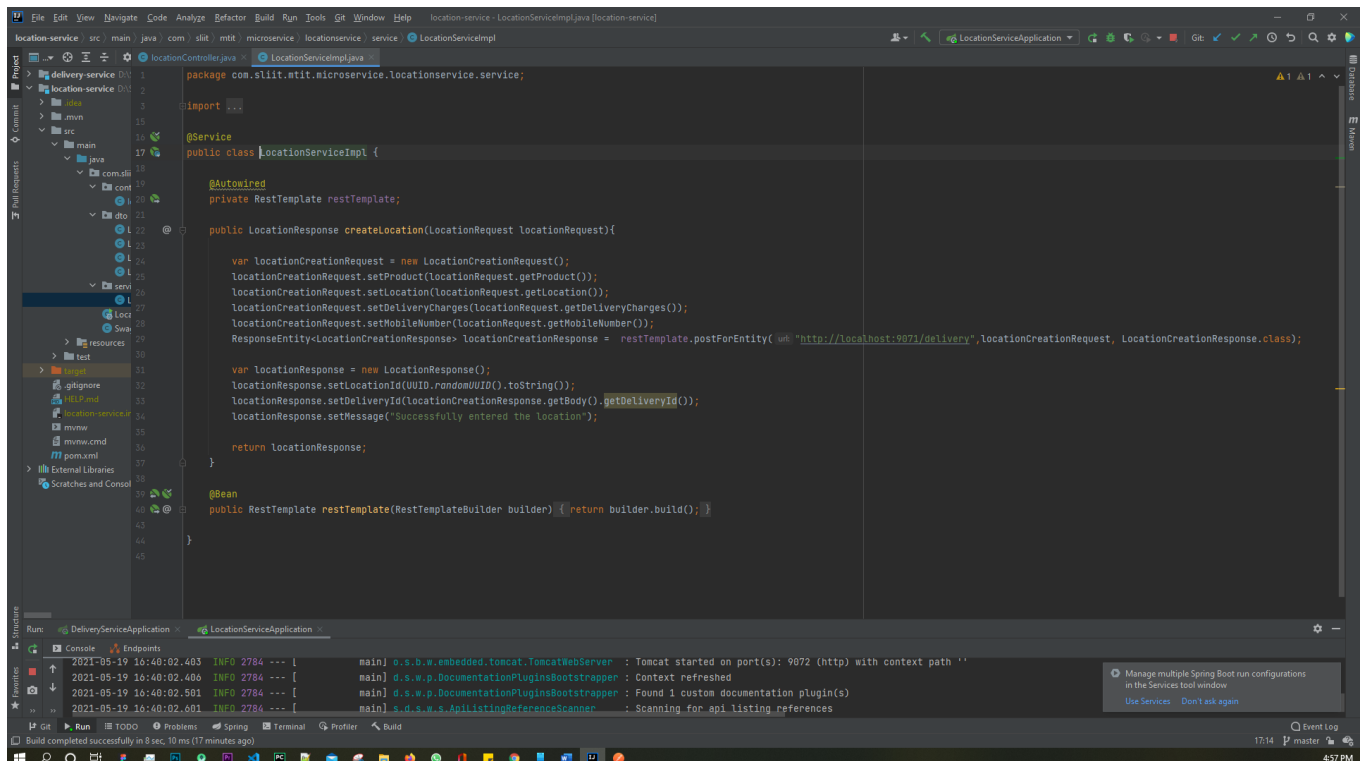
Location Service - Controller Class

Location Service - Service Implementation Class

Location Service – Console

Location Service Request - Postman
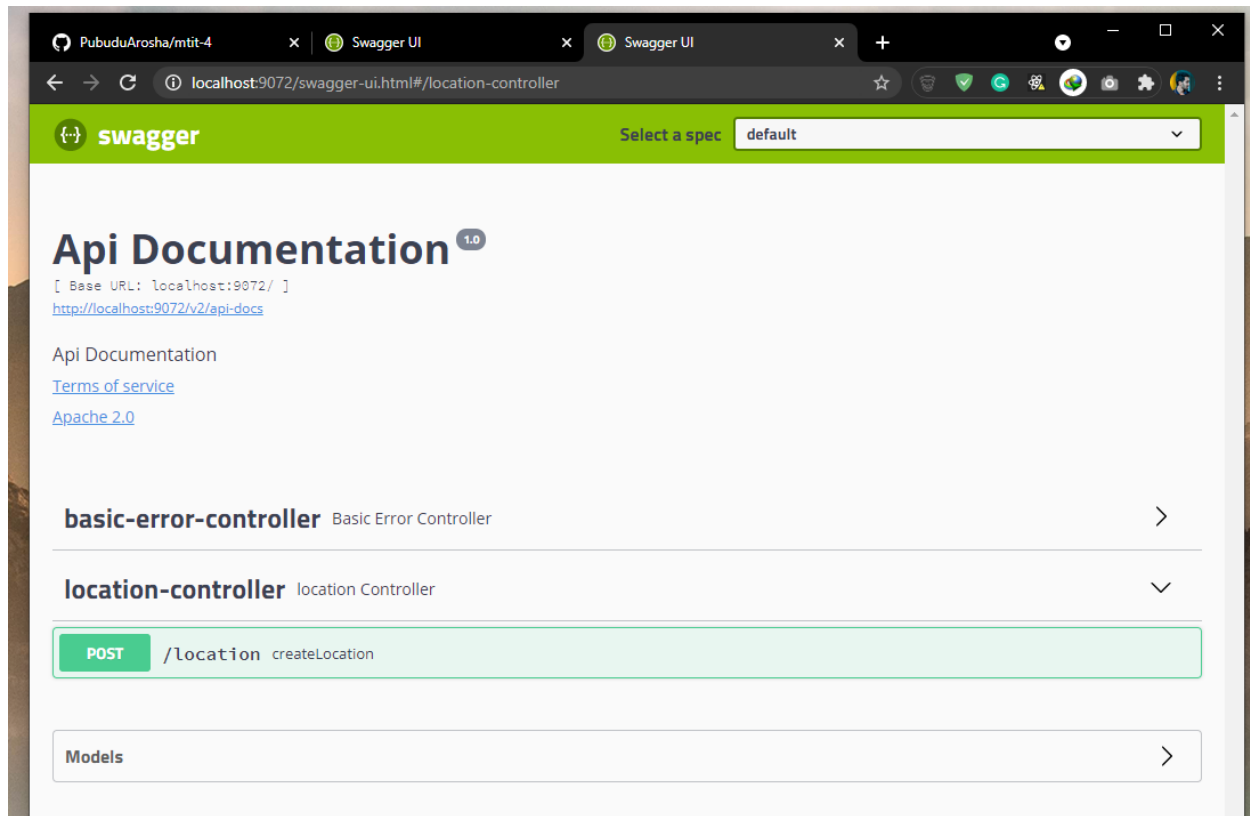
Location Service - Swagger API 01
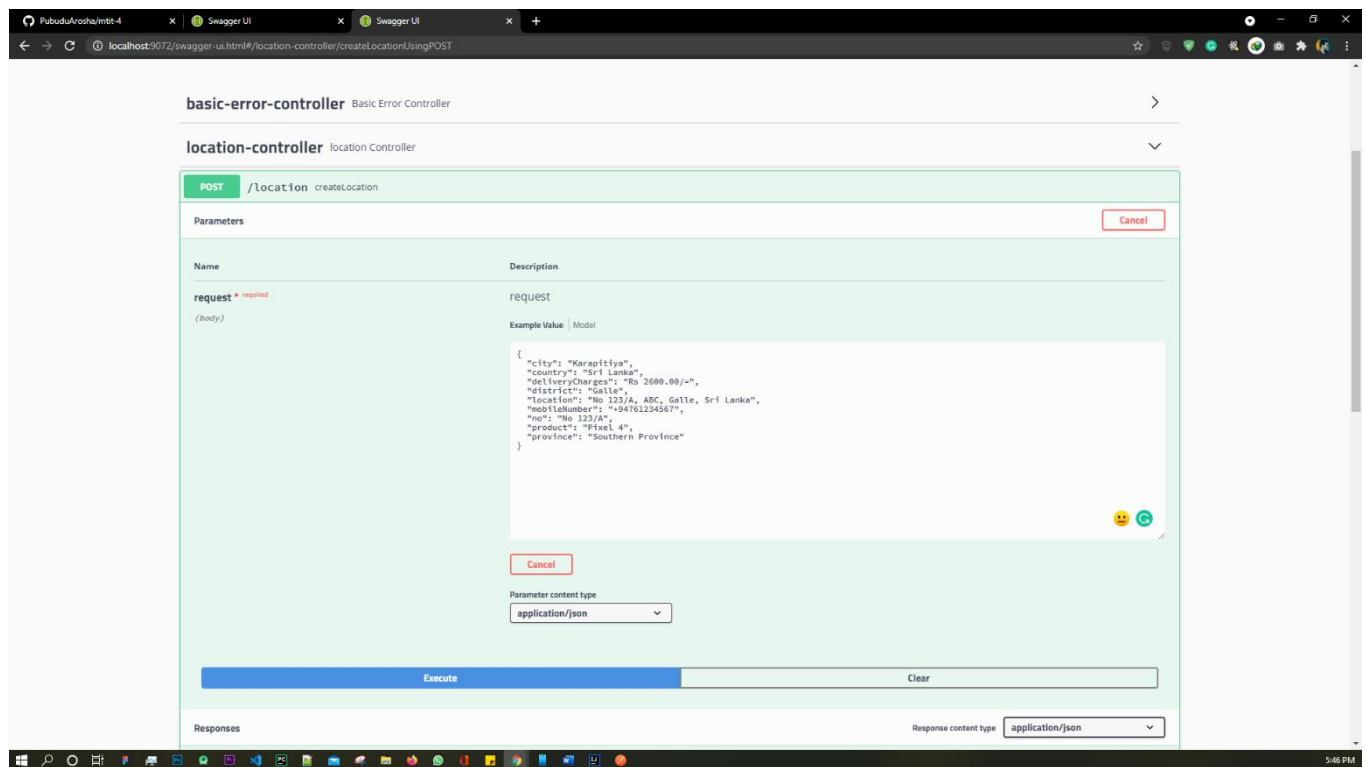
Location Service - Swagger API 02

