**SPORTY SHOES PROJECT**

**DEVELOPED BY: -** RAHUL KUMAR

**GIT Location:**

https://github.com/Raga1930/JavaFSPhase3Project

**Technologies Used**

Java 1.8

Spring Boot 2.2.10

Lombok ---

Swagger-ui 2.7.0

H2 ---

JPA ---

Spring Security Starter ---

**File Structure**

**src**

**├── main**

**│   ├── java**

**│   │   └── com**

**│   │   └── api**

**│   │   └── sportyShoes**

**│   │   ├── SportyShoes.java**

**│   │   ├── config**

**│   │   │   ├── SpringSecurityConfig.java**

**│   │   │   └── SwaggerConfig.java**

**│   │   ├── controller**

**│   │   │   ├── CRUDController.java**

**│   │   │   └── SearchController.java**

**│   │   ├── exceptionHandler**

**│   │   │   └── BusinessException.java**

**│   │   ├── model**

**│   │   │   ├── PurchaseReport.java**

**│   │   │   └── Shoe.java**

**│   │   ├── repository**

**│   │   │   ├── PurchaseReportRepository.java**

**│   │   │   └── ShoesRepository.java**

**│   │   └── service**

**│   │   ├── SportyShoesService.java**

**│   │   └── impl**

**│   │   └── SportyShoesServiceImpl.java**

**│   └── resources**

**│   └── application.properties**

**└── test**

**├── java**

**└── resources**

**16 directories, 13 files**

**Project Structure**

This project uses Spring Boot for Model and Controller Implementation Availaible apis are -

* /shoe (CRUD)
* /purchaseReport (CRUD)
* /shoe/all
* /purchaseReport/(category|all|dop)

Current Implementation relies simply on String for storing order list.

It can be extended to utilize many-to-many relationship between Shoe and PurchaseReport Entities.

Also for admin authentication spring-security-starter has been used with credentials saved in application.properties file.

**SOURCE CODE:**

**ENTITY CLASSES**

***PurchaseReport.java class***

package com.api.sportyShoes.model;

import java.util.Date;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.Id;

import javax.persistence.Table;

import javax.persistence.Temporal;

import javax.persistence.TemporalType;

import lombok.Getter;

import lombok.NoArgsConstructor;

import lombok.Setter;

import lombok.ToString;

@Entity

@Table

@Setter

@Getter

@NoArgsConstructor

@ToString

public class PurchaseReport {

public PurchaseReport(int id, String purchasedBy, String category, Date dop, String orderList) {

super();

this.id = id;

this.purchasedBy = purchasedBy;

this.category = category;

this.dop = dop;

this.orderList = orderList;

}

@Id

@GeneratedValue

private int id;

private String purchasedBy; // This can be extended to utilize one to one relation with User Table [Future Implemetations]

private String category;

@Temporal(TemporalType.DATE)

private Date dop;

/\*\*

\* This can be used for storing orderlist as <Qty, Shoe>

\* Here implementation is made simple by using shoeId instead

\* of shoe in string format.

\*/

// @ManyToMany(cascade = CascadeType.ALL)

// Map<Integer,Shoe> orderList = new HashMap<Integer,Shoe>();

// OR

// Map<Integer,Integer> orderList = new HashMap<Integer,Integer>();

String orderList;

public int getId() {

// TODO Auto-generated method stub

return 0;

}

}

***Shoe.java class***

package com.api.sportyShoes.model;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.Id;

import javax.persistence.Table;

import lombok.Getter;

import lombok.NoArgsConstructor;

import lombok.Setter;

import lombok.ToString;

@Entity

@Table

@Getter

@Setter

@NoArgsConstructor

@ToString

public class Shoe {

public Shoe(int id, String name, String category, double price) {

super();

this.id = id;

this.name = name;

this.category = category;

this.price = price;

}

@Id

@GeneratedValue

private int id;

private String name;

private String category;

private double price;

public int getId() {

// TODO Auto-generated method stub

return 0;

}

}

**SERVICE**

***SportyShoesServiceImpl.java***

package com.api.sportyShoes.service.impl;

import java.util.Date;

import java.util.List;

import java.util.NoSuchElementException;

import javax.annotation.PostConstruct;

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

import org.springframework.dao.EmptyResultDataAccessException;

import org.springframework.stereotype.Service;

import com.api.sportyShoes.exceptionHandler.BusinessException;

import com.api.sportyShoes.model.PurchaseReport;

import com.api.sportyShoes.model.Shoe;

import com.api.sportyShoes.repository.PurchaseReportRepository;

import com.api.sportyShoes.repository.ShoesRepository;

import com.api.sportyShoes.service.SportyShoesService;

import lombok.NoArgsConstructor;

