

# CRM 第二天

# 第1章 字典表和客户表的关系映射

# 1.1字典表介绍

字典表顾名思义,就是用于给其他表作为参照的表。在开发中我们可能会有很多的字典表。例如我们的 CRM 中,可以有客户来源字典表,客户级别字典表,客户规模字典表等等。如果这些表独立出来,维护起来不很方便,所以我们可以把它建立成一张表,用一列来区分是客户来源,还是客户级别,还是客户规模的字典数据。

VIP客户

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客户来源表			各户级别表			公司规模表		
WATER FA	1 47	an to the		級别IDFK	级别名称		規模ID FK	规模名称
来源ID FK		源名称					1	1-50/
1	网络	营销		1	普通客户		2	50-150/
2	电话	电话营销		2	vip客户		3	150-500人
		取用字: ID FK	集表:里面包含6 名称	的都是字典取谓 字典类型	类型编码 varcha	,		
	[	1 🗎	话营销	信息来源类型	001	12   44   15   44		
		2 网	络营销	信息来源类型	001	32 (4)		
		3 普	通客户	客户级别类型	002			
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表的 SQL 语句如下:

客户级别类型

002



```
`dict_memo` varchar(64) DEFAULT NULL COMMENT '备注',
    PRIMARY KEY ('dict id')
   ) ENGINE=InnoDB DEFAULT CHARSET=utf8;
   /*为字典表插入数据: Data for the table `base dict` */
   LOCK TABLES 'base dict' WRITE;
   insert
                                                                    into
`base_dict`(`dict_id`,`dict_type_code`,`dict_type_name`,`dict_item_name`,`di
ct item code', 'dict sort', 'dict enable', 'dict memo')
   values ('1','001','客户行业','教育培训',NULL,1,'1',NULL),
   ('10','003','公司性质','民企',NULL,3,'1',NULL),
   ('12','004','年营业额','1-10万',NULL,1,'1',NULL),
   ('13','004','年营业额','10-20万',NULL,2,'1',NULL),
   ('14','004','年营业额','20-50 万',NULL,3,'1',NULL),
   ('15','004','年营业额','50-100万',NULL,4,'1',NULL),
   ('16','004','年营业额','100-500 万',NULL,5,'1',NULL),
   ('17','004','年营业额','500-1000 万',NULL,6,'1',NULL),
   ('18','005','客户状态','基础客户',NULL,1,'1',NULL),
   ('19','005','客户状态','潜在客户',NULL,2,'1',NULL),
   ('2','001','客户行业','电子商务',NULL,2,'1',NULL),
   ('20','005','客户状态','成功客户',NULL,3,'1',NULL),
   ('21','005','客户状态','无效客户',NULL,4,'1',NULL),
   ('22','006','客户级别','普通客户',NULL,1,'1',NULL),
   ('23','006','客户级别','VIP客户',NULL,2,'1',NULL),
   ('24','007','商机状态','意向客户',NULL,1,'1',NULL),
   ('25','007','商机状态','初步沟通',NULL,2,'1',NULL),
   ('26','007','商机状态','深度沟通',NULL,3,'1',NULL),
   ('27','007','商机状态','签订合同',NULL,4,'1',NULL),
   ('3','001','客户行业','对外贸易',NULL,3,'1',NULL),
   ('30','008','商机类型','新业务',NULL,1,'1',NULL),
   ('31','008','商机类型','现有业务',NULL,2,'1',NULL),
   ('32','009','商机来源','电话营销',NULL,1,'1',NULL),
   ('33','009','商机来源','网络营销',NULL,2,'1',NULL),
   ('34','009','商机来源','推广活动',NULL,3,'1',NULL),
   ('4','001','客户行业','酒店旅游',NULL,4,'1',NULL),
   ('5','001','客户行业','房地产',NULL,5,'1',NULL),
   ('6','002','客户信息来源','电话营销',NULL,1,'1',NULL),
   ('7','002','客户信息来源','网络营销',NULL,2,'1',NULL),
   ('8','003','公司性质','合资',NULL,1,'1',NULL),
   ('9','003','公司性质','国企',NULL,2,'1',NULL);
   UNLOCK TABLES;
```



# 1.2字典表和客户表的关系分析

通过上图我们可以得知:

一个客户只能有一个来源(级别)。多个客户可能有同一个来源(级别)。 所以<mark>客户表和字典表</mark>的之间的关系是<mark>多对一。</mark>(此处要注意方向性) 无论多对一还是一对多,在数据库中都是依靠外键约束来实现的。

