

struts2的demo中showcase的crud示例 PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/220/2021_2022_struts2_E7_9A_84_c104_220861.htm 开始再看这个crud示例时，居然发现我没有准备数据库信息及数据也可以运行成功，后来看了实现才明白，该示例使用了Map模拟数据库存储操作数据，不过struts2的实现还是又可以观飨的地方，下面就看看它的实现。

首先，定义持久类存储接口Storage：
`public interface Storage extends Serializable ...{ IdEntity get(Class entityClass, Serializable id). Serializable create (IdEntity object) throws CreateException.`

`IdEntity 0update (IdEntity object) throws UpdateException.`

`Serializable merge (IdEntity object) throws StorageException. int`

`0delete(Class entityClass, Serializable id) throws CreateException. int`

`0delete(IdEntity object) throws CreateException. Collection`

`findAll(Class entityClass).}` 很明了，定义了操作数据的几种的方法，

然后实现了一种使用map存储数据的方式（当然你可以使用自己存储数据的方式实现，比如xml等等）代码如下：

```
public class MemoryStorage implements Storage ...{ private static final long serialVersionUID = 8611213748834904125L. private Map memory = new HashMap(). private Map getEntityMap ( Class entityClass ) ...{ if (entityClass != null) ...{ Map tryMap = (Map) memory.get(entityClass). if (tryMap == null) ...{ synchronized(memory) ...{ tryMap = new HashMap(). memory.put(entityClass, tryMap). } } return tryMap. } else ...{ return null. } } private IdEntity intStore( Class entityClass, IdEntity object ) ...{ getEntityMap(entityClass).put(object.getId(), object). return
```

```
object. } public IdEntity get( Class entityClass, Serializable id ) ...{ if
(entityClass != null amp. id != null) ...{ return (IdEntity)
getEntityMap(entityClass).get(id). } else ...{ return null. } } public
Serializable create ( IdEntity object ) throws CreateException ...{ if
(object == null) ...{ throw new CreateException("Either given class
or object was null"). } if (object.getId() == null) ...{ throw new
CreateException("Cannot store object with null id"). } if
(get(object.getClass(), object.getId()) != null) ...{ throw new
DuplicateKeyException("Object with this id already exists."). }
return intStore(object.getClass(), object).getId(). } public IdEntity
0update ( IdEntity object ) throws UpdateException ...{ if (object ==
null) ...{ throw new UpdateException("Cannot 0update null
object."). } if ( get(object.getClass(), object.getId())==null ) ...{
throw new UpdateException("Object to 0update not found."). }
return intStore(object.getClass(), object). } public Serializable merge
( IdEntity object ) throws StorageException ...{ if (object == null) ...{
throw new StorageException("Cannot merge null object"). } if
(object.getId() == null || get(object.getClass(),
object.getId())==null) ...{ return create(object). } else ...{ return
0update(object).getId(). } } public int 0delete( Class entityClass,
Serializable id ) throws CreateException ...{ try ...{ if (get(entityClass,
id) != null) ...{ getEntityMap(entityClass).remove(id). return 1. }
else ...{ return 0. } } catch (Exception e) ...{ throw new
CreateException(e). } } public int 0delete( IdEntity object ) throws
CreateException ...{ if (object == null) ...{ throw new
CreateException("Cannot 0delete null object"). } return
```

```
0delete(object.getClass(), object.getId()). } public Collection  
findAll( Class entityClass ) ...{ if (entityClass != null) ...{ return  
getEntityMap(entityClass).values(). } else ...{ return new ArrayList().  
} } public void reset() ...{ this.memory = new HashMap(). } } 100Test  
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```