@Service

@NoArgsConstructor

public class SportyShoesServiceImpl implements SportyShoesService{

@Autowired

private ShoesRepository shoesRepo;

@Autowired

private PurchaseReportRepository prRepo;

@PostConstruct

public void init() {

Shoe s1 = new Shoe(1,"Shoe Name 1","Basketball",1000.24);

Shoe s2 = new Shoe(2,"Shoe Name 2","Cricket",1100.24);

Shoe s3 = new Shoe(3,"Shoe Name 3","Running",900.24);

Shoe s4 = new Shoe(4,"Shoe Name 4","Football",1900.24);

shoesRepo.save(s1);

shoesRepo.save(s2);

shoesRepo.save(s3);

shoesRepo.save(s4);

Date d = new Date(0);

PurchaseReport pr1 = new PurchaseReport(5,"user\_1","Running",d,"adidas\_runner:5,nike\_airmax:10");

PurchaseReport pr2 = new PurchaseReport(6,"user\_2","Cricket",d,"adidas\_cricket:5,nike\_cricket:10");

PurchaseReport pr3 = new PurchaseReport(7,"user\_3","Basketball",d,"adidas\_basketball:5,nike\_basketball:10");

PurchaseReport pr4 = new PurchaseReport(8,"user\_4","Football",d,"adidas\_football:5,nike\_football:10");

prRepo.save(pr1);

prRepo.save(pr2);

prRepo.save(pr3);

prRepo.save(pr4);

}

public Shoe createShoe(Shoe shoe) throws BusinessException {

int id = shoe.getId();

Shoe oldShoe = null;

try {

oldShoe = shoesRepo.findById(id).get();

}catch(NoSuchElementException e) {

}

if(oldShoe!=null) throw new BusinessException("Shoe already exists with id: "+id);

return shoesRepo.save(shoe);

}

public Shoe getShoeById(int id) throws BusinessException {

Shoe shoe = null;

try {

if(id<=0) throw new BusinessException("Shoe Id can not be negative or zero");

shoe = shoesRepo.findById(id).get();

}catch(NoSuchElementException e) {

throw new BusinessException("Shoe not found with Id: "+id);

}

return shoe;

}

public Shoe updateShoe(Shoe shoe) {

return shoesRepo.save(shoe);

}

public void deleteShoeById(int id) throws BusinessException {

try {

shoesRepo.deleteById(id);

}catch(IllegalArgumentException e) {

throw new BusinessException("Invalid id: "+id);

}catch(EmptyResultDataAccessException e) {

throw new BusinessException("SHoe does not exist with id: "+id);

}

}

public List<Shoe> getAllShoes() {

return shoesRepo.findAll();

}

public PurchaseReport createPurchaseReport(PurchaseReport pr) throws BusinessException {

int id = pr.getId();

PurchaseReport oldPr = null;

try {

oldPr = prRepo.findById(id).get();

}catch(NoSuchElementException e) {

}

if(oldPr!=null) throw new BusinessException("Purchase report already exists with id: "+id);

return prRepo.save(pr);

}

public PurchaseReport getPurchaseReportById(int id) throws BusinessException {

PurchaseReport pr = null;

try {

if(id<=0) throw new BusinessException("Purchase Report Id can not be negative or zero");

pr = prRepo.findById(id).get();

}catch(NoSuchElementException e) {

throw new BusinessException("Purchase Report not found with Id: "+id);

}

return pr;

}

public PurchaseReport updatePurchaseReport(PurchaseReport pr) {

return prRepo.save(pr);

}

public void deletePurchaseReportById(int id) throws BusinessException {

try {

prRepo.deleteById(id);

}catch(IllegalArgumentException e) {

throw new BusinessException("Invalid id: "+id);

}catch(EmptyResultDataAccessException e) {

throw new BusinessException("Puchase Report does not exist with Id: "+id);

}

}

public List<PurchaseReport> getAllPurchaseReports() {

return prRepo.findAll();

}

public List<PurchaseReport> getAllPurchaseReportsByCategory(String category) {

return prRepo.findByCategory(category);

}

public List<PurchaseReport> getAllPurchaseReportsByDOP(Date dop) {

return prRepo.findByDop(dop);

