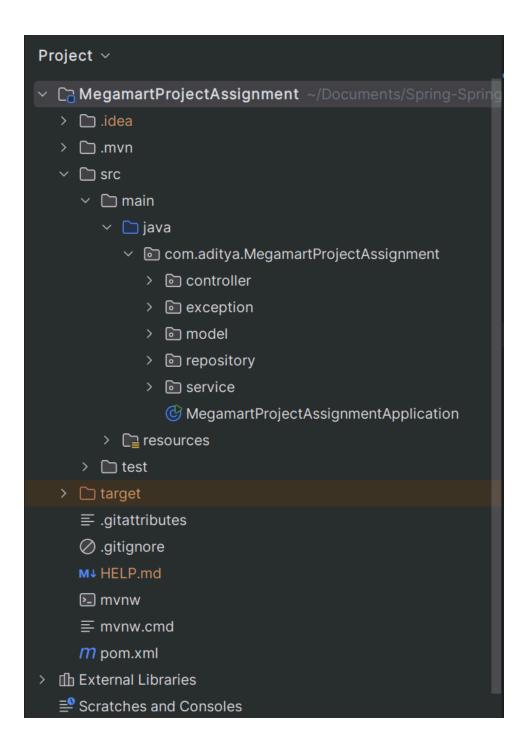
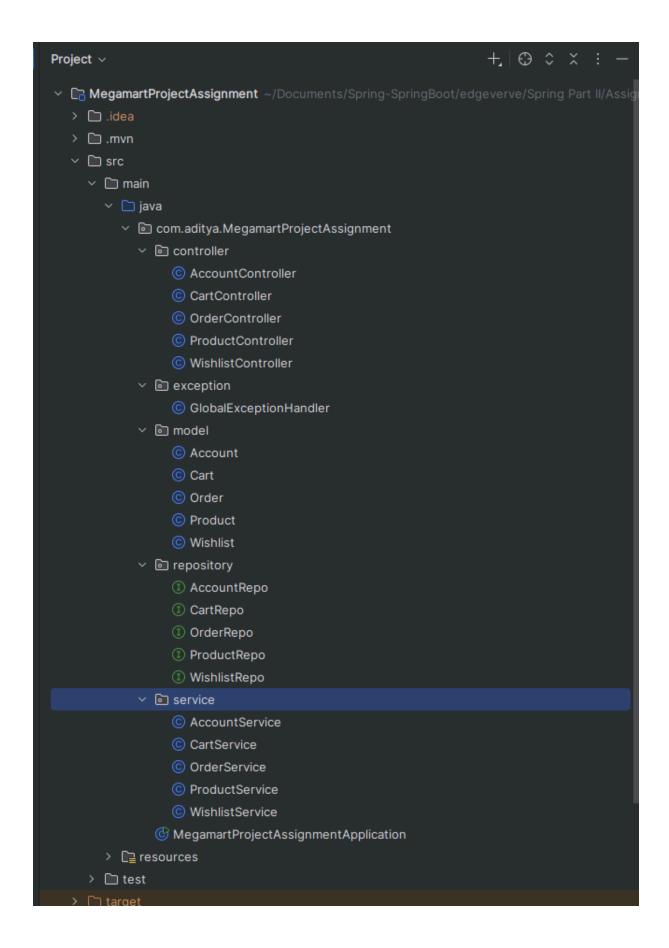
Name: Aditya Pawar

USN: Aditya\_72233061J

# **Folder Structure:**





# **Application.properties**

```
spring.application.name=MegamartProjectAssignment

spring.datasource.url=jdbc:postgresql://localhost:5432/megamartSpring
spring.datasource.username=postgres
spring.datasource.password=root
spring.datasource.driver-class-name=org.postgresql.Driver

spring.jpa.hibernate.ddl-auto=update
spring.jpa.show-sql=true
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.PostgreSQLDialect
spring.jpa.properties.hibernate.format_sql=true
```

# MegamartProjectApplication.java

```
package com.aditya.MegamartProjectAssignment;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class MegamartProjectAssignmentApplication {
    public static void main(String[] args) {
        SpringApplication.run(MegamartProjectAssignmentApplication.class, args);
    }
}
```

