**Component Mapping**

**MYSQL**

**CREATE DATABASE ecommerce**

**USE ecommerce**

**/\*!40101 SET @OLD\_CHARACTER\_SET\_CLIENT=@@CHARACTER\_SET\_CLIENT \*/;**

**/\*!40101 SET @OLD\_CHARACTER\_SET\_RESULTS=@@CHARACTER\_SET\_RESULTS \*/;**

**/\*!40101 SET @OLD\_COLLATION\_CONNECTION=@@COLLATION\_CONNECTION \*/;**

**/\*!40101 SET NAMES utf8 \*/;**

**/\*!40103 SET @OLD\_TIME\_ZONE=@@TIME\_ZONE \*/;**

**/\*!40103 SET TIME\_ZONE='+00:00' \*/;**

**/\*!40014 SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0 \*/;**

**/\*!40014 SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0 \*/;**

**/\*!40101 SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='NO\_AUTO\_VALUE\_ON\_ZERO' \*/;**

**/\*!40111 SET @OLD\_SQL\_NOTES=@@SQL\_NOTES, SQL\_NOTES=0 \*/;**

**--**

**-- Table structure for table `eproduct`**

**--**

**DROP TABLE IF EXISTS `eproduct`;**

**/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;**

**/\*!40101 SET character\_set\_client = utf8 \*/;**

**CREATE TABLE `eproduct` (**

**`ID` bigint(20) NOT NULL AUTO\_INCREMENT,**

**`name` varchar(100) DEFAULT NULL,**

**`price` decimal(10,2) DEFAULT NULL,**

**`date\_added` timestamp NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**`parts\_hdd` varchar(10) DEFAULT NULL,**

**`parts\_cpu` varchar(10) DEFAULT NULL,**

**`parts\_ram` varchar(10) DEFAULT NULL,**

**PRIMARY KEY (`ID`)**

**) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=latin1;**

**/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;**

**--**

**-- Dumping data for table `eproduct`**

**--**

**LOCK TABLES `eproduct` WRITE;**

**/\*!40000 ALTER TABLE `eproduct` DISABLE KEYS \*/;**

**INSERT INTO `eproduct` VALUES (1,'HP Laptop ABC',21900.00,'2019-06-04 07:18:57','2 Gb HDD','AMD Phenom','4 Gb'),(2,'Acer Laptop ABC',23300.00,'2019-06-04 07:19:07','500 Gb HDD','Core-i7','4 Gb'),(3,'Lenovo Laptop ABC',33322.00,'2019-06-04 07:19:19','1 Tb HDD','Core-i7','8 Gb');**

