CartController

package com.shopcart.mindtree.cartController;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.web.bind.annotation.DeleteMapping;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.PathVariable;

import org.springframework.web.bind.annotation.PostMapping;

import org.springframework.web.bind.annotation.PutMapping;

import org.springframework.web.bind.annotation.RestController;

import com.shopcart.mindtree.cartService.CartService;

import com.shopcart.mindtree.dto.CartDto;

@RestController

public class CartController {

@Autowired

private CartService cartService;

@PostMapping("/addToCart/{id}/{userId}/{quantity}")

public String addToCart(@PathVariable("id") int prodId ,@PathVariable("userId") int userId,@PathVariable("quantity") int quantity) {

return cartService.addToCart(prodId,userId,quantity);

}

@DeleteMapping("/remove/{id}")

public String removeItem(@PathVariable("id") int cartId ) {

return cartService.removeItem(cartId);

}

@GetMapping("/viewCart/{userId}")

public CartDto viewCart(@PathVariable("userId") int userId) {

return cartService.getCart(userId);

}

@PutMapping("/updateCart/{id}/{quantity}")

public String updateItem(@PathVariable("id") int cartId ,@PathVariable("quantity") int quantity) {

return cartService.updateQuantity(cartId,quantity);

}

}

CartService

package com.shopcart.mindtree.cartService;

import com.shopcart.mindtree.dto.CartDto;

import java.util.ArrayList;

import java.util.HashSet;

import java.util.List;

import java.util.Optional;

import java.util.Set;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Service;

import com.shopcart.mindtree.cartEntity.Cart;

import com.shopcart.mindtree.cartEntity.Product;

import com.shopcart.mindtree.cartEntity.User;

import com.shopcart.mindtree.cartRepository.CartRepo;

import com.shopcart.mindtree.cartRepository.ProdRepo;

import com.shopcart.mindtree.cartRepository.UserRepo;

@Service

public class CartService {

@Autowired

private ProdRepo prodRepo;

@Autowired

private CartRepo cartRepo;

@Autowired

private UserRepo userRepo;

public String addToCart(int prodId, int userId, int quantity) {

// TODO Auto-generated method stub

Optional<Product> p=prodRepo.findById(prodId);

Optional<User> u=userRepo.findById(userId);

Optional<Cart> existCart=cartRepo.findByUserIdAndProductId(userId,prodId);

if(existCart.isPresent()) {

existCart.get().setQuantity(existCart.get().getQuantity()+1);

existCart.get().setTotal(existCart.get().getQuantity()\*p.get().getPrice());

cartRepo.save(existCart.get());

}

else {

Cart cart=new Cart();

cart.setTotal(quantity\*p.get().getPrice());

cart.setUser(u.get());

cart.setProdList(p.get());

cart.setQuantity(quantity);

cartRepo.save(cart);

}

return "added To Cart";

}

public String removeItem(int cartId) {

cartRepo.deleteById(cartId);;

// TODO Auto-generated method stub

return "item removed from cart";

}

public CartDto getCart(int userId) {

List<Cart> lis=cartRepo.findByUserId(userId);

// TODO Auto-generated method stub

CartDto cartDto=new CartDto();

cartDto.setItemsList(lis);

int totalAmount=0;

for(int i=0;i<lis.size();i++) {

totalAmount+=lis.get(i).getTotal();

}

cartDto.setTotalAmount(totalAmount);

return cartDto;

}

public String updateQuantity(int cartId, int quantity) {

// TODO Auto-generated method stub

Optional<Cart> cart=cartRepo.findById(cartId);

if(cart.isPresent()) {

cart.get().setQuantity(quantity);

cartRepo.save(cart.get());

if(quantity==0) {

removeItem(cartId);

}

return "cart updated successfully";

}

else {

return "cart does not exist";

}

}

}

CartRepo

package com.shopcart.mindtree.cartRepository;

import java.util.List;

import java.util.Optional;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.data.jpa.repository.Query;

import org.springframework.data.repository.query.Param;

import org.springframework.stereotype.Repository;

import com.shopcart.mindtree.cartEntity.Cart;

