# 第十四单元 规格参数管理及spu管理

# 【授课重点】

1. 规格参数管理
2. spu管理

# 【考核要求】

1. 能够使用ajax方式进行图片上传
2. 能够独立完成规格参数管理功能
3. 能够独立完成spu管理功能

# 【教学内容】

## 14.1 规格参数管理

### 14.1.1 修改规格参数及选项

1. 控制层-SpecController

* @RequestMapping("/getSpecById")  
  @ResponseBody  
  public Spec getSpecById(Integer id) {  
   return specService.getSpecById(id);  
  }
* @RequestMapping("/specAdd")  
  @ResponseBody  
  public boolean specAdd(Spec spec){  
   return specService.saveOrUpdateSpec(spec) > 0;  
  }

1. 接口层-SpecService

* Spec getSpecById(Integer id);  
    
  Integer saveOrUpdateSpec(Spec spec);

1. 服务层-SpecServiceImpl

* @Override  
  public Spec getSpecById(Integer id) {  
   return specMapper.selectSpecById(id);  
  }  
     
  @Override  
  public Integer saveOrUpdateSpec(Spec spec) {  
   Integer count = null;  
   if (spec.getId() == null) {  
   //1.新增  
   //1.1.插入hg\_spec  
   count = specMapper.insertSpec(spec);  
   } else {  
   //2.修改  
   //2.1.修改hg\_spec  
   count = specMapper.updateSpec(spec);  
   //2.2.删除对应的hg\_spec\_option所有的记录  
   specMapper.deleteSpecOptionBySpecId(spec.getId());  
   }  
   //3.批量插入hg\_spec\_option  
   for (SpecOption specOption : spec.getOptions()) {  
   if (StringUtils.isNotBlank(specOption.getOptionName())) {  
   specOption.setSpecId(spec.getId());  
   specMapper.insertSpecOption(specOption);  
   }  
   }  
   return count;  
  }

1. 数据访问层-SpecMapper

* Spec selectSpecById(Integer id);  
    
  Integer updateSpec(Spec spec);
* <resultMap type="spec" id="specMap">  
   <id column="id" property="id"/>  
   <result column="spec\_name" property="specName"/>  
   <collection property="options" javaType="list" ofType="specOption">  
   <id column="option\_id" property="id"/>  
   <result column="option\_name" property="optionName"/>  
   </collection>  
  </resultMap>  
  <select id="selectSpecById" resultMap="specMap">  
   select s.id,s.spec\_name,so.id option\_id,so.option\_name  
   from hg\_spec s left join hg\_spec\_option so  
   on s.id=so.spec\_id  
   where s.id=#{id}  
  </select>  
  <update id="updateSpec">  
   update hg\_spec set spec\_name=#{specName} where id=#{id}  
  </update>

### 14.1.2 删除规格参数及选项

1. 控制层-SpecController

* @RequestMapping("/specDelete")  
  @ResponseBody  
  public boolean specDelete(Integer[] ids){  
   return specService.deleteSpecByIds(ids) > 0;  
  }

1. 接口层-SpecService

* Integer deleteSpecByIds(Integer[] ids);

1. 服务层-SpecServiceImpl

* @Override  
  public Integer deleteSpecByIds(Integer[] ids) {  
   Integer count = specMapper.deleteSpecByIds(ids);  
   specMapper.deleteSpecOptionBySpecIds(ids);  
   return count;  
  }

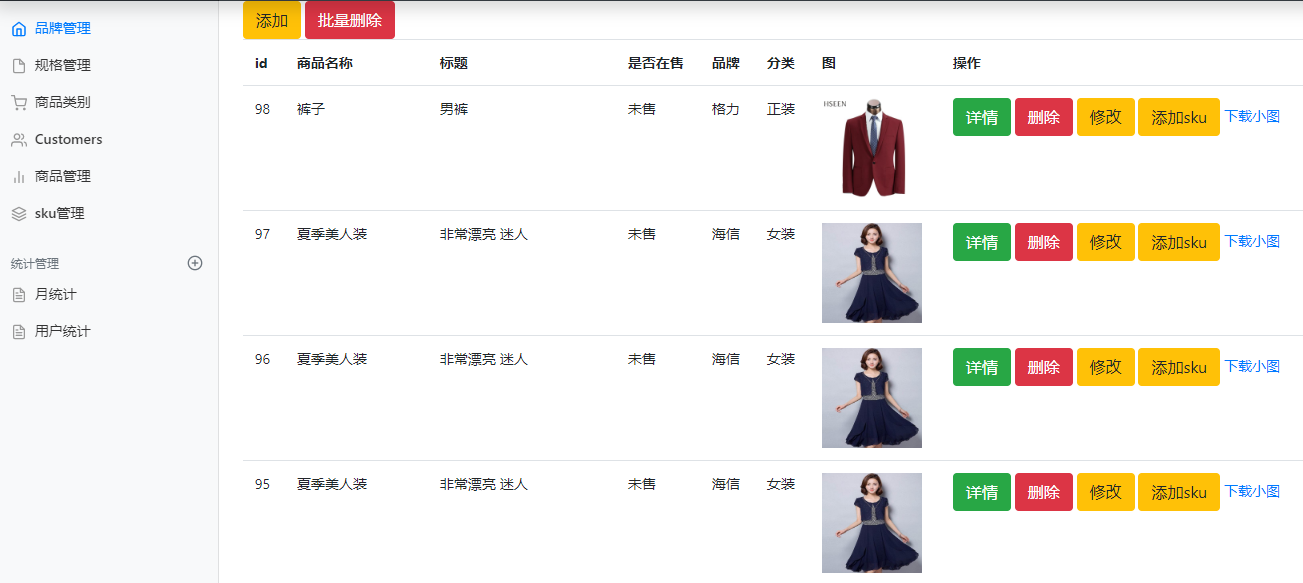
1. 数据访问层-SpecMapper

* Integer deleteSpecByIds(Integer[] ids);  
    
  void deleteSpecOptionBySpecIds(Integer[] specIds);
* <delete id="deleteSpecOptionBySpecIds">  
   delete from hg\_spec\_option where spec\_id in  
   <foreach collection="array" item="specId" open="(" close=")" separator=",">  
   #{specId}  
   </foreach>  
  </delete>  
  <delete id="deleteSpecByIds">  
   delete from hg\_spec where id in  
   <foreach collection="array" item="id" open="(" close=")" separator=",">  
   #{id}  
   </foreach>  
  </delete>

