

# Testing Transactions BMT

Example `testing-transactions-bmt` can be browsed at <https://github.com/apache/tomee/tree/master/examples/testing-transactions-bmt>

Shows how to begin, commit and rollback transactions using a `UserTransaction` via a Stateful Bean.

## Movie

```
package org.superbiz.injection.tx;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;

@Entity
public class Movie {

    @Id
    @GeneratedValue
    private Long id;
    private String director;
    private String title;
    private int year;

    public Movie(String director, String title, int year) {
        this.director = director;
        this.title = title;
        this.year = year;
    }

    public Movie() {

    }

    public Long getId() {
        return id;
    }

    public void setId(Long id) {
        this.id = id;
    }

    public String getDirector() {
        return director;
    }

    public void setDirector(String director) {
        this.director = director;
    }
}
```

```
}

public String getTitle() {
    return title;
}

public void setTitle(String title) {
    this.title = title;
}

public int getYear() {
    return year;
}

public void setYear(int year) {
    this.year = year;
}
}
```

## Movies

```

package org.superbiz.injection.tx;

import javax.annotation.Resource;
import javax.ejb.Stateful;
import javax.ejb.TransactionManagement;
import javax.ejb.TransactionManagementType;
import javax.persistence.EntityManager;
import javax.persistence.PersistenceContext;
import javax.persistence.PersistenceContextType;
import javax.persistence.Query;
import javax.transaction.UserTransaction;

@Stateful(name = "Movies")
@TransactionManagement(TransactionManagementType.BEAN)
public class Movies {

    @PersistenceContext(unitName = "movie-unit", type = PersistenceContextType
.TRANSACTION)
    private EntityManager entityManager;

    @Resource
    private UserTransaction userTransaction;

    public void addMovie(Movie movie) throws Exception {
        try {
            userTransaction.begin();
            entityManager.persist(movie);

            //For some dummy reason, this db can have only 5 titles. :0)
            if (countMovies() > 5) {
                userTransaction.rollback();
            } else {
                userTransaction.commit();
            }

        } catch (Exception e) {
            e.printStackTrace();
            userTransaction.rollback();
        }
    }

    public Long countMovies() throws Exception {
        Query query = entityManager.createQuery("SELECT COUNT(m) FROM Movie m");
        return Long.class.cast(query.getSingleResult());
    }
}

```

# persistence.xml

```
<persistence xmlns="http://java.sun.com/xml/ns/persistence" version="1.0">

  <persistence-unit name="movie-unit">
    <jta-data-source>movieDatabase</jta-data-source>
    <non-jta-data-source>movieDatabaseUnmanaged</non-jta-data-source>
    <class>org.superbiz.injection.tx.Movie</class>

    <properties>
      <property name="openjpa.jdbc.SynchronizeMappings" value=
"buildSchema(ForeignKeys=true)"/>
    </properties>
  </persistence-unit>
</persistence>
```

## MoviesTest

```

package org.superbiz.injection.tx;

import org.junit.Assert;
import org.junit.Test;

import javax.ejb.EJB;
import javax.ejb.embeddable.EJBContainer;
import java.util.Properties;

public class MoviesTest {

    @EJB
    private Movies movies;

    @Test
    public void testMe() throws Exception {
        final Properties p = new Properties();
        p.put("movieDatabase", "new://Resource?type=DataSource");
        p.put("movieDatabase.JdbcDriver", "org.hsqldb.jdbcDriver");
        p.put("movieDatabase.JdbcUrl", "jdbc:hsqldb:mem:moviedb");

        EJBContainer.createEJBContainer(p).getContext().bind("inject", this);

        movies.addMovie(new Movie("Asif Kapadia", "Senna", 2010));
        movies.addMovie(new Movie("José Padilha", "Tropa de Elite", 2007));
        movies.addMovie(new Movie("Andy Wachowski/Lana Wachowski", "The Matrix", 1999
    ));
        movies.addMovie(new Movie("Quentin Tarantino", "Reservoir Dogs", 1992));
        movies.addMovie(new Movie("Joel Coen", "Fargo", 1996));
        movies.addMovie(new Movie("Joel Coen", "The Big Lebowski", 1998));

        Assert.assertEquals(5L, movies.countMovies().longValue());
    }
}

```

## Running

```

-----
T E S T S
-----
Running org.superbiz.injection.tx.MoviesTest
INFO -
*****
INFO - OpenEJB http://tomee.apache.org/
INFO - Startup: Sat Jul 21 16:39:28 EDT 2012
INFO - Copyright 1999-2012 (C) Apache OpenEJB Project, All Rights Reserved.

