

# Write Tests

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## 1. Introduction

As described in the [test suite](#) document, OJB emphasizes on quality assurance and provide a huge test suite. But of course it is impossible to cover all parts of OJB with unit tests and OJB will never be perfect (although we would like to think it's s nearly perfect ;-)), thus if you are missing a testcase or think you found an bug -- don't hesitate to write your own test and send it to the [developer list](#) or, if you have an existing issue report, attach it in the [issue tracker](#).

## 2. How to write a new Test

Before starting to write your own test case, please pay attention to these rules.

### 2.1. The Test Class

All test classes have to inherit from `org.apache.ojb.junit.OJBTestCase` and have to provide a static main method to start the Junit test:

```
public class MyTest extends OJBTestCase
{
    public static void main(String[] args)
    {
        String[] arr = {MyTest.class.getName()};
        junit.textui.TestRunner.main(arr);
    }

    public void testMyFirstOne()
    {
        ....
    }
}
```

You will find some test classes for specific scenarios in the `org.apache.ojb.junit` package:

- `org.apache.ojb.junit.PBTestCase` - provides a `org.apache.ojb.broker.PersistenceBroker` instance for tests.
- `org.apache.ojb.junit.ODMGTestCase` - provides `org.odmg.Implementation` and `org.odmg.Database` instances for tests.
- `org.apache.ojb.junit.JUnitExtensions` - servers as a base class when writing multi-threaded test classes.

For more info, see the JavaDoc of the class.

A test case for the PB-API may look like:

```
public class ReferenceRuntimeSettingTest extends PBTestCase
{
    public static void main(String[] args)
    {
        String[] arr = {ReferenceRuntimeSettingTest.class.getName()};
        junit.textui.TestRunner.main(arr);
    }

    public void testChangeReferenceSetting()
    {
        ClassDescriptor cld = broker.getClassDescriptor(MainObject.class);
        // and so on
        ....
    }
}
```

#### Note:

The `PersistenceBroker` cleanup is done by `PBTestCase`.

## 2.2. Persistent Objects used by Test

We recommend to introduce separate persistent objects for each TestCase class. In the [test suite](#) two concepts are used:

- Include your persistent objects as *public static classes* in your test class.
- Separate your test class in an independent package and include the test case and all persistent object classes in this new package.

## 2.3. Test Class Metadata

Currently all test specific object metadata (class-descriptor used for tests) are shared among several xml files. The naming convention is `repository_junit_XXX.xml`. Thus metadata for new tests should be included in one of the existing junit repository (sub) files or written in an new separate one and included in the main repository file.

```
<!DOCTYPE descriptor-repository PUBLIC
    "-//Apache Software Foundation//DTD OJB Repository//EN"
    "repository.dtd"
[
<!ENTITY database SYSTEM "repository_database.xml">
<!ENTITY internal SYSTEM "repository_internal.xml">
<!ENTITY user SYSTEM "repository_user.xml">

<!-- Start of JUnit included files -->
<!ENTITY junit SYSTEM "repository_junit.xml">
<!ENTITY junit_odmg SYSTEM "repository_junit_odmg.xml">
<!ENTITY junit_otm SYSTEM "repository_junit_otm.xml">
<!ENTITY junit_ref SYSTEM "repository_junit_reference.xml">
<!ENTITY junit_meta_seq SYSTEM "repository_junit_meta_seq.xml">
<!ENTITY junit_model SYSTEM "repository_junit_model.xml">
<!ENTITY junit_cloneable SYSTEM "repository_junit_cloneable.xml">

<!-- Your entity here: -->
<!ENTITY junit_myfirstttest SYSTEM "repository_junit_myfirstttest.xml">
]>
<descriptor-repository version="1.0" isolation-level="read-uncommitted"
    proxy-prefetching-limit="50">

    <!-- include all used database connections -->
    &database;

    <!-- include ojb internal mappings here -->
    &internal;

    <!-- include user defined mappings here -->
    &user;

    <!-- include mappings for JUnit tests -->
    &junit;
    &junit_odmg;
    &junit_otm;
    &junit_ref;
    &junit_meta_seq;
    &junit_model;
    &junit_cloneable;

    &junit_myfirstttest;
```