# 第十三单元 分类管理及规格参数管理

# 【授课重点】

1. 分类管理
2. 规格参数管理

# 【考核要求】

1. 掌握bootstrap-treeview树型插件使用
2. 能够使用bootstrap进行页面布局
3. 能够独立完成分类管理功能
4. 能够独立完成规格参数管理部分功能

# 【教学内容】

## 13.1 分类管理



### 13.1.0 前提条件

1. 使用bootstap3 或者 bootstrap4 增加gy字体。
2. jquery

### 13.1.1 分类页面

1. 页面原型-category\_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></title>  
   <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() {  
   var defaultData = [  
   {  
   text: 'Parent 1',  
   href: '#parent1',  
   tags: ['4'],  
   nodes: [  
   {  
   text: 'Child 1',  
   href: '#child1',  
   tags: ['2'],  
   nodes: [  
   {  
   text: 'Grandchild 1',  
   href: '#grandchild1',  
   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']  
   }  
   ];  
     
   $("#parentName").click(function() {  
   $('#tree').treeview({  
   data: defaultData,  
   onNodeSelected : function(event, data) {  
   $("#parentId").val(data.id);  
   $("#parentName").val(data.text);  
   $("#tree").hide();//选中树节点后隐藏树  
   }  
   });   
   $('#tree').show();  
   });  
   });  
   </script>  
   </head>  
    
   <body>  
   <div class="container-fluid">  
   <div class="row">  
   <form action="javascript:void(0)" method="post">  
   <div class="form-group">  
   <label for="name">分类名称</label>  
   <input type="text" class="form-control" id="name" placeholder="分类名称">  
   </div>  
   <button type="submit" class="btn btn-success">搜索</button>  
   </form>  
   </div>  
   <div class="row navbar-right">  
   <button type="button" class="btn btn-danger">批量删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal">新增分类</button>  
   </div>  
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th><input type="checkbox" id="cbk" />全选</th>  
   <th>编号</th>  
   <th>分类名称</th>  
   <th>父分类名称</th>  
   <th>操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <tr>  
   <td><input type="checkbox" class="ck"></td>  
   <td>1</td>  
   <td>Mark</td>  
   <td>Otto</td>  
   <td>  
   <button type="button" class="btn btn-danger">删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal2">修改</button>  
   <button type="button" class="btn btn-info btn-md" data-toggle="modal" data-target="#myModal3">查看</button>  
   </td>  
   </tr>  
   </tbody>  
   </table>  
    
   <nav aria-label="Page navigation">  
   <ul class="pagination">  
   <li>  
   <a href="#" aria-label="Previous">  
   <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="#">3</a>  
   </li>  
   <li>  
   <a href="#">4</a>  
   </li>  
   <li>  
   <a href="#">5</a>  
   </li>  
   <li>  
   <a href="#" aria-label="Next">  
   <span aria-hidden="true">下一页</span>  
   </a>  
   </li>  
   </ul>  
   </nav>  
    
   </div>  
   </div>  
    
   <div class="modal fade" id="myModal" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">新增分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="name" name="name" placeholder="分类名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="parentId" name="parentId">   
   <input type="text" class="form-control" id="parentName" placeholder="选择父分类">  
   <div id="tree" style="display: none; position:absolute; z-index:1010; background-color:white;"></div>  
   </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">添加</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
    
    
    
   <div class="modal fade" id="myModal2" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">编辑分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="name2" name="name" placeholder="品牌名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="parentId2" name="parentId">   
   <input type="text" class="form-control" id="parentName2" placeholder="选择父分类">  
   <div id="tree2" style="display: none; position:absolute; z-index:1010; background-color:white;"></div>  
   </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">编辑</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
     
   <div class="modal fade" id="myModal3" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">查看分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <span id="name3"></span>  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
     
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
   </body>  
    
  </html>

1. bootstrap-treeview树型插件

* 参考：http://www.jq22.com/plugin/10461
* 实例：
* <!--引入bootstrap-treeview.css和bootstrap-treeview.js-->  
  <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
  <script type="text/javascript" src="resource/bootstrap/js/bootstrap-treeview.js" ></script>
* <!--定位展示树型列表的区块-->  
  <div id="tree" style="display: none; position:absolute; z-index:1010; background-color:white;"></div>
* <!--使用bootstrap-treeview插件加载静态数据并进行展示-->  
  <script type="text/javascript">  
    