## 14.2 spu管理

### 14.2.1 spu页面

实现效果



1. 页面原型(商品分类树型列表)-spu\_list.html

* <!DOCTYPE html>  
  <html lang="zh-CN">  
   <head>  
   <meta charset="utf-8">  
   <meta http-equiv="X-UA-Compatible" content="IE=edge">  
   <meta name="viewport" content="width=device-width, initial-scale=1">  
   <title>hgshop后台管理系统</title>  
    
   <!-- Bootstrap core CSS -->  
   <link href="resource/css/bootstrap.css" rel="stylesheet"/>  
   <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
   <script type="text/javascript" src="resource/jquery/jquery-3.4.1.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap.min.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap-treeview.js" ></script>  
     
   <script type="text/javascript">  
    
   $(function() {  
   $('.main').css('height',window.screen.height);  
     
   var defaultData = [  
   {  
   text: 'Parent 1',  
   href: '#parent1',  
   tags: ['4'],  
   selectable: false,  
   nodes: [  
   {  
   text: 'Child 1',  
   href: '#child1',  
   tags: ['2'],  
   selectable: false,  
   nodes: [  
   {  
   text: 'Grandchild 1',  
   href: '#Grandchild 1',  
   tags: ['0']  
   },  
   {  
   text: 'Grandchild 2',  
   href: '#grandchild2',  
   tags: ['0']  
   }  
   ]  
   },  
   {  
   text: 'Child 2',  
   href: '#child2',  
   tags: ['0']  
   }  
   ]  
   },  
   {  
   text: 'Parent 2',  
   href: '#parent2',  
   tags: ['0']  
   },  
   {  
   text: 'Parent 3',  
   href: '#parent3',  
   tags: ['0']  
   },  
   {  
   text: 'Parent 4',  
   href: '#parent4',  
   tags: ['0']   
   },  
   {  
   text: 'Parent 5',  
   href: '#parent5' ,  
   tags: ['0']  
   }  
   ];  
    
   $('#tree').treeview({  
   data: defaultData,  
   onNodeSelected: function(event, node) {  
   $('iframe').prop('src', 'spu\_list1.html');   
   }  
   });  
   });  
   </script>  
   </head>  
    
  <body>  
    
   <div class="container-fluid">  
   <div class="row">  
   <!-- 左边部分 -->  
   <div class="col-md-3" id="tree"></div>  
   <div class="col-md-9 main">  
   <iframe width="100%" height="100%" name="mainFrame" src="welcome.html" frameborder="0"></iframe>  
   </div>  
   </div>  
   </div>  
    
   </div>  
    
    
  </body>  
  </html>

1. 页面原型(spu列表)-spu\_list1.html

* <!DOCTYPE html>  
  <html lang="zh-CN">  
   <head>  
   <meta charset="utf-8">  
   <meta http-equiv="X-UA-Compatible" content="IE=edge">  
   <meta name="viewport" content="width=device-width, initial-scale=1">  
   <title>hgshop后台管理系统</title>  
    
   <!-- Bootstrap core CSS -->  
   <link href="resource/css/bootstrap.css" rel="stylesheet"/>  
   <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
   <script type="text/javascript" src="resource/jquery/jquery-3.4.1.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap.min.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap-treeview.js" ></script>  
     
   <script>  
   $(function(){  
   var defaultData = [  
   {  
   text: 'Parent 1',  
   href: '#parent1',  
   tags: ['4'],  
   selectable: false,  
   nodes: [  
   {  
   text: 'Child 1',  
   href: '#child1',  
   tags: ['2'],  
   selectable: false,  
   nodes: [  
   {  
   text: 'Grandchild 1',  
   href: '#Grandchild 1',  
   tags: ['0']  
   },  
   {  
   text: 'Grandchild 2',  
   href: '#grandchild2',  
   tags: ['0']  
   }  
   ]  
   },  
   {  
   text: 'Child 2',  
   href: '#child2',  
   tags: ['0']  
   }  
   ]  
   },  
   {  
   text: 'Parent 2',  
   href: '#parent2',  
   tags: ['0']  
   },  
   {  
   text: 'Parent 3',  
   href: '#parent3',  
   tags: ['0']  
   },  
   {  
   text: 'Parent 4',  
   href: '#parent4',  
   tags: ['0']   
   },  
   {  
   text: 'Parent 5',  
   href: '#parent5' ,  
   tags: ['0']  
   }  
   ];  
   $("#addCategoryName").click(function() {  
   var options = {  
   levels : 1,  
   data : defaultData,  
   onNodeSelected : function(event, data) {  
   $("#addCategoryName").val(data.text);  
   $("#tree").hide();//选中树节点后隐藏树  
   }  
   };  
   $('#tree').treeview(options);  
   $('#tree').show()  
   });  
   })  
     
   </script>  
   </head>  
    
  <body>  
    
   <div class="container-fluid">  
   <div class="row">  
   <!-- 加入了列 填充整行 -->  
   <form class="col-sm-12" action="spuList" method="post">  
   <div class="form-group">  
   <label>商品名称</label>   
   <input type="text" name="goodsName" class="form-control" placeholder="请输入品牌名称" value="">  
   </div>  
    
   <div class="form-group">  
   <label>商品副标题</label>   
   <input type="text" name="caption" class="form-control" placeholder="请输入品牌的首字母" value="">  
   </div>  
   <!-- 隐藏分类的id值 -->  
   <input type="hidden" id="cid" name="categoryId" value=""/>  
   <button class="btn btn-success">搜索</button>  
   </form>  
   </div>  
    
