# 第十五单元 sku管理

# 【授课重点】

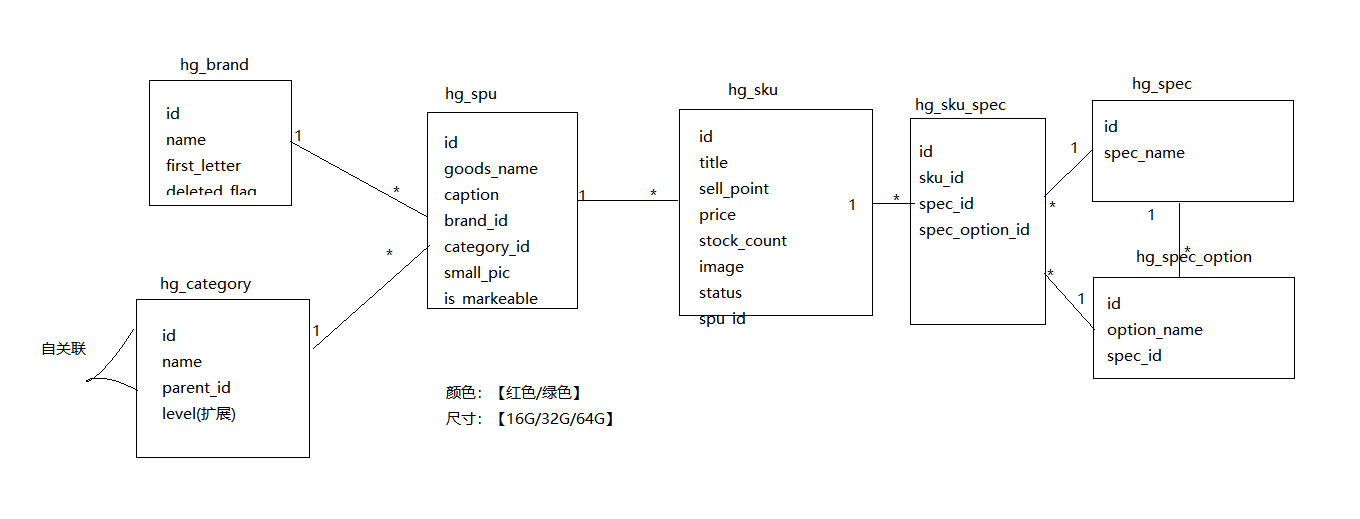
1. 梳理商品各表关系
2. sku与spu关系
3. sku管理

# 【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sku管理功能

# 【教学内容】

## 15.1 表关系



## 15.2 sku与spu关系



## 15.3 sku管理



### 15.3.1 sku页面

1. 页面原型-sku\_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>  
    
  </head>  
  <body>  
    
   <div class="container-fluid">  
     
   <div class="row">  
   <!-- 加入了列 填充整行 -->  
   <form class="col-sm-12" action="skuList" 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>  
   <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="deleteSku()" value="批量删除" />  
   <button class="btn btn-primary btn-sm" onclick="preAddSku()"  
   data-toggle="modal" data-target="#skuAddModal">添加sku</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">商品图片</th>  
   <th scope="col">商品标题</th>  
   <th scope="col">商品价格</th>  
   <th scope="col">商品状态</th>  
   <th scope="col">商品库存</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="deleteSku()" class="btn btn-info">删除</a>  
   <button class="btn btn-info btn-sm" data-toggle="modal"  
   data-target="#skuAddModal"  
   onclick="getSkuById()">修改</button>  
   <button class="btn btn-primary btn-sm" data-toggle="modal"  
   data-target="#skuAddModal"  
   onclick="getSkuById()">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>  
    
   </div>  
    
    
   <!-- ////////////////写入添加模态框 //////////////////////////////-->  
   <div class="modal fade" id="skuAddModal" 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="skuAddModalLabel">添加商品操作</h4>  
   </div>  
   <div class="modal-body">  
   <form id="addFrm" enctype="multipart/form-data" action="javascript:void(0)">  
   <input type="hidden" name="id" id="addId"/>  
   <input type="hidden" name="image" id="addImage"/>  
   <div class="form-group row">  
   <label for="addTitle"  
   class="col-sm-3 col-form-label col-form-label-sm">商品标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="addTitle" name="title" placeholder="请输入商品标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="addPrice" class="col-sm-3 col-form-label">商品价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="addPrice"  
   name="price" placeholder="请输入商品价格">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="addCostPrice" class="col-sm-3 col-form-label">成本价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="addCostPrice"  
   name="costPrice" placeholder="请输入成本价格">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="addMarketPrice" class="col-sm-3 col-form-label">市场价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="addMarketPrice"  
   name="marketPrice" placeholder="请输入成本价格">  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="addSpuId" class="col-sm-3 col-form-label">所属商品</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="addSpuId" name="spuId">  
   <option value="">请选择商品</option>  
   </select>  
   </div>  
   </div>  
    