### 1.3字典表和客户表的实体类映射配置

```
/**
* 客户的实体类
* 明确使用的注解都是 JPA 规范的
* 所以导包都要导入 javax.persistence 包下的
*/
@Entity//表示当前类是一个实体类
@Table(name="cst customer")//建立当前实体类和表之间的对应关系
public class Customer implements Serializable {
   @Id//表明当前私有属性是主键
   @GeneratedValue(strategy=GenerationType. IDENTITY) //指定主键的生成策略
   @Column(name="cust_id") //指定和数据库表中的 cust_id 列对应
   private Long custId;
   @Column(name="cust name") //指定和数据库表中的 cust name 列对应
   private String custName;
   @Column(name="cust_industry")//指定和数据库表中的 cust_industry 列对应
   private String custIndustry;
   @Column(name="cust address") //指定和数据库表中的 cust address 列对应
   private String custAddress;
   @Column(name="cust_phone")//指定和数据库表中的 cust_phone 列对应
   private String custPhone;
   @ManyToOne(targetEntity=BaseDict.class)
   @JoinColumn(name="cust_source",referencedColumnName="dict_id")
   private BaseDict custSource;
   @ManyToOne(targetEntity=BaseDict.class)
   @JoinColumn(name="cust level", referencedColumnName="dict id")
   private BaseDict custLevel;
```



```
public Long getCustId() {
   return custId;
public void setCustId(Long custId) {
   this.custId = custId;
public String getCustName() {
   return custName;
public void setCustName(String custName) {
   this.custName = custName;
public String getCustIndustry() {
   return custIndustry;
public void setCustIndustry(String custIndustry) {
   this.custIndustry = custIndustry;
public String getCustAddress() {
   return custAddress;
public void setCustAddress(String custAddress) {
   this.custAddress = custAddress;
public String getCustPhone() {
   return custPhone;
public void setCustPhone(String custPhone) {
   this.custPhone = custPhone;
public BaseDict getCustSource() {
   return custSource;
public void setCustSource(BaseDict custSource) {
   this.custSource = custSource;
public BaseDict getCustLevel() {
   return custLevel;
public void setCustLevel(BaseDict custLevel) {
   this.custLevel = custLevel;
@Override
public String toString() {
```



```
return "Customer [custId=" + custId + ", custName=" + custName
                + ", custIndustry=" + custIndustry + ", custAddress="
                + custAddress + ", custPhone=" + custPhone + "]";
   }
}
/**
* 字典表的数据模型
*/
@Entity
@Table(name="base_dict")
public class BaseDict implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.AUTO)
    @Column(name="dict id")
    private String dictId;
    @Column(name="dict_type_code")
    private String dictTypeCode;
    @Column(name="dict type name")
    private String dictTypeName;
    @Column(name="dict_item_name")
    private String dictItemName;
    @Column(name="dict_item_code")
    private String dictItemCode;
    @Column(name="dict sort")
    private Integer dictSort;
    @Column(name="dict enable")
    private String dictEnable;
   @Column(name="dict_memo")
    private String dictMemo;
    public String getDictId() {
       return dictId;
    public void setDictId(String dictId) {
        this.dictId = dictId;
    public String getDictTypeCode() {
       return dictTypeCode;
    public void setDictTypeCode(String dictTypeCode) {
        this.dictTypeCode = dictTypeCode;
```



```
public String getDictTypeName() {
           return dictTypeName;
       public void setDictTypeName(String dictTypeName) {
           this.dictTypeName = dictTypeName;
       public String getDictItemName() {
           return dictItemName;
       public void setDictItemName(String dictItemName) {
           this.dictItemName = dictItemName;
       public String getDictItemCode() {
           return dictItemCode;
       public void setDictItemCode(String dictItemCode) {
           this.dictItemCode = dictItemCode;
       public Integer getDictSort() {
           return dictSort;
       public void setDictSort(Integer dictSort) {
           this.dictSort = dictSort;
       public String getDictEnable() {
           return dictEnable;
       public void setDictEnable(String dictEnable) {
           this.dictEnable = dictEnable;
       public String getDictMemo() {
           return dictMemo;
       public void setDictMemo(String dictMemo) {
           this.dictMemo = dictMemo;
       @Override
       public String toString() {
           return "BaseDict [dictId=" + dictId + ", dictTypeCode=" + dictTypeCode
+ ", dictTypeName=" + dictTypeName
                   + ", dictItemName=" + dictItemName + ", dictItemCode=" +
dictItemCode + ", dictSort=" + dictSort
                   + ", dictEnable=" + dictEnable + ", dictMemo=" + dictMemo +
"]";
```



