

jUDDI 3.0

User Guide

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About This Guide

What This Guide Contains

The User Guide document describes use of jUDDI – installation and setup.

Audience

This guide is most relevant to engineers who are responsible for setting up jUDDI 3.0 installations.

Prerequisites

None.

Organization

This guide contains the following chapters:

- **Chapter 1, Setup**
- **Chapter 2, Authentication**

Documentation Conventions

The following conventions are used in this guide:

Convention	Description
<i>Italic</i>	In paragraph text, italic identifies the titles of documents that are being referenced. When used in conjunction with the Code text described below, italics identify a variable that should be replaced by the user with an actual value.
Bold	Emphasizes items of particular importance.
Code	Text that represents programming code.
Function Function	A path to a function or dialog box within an interface. For example, “Select File Open.” indicates that you should select the Open function from the File menu.
() and	Parentheses enclose optional items in command syntax. The vertical bar separates syntax items in a list of choices. For example, any of the following three items can be entered in this syntax: <code>persistPolicy (Never OnTimer OnUpdate NoMoreOftenThan)</code>
Note:	A note highlights important supplemental information.
Caution:	A caution highlights procedures or information that is necessary to avoid damage to equipment, damage to software, loss of data, or invalid test results.

Table 1 Formatting Conventions

Additional Documentation

None on the subject.

Contacting Us

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Setup

Introduction

Within jUDDI, there are three downloadable files (juddi-core.jar, juddi.war, and juddi-tomcat.zip). You should determine which one to use depending on what level of integration you want with your application and your platform / server choices.

Using the JAR

The juddi-core module produces a JAR which contains the jUDDI source and a jUDDI persistence.xml configuration. jUDDI's persistence is being actively tested with both OpenJPA and with Hibernate.

If you are going to use only the JAR, you would need to directly insert objects into jUDDI through the database backend or persistence layer, or configure your own Webservice provider with the provided WSDL files and classes.

Using the WAR files

As with the JAR, you need to make a decision on what framework you would like to use when building the WAR. There will eventually be two WAR files shipped – one using CXF and one using Axis 2. For the alpha release, only CXF has been tested thoroughly.

Simply copy the WAR to the deploy folder of your server (this release has been tested under Apache Tomcat 5.5.23), start your server, and follow the directions under “using jUDDI as a Web Service”.

Using the Tomcat Bundle

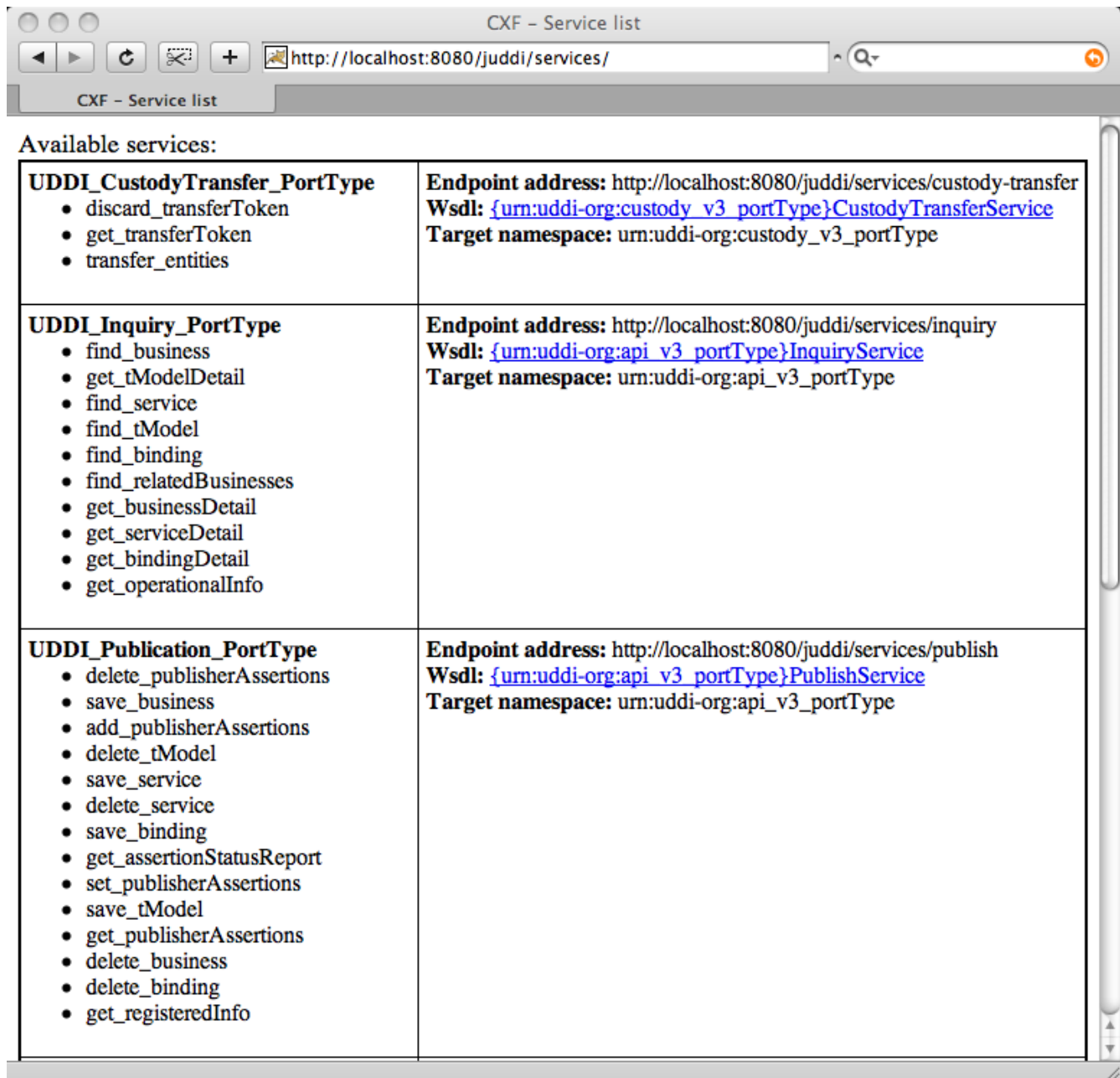
The jUDDI Tomcat bundle packages up the jUDDI WAR, Apache Derby, and a few necessary configuration files and provides the user with a pre-configured jUDDI instance. By default, the Hibernate is used as the persistence layer and CXF is used as a Web Service framework.

