# BaseAction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | BaseAction | 包名  Package name | | com.grq.controller.action |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable | # pageNo = 1:int  # pageSize =6:int  # categoryDao:ProductCategoryDao  # productDao:ProductDao  # uploadFileDao:UploadFileDao  +sf INDEX:String  +sf MAIN:String | | +sf MANAGE:String  +sf ADD:String  +sf LIST:String  +sf EDIT:String  +sf SELECT:String  …… | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + execute():String  + index():String  + main():String  + manage():String  + add():String  + list():String  + edit():String  + select():String  + query():String  + login():String  + reg():String  // getter和settter方法  + getXxx/setXxx  ( id | pageNo | pageSize) | | | | |

# SharkAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | SharkAction | 包名  Package name | com.grq.controller.action.shark |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  + gdial():String  + gpanel():String  + grule():String | | | |

# SnakeAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | SnakeAction | 包名  Package name | com.grq.controller.action.snake |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram） | | | |

# SaleAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | SaleAction | 包名  Package name | com.grq.controller.action.sale |
| 引用导入  Import file | java.util.List;  org.springframework.context.annotation.Scope;  org.springframework.stereotype.Controller;  com.grq.controller.action.BaseAction;  com.grq.model.pojo.product.ProductCategory; | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable | - categories:List<ProductCategory> | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  // getter和settter方法  + getXxx/setXxx  ( categories )  // 处理方法  + main():String | | | |

# InvestAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | InvestAction | 包名  Package name | com.grq.controller.action.invest |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  + ranking():String  + sales():String | | | |

# PriceAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | PriceAction | 包名  Package name | com.grq.controller.action.price |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram） | | | |

# PrepareAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | PrepareAction | 包名  Package name | com.grq.controller.action.prepare |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram） | | | |

# BocaiAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | BocaiAction | 包名  Package name | com.grq.controller.action.bocai |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  + aboutbc():String  + joinbc():String | | | |

# CustomerAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | CustomerAction | 包名  Package name | com.grq.controller.action.manage |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  + usilverbuy():String | | | |

# AdminAction

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | AdminAction | 包名  Package name | com.grq.controller.action.manage |
| 引用导入  Import file |  | | |
| 继承 extends | BaseAction | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  + webserver():String  + webdatabase():String  + webotherinformation():String  + adminuser():String  + playeruser():String  + assetgiro():String  + assetsilver():String  + assetinvest():String  + operatesales():String  + operateoption():String | | | |

# ProductCategoryAction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductCategoryAction | 包名  Package name | | com.grq.controller.action.product |
| 引用导入  Import file | org.springframework.context.annotation.Scope;  org.springframework.stereotype.Controller;  com.grq.controller.action.BaseAction; | | com.grq.model.PageModel;  com.grq.model.pojo.product.ProductCategory;  com.opensymphony.xwork2.ModelDriven; | |
| 继承 extends | BaseAction | 实现 implements | | ModelDriven<ProductCategory> |
| 属性变量  Attribute variable | * category = new ProductCategory():ProductCategory * pid:Integer * pageModel:PageModel<ProductCategory> | | | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  + getModel():ProductCategory  // 处理方法  + add():string  + save():string  + list():string  + edit():string  + del():string  // getter和settter方法  + getXxx/setXxx  ( pageModel | pid | category ) | | | | |