   <!-- 外边距(下方) 10像素的大小 -->  
   <div class="row" style="margin-bottom: 10px;">  
   <!-- 右端对齐 -->  
   <div class="col-sm-12" align="right">  
   <input type="button" class="btn btn-danger"  
   onclick="deleteObjects()" value="批量删除" />  
   <button class="btn btn-primary btn-sm" onclick="preAddSpu()"  
   data-toggle="modal" data-target="#spuAddModal">添加商品</button>  
   </div>  
   </div>  
    
    
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th scope="col"><input type="checkbox" id="cbk" />全选</th>  
   <th scope="col">序号</th>  
   <th scope="col">图标</th>  
   <th scope="col">商品名称</th>  
   <th scope="col">商品状态</th>  
   <th scope="col">商品品牌</th>  
   <th scope="col">商品分类</th>  
   <th scope="col">操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <tr>  
   <td scope="row">  
   <input type="checkbox" class="ck" value=""/>  
   </td>  
   <td></td>  
   <td>  
   <img width="40px" height="40px" src=""/>  
   </td>  
   <td></td>  
   <td></td>  
   <td></td>  
   <td></td>  
   <td></td>  
   <td>  
   <a href="javascript:void(0)" onclick="deleteObjectByIds()" class="btn btn-info">删除</a>  
   <button class="btn btn-info btn-sm" data-toggle="modal"  
   data-target="#spuEditModal"  
   onclick="updateSpu()">修改</button>  
   <button class="btn btn-primary btn-sm" data-toggle="modal"  
   data-target="#spuDetailModal"  
   onclick="detailSpu()">详情</button></td>  
   </tr>  
   </tbody>  
   </table>  
    
   <nav>  
   <ul class="pagination">  
   <li>  
   <a href="#">  
   <span aria-hidden="true">上一页</span>  
   </a>  
   </li>  
   <li><a href="#">1</a></li>  
   <li><a href="#">2</a></li>  
   <li>  
   <a href="#" aria-label="Next">  
   <span aria-hidden="true">下一页</span>  
   </a>  
   </li>  
   </ul>  
   </nav>  
   </div>  
    
   </div>  
    
    
   <!-- ////////////////写入添加模态框 //////////////////////////////-->  
   <div class="modal fade" id="spuAddModal" tabindex="-1" role="dialog"  
   aria-labelledby="myModalLabel" aria-hidden="true">  
    
   <div class="modal-dialog">  
   <div class="modal-content">  
   <div class="modal-header">  
   <!-- 关闭的x效果 -->  
   <button type="button" class="close" data-dismiss="modal"  
   aria-hidden="true">&times;</button>  
    
   <!-- 模态框的标题 -->  
   <h4 class="modal-title" id="spuAddModalLabel">添加商品操作</h4>  
   </div>  
   <div class="modal-body">  
   <form id="addFrm" enctype="multipart/form-data">  
   <div class="form-group row">  
    
   <label for="addGoodsName"  
   class="col-sm-3 col-form-label col-form-label-sm">商品名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="addGoodsName" name="goodsName" placeholder="请输入商品名称">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="addCaption" class="col-sm-3 col-form-label">商品副标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="addCaption"  
   name="caption" placeholder="请输入商品的副标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="addismarketTable" class="col-sm-3 col-form-label">商品状态</label>  
   <div class="col-sm-9">  
   <select class="form-control" name="ismarketTable">  
   <option value="0">上架</option>  
   <option value="1">下架</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="addBrand" class="col-sm-3 col-form-label">商品品牌</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="addBrand" name="brand.id">  
   <option value="0">请选择品牌</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="addCategory" class="col-sm-3 col-form-label">商品分类</label>  
   <!-- 左边部分 -->  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="addCategory"  
   name="categoryId"> <input  
   type="text" class="form-control" id="addCategoryName"  
   placeholder="选择商品分类">  
   <div id="tree" style="display: none; position:absolute; z-index:1010; background-color:white; "></div>  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="addsmallPic" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="addsmallPic"  
   name="file" />  
   </div>  
   </div>  
    
    
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addObject()">添加</button>  
   </div>  
   </div>  
   <!-- /.modal-content -->  
   </div>  
   <!-- /.modal -->  
   </div>  
   <!-- ///////////////////添加模态框结束//////////////////////////// -->  
    
    
  </body>  
  </html>

1. 项目引入页面

* 3.1 spu\_list.jsp
* <%@ page language="java" contentType="text/html; charset=UTF-8"  
   pageEncoding="UTF-8"%>  
  <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>  
  <!DOCTYPE html>  
  <html lang="zh-CN">  
   <head>  
   <base href="${pageContext.request.contextPath }/">  
  <meta charset="utf-8">  
  <meta http-equiv="X-UA-Compatible" content="IE=edge">  
  <meta name="viewport" content="width=device-width, initial-scale=1">  
  <title>hgshop后台管理系统</title>  
    
  <!-- Bootstrap core CSS -->  
  <link href="resource/css/bootstrap.css" rel="stylesheet" />  
  <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
  <script type="text/javascript" src="resource/jquery/jquery-3.4.1.js"></script>  
  <script type="text/javascript"  
   src="resource/bootstrap/js/bootstrap.min.js"></script>  
  <script type="text/javascript"  
   src="resource/bootstrap/js/bootstrap-treeview.js"></script>  
    
  <script type="text/javascript">  
   $(function() {  
   $('.main').css('height', window.screen.height);  
   $.post('getAllCategories1', {}, function(data) {  
   $('#tree').treeview({  
   data : data,  
   onNodeSelected : function(event, node) {  
   $('iframe').prop('src', 'spuList?categoryId=' + node.id);  
   }  
   });  
   });  
   });  
  </script>  
  </head>  
    