# **Model Package**

## 1. Account.java

```
package com.aditya.MegamartProjectAssignment.model;
import jakarta.persistence.*;
import jakarta.validation.constraints.Email;
import jakarta.validation.constraints.NotBlank;
import jakarta.validation.constraints.Size;
import lombok.AllArgsConstructor;
import lombok.Data;
import lombok.NoArgsConstructor;
import lombok.ToString;
@AllArgsConstructor
@NoArgsConstructor
@ToString
@Data
@Entity
@Table(name = "account")
public class Account {
  @ld
  @NotBlank(message = "Username cannot be blank")
  private String name;
  @Email(message = "Invalid email format")
  @Column(nullable = false)
  @NotBlank(message = "Email cannot be blank")
  private String email;
  @NotBlank( message = "Password cannot be blank")
  @Size(min = 6, message = "Password must be at least 6 characters long")
```

```
private String password;

@Transient // not saved in DB, used during registration only private String confirmPassword;
}
```

## 2. Cart.java

```
package com.aditya.MegamartProjectAssignment.model;
import jakarta.persistence.*;
import lombok.*;
@AllArgsConstructor
@NoArgsConstructor
@ToString
@Getter
@Setter
@Entity
@Table(name = "cart")
public class Cart {
  @Id
  private String cartId;
  private String productName;
  private String sellerName;
  private int quantity;
  private Double cartOffer_price;
}
```

# 3. Order.java

```
package com.aditya.MegamartProjectAssignment.model;
import jakarta.persistence.*;
```

```
import lombok.AllArgsConstructor;
import lombok.Data;
import lombok.NoArgsConstructor;
import lombok.ToString;
import java.util.Date;
@AllArgsConstructor
@NoArgsConstructor
@Data
@ToString
@Entity
@Table(name = "orders")
public class Order {
  @ld
  private String orderld;
  private String displayName;
  private String category;
  private String seller_name;
  private Double price;
  private int quantity;
  private Double total_price;
  private Date ordered_date;
  private String order_status;
}
```

# 4. Product.java

```
package com.aditya.MegamartProjectAssignment.model;
import jakarta.persistence.*;
import lombok.AllArgsConstructor;
import lombok.Data;
```

```
import lombok.NoArgsConstructor;
import lombok.ToString;
import java.math.BigInteger;
@AllArgsConstructor
@NoArqsConstructor
@Data
@Entity
@Table(name = "products")
public class Product {
  @ld
  private String productld;
  private String productName;
  private String description;
  private Double price;
  private Double discount;
  private Double delivery_charges;
  private float Avg_rating;
  private String seller_name;
  @Override
  public String toString() {
    return "\n{" +
         "\nproductId=" + productId +
         ", \nproductName='" + productName + '\'' +
         ", \ndescription='" + description + '\'' +
         ", \nprice=" + price +
         ", \ndiscount=" + discount +
         ", \ndelivery_charges=" + delivery_charges +
         ", \nAvg_rating=" + Avg_rating +
         ", \nseller_name='" + seller_name + '\'' + "\n" +
         '}';
  }
}
```

# 5. WishList.java

```
package com.aditya.MegamartProjectAssignment.model;
import jakarta.persistence.*;
import lombok.AllArgsConstructor;
import lombok.Data;
import lombok.NoArgsConstructor;
import lombok.ToString;
@AllArgsConstructor
@NoArgsConstructor
@Data
@ToString
@Entity
@Table(name = "wishlist")
public class Wishlist {
  @ld
  private String wishld;
  private String displayName;
  private String shortDescription;
  private String category;
}
```

# **Repository Package**

# 1. AccountRepo.java

```
package com.aditya.MegamartProjectAssignment.repository;
import com.aditya.MegamartProjectAssignment.model.Account;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;
```

```
import java.util.Optional;

@Repository
public interface AccountRepo extends JpaRepository<Account, String> {
    Optional<Account> findByNameAndPassword(String name, String password);
    public Boolean existsByEmail(String email);
}
```

### 2. CartRepo.java

```
package com.aditya.MegamartProjectAssignment.repository;
import com.aditya.MegamartProjectAssignment.model.Cart;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;
import java.util.List;

@Repository
public interface CartRepo extends JpaRepository<Cart, String> {
    List<Cart> findBySellerName(String sellerName);
    List<Cart> findByProductName(String productName);
}
```