Execute	Clear

Responses   Response content type   application/json

Curl

```
curl -X POST "http://localhost:9072/location" -H "accept: application/json" -H "Content-Type: application/json" -d "{ \"city\": \"Karapitiya\", \"country\": \"Sri Lanka\",
\"deliveryCharges\": \"Rs 2600.00/=\", \"district\": \"Galle\", \"location\": \"No 123/A, ABC, Galle, Sri Lanka\", \"mobileNumber\": \"+94761234567\", \"no\": \"No 123/A\", \"product\":
\"Pixel 4\", \"province\": \"Southern Province\"}"
```

Request URL

```
http://localhost:9072/location
```

Server response

Code	Details
200	**Response body**
|  | ```
{
  "locationId": "1e5cf50d-e39b-4b1b-a1b5-74882ad60dcf",
  "deliveryId": "3c83c34a-cfaa-4890-b0a8-156d6e0b26dd",
  "message": "Successfully entered the location"
}
```  Download |
| | **Response headers** |
|  | ```
connection: keep-alive
content-type: application/json
date: Wed, 19 May 2021 11:39:55 GMT
keep-alive: timeout=60
transfer-encoding: chunked
``` |

Responses

Code	Description
200	OK
	Example Value | Model
|  | ```
{
  "deliveryId": "string",
  "locationId": "string",
  "message": "string"
}
``` |

Location Service - Swagger API 03

3.6 Delivery Service


```java
package com.sliit.mtit.microservice.deliveryservice.controller;

import ...

@RestController
@RequestMapping("/delivery")
public class DeliveryController {

    @PostMapping(consumes = "application/json", produces = "application/json")
    public @ResponseBody
    DeliveryResponse createUser(@RequestBody DeliveryRequest deliveryRequest){

        System.out.println("Delivery Details : " + deliveryRequest);

        var deliveryResponse = new DeliveryResponse();
        deliveryResponse.setDeliveryId(UUID.randomUUID().toString());
        deliveryResponse.setMessage("Successfully delivered");