   $(function() {  
   var defaultData = [  
   {  
   text: 'Parent 1',  
   href: '#parent1',  
   tags: ['4'],  
   nodes: [  
   {  
   text: 'Child 1',  
   href: '#child1',  
   tags: ['2'],  
   nodes: [  
   {  
   text: 'Grandchild 1',  
   href: '#grandchild1',  
   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']  
   }  
   ];  
     
   $("#parentName").click(function() {  
   $('#tree').treeview({  
   data: defaultData,  
   onNodeSelected : function(event, data) {  
   $("#parentId").val(data.id);  
   $("#parentName").val(data.text);  
   $("#tree").hide();//选中树节点后隐藏树  
   }  
   });   
   $('#tree').show();  
   });  
   });  
  </script>

1. 项目引入页面-category\_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="${pageContext.request.contextPath }/">  
   <meta charset="utf-8">  
   <meta http-equiv="X-UA-Compatible" content="IE=edge">  
   <meta name="viewport" content="width=device-width, initial-scale=1">  
   <title>分类管理</title>  
   <link href="resource/css/bootstrap.css" rel="stylesheet">  
   <link rel="stylesheet" href="resource/css/bootstrap-treeview.css" />  
   <script type="text/javascript" src="resource/jquery/jquery-3.4.1.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap.min.js"></script>  
   <script type="text/javascript" src="resource/bootstrap/js/bootstrap-treeview.js" ></script>  
   <script>  
   function addCategory(){  
   if($("#parentName").val()==''){  
   $("#parentId").val(0);  
   }  
   $.post('categoryAdd',$('#modalForm1').serialize(),function(data){  
   if(data){  
   $("#myModal").modal('hide');  
   window.location.reload();  
   }else{  
   alert('添加分类失败');  
   }  
   },'json');  
   }  
   function editCategory(){  
   if($("#parentName2").val()==''){  
   $("#parentId2").val(0);  
   }  
   $.post('categoryAdd',$('#modalForm2').serialize(),function(data){  
   if(data){  
   $("#myModal2").modal('hide');  
   window.location.reload();  
   }else{  
   alert('编辑分类失败');  
   }  
   },'json');  
   }  
   //修改模态框的数据回显和详情模态框的页面展示  
   function getCategoryById(id,flag){  
   $.post('getCategoryById',{id:id},function(data){  
   if(flag==1){  
   //修改模态框的数据回显  
   $('#id2').val(data.id);  
   $('#name2').val(data.text);  
   $('#parentId2').val(data.parentId);   
   $('#parentName2').val(data.parentName);   
   }else{  
   //详情模态框的页面展示  
   $('#name3').text(data.text);  
   $('#parentName3').text(data.parentName);   
   }  
   },'json');  
   }  
   $(function(){  
   $("#parentName").click(function() {  
   $.post('getAllCategories', {}, function(data) {  
   var options = {  
   levels : 2,  
   data : data,  
   onNodeSelected : function(event, data) {  
   $("#parentId").val(data.id);  
   $("#parentName").val(data.text);  
   $("#tree").hide();//选中树节点后隐藏树  
   }  
   };  
   $('#tree').treeview(options);  
   $('#tree').show();  
   });  
   });  
   $("#parentName2").click(function() {  
   $.post('getAllCategories', {}, function(data) {  
   var options = {  
   levels : 2,  
   data : data,  
   onNodeSelected : function(event, data) {  
   $("#parentId2").val(data.id);  
   $("#parentName2").val(data.text);  
   $("#tree2").hide();//选中树节点后隐藏树  
   }  
   };  
   $('#tree2').treeview(options);  
   $('#tree2').show();  
   });  
   });  
   })  
   function deleteCategory(id){  
   if(confirm('确定要删除选中的数据吗?')){  
   $.post('categoryDelete',{id:id},function(data){  
   if(data.code==20010){  
   window.location.reload();  
   }else{  
   alert(data.code + "@" + data.msg);  
   }  
   },'json');  
   }  
   }  
   </script>  
   </head>  
    