# ProductAction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductAction | 包名  Package name | | com.grq.controller.action.product |
| 引用导入  Import file | java.io.File;  java.io.FileInputStream;  java.io.FileOutputStream;  java.util.HashMap;  java.util.LinkedHashMap;  java.util.List;  java.util.Map;  java.util.Set;  org.apache.struts2.ServletActionContext;  org.springframework.context.annotation.Scope;  org.springframework.stereotype.Controller; | | com.grq.controller.action.BaseAction;  com.grq.model.PageModel;  com.grq.model.pojo.product.ProductCategory;  com.grq.model.pojo.product.ProductInfo;  com.grq.model.pojo.product.UploadFile;  com.grq.model.util.StringUtil;  com.opensymphony.xwork2.ModelDriven; | |
| 继承 extends | BaseAction | 实现 implements | | ModelDriven<ProductCategory> |
| 属性变量  Attribute variable | * product = new ProductInfo() : ProductInfo * file : File * map : Map<Integer,String> * pageModel : PageModel<ProductInfo>   image : Map<String,String> | | | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  // getter和settter方法  + getXxx/setXxx  (product | file | map | pageModel | image) | | | | |

# CartAction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | CartAction | 包名  Package name | | com.grq.controller.action.product |
| 引用导入  Import file | java.util.Iterator;  java.util.Set;  org.springframework.context.annotation.Scope;  org.springframework.stereotype.Controller; | | com.grq.controller.action.BaseAction;  com.grq.model.pojo.product.OrderItem;  com.grq.model.pojo.product.ProductInfo; | |
| 继承 extends | BaseAction | 实现 implements | |  |
| 属性变量  Attribute variable | * productId : Integer | | | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  // getter和settter方法  + getXxx/setXxx  ( productId )  // 处理方法  + add():string  + list():string  + delete():string  + clear():string | | | | |

# OrderAction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderAction | 包名  Package name | | com.grq.controller.action.product |
| 引用导入  Import file | java.util.ArrayList;  java.util.HashMap;  java.util.List;  java.util.Map;  java.util.Set;  org.springframework.context.annotation.Scope;  org.springframework.stereotype.Controller;  com.grq.controller.action.BaseAction; | | com.grq.model.customizeenum.OrderState;  com.grq.model.PageModel;  com.grq.model.pojo.product.Order;  com.grq.model.pojo.product.OrderItem;  com.grq.model.pojo.product.ProductInfo;  com.grq.model.util.StringUtil;  com.opensymphony.xwork2.ModelDriven; | |
| 继承 extends | BaseAction | 实现 implements | | ModelDriven<Order> |
| 属性变量  Attribute variable | * order = new Order() : Order * pageModel : PageModel<Order> | | | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  // getter和settter方法  + getXxx/setXxx  (product | file | map | pageModel | image) | | | | |

# AdminLoginInterceptor

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | AdminLoginInterceptor | 包名  Package name | com.grq.controller.action.interceptor |
| 引用导入  Import file | java.util.Map;  com.grq.controller.action.BaseAction;  com.opensymphony.xwork2.ActionContext;  com.opensymphony.xwork2.ActionInvocation;  com.opensymphony.xwork2.interceptor.AbstractInterceptor; | | |
| 继承 extends | AbstractInterceptor | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + intercept(ActionInvocation):String | | | |

# CustomerLoginInterceptor

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | CustomerLoginInterceptor | 包名  Package name | com.grq.controller.action.interceptor |
| 引用导入  Import file | java.util.Map;  com.grq.controller.action.BaseAction;  com.opensymphony.xwork2.ActionContext;  com.opensymphony.xwork2.ActionInvocation;  com.opensymphony.xwork2.interceptor.AbstractInterceptor; | | |
| 继承 extends | AbstractInterceptor | 实现 implements |  |
| 属性变量  Attribute variable |  | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + intercept(ActionInvocation):String | | | |

# PageModel<T>

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | PageModel<T> | 包名  Package name | com.grq.model |
| 引用导入  Import file | java.util.List; | | |
| 继承 extends |  | 实现 implements |  |
| 属性变量  Attribute variable | - totalRecords:int  - list:List<T>  - pageNo:int  - pageSize:int | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + getTopPageNo():int  + getPreviousPageNo():int  + getNextPageNo():int  + getBottomPageNo():int  + getTotalPages():int  // getter和settter方法  + getXxx/setXxx  (totalRecords | list | pageNo | pageSize) | | | |

