

# Fake Data Library

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This module (`isis-module-fakedata`) provides a domain service that generates fake random data. The random values generated can then be used within unit and integration tests.

The module consists of a single domain service `FakeDataDomainService`. This can be injected into fixtures and integration tests just like any other domain service.

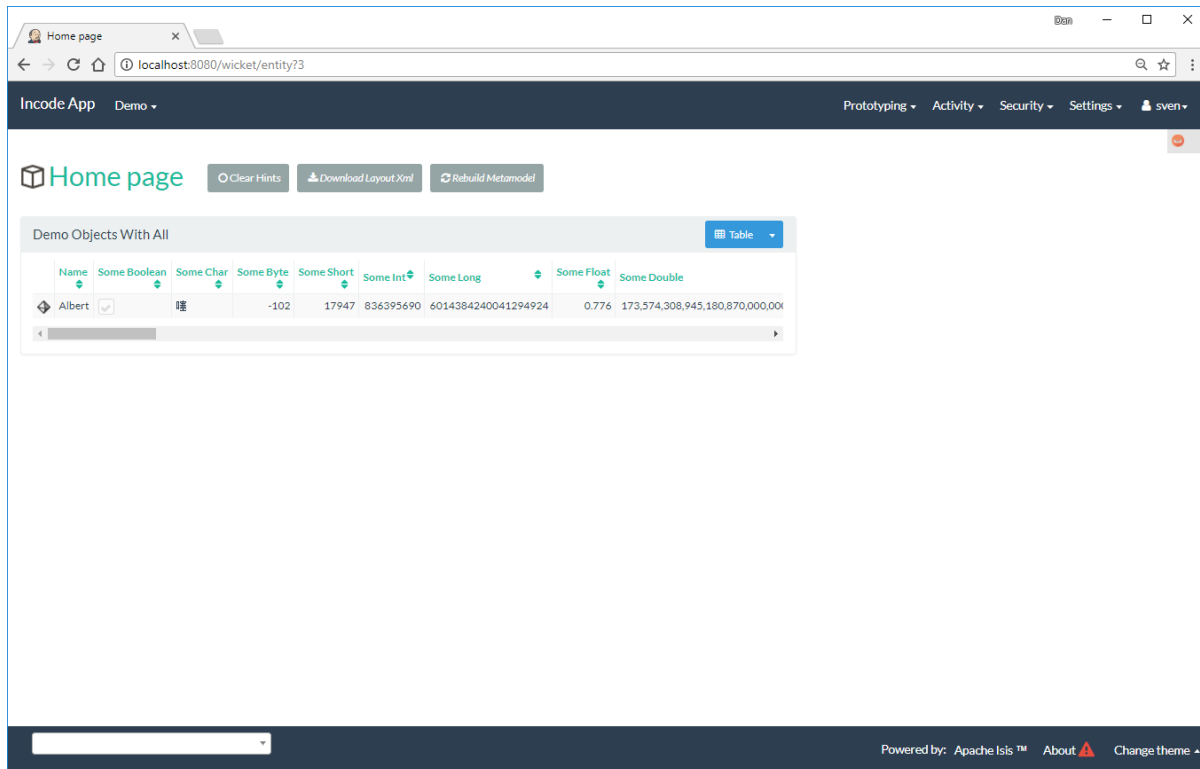
In addition, this module also acts as a useful regression suite for DataNucleus' persistence of value types (including our custom mappings of Isis' own value types).

# Screenshots

The module's functionality can be explored by running the [quickstart with example usage](#) using the `org.incode.domainapp.example.app.modules.ExampleDomLibFakeDataAppManifest`.

The example app consists of a single domain entity that has a property for each of the value types supported by Isis.

A home page is displayed when the app is run:



will return an example demo object:



# Fixtures and Integration Tests

Probably of more interest are the fixtures and integration tests that actually use the `FakeDataService`.

For example the `FakeDataDemoObjectUpdate` fixture script will update a demo object using the provided values (set as properties of the fixture script itself). However, if no value has been set by the calling test, then a random value, obtained from `FakeDataService`, will be used instead:

```
public class FakeDataDemoObjectUpdate extends DiscoverableFixtureScript {
```

```
    private FakeDataDemoObject fakeDataDemoObject;
    public FakeDataDemoObject getFakeDataDemoObject() { ... }
    public void setFakeDataDemoObject(final FakeDataDemoObject fakeDataDemoObject) { ... }
```

```
    ...
    private Boolean someBoolean;
    public Boolean getSomeBoolean() { ... }
    public void setSomeBoolean(final Boolean someBoolean) { ... }
```

```
    private Character someChar;
    public Character getSomeChar() { ... }
    public void setSomeChar(final Character someChar) { ... }
```

```
    private Byte someByte;
    public Byte getSomeByte() { ... }
    public void setSomeByte(final Byte someByte) { ... }
    ...
```

```
    protected void execute(final ExecutionContext executionContext) {
```

```
        ...
        this.defaultParam("someBoolean", executionContext, fakeDataService.booleans().any());
        this.defaultParam("someChar", executionContext, fakeDataService.chars().any());
        this.defaultParam("someByte", executionContext, fakeDataService.bytes().any());
        ...
```

```
        // updates
        final FakeDataDemoObject fakeDataDemoObject = getFakeDataDemoObject();
```

```

...
wrap(fakeDataDemoObject).updateSomeBoolean(getSomeBoolean());
wrap(fakeDataDemoObject).updateSomeByte(getSomeByte());
wrap(fakeDataDemoObject).updateSomeShort(getSomeShort());
...
}