  <body>  
    
   <div class="container-fluid">  
   <div class="row">  
   <!-- 左边部分 -->  
   <div class="col-md-3" id="tree"></div>  
   <div class="col-md-9 main">  
   <iframe width="100%" height="100%" name="mainFrame"  
   src="" frameborder="0"></iframe>  
   </div>  
   </div>  
   </div>  
    
    
    
  </body>  
  </html>
* 3.2 spu*list*1.jsp
* <%@ page language="java" contentType="text/html; charset=UTF-8"  
   pageEncoding="UTF-8"%>  
  <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>  
  <!DOCTYPE html>  
  <html lang="zh-CN">  
   <head>  
   <base href="${pageContext.request.contextPath }/">  
   <head>  
   <meta charset="utf-8">  
   <meta http-equiv="X-UA-Compatible" content="IE=edge">  
   <meta name="viewport" content="width=device-width, initial-scale=1">  
   <title>hgshop后台管理系统</title>  
    
   <!-- Bootstrap core CSS -->  
   <link href="resource/css/bootstrap.css" rel="stylesheet"/>  
   <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
   <script type="text/javascript" src="resource/jquery/jquery-3.4.1.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap.min.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap-treeview.js" ></script>  
     
   <script>  
   $(function(){  
   $("#categoryName").click(function() {  
   $.post('getAllCategories1', {}, function(data) {  
   var options = {  
   levels : 2,  
   data : data,  
   onNodeSelected : function(event, data) {  
   $("#categoryId").val(data.id);  
   $("#categoryName").val(data.text);  
   $("#tree").hide();//选中树节点后隐藏树  
   }  
   };  
   $('#tree').treeview(options);  
   $('#tree').show();  
   });  
   });  
   $("#categoryName2").click(function() {  
   $.post('getAllCategories1', {}, function(data) {  
   var options = {  
   levels : 2,  
   data : data,  
   onNodeSelected : function(event, data) {  
   $("#categoryId2").val(data.id);  
   $("#categoryName2").val(data.text);  
   $("#tree2").hide();//选中树节点后隐藏树  
   }  
   };  
   $('#tree2').treeview(options);  
   $('#tree2').show();  
   });  
   });  
   });  
   //【新增商品】按钮或【修改】按钮点击时调用  
   function preAddSpu(){  
   //获取品牌列表  
   $.post("getAllBrands", {},function(data) {  
   //遍历数据  
   $('#brandId').html("<option value=''>--请选择--</option>");  
   for(var i in data){  
   $('#brandId').append("<option value='"+data[i].id+"'>"+data[i].name+"</option>");  
   }  
   },"json");  
   }  
   function addSpu(flag){  
   var obj1,obj2;  
   if(!flag){  
   //添加  
   obj1=$('#modalForm')[0];  
   obj2=$('#myModal');  
   }else{  
   //修改  
   obj1=$('#modalForm2')[0];  
   obj2=$('#myModal2');  
   }  
   var formData = new FormData(obj1);  
   $.ajax({  
   type:'post',  
   data:formData,  
   url:'spuAdd',  
   processData : false, // 告诉jQuery不要去处理发送的数据  
   contentType : false, // 告诉jQuery不要去设置Content-Type请求头  
   dataType:'json',  
   success:function(data){  
   if(data){  
   //关闭模态框  
   obj2.modal('hide');  
   window.location.reload();  
   }else{  
   alert("商品操作失败");  
   }  
   }  
   });  
   }  
   //在线预览图片  
   function show(obj,flag){  
   var obj1;  
   if(!flag){  
   obj1=$("#smallPic12");  
   }else{  
   obj1=$("#smallPic22");  
   }  
   var rd = new FileReader();//创建文件读取对象  
   var files = obj.files[0];//获取file组件中的文件  
   rd.readAsDataURL(files);//文件读取装换为base64类型  
   rd.onloadend = function(e) {  
   //加载完毕之后获取结果赋值给img  
   obj1.prop('src', this.result);  
   obj1.show();  
   }  
   }  
   function getSpuById(id){  
   $.post("getAllBrands", {},function(data) {  
   //遍历数据  
   $('#brandId2').html("<option value=''>--请选择--</option>");  
   for(var i in data){  
   $('#brandId2').append("<option value='"+data[i].id+"'>"+data[i].name+"</option>");  
   }  
   },"json");  
     
     
   $.post('getSpuById',{id:id},function(data){  
   $("#smallPic22").prop("src", "pic/" + data.smallPic);  
   $("#smallPic22").show();  
   $('#id2').val(data.id);  
   $('#smallPic20').val(data.smallPic);  
   $('#goodsName2').val(data.goodsName);  
   $('#caption2').val(data.caption);  
   $('#isMarketable2').val(data.isMarketable);  
   $('#brandId2').val(data.brandId);  
   $('#brandId2 option[value=' + data.brandId + ']').prop('selected',true);  
   $('#categoryId2').val(data.categoryId);  
   $('#categoryName2').val(data.cName);  
   },'json');  
   }  
   function viewById(id){  
   $.post('getSpuById',{id:id},function(data){  
   $("#smallPic32").prop("src", "pic/" + data.smallPic);  
   $("#smallPic32").show();  
   $('#goodsName3').text(data.goodsName);  
   $('#caption3').text(data.caption);  
   $('#isMarketable3').text(data.isMarketable==0 ? '上架' : '下架');  
   $('#brandName3').text(data.bName);  
   $('#categoryName3').text(data.cName);  
   },'json');  
   }  
   $(function(){  
   $('#cbk').on('click',function(){  
   $('.ck').prop('checked', this.checked);  
   });  
   })  
   function deleteSpu(ids){  
   if(!ids){  
   ids = $('.ck:checked').map(function(){  
   return this.value;  
   }).get().join(',');  
   }  
   if(ids!=''){  
   if(confirm('确定要删除选中的数据吗?')){  
   $.post('spuDelete',{ids:ids},function(data){  
   if(data){  
   window.location.reload();  
   }else{  
   alert('删除spu失败');  
   }  
   },'json');  
   }  
   }else{  
   alert('请选中要删除的数据');  
   }  
   }  
     
