1 Configuration of Hibernate

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Hibernate Configuration Example</title>
</head>
<body>
<a href="init">Initialize Hibernate</a><br>

</body>
</html>
```

HibernateUtil

```
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;
    }
}
```

InitHibernate

```
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.util.List;

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;



/**
* Servlet implementation class InitHibernate
*/
@WebServlet("/InitHibernate")
public class InitHibernate extends HttpServlet {
	private static final long serialVersionUID = 1L;




   /**
* @see HttpServlet#HttpServlet()
*/
   public InitHibernate() {
      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 {
                  PrintWriter out = response.getWriter();
```

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

                SessionFactory factory = HibernateUtil.getSessionFactory();

                Session session = factory.openSession();
                out.println("Hibernate Session opened.<br>");
                session.close();
                out.println("Hibernate Session closed.<br>");

                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);
      }

}
```

2 Hibernate Configuration Using XML in Eclipse

```
<!DOCTYPE html>
```

```
<html>
<head>
<meta charset="UTF-8">
<title>Hibernate With XML</title>
</head>
<body>
<a href="list”>List Products</a><br>

</body>
</html>
```

HibernateUtil

```
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

```
package com.ecommerce;

import java.math.BigDecimal;
import java.util.Date;

public class EProduct {
    private long ID;
    private String name;
    private BigDecimal price;
    private Date dateAdded;

    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 this.ID; }
```

```
    public String getName() { return this.name;}
    public BigDecimal getPrice() { return this.price;}
    public Date getDateAdded() { return this.dateAdded;}

    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;}


}
```

ListProducts

```
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.util.List;

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;

/**
* Servlet implementation class ListProducts
*/
@WebServlet("/ListProducts")
public class ListProducts extends HttpServlet {
	private static final long serialVersionUID = 1L;



   /**
* @see HttpServlet#HttpServlet()
*/
   public ListProducts() {
      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();
                // using HQL
                List<EProduct> list = session.createQuery("from EProduct").list();

                session.close();

                 PrintWriter out = response.getWriter();
                 out.println("<html><body>");
                 out.println("<b>Product Listing</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() + "<br>");
                 }

               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);
      }
```

}

3 Hibernate Configuration Using Annotations in Eclipse

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Hibernate Annotation Example</title>
</head>
<body>
<a href="list">List Products</a><br>


</body>
</html>
```

HibernateUtil

```
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

```
package com.ecommerce;

import java.math.BigDecimal;
import java.util.Date;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.Table;

@Entity
@Table(name= "eproduct")
public class EProduct {

    @Id @GeneratedValue
```

```
    @Column(name = "ID")
    private long ID;

    @Column(name = "name")
    private String name;

    @Column(name = "price")
    private BigDecimal price;

    @Column(name = "date_added")
    private Date dateAdded;

    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 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;}
}
```

ListProducts

```
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.util.List;

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;

/**
* Servlet implementation class ListProducts
*/
@WebServlet("/ListProducts")
public class ListProducts extends HttpServlet {
	private static final long serialVersionUID = 1L;



   /**
* @see HttpServlet#HttpServlet()
*/
   public ListProducts() {
      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();
            // using HQL
            List<EProduct> list = session.createQuery("from EProduct").list();

            session.close();

            PrintWriter out = response.getWriter();
            out.println("<html><body>");
            out.println("<b>Product Listing</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() + "<br>");
            }

            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);
	}


}
```

4 Hibernate Logging by Log4j

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Hibernate Configuration Example</title>
</head>
<body>
<a href="init">Initialize Hibernate</a><br>


</body>
</html>
```

HibernateUtil

```
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;
	}
}
```

