# 5) Demonstrate mapping List,Set,Bag,and Map in collection using XML file

package com.ecommerce;

import java.math.BigDecimal;

import java.util.\*;

public class EProduct {

private long ID;

private String name;

private BigDecimal price;

private Date dateAdded;

private List<Color> colors;

private Collection<ScreenSizes> screenSizes;

private Set<OS> os;

private Map finance ;

public EProduct() {

}

public EProduct(long id, String name, BigDecimal price, Date dateAdded) {

this.ID = id;

this.name = name;

this.price = price;

this.dateAdded = dateAdded;

}

public long getID() {

return ID;

}

public void setID(long iD) {

ID = iD;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public BigDecimal getPrice() {

return price;

}

public void setPrice(BigDecimal price) {

this.price = price;

}

public Date getDateAdded() {

return dateAdded;

}

public void setDateAdded(Date dateAdded) {

this.dateAdded = dateAdded;

}

public List<Color> getColors() {

return colors;

}

public void setColors(List<Color> colors) {

this.colors = colors;

}

public Collection<ScreenSizes> getScreenSizes() {

return screenSizes;

}

public void setScreenSizes(Collection<ScreenSizes> screenSizes) {

this.screenSizes = screenSizes;

}

public Set<OS> getOs() {

return os;

}

public void setOs(Set<OS> os) {

this.os = os;

}

public Map getFinance() {

return finance;

}

public void setFinance(Map finance) {

this.finance = finance;

}

}

package com.ecommerce;

public class Color {

private long COLORID;

private String name;

public Color() {

}

public Color(String name) {

this.COLORID = 0;

this.name = name;

}

public long getCOLORID() {return this.COLORID; }

public String getName() { return this.name;}

public void setCOLORID(long id) { this.COLORID = id;}

public void setName(String name) { this.name = name;}

}

package com.ecommerce;

public class OS {

private long OSID;

private String name;

public OS() {

}

public OS(String name) {

this.OSID = 0;

this.name = name;

}

public long getOSID() {return this.OSID; }

public String getName() { return this.name;}

public void setOSID(long oSID) {

OSID = oSID;

}

public void setName(String name) {

this.name = name;

}

}

package com.ecommerce;

public class ScreenSizes {

private long SCREENID;

private String size;

public ScreenSizes() {

}

public ScreenSizes(String size) {

this.SCREENID = 0;

this.size = size;

}

public long getSCREENID() {return this.SCREENID; }

public String getSize() { return this.size;}

public void setSCREENID(long id) { this.SCREENID = id;}

public void setSize(String size) { this.size = size;}

}

package com.ecommerce;

public class Finance {

private long FINANCEID;

private String name;

private String ftype;

public Finance() {

}

public Finance(String name, String ftype) {

this.FINANCEID = 0;

this.name = name;

this.ftype = ftype;

}

public long getFINANCEID() {return this.FINANCEID; }

public String getName() { return this.name;}

public String getFtype() { return this.ftype;}

public void setFINANCEID(long id) { this.FINANCEID = id;}

public void setName(String name) { this.name = name;}

public void setFtype(String ftype) { this.ftype= ftype;}

}

Color.hbm.xml

<?xml version="1.0"?>

<!DOCTYPE hibernate-mapping PUBLIC

"-//Hibernate/Hibernate Mapping DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping package="com.ecommerce">

<class name="Color" table="colors">

<id name="COLORID" type="long" column="ID">

<generator class="identity"/>

</id>

<property name="name" type="string" column="COLOR\_NAME"/>

</class>

</hibernate-mapping>

OS.hbm.xml

<?xml version="1.0"?>

<!DOCTYPE hibernate-mapping PUBLIC

"-//Hibernate/Hibernate Mapping DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping package="com.ecommerce">

<class name="OS" table="os">

<id name="OSID" type="long" column="ID">

<generator class="identity"/>

</id>

<property name="name" type="string" column="NAME"/>

</class>

</hibernate-mapping>

ScreenSizes.hbm.xml

<?xml version="1.0"?>

<!DOCTYPE hibernate-mapping PUBLIC

"-//Hibernate/Hibernate Mapping DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping package="com.ecommerce">

<class name="ScreenSizes" table="screensizes">

<id name="SCREENID" type="long" column="ID">

<generator class="identity"/>

</id>

<property name="size" type="string" column="SIZE"/>

</class>

</hibernate-mapping>

Finance.hbm.xml

<?xml version="1.0"?>

<!DOCTYPE hibernate-mapping PUBLIC

"-//Hibernate/Hibernate Mapping DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping package="com.ecommerce">

<class name="Finance" table="fi nance" >

<id name="FINANCEID" type="long" column="ID">

<generator class="identity"/>

</id>

<property name="name" type="string" column="NAME"/>

<property name="ftype" type="string" column="FTYPE"/>

</class>

</hibernate-mapping>

hibernate.hbm.xml

<?xml version='1.0' encoding='utf-8'?>

<!DOCTYPE hibernate-configuration PUBLIC

"-//Hibernate/Hibernate Configuration DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">

<hibernate-configuration>

<session-factory>

<!-- Database connection settings -->

<property name="connection.driver\_class">com.mysql.cj.jdbc.Driver</property>

<property name="connection.url">jdbc:mysql://localhost:3306/ecommerce</property>

<property name="connection.username">root</property>

<property name="connection.password">Simplilearn</property>

<mapping resource="com/ecommerce/Color.hbm.xml"/>

<mapping resource="com/ecommerce/OS.hbm.xml"/>

<mapping resource="com/ecommerce/ScreenSizes.hbm.xml"/>

<mapping resource="com/ecommerce/Finance.hbm.xml"/>

<mapping resource="com/ecommerce/EProduct.hbm.xml"/>

</session-factory>

</hibernate-configuration>

package com.simpli;

import java.io.\*;

import java.util.List;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

import org.hibernate.\*;

import com.ecommerce.\*;

@WebServlet("/product-details")

public class ProductDetailsServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

PrintWriter out = response.getWriter();

out.println("<html><body>");

SessionFactory factory = HibernateUtil.getSessionFactory();

Session session = factory.openSession();

// STEP 3 Query the DB and get the data

List<EProduct> eproducts = session.createQuery("from EProduct").list();

out.println("<table border=1>");

for (EProduct prod : eproducts) {

out.println("<tr>" + "<td>" + prod.getID() + "<td>" + prod.getName() + "<td>" + prod.getPrice() + "<td>"

+ prod.getDateAdded());

// Display the colors the product is available in

List<Color> colors = prod.getColors();

out.println("<td>");

for(Color color: colors)

out.println( color.getName());

}

out.println("</table>");

session.close();

out.println("</body></html>");

}

}

HTML Code:

<h3>Hibernate Collections Mapping Demo </h3>

<a href="product-details">Click here</a><br>

OUTPUT:

ID NAME PRICE DATE\_ADDED COLORS OS SCREENSIZES

3 MAC PC 2 25000.00 2023-05-29 06:11:00.0 Maroon Windows 10 15.5

4 LG LAPTOP 5000.00 2023-05-29 06:11:47.0 Gray White Windows 10 14.5 in 14.9

5 NOKIA 4000.00 2023-05-29 06:12:02.0 Red Sliver Windows 10 15.5

6 SAMSUNG 55000.00 2023-05-29 13:21:17.0

7 SAMSUNG 55000.00 2023-05-29 13:22:41.0

8 dell 45000.00 2023-05-29 13:34:17.0