   </script>  
   </head>  
    
  <body>  
    
   <div class="container-fluid">  
   <div class="row">  
   <!-- 加入了列 填充整行 -->  
   <form class="col-sm-12" action="spuList" method="post">  
   <div class="form-group">  
   <label>商品名称</label>   
   <input type="text" name="goodsName" class="form-control" placeholder="请输入品牌名称" value="${spu.goodsName}">  
   </div>  
    
   <div class="form-group">  
   <label>商品副标题</label>   
   <input type="text" name="caption" class="form-control" placeholder="请输入商品副标题" value="${spu.caption}">  
   </div>  
   <!-- 隐藏分类的id值 -->  
   <input type="hidden" id="cid" name="categoryId" value="${spu.categoryId}"/>  
   <button class="btn btn-success" type="submit">搜索</button>  
   </form>  
   </div>  
    
   <!-- 外边距(下方) 10像素的大小 -->  
   <div class="row" style="margin-bottom: 10px;">  
   <!-- 右端对齐 -->  
   <div class="col-sm-12" align="right">  
   <input type="button" class="btn btn-danger"  
   onclick="deleteSpu()" value="批量删除" />  
   <button class="btn btn-primary btn-sm" onclick="preAddSpu()"  
   data-toggle="modal" data-target="#myModal">添加商品</button>  
   </div>  
   </div>  
    
    
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th scope="col"><input type="checkbox" id="cbk" />全选</th>  
   <th scope="col">序号</th>  
   <th scope="col">图标</th>  
   <th scope="col">商品名称</th>  
   <th scope="col">商品状态</th>  
   <th scope="col">商品品牌</th>  
   <th scope="col">商品分类</th>  
   <th scope="col">操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <c:forEach items="${pageInfo.list}" var="spu" varStatus="index">  
   <tr>  
   <td scope="row">  
   <input type="checkbox" class="ck" value="${spu.id}"/>  
   </td>  
   <td>${index.count}</td>  
   <td class="col-sm-2">  
   <img class="img-responsive" src="pic/${spu.smallPic}"/>  
   </td>  
   <td class="col-sm-2">${spu.goodsName}</td>  
   <td>${spu.isMarketable==0 ? '上架' : '下架'}</td>  
   <td>${spu.bName}</td>  
   <td>${spu.cName}</td>  
   <td>  
   <a href="javascript:void(0)" onclick="deleteSpu(${spu.id})" class="btn btn-info">删除</a>  
   <button class="btn btn-info btn-sm" data-toggle="modal"  
   data-target="#myModal2"  
   onclick="getSpuById(${spu.id})">修改</button>  
   <button class="btn btn-primary btn-sm" data-toggle="modal"  
   data-target="#myModal3"  
   onclick="viewById(${spu.id})">详情</button></td>  
   </tr>  
   </c:forEach>  
   </tbody>  
   </table>  
    
   <nav>  
   <ul class="pagination">  
   <c:if test="${pageInfo.hasPreviousPage}">  
   <li>  
   <a href="spuList?pageNum=${pageInfo.prePage}&goodsName=${spu.goodsName}&caption=${spu.caption}&categoryId=${spu.categoryId}">  
   <span aria-hidden="true">上一页</span>  
   </a>  
   </li>  
   </c:if>  
   <c:forEach items="${pageInfo.navigatepageNums}" var="pageNum">  
   <c:if test="${pageInfo.pageNum==pageNum}">  
   <li class="active"><a href="spuList?pageNum=${pageNum}&goodsName=${spu.goodsName}&caption=${spu.caption}&categoryId=${spu.categoryId}">${pageNum}</a></li>  
   </c:if>  
   <c:if test="${pageInfo.pageNum!=pageNum}">  
   <li><a href="spuList?pageNum=${pageNum}&goodsName=${spu.goodsName}&caption=${spu.caption}&categoryId=${spu.categoryId}">${pageNum}</a></li>  
   </c:if>  
   </c:forEach>  
   <c:if test="${pageInfo.hasNextPage}">  
   <li>  
   <a href="spuList?pageNum=${pageInfo.nextPage}&goodsName=${spu.goodsName}&caption=${spu.caption}&categoryId=${spu.categoryId}" aria-label="Next">  
   <span aria-hidden="true">下一页</span>  
   </a>  
   </li>  
   </c:if>  
   </ul>  
   </nav>  
   </div>  
    
   </div>  
    
    
   <!-- ////////////////添加模态框 //////////////////////////////-->  
   <div class="modal fade" id="myModal" tabindex="-1" role="dialog"  
   aria-labelledby="myModalLabel" aria-hidden="true">  
    
   <div class="modal-dialog">  
   <div class="modal-content">  
   <div class="modal-header">  
   <!-- 关闭的x效果 -->  
   <button type="button" class="close" data-dismiss="modal"  
   aria-hidden="true">&times;</button>  
    
   <!-- 模态框的标题 -->  
   <h4 class="modal-title" id="spuAddModalLabel">添加商品操作</h4>  
   </div>  
   <div class="modal-body">  
   <form id="modalForm" enctype="multipart/form-data" action="javascript:void(0)">  
   <div class="form-group row">  
   <label for="goodsName"  
   class="col-sm-3 col-form-label col-form-label-sm">商品名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="goodsName" name="goodsName" placeholder="请输入商品名称">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="caption" class="col-sm-3 col-form-label">商品副标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="caption"  
   name="caption" placeholder="请输入商品的副标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="isMarketable" class="col-sm-3 col-form-label">商品状态</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="isMarketable" name="isMarketable">  
   <option value="">请选择</option>  
   <option value="0">上架</option>  
   <option value="1">下架</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="brandId" class="col-sm-3 col-form-label">商品品牌</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="brandId" name="brandId">  
   <option value="">请选择品牌</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="categoryName" class="col-sm-3 col-form-label">商品分类</label>  
   <!-- 左边部分 -->  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="categoryId" name="categoryId">   
   <input type="text" class="form-control" id="categoryName" placeholder="选择商品分类">  
   <div id="tree" style="display: none; position:absolute; z-index:1010; background-color:white; "></div>  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="smallPic1" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="smallPic11"  
   name="file" onchange="show(this)"/>  
   <img id="smallPic12" alt="商品图标" style="display:none">  
   </div>  
   </div>  
    