**/\*!40000 ALTER TABLE `eproduct` ENABLE KEYS \*/;**

**UNLOCK TABLES;**

**/\*!40103 SET TIME\_ZONE=@OLD\_TIME\_ZONE \*/;**

**/\*!40101 SET SQL\_MODE=@OLD\_SQL\_MODE \*/;**

**/\*!40014 SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS \*/;**

**/\*!40014 SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS \*/;**

**/\*!40101 SET CHARACTER\_SET\_CLIENT=@OLD\_CHARACTER\_SET\_CLIENT \*/;**

**/\*!40101 SET CHARACTER\_SET\_RESULTS=@OLD\_CHARACTER\_SET\_RESULTS \*/;**

**/\*!40101 SET COLLATION\_CONNECTION=@OLD\_COLLATION\_CONNECTION \*/;**

**/\*!40111 SET SQL\_NOTES=@OLD\_SQL\_NOTES \*/;**

**-- Dump completed on 2019-06-07 10:05:19**

**EProject class**

**package** com.ecommerce;

**import** java.math.BigDecimal;

**import** java.util.Collection;

**import** java.util.Date;

**import** java.util.List;

**import** java.util.Set;

**import** java.util.Map;

**public** **class** EProduct {

**private** **long** ID;

**private** String name;

**private** BigDecimal price;

**private** Date dateAdded;

**private** ProductParts parts;

**public** EProduct() {

}

**public** **long** getID() {**return** **this**.ID; }

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

**public** BigDecimal getPrice() { **return** **this**.price;}

**public** Date getDateAdded() { **return** **this**.dateAdded;}

**public** ProductParts getParts() { **return** **this**.parts;}

**public** **void** setID(**long** id) { **this**.ID = id;}

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

**public** **void** setPrice(BigDecimal price) { **this**.price = price;}

**public** **void** setDateAdded(Date date) { **this**.dateAdded = date;}

**public** **void** setParts(ProductParts parts) { **this**.parts = parts;}

}

**ProductParts class**

**package** com.ecommerce;

**public** **class** ProductParts {

**private** String hdd;

**private** String cpu;

**private** String ram;

**public** String getHdd() { **return** **this**.hdd;}

**public** String getCpu() { **return** **this**.cpu;}

**public** String getRam() { **return** **this**.ram;}

**public** **void** setHdd(String value) { **this**.hdd= value;}

**public** **void** setCpu(String value) { **this**.cpu= value;}

**public** **void** setRam(String value) { **this**.ram= value;}

}

**HibernateUtil class**

**package** com.ecommerce;

**import** org.hibernate.SessionFactory;

**import** org.hibernate.boot.Metadata;

**import** org.hibernate.boot.MetadataSources;

**import** org.hibernate.boot.registry.StandardServiceRegistry;

**import** org.hibernate.boot.registry.StandardServiceRegistryBuilder;

**public** **class** HibernateUtil {

**private** **static** **final** SessionFactory ***sessionFactory***;

**static** {

**try** {

StandardServiceRegistry standardRegistry = **new** StandardServiceRegistryBuilder()

.configure("hibernate.cfg.xml").build();

Metadata metaData = **new** MetadataSources(standardRegistry).getMetadataBuilder().build();

***sessionFactory*** = metaData.getSessionFactoryBuilder().build();

} **catch** (Throwable th) {

**throw** **new** ExceptionInInitializerError(th);

}

}

**public** **static** SessionFactory getSessionFactory() {

**return** ***sessionFactory***;

}

}

**EProduct.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="EProduct" table="eproduct">

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

<generator class="identity"/>

</id>

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

<property name="price" type="big\_decimal" column="PRICE"/>

<property name="dateAdded" type="timestamp" column="DATE\_ADDED"/>

<component name="parts" class="com.ecommerce.ProductParts">

<property name="hdd" column="parts\_hdd" type="string" />

<property name="cpu" column="parts\_cpu" type="string" />

<property name="ram" column="parts\_ram" type="string" />

</component>

</class>

</hibernate-mapping>

**hibernate.cfg.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.jdbc.Driver</property>

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

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

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

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

</session-factory>

</hibernate-configuration>

**HTML page**

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Hibernate Component Mapping</title>

</head>

<body>

<a href="details">Product Details</a><br>

</body>

</html>

**ProductDetails servlet**

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.transaction.\*;

**import** javax.xml.bind.\*;

**import** java.io.Serializable;

**import** java.math.BigDecimal;

**import** java.util.ArrayList;

**import** java.util.Calendar;

**import** java.util.Collection;

**import** java.util.List;

**import** java.util.Map;

**import** java.util.Set;

**import** org.hibernate.Session;

**import** org.hibernate.SessionFactory;

**import** org.hibernate.Transaction;

**import** org.hibernate.cfg.Configuration;

**import** com.ecommerce.EProduct;

**import** com.ecommerce.HibernateUtil;

**import** com.ecommerce.ProductParts;

/\*\*

\* Servlet implementation class ProductDetails

\*/

@WebServlet("/ProductDetails")

**public** **class** ProductDetails **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#HttpServlet()

\*/

**public** ProductDetails() {

**super**();

// **TODO** Auto-generated constructor stub

}

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

**try** {

SessionFactory factory = HibernateUtil.*getSessionFactory*();

Session session = factory.openSession();

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

PrintWriter out = response.getWriter();

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

out.println("<b>Component Mapping</b><br>");

**for**(EProduct p: list) {

out.println("ID: " + String.*valueOf*(p.getID()) + ", Name: " + p.getName() +

", Price: " + String.*valueOf*(p.getPrice()) + ", Date Added: " + p.getDateAdded().toString());

ProductParts parts = p.getParts();

out.println("Parts =" + parts.getCpu() + ", " + parts.getHdd() + ", " + parts.getRam());

out.println("<hr>");

}

session.close();

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

} **catch** (Exception ex) {

**throw** ex;

}

}

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

doGet(request, response);

}

}

**web.xml**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://xmlns.jcp.org/xml/ns/javaee" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd" id="WebApp\_ID" version="4.0">

<display-name>HibernateComponentMapping</display-name>

<welcome-file-list>

<welcome-file>index.html</welcome-file>

<welcome-file>index.htm</welcome-file>

<welcome-file>index.jsp</welcome-file>

<welcome-file>default.html</welcome-file>

<welcome-file>default.htm</welcome-file>

<welcome-file>default.jsp</welcome-file>

</welcome-file-list>

<servlet>

<servlet-name>ProductDetails</servlet-name>

<servlet-class>ProductDetails</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>ProductDetails</servlet-name>

<url-pattern>/details</url-pattern>

</servlet-mapping>

</web-app>