        return deliveryResponse;
    }
}
```
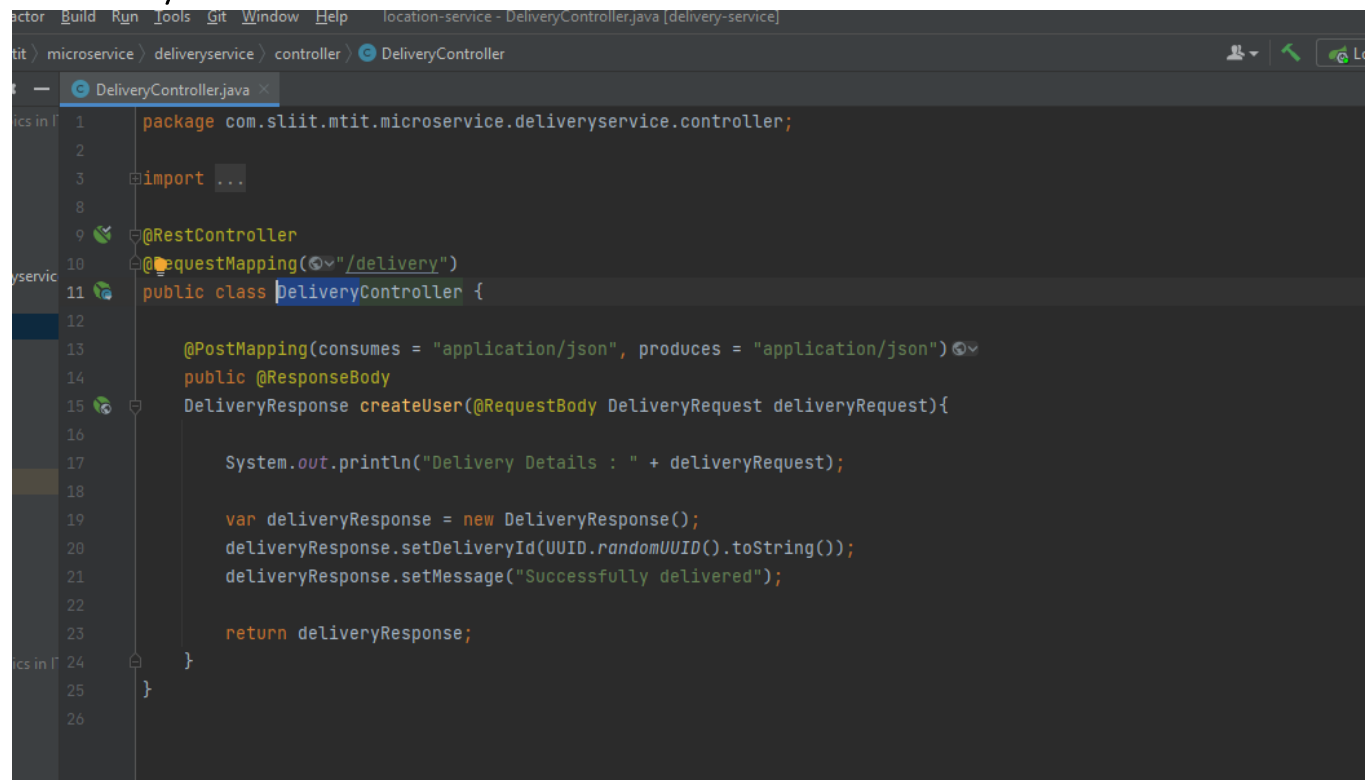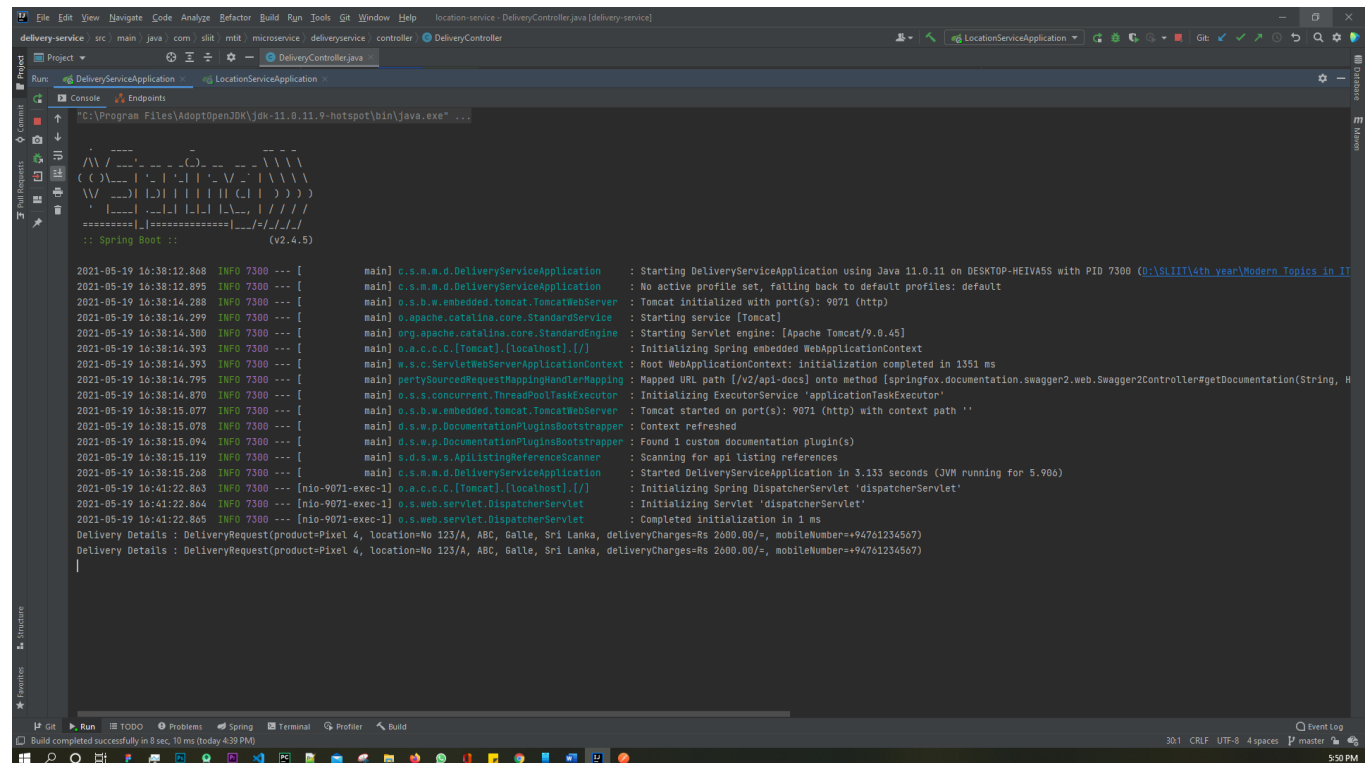
Delivery Service - Controller Class

Delivery Service - Console
