

TomEE relies on Apache CXF for JAX-WS and JAX-RS, it doesn't provides all CXF modules but most comomn ones for both specifications (JAX-RS is part of all distributions but JAX-WS is only part of plus one).

## Configuration

CXF API is reusable but you can also configure the interceptors through openejb-jar.xml (located in WEB-INF).

If you want to configure JAX-RS you will use the prefix cxf.jaxrs and if you configure JAX-WS you use cxf.jaxws prefix.

TIP

to configure directly the bus use org.apache.openejb.cxf.bus. prefix and configure it in conf/system.properties.

To configure JAX-RS you need to add in openejb-jar.xml a pojo-deployment:

For JAX-WS you will use a pojo-deployment matching the webservice class name for POJO webservices or an ejb-deployment instead of a pojo-deployment for EJB webservices:

Then once you selected your prefix and know where to write the config just use the following entries:

- properties: server factory properties
- features: CXF features
- in-interceptors: CXF in interceptors
- out-interceptors: CXF out interceptors

- in-fault-interceptors: CXF in interceptors for fault handling
- out-fault-interceptors: CXF out interceptors for fault handling
- databinding: server databinding
- providers (only for JAX-RS endpoint): list of JAX-RS providers
- skip-provider-scanning (only for JAX-RS): is provider scanning on or not (default true)

For features and interceptors the rule is the same: value is a list comma separated. Each value of the list is either a qualified class name or an id of a service in resources.xml.

Databinding is simply either a qualified name or a service id in resources.xml (located in WEB-INF).

## Sample for JAX-WS

To configure WSS4J on the EJB CalculatorBean for instance add in openejb-jar.xml:

With associated resources.xml which will define precisely the wss4j configuration:

```
<resources>
     <Service id="wss4j" class-name=
"org.apache.openejb.server.cxf.config.WSS4JInInterceptorFactory" factory-name="create">
          action = UsernameToken
          passwordType = PasswordText
          passwordCallbackClass = org.superbiz.ws.security.PasswordCallbackHandler
          </Service>
          </resources>
```

## Sample for JAX-RS

JAX-RS JSON page shows a sample dedicated to JAX-RS.