# 3. OrderRepo

```
package com.aditya.MegamartProjectAssignment.repository;
import com.aditya.MegamartProjectAssignment.model.Order;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

@Repository
```

```
public interface OrderRepo extends JpaRepository<Order, String> {
}
```

# 4. ProductRepo.java

```
package com.aditya.MegamartProjectAssignment.repository;

import com.aditya.MegamartProjectAssignment.model.Product;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import java.util.List;

@Repository
public interface ProductRepo extends JpaRepository<Product, String> {
    List<Product> findByProductNameStartingWith(String prefix);
}
```

# 5. WishlistRepo.java

```
package com.aditya.MegamartProjectAssignment.repository;

import com.aditya.MegamartProjectAssignment.model.Wishlist;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

@Repository
public interface WishlistRepo extends JpaRepository<Wishlist, String> {
}
```

# **Service Package**

# 1. AccountService.java

```
package com.aditya.MegamartProjectAssignment.service;
import com.aditya.MegamartProjectAssignment.exception.GlobalExceptionHandl
import com.aditya.MegamartProjectAssignment.model.Account;
import com.aditya.MegamartProjectAssignment.repository.AccountRepo;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import java.util.List;
@Service
public class AccountService {
  @Autowired
  AccountRepo accountRepo;
  @Autowired
  GlobalExceptionHandler exceptionHandler;
  public String register(Account account){
    if (account.getName().isEmpty()) return "Provide Name";
    if (account.getEmail().isEmpty()) return "Provide Email";
    if (account.getPassword().isEmpty()) return "Provide Password";
    if(!account.getName().matches("^[a-zA-Z\\s]+$")) {
       return "Name can only contain letters and spaces";
    }
    if (!account.getEmail().matches("^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\\.[a-
       return "Invalid Email Format";
    }
    if(accountRepo.existsByEmail(account.getEmail())){
      throw new IllegalArgumentException("Email already exists");
```

```
}
    if(!account.getPassword().matches("^(?=.*[a-z])(?=.*[A-Z])(?=.*\d)[A-Za-z]
       return "Password must be at least 8 characters long, contain at least one
    }
    if(!account.getPassword().equals(account.getConfirmPassword())) {
       return "Password does not Match";
    }
    accountRepo.save(account);
    return "Account Registered Successfully...";
  }
  public String login(String name, String password){
    if (name.isEmpty()) return "Provide Name";
    if (password.isEmpty()) return "Provide Password";
    return accountRepo.findByNameAndPassword(name, password)
         .map(account → "Login successful")
         .orElse("Invalid username or password");
  }
  public List<Account> getAllAccounts() {
    return accountRepo.findAll();
  }
  public void deleteAccountByName(String name) {
    accountRepo.deleteById(name);
  }
}
```

# 2. CartService.java

```
package com.aditya.MegamartProjectAssignment.service;
import com.aditya.MegamartProjectAssignment.model.Cart;
import com.aditya.MegamartProjectAssignment.repository.CartRepo;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import java.util.List;
@Service
public class CartService {
  @Autowired
  CartRepo cartRepo;
  public String addToCart(Cart cart){
    cartRepo.save(cart);
    return "Product Added to Cart Successfully!!!";
  }
  public List<Cart> getCartBySellerName(String sellerName){
    return cartRepo.findBySellerName(sellerName);
  }
  public List<Cart> getCartByProductName(String productName){
    return cartRepo.findByProductName(productName);
  }
  public List<Cart> getAllCartItems(){
    return cartRepo.findAll();
  }
  public Cart updateCartItem(String cartId, int quantity) {
    Cart cart = cartRepo.findById(cartId).orElseThrow(() →
```

```
new RuntimeException("Cart Id not found"));
  cart.setQuantity(quantity);
  cartRepo.save(cart);
  return cart;
}

public void removeFromCart(String cartId) {
  cartRepo.deleteById(cartId);
}
```