}

# 第2章 客户的增删改查操作

### 2.1 写在最前

本章节提供的是客户增删改查的代码实现。

下面出现的 Action 指的的是: CustomerAction

出现的 Service 指的是: ICustomerService 和 CustomerServiceImpl

出现的 Dao 指的是: CustomerDao 和 CustomerDaoImpl。

这些类都需要交给 spring 来管理。

在没有提供新的类(或接口)时,从 2.2 章节开始的 Action, Service 和 Dao 的代码都是出现在以下的类中。

```
Action
   /**
   * 客户的动作类
   @Controller ("customerAction")
   @Scope("prototype")
   @ParentPackage("struts-default")
   @Namespace("/customer")
  implements
ModelDriven<Customer> {
      private Customer customer = new Customer();
      @Autowired
      private ICustomerService customerService ;
      @Override
      public Customer getModel() {
         return customer;
   Service
   * 客户的业务层接口
```



```
public interface ICustomerService {
* 客户的业务层实现类
*/
@Service("customerService")
@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)
public class CustomerServiceImpl implements ICustomerService {
   @Autowired
   private ICustomerDao customerDao;
Dao
/**
 * 客户的持久层接口
public interface ICustomerDao {
/**
* 客户的持久层实现类
@Repository("customerDao")
public class CustomerDaoImpl implements ICustomerDao {
    @Autowired
    private HibernateTemplate hibernateTemplate;
```

## 2.2显示添加客户页面

## 2.2.1 menu.jsp 页面

```
<A
href="$ {pageContext.request.contextPath} / customer/addUICustomer.action"</pre>
```



```
class=style2 target=main>
— 新增客户
</A>
```

### 2.2.2 Action

```
/**
    * 获取添加客户页面
    * @return
    */
   private List<BaseDict> custSources;
   private List<BaseDict> custLevels;
   @Action(value="addUICustomer", results={
       @Result(name="addUICustomer",type="dispatcher",location="/jsp/custome
r/add.jsp")
   })
   public String addUICustomer() {
       //1. 查询所有客户来源
       custSources = customerService.findAllCustomerSource();
       //2.查询所有客户级别
       custLevels = customerService.findAllCustomerLevel();
       return "addUICustomer";
   }
   public List<BaseDict> getCustLevels() {
       return custLevels;
   public void setCustLevels(List<BaseDict> custLevels) {
       this.custLevels = custLevels;
   public List<BaseDict> getCustSources() {
       return custSources;
   public void setCustSources(List<BaseDict> custSources) {
       this.custSources = custSources;
```

#### 2.2.3 Service

```
/**
* 查询所有客户来源
* @return
```



```
*/
List<BaseDict> findAllCustomerSource();

/**

* 查询所有客户级别

* @return

*/
List<BaseDict> findAllCustomerLevel();

@Override
@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)
public List<BaseDict> findAllCustomerSource() {
    return baseDictDao.findBaseDictByTypeCode("002");
}

@Override
@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)
public List<BaseDict> findAllCustomerLevel() {
    return baseDictDao.findBaseDictByTypeCode("006");
}
```

#### 2.2.4 Dao

```
/**

* 数据字典实体的持久层接口

*

*/
public interface IBaseDictDao {
    /**

    * 根据字典类型查询字典表数据

    * @param typeCode 字典类型编码

    * @return

    */
    List<BaseDict> findBaseDictByTypeCode(String typeCode);
}

/**

* 数据字典实体的持久层实现类

*

*/
@Repository("baseDictDao")
public class BaseDictDaoImpl implements IBaseDictDao {
```



```
@Autowired
    private HibernateTemplate hibernateTemplate;

@Override
    public List<BaseDict> findBaseDictByTypeCode(String typeCode) {
        return (List<BaseDict>) hibernateTemplate.find("from BaseDict where dictTypeCode = ? ", typeCode);
    }
}
```

### 2.3保存客户

### 2.3.1 add.jsp

```
<s:form action="addCustomer" namespace="/customer">
       <TABLE cellSpacing=0 cellPadding=5 border=0>
          <TR>
              客户名称: 
                  <s:textfield name="custName" class="textbox" id="sChannel2"</pre>
style="WIDTH: 180px" maxLength="50" />
              所属行业: 
              <s:textfield
                                 name="custIndustry"
                                                        class="textbox"
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
          </TR>
             td>信息来源: 
                 <s:select list="custSources" name="custSource.dictId"</pre>
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="--- 请选择
---" class="textbox" id="sChannel2" style="WIDTH: 180px"></s:select>
              客户级别: 
              >
                 <s:select list="custLevels" name="custLevel.dictId"</pre>
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="---请选择
---" class="textbox" id="sChannel2" style="WIDTH: 180px"></s:select>
                         </TR>
```



```
<TR>
           联系地址: 
           >
              <s:textfield name="custAddress" class="textbox"</pre>
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
           联系电话: 
           >
             <s:textfield
                           name="custPhone" class="textbox"
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
          </TR>
        <s:submit value="保存"/>
          </TABLE>
  </s:form>
```