To get started using the Tomcat bundle, unzip the juddi-tomcat-bundle.zip, and start Tomcat :

```
% cd apache-tomcat-5.5.23/bin
% ./startup.sh
```


Using jUDDI as Web Service

Browse to <http://localhost:8080/juddi/services>



Available services:

UDDI_CustodyTransfer_PortType <ul style="list-style-type: none">• discard_transferToken• get_transferToken• transfer_entities	Endpoint address: http://localhost:8080/juddi/services/custody-transfer WSDL: {urn:uddi-org:custody_v3_portType}CustodyTransferService Target namespace: urn:uddi-org:custody_v3_portType
UDDI_Inquiry_PortType <ul style="list-style-type: none">• find_business• get_tModelDetail• find_service• find_tModel• find_binding• find_relatedBusinesses• get_businessDetail• get_serviceDetail• get_bindingDetail• get_operationalInfo	Endpoint address: http://localhost:8080/juddi/services/inquiry WSDL: {urn:uddi-org:api_v3_portType}InquiryService Target namespace: urn:uddi-org:api_v3_portType
UDDI_Publication_PortType <ul style="list-style-type: none">• delete_publisherAssertions• save_business• add_publisherAssertions• delete_tModel• save_service• delete_service• save_binding• get_assertionStatusReport• set_publisherAssertions• save_tModel• get_publisherAssertions• delete_business• delete_binding• get_registeredInfo	Endpoint address: http://localhost:8080/juddi/services/publish WSDL: {urn:uddi-org:api_v3_portType}PublishService Target namespace: urn:uddi-org:api_v3_portType

The services page shows you the available endpoints and methods available. Using any SOAP client, you should be able to send some sample requests to jUDDI to test:

Untitled

WSDL:

Service: **InquiryService**

Method:

EndpointURI:

Binding Style:

SOAPAction:

Namespace:

Parameters:

authInfo:

tModelKey:

User-Agent: Mac OS X; WebServicesCore.framework (1.0.0)
Content-Type: text/xml
Soapaction: get_tModelDetail
Host: localhost

```
<?xml version="1.0" encoding="UTF-8"?>

<SOAP-ENV:Envelope

  xmlns:xsd="http://www.w3.org/2001/XMLSchema"

  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"

  SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"

  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">

  <SOAP-ENV:Body>

    <get_tModelDetail xmlns="urn:uddi-org:api_v3_portType">
```

Using jUDDI with your application

As of the Alpha release, two of the UDDI v3 APIs should be active within jUDDI : inquiry and publish.

Authentication

Introduction

In order to enforce proper write access to jUDDI, each request to jUDDI needs a valid `authToken`. Note that read access is not restricted and therefore queries into the registries are not restricted.

To obtain a valid `authToken` a `getAuthToken()` request must be made, where a `GetAuthToken` object is passed. On the `GetAuthToken` object a `userid` and `credential` (password) needs to be set.

```
org.uddi.api_v3.GetAuthToken ga = new org.uddi.api_v3.GetAuthToken();
ga.setUserID(pubId);
ga.setCred("");

org.uddi.api_v3.AuthToken token = securityService.getAuthToken(ga);
```

The property `juddi.auth` in the `juddi.properties` configuration file can be used to configure how jUDDI is going to check the credentials passed in on the `GetAuthToken` request. By default jUDDI uses the `JUDDIAuthenticator` implementation. You can provide your own authentication implementation or use any of the ones mention below. The implementation needs to implement the `org.apache.juddi.auth.Authenticator` interface, and `juddi.auth` property should refer to the implementation class.