### 3. OrderService.java

```
package com.aditya.MegamartProjectAssignment.service;
import com.aditya.MegamartProjectAssignment.model.Cart;
import com.aditya.MegamartProjectAssignment.model.Order;
import com.aditya.MegamartProjectAssignment.repository.CartRepo;
import com.aditya.MegamartProjectAssignment.repository.OrderRepo;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import java.util.Date;
import java.util.List;
import java.util.Optional;
@Service
public class OrderService {
  @Autowired
  OrderRepo orderRepo;
  @Autowired
  CartRepo cartRepo;
```

```
public Order placeOrder(Order order){
    // checking if the cart items exist before placing the order
    Optional<Cart> optionalCart = cartRepo.findById(order.getOrderId());
    if (optionalCart.isPresent()) {
       order.setOrdered_date(new Date());
       order.setOrder_status("Pending");
       return orderRepo.save(order);
    }
    else {
       throw new IllegalArgumentException("Cart item not found for given
       Order ID: " + order.getOrderId());
    }
  }
  public List<Order> getAllOrders() {
    return orderRepo.findAll();
  }
  public boolean cancelOrder(String id) {
    Optional < Order > orderOptional = orderRepo.findByld(id);
    if (orderOptional.isPresent()) {
       Order order = orderOptional.get();
       order.setOrder_status("Cancelled");
       orderRepo.save(order);
       return true;
    } else {
       return false; // Order not found
  }
}
```

## 4. ProductService.java

```
package com.aditya.MegamartProjectAssignment.service;
import com.aditya.MegamartProjectAssignment.model.Product;
import com.aditya.MegamartProjectAssignment.repository.ProductRepo;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.data.domain.Page;
import org.springframework.data.domain.Pageable;
import org.springframework.stereotype.Service;
import java.util.List;
@Service
public class ProductService {
  @Autowired
  ProductRepo productRepo;
  public Product addProduct(Product product){
    return productRepo.save(product);
  }
  public Product getProductById(String id){
    return productRepo.findById(id).orElseThrow(() → new RuntimeException
    ("Product Id not Found"));
  }
  public List<Product> getAllProducts(){
    return productRepo.findAll();
  }
  public List<Product> searchProducts(String prefix) {
    return productRepo.findByProductNameStartingWith(prefix);
  }
```

```
}
```

### 5. WishListService.java

```
package com.aditya.MegamartProjectAssignment.service;
import com.aditya.MegamartProjectAssignment.model.Wishlist;
import com.aditya.MegamartProjectAssignment.repository.WishlistRepo;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import java.util.List;
import java.util.UUID;
@Service
public class WishlistService {
  @Autowired
  WishlistRepo wishlistRepo;
  public String addToWishList(Wishlist wishlist){
    try {
       wishlistRepo.save(wishlist);
    catch (Exception e) {
       return "Error while adding product to WishList: " + e.getMessage();
    }
    return "Product Added to WishList Successfully!!!";
  }
  public String removeFromWishlist(String wishld){
    try {
       wishlistRepo.deleteByld(wishld);
```

```
}
catch (Exception e) {
    return "Error while adding product to WishList: " + e.getMessage();
}

return "Product removed from WishList Successfully!!!";
}

public List<Wishlist> getAllWishListItems() {
    return wishlistRepo.findAll();
}
```

# **Controller Package**

### 1. AccountController.java

```
package com.aditya.MegamartProjectAssignment.controller;

import com.aditya.MegamartProjectAssignment.model.Account;
import com.aditya.MegamartProjectAssignment.repository.AccountRepo;
import com.aditya.MegamartProjectAssignment.service.AccountService;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;

import java.util.List;
import java.util.Optional;

@RestController
@RequestMapping("/api/account")
@CrossOrigin(origins = "http://localhost:3000")
public class AccountController {
```

```
@Autowired
AccountService accountService;
@Autowired
AccountRepo accountRepo;
@PostMapping("/register")
public ResponseEntity<String> register(@RequestBody Account account){
  String result = accountService.register(account);
  return ResponseEntity.ok(result);
}
@PostMapping("/login")
public ResponseEntity<String> login(@RequestParam String name,
                    @RequestParam String password) {
  String result = accountService.login(name, password);
  return ResponseEntity.ok(result);
}
@GetMapping("/get")
public ResponseEntity<List<Account>> getAllAccounts(){
  List<Account> accounts = accountService.getAllAccounts();
  if (accounts.isEmpty()){
    return ResponseEntity.status(HttpStatus.NOT_FOUND).body(null);
  }
  else {
    return ResponseEntity.ok(accounts);
}
@DeleteMapping("/delete")
public ResponseEntity<String> deleteAccount(@RequestParam String name){
  if (!accountRepo.existsById(name)){
    return ResponseEntity.status(HttpStatus.NOT_FOUND)
    .body("Account not found");
```

```
}
accountService.deleteAccountByName(name);
return ResponseEntity.ok("Account deleted Successfully");
}
```