@Repository

public interface CartRepo extends JpaRepository<Cart,Integer> {

List<Cart> findByUserId(int userId);

// @Query("select c from Cart c where ")

@Query("select c from Cart c where c.user.id=:u and c.prodList.id=:p ")

Optional<Cart> findByUserIdAndProductId(@Param("u") int userId,@Param("p") int prodId);

}

ProdRepo

package com.shopcart.mindtree.cartRepository;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

import com.shopcart.mindtree.cartEntity.Product;

@Repository

public interface ProdRepo extends JpaRepository<Product,Integer>{

}

UserRepo

package com.shopcart.mindtree.cartRepository;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

import com.shopcart.mindtree.cartEntity.User;

@Repository

public interface UserRepo extends JpaRepository<User,Integer>{

}

Entities

Cart.java

package com.shopcart.mindtree.cartEntity;

import java.util.ArrayList;

import java.util.Set;

import javax.annotation.Generated;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.JoinColumn;

import javax.persistence.ManyToOne;

import javax.persistence.OneToMany;

import javax.persistence.OneToOne;

import javax.persistence.Table;

import antlr.collections.List;

@Entity

@Table(name="Cart")

public class Cart {

@Id

@GeneratedValue(strategy=GenerationType.AUTO)

@Column(name="cart\_id")

private int id;

@ManyToOne

@JoinColumn(name="prod\_id")

private Product prodList;

@OneToOne

@JoinColumn(name="user\_id")

private User user;

private int quantity;

public int getQuantity() {

return quantity;

}

public void setQuantity(int quantity) {

this.quantity = quantity;

}

@Column(name="total\_amount")

private double total;

public int getId() {

return id;

}

public Product getProdList() {

return prodList;

}

public void setProdList(Product prodList) {

this.prodList = prodList;

}

public void setId(int id) {

this.id = id;

}

public User getUser() {

return user;

}

public void setUser(User user) {

this.user = user;

}

public double getTotal() {

return total;

}

public void setTotal(double total) {

this.total = total;

}

}

User.Java

package com.shopcart.mindtree.cartEntity;

import javax.persistence.Entity;

import javax.persistence.Id;

import javax.persistence.OneToOne;

@Entity

public class User {

@Id

private int id;

private String name;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

}

Product.java

package com.shopcart.mindtree.cartEntity;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.Id;

import javax.persistence.JoinColumn;

import javax.persistence.ManyToOne;

import javax.persistence.Table;

@Entity

@Table(name="products")

@Inheritance(strategy=InheritanceType.SINGLE\_TABLE)

@DiscriminatorColumn(name="product\_type",

discriminatorType = DiscriminatorType.INTEGER)

public class Product {

@Id

@Column(name="prod\_id")

private int id;

private String name;

private double price;

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public double getPrice() {

return price;

}

public void setPrice(double price) {

this.price = price;

}

}

CartDto.java

package com.shopcart.mindtree.dto;

import java.util.List;

import com.shopcart.mindtree.cartEntity.Cart;

public class CartDto {

private List<Cart> itemsList;

private int totalAmount;

public List<Cart> getItemsList() {

return itemsList;

}

public void setItemsList(List<Cart> itemsList) {

this.itemsList = itemsList;

}

public int getTotalAmount() {

return totalAmount;

}

public void setTotalAmount(int totalAmount) {

this.totalAmount = totalAmount;

}

}

Book.java

package com.shopcart.mindtree.cartEntity;

import javax.persistence.DiscriminatorValue;

import javax.persistence.Entity;

import javax.persistence.Table;

@Entity

@DiscriminatorValue("1")

public class Book extends Product{

private String genre;

private String author;

private String publications;

public String getGenre() {

return genre;

}

public void setGenre(String genre) {

this.genre = genre;

}

public String getAuthor() {

return author;

}

public void setAuthor(String author) {

this.author = author;

}

public String getPublications() {

return publications;

}

public void setPublications(String publications) {

this.publications = publications;

}

}

Apparel.java

package com.shopcart.mindtree.cartEntity;

import javax.persistence.DiscriminatorValue;

import javax.persistence.Entity;

import javax.persistence.Table;