    
    
   <div class="form-group row">  
   <label for="addStockCount" class="col-sm-3 col-form-label">商品库存</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="addStockCount"  
   name="stockCount" placeholder="请输入商品库存">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="addSellPoint" class="col-sm-3 col-form-label">商品卖点</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="addSellPoint"  
   name="sellPoint" placeholder="请输入商品库存量">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="addBarCode" class="col-sm-3 col-form-label">商品条形码</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="addBarCode"  
   name="barCode" placeholder="请输入商品条形码">  
   </div>  
   </div>  
     
     
    
   <div class="form-group row">  
   <label for="addImage1" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="addImage1"  
   name="file" />  
   <img alt="商品图标" id="addImage2">  
   </div>  
   </div>  
     
   <div class="form-group row">  
     
   <div class="col-sm-6">  
   <input type="button" class="btn btn-info" value="增加下来选中规格及选项内容"  
   onclick="addSpecAndSpecOption()" />  
   </div>  
     
   <div class="col-sm-6">  
   <select id="addskuSpec" class="form-control">  
   <option value="">请选择规格</option>  
   </select>  
   </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" id="addButton" onclick="addSku()">添加</button>  
   </div>  
   </div>  
   <!-- /.modal-content -->  
   </div>  
   <!-- /.modal -->  
   </div>  
   <!-- ///////////////////添加模态框结束//////////////////////////// -->  
    
    
   <script type="text/javascript">  
   function preAddSku(){  
   //追加商品  
   $.post("spus", {},function(data) {  
   //遍历数据  
   for(var i in data){  
   $("#addSpuId").append("<option value='"+data[i].id+"'>"+data[i].goodsName+"</option>");  
   }  
   },"json");  
    
   //追加规格  
   $.post("specs", {},function(data) {  
   //遍历数据  
   for(var i in data){  
   $("#addSkuSpecId").append("<option value='"+data[i].id+"'>"+data[i].specName+"</option>");  
   }  
   },"json");  
   }  
     
   var ii=0;  
   function addSpecAndSpecOption(){  
   //规格的specId  
   var specId = $("#addSkuSpecId option:selected").val();  
   //查询出规格对应的规格选项  
   $.post('specDetail',{id:specId},function(spec){  
   if(spec!=null && spec.options!=null && spec.options.length>0){  
   //定义拼接的字符串  
   var options='';  
   //遍历规格选项  
   for(var i in spec.options){  
   options+='<option value="'+spec.options[i].id+'">'+spec.options[i].optionName+'</option>';  
   }  
   //创建div对象  
   var str = '<div class="form-group row"><label class="col-sm-3 col-form-label">'+spec.specName+'</label><input type="hidden" name="skuSpec['+ii+'].specId" value="'+spec.id+'"/><div class="col-sm-9"><select name="skuSpec['+ii+'].specOptionId" class="form-control"><option value="0">请选择'+spec.specName+'项</option>'+options+'</select></div></div>';  
   //加入到指定的form中  
   $("#addFrm").append(str);  
   ii++;  
   }else{  
   alert("你的规格没有规格选项");  
   }  
     
   },'json');  
   }  
     
   function addSku(){  
   var formData = new FormData($('#modalForm')[0]);  
   $.ajax({  
   type:'post',  
   data:formData,  
   url:'skuAdd',  
   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  
   $('#myModal').modal('hide')  
   window.location.reload();  
   }else{  
   alert("sku添加失败");  
   }  
   }  
   });  
   }  
     