   <body>  
   <div class="container-fluid">  
   <div class="row">  
   <form action="categoryList" method="post">  
   <div class="form-group">  
   <label for="name">分类名称</label>  
   <input type="text" class="form-control" id="name" name="name" placeholder="分类名称" value="${category.name}">  
   </div>  
   <button type="submit" class="btn btn-success">搜索</button>  
   </form>  
   </div>  
   <div class="row navbar-right">  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal">  
   新增分类  
   </button>  
   </div>  
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th>编号</th>  
   <th>分类名称</th>  
   <th>父分类名称</th>  
   <th>操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <c:forEach items="${pageInfo.list}" var="category" varStatus="index">  
   <tr>  
   <td>${index.count}</td>  
   <td>${category.name}</td>  
   <td>${category.parentName}</td>  
   <td>  
   <button class="btn btn-danger" onclick="deleteCategory(${category.id})">删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal2" onclick="getCategoryById(${category.id},1);">修改</button>  
   <button type="button" class="btn btn-info btn-md" data-toggle="modal" data-target="#myModal3" onclick="getCategoryById(${category.id},2);">查看</button>  
   </td>  
   </tr>  
   </c:forEach>  
   </tbody>  
   </table>  
     
   <nav>  
   <ul class="pagination">  
   <c:if test="${pageInfo.hasPreviousPage}">  
   <li>  
   <a href="categoryList?pageNum=${pageInfo.pageNum-1}&name=${category.name}">  
   <span aria-hidden="true">上一页</span>  
   </a>  
   </li>  
   </c:if>  
   <!-- [1,2,3,4,5] -->  
   <c:forEach items="${pageInfo.navigatepageNums}" var="pageNum">  
   <c:if test="${pageInfo.pageNum==pageNum}">  
   <li class="active"><a href="categoryList?pageNum=${pageNum}&name=${category.name}">${pageNum}</a></li>  
   </c:if>  
   <c:if test="${pageInfo.pageNum!=pageNum}">  
   <li><a href="categoryList?pageNum=${pageNum}&name=${category.name}">${pageNum}</a></li>  
   </c:if>  
   </c:forEach>  
   <c:if test="${pageInfo.hasNextPage}">  
   <li>  
   <a href="categoryList?pageNum=${pageInfo.pageNum+1}&name=${category.name}" aria-label="Next">  
   <span aria-hidden="true">下一页</span>  
   </a>  
   </li>  
   </c:if>  
   </ul>  
   </nav>  
    
   </div>  
   </div>  
   <!-- 新增分类 -->  
   <div class="modal fade" id="myModal" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close" onclick="$('#tree').hide()"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title">新增分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="modalForm1" action="javascript:void(0);">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="name" name="name" placeholder="分类名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="parentId" name="parentId">   
   <input type="text" class="form-control" id="parentName" name="parentName" placeholder="选择父分类">  
   <div id="tree" style="display: none; position:absolute; z-index:1010; background-color:white;"></div>  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal" onclick="$('#tree').hide()">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addCategory()">添加</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
    
    
    
   <div class="modal fade" id="myModal2" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close" onclick="$('#tree2').hide()"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title">编辑分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="modalForm2" action="javascript:void(0);">  
   <input type="hidden" id="id2" name="id">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="name2" name="name" placeholder="分类名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
   <input type="hidden" class="form-control" id="parentId2" name="parentId">   
   <input type="text" class="form-control" id="parentName2" name="parentName" placeholder="选择父分类">  
   <div id="tree2" style="display: none; position:absolute; z-index:1010; background-color:white;"></div>  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal" onclick="$('#tree2').hide()">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="editCategory()">编辑</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
     
   <div class="modal fade" id="myModal3" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title">查看分类</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="modalForm3" action="javascript:void(0);">  
   <div class="form-group">  
   <label for="name" class="col-sm-3 control-label">分类名称</label>  
   <div class="col-sm-9">  
   <span id="name3"></span>  
   </div>  
   </div>  
   <div class="form-group">  
   <label for="firstChar" class="col-sm-3 control-label">父分类名称</label>  
   <div class="col-sm-9">  
   <span id="parentName3"></span>  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   <!-- /.modal -->  
   </body>  
    
  </html>

### 13.1.2 添加分类

1. 控制层-CategoryController

* /\*\*  
   \* 分类添加或编辑页面显示tree  
   \* @return  
   \*/  
  @RequestMapping("/getAllCategories")  
  @ResponseBody  
  public List<Category> getAllCategories(){  
   return categoryService.getAllCategories();  
  }
* /\*\*  
   \* 添加或编辑分类  
   \* @param category  
   \* @return  
   \*/  
  @RequestMapping("/categoryAdd")  
  @ResponseBody  
  public boolean categoryAdd(Category category){  
   return categoryService.addCategory(category) > 0;  
  }