# 2. CartController.java

```
package com.aditya.MegamartProjectAssignment.controller;
import com.aditya.MegamartProjectAssignment.model.Cart;
import com.aditya.MegamartProjectAssignment.service.CartService;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;
import java.util.List;
@RestController
@RequestMapping("/api/cart")
public class CartController {
  @Autowired
  CartService cartService;
@PostMapping("/addToCart")
public ResponseEntity<String> addToCart(@RequestBody Cart cart){
  String result = cartService.addToCart(cart);
  return ResponseEntity.ok(result +"\n"+cart.toString());
}
  @GetMapping("/all")
  public ResponseEntity<List<Cart>> viewAllCartItems(){
```

```
return ResponseEntity.ok(cartService.getAllCartItems());
  }
  @GetMapping("/product")
  public ResponseEntity<List<Cart>> viewByProduct(
  @RequestParam String productName) {
    return ResponseEntity.ok(cartService.getCartByProductName(productName
  }
  @GetMapping("/seller")
  public ResponseEntity<List<Cart>> viewBySeller(
  @RequestParam String sellerName) {
    return ResponseEntity.ok(cartService.getCartBySellerName(sellerName));
  }
  @PutMapping("/{cartId}")
  public ResponseEntity<Cart> updateCartItem(@PathVariable String cartId,
                          @RequestParam int quantity) {
    Cart updatedCart = cartService.updateCartItem(cartId, quantity);
    return ResponseEntity.ok(updatedCart);
  }
  @DeleteMapping("/{cartId}")
  public ResponseEntity<String> removeFromCart(@PathVariable String cartId)
    cartService.removeFromCart(cartId);
    return ResponseEntity.ok("Deleted successfully");
  }
}
```

# 3. OrderController.java

```
package com.aditya.MegamartProjectAssignment.controller; import com.aditya.MegamartProjectAssignment.model.Order;
```

```
import com.aditya.MegamartProjectAssignment.service.OrderService;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;
import java.util.List;
@RestController
@RequestMapping("/api/order")
public class OrderController {
  @Autowired
  OrderService orderService;
  @PostMapping("/placeOrder")
  public ResponseEntity<String> placeOrder(@RequestBody Order order){
    orderService.placeOrder(order);
    return ResponseEntity.ok("Order Placed Successfully...!\n\n"+
    order.toString());
  }
  @GetMapping("/getAll")
  public ResponseEntity<List<Order>> getAllOrders() {
    List<Order> orders = orderService.getAllOrders();
    return ResponseEntity.ok(orders);
  }
  @DeleteMapping("/cancelOrder/{id}")
  public ResponseEntity<String> cancelOrder(@PathVariable String id){
    boolean isCancelled = orderService.cancelOrder(id);
    if (isCancelled) {
       return ResponseEntity.ok("Order with ID " + id +
       " has been cancelled successfully.");
    } else {
       return ResponseEntity.status(404).body("Order with ID " + id +
       " not found.");
```

```
}
}
```