```

```

@Inject
private FakeDataService fakeDataService;
}

```

The `FakeDataService` can also be used within integration tests. For example, in `FakeDataDemoObjectsTest` a fake value is used to obtain a blob for update:

```

@Test
public void when_blob() throws Exception {

```

```

// given
Assertions.assertThat(fakeDataDemoObject.getSomeBlob()).isNull();

```

```

final Blob theBlob = fakeDataService.isisBlobs().anyPdf();

```

```

// when
updateScript.setFakeDataDemoObject(fakeDataDemoObject);
updateScript.setSomeBlob(theBlob);

```

```

fixtureScripts.runFixtureScript(updateScript, null);

```

```

nextTransaction();

```

```

// then
fakeDataDemoObject = wrap(fakeDataDemoObjects).listAll().get(0);

```

```

Assertions.assertThat(fakeDataDemoObject.getSomeBlob()).isNotNull();
Assertions.assertThat(fakeDataDemoObject.getSomeBlob().getMimeType().toString())
    .isEqualTo("application/pdf");
}

```

Note the use of `FakeDataService` in the "given" to obtain a PDF blob.



# How to configure/use

## Classpath

Update your classpath by adding this dependency in your project's `dom` module's `pom.xml`:

```
<dependency>
  <groupId>org.isisaddons.module.fakedata</groupId>
  <artifactId>isis-module-fakedata-dom</artifactId>
  <version>1.13.0</version>
</dependency>
```

Check for later releases by searching [Maven Central Repo](<http://search.maven.org/#search|ga|1|isis-module-fakedata-dom>).

For instructions on how to use the latest `-SNAPSHOT`, see the [contributors guide](#).

## Bootstrapping

In the `AppManifest`, update its `getModules()` method, eg:

```
@Override
public List<Class<?>> getModules() {
    return Arrays.asList(
        ...
        org.isisaddons.module.fakedata.FakeDataModule.class,
        ...
    );
}
```

# API and Implementation

The `FakeDataService` defines the following API:

```
public interface FakeDataService {

    public Names name() { ... }
    public Comms comms() { ... }
    public Lorem lorem() { ... }
    public Addresses addresses() { ... }
    public CreditCards creditCard() { ... }
    public Books books() { ... }

    public Bytes bytes() { ... }
    public Shorts shorts() { ... }
    public Integers ints() { ... }
    public Longs longs() { ... }
    public Floats floats() { ... }
    public Doubles doubles() { ... }
    public Chars chars() { ... }
    public Booleans booleans() { ... }

    public Strings strings() { ... }

    public Collections collections() { ... }
    public Enums enums() { ... }

    public JavaUtilDates javaUtilDates() { ... }
    public JavaSqlDates javaSqlDates() { ... }
    public JavaSqlTimestamps javaSqlTimestamps() { ... }
    public JodaLocalDates jodaLocalDates() { ... }
    public JodaDateTimes jodaDateTimes() { ... }
    public JodaPeriods jodaPeriods() { ... }

    public BigDecimals bigDecimals() { ... }
    public BigIntegers bigIntegers() { ... }

    public Urls urls() { ... }
    public Uuids uuids() { ... }

    public IsisPasswords isisPasswords() { ... }
    public IsisMoneys isisMoneys() { ... }
    public IsisBlobs isisBlobs() { ... }
    public IsisClobs isisClobs() { ... }

}
```

where each of the returned classes then provides suitable methods for obtaining values within that domain of values.

For example, **Names** provides:

```
public class Names ... {
    public String fullName() { ... }
    public String firstName() { ... }
    public String lastName() { ... }
    public String prefix() { ... }
    public String suffix() { ... }
}
```

and **IsisBlobs** provides:

```
public class IsisBlobs ... {
    public Blob any() { ... }
    public Blob anyJpg() { ... }
    public Blob anyPdf() { ... }
}
```

and **Collections** API includes:

```
public class Collections ... {
    public <T> T anyOf(final Collection<T> collection) { ... }
    public <T> T anyOfExcept(final Collection<T> collection, final Predicate<T>
except) { ... }
    public <T> T anyOf(final T... elements) { ... }
    public <T> T anyOfExcept(final T[] elements, final Predicate<T> except) { ... }
    ...
    public <E extends Enum<E>> E anyEnum(final Class<E> enumType) { ... }
    public <E extends Enum<E>> E anyEnumExcept(final Class<E> enumType, final
Predicate<E> except) { ... }
    public <T> T anyBounded(final Class<T> cls) { ... }
    public <T> T anyBoundedExcept(final Class<T> cls, final Predicate<T> except) { ... }
}
}
```

with similar methods for all the primitives

# Known issues

None known at this time.

# Dependencies

Maven can report modules dependencies using:

```
mvn dependency:list -o -pl modules/lib/fakedata/impl -D excludeTransitive=true
```

which, excluding Apache Isis itself, returns these compile/runtime dependencies:

```
com.github.javafaker:javafaker:jar:0.5
```

For further details on 3rd-party dependencies, see:

- [DiUS/java-faker](#)