1. 接口层-CategoryService

* List<Category> getAllCategories();  
  Integer addCategory(Category category);

1. 服务层-CategoryServiceImpl

* @Override  
  public List<Category> getAllCategories() {  
   return categoryMapper.selectAllCategories();  
  }  
    
  /\*\*  
   \* 数据库中添加和修改分类  
   \*/  
  @Override  
  public Integer addCategory(Category category) {  
   Integer count = null;  
   if (category.getId() == null) {  
   //新增  
   if (category.getParentId() == null) {  
   category.setParentId(0);  
   }  
   count = categoryMapper.insertCategory(category);  
   } else {  
   //修改  
   count = categoryMapper.updateCategory(category);  
   }  
     
   return count;  
  }

1. 数据访问层-CategoryMapper

* List<Category> selectAllCategories();  
    
  Integer insertCategory(Category category);
* <resultMap type="category" id="categoryMap">  
   <id column="id" property="id"/>  
   <result column="name" property="name"/>  
   <collection property="childs" javaType="arrayList" ofType="Category">  
   <id column="c2\_id" property="id"/>  
   <result column="c2\_name" property="name"/>  
   <collection property="childs" javaType="arrayList" ofType="Category">  
   <id column="c3\_id" property="id"/>  
   <result column="c3\_name" property="name"/>  
   </collection>  
   </collection>  
  </resultMap>  
  <select id="selectAllCategories" resultMap="categoryMap">  
   select c1.id,c1.name,c2.id c2\_id,c2.name c2\_name,c3.id c3\_id, c3.name c3\_name from hg\_category c1 left join hg\_category c2 on c1.id=c2.parent\_id left join hg\_category c3 on c2.id=c3.parent\_id where c1.parent\_id=0  
  </select>
* <insert id="insertCategory" useGeneratedKeys="true" keyProperty="id">  
   insert into hg\_category(name,parent\_id) values (#{name},#{parentId})  
  </insert>

### 13.1.3 分类列表

1. 控制层-CategoryController

* /\*\*  
   \* 分类分页列表  
   \* @param model  
   \* @param category  
   \* @param pageNum  
   \* @param pageSize  
   \* @return  
   \*/  
  @RequestMapping("/categoryList")  
  public String categoryList(Model model, Category category, @RequestParam(defaultValue="1")Integer pageNum, @RequestParam(defaultValue="3")Integer pageSize) {  
   //1.获取数据  
   PageInfo<Category> pageInfo = categoryService.list(category, pageNum, pageSize);  
   //2.填充数据  
   model.addAttribute("pageInfo", pageInfo);  
   model.addAttribute("category", category);  
   return "category\_list";  
  }

1. 接口层-CategoryService

* PageInfo<Category> list(Category category, Integer pageNum, Integer pageSize);

1. 服务层-CategoryServiceImpl

* @Override  
  public PageInfo<Category> list(Category category, Integer pageNum, Integer pageSize) {  
   PageHelper.startPage(pageNum, pageSize);  
   List<Category> list = categoryMapper.selectCategoryList(category);  
   PageInfo<Category> pageInfo = new PageInfo<Category>(list);  
   return pageInfo;  
  }

1. 数据访问层-CategoryMapper

* List<Category> selectCategoryList(Category category);
* <select id="selectCategoryList" resultType="category">  
   select c1.id,c1.name,c2.name parentName from hg\_category c1 left join hg\_category c2 on c1.parent\_id=c2.id  
   <where>  
   <if test="name!=null and name!=''">  
   and c1.name like concat('%',#{name},'%')  
   </if>  
   </where>  
  </select>

### 13.1.4 修改分类

1. 控制层-CategoryController

* /\*\*  
   \* 修改回显和详情  
   \* @param id  
   \* @return  
   \*/  
  @RequestMapping("/getCategoryById")  
  @ResponseBody  
  public Category getCategoryById(Integer id) {  
   return categoryService.getCategoryById(id);  
  }
* /\*\*  
   \* 添加或编辑分类  
   \* @param category  
   \* @return  
   \*/  
  @RequestMapping("/categoryAdd")  
  @ResponseBody  
  public boolean categoryAdd(Category category){  
   return categoryService.addCategory(category) > 0;  
  }

1. 接口层-CategoryService

* Category getCategoryById(Integer id);  
  Integer addCategory(Category category);