```

```

INFO - Version: 4.1.0
INFO - Build date: 20120721
INFO - Build time: 12:06
INFO -
*****
INFO - openejb.home = /home/boto/dev/ws/openejb_trunk/openejb/examples/testing-
transactions-bmt
INFO - openejb.base = /home/boto/dev/ws/openejb_trunk/openejb/examples/testing-
transactions-bmt
INFO - Created new singletonService
org.apache.openejb.cdi.ThreadSingletonServiceImpl@3f3f210f
INFO - Succeeded in installing singleton service
INFO - Using 'javax.ejb.embeddable.EJBContainer=true'
INFO - Cannot find the configuration file [conf/openejb.xml]. Will attempt to create
one for the beans deployed.
INFO - Configuring Service(id=Default Security Service, type=SecurityService,
provider-id=Default Security Service)
INFO - Configuring Service(id=Default Transaction Manager, type=TransactionManager,
provider-id=Default Transaction Manager)
INFO - Configuring Service(id=movieDatabase, type=Resource, provider-id=Default JDBC
Database)
INFO - Creating TransactionManager(id=Default Transaction Manager)
INFO - Creating SecurityService(id=Default Security Service)
INFO - Creating Resource(id=movieDatabase)
INFO - Beginning load: /home/boto/dev/ws/openejb_trunk/openejb/examples/testing-
transactions-bmt/target/classes
INFO - Configuring enterprise application:
/home/boto/dev/ws/openejb_trunk/openejb/examples/testing-transactions-bmt
WARNING - Method 'lookup' is not available for 'javax.annotation.Resource'. Probably
using an older Runtime.
INFO - Auto-deploying ejb Movies: EjbDeployment(deployment-id=Movies)
INFO - Configuring Service(id=Default Stateful Container, type=Container, provider-
id=Default Stateful Container)
INFO - Auto-creating a container for bean Movies: Container(type=STATEFUL, id=Default
Stateful Container)
INFO - Creating Container(id=Default Stateful Container)
INFO - Using directory /tmp for stateful session passivation
INFO - Configuring Service(id=Default Managed Container, type=Container, provider-
id=Default Managed Container)
INFO - Auto-creating a container for bean org.superbiz.injection.tx.MoviesTest:
Container(type=MANAGED, id=Default Managed Container)
INFO - Creating Container(id=Default Managed Container)
INFO - Using directory /tmp for stateful session passivation
INFO - Configuring PersistenceUnit(name=movie-unit)
INFO - Auto-creating a Resource with id 'movieDatabaseNonJta' of type 'DataSource for
'movie-unit'.
INFO - Configuring Service(id=movieDatabaseNonJta, type=Resource, provider-
id=movieDatabase)
INFO - Creating Resource(id=movieDatabaseNonJta)
INFO - Adjusting PersistenceUnit movie-unit <non-jta-data-source> to Resource ID
'movieDatabaseNonJta' from 'movieDatabaseUnmanaged'

```

```

INFO - Enterprise application
"/home/boto/dev/ws/openejb_trunk/openejb/examples/testing-transactions-bmt" loaded.
INFO - Assembling app: /home/boto/dev/ws/openejb_trunk/openejb/examples/testing-
transactions-bmt
SEVERE - JAVA AGENT NOT INSTALLED. The JPA Persistence Provider requested installation
of a ClassFileTransformer which requires a JavaAgent. See
http://tomee.apache.org/3.0/javaagent.html
INFO - PersistenceUnit(name=movie-unit,
provider=org.apache.openjpa.persistence.PersistenceProviderImpl) - provider time 399ms
INFO - Jndi(name="java:global/testing-transactions-
bmt/Movies!org.superbiz.injection.tx.Movies")
INFO - Jndi(name="java:global/testing-transactions-bmt/Movies")
INFO - Existing thread singleton service in SystemInstance()
org.apache.openejb.cdi.ThreadSingletonServiceImpl@3f3f210f
INFO - OpenWebBeans Container is starting...
INFO - Adding OpenWebBeansPlugin : [CdiPlugin]
INFO - All injection points are validated successfully.
INFO - OpenWebBeans Container has started, it took 157 ms.
INFO - Created Ejb(deployment-id=Movies, ejb-name=Movies, container=Default Stateful
Container)
INFO - Started Ejb(deployment-id=Movies, ejb-name=Movies, container=Default Stateful
Container)
INFO - Deployed
Application(path=/home/boto/dev/ws/openejb_trunk/openejb/examples/testing-
transactions-bmt)
INFO - Started user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@709a1411
21-Jul-2012 4:39:32 PM null openjpa.Runtime
INFO: Starting OpenJPA 2.2.0
21-Jul-2012 4:39:32 PM null openjpa.jdbc.JDBC
INFO: Using dictionary class "org.apache.openjpa.jdbc.sql.HSQLDictionary" (HSQL
Database Engine 2.2.8 ,HSQL Database Engine Driver 2.2.8).
21-Jul-2012 4:39:33 PM null openjpa.Enhance
INFO: Creating subclass and redefining methods for "[class
org.superbiz.injection.tx.Movie]". This means that your application will be less
efficient than it would if you ran the OpenJPA enhancer.
INFO - Committing user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@709a1411
INFO - Started user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@2bb64b70
INFO - Committing user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@2bb64b70
INFO - Started user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@627b5c
INFO - Committing user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@627b5c
INFO - Started user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@2f031310
INFO - Committing user transaction
org.apache.geronimo.transaction.manager.TransactionImpl@2f031310
INFO - Started user transaction

```



```
org.apache.geronimo.transaction.manager.TransactionImpl@4df2a9da  
INFO - Committing user transaction  
org.apache.geronimo.transaction.manager.TransactionImpl@4df2a9da  
INFO - Started user transaction  
org.apache.geronimo.transaction.manager.TransactionImpl@3fa9b4a4  
INFO - Rolling back user transaction  
org.apache.geronimo.transaction.manager.TransactionImpl@3fa9b4a4  
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 7.471 sec
```

Results :

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0