    
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addSpu()">添加</button>  
   </div>  
   </div>  
   <!-- /.modal-content -->  
   </div>  
   <!-- /.modal -->  
   </div>  
   <!-- ///////////////////添加模态框结束//////////////////////////// -->  
    
   <!-- ////////////////修改模态框 //////////////////////////////-->  
   <div class="modal fade" id="myModal2" tabindex="-1" role="dialog"  
   aria-labelledby="myModalLabel" aria-hidden="true">  
    
   <div class="modal-dialog">  
   <div class="modal-content">  
   <div class="modal-header">  
   <!-- 关闭的x效果 -->  
   <button type="button" class="close" data-dismiss="modal"  
   aria-hidden="true">&times;</button>  
    
   <!-- 模态框的标题 -->  
   <h4 class="modal-title">修改商品</h4>  
   </div>  
   <div class="modal-body">  
   <form id="modalForm2" enctype="multipart/form-data" action="javascript:void(0)">  
   <input type="hidden" name="id" id="id2"/>  
   <input type="hidden" name="smallPic" id="smallPic20"/>  
   <div class="form-group row">  
   <label for="goodsName2"  
   class="col-sm-3 col-form-label col-form-label-sm">商品名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="goodsName2" name="goodsName" placeholder="请输入商品名称">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="caption2" class="col-sm-3 col-form-label">商品副标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="caption2"  
   name="caption" placeholder="请输入商品的副标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="isMarketable2" class="col-sm-3 col-form-label">商品状态</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="isMarketable2" name="isMarketable">  
   <option value="">请选择</option>  
   <option value="0">上架</option>  
   <option value="1">下架</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="brandId2" class="col-sm-3 col-form-label">商品品牌</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="brandId2" name="brandId">  
   <option value="">请选择品牌</option>  
   </select>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="categoryName2" class="col-sm-3 col-form-label">商品分类</label>  
   <!-- 左边部分 -->  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="categoryId2" name="categoryId">   
   <input type="text" class="form-control" id="categoryName2" placeholder="选择商品分类">  
   <div id="tree2" style="display: none; position:absolute; z-index:1010; background-color:white; "></div>  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="smallPic21" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="smallPic21"  
   name="file" onchange="show(this,2)"/>  
   <img id="smallPic22" alt="商品图标" style="display:none;width:50%;height:50%">  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addSpu(2)">编辑</button>  
   </div>  
   </div>  
   <!-- /.modal-content -->  
   </div>  
   <!-- /.modal -->  
   </div>  
   <!-- ///////////////////修改模态框结束//////////////////////////// -->  
     
   <!-- ////////////////查看模态框 //////////////////////////////-->  
   <div class="modal fade" id="myModal3" tabindex="-1" role="dialog"  
   aria-labelledby="myModalLabel" aria-hidden="true">  
    
   <div class="modal-dialog">  
   <div class="modal-content">  
   <div class="modal-header">  
   <!-- 关闭的x效果 -->  
   <button type="button" class="close" data-dismiss="modal"  
   aria-hidden="true">&times;</button>  
    
   <!-- 模态框的标题 -->  
   <h4 class="modal-title">查看商品</h4>  
   </div>  
   <div class="modal-body">  
   <form id="modalForm3" action="javascript:void(0)">  
   <div class="form-group row">  
   <label for="goodsName3"  
   class="col-sm-3 col-form-label col-form-label-sm">商品名称</label>  
   <div class="col-sm-9">  
   <span id="goodsName3"></span>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="caption3" class="col-sm-3 col-form-label">商品副标题</label>  
   <div class="col-sm-9">  
   <span id="caption3"></span>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="isMarketable3" class="col-sm-3 col-form-label">商品状态</label>  
   <div class="col-sm-9">  
   <span id="isMarketable3"></span>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="brandName3" class="col-sm-3 col-form-label">商品品牌</label>  
   <div class="col-sm-9">  
   <span id="brandName3"></span>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="categoryName3" class="col-sm-3 col-form-label">商品分类</label>  
   <!-- 左边部分 -->  
   <div class="col-sm-9">  
   <span id="categoryName3"></span>  
   </div>  
   </div>  
   <div class="form-group row">  
   <label for="smallPic32" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <img id="smallPic32" alt="商品图标">  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   </div>  
   </div>  
   <!-- /.modal-content -->  
   </div>  
   <!-- /.modal -->  
   </div>  
   <!-- ///////////////////查看模态框结束//////////////////////////// -->  
     
  </body>  
  </html>

1. 禁用bootstrap-treeview节点选中状态

* 4.1 在hgshop-goods-interface工程的Category实体类中添加selectable属性，用于控制bootstrap-treeview节点选中
* //用于在使用treeview时,控制一级二级不能选中  
  private boolean selectable = true;  
    
  public boolean isSelectable() {  
   return selectable;  
  }  
  public void setSelectable(boolean selectable) {  
   this.selectable = selectable;  
  }  
  @Override  
  public String toString() {  
   return "Category [id=" + id + ", name=" + name + ", parentId=" + parentId + ", childs=" + childs  
   + ", parentName=" + parentName + ", selectable=" + selectable + "]";  
  }
* 4.2 在hgshop-manage工程的CategoryController类中添加处理器，用来控制一级二级节点不允许选中
* /\*\*  
   \* 用于在spu管理中，控制一级二级分类不能选中  
   \* @return  
   \*/  
  @RequestMapping("/getAllCategories1")  
  @ResponseBody  
  public List<Category> getAllCategories1(){  
   List<Category> list = categoryService.getAllCategories();  
   //jdk8写法  
   list.forEach(c1 -> {  
   c1.setSelectable(false);  
   c1.getChilds().forEach(c2 -> c2.setSelectable(false));  
   });  
   //jdk7写法  
   //for (Category c1 : list) {  
   //c1.setSelectable(false);  
   //List<Category> c2s = c1.getChilds();  
   //for (Category c2 : c2s) {  
   //c2.setSelectable(false);  
   //}  
   //}  
   return list;  
  }

