Simple Stateless with Descriptor

Example simple-stateless-with-descriptor can be browsed at https://github.com/apache/tomee/tree/master/examples/simple-stateless-with-descriptor

This test is similar to simple-stateless, with two major differences. In this case all the classes are regular POJOs without annotations. The EJB-specific metadata is provided via an XML descriptor. The second difference is the explicite use of Local and Remote interfaces.

CalculatorImpl

```java
package org.superbiz.calculator;

/**
 * This is an EJB 3 stateless session bean, configured using an EJB 3
 * deployment descriptor as opposed to using annotations.
 * This EJB has 2 business interfaces: CalculatorRemote, a remote business
 * interface, and CalculatorLocal, a local business interface
 */
public class CalculatorImpl implements CalculatorRemote, CalculatorLocal {

    public int sum(int add1, int add2) {
        return add1 + add2;
    }

    public int multiply(int mul1, int mul2) {
        return mul1 * mul2;
    }
}
```

CalculatorLocal

```
package org.superbiz.calculator;

/**
 * This is an EJB 3 local business interface
 * This interface is specified using the business-local tag in the deployment
descriptor
 */
public interface CalculatorLocal {

    public int sum(int add1, int add2);

    public int multiply(int mul1, int mul2);
}
```

CalculatorRemote

```
package org.superbiz.calculator;


/**
 * This is an EJB 3 remote business interface
 * This interface is specified using the business-local tag in the deployment
descriptor
 */
public interface CalculatorRemote {

    public int sum(int add1, int add2);

    public int multiply(int mul1, int mul2);
}
```

ejb-jar.xml

The XML descriptor defines the EJB class and both local and remote interfaces.

```
<ejb-jar xmlns="http://java.sun.com/xml/ns/javaee"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/ejb-jar_3_0.xsd"
         version="3.0">
  <enterprise-beans>
    <session>
      <ejb-name>CalculatorImpl</ejb-name>
      <business-local>org.superbiz.calculator.CalculatorLocal</business-local>
      <business-remote>org.superbiz.calculator.CalculatorRemote</business-remote>
      <ejb-class>org.superbiz.calculator.CalculatorImpl</ejb-class>
      <session-type>Stateless</session-type>
      <transaction-type>Container</transaction-type>
    </session>
  </enterprise-beans>
</ejb-jar>
```

CalculatorTest

Two tests obtain a Local and Remote interface to the bean instance. This time an `InitialContext` object is directly created, as opposed to getting the context from `EJBContainer`, as we did in the previous example.

```java
package org.superbiz.calculator;

import junit.framework.TestCase;

import javax.naming.Context;
import javax.naming.InitialContext;
import java.util.Properties;

public class CalculatorTest extends TestCase {

    private InitialContext initialContext;

    protected void setUp() throws Exception {
        Properties properties = new Properties();
        properties.setProperty(Context.INITIAL_CONTEXT_FACTORY,
"org.apache.openejb.core.LocalInitialContextFactory");

        initialContext = new InitialContext(properties);
    }

    /**
     * Lookup the Calculator bean via its remote home interface
     *
     * @throws Exception
     */
```

```java
    public void testCalculatorViaRemoteInterface() throws Exception {
        Object object = initialContext.lookup("CalculatorImplRemote");

        assertNotNull(object);
        assertTrue(object instanceof CalculatorRemote);
        CalculatorRemote calc = (CalculatorRemote) object;
        assertEquals(10, calc.sum(4, 6));
        assertEquals(12, calc.multiply(3, 4));
    }

    /**
     * Lookup the Calculator bean via its local home interface
     *
     * @throws Exception
     */
    public void testCalculatorViaLocalInterface() throws Exception {
        Object object = initialContext.lookup("CalculatorImplLocal");

        assertNotNull(object);
        assertTrue(object instanceof CalculatorLocal);
        CalculatorLocal calc = (CalculatorLocal) object;
        assertEquals(10, calc.sum(4, 6));
        assertEquals(12, calc.multiply(3, 4));
    }
}
```

Running

```
--------------------------------------------------------
 T E S T S
--------------------------------------------------------
Running org.superbiz.calculator.CalculatorTest
Apache OpenEJB 4.0.0-beta-1    build: 20111002-04:06
http://tomee.apache.org/
INFO - openejb.home = /Users/dblevins/examples/simple-stateless-with-descriptor
INFO - openejb.base = /Users/dblevins/examples/simple-stateless-with-descriptor
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 - Found EjbModule in classpath: /Users/dblevins/examples/simple-stateless-with-
descriptor/target/classes
INFO - Beginning load: /Users/dblevins/examples/simple-stateless-with-
descriptor/target/classes
INFO - Configuring enterprise application: /Users/dblevins/examples/simple-stateless-
with-descriptor/classpath.ear
INFO - Configuring Service(id=Default Stateless Container, type=Container, provider-
id=Default Stateless Container)
INFO - Auto-creating a container for bean CalculatorImpl: Container(type=STATELESS,
id=Default Stateless Container)
INFO - Enterprise application "/Users/dblevins/examples/simple-stateless-with-
descriptor/classpath.ear" loaded.
INFO - Assembling app: /Users/dblevins/examples/simple-stateless-with-
descriptor/classpath.ear
INFO - Jndi(name=CalculatorImplLocal) --> Ejb(deployment-id=CalculatorImpl)
INFO - Jndi(name=global/classpath.ear/simple-stateless-with-
descriptor/CalculatorImpl!org.superbiz.calculator.CalculatorLocal) --> Ejb(deployment-
id=CalculatorImpl)
INFO - Jndi(name=CalculatorImplRemote) --> Ejb(deployment-id=CalculatorImpl)
INFO - Jndi(name=global/classpath.ear/simple-stateless-with-
descriptor/CalculatorImpl!org.superbiz.calculator.CalculatorRemote) -->
Ejb(deployment-id=CalculatorImpl)
INFO - Jndi(name=global/classpath.ear/simple-stateless-with-descriptor/CalculatorImpl)
--> Ejb(deployment-id=CalculatorImpl)
INFO - Created Ejb(deployment-id=CalculatorImpl, ejb-name=CalculatorImpl,
container=Default Stateless Container)
INFO - Started Ejb(deployment-id=CalculatorImpl, ejb-name=CalculatorImpl,
container=Default Stateless Container)
INFO - Deployed Application(path=/Users/dblevins/examples/simple-stateless-with-
descriptor/classpath.ear)
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.475 sec

Results :

Tests run: 2, Failures: 0, Errors: 0, Skipped: 0
```