1. 服务层-CategoryServiceImpl

* @Override  
  public Category getCategoryById(Integer id) {  
   return categoryMapper.selectCategoryById(id);  
  }  
     
  /\*\*  
   \* 数据库中添加和修改分类  
   \*/  
  @Override  
  public Integer addCategory(Category category) {  
   Integer count = null;  
   if (category.getId() == null) {  
   //新增  
   if (category.getParentId() == null) {  
   category.setParentId(0);  
   }  
   count = categoryMapper.insertCategory(category);  
   } else {  
   //修改  
   count = categoryMapper.updateCategory(category);  
   }  
     
   return count;  
  }

1. 数据访问层-CategoryMapper

* Category selectCategoryById(Integer id);  
    
  Integer updateCategory(Category category);
* <select id="selectCategoryById" resultType="category">  
   select c1.id,c1.name,c1.parent\_id,c2.name parentName from hg\_category c1 left join hg\_category c2 on c1.parent\_id=c2.id where c1.id=#{id}  
  </select>  
    
  <update id="updateCategory">  
   update hg\_category set name=#{name},parent\_id=#{parentId} where id=#{id}  
  </update>

### 13.1.5 删除分类

1. 控制层-CategoryController

* /\*\*  
  \* 删除分类  
  \* @param id  
  \* @return  
  \*/  
  @RequestMapping("/categoryDelete")  
  @ResponseBody  
  public Map<String, String> categoryDelete(Integer id){  
   return categoryService.deleteCategory(id);  
  }

1. 接口层-CategoryService

* Map<String, String> deleteCategory(Integer id);

1. 服务层-CategoryServiceImpl

* @Override  
  public Map<String, String> deleteCategory(Integer id) {  
   Map<String, String> map = new HashMap<>();  
    
   //1.判定当前分类节点是否有子分类。如果有，不能删除，提示有叶子节点  
   Integer count = categoryMapper.getChildCategoryCount(id);  
   if (count > 0) {  
   map.put("code", "20011");  
   map.put("msg", "该分类不是叶子节点");  
   return map;  
   }  
   //2.如果当前分类下没有子分类，将该分类下所有商品信息中category\_id设置为null  
    
   //3.删除该分类  
   count = categoryMapper.deleteCategoryById(id);  
   if (count > 0) {  
   map.put("code", "20010");  
   map.put("msg", "删除分类成功");  
   } else {  
   map.put("code", "20012");  
   map.put("msg", "删除分类失败");  
   }  
   return map;  
  }

1. 数据访问层-CategoryMapper

* Integer getChildCategoryCount(Integer id);  
    
  Integer deleteCategoryById(Integer id);
* <select id="getChildCategoryCount" resultType="int">  
   select count(0) from hg\_category where parent\_id=#{id}  
  </select>  
    
  <delete id="deleteCategoryById">  
   delete from hg\_category where id=#{id}  
  </delete>

## 13.2 规格参数管理

### 13.2.1 规格参数页面

列表效果



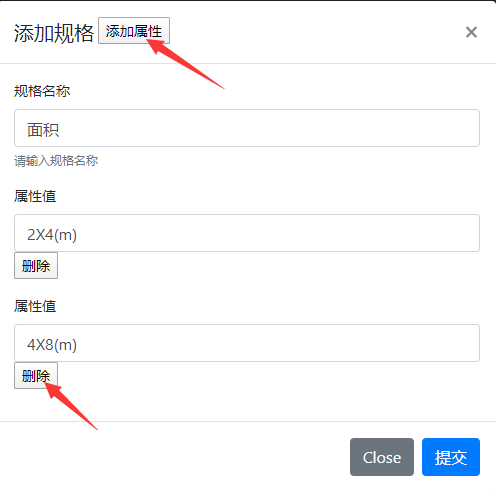
1. 页面原型-spec\_list.html

* <!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">  
   <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>  
   //全局变量  
   var index=0;  
   //增加选项  
   function addOption(){  
   //创建div的jquery对象  
   var $div =$('<div class="form-group" data-option-id='+0+'><label class="col-sm-3 control-label">规格内容</label><div class="col-sm-6"><input type="text" class="form-control" name="options['+index+'].optionName" placeholder="请输入规格内容"></div><div class="col-sm-3"><input type="button" class="btn-danger" value="删除" onclick="deleteOption(this)"/></div></div>');  
   //传递参数判断的操作  
   //加入到指定的from表单中  
   $("#addForm").append($div);  
   //下标++  
   index++;  
   }  
     