   function getSkuById(id,flag){  
   preAddSku();  
   $.post('getSkuById',{id:id},function(data){  
   if(flag == 1){  
   $('#addButton').show();  
   $('#myModalLabel').text('编辑sku');  
   $('#modalForm input').prop('readonly',false);  
   $('#modalForm input').prop('disabled',false);  
   $('#modalForm select').prop('disabled', false);  
   }else{  
   $('#myModalLabel').text('查看sku');  
   $('#addButton').hide();  
   $('#modalForm input').prop('readonly',true);  
   $('#modalForm input').prop('disabled',true);  
   $('#modalForm select').prop('disabled', true);  
   }  
   $('#addId').val(data.id);  
   $('#addImage').val(data.image);  
   $('#addImage2').prop('src','pic/' + data.image);  
   $('#addTitle').val(data.title);  
   $('#addSellPoint').val(data.sellPoint);  
   $('#addPrice').val(data.price);  
   $('#addStockCount').val(data.stockCount);  
   $('#addBarcode').val(data.barcode);  
   $('#addStatus').val(data.status);  
   },'json');  
   }  
   $(function(){  
   $('#cbk').on('click',function(){  
   $('.ck').prop('checked', this.checked);  
   });  
   })  
   function deleteSku(ids){  
   if(ids==undefined){  
   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('skuDelete',{ids:ids},function(data){  
   if(data){  
   window.location.reload();  
   }else{  
   alert('删除sku失败');  
   }  
   },'json');  
   }  
   }else{  
   alert('请选中要删除的数据');  
   }  
   }  
     
   </script>  
  </body>  
  </html>

1. 项目引入页面

* <%@ 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>  
    
  </head>  
  <body>  
    
   <div class="container-fluid">  
   <div class="row">  
   <!-- 加入了列 填充整行 -->  
   <form class="col-sm-12" action="skuList" method="post">  
   <div class="form-group">  
   <label>商品标题</label>   
   <input type="text" name="title" class="form-control" placeholder="请输入商品名称" value="${sku.title}">  
   </div>  
    
   <div class="form-group">  
   <label>商品卖点</label>   
   <input type="text" name="sellPoint" class="form-control" placeholder="请输入卖点" value="${sku.sellPoint}">  
   </div>  
   <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="deleteSku()" value="批量删除" />  
   <button class="btn btn-primary btn-sm" onclick="preAddSku()"  
   data-toggle="modal" data-target="#myModal">添加sku</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">商品图片</th>  
   <th scope="col">商品标题</th>  
   <th scope="col">商品价格</th>  
   <th scope="col">商品状态</th>  
   <th scope="col">商品库存</th>  
   <th scope="col">操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <c:forEach items="${pageInfo.list}" var="sku" varStatus="index">  
   <tr>  
   <td scope="row">  
   <input type="checkbox" class="ck" value="${sku.id}"/>  
   </td>  
   <td>${index.count}</td>  
   <td class="col-sm-2">  
   <img class="img-responsive" src="pic/${sku.image}"/>  
   </td>  
   <td class="col-sm-2">${sku.title}</td>  
   <td>${sku.price/100}</td>  
   <td>${sku.status==0 ? '上架' : '下架' }</td>  
   <td>${sku.stockCount}</td>  
   <td>  
   <a href="javascript:void(0)" onclick="deleteSku(${sku.id})" class="btn btn-info">删除</a>  
   <button class="btn btn-info btn-sm" data-toggle="modal"  
   data-target="#myModal2"  
   onclick="getSkuById(${sku.id},1)">修改</button>  
   <button class="btn btn-primary btn-sm" data-toggle="modal"  
   data-target="#myModal3"  
   onclick="getSkuById(${sku.id},2)">详情</button></td>  
   </tr>  
   </c:forEach>  
   </tbody>  
   </table>  
    