### 4. ProductController.java

```
package com.aditya.MegamartProjectAssignment.controller;
import com.aditya.MegamartProjectAssignment.model.Product;
import com.aditya.MegamartProjectAssignment.repository.ProductRepo;
import com.aditya.MegamartProjectAssignment.service.ProductService;
import jakarta.persistence.GeneratedValue;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.data.domain.Page;
import org.springframework.data.domain.Pageable;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;
import java.util.List;
@RestController
@RequestMapping("/api/product")
public class ProductController {
  @Autowired
  ProductService productService;
  @Autowired
  ProductRepo productRepo;
  @PostMapping("/add")
  public String addProduct(@RequestBody Product product){
    productService.addProduct(product);
    return "Product Added Successfully...\n"+product.toString();
```

```
@GetMapping("/search")
public ResponseEntity<List<Product>> searchProducts(
@RequestParam String prefix) {
    return ResponseEntity.ok(productService.searchProducts(prefix));
}

@GetMapping("/{id}")
public Product getProduct(@PathVariable("id") String id){
    return productService.getProductById(id);
}

@GetMapping("/all")
public List<Product> getAllProducts(){
    return productService.getAllProducts();
}
```

### 5. WishlistController.java

```
package com.aditya.MegamartProjectAssignment.controller;

import com.aditya.MegamartProjectAssignment.model.Wishlist;
import com.aditya.MegamartProjectAssignment.service.WishlistService;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;

import java.util.List;

@RestController
@RequestMapping("/api/wishlist")
```

```
public class WishlistController {
  @Autowired
  WishlistService service;
  @PostMapping("/add")
  public ResponseEntity<String> addToWishlist(@RequestBody Wishlist wishlist
    String result = service.addToWishList(wishlist);
    return ResponseEntity.ok(result);
  }
  @DeleteMapping("/{id}")
  public ResponseEntity<String> deleteFromWishList(
  @PathVariable("id") String id){
    service.removeFromWishlist(id);
    return ResponseEntity.ok("WishList Item with id "+id+
    " is deleted Successfully!!!");
  }
  @GetMapping("/all")
  public ResponseEntity<List<Wishlist>> getWishlistItems() {
    return ResponseEntity.ok(service.getAllWishListItems());
  }
}
```

# **Exception Package**

# GlobalExceptionHandler.java

```
package com.aditya.MegamartProjectAssignment.exception;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.ControllerAdvice;
```

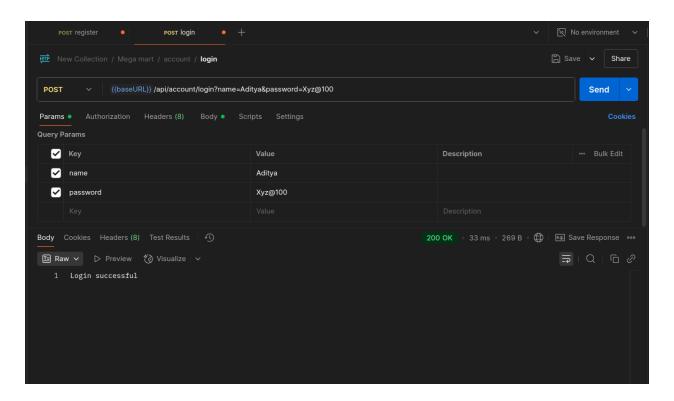
```
import org.springframework.web.bind.annotation.ExceptionHandler;
@ControllerAdvice
public class GlobalExceptionHandler {
  @ExceptionHandler(IllegalArgumentException.class)
  public ResponseEntity<String> handlelllegalArgumentException
  (IllegalArgumentException ex){
    return new ResponseEntity<>("Invalid input → "+
    ex.getMessage(), HttpStatus.BAD_REQUEST);
  }
  @ExceptionHandler(NullPointerException.class)
  public ResponseEntity<String> handleNullPointer
  (NullPointerException ex) {
    return new ResponseEntity<>(
    "Something went wrong (null value).", HttpStatus.INTERNAL_SERVER_ERROI
  }
  // Handle any other generic exception
  @ExceptionHandler(Exception.class)
  public ResponseEntity<String> handleException(Exception ex) {
    return new ResponseEntity<>(
    "Unexpected Error: " + ex.getMessage(), HttpStatus.INTERNAL_SERVER_ERF
  }
}
```