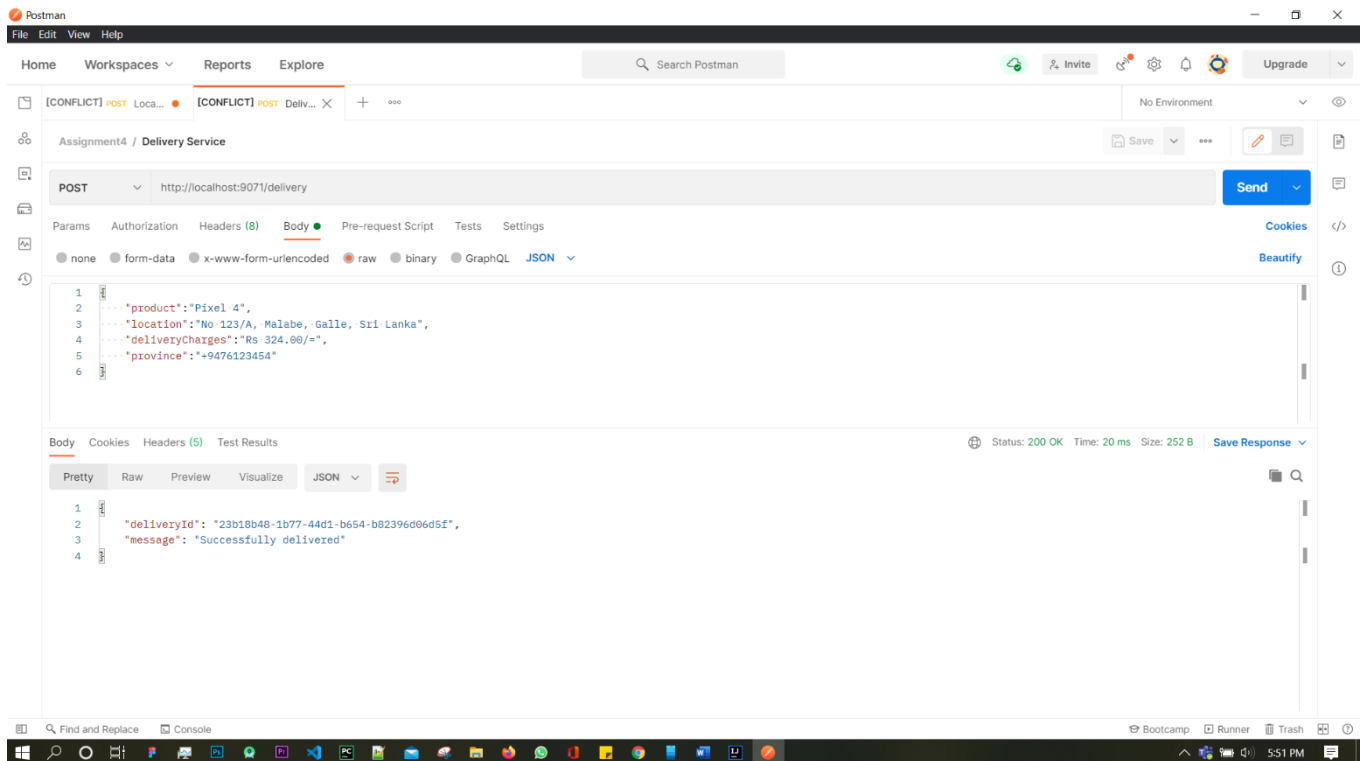
Delivery Service Request – Postman
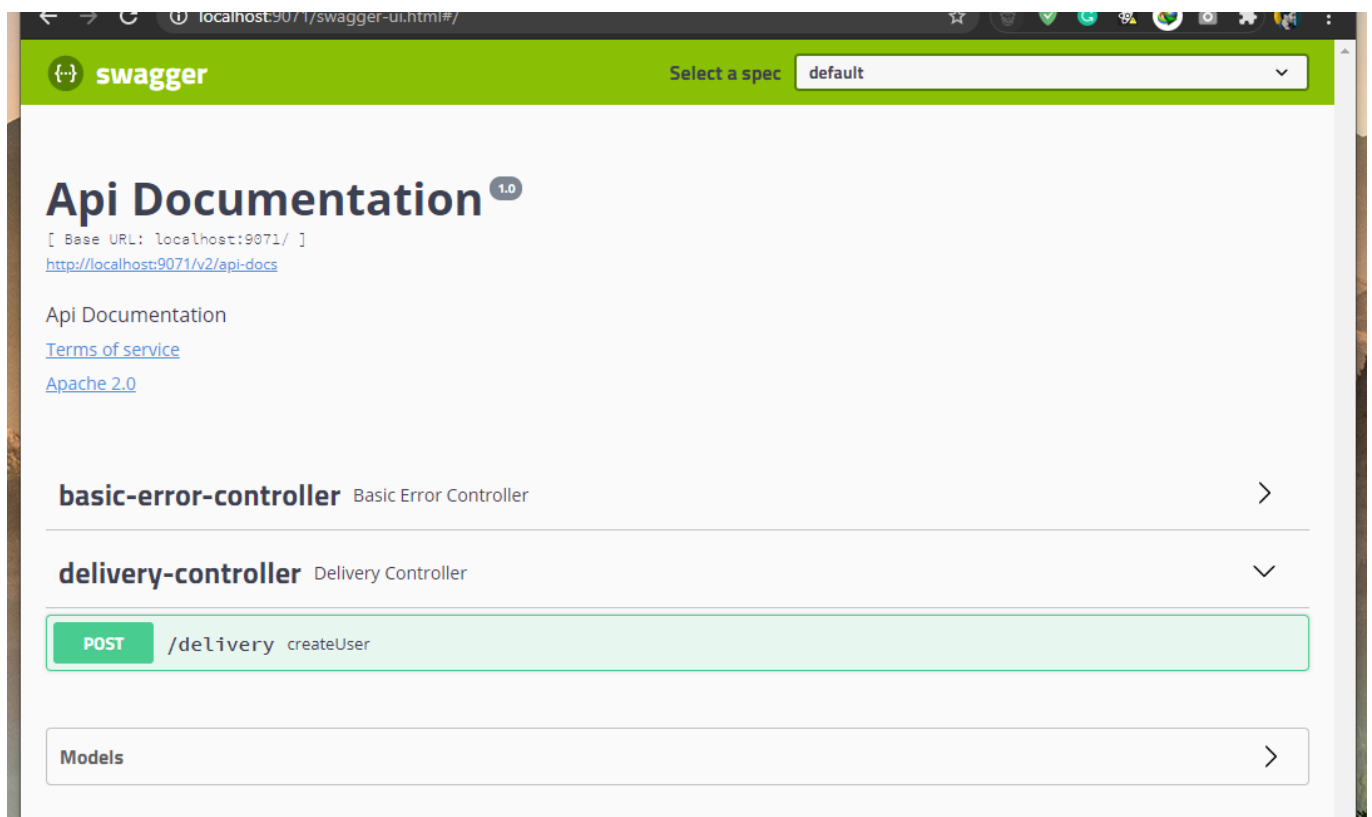
Delivery Service - Swagger API 01
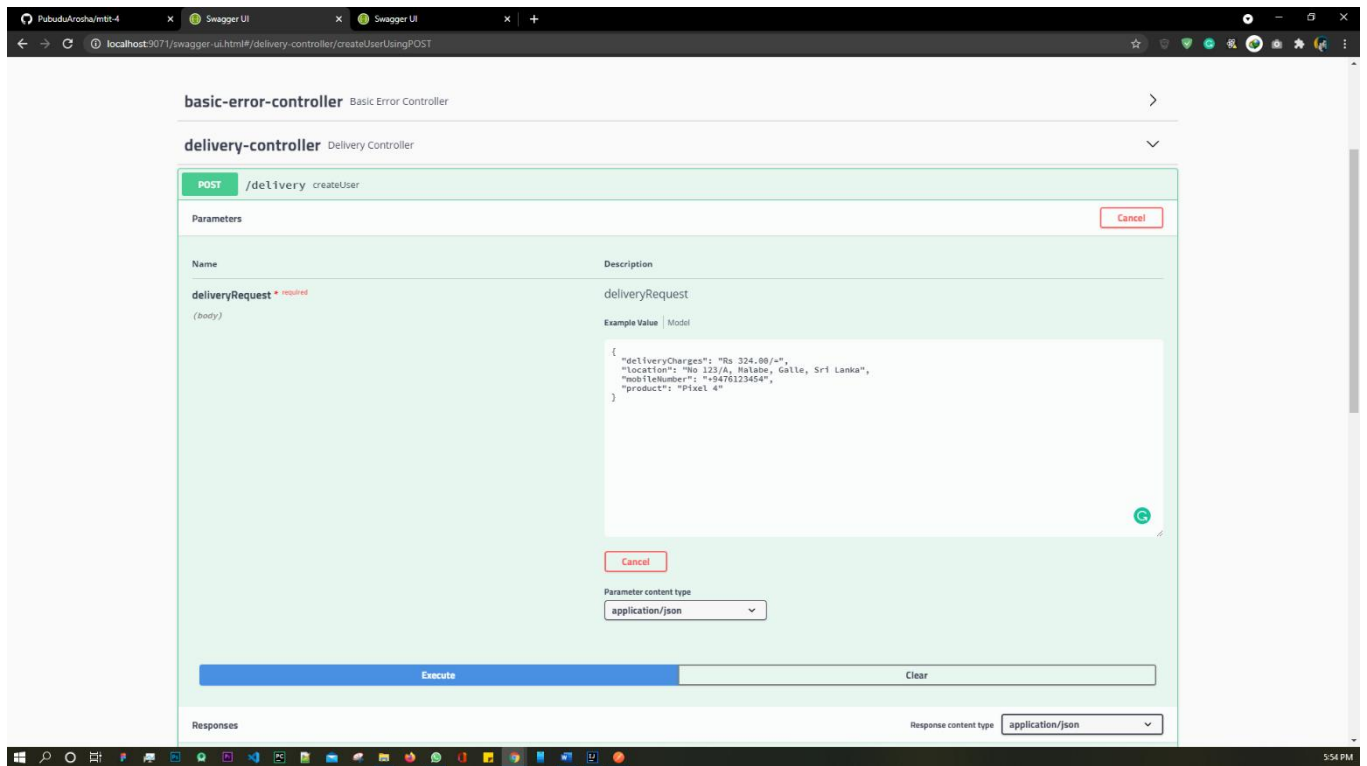