   <nav>  
   <ul class="pagination">  
   <c:if test="${pageInfo.hasPreviousPage}">  
   <li>  
   <a href="skuList?pageNum=${pageInfo.prePage}&title=${sku.title}&sellPoint=${sku.sellPoint}">  
   <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="skuList?pageNum=${pageNum}&title=${sku.title}&sellPoint=${sku.sellPoint}">${pageNum}</a></li>  
   </c:if>  
   <c:if test="${pageInfo.pageNum!=pageNum}">  
   <li><a href="skuList?pageNum=${pageNum}&title=${sku.title}&sellPoint=${sku.sellPoint}">${pageNum}</a></li>  
   </c:if>  
   </c:forEach>  
   <c:if test="${pageInfo.hasNextPage}">  
   <li>  
   <a href="skuList?pageNum=${pageInfo.nextPage}&title=${sku.title}&sellPoint=${sku.sellPoint}" 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">添加sku</h4>  
   </div>  
   <div class="modal-body">  
   <form id="modalForm" enctype="multipart/form-data" action="javascript:void(0)">  
   <div class="form-group row">  
   <label for="title"  
   class="col-sm-3 col-form-label col-form-label-sm">商品标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="title" name="title" placeholder="请输入商品标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="price" class="col-sm-3 col-form-label">商品价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="price"  
   name="price" placeholder="请输入商品价格">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="costPrice" class="col-sm-3 col-form-label">成本价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="costPrice"  
   name="costPrice" placeholder="请输入成本价格">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="marketPrice" class="col-sm-3 col-form-label">市场价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="marketPrice"  
   name="marketPrice" placeholder="请输入市场价格">  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="spuId" class="col-sm-3 col-form-label">所属商品</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="spuId" name="spuId">  
   <option value="">请选择商品</option>  
   </select>  
   </div>  
   </div>  
    
    
    
   <div class="form-group row">  
   <label for="stockCount" class="col-sm-3 col-form-label">商品库存</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="stockCount"  
   name="stockCount" placeholder="请输入商品库存">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="sellPoint" class="col-sm-3 col-form-label">商品卖点</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="sellPoint"  
   name="sellPoint" placeholder="请输入商品库存量">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="barcode" class="col-sm-3 col-form-label">商品条形码</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="barcode"  
   name="barcode" placeholder="请输入商品条形码">  
   </div>  
   </div>  
     
     
    
   <div class="form-group row">  
   <label for="image11" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="image11"  
   name="file" />  
   <img alt="商品图标" id="image12" style="display:none">  
   </div>  
   </div>  
     
   <div class="form-group row">  
     
   <div class="col-sm-6">  
   <input type="button" class="btn btn-info" value="增加选中规格及选项内容"  
   onclick="addSpecAndSpecOption()" />  
   </div>  
     
   <div class="col-sm-6">  
   <select id="addSkuSpecId" class="form-control">  
   <option value="">请选择规格</option>  
   </select>  
   </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="addSku()">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">编辑sku</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="image" id="image20"/>  
   <div class="form-group row">  
   <label for="title2"  
   class="col-sm-3 col-form-label col-form-label-sm">商品标题</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control form-control-sm"  
   id="title2" name="title" placeholder="请输入商品标题">  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="price2" class="col-sm-3 col-form-label">商品价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="price2"  
   name="price" placeholder="请输入商品价格">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="costPrice2" class="col-sm-3 col-form-label">成本价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="costPrice2"  
   name="costPrice" placeholder="请输入成本价格">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="marketPrice2" class="col-sm-3 col-form-label">市场价格</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="marketPrice2"  
   name="marketPrice" placeholder="请输入市场价格">  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="spuId2" class="col-sm-3 col-form-label">所属商品</label>  
   <div class="col-sm-9">  
   <select class="form-control" id="spuId2" name="spuId">  
   <option value="">请选择商品</option>  
   </select>  
   </div>  
   </div>  
    
    
    
   <div class="form-group row">  
   <label for="stockCount2" class="col-sm-3 col-form-label">商品库存</label>  
   <div class="col-sm-9">  
   <input type="number" class="form-control" id="stockCount2"  
   name="stockCount" placeholder="请输入商品库存">  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="sellPoint2" class="col-sm-3 col-form-label">商品卖点</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="sellPoint2"  
   name="sellPoint" placeholder="请输入商品卖点">  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="barcode2" class="col-sm-3 col-form-label">商品条形码</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="barcode2"  
   name="barcode" placeholder="请输入商品条形码">  
   </div>  
   </div>  
     
     
    
   <div class="form-group row">  
   <label for="image21" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <input type="file" class="form-control" id="image21"  
   name="file" />  
   <img alt="商品图标" id="image22">  
   </div>  
   </div>  
     
   <div class="form-group row">  
     
   <div class="col-sm-6">  
   <input type="button" class="btn btn-info" value="增加下来选中规格及选项内容"  
   onclick="addSpecAndSpecOption(2)" />  
   </div>  
     
