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Hibernate custom data type : Blob type example

12: Hibernate custom data type : Blob type example

Posted on [January 7, 2015](#) by [Arulkumaran Kumaraswamipillai](#) — No

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There are times you want to define a custom data type in Hibernate. Here is an example of using a custom **ImageType** defined as a **Blob** database type to store images, excel files, etc.

Step 1: Define the custom Hibernate data type “ImageTpe” as shown below.

```

1
2 package com.myapp.common;
3
4 import java.io.ByteArrayOutputStream;
5 import java.io.IOException;
6 import java.io.InputStream;
7 import java.io.Serializable;
8 import java.sql.Blob;
9 import java.sql.PreparedStatement;
10 import java.sql.ResultSet;
11 import java.sql.SQLException;
12 import java.sql.Types;
13 import java.util.Arrays;
14
15 import org.hibernate.HibernateException;
```

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```

16 import org.hibernate.engine.spi.SessionImplementor;
17 import org.hibernate.usertype.UserType;
18
19 public class ImageType implements UserType
20 {
21
22     @Override
23     public int[] sqlTypes()
24     {
25         return new int[]
26         {Types.BLOB
27         };
28     }
29
30     @Override
31     public Class<Blob> returnedClass()
32     {
33         return Blob.class;
34     }
35
36     @Override
37     public Object nullSafeGet(ResultSet rs, String[] names,
38                               SessionImplementor s, Object obj)
39     {
40         return getBlobFromBinaryStream(rs, names);
41     }
42
43     private byte[] getBlobFromBinaryStream(ResultSet rs, String[] names)
44     {
45         byte[] theBuff = new byte[2 * 1024];
46         InputStream theInStream = rs.getBinaryStream(names[0]);
47         ByteArrayOutputStream theBaos = new ByteArrayOutputStream();
48         int n = 0;
49         try
50         {
51             if (theInStream != null)
52             {
53                 while (-1 != (n = theInStream.read(theBuff)))
54                 {
55                     theBaos.write(theBuff, 0, n);
56                 }
57             }
58             theBaos.flush();
59         }
60         catch (IOException e)
61         {
62             e.printStackTrace();
63         }
64         return theBaos.toByteArray();
65     }
66
67     @Override
68     public void nullSafeSet(PreparedStatement stmt, Object obj,
69                             SessionImplementor s, Object other)
70     {
71         stmt.setBytes(aIndex, (byte[]) aValue);
72     }
73
74     @Override
75     public boolean equals(Object obj, Object other)
76     {
77         if ((obj == other) ||

```

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```

82         (obj != null && other != null &&
83         ((byte[]) obj) != null &&
84         ((byte[]) other) != null))
85     {
86         return true;
87     }
88     return false;
89 }
90
91 @Override
92 public int hashCode(Object obj) throws HibernateException
93 {
94     return obj.hashCode();
95 }
96
97 @Override
98 public boolean isMutable()
99 {
100     return false;
101 }
102
103 @Override
104 public Object assemble(Serializable asSerializable)
105 {
106     return null;
107 }
108
109 @Override
110 public Serializable disassemble(Object obj)
111 {
112     return null;
113 }
114
115 @Override
116 public Object replace(Object obj1, Object obj2, Object obj3)
117 {
118     return null;
119 }
120
121 @Override
122 public Object deepCopy(Object obj)
123 {
124     return obj;
125 }
126 }
127
128

```

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Step 2: Use the custom data type as shown below in Hibernate entity.

```

1
2 package com.myapp.model.images;
3
4 import java.util.Date;
5
6 import javax.persistence.AttributeOverride;
7 import javax.persistence.AttributeOverrides;
8 import javax.persistence.Column;
9 import javax.persistence.Entity;

```

```
10 import javax.persistence.EnumType;
11 import javax.persistence.Enumerated;
12 import javax.persistence.NamedQueries;
13 import javax.persistence.NamedQuery;
14 import javax.persistence.Table;
15
16 import org.hibernate.annotations.SQLDelete;
17 import org.hibernate.annotations.Type;
18 import org.hibernate.annotations.Where;
19
20 @Entity
21 @Table(name = "images", schema = "dbo", catalog =
22 @Where(clause = "inactiveFlag = 'N'")
23 @SQLDelete(sql = "UPDATE MyImages SET inactiveFl
24
25 public class MyImages
26 {
27
28     private static final long serialVersionUID =
29
30     public enum Status
31     {
32         PENDING_RELEASE, RELEASED;
33     }
34
35     private String name;
36     private byte[] image = new byte[0];
37     private Status status;
38     private byte[] timestamp;
39
40
41     public MyImages()
42     {
43     }
44
45     @Column(name = "name", nullable = false, len
46     public String getName()
47     {
48         return name;
49     }
50
51     public void setName(String name)
52     {
53         this.name = name;
54     }
55
56     //custom type
57     @Type(type = "com.myapp.common.ImageType")
58     @Column(name = "rules", nullable = false)
59     public byte[] getImage()
60     {
61         return image;
62     }
63
64     public void setImage(byte[] image)
65     {
66         this.image = image;
67     }
68
69     @Enumerated(EnumType.STRING)
70     @Column(name = "Status", nullable = false, l
71     public Status getStatus()
72     {
73         return status;
74     }
75
```

```
76     public void setStatus(Status status)
77     {
78         this.status = status;
79     }
80
81     @Version
82     @Column(name = "Timestamp", insertable = false)
83     @Generated(GenerationTime.ALWAYS)
84     public byte[] getTimestamp() {
85         return timestamp;
86     }
87
88
89     public void setTimestamp(byte[] timestamp) {
90         this.timestamp = timestamp;
91     }
92 }
93
94
```

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