   function deleteOption(obj){  
   //$(obj)代表的把Dom对象转换成jquery对象: 通过找到加入的div的jquery对象,通过jquery中的parent()方法，再通过jquery对象中的remove()把自己删除  
   var $div = $(obj).parent().parent();  
   //自定属性的获取方式  
   var optionId = $div.data().optionId;  
   //判断获取的结果  
   if(optionId==0){  
   $div.remove();  
   }else{  
   $.post('specOptionDelete',{id:optionId},function(data){  
   if(data){  
   alert("选项删除成功");  
   $div.remove();  
   }else{  
   alert("选项删除失败");  
   }  
   },"json")  
   }  
   }  
   </script>  
   </head>  
     
   <body>  
   <div class="container-fluid">  
   <div class="row">  
   <form action="javascript:void(0)" method="post">  
   <div class="form-group">  
   <label for="specName">规格名称</label>  
   <input type="text" class="form-control" id="specName" placeholder="规格名称">  
   </div>  
   <button class="btn btn-success">搜索</button>  
   </form>  
   </div>  
     
   <div class="row" style="float: right;">  
   <button class="btn btn-danger">批量删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal">  
   新增规格  
   </button>  
   </div>  
     
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th><input type="checkbox" id="cbk">全选</th>  
   <th>编号</th>  
   <th>规格名称</th>  
   <th>规格选项</th>  
   <th>操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <tr>  
   <td><input type="checkbox" class="ck"/></td>  
   <td>1</td>  
   <td>Mark</td>  
   <td>Otto</td>  
   <td>  
   <button class="btn btn-danger">删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal">  
   修改  
   </button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal">  
   查看  
   </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>  
     
     
   <!-- Modal -->  
   <div class="modal fade" id="myModal" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">新增规格参数</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="addForm">  
   <div class="form-group">  
   <label for="addSpecName" class="col-sm-3 control-label">规格名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="addSpecName" placeholder="规格名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <div class="col-sm-3">  
   <input type="button" class="btn btn-info" value="增加选项内容"  
   onclick="addOption()" />  
   </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">添加</button>  
   </div>  
   </div>  
   </div>  
   </div>  
    
   </body>  
  </html>

1. 项目引入页面-spec\_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">  
   <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>  
   function preAddSpec(){  
   $('.add-option').remove();  
   }  
   var index=0; //【新增规格】时，规格选项递增的索引值  
   var index2=0; //【修改规格】时，规格选项递增的索引值  
   function addSpecOption(flag){  
   var obj1,obj2;  
   if(flag==1){  
   //新增模态框  
   obj1=$('#addForm');  
   obj2=index;  
   }else{  
   //修改模态框  
   obj1=$('#editForm');  
   obj2=index2;  
   }  
     
   var str = '<div class="form-group add-option">'  
   +'<label class="col-sm-3 control-label">规格内容</label>'  
   +'<div class="col-sm-6">'  
   +' <input type="text" class="form-control" name="options[' + obj2 + '].optionName" placeholder="规格内容">'  
   +'</div>'  
   +'<div class="col-sm-3">'  
   +'<input type="button" class="btn-danger" value="删除" onclick="deleteOption(this)">'  
   +'</div>'  
   +'</div>';  
   obj1.append(str);  
   if(flag==1){  
   index++;  
   }else{  
   index2++;  
   }  
     