There are two phases involved in Authentication. The *authenticate* phase and the *identify* phase. Both of these phases are represented by a method in the `Authenticator` interface.

The *authenticate* phase occurs during the `GetAuthToken` request as described above. The goal of this phase is to turn a user id and credentials into a valid publisher id. The publisher id (referred to as the “authorized name” in UDDI terminology) is the value that assigns ownership within UDDI. Whenever a new entity is created, it must be tagged with ownership by the authorized name of the publisher. The value of the publisher id can be completely transparent to jUDDI – the only requirement is that one exists to assign to new entities. Thus, the *authenticate* phase must return a non-null publisher id. Upon completion of the `GetAuthToken` request, an authentication token is issued to the caller.

In subsequent calls to the UDDI API that require authentication, the token issued from the `GetAuthToken` request must be provided. This leads to the next phase of jUDDI authentication – the *identify* phase.

The *identify* phase is responsible for turning the authentication token (or the publisher id associated with that authentication token) into a valid `UddiEntityPublisher` object. The `UddiEntityPublisher` object contains all the properties necessary to handle ownership of UDDI entities. Thus, the token (or publisher id) is used to “identify” the publisher.

The two phases provide compliance with the UDDI authentication structure and grant flexibility for users that wish to provide their own authentication mechanism. Handling of credentials and publisher properties can be done entirely outside of jUDDI. However, jUDDI provides the `Publisher` entity, which is a sub-class of `UddiEntityPublisher`, to persist publisher properties within jUDDI. This is used in the default authentication and is the subject of the next section.

JUDDI Authentication

The default authentication mechanism provided by jUDDI is the `JUDDIAAuthenticator`. The *authenticate* phase of the `JUDDIAAuthenticator` simply checks to see if the user id passed in has an associated record in the `Publisher` table. No credentials checks are made.

The *identify* phase uses the publisher id to retrieve the `Publisher` record and return it. All necessary publisher properties are populated as `Publisher` inherits from `UddiEntityPublisher`.

```
juddi.auth = org.apache.juddi.auth.JUDDIAAuthentication
```

XMLDocAuthentication

The `XMLDocAuthentication` implementation needs a XML file on the classpath. The `juddi.properties` file would need to look like

```
juddi.auth = org.apache.juddi.auth.XMLDocAuthentication
juddi.usersfile = juddi-users.xml
```

where the name of the xml can be provided but it defaults to `juddi-users.xml`, and the content of the file would look something like

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<juddi-users>
  <user userid="anou_mana" password="password" />
  <user userid="bozo" password="clown" />
  <user userid="sviens" password="password" />
</juddi-users>
```

The *authenticate* phase checks that the user id and password match a value in the XML file. The *identify* phase simply uses the user id to populate a new `UddiEntityPublisher`.

CryptedXMLDocAuthentication

The `CryptedXMLDocAuthentication` implementation is similar to the `XMLDocAuthentication` implementation, but the passwords are encrypted

```
juddi.auth = org.apache.juddi.auth.CryptedXMLDocAuthentication
juddi.usersfile = juddi-users-encrypted.xml
juddi.cryptor = org.apache.juddi.cryptor.DefaultCryptor
```

where the name user credential file is `juddi-users-encrypted.xml`, and the content of the file would look something like

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<juddi-users>
  <user userid="anou_mana" password="+j/kXkZJftwTFTBH6Cf6IQ==" />
  <user userid="bozo" password="Na2Ait+2aW0=" />
  <user userid="sviens" password="+j/kXkZJftwTFTBH6Cf6IQ==" />
</juddi-users>
```

The `DefaultCryptor` implementation uses `BEWithMD5AndDES` and `Base64` to encrypt the passwords. Note that the code in the `AuthenticatorTest` can be used to learn more about how to use this `Authenticator` implementation. You can plugin your own encryption algorithm by implementing the `org.apache.juddi.cryptor.Cryptor` interface and referencing your implementation class in the `juddi.cryptor` property.

The *authenticate* phase checks that the user id and password match a value in the XML file. The *identify* phase simply uses the user id to populate a new `UddiEntityPublisher`.

JBoss Authentication

Finally it is possible to hook up to third party credential stores. If for example jUDDI is deployed to the JBoss Application server it is possible to hook up to its authentication machinery. The `JBossAuthenticator` class is provided in the `docs/examples/auth` directory. This class enables juddi deployments on JBoss use a server security domain to authenticate users.

To use this class you must add the following properties to the `juddi.properties` file:

```
juddi.auth=org.apache.juddi.auth.JBossAuthenticator
juddi.securityDomain=java:/jaas/other
```

The `juddi.auth` property plugs the `JbossAuthenticator` class into the juddi the Authenticator framework. The `juddi.secruity.domain`, configures the `JBossAuthenticator` class where it can lookup the application server's security domain, which it will use to perform the authentication. Note that JBoss creates one security domain for each application policy element on the `$JBOSS_HOME/server/default/conf/login-config.xml` file, which gets bound to the server JNDI tree with name `java:/jaas/<application-policy-name>`. If a lookup refers to a non existent application policy it defaults to a policy named `other`.



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