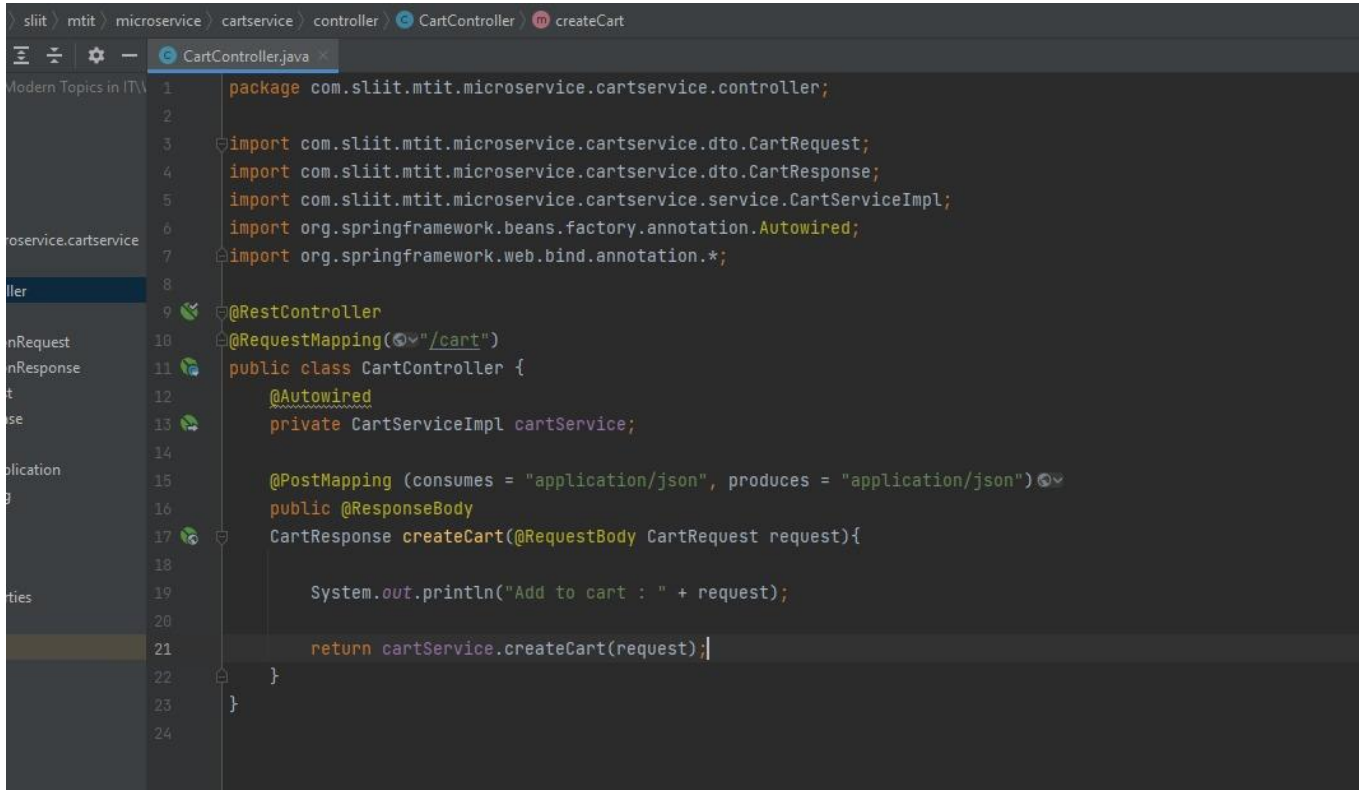
Delivery Service - Swagger API 02
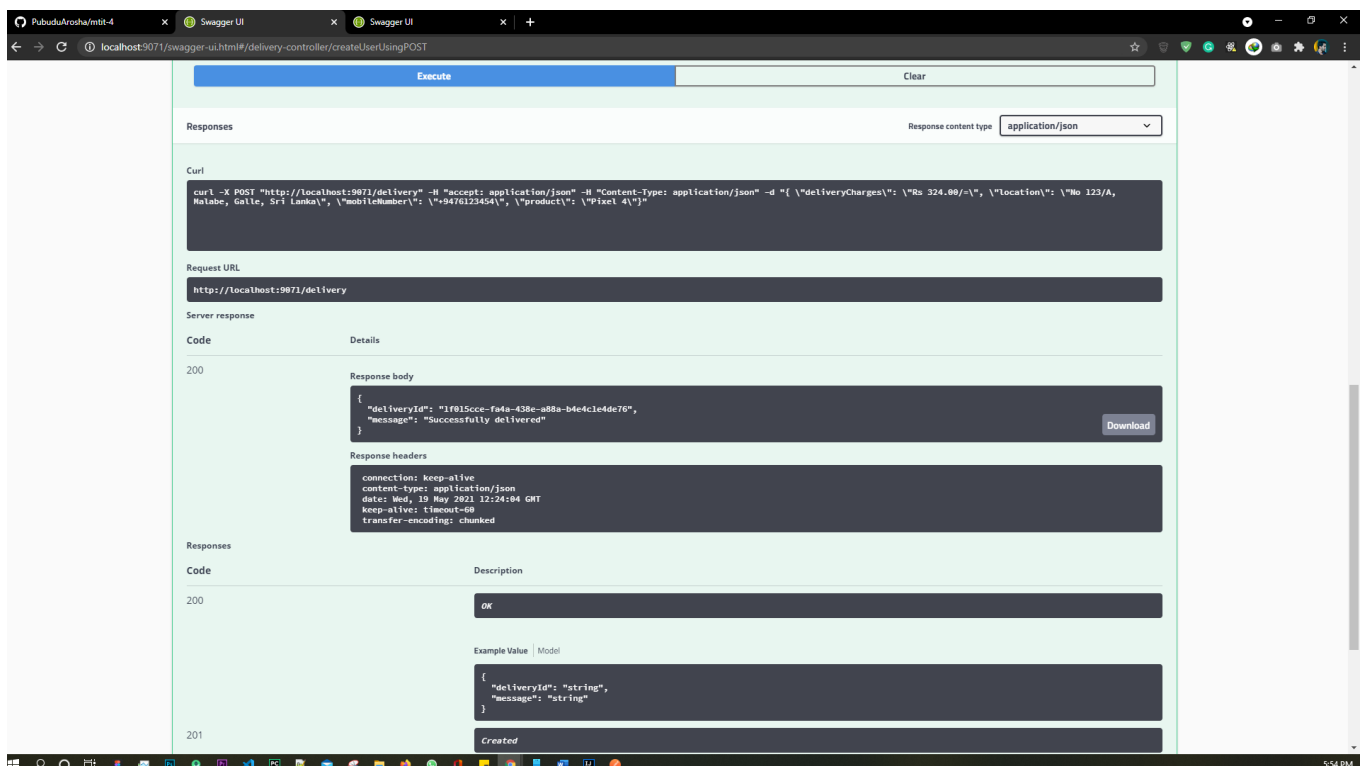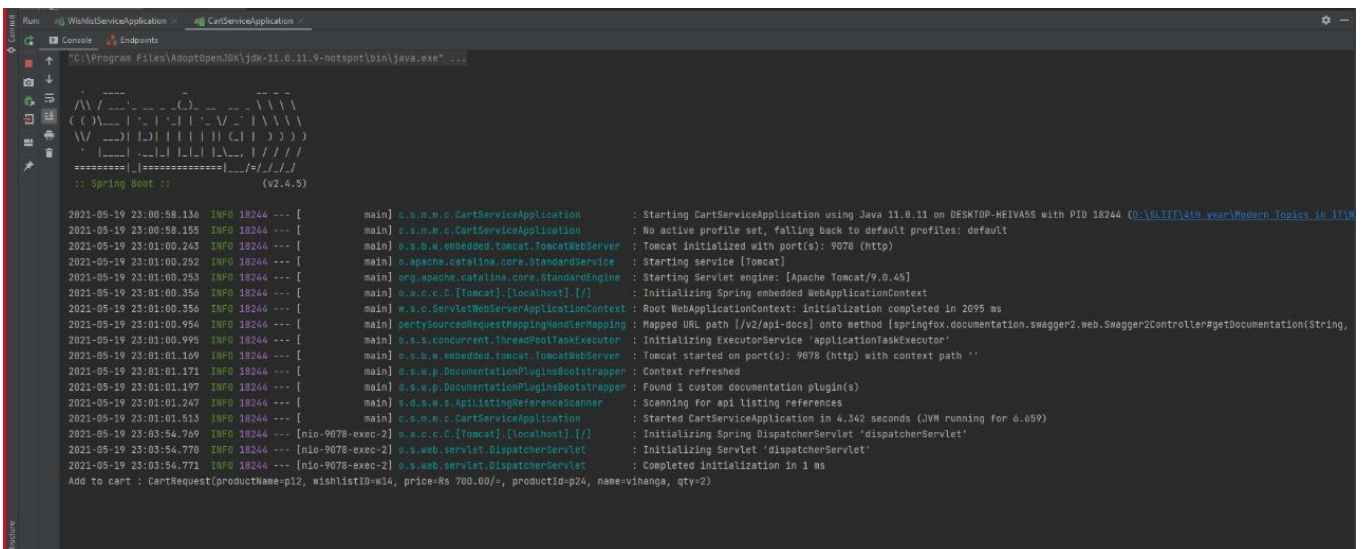
Delivery Service - Swagger API 03

