

# Pluggable Class Resolvers

## Pluggable Class Resolvers

### Available since Camel 2.0

Camel provides pluggable class resolvers allowing third party platforms and contains to provide their own resolvers in case the default ones does not work on their platform. For example we provide a `WebSpherePackageScanClassResolver` out of the box in Camel to integration Camel with IBM WebSphere.

Platform providers should look in the `org.apache.camel.spi` package for the following pluggable resolvers:

- `PackageScanClassResolver`
- `ClassResolver`
- `FactoryFinderResolver`

In **camel-osgi** we provide OSGi aware class resolver allowing Camel to run in any OSGi container.

## Configuration of a custom class resolver

To instruct Camel to use your own custom class resolver you set the resolver on the `CamelContext` using the appropriate setters.

### Easy configuration in Spring XML

We have provided easy configuration in Spring XML as you just need to declare a spring bean with your custom resolver and Camel will pick it up automatically.

```
<bean id="jbossresolver" class="com.mycompany.jboss.JBossPackageScanClassResolver"/>

<camelContext id="camel" xmlns="http://camel.apache.org/schema/spring">
  <route>
    <from uri="seda:start"/>
    <to uri="mock:result"/>
  </route>
</camelContext>
```

In the sample above the `CamelContext` will automatic detect the `jbossresolver` bean and use it instead of its default one.

## FactoryFinderResolver

`FactoryFinderResolver` is used to get an instance of `FactoryFinder` that is used for lookup of resource files in the classpath in the `META-INF/services`. It is used internally by Camel to look in `.jars` for Camel components. For instance to look for the `file` component Camel will use the `FactoryFinder` to look the the file named `file` in `META-INF/services/org/apache/camel/component`. The `CamelContext` have methods to inject a custom `FactoryFinderResolver`.

### Easy configuration in Spring XML

We have provided easy configuration in Spring XML as you just need to declare a spring bean with your custom factory finder resolver and Camel will pick it up automatically.

```
<bean id="jbossFactoryFinderResolver" class="com.mycompany.jboss.JBossFactoryFinderResolver"/>

<camelContext id="camel" xmlns="http://camel.apache.org/schema/spring">
  <route>
    <from uri="seda:start"/>
    <to uri="mock:result"/>
  </route>
</camelContext>
```

## Using Camel with JBoss

See more at [camel-jboss](#) for a class resolver which works with JBoss and how to use it.

## Using Camel with Eclipse RCP

See more at [camel-eclipse](#) for a class resolver which works with Eclipse RCP and how to use it.