   <div class="col-sm-6">  
   <select id="addSkuSpecId2" class="form-control">  
   <option value="">请选择规格</option>  
   </select>  
   </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="addSku(1)">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sku</h4>  
   </div>  
   <div class="modal-body">  
   <form id="modalForm3" enctype="multipart/form-data" action="javascript:void(0)">  
   <div class="form-group row">  
   <label for="title3"  
   class="col-sm-3 col-form-label col-form-label-sm">商品标题</label>  
   <div class="col-sm-9">  
   <span id="title3"></span>  
   </div>  
   </div>  
    
   <div class="form-group row">  
   <label for="price3" class="col-sm-3 col-form-label">商品价格</label>  
   <div class="col-sm-9">  
   <span id="price3"></span>  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="costPrice3" class="col-sm-3 col-form-label">成本价格</label>  
   <div class="col-sm-9">  
   <span id="costPrice3"></span>  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="marketPrice" class="col-sm-3 col-form-label">市场价格</label>  
   <div class="col-sm-9">  
   <span id="marketPrice3"></span>  
   </div>  
   </div>  
    
    
   <div class="form-group row">  
   <label for="spuId3" class="col-sm-3 col-form-label">所属商品</label>  
   <div class="col-sm-9">  
   <span id="spuId3"></span>  
   </div>  
   </div>  
    
    
    
   <div class="form-group row">  
   <label for="stockCount3" class="col-sm-3 col-form-label">商品库存</label>  
   <div class="col-sm-9">  
   <span id="stockCount3"></span>  
   </div>  
   </div>  
     
   <div class="form-group row">  
   <label for="sellPoint3" class="col-sm-3 col-form-label">商品卖点</label>  
   <div class="col-sm-9">  
   <span id="sellPoint3"></span>  
   </div>  
   </div>  
     
     
   <div class="form-group row">  
   <label for="barcode3" class="col-sm-3 col-form-label">商品条形码</label>  
   <div class="col-sm-9">  
   <span id="barcode3"></span>  
   </div>  
   </div>  
     
     
    
   <div class="form-group row">  
   <label for="image32" class="col-sm-3 col-form-label">商品图标</label>  
   <div class="col-sm-9">  
   <img alt="商品图标" id="image32">  
   </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//////////////////////////// -->  
     
    
   <script type="text/javascript">  
   function preAddSku(flag){  
   var obj,obj1;  
   if(!flag){  
   //新增模态框  
   obj=$("#spuId");   
   obj1=$("#addSkuSpecId");   
   }else{  
   //修改模态框  
   obj=$("#spuId2");  
   obj1=$("#addSkuSpecId2");   
     
   }  
   obj.html('<option value="">请选择商品</option>');  
   //追加商品  
   $.post("spus", {},function(data) {  
   //遍历数据  
   for(var i in data){  
   obj.append("<option value='"+data[i].id+"'>"+data[i].goodsName+"</option>");  
   }  
   },"json");  
   obj1.html('<option value="">请选择规格</option>');  
   //追加规格  
   $.post("specs", {},function(data) {  
   //遍历数据  
   for(var i in data){  
   obj1.append("<option value='"+data[i].id+"'>"+data[i].specName+"</option>");  
   }  
   },"json");  
   $('.specOptionDiv').remove();  
   }  
     
   var index=0;  
   var index2=0;  
   function addSpecAndSpecOption(flag){  
   var obj,obj1,obj2;  
   if(!flag){  
   obj=$("#addSkuSpecId option:selected");  
   obj1=$("#modalForm");  
   obj2=index;  
   }else{  
   obj=$("#addSkuSpecId2 option:selected");  
   obj1=$("#modalForm2");  
   obj2=index2;  
   }  
   //规格的specId  
   var specId = obj.val();  
   //查询出规格对应的规格选项  
   $.post('getSpecById',{id:specId},function(spec){  
   if(spec!=null && spec.options!=null && spec.options.length>0){  
   //定义拼接的字符串  
   var options='';  
   //遍历规格选项  
   for(var i in spec.options){  
   options+='<option value="'+spec.options[i].id+'">'+spec.options[i].optionName+'</option>';  
   }  
   //创建div对象  
   var str = '<div class="form-group row specOptionDiv"><label class="col-sm-3 col-form-label">'+spec.specName+'</label><input type="hidden" name="skuSpec['+obj2+'].specId" value="'+spec.id+'"/><div class="col-sm-9"><select name="skuSpec['+obj2+'].specOptionId" class="form-control"><option value="0">请选择'+spec.specName+'项</option>'+options+'</select></div></div>';  
   //加入到指定的form中  
   obj1.append(str);  
   if(!flag){  
   index++;  
   }else{  
   index2++;  
   }  
   }else{  
   alert("你的规格没有规格选项");  
   }  
   },'json');  
   }  
     