3.7 Cart Service

Cart Service – Controller Class

Cart Service – console

Cart Service – Postman
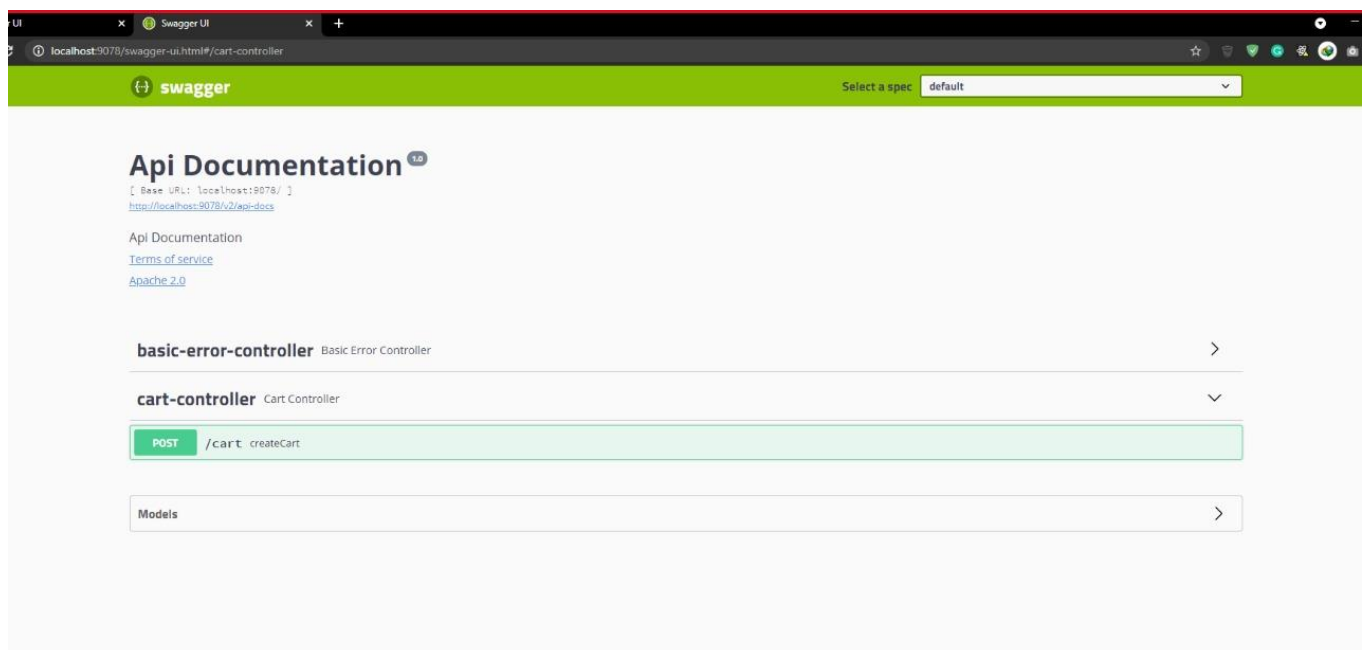
Cart Service – API Swagger – 1

3.8 Wish List Service