}

}

***SportyShoesService.java***

package com.api.sportyShoes.service;

import java.util.Date;

import java.util.List;

import com.api.sportyShoes.exceptionHandler.BusinessException;

import com.api.sportyShoes.model.PurchaseReport;

import com.api.sportyShoes.model.Shoe;

public interface SportyShoesService {

public Shoe createShoe(Shoe shoe) throws BusinessException;

public Shoe getShoeById(int id) throws BusinessException;

public Shoe updateShoe(Shoe shoe);

public void deleteShoeById(int id) throws BusinessException;

public List<Shoe> getAllShoes();

public PurchaseReport createPurchaseReport(PurchaseReport pr) throws BusinessException;

public PurchaseReport getPurchaseReportById(int id) throws BusinessException;

public PurchaseReport updatePurchaseReport(PurchaseReport pr);

public void deletePurchaseReportById(int id) throws BusinessException;

public List<PurchaseReport> getAllPurchaseReports();

public List<PurchaseReport> getAllPurchaseReportsByCategory(String category);

public List<PurchaseReport> getAllPurchaseReportsByDOP(Date dop);

}

**REPOSITORY**

***PurchaseReportRepository.java***

package com.api.sportyShoes.repository;

import java.util.Date;

import java.util.List;

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

import org.springframework.stereotype.Repository;

import com.api.sportyShoes.model.PurchaseReport;

@Repository

public interface PurchaseReportRepository extends JpaRepository<PurchaseReport, Integer>{

public List<PurchaseReport> findByDop(Date dop);

public List<PurchaseReport> findByCategory(String category);

}

***ShoesRepository.java***

package com.api.sportyShoes.repository;

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

import org.springframework.stereotype.Repository;

import com.api.sportyShoes.model.Shoe;

@Repository

public interface ShoesRepository extends JpaRepository<Shoe, Integer>{

}

**CONTROLLERS**

***CRUDController.java***

package com.api.sportyShoes.controller;

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

import org.springframework.http.HttpStatus;

import org.springframework.http.ResponseEntity;

import org.springframework.util.LinkedMultiValueMap;

import org.springframework.util.MultiValueMap;

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.RequestBody;

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

import com.api.sportyShoes.exceptionHandler.BusinessException;

import com.api.sportyShoes.model.PurchaseReport;

import com.api.sportyShoes.model.Shoe;

import com.api.sportyShoes.service.SportyShoesService;

@RestController

public class CRUDController {

@Autowired

private SportyShoesService service;

private MultiValueMap<String, String> errorMap;

/\*\*

\* Shoe post request controller

\*

\* @param shoe

\* @return ResponseEntity<Shoe> with newly created Shoe

\*/

@PostMapping("/admin/shoe")

public ResponseEntity<Shoe> createShoe(@RequestBody Shoe shoe) {

try {

return new ResponseEntity<>(service.createShoe(shoe), HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(null, errorMap, HttpStatus.BAD\_REQUEST);

}

}

/\*\*

\* Shoe get request controller

\*

\* @param id

\* @return ResponseEntity<Shoe> with the given id

\*/

@GetMapping("/admin/shoe/{id}")

public ResponseEntity<Shoe> getShoeById(@PathVariable int id) {

try {

return new ResponseEntity<>(service.getShoeById(id), HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(null, errorMap, HttpStatus.NOT\_FOUND);

}

}

/\*\*

\* Shoe put(update) request controller

\*

\* @param shoe

\* @return ResponseEntity<Shoe> with updated shoe

\*/

@PutMapping("/admin/shoe")

public ResponseEntity<Shoe> updateShoe(@RequestBody Shoe shoe) {

return new ResponseEntity<>(service.updateShoe(shoe), HttpStatus.OK);

}

/\*\*

\* Shoe delete request controller

\*

\* @param id

\* @return ResponseEntity<String> containing the status of delete operation

\*/

@DeleteMapping("/admin/shoe/{id}")

public ResponseEntity<String> deleteShoeById(@PathVariable int id) {

try {

service.deleteShoeById(id);

return new ResponseEntity<>("Succesfully deleted shoe with id: " + id, HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(e.getMessage(), errorMap, HttpStatus.BAD\_REQUEST);

}

}

/\*\*

\* Purchase Report post request controller

\*

\* @param pr - Purchase Report

\* @return ResponseEntity<PurchaseReport> with newly created Purchase Report

\*/

@PostMapping("/admin/purchaseReport")

public ResponseEntity<PurchaseReport> createPurchaseReport(@RequestBody PurchaseReport pr) {

try {

return new ResponseEntity<>(service.createPurchaseReport(pr), HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(null, errorMap, HttpStatus.BAD\_REQUEST);

}

}

/\*\*

\* Purchase Report get request controller

\*

\* @param id

\* @return ResponseEntity<PurchaseReport> with given id

\*/

@GetMapping("/admin/purchaseReport/id/{id}")

public ResponseEntity<PurchaseReport> getPurchaseReportById(@PathVariable int id) {

try {

return new ResponseEntity<>(service.getPurchaseReportById(id), HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(null, errorMap, HttpStatus.NOT\_FOUND);

}

}

/\*\*

\* Purchase Report put(update) request controller

\*

\* @param pr

\* @return ResponseEntity<PurchaseReport> containing updated Purchase Report

\*/

@PutMapping("/admin/purchaseReport")

public ResponseEntity<PurchaseReport> updatePurchaseReport(@RequestBody PurchaseReport pr) {

return new ResponseEntity<>(service.updatePurchaseReport(pr), HttpStatus.OK);

}

/\*\*

\* Purchase Report delete request controller

\*

\* @param id

\* @return ResponseEntity<String> containing the status of delete request.