### 2.3.2 Action

```
@Action(value="addCustomer", results={
     @Result(name="addCustomer", type="redirect", location="/jsp/success.jsp
")
})
public String addCustomer() {
    customerService.saveCustomer(customer);
    return "addCustomer";
}
```

### 2.3.3 Service

```
/**

* 保存客户

* @param customer

*/

void saveCustomer(Customer customer);

@Override
```



```
public void saveCustomer(Customer customer) {
    customerDao.save(customer);
}
```

### 2.3.4 Dao

```
/**

* 保存客户

* @param customer

*/

void save(Customer customer);

@Override

public void save(Customer customer) {
    hibernateTemplate.save(customer);
}
```

### 2.4客户列表展示

### 2.4.1 menu.jsp

#### 2.4.2 Action

```
/**

* 查询所有客户

* @return

*/

private List<Customer> customers;

@Action(value="findAllCustomer",results={
    Result(name="findAllCustomer",location="/jsp/cusotmer/list.jsp")

})

public String findAllCustomer() {
    //1.查询所有客户
    customers = customerService.findAllCustomer();
    return "findAllCustomer";
```



```
public List<Customer> getCustomers() {
    return customers;
}

public void setCustomers(List<Customer> customers) {
    this.customers = customers;
}
```

#### 2.4.3 Service

```
/**

* 查询所有客户信息

* @return

*/
List<Customer> findAllCustomer();

@Override

@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)

public List<Customer> findAllCustomer() {

    return customerDao.findAllCustomer();
}
```

### 2.4.4 Dao

```
/**
 *查询所有客户

* @return

*/
List<Customer> findAllCustomer();

@Override
public List<Customer> findAllCustomer() {
    return (List<Customer>) hibernateTemplate.find("from Customer ");
}
```

# 2.5客户删除

## 2.5.1 list.jsp

```
<s:a href="javascript:delOne('%{custId}')">删除</s:a>
<SCRIPT language=javascript>
```



```
function delOne(custId) {
    var sure = window.confirm("确定删除吗?");
    if(sure) {
        window.location.href="${pageContext.request.contextPath}/customer/rem
    oveCustomer.action?custId="+custId;
    }
    }
    </SCRIPT>
```

### 2.5.2 Action

### 2.5.3 Service

```
/**

* 删除客户

* @param customer

*/

void removeCustomer(Customer customer);

@Override

public void removeCustomer(Customer customer) {
    customerDao.delete(customer);
}
```

#### 2.5.4 Dao

```
/**
* 删除客户
* @param customer
```



```
*/
void delete(Customer customer);

@Override
public void delete(Customer customer) {
    hibernateTemplate.delete(customer);
}
```

### 2.6显示客户修改页面

### 2.6.1 list.jsp

### 2.6.2 Action

```
* 获取编辑客户页面
    * @return
    */
   @Action(value="editUICustomer", results={
       @Result(name="editUICustomer",type="dispatcher",location="/jsp/custom
er/edit.jsp")
   })
   public String editUICustomer() {
       //1. 根据 id 查询要编辑的客户对象
       Customer
                                       dbCustomer
customerService.findCustomerById(customer.getCustId());
       //2. 获取值栈对象
       ValueStack vs = ActionContext.getContext().getValueStack();
       //3.把查询出来的客户对象压入栈顶
       vs.push(dbCustomer);
       //4. 查询所有客户来源和客户级别
       custSources = customerService.findAllCustomerSource();
       custLevels = customerService.findAllCustomerLevel();
       return "editUICustomer";
```



#### 2.6.3 Service

```
/**
 * 根据id查询客户信息
 * @param custId
 * @return
 */
Customer findCustomerById(Long custId);

@Override
@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)
public Customer findCustomerById(Long custId) {
    return customerDao.findById(custId);
}
```

#### 2.6.4 Dao

```
/**

* 根据id查询客户

* @param customer

*/

void findById(Long custId);

@Override

public void findById (Long custId) {

hibernateTemplate.get(Customer.class,custId);
}
```

