

# Testing Security Example

## Overview

Builds upon the [Injection of EntityManager Example](#) but adds the use of `@RolesAllowed` and `@PermitAll` in the `@Stateful` bean to restrict who can perform create, persist and remove operations on the `EntityManager`. Shows a `TestCase` using the `@RunAs` annotation to execute and test the bean code as various users.

In this example we restrict the ability to create `Movie` Entities to a *Manager* or an *Employee*. Reads are open to anyone, logged in or not. And delete operations are only allowed by a *Manager*.

See the [Security Annotations](#) page for a full description of how the security annotations work.

The source for this example is in the "testing-security" directory located in the [openejb-examples.zip](#) available on the download page.

## The Code

Just as with the [Testing Transactions Example](#) the magic of this unit test is in the `ManagerBean` and `EmployeeBean` `@Stateless` beans that we've tucked into our `TestCase` as inner classes. These beans allow us to execute our test code as either a `Manager` or as an `Employee` and test that `Movies` `@Stateful` bean is setup to restrict and permit calls according to our intended design.

```
{snippet:id=code|url=openejb3/examples/testing-security/src/main/java/org/superbiz/injection/secure/MoviesImpl.java|lang=java}
```

## Writing a unit test for the example

```
{snippet:id=code|url=openejb3/examples/testing-security/src/test/java/org/superbiz/injection/secure/MovieTest.java|lang=java}
```

Curious on the `InitialContext` parameters used? See the [Injection of DataSource Example](#) for an explanation of how any `Resource` can be configured via properties in the `TestCase` itself or via an `openejb.xml` file.

## Running

Running the example is fairly simple. In the "testing-security" directory of the [examples zip](#), just run:

```
$ mvn clean install
```

Which should create output like the following.

```
----- T E S T S ----- Running org.superbiz.injection.secure.MovieTest Apache
OpenEJB 3.0 build: 20080408-04:13 http://openejb.apache.org/ INFO - openejb.home = /Users/dblevins/work/openejb-3.0/examples/testing-security INFO
- openejb.base = /Users/dblevins/work/openejb-3.0/examples/testing-security 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=movieDatabaseUnmanaged, type=Resource, provider-id=Default JDBC
Database) INFO - Configuring Service(id=movieDatabase, type=Resource, provider-id=Default JDBC Database) INFO - Configuring Service(id=Default
JDK 1.3 ProxyFactory, type=ProxyFactory, provider-id=Default JDK 1.3 ProxyFactory) INFO - Found EjbModule in classpath: /Users/dblevins/work
/openejb-3.0/examples/testing-security/target/classes INFO - Found EjbModule in classpath: /Users/dblevins/work/openejb-3.0/examples/testing-security
/target/test-classes INFO - Configuring app: /Users/dblevins/work/openejb-3.0/examples/testing-security/target/classes 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 - Configuring PersistenceUnit(name=movie-unit) INFO - Loaded Module: /Users/dblevins/work
/openejb-3.0/examples/testing-security/target/classes INFO - Configuring app: /Users/dblevins/work/openejb-3.0/examples/testing-security/target/test-
classes INFO - Configuring Service(id=Default Stateless Container, type=Container, provider-id=Default Stateless Container) INFO - Auto-creating a
container for bean EmployeeBean: Container(type=STATELESS, id=Default Stateless Container) INFO - Loaded Module: /Users/dblevins/work/openejb-
3.0/examples/testing-security/target/test-classes INFO - Assembling app: /Users/dblevins/work/openejb-3.0/examples/testing-security/target/classes INFO
- PersistenceUnit(name=movie-unit, provider=org.apache.openjpa.persistence.PersistenceProviderImpl) ERROR - JAVA AGENT NOT INSTALLED. The
JPA Persistence Provider requested installation of a ClassFileTransformer which requires a JavaAgent. See http://openejb.apache.org/3.0/javaagent.html
INFO - Jndi(name=MoviesLocal) --> Ejb(deployment-id=Movies) INFO - Created Ejb(deployment-id=Movies, ejb-name=Movies, container=Default Stateful
Container) INFO - Deployed Application(path=/Users/dblevins/work/openejb-3.0/examples/testing-security/target/classes) INFO - Assembling app: /Users
/dblevins/work/openejb-3.0/examples/testing-security/target/test-classes INFO - Jndi(name=EmployeeBeanLocal) --> Ejb(deployment-id=EmployeeBean)
INFO - Jndi(name=ManagerBeanLocal) --> Ejb(deployment-id=ManagerBean) INFO - Created Ejb(deployment-id=EmployeeBean, ejb-
name=EmployeeBean, container=Default Stateless Container) INFO - Created Ejb(deployment-id=ManagerBean, ejb-name=ManagerBean,
container=Default Stateless Container) INFO - Deployed Application(path=/Users/dblevins/work/openejb-3.0/examples/testing-security/target/test-classes)
Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 2.109 sec Results : Tests run: 3, Failures: 0, Errors: 0, Skipped: 0
```