   function addSku(flag){  
   var obj,obj1;  
   if(!flag){  
   //添加  
   obj=$('#modalForm')[0];  
   obj1=$('#myModal');  
   }else{  
   //修改  
   obj=$('#modalForm2')[0];  
   obj1=$('#myModal2');  
   }  
   var formData = new FormData(obj);  
   $.ajax({  
   type:'post',  
   data:formData,  
   url:'skuAdd',  
   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  
   obj1.modal('hide')  
   window.location.reload();  
   }else{  
   alert("sku操作失败");  
   }  
   }  
   });  
   }  
     
   //修改回显或查看详情  
   function getSkuById(id,flag){  
   //flag=1时，修改  
   if(flag==1){preAddSku(flag);}  
   $.post('getSkuById',{id:id},function(data){  
   //sku中有hg\_sku全部信息及hg\_sku\_spec列表  
   var sku = data.sku;  
   //当前skuId对应的规格参数及规格参数列表  
   //[{"颜色":["黑色","白色"]},{"尺码":["S","M","L"]}]  
   var specs = data.specs;  
     
   //1.规格参数div展示  
   for(var i in specs){  
   //颜色  
   var spec = specs[i];  
   //["黑色","白色"]  
   var optionArr = spec.options;  
   var options = '';  
   for(var j in optionArr){  
   //黑色  
   var option = optionArr[j];  
   options += '<option value="'+option.id+'">'+option.optionName+'</option>';  
   }  
   //颜色:<select><option>黑色</option><option>白色</option></select>  
   var str = '<div class="form-group row specOptionDiv"><label class="col-sm-3 col-form-label">'+spec.specName+'</label><input type="hidden" name="skuSpec['+index2+'].specId" value="'+spec.id+'"/><div class="col-sm-9"><select id="specOptionId' + index2 + '" name="skuSpec['+index2+'].specOptionId" class="form-control"><option value="0">请选择'+spec.specName+'项</option>'+options+'</select></div></div>';  
   $("#modalForm2").append(str);  
     
   //1.2.将各个规格参数选项进行默认值选中  
   //[{"颜色":"黑色"},{"尺码":"S"}]  
   var specs1 = sku.skuSpec;   
   for(var k in specs1){  
   //1.2.1.如果规格参数选项是当前sku关联的spec\_id，option处于选中状态  
   if(specs1[k].specId==spec.id){   
   $('#specOptionId' + index2 + ' option[value=' + specs1[k].specOptionId + ']').prop('selected',true);  
   break;  
   }  
   }   
   index2++;  
   }  
   //2.sku信息展示  
   $('#id2').val(sku.id);  
   $('#image20').val(sku.image);  
   $('#image22').prop('src','pic/' + sku.image);  
   $('#title2').val(sku.title);  
   $('#sellPoint2').val(sku.sellPoint);  
   $('#price2').val(sku.price);  
   $('#costPrice2').val(sku.costPrice);  
   $('#marketPrice2').val(sku.marketPrice);  
   $('#spuId2 option[value=' + sku.spuId + ']').prop('selected', true);  
   $('#stockCount2').val(sku.stockCount);  
   $('#barcode2').val(sku.barcode);  
   $('#status2').val(sku.status);  
   },'json');  
   }  
   $(function(){  
   $('#cbk').on('click',function(){  
   $('.ck').prop('checked', this.checked);  
   });  
   })  
   function deleteSku(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('skuDelete',{ids:ids},function(data){  
   if(data){  
   window.location.reload();  
   }else{  
   alert('删除sku失败');  
   }  
   },'json');  
   }  
   }else{  
   alert('请选中要删除的数据');  
   }  
   }  
     