## 2.7客户修改

### 2.7.1 edit.jsp



```
所属行业: 
            >
               <s:textfield name="custIndustry" class="textbox"</pre>
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
            </TR>
         <TR>
            td>信息来源: 
            >
                <s:select list="custSources" name="custSource.dictId"</pre>
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="---请选择
---" class="textbox" id="sChannel2" style="WIDTH: 180px"></s:select>
            客户级别: 
            <s:select list="custLevels" name="custLevel.dictId"</pre>
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="---请选择
---" class="textbox" id="sChannel2" style="WIDTH: 180px"></s:select>
                      </TR>
         <TR>
            联系地址: 
            <s:textfield name="custAddress" class="textbox"</pre>
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
            联系电话: 
             <s:textfield name="custPhone" class="textbox"
id="sChannel2" style="WIDTH: 180px" maxLength="50" />
            </TR>
         <s:submit value="保存"/>
            </TABLE>
   </s:form>
```



### 2.7.2 **Action**

#### 2.7.3 Service

```
/**

* 编辑客户

* @param customer

*/

void updateCustomer(Customer customer);

@Override

public void updateCustomer(Customer customer) {
    customerDao.update(customer);
}
```

### 2.7.4 Dao

```
/**

* 更新客户

* @param customer

*/

void update(Customer customer);

@Override
public void delete(Customer customer) {
    hibernateTemplate.update(customer);
}
```



# 2.8客户的列表条件查询

### 2.8.1 list.jsp

```
<s:form action="findAllCustomer" namespace="/customer">
      <TR>
          客户名称: 
          >
             <s:textfield name="custName" class="textbox" id="sChannel2"
style="WIDTH: 80px" maxLength="50" />
          所属行业: 
          <s:textfield name="custIndustry" class="textbox" id="sChannel2"</pre>
style="WIDTH: 80px" maxLength="50" />
          信息来源: 
          >
             <s:select list="custSources" name="custSourceId"</pre>
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="---请选择
---" class="textbox" id="sChannel2" style="WIDTH: 80px"></s:select>
          客户级别: 
          >
             <s:select list="custLevels"
                                                  name="custLevelId"
listKey="dictId" listValue="dictItemName" headerKey="" headerValue="---请选择
---" class="textbox" id="sChannel2" style="WIDTH: 80px"></s:select>
          <s:submit value=" 筛选 "></s:submit>
          </TD>
      </TR>
   </s:form>
```

### 2.8.2 Action

```
/**
* 查询所有客户
* @return
*/
```



```
@Action(value="findAllCustomer", results={
       @Result(name="findAllCustomer", type="dispatcher", location="/jsp/custo
mer/list.jsp")
   })
   public String findAllCustomer() {
       //1.创建离线查询对象
       DetachedCriteria
                                           dCriteria
DetachedCriteria. forClass(Customer.class);//就相当于查询所有 from Customer;
       //2.拼装查询条件
       //判断是否提供了客户名称
       if (StringUtils.isNotBlank(customer.getCustName())) {
           //添加条件: 模糊查询客户名称
       dCriteria.add(Restrictions.like("custName","%"+customer.getCustName()
+"%"));
       }
       //判断是否提供了客户行业
       if (StringUtils.isNotBlank(customer.getCustIndustry())) {
           //添加条件: 模糊查询客户行业
       dCriteria.add(Restrictions.like("custIndustry","%"+customer.getCustIn
dustry()+"%"));
       //判断是否提供了客户来源
       if (StringUtils.isNotBlank(custSourceId)) {
           //添加条件: 精确查询客户来源
       dCriteria.add(Restrictions.eq("custSource.dictId", custSourceId));
       //判断是否提供了客户来源
       if (StringUtils.isNotBlank(custLevelId)) {
           //添加条件:精确查询客户来源
           dCriteria.add(Restrictions.eq("custLevel.dictId", custLevelId));
       //3. 查询所有客户
       customers = customerService.findAllCustomer(dCriteria);
       //4.查询所有客户来源和所有客户级别
       custSources = customerService.findAllCustomerSource();
       custLevels = customerService.findAllCustomerLevel();
       return "findAllCustomer";
```

#### 2.8.3 Service

```
/**

* 查询所有客户,带条件

* @param dCriteria 查询条件
```



```
* @return

*/
List<Customer> findAllCustomer(DetachedCriteria dCriteria);

@Override
@Transactional(propagation=Propagation.SUPPORTS, readOnly=true)
public Page findAllCustomer(DetachedCriteria dCriteria) {
    return customerDao.findAllCustomer(dCriteria);
}
```

### 2.8.4 Dao

```
/**

* 查询所有客户

* @param dCriteria 查询条件

* @return

*/
List<Customer> findAllCustomer(DetachedCriteria dCriteria);
```