```java
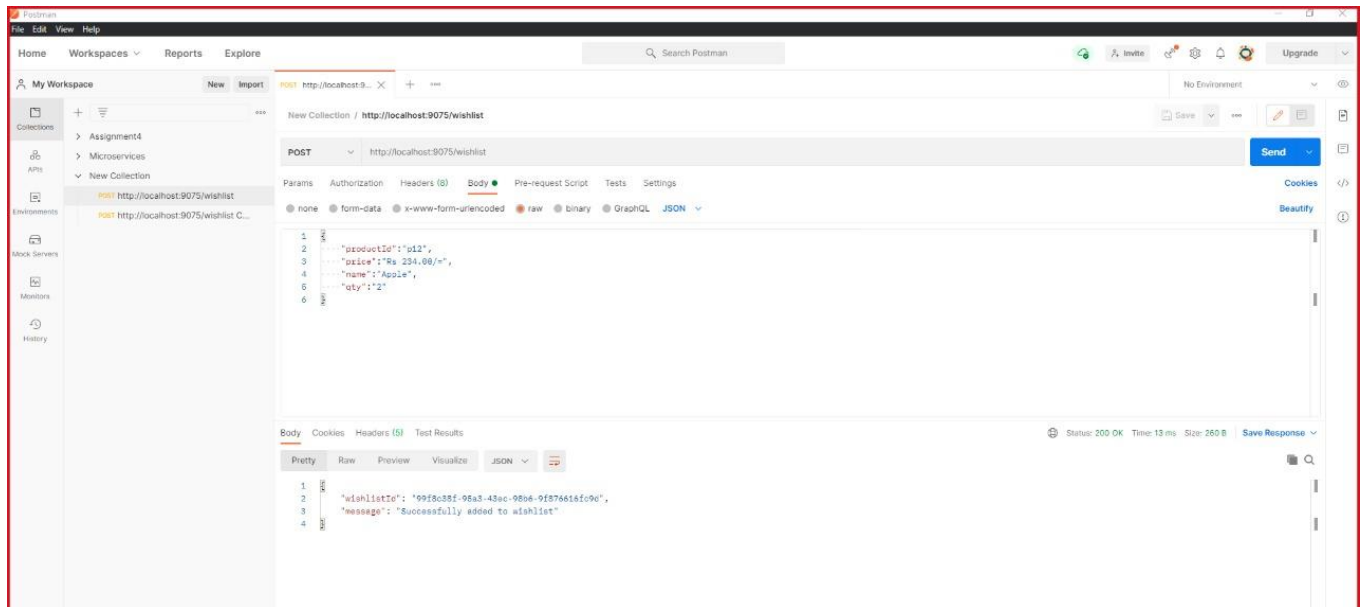package com.sliit.mtit.microservice.wishlistservice.controller;