   </script>  
  </body>  
  </html>

### 15.3.2 添加sku

1. 控制层

* 1.1 获取spu列表(SpuController类中)
* @RequestMapping("/spus")  
  @ResponseBody  
  public List<Spu> spus() {  
   return spuService.spus();  
  }
* 1.2 获取规格参数列表(SpecController类中)
* /\*\*  
   \* 添加sku页面获取规格列表  
   \* @return  
   \*/  
  @RequestMapping("/specs")  
  @ResponseBody  
  public List<Spec> specs() {  
   return specService.specs();  
  }
* 1.3 新增sku(SkuController类中)
* @RequestMapping("/skuAdd")  
  @ResponseBody  
  public boolean skuAdd(Sku sku, MultipartFile file) throws IllegalStateException, IOException {  
   String originalFilename = file.getOriginalFilename();  
   if (StringUtils.isNotBlank(originalFilename)) {  
   String fileName = UUID.randomUUID() + "\_" + originalFilename;  
   File destFile = new File("G://pic/", fileName);  
   if (!destFile.getParentFile().exists()) {  
   destFile.getParentFile().mkdirs();  
   }  
   file.transferTo(destFile);  
    
   String oldPath = sku.getImage();  
   if (StringUtils.isNotBlank(oldPath)) {  
   FileUtils.forceDelete(new File("G://pic/" + oldPath));  
   }  
   sku.setImage(fileName);  
   }  
   return skuService.saveOrUpdateSku(sku) > 0;  
  }

1. 接口层

* 2.1 获取spu列表(SpuService接口中)
* List<Spu> spus();
* 2.2 获取规格参数列表(SpecService接口中)
* List<Spec> specs();
* 2.3 新增sku(SkuService接口中)
* Integer saveOrUpdateSku(Sku sku);

1. 服务层

* 3.1 获取spu列表(SpuServiceImpl类中)
* @Override  
  public List<Spu> spus() {  
   return spuMapper.selectSpus();  
  }
* 3.2 获取规格参数列表(SpecServiceImpl类中)
* @Override  
  public List<Spec> specs() {  
   return specMapper.selectSpecs();  
  }
* 3.3 新增sku(SkuServiceImpl类中)
* /\*\*  
  \* 添加或修改sku  
  \*/  
  @Override  
  public Integer saveOrUpdateSku(Sku sku) {  
   Integer count = 0;  
   //①新增  
   if (sku.getId() == null) {  
   sku.setStatus("0");  
   sku.setCreateTime(new Date());  
   sku.setUpdateTime(new Date());  
   count = skuMapper.insertSku(sku);  
   } else {  
   //Ⅱ修改  
   sku.setUpdateTime(new Date());  
   count = skuMapper.updateSku(sku);  
   skuMapper.deleteSkuSpecBySkuIds(new Integer[]{sku.getId()});  
   }  
   if (count > 0) {  
   List<SkuSpec> skuSpecs = sku.getSkuSpec();  
   if (skuSpecs != null) {  
   for (SkuSpec skuSpec : skuSpecs) {  
   skuSpec.setSkuId(sku.getId());  
   skuMapper.insertSkuSpec(skuSpec);  
   }  
   }  
   }  
   return count;  
  }

1. 数据访问层

* 4.1 获取spu列表
* List<Spu> selectSpus();
* <select id="selectSpus" resultType="spu">  
   select id,goods\_name from hg\_spu  
  </select>
* 4.2 获取规格参数列表
* List<Spec> selectSpecs();
* <select id="selectSpecs" resultType="spec">  
   select id,spec\_name from hg\_spec  
  </select>
* 4.3 新增sku
* Integer insertSku(Sku sku);  
  void insertSkuSpec(SkuSpec skuSpec);
* <insert id="insertSku" useGeneratedKeys="true" keyProperty="id">  
  insert into hg\_sku(title,sell\_point,price,stock\_count,barcode,image,status,create\_time,update\_time,cost\_price,market\_price,spu\_id)   
  values (#{title},#{sellPoint},#{price},#{stockCount},#{barcode},#{image},#{status},#{createTime},#{updateTime},#{costPrice},#{marketPrice},#{spuId})  
  </insert>  
    
  <insert id="insertSkuSpec">  
  insert into hg\_sku\_spec(sku\_id,spec\_id,spec\_option\_id) values (#{skuId},#{specId},#{specOptionId})  
  </insert>

### 15.3.3 sku列表

1. 控制层-SkuController

* @RequestMapping("/skuList")  
  public String skuList(Model model, Integer categoryId, Sku sku, @RequestParam(defaultValue="1")Integer pageNum, @RequestParam(defaultValue="2")Integer pageSize) {  
   PageInfo<Sku> pageInfo = skuService.list(sku, pageNum, pageSize);  
   model.addAttribute("pageInfo", pageInfo);  
   model.addAttribute("sku", sku);  
   return "sku\_list";  
  }