     
   }  
   function deleteOption(obj){  
   $(obj).parent().parent().remove();  
   }  
   function addSpec(flag){  
   var obj1,obj2;  
   if(flag==1){  
   //新增  
   obj1=$('#addForm');  
   obj2=$('#myModal');  
   }else{  
   obj1=$('#editForm');  
   obj2=$('#myModal2');  
   }  
   $.post('specAdd',obj1.serialize(),function(data){  
   if(data){  
   obj2.modal('hide');  
   window.location.reload();  
   }else{  
   alert('操作规格失败!');  
   }  
   });  
   }  
   function getSpecById(id){  
   $('.add-option').remove();  
   $.post('getSpecById',{id:id},function(data){  
   $('#id2').val(data.id);  
   $('#specName2').val(data.specName);  
   for(var i in data.options){  
   var str = '<div class="form-group add-option">'  
   +'<label for="specName1" class="col-sm-3 control-label">规格内容</label>'  
   +'<div class="col-sm-6">'  
   +' <input type="text" class="form-control" name="options[' + index2 + '].optionName" value="' + data.options[i].optionName + '" placeholder="规格内容">'  
   +'</div>'  
   +'<div class="col-sm-3">'  
   +'<input type="button" class="btn-danger" value="删除" onclick="deleteOption(this)">'  
   +'</div>'  
   +'</div>';  
   $('#editForm').append(str);  
   index2++;  
   }  
   });   
   }  
   function view(id){  
   $('.add-option').remove();  
   $.post('getSpecById',{id:id},function(data){  
   $('#specName3').text(data.specName);  
   for(var i in data.options){  
   var str = '<div class="form-group add-option">'  
   +'<label for="specName1" class="col-sm-3 control-label">规格内容</label>'  
   +'<div class="col-sm-9">'  
   +'<span>' + data.options[i].optionName + '</span>'  
   +'</div>'  
   +'</div>';  
   $('#viewForm').append(str);  
   }  
   });   
   }  
   $(function(){  
   $('#cbk').on('click',function(){  
   $('.ck').prop('checked', this.checked);  
   });  
   })  
   function deleteSpec(ids){  
   if(ids==undefined){  
   //批量删除 [user1,user2,user3] ----> [1,2,3]  
   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?')){  
   $.post('specDelete',{ids:ids},function(data){  
   if(data){  
   window.location.reload();  
   }else{  
   alert('删除规格失败');  
   }  
   },'json');  
   }  
   }else{  
   alert('请选中要删除的数据');  
   }  
   }  
   </script>  
   </head>  
   <body>  
   <div class="container-fluid">  
   <div class="row">  
   <form action="specList" method="post">  
   <div class="form-group">  
   <label for="specName">规格名称</label>  
   <input type="text" class="form-control" id="specName" name="specName" placeholder="规格名称" value="${spec.specName}">  
   </div>  
   <button class="btn btn-success" type="submit">搜索</button>  
   </form>  
   </div>  
     
   <div class="row" style="float: right;">  
   <button class="btn btn-danger" onclick="deleteSpec()">批量删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal" onclick="preAddSpec()">  
   新增规格  
   </button>  
   </div>  
     
   <div class="row">  
   <table class="table table-striped">  
   <thead>  
   <tr>  
   <th><input type="checkbox" id="cbk">全选</th>  
   <th>编号</th>  
   <th>规格名称</th>  
   <th>规格选项</th>  
   <th>操作</th>  
   </tr>  
   </thead>  
   <tbody>  
   <c:forEach items="${pageInfo.list}" var="spec" varStatus="index">  
   <tr>  
   <td><input type="checkbox" class="ck" value="${spec.id}"/></td>  
   <td>${index.count }</td>  
   <td>${spec.specName }</td>  
   <td>  
   ${spec.optionNames}  
   </td>  
   <td>  
   <button class="btn btn-danger" onclick="deleteSpec(${spec.id})">删除</button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal2" onclick="getSpecById(${spec.id})">  
   修改  
   </button>  
   <button type="button" class="btn btn-primary btn-md" data-toggle="modal" data-target="#myModal3" onclick="view(${spec.id})">  
   查看  
   </button>  
   </td>  
   </tr>  
   </c:forEach>  
   </tbody>  
   </table>  
     
   <nav>  
   <ul class="pagination">  
   <c:if test="${pageInfo.hasPreviousPage}">  
   <li>  
   <a href="specList?pageNum=${pageInfo.prePage}&specName=${spec.specName}">  
   <span aria-hidden="true">上一页</span>  
   </a>  
   </li>  
   </c:if>  
   <c:forEach items="${pageInfo.navigatepageNums}" var="pageNum">  
   <c:if test="${pageInfo.pageNum==pageNum}">  
   <li class="active"><a href="specList?pageNum=${pageNum}&specName=${spec.specName}">${pageNum}</a></li>  
   </c:if>  
   <c:if test="${pageInfo.pageNum!=pageNum}">  
   <li><a href="specList?pageNum=${pageNum}&specName=${spec.specName}">${pageNum}</a></li>  
   </c:if>  
   </c:forEach>  
   <c:if test="${pageInfo.hasNextPage}">  
   <li>  
   <a href="specList?pageNum=${pageInfo.nextPage}&specName=${spec.specName}" aria-label="Next">  
   <span aria-hidden="true">下一页</span>  
   </a>  
   </li>  
   </c:if>  
   </ul>  
   </nav>  
   </div>  
   </div>  
     