# **Output:**

### A. Account ->

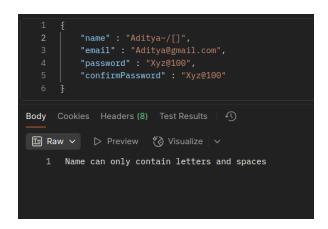
1. Register

### 2. Login

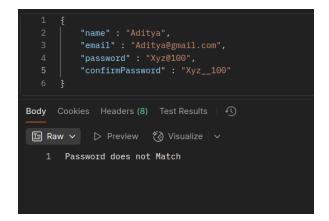


### Validations:

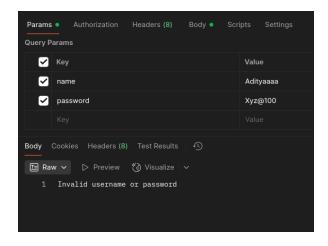
#### 1. incorrect name



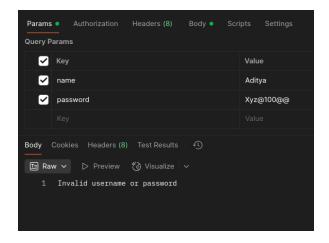
### 2. Wrong confirm password



#### 3. Invalid username

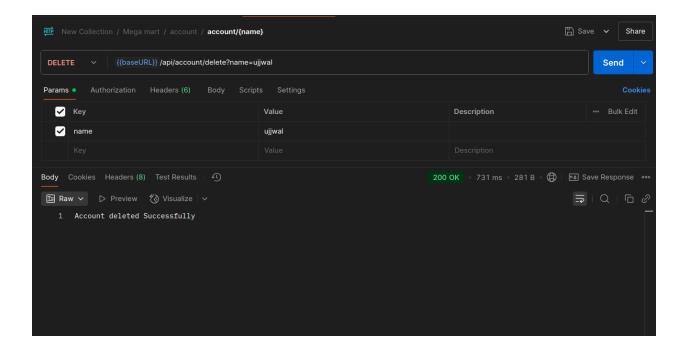


#### 4. Invalid Password



#### 3. Get All Accounts

#### 4. Delete Account



### B. Product ->

### 1. Add product

### 2. view all products

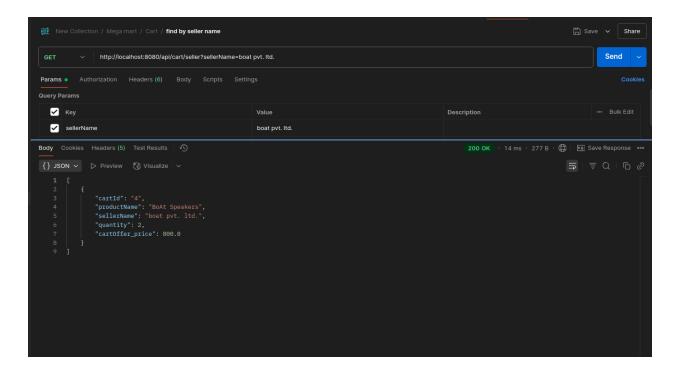
### 3. Search product

### C. Cart ->

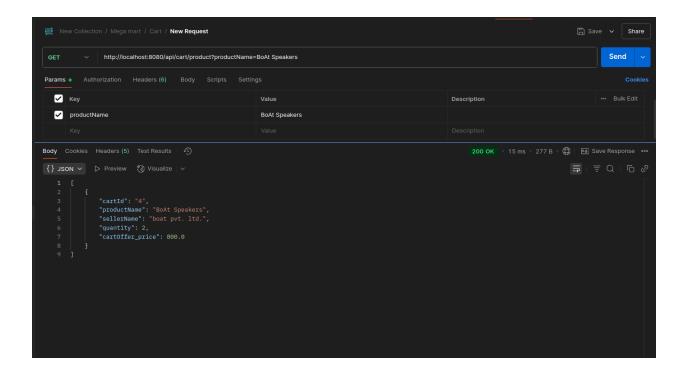