1. 接口层-SkuService

* PageInfo<Sku> list(Sku sku, Integer pageNum, Integer pageSize);

1. 服务层-SkuServiceImpl

* @Override  
  public PageInfo<Spec> list(Spec spec, Integer pageNum, Integer pageSize) {  
   PageHelper.startPage(pageNum, pageSize);  
   List<Spec> list = specMapper.selectSpecList(spec);  
   PageInfo<Spec> pageInfo = new PageInfo<>(list);  
   return pageInfo;  
  }

1. 数据访问层-SkuMapper

* List<Sku> selectSkuList(Sku sku);
* <select id="selectSkuList" resultType="sku">  
   select id,image,title,price,status,stock\_count from hg\_sku  
   <where>  
   <if test="title!=null and title!=''">  
   and title like concat('%',#{title},'%')  
   </if>  
   <if test="sellPoint!=null and sellPoint!=''">  
   and sell\_point like concat('%',#{sellPoint},'%')  
   </if>  
   </where>  
  </select>

### 15.3.4 修改sku

1. 控制层-SkuController

* 数据回显：
* @RequestMapping("/getSkuById")  
  @ResponseBody  
  public Map<String, Object> getSkuById(Integer id) {  
   return skuService.getSkuById(id);  
  }
* 获取spu列表/获取规格参数列表/修改sku方法同【添加sku】。

1. 接口层-SkuService

* 数据回显：
* Map<String, Object> getSkuById(Integer id);
* 获取spu列表/获取规格参数列表/修改sku方法同【添加sku】。

1. 服务层-SkuServiceImpl

* 数据回显：
* /\*\*  
   \* 修改回显或查看详情  
   \*/  
  @Override  
  public Map<String, Object> getSkuById(Integer id) {  
   Map<String, Object> map = new HashMap<>();  
   //1.获取sku详情  
   Sku sku = skuMapper.selectSkuById(id);  
   //2.将中间表对象列表映射成规格参数id列表  
   List<Integer> specIds = sku.getSkuSpec().stream().map(ks ->   
   ks.getSpecId()).collect(Collectors.toList());  
   //3.根据规格参数id列表获取规格参数及规格参数选项信息  
   List<Spec> specList = specMapper.selectSpecByIds(specIds);  
   map.put("sku", sku);  
   map.put("specs", specList);  
   return map;  
  }
* 获取spu列表/获取规格参数列表/修改sku方法同【添加sku】。

1. 数据访问层-SkuMapper

* 数据回显：
* Sku selectSkuById(Integer id);
* <select id="selectSkuById" resultMap="skuMap">  
  select s.\*,ks.id ks\_id,ks.spec\_id,ks.spec\_option\_id from hg\_sku s left join hg\_sku\_spec ks on s.id=ks.sku\_id where s.id=#{id}  
  </select>
* 获取spu列表/获取规格参数列表/修改sku方法同【添加sku】。

### 15.3.5 删除sku

1. 控制层-SkuController

* @RequestMapping("/skuDelete")  
  @ResponseBody  
  public boolean skuDelete(Integer[] ids) {  
   return skuService.deleteSkuByIds(ids) > 0;  
  }

1. 接口层-SkuService

* Integer deleteSkuByIds(Integer[] ids);

1. 服务层-SkuServiceImpl

* @Override  
  public Integer deleteSkuByIds(Integer[] ids) {  
   //1.删除sku表  
   Integer count = skuMapper.deleteSkuByIds(ids);  
   if (count > 0) {  
   //2.删除sku\_spec表  
   skuMapper.deleteSkuSpecBySkuIds(ids);  
   }  
   return count;  
  }

1. 数据访问层-SkuMapper

* Integer deleteSkuByIds(Integer[] ids);  
  void deleteSkuSpecBySkuIds(Integer[] ids);
* <delete id="deleteSkuByIds">  
   delete from hg\_sku where id in  
   <foreach collection="array" open="(" close=")" separator="," item="id">  
   #{id}  
   </foreach>  
  </delete>  
     
  <delete id="deleteSkuSpecBySkuIds">  
   delete from hg\_sku\_spec where sku\_id in  
   <foreach collection="array" open="(" close=")" separator="," item="id">  
   #{id}  
   </foreach>  
  </delete>