1. 图片预览与ajax图片上传

* 5.1 图片预览
* 【添加】和【修改】模态框中的【上传文件】按钮绑定onchange="show(this)"，用来图片预览。
* //在线预览图片  
  function show(obj,flag){  
   var obj1;  
   if(!flag){  
   obj1=$("#smallPic12");  
   }else{  
   obj1=$("#smallPic22");  
   }  
   var rd = new FileReader();//创建文件读取对象  
   var files = obj.files[0];//获取file组件中的文件  
   rd.readAsDataURL(files);//文件读取装换为base64类型  
   rd.onloadend = function(e) {  
   //加载完毕之后获取结果赋值给img  
   obj1.prop('src', this.result);  
   obj1.show();  
   }  
  }
* 5.2 ajax上传图片
* 在【添加】和【修改】模态框中执行【添加】和【编辑】按钮时，需要进行上传图片的处理。
* 使用ajax上传图片时，需要有几点进行控制：
  1. 使用js的FormData对象传递表单数据。
  2. ajax选项格式中需添加processData : false和contentType : false分别用来【告诉jQuery不要去处理发送的数据】和【告诉jQuery不要去设置Content-Type请求头】
  + function addSpu(flag){  
     var obj1,obj2;  
     if(!flag){  
     //添加  
     obj1=$('#modalForm')[0];  
     obj2=$('#myModal');  
     }else{  
     //修改  
     obj1=$('#modalForm2')[0];  
     obj2=$('#myModal2');  
     }  
     var formData = new FormData(obj1);  
     $.ajax({  
     type:'post',  
     data:formData,  
     url:'spuAdd',  
     processData : false, // 告诉jQuery不要去处理发送的数据  
     contentType : false, // 告诉jQuery不要去设置Content-Type请求头  
     dataType:'json',  
     success:function(data){  
     if(data){  
     //关闭模态框  
     obj2.modal('hide');  
     window.location.reload();  
     }else{  
     alert("商品操作失败");  
     }  
     }  
     });  
    }

### 14.2.2 添加spu





1. 控制层-SpuController

* 1.1 因为需要上传图片，所以需在spring-mvc.xml中配置文件上传解析器
* <!-- 文件上传的处理类 -->  
  <bean id="multipartResolver"  
   class="org.springframework.web.multipart.commons.CommonsMultipartResolver"></bean>
* 1.2 上传图片处理及添加spu
* @RequestMapping("/spuAdd")  
  @ResponseBody  
  public boolean spuAdd(Spu spu, MultipartFile file) throws IllegalStateException, IOException {  
   //1.如果有图片，就上传图片；如果没有，就跳过  
   String fileName = file.getOriginalFilename();  
   if (StringUtils.isNotBlank(fileName)) {  
   //1.1.生成存放图片的路径  
   //G://pic  
   //G://pic/20200111  
   //G://pic/20200112  
   String date = new SimpleDateFormat("yyyyMMdd").format(new Date());  
   fileName = date + "/" + fileName;  
   //File destFile = new File("G://pic"+File.separator+date, fileName);  
   File destFile = new File("G://pic", fileName);  
    
   if (!destFile.getParentFile().exists()) {  
   destFile.getParentFile().mkdirs();  
   }  
   //1.2.上传图片  
   file.transferTo(destFile);  
   //1.3.如果是修改操作，并且替换成了新图片，需要删除之前的旧图片  
   if (StringUtils.isNotBlank(spu.getSmallPic())) {  
   //不好使,试试  
   //new File("G://pic/" + spu.getSmallPic()).delete();  
   //jetty:run 报错!  
   //tomcat7:run 报错! 本地仓库的jar包替换一下  
   FileUtils.forceDelete(new File("G://pic/" + spu.getSmallPic()));  
   }  
   //1.4.给spu的smallPic属性赋值  
   spu.setSmallPic(fileName);  
   }  
   //2.保持spu信息  
   return spuService.saveOrUpdateSpu(spu) > 0;  
  }

1. 接口层-SpuService

* Integer saveOrUpdateSpu(Spu spu);

1. 服务层-SpuServiceImpl

* @Override  
  public Integer saveOrUpdateSpu(Spu spu) {  
   Integer count = null;  
   if (spu.getId() == null) {  
   //新增  
   count = spuMapper.insertSpu(spu);  
   } else {  
   //修改  
   count = spuMapper.updateSpu(spu);  
   }  
   return count;  
  }

1. 数据访问层-SpuMapper

* Integer insertSpu(Spu spu);
* <insert id="insertSpu" useGeneratedKeys="true" keyProperty="id">  
  insert into hg\_spu(goods\_name,is\_marketable,brand\_id,caption,category\_id,small\_pic)   
  values (#{goodsName},#{isMarketable},#{brandId},#{caption},#{categoryId},#{smallPic})  
  </insert>

### 14.2.3 spu列表

1. 控制层-SpuController

* @RequestMapping("/spuList")  
  public String spuList(Model model, Integer categoryId, Spu spu, @RequestParam(defaultValue="1")Integer pageNum, @RequestParam(defaultValue="2")Integer pageSize) {  
   //1.设置spu中categoryId属性  
   if (categoryId != null) {  
   spu.setCategoryId(categoryId);  
   }  
   //2.查询列表  
   PageInfo<Spu> pageInfo = spuService.list(spu, pageNum, pageSize);  
   model.addAttribute("pageInfo", pageInfo);  
   spu.setCategoryId(categoryId);  
   model.addAttribute("spu", spu);  
   return "spu\_list1";  
  }