@Entity

@DiscriminatorValue("2")

public class Apparel extends Product {

private String type;

private String brand;

private String design;

public String getType() {

return type;

}

public void setType(String type) {

this.type = type;

}

public String getBrand() {

return brand;

}

public void setBrand(String brand) {

this.brand = brand;

}

public String getDesign() {

return design;

}

public void setDesign(String design) {

this.design = design;

}

}

Main.java(ShopcartApplication.java)  
package com.shopcart.mindtree;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class ShopcartApplication {

public static void main(String[] args) {

SpringApplication.run(ShopcartApplication.class, args);

}

}

application.properties

spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver

spring.datasource.username=root

spring.datasource.password=Welcome123$

spring.datasource.name=mindtreeCart

spring.datasource.url=jdbc:mysql://localhost:3306/mindtreeCart

spring.jpa.hibernate.ddl-auto= update

spring.jpa.properties.hibernate.dialect= org.hibernate.dialect.MySQL5Dialect

server.port=8085

Sample Response of view Cart Api

{

"itemsList": [

{

"id": 8,

"prodList": {

"id": 38,

"name": "JavaFundamentals",

"price": 2999.0,

"genre": "programming",

"author": "AA",

"publications": "GoelbrothersPrakashan"

},

"user": {

"id": 77,

"name": "megha"

},

"quantity": 1,

"total": 2999.0

},

{

"id": 9,

"prodList": {

"id": 46,

"name": "TankTop",

"price": 799.0,

"type": "Casual",

"brand": "H&M",

"design": "Solid"

},

"user": {

"id": 77,

"name": "megha"

},

"quantity": 2,

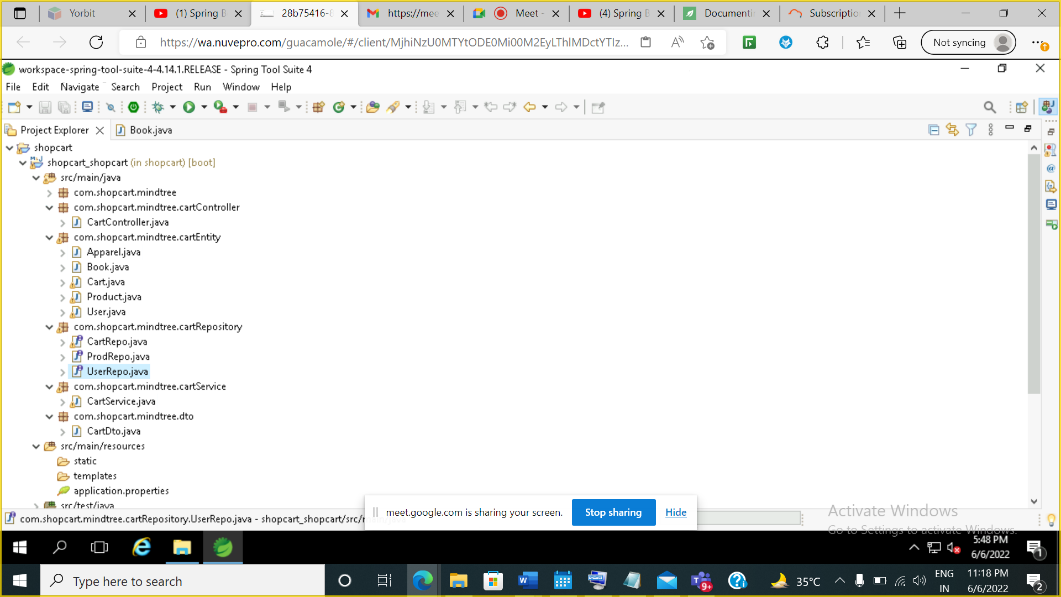
"total": 1598.0

}

],

"totalAmount": 4597

}



A screenshot of a computer

Description automatically generatedGraphical user interface, text, email

Description automatically generated

Graphical user interface, text, email

Description automatically generatedGraphical user interface, text, email

Description automatically generated

Graphical user interface, text, email

Description automatically generated

Graphical user interface, text

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Text

Description automatically generated