

# OpenEAI Generic RequestCommand and Provider

## Background

In implementation of ESB services, there is a recurring pattern of RequestCommand boilerplate and Provider. This project uses java generic facility to help implement such a pattern so that code duplication is reduced.

## Design Artifacts

Implementation is in package `org.openeai.jms.consumer.commands`, part of `openeai.jar`

RequestCommands	Providers	Operations	Required Objects
GenericCrudRequestCommand<M extends ActionableEnterpriseObject, Q extends XmlEnterpriseObject, P extends CrudProvider<M, Q>>	CrudProvider, AbstractCrudProvider, ExampleCrudProvider	Query, Create, Update, Delete	M,Q
GenericGenerateRequestCommand<M extends ActionableEnterpriseObject, R extends XmlEnterpriseObject, P extends GenerateProvider<M, R>>	GenerateProvider, AbstractGenerateProvider, ExampleGenerateProvider	Generate (only)	M,R
GenericCompleteRequestCommand<M extends ActionableEnterpriseObject, Q extends XmlEnterpriseObject, R extends XmlEnterpriseObject, P extends CompleteProvider<M, Q, R>>	CompleteProvider, AbstractCompleteProvider, ExampleCompleteProvider	Query, Create, Update, Delete, Generate	M,Q,R

M: message Object

Q: querySpecification Object

R: requisition Object (for Generate operation)

## Example: edu.emory.ProviderDemoService

//TestmoaGenericCompleteRequestCommand.java

```
package edu.emory.testmoa.service;

import org.openeai.config.CommandConfig;
import org.openeai.jms.consumer.commands.GenericCompleteRequestCommand;
import org.openeai.jms.consumer.commands.RequestCommand;

import edu.emory.moa.jmsobjects.examples.v1_0.TestSimpleMoa;
import edu.emory.moa.objects.resources.v1_0.TestSimpleMoaQuerySpecification;
import edu.emory.moa.objects.resources.v1_0.TestSimpleMoaRequisition;

public class TestmoaGenericCompleteRequestCommand extends
    GenericCompleteRequestCommand<TestSimpleMoa, TestSimpleMoaQuerySpecification, TestSimpleMoaRequisition,
    TestMoaCompleteProvider>
    implements RequestCommand {

    public TestmoaGenericCompleteRequestCommand(CommandConfig cConfig) throws InstantiationException {
        super(cConfig);
    }
}
```

//TestMoaCompleteProvider.java

```
package edu.emory.testmoa.service;
```

```
import org.openeai.jms.consumer.commands.provider.ExampleCompleteProvider;
```

```
import edu.emory.moa.jmsobjects.examples.v1_0.TestSimpleMoa;
```

```
import edu.emory.moa.objects.resources.v1_0.TestSimpleMoaQuerySpecification;
```

```
import edu.emory.moa.objects.resources.v1_0.TestSimpleMoaRequisition;
```

```
public class TestMoaCompleteProvider
```

```
    extends ExampleCompleteProvider<TestSimpleMoa, TestSimpleMoaQuerySpecification, TestSimpleMoaRequisition> {}
```