1. 接口层-SpuService

* PageInfo<Spu> list(Spu spu, Integer pageNum, Integer pageSize);

1. 服务层-SpuServiceImpl

* @Override  
  public PageInfo<Spu> list(Spu spu, Integer pageNum, Integer pageSize) {  
   PageHelper.startPage(pageNum, pageSize);  
   List<Spu> list = spuMapper.selectSpuList(spu);  
   PageInfo<Spu> pageInfo = new PageInfo<Spu>(list);  
   return pageInfo;  
  }

1. 数据访问层-SpuMapper

* List<Spu> selectSpuList(Spu spu);
* <select id="selectSpuList" resultType="spu">  
   select s.id,s.goods\_name,s.is\_marketable,b.name b\_name,c.name c\_name,s.small\_pic  
   from hg\_spu s join hg\_brand b on s.brand\_id=b.id join hg\_category c on   
   s.category\_id=c.id  
   <where>  
   <if test="categoryId!=null">  
   and s.category\_id=#{categoryId}  
   </if>  
   <if test="goodsName!=null and goodsName!=''">  
   and s.goods\_name like concat('%',#{goodsName},'%')  
   </if>  
   <if test="caption!=null and caption!=''">  
   and s.caption like concat('%',#{caption},'%')  
   </if>  
   </where>   
  </select>

### 14.2.4 修改spu

1. 控制层-SpuController

* @RequestMapping("/getSpuById")  
  @ResponseBody  
  public Spu getSpuById(Integer id) {  
   return spuService.getSpuById(id);  
  }  
    
  @RequestMapping("/spuAdd")  
  @ResponseBody  
  public boolean spuAdd(Spu spu, MultipartFile file) throws IllegalStateException, IOException {  
   //1.如果有图片，就上传图片；如果没有，就跳过  
   String fileName = file.getOriginalFilename();  
   if (StringUtils.isNotBlank(fileName)) {  
   //1.1.生成存放图片的路径  
   //G://pic  
   //G://pic/20200111  
   //G://pic/20200112  
   String date = new SimpleDateFormat("yyyyMMdd").format(new Date());  
   fileName = date + "/" + fileName;  
   //File destFile = new File("G://pic"+File.separator+date, fileName);  
   File destFile = new File("G://pic", fileName);  
    
   if (!destFile.getParentFile().exists()) {  
   destFile.getParentFile().mkdirs();  
   }  
   //1.2.上传图片  
   file.transferTo(destFile);  
   //1.3.如果是修改操作，并且替换成了新图片，需要删除之前的旧图片  
   if (StringUtils.isNotBlank(spu.getSmallPic())) {  
   //不好使,试试  
   //new File("G://pic/" + spu.getSmallPic()).delete();  
   //jetty:run 报错!  
   //tomcat7:run 报错! 本地仓库的jar包替换一下  
   FileUtils.forceDelete(new File("G://pic/" + spu.getSmallPic()));  
   }  
   //1.4.给spu的smallPic属性赋值  
   spu.setSmallPic(fileName);  
   }  
   //2.保持spu信息  
   return spuService.saveOrUpdateSpu(spu) > 0;  
  }

1. 接口层-SpuService

* Spu getSpuById(Integer id);  
  Integer saveOrUpdateSpu(Spu spu);

1. 服务层-SpuServiceImpl

* @Override  
  public Spu getSpuById(Integer id) {  
   return spuMapper.selectSpuById(id);  
  }  
    
  @Override  
  public Integer saveOrUpdateSpu(Spu spu) {  
   Integer count = null;  
   if (spu.getId() == null) {  
   //新增  
   count = spuMapper.insertSpu(spu);  
   } else {  
   //修改  
   count = spuMapper.updateSpu(spu);  
   }  
   return count;  
  }

1. 数据访问层-SpuMapper

* Spu selectSpuById(Integer id);  
  Integer updateSpu(Spu spu);
* <select id="selectSpuById" resultType="spu">  
  select s.\*,c.name cName, b.name bName from hg\_spu s join hg\_category c on s.category\_id=c.id join hg\_brand b on s.brand\_id=b.id where s.id=#{id}  
  </select>  
    
  <update id="updateSpu">  
   update hg\_spu set   
   <if test="goodsName!=null and goodsName!=''">  
   goods\_name=#{goodsName},  
   </if>  
   <if test="caption!=null and caption!=''">  
   caption=#{caption},  
   </if>  
   <if test="brandId!=null">  
   brand\_id=#{brandId},  
   </if>  
   <if test="categoryId!=null">  
   category\_id=#{categoryId},  
   </if>  
   <if test="smallPic!=null and smallPic!=''">  
   small\_pic=#{smallPic},  
   </if>  
   <if test="isMarketable!=null and isMarketable!=''">  
   is\_marketable=#{isMarketable}  
   </if>  
   where id=#{id}  
  </update>

### 14.2.5 删除spu

1. 控制层-SpuController

* @RequestMapping("/spuDelete")  
  @ResponseBody  
  public boolean spuDelete(Integer[] ids) {  
   return spuService.deleteSpuByIds(ids) > 0;  
  }

1. 接口层-SpuService

* Integer deleteSpuByIds(Integer[] ids);

1. 服务层-SpuServiceImpl

* @Override  
  public Integer deleteSpuByIds(Integer[] ids) {  
   return spuMapper.deleteSpuByIds(ids);  
  }

1. 数据访问层-SpuMapper

* Integer deleteSpuByIds(Integer[] ids);
* <delete id="deleteSpuByIds">  
   delete from hg\_spu where id in  
   <foreach collection="array" open="(" close=")" separator="," item="id">  
   #{id}  
   </foreach>  
  </delete>