import com.sliit.mtit.microservice.wishlistservice.dto.WishlistRequest;
import com.sliit.mtit.microservice.wishlistservice.dto.WishlistResponse;
import org.springframework.web.bind.annotation.*;

import java.util.UUID;

@RestController
@RequestMapping("/wishlist")
public class WishlistController {

    @PostMapping(consumes = "application/json", produces = "application/json")
    public @ResponseBody
    WishlistResponse createUser(@RequestBody WishlistRequest wishlistRequest){

        System.out.println("Wishlist Details : " + wishlistRequest);

        var wishlistResponse = new WishlistResponse();
        wishlistResponse.setWishlistId(UUID.randomUUID().toString());
        wishlistResponse.setMessage("Successfully added to wishlist");

        return wishlistResponse;
    }
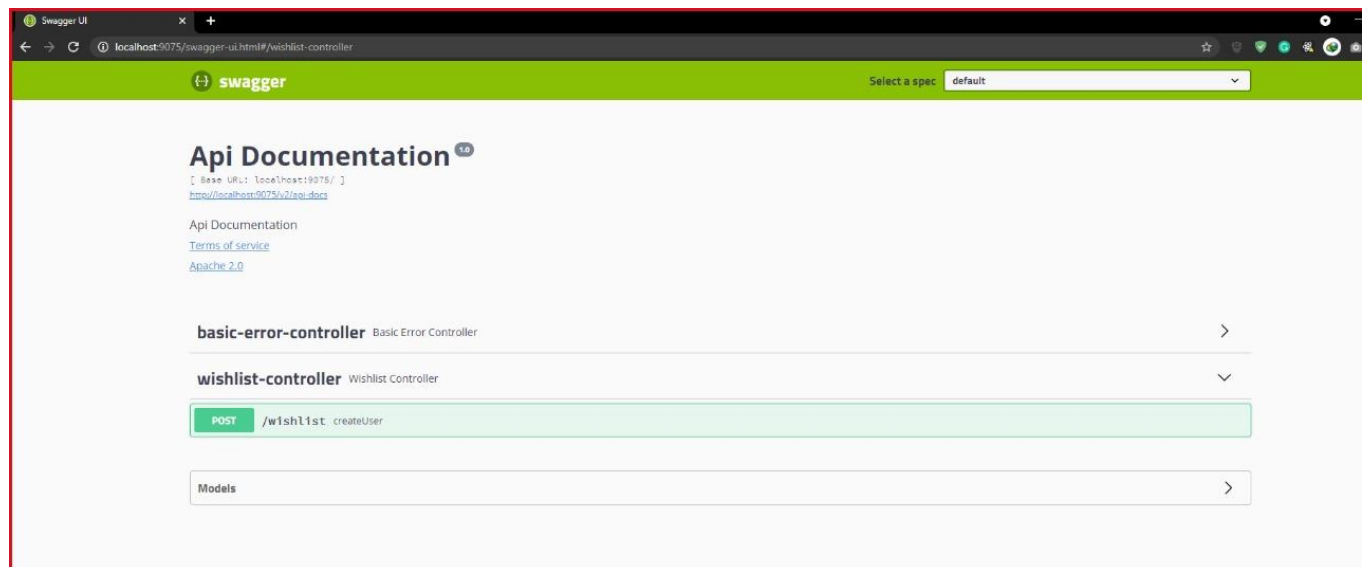}
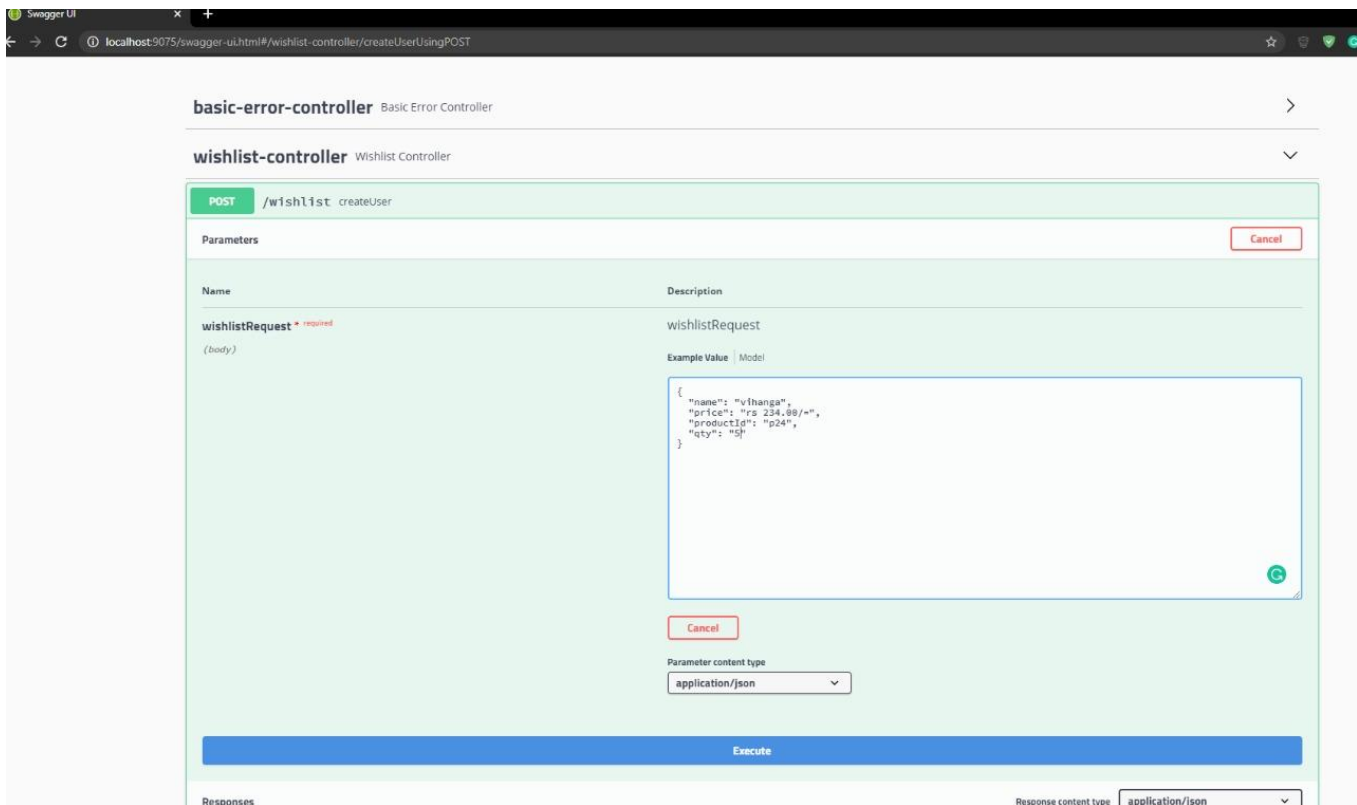```

Wish List Service – Controller Class



Wish List Service – Console

Wish List Service – Postman



Wish List Service – Swagger API - 1

Wish List Service – Swagger API - 2
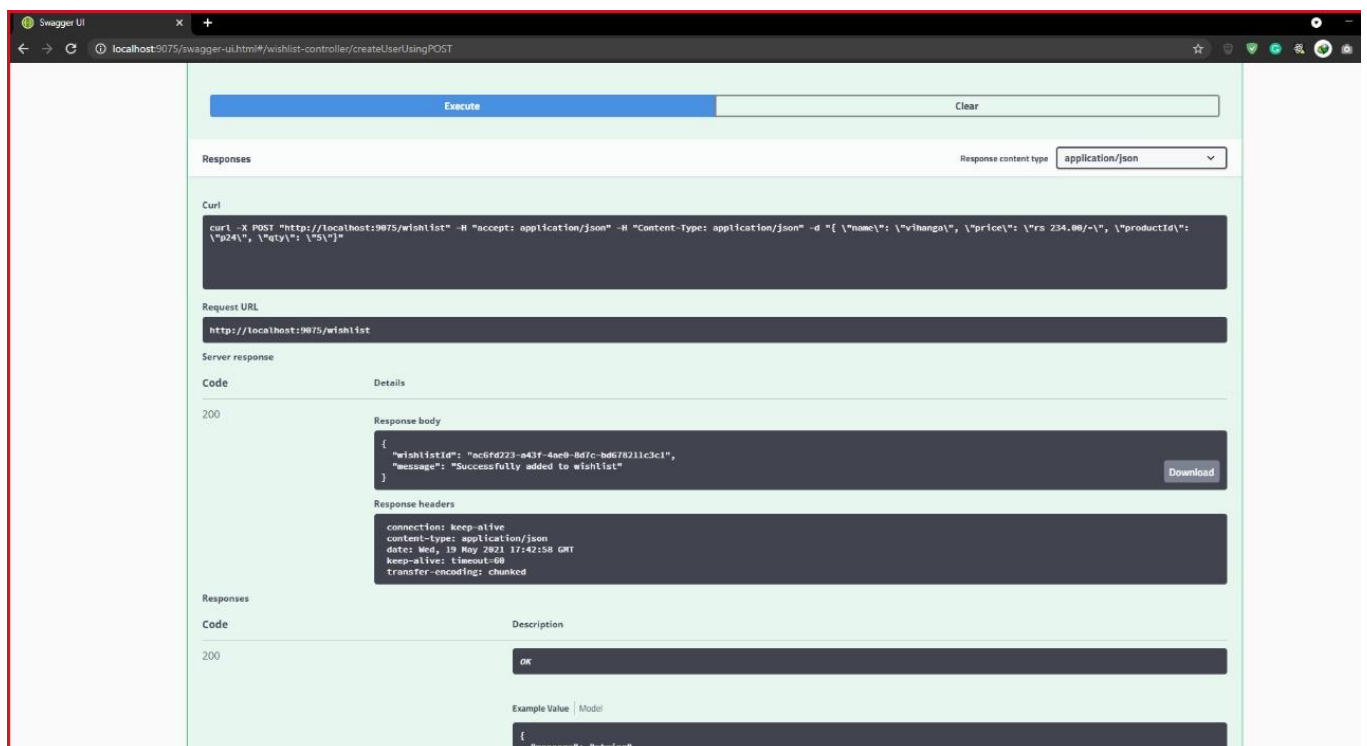


Wish List Service – Swagger API - 3

| Student ID | Name | Microservices |
| --- | --- | --- |
| IT18108514 | Wanigasekara.M.P.W.P.A | Location Service , Delivery Service |
| IT18091380 | A. Vihanga Nivarthana | Cart Service, Wish List Service |
| IT18175080 | R.M Bawantha Thilan | User Service, Product Service |
| IT18136234 | Sathsarani B.G.K | Order Service, Payment Service |