InitHibernate

```
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.util.List;

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;



/**
* Servlet implementation class InitHibernate
*/
@WebServlet("/InitHibernate")
public class InitHibernate extends HttpServlet {
	private static final long serialVersionUID = 1L;



    /**
* @see HttpServlet#HttpServlet()
*/
    public InitHibernate() {
```

```
        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 {
            PrintWriter out = response.getWriter();
            out.println("<html><body>");

            SessionFactory factory = HibernateUtil.getSessionFactory();

            Session session = factory.openSession();
            out.println("Hibernate Session opened.<br>");
            session.close();
            out.println("Hibernate Session closed.<br>");

            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);
	}

}
```

5 Collection Mapping in Hibernate

Color

```
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;}
```

}

EProduct

```
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 List<Color> colors;
	private Collection<ScreenSizes> screenSizes;
	private Set<OS> os;
	private Map finance;

	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 List<Color> getColors() { return this.colors;}
    public Collection<ScreenSizes> getScreensizes() { return this.screenSizes;}
    public Set<OS> getOs() { return this.os;}
    public Map getFinance() { return this.finance;}

    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 setColors(List<Color> colors) { this.colors = colors;}
    public void setScreensizes(Collection<ScreenSizes> sizes) { this.screenSizes = sizes;}
    public void setOs(Set<OS> os) { this.os = os;}
    public void setFinance(Map finance) { this.finance = finance;}
}
```

Finance

```
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;}


}
```

OS

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

```
}
```

ScreenSizes

```
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;}



}
```

HibernateUtil

```
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;
	}
}
```

6 Hibernate Lazy Collection

Color

```
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;}
}
```

EProduct

```
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 List<Color> colors;
	private Set<Finance> finance;
```

```
    private PDescription pdescrip;

    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 List<Color> getColors() { return this.colors;}
    public Set<Finance> getFinance() { return this.finance;}
    public PDescription getPdescrip() { return this.pdescrip;}

    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 setColors(List<Color> colors) { this.colors = colors;}
    public void setFinance(Set<Finance> finance) { this.finance = finance;}
    public void setPdescrip(PDescription pdescrip) { this.pdescrip = pdescrip;}
}
```

Finance

```
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;}
}
```

OS

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


}
```

ScreenSizes

```
package com.ecommerce;



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;}
```

```
}
```

HibernateUtil

```
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;
	}
}
```

7 Component Mapping

EProduct

```
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

```
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

```
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;
	}
}
```

8 Integration of Hibernate with Spring

EProductEntity

```
package com.ecommerce.entity;

import java.math.BigDecimal;

import java.util.Date;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.Id;

import javax.persistence.Table;


@Entity

@Table(name= "eproduct")

public class EProductEntity {



    @Id @GeneratedValue

    @Column(name = "ID")

    private long ID;


    @Column(name = "name")

    private String name;


    @Column(name = "price")

    private BigDecimal price;


    @Column(name = "date_added")
```

```
    private Date dateAdded;

    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 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;}
}
```

EProductDAO

```
package com.ecommerce.dao;

import java.util.List;

import org.hibernate.SessionFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Repository;
import org.springframework.stereotype.Service;
import org.springframework.transaction.annotation.Transactional;
import com.ecommerce.entity.EProductEntity;

@Repository
public class EProductDAO {

    @Autowired
```

```
    private SessionFactory sessionFactory;

    @SuppressWarnings("unchecked")
    public List<EProductEntity> getAllProducts() {
        return this.sessionFactory.getCurrentSession().createQuery("from EProducts").list();
    }
}
```

EProductController

```
package com.ecommerce.controller;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.validation.BindingResult;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RequestParam;

import com.ecommerce.entity.EProductEntity;
import com.ecommerce.service.EProductService;

@Controller
public class EProductController {

    @Autowired
```

```
        private EProductService eproductService;
        @RequestMapping(value = "/productList", method =
RequestMethod.GET)
        public String listProducts(ModelMap map)
        {
            map.addAttribute("eproduct", new EProductEntity());
            map.addAttribute("productList", eproductService.getAllProducts());
            return "productList";
        }
}
```