#### 1. Add to Cart

#### 2. view all cart items

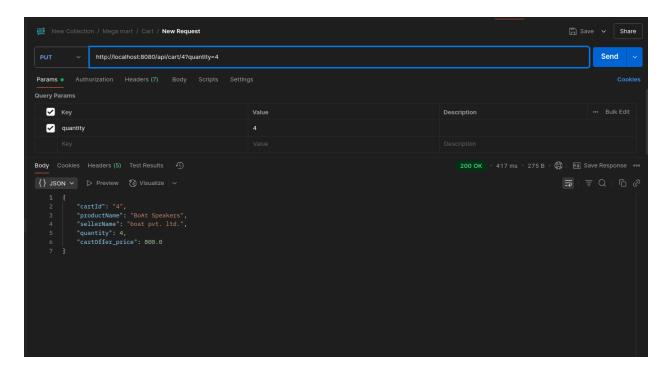
3. search by dealer name



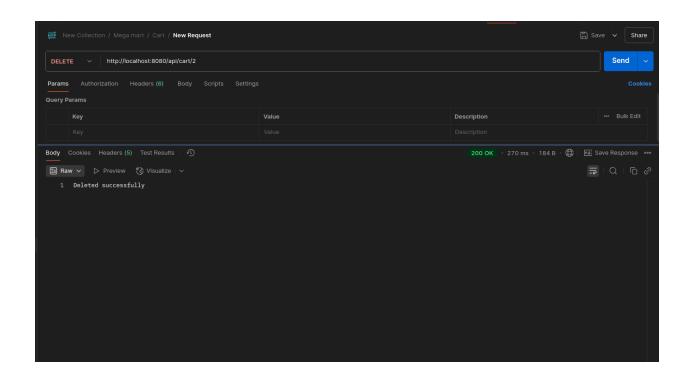
4. import java.util.UUID;search by product name



### 5. Update Cart details



#### 6. Delete Cart item

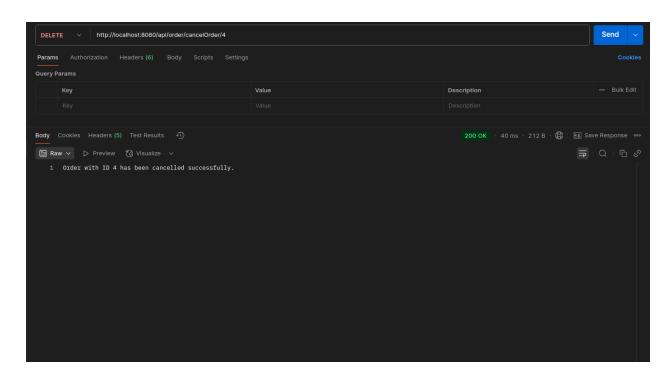


### D. Order ->

### 1. place order

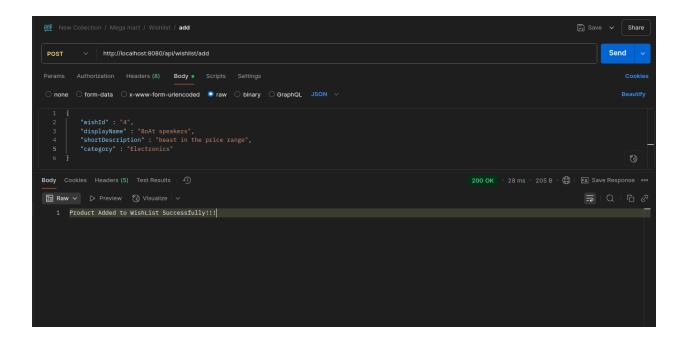
### 2. view placed orders

### 3. cancel order



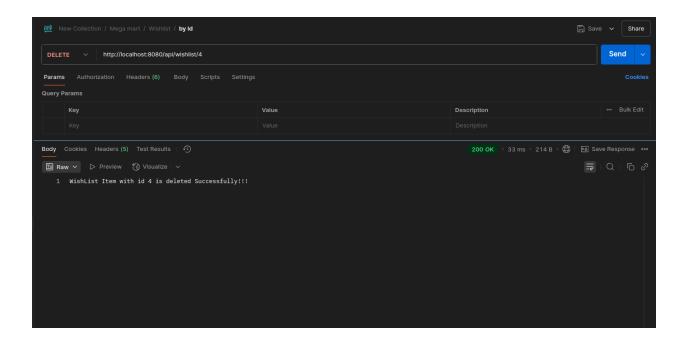
### E. WishList ->

1. Add to Wishlist



2. View all wishlisted items

#### 3. remove from wishlist



# Thank You!