# Sex <<enum>>

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | Sex <<enum>> | 包名  Package name | com.grq.model.customizeenum |
| 引用导入  Import file | java.util.ArrayList;  java.util.List; | | |
| 继承 extends |  | 实现 implements |  |
| 属性变量  Attribute variable | BOY{…},GIRL{…},ALL{…}; | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  +A getName():String  +S getValues():List<String> | | | |

# OrderState <<enum>>

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | OrderState <<enum>> | 包名  Package name | com.grq.model.customizeenum |
| 引用导入  Import file | java.util.ArrayList;  java.util.List; | | |
| 继承 extends |  | 实现 implements |  |
| 属性变量  Attribute variable | DELIVERED{…}, FINISH{…}, CANCLE{…}; | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  +A getName():String  +S getValues():List<String> | | | |

# PaymentWay <<enum>>

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | PaymentWay <<enum>> | 包名  Package name | com.grq.model.customizeenum |
| 引用导入  Import file | java.util.ArrayList;  java.util.List; | | |
| 继承 extends |  | 实现 implements |  |
| 属性变量  Attribute variable | NET\_BANK{…}, ALIPAY{…}, FINISH\_PAY{…}, POSTOFFICE\_PAY{…}; | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  +A getName():String | | | |

# ProductCategory

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | ProductCategory | 包名  Package name | com.grq.model.pojo.product |
| 引用导入  Import file | java.io.Serializable;  java.util.Set;  java.util.TreeSet; | | |
| 继承 extends |  | 实现 implements | Serializable |
| 属性变量  Attribute variable | * id:Integer * name:String * level = 1:int * children: Set<ProductCategory> * parent:ProductCategory * products = new TreeSet<ProductInfo>():Set<ProductInfo> | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C ProductCategory()  +C ProductCategory( String, int, Set, ProductCategory, Set)  // getter和settter方法  + getXxx/setXxx  (id | name | level | children | parent | products) | | | |

# ProductCategory<<hbm>>

|  |  |  |  |
| --- | --- | --- | --- |
| 类名  Class name | ProductCategory<<hbm>> | 包名  Package name | com.grq.model.pojo.product |
| 引用导入  Import file |  | | |
| 继承 extends |  | 实现 implements |  |
| 属性变量  Attribute variable | I id  P name  P level  < products   * parent   < children | | |
| 说明remark |  | | |
| 类方法（流程图）Class method（process diagram） | | | |

# ProductInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductInfo | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file | java.io.Serializable;  java.util.Date;  com.grq.model.customizeenum.Sex; | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable | * id: Integer * name:String * description:String * createTime = new Date():Date * baseprice:Float * marketprice:Float * sellprice:Float | | * sexrequest:Sex * commend = false:Boolean * clickcount = 1:Integer * sellCount = 0: Integer * category:ProductCategory | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C ProductInfo()  +C ProductInfo( String, String, Date, Float……)  // getter和settter方法  + getXxx/setXxx  (id | name | description | createTime | baseprice……) | | | | |

# ProductInfo<<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductInfo<<hbm>> | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable | I id  P name  P description  P createTime  P baseprice  P marketprice  P sellprice | | P sexrequest (SexType)  P commend  P clickcount  P sellCount  > category  > uploadFile | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# UploadFile

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UploadFile | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable | * id : Integer * path : String | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  // getter和settter方法  + getXxx/setXxx  (id | path) | | | | |

# UploadFile <<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UploadFile <<hbm>> | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable | I id  P path | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# OrderItem

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderItem | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file | java.io.Serializable; | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# OrderItem <<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderItem <<hbm>> | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# Order

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | Order | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# Order <<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderItem <<hbm>> | 包名  Package name | | com.grq.model.pojo.product |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# Customer

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | Customer | 包名  Package name | | com.grq.model.pojo.user |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# Customer<<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | Customer<<hbm>> | 包名  Package name | | com.grq.model.pojo.user |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# User