\*/

@DeleteMapping("/admin/purchaseReport/{id}")

public ResponseEntity<String> deletePurchaseReportById(@PathVariable int id) {

try {

service.deletePurchaseReportById(id);

return new ResponseEntity<>("Succesfully deleted Purchase Report with id: " + id, HttpStatus.OK);

} catch (BusinessException e) {

errorMap = new LinkedMultiValueMap<>();

errorMap.add("errorMessage:", e.getMessage());

return new ResponseEntity<>(e.getMessage(), errorMap, HttpStatus.BAD\_REQUEST);

}

}

}

***SearchController.java***

package com.api.sportyShoes.controller;

import java.util.Date;

import java.util.List;

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

import org.springframework.http.HttpStatus;

import org.springframework.http.ResponseEntity;

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

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

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

import com.api.sportyShoes.model.PurchaseReport;

import com.api.sportyShoes.model.Shoe;

import com.api.sportyShoes.service.SportyShoesService;

@RestController

public class SearchController {

@Autowired

private SportyShoesService service;

/\*\*

\* Shoe search controller

\* @return all shoe list

\*/

@GetMapping("/admin/shoe/all")

public ResponseEntity<List<Shoe>> getAllShoes(){

return new ResponseEntity<List<Shoe>>(service.getAllShoes(), HttpStatus.OK);

}

/\*\*

\* Purchase Report Search Controller

\* @param category

\* @return purchase reports filtered by the category

\*/

@GetMapping("/admin/purchaseReport/category/{category}")

public ResponseEntity<List<PurchaseReport>> getAllPurchaseReportsByCategory(@PathVariable String category){

return new ResponseEntity<List<PurchaseReport>>(service.getAllPurchaseReportsByCategory(category), HttpStatus.OK);

}

/\*\*

\* Purchase Report Search Controller

\* @param dateInMs

\* @return purchase reports filtered by date of purchase(in millisecond time)

\*/

@GetMapping("/admin/purchaseReport/date/{dateInMs}")

public ResponseEntity<List<PurchaseReport>> getAllPurchaseReportsByDop(@PathVariable Long dateInMs){

Date dop = new Date(dateInMs);

return new ResponseEntity<List<PurchaseReport>>(service.getAllPurchaseReportsByDOP(dop), HttpStatus.OK);

}

/\*\*

\* Purchase Report Search Controller

\* @return all purchase reports

\*/

@GetMapping("/admin/purchaseReport/all")

public ResponseEntity<List<PurchaseReport>> getAllPurchaseReport(){

return new ResponseEntity<List<PurchaseReport>>(service.getAllPurchaseReports(), HttpStatus.OK);

}

}

**CONFIGURATION**

***SpringSecurityConfig.java***

package com.api.sportyShoes.config;

import org.springframework.context.annotation.Configuration;

import org.springframework.security.config.annotation.web.builders.HttpSecurity;

import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;

import org.springframework.security.config.annotation.web.configuration.WebSecurityConfigurerAdapter;

@Configuration

@EnableWebSecurity

public class SpringSecurityConfig extends WebSecurityConfigurerAdapter {

@Override

protected void configure(HttpSecurity http) throws Exception {

http

.csrf().disable()

.authorizeRequests()

.anyRequest()

.authenticated()

.and()

.httpBasic();

}

}

***SwaggerConfig.java***

package com.api.sportyShoes.config;

import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.Configuration;

import springfox.documentation.builders.RequestHandlerSelectors;

import springfox.documentation.spi.DocumentationType;

import springfox.documentation.spring.web.plugins.Docket;

import springfox.documentation.swagger2.annotations.EnableSwagger2;

@Configuration

@EnableSwagger2

public class SwaggerConfig {

@Bean

public Docket superHeroApiDoc() {

return new Docket(DocumentationType.SWAGGER\_2).select()

.apis(RequestHandlerSelectors.basePackage("com.api.sportyShoes")).build();

}

}

**Main Controller**

***SportShoes.java***

package com.api.sportyShoes;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.boot.autoconfigure.security.servlet.SecurityAutoConfiguration;

@SpringBootApplication(exclude = { SecurityAutoConfiguration.class })

public class SportyShoes {

public static void main(String[] args) {

SpringApplication.run(SportyShoes.class, args);

}

}