     
   <!-- Modal -->  
   <div class="modal fade" id="myModal" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close" onclick="preAddSpec(1)"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">新增规格参数</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="addForm" method="post">  
   <div class="form-group">  
   <label for="specName1" class="col-sm-3 control-label">规格名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="specName1" name="specName" placeholder="规格名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <div class="col-sm-3">  
   <input type="button" class="btn btn-info" value="增加选项内容" id="addOption"  
   onclick="addSpecOption(1)" />  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal" onclick="preAddSpec(1)">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addSpec(1)">添加</button>  
   </div>  
   </div>  
   </div>  
   </div>  
    
    
   <!-- Modal -->  
   <div class="modal fade" id="myModal2" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close" onclick="preAddSpec(2)"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">编辑规格参数</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="editForm">  
   <input type="hidden" id="id2" name="id"/>  
   <div class="form-group">  
   <label for="specName2" class="col-sm-3 control-label">规格名称</label>  
   <div class="col-sm-9">  
   <input type="text" class="form-control" id="specName2" name="specName" placeholder="规格名称">  
   </div>  
   </div>  
   <div class="form-group">  
   <div class="col-sm-3">  
   <input type="button" class="btn btn-info" value="增加选项内容" id="addOption"  
   onclick="addSpecOption(2)" />  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal" onclick="preAddSpec(2)">关闭</button>  
   <button type="button" class="btn btn-primary" onclick="addSpec(2)">添加</button>  
   </div>  
   </div>  
   </div>  
   </div>  
     
   <!-- Modal -->  
   <div class="modal fade" id="myModal3" tabindex="-1" role="dialog" aria-labelledby="myModalLabel">  
   <div class="modal-dialog" role="document">  
   <div class="modal-content">  
   <div class="modal-header">  
   <button type="button" class="close" data-dismiss="modal" aria-label="Close" onclick="preAddSpec(2)"><span aria-hidden="true">&times;</span></button>  
   <h4 class="modal-title" id="myModalLabel">查看规格参数</h4>  
   </div>  
   <div class="modal-body">  
   <form class="form-horizontal" id="viewForm">  
   <div class="form-group">  
   <label for="specName3" class="col-sm-3 control-label">规格名称</label>  
   <div class="col-sm-9">  
   <span id="specName3"></span>  
   </div>  
   </div>  
   </form>  
   </div>  
   <div class="modal-footer">  
   <button type="button" class="btn btn-default" data-dismiss="modal">关闭</button>  
   </div>  
   </div>  
   </div>  
   </div>  
   </body>  
  </html>

1. 添加规格

* 

### 13.2.2 添加规格及选项

1. 控制层-SpecController

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

1. 接口层-SpecService

* Integer saveOrUpdateSpec(Spec spec);

1. 服务层-SpecServiceImpl

* @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

* Integer insertSpec(Spec spec);  
    
  void insertSpecOption(SpecOption specOption);
* <insert id="insertSpec" useGeneratedKeys="true" keyProperty="id">  
   insert into hg\_spec(spec\_name) values (#{specName})  
  </insert>  
    
  <insert id="insertSpecOption">  
   insert into hg\_spec\_option(option\_name, spec\_id) values (#{optionName},#{specId})  
  </insert>

### 13.2.3 规格参数列表

1. 控制层-SpecController

* @RequestMapping("/specList")  
  public String list(Model model, Spec spec, @RequestParam(defaultValue="1")Integer pageNum, @RequestParam(defaultValue="2")Integer pageSize) {  
   PageInfo<Spec> pageInfo = specService.list(spec, pageNum, pageSize);  
   model.addAttribute("spec", spec);  
   model.addAttribute("pageInfo", pageInfo);  
   return "spec\_list";  
  }

1. 接口层-SpecService

* PageInfo<Spec> list(Spec spec, Integer pageNum, Integer pageSize);

1. 服务层-SpecServiceImpl

* @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-SpecMapper

* List<Spec> selectSpecList(Spec spec);
* <select id="selectSpecList" resultType="spec">  
   select s.id,s.spec\_name,group\_concat(so.option\_name) optionNames  
   from hg\_spec s left join hg\_spec\_option so  
   on s.id=so.spec\_id  
   <where>  
   <if test="specName!=null and specName!=''">  
   and s.spec\_name like concat('%',#{specName},'%')  
   </if>  
   </where>  
   group by s.id  
  </select>