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | User | 包名  Package name | | com.grq.model.pojo.user |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# User <<hbm>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | User<<hbm>> | 包名  Package name | | com.grq.model.pojo.user |
| 引用导入  Import file |  | | | |
| 继承 extends |  | 实现 implements | | Serializable |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# BaseDao<T> <<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | BaseDao<T> <<interface>> | 包名  Package name | | com.grq.model.dao |
| 引用导入  Import file | java.io.Serializable;  java.util.Map;  com.grq.model.PageModel | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# DaoSupport<T>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | DaoSupport<T> | 包名  Package name | | com.grq.model.dao |
| 引用导入  Import file | java.io.Serializable;  java.sql.SQLException;  java.util.List;  java.util.Map;  org.hibernate.HibernateException;  org.hibernate.Query;  org.hibernate.Session;  org.springframework.beans.factory.annotation.Autowired;  org.springframework.orm.hibernate3.HibernateCallback;  org.springframework.orm.hibernate3.HibernateTemplate;  org.springframework.orm.hibernate3.SessionFactoryUtils;  org.springframework.transaction.annotation.Propagation;  org.springframework.transaction.annotation.Transactional;  com.lyq.model.PageModel;  com.lyq.util.GenericsUtils; | | | |
| 继承 extends |  | 实现 implements | | BaseDao<T> |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# ProductCategoryDao <<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductCategoryDao <<interface>> | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | com.grq.model.dao.BaseDao;  com.grq.model.pojo.product.ProductCategory; | | | |
| 继承 extends | BaseDao<ProductCategory> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# ProductCategoryDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductCategoryDaoImpl | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | org.springframework.stereotype.Repository;  com.grq.model.dao.DaoSupport;  com.grq.model.pojo.product.ProductCategory; | | | |
| 继承 extends | DaoSupport<ProductCategory> | 实现 implements | | ProductCategoryDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("productCategoryDao") | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# ProductDao <<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductDao <<interface>> | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | java.util.List;  com.grq.model.dao.BaseDao;  com.grq.model.pojo.product.ProductInfo; | | | |
| 继承 extends | BaseDao<ProductInfo> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + findCommend():List<ProductInfo>  + findClickcount():List<ProductInfo>  + findSellCount():List<ProductInfo> | | | | |

# ProductDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | ProductDaoImpl | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | java.util.HashMap;  java.util.List;  java.util.Map;  org.springframework.stereotype.Repository;  org.springframework.transaction.annotation.Propagation;  org.springframework.transaction.annotation.Transactional;  com.grq.model.dao.DaoSupport;  com.grq.model.PageModel;  com.grq.model.pojo.product.ProductInfo; | | | |
| 继承 extends | DaoSupport <ProductInfo> | 实现 implements | | ProductDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("productDao")  @Transactional | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + findCommend():List<ProductInfo>  + findClickcount():List<ProductInfo>  + findSellCount():List<ProductInfo> | | | | |

# UploadFileDao <<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UploadFileDao <<interface>> | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | com.grq.model.dao.BaseDao;  com.grq.model.pojo.product.UploadFile; | | | |
| 继承 extends | BaseDao<UploadFile> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram） | | | | |

# UploadFileDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UploadFileDaoImpl | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | org.springframework.stereotype.Repository;  com.grq.model.dao.DaoSupport;  com.grq.model.pojo.product.UploadFile; | | | |
| 继承 extends | DaoSupport<UploadFile> | 实现 implements | | UploadFileDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("uploadFileDao") | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法 | | | | |

# OrderDao<<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderDao <<interface>> | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | com.grq.model.dao.BaseDao;  com.grq.model.pojo.product.Order; | | | |
| 继承 extends | BaseDao<Order> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  + findByCustomer(int):Order | | | | |

# OrderDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderDaoImpl | 包名  Package name | | com.grq.model.dao.product |
| 引用导入  Import file | java.util.List;  org.springframework.stereotype.Repository;  org.springframework.transaction.annotation.Propagation;  org.springframework.transaction.annotation.Transactional;  com.grq.model.dao.DaoSupport;  com.grq.model.pojo.product.Order; | | | |
| 继承 extends | DaoSupport<Order> | 实现 implements | | OrderDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("orderDao")  @Transactional | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + findByCustomer(int):Order | | | | |

# CustomerDao<<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | CustomerDao <<interface>> | 包名  Package name | | com.grq.model.dao.user |
| 引用导入  Import file | com.grq.model.dao.BaseDao;  com.grq.model.pojo.user.Customer; | | | |
| 继承 extends | BaseDao<Customer> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  + login(string,string):Customer  + isUnique(string):boolean | | | | |

# CustomerDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | CustomerDaoImpl | 包名  Package name | | com.grq.model.dao.user |
| 引用导入  Import file | java.util.List;  org.springframework.stereotype.Repository;  org.springframework.transaction.annotation.Propagation;  org.springframework.transaction.annotation.Transactional;  com.grq.model.dao.DaoSupport;  com.grq.model.pojo.user.Customer; | | | |
| 继承 extends | DaoSupport<Customer> | 实现 implements | | CustomerDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("customerDao")  @Transactional | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + login(string,string):Customer  + isUnique(string):boolean | | | | |

# UserDao<<interface>>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UserDao <<interface>> | 包名  Package name | | com.grq.model.dao.user |
| 引用导入  Import file | com.grq.model.dao.BaseDao;  com.grq.model.pojo.user.User; | | | |
| 继承 extends | BaseDao<User> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark |  | | | |
| 类方法（流程图）Class method（process diagram）  + login(string,string):User  + isUnique(string):boolean | | | | |

# UserDaoImpl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | UserDaoImpl | 包名  Package name | | com.grq.model.dao.user |
| 引用导入  Import file | java.util.List;  org.springframework.stereotype.Repository;  org.springframework.transaction.annotation.Propagation;  org.springframework.transaction.annotation.Transactional;  com.grq.model.dao.DaoSupport;  com.grq.model.pojo.user.User; | | | |
| 继承 extends | DaoSupport<User> | 实现 implements | | UserDao |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | @Repository("userDao")  @Transactional | | | |
| 类方法（流程图）Class method（process diagram）  // 处理方法  + login(string,string):User  + isUnique(string):boolean | | | | |

# AppException

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | AppException | 包名  Package name | | com.grq.model.util |
| 引用导入  Import file |  | | | |
| 继承 extends | RuntimeException | 实现 implements | |  |
| 属性变量  Attribute variable | * message:String * args:String * defaultMessage:String | |  | |
| 说明remark | 异常 | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C AppException(String)  +C AppException(String, String……)  +C AppException(String, String[],String)  // getter和settter方法  + getMessage(): string  + getArgs() : String[]  + getDefaultMessage(): string | | | | |

# GenericsUtils

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | GenericsUtils | 包名  Package name | | com.grq.model.util |
| 引用导入  Import file | java.lang.reflect.ParameterizedType;  java.lang.reflect.Type; | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 泛型工具类 | | | |
| 类方法（流程图）Class method（process diagram）  +S getGenericType(Class):Class  +S getGenericName(Class):string | | | | |

# StringUtil

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | StringUtil | 包名  Package name | | com.grq.model.util |
| 引用导入  Import file | java.text.SimpleDateFormat;  java.util.Date;  java.util.Random; | | | |
| 继承 extends |  | 实现 implements | |  |
| 属性变量  Attribute variable | +S random:Random | |  | |
| 说明remark | 字符串工具类 | | | |
| 类方法（流程图）Class method（process diagram）  +S getStringTime():String  +S createOrderId():String  +S validateString(String):boolean  +S validateFloat(Float):boolean | | | | |

# SexConversion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | SexConversion | 包名  Package name | | com.grq.model.util.conversion |
| 引用导入  Import file | java.util.Map;  org.apache.struts2.util.StrutsTypeConverter;  com.grq.model.customizeenum.Sex; | | | |
| 继承 extends | StrutsTypeConverter | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 性别类型转换器 | | | |
| 类方法（流程图）Class method（process diagram）  + convertFromString(Map, String[], Class):Object  + convertToString(Map, Object):String | | | | |

# PaymentWayConversion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | PaymentWayConversion | 包名  Package name | | com.grq.model.util.conversion |
| 引用导入  Import file | java.util.Map;  org.apache.struts2.util.StrutsTypeConverter;  com.grq.model.customizeenum.PaymentWay; | | | |
| 继承 extends | StrutsTypeConverter | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 支付方式转换器 | | | |
| 类方法（流程图）Class method（process diagram）  + convertFromString(Map, String[], Class):Object  + convertToString(Map, Object):String | | | | |

# OrderStateConversion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderStateConversion | 包名  Package name | | com.grq.model.util.conversion |
| 引用导入  Import file | java.util.Map;  org.apache.struts2.util.StrutsTypeConverter;  com.grq.model.customizeenum.OrderState; | | | |
| 继承 extends | StrutsTypeConverter | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 订单状态转换器 | | | |
| 类方法（流程图）Class method（process diagram）  + convertFromString(Map, String[], Class):Object  + convertToString(Map, Object):String | | | | |

# EnumType<T>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | EnumType<T> | 包名  Package name | | com.grq.model.util.hibernate |
| 引用导入  Import file | java.io.Serializable;  java.sql.PreparedStatement;  java.sql.ResultSet;  java.sql.SQLException;  java.sql.Types;  org.hibernate.HibernateException;  org.hibernate.usertype.UserType; | | | |
| 继承 extends | <T extends Enum<T>> | 实现 implements | | UserType |
| 属性变量  Attribute variable | -SF SQL\_TYPES = { Types.VARCHAR } : int[]  - clazz = null : Class<T> | |  | |
| 说明remark | 自定义枚举Hibernate映射类型 | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C EnumType(Class<T>)  // 重写的处理方法  + assemble(Serializable,Object)：Object  + deepCopy(Object)：Object  + disassemble(Object)：Serializable  + equals(Object, Object)：boolean  + hashCode(Object)：int  + isMutable()：boolean  + nullSafeGet(ResultSet, String[], Object)：Object  + nullSafeSet(PreparedStatement, Object, int)：void  + replace(Object, Object, Object)：Object  + returnedClass()：Class<T>  + sqlTypes()：int[] | | | | |

# SexType

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | SexType | 包名  Package name | | com.grq.model.util.hibernate |
| 引用导入  Import file | com.grq.model.customizeenum.Sex; | | | |
| 继承 extends | EnumType<Sex> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 性别Hibernate映射类型 | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C SexType() | | | | |

# OrderStateType

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | OrderStateType | 包名  Package name | | com.grq.model.util.hibernate |
| 引用导入  Import file | com.grq.model.customizeenum.OrderState; | | | |
| 继承 extends | EnumType<OrderState> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 订单状态Hibernate映射类型 | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C OrderStateType() | | | | |

# PaymentWayType

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 类名  Class name | PaymentWayType | 包名  Package name | | com.grq.model.util.hibernate |
| 引用导入  Import file | com.grq.model.customizeenum.PaymentWay; | | | |
| 继承 extends | EnumType<PaymentWay> | 实现 implements | |  |
| 属性变量  Attribute variable |  | |  | |
| 说明remark | 支付方式Hibernate映射类型 | | | |
| 类方法（流程图）Class method（process diagram）  //构造体（Constructors）  +C PaymentWayType() | | | | |

# Qqq