

ArisID API

Tutorial: Creating a Servlet and JSP Using the Oracle Virtual Directory Provider

December 2008

ArisID—short for Aristotle—is an open source API designed for developers to access identity information using a single API that enables access and management of identity information stored in different types of repositories accessed using different protocols. The ArisID API is the first API to implement the Identity Governance Framework (IGF) specifications from Liberty Alliance.

Note: The ArisID API is hosted by www.openLiberty.org and is available for use under the Apache 2.0 License. Oracle is a major sponsor of this work.

The ArisID API uses:

- Client Attributes Markup Language to enable developers to create their own virtual identity database while retaining the ability to interconnect with enterprise identity services.
- a declarative, multi-function API that depends on "providers" to perform data mapping, protocol transformation, and connectivity.

The Oracle Virtual Directory Provider for ArisID is an example of one such ArisID provider. This tutorial demonstrates how to create a servlet and JSP using the ArisID API with the Oracle Virtual Directory Provider.

Note: This demonstration configures JAAS to use the IGF AttributeServices API. Both JAAS and the sample applications must use the same IGF Stack Provider implementation.

This tutorial contains the following sections:

- [Step 1: Acquiring and Installing Demonstration Components](#)
- [Step 2: Acquiring IGF Components](#)
- [Step 3: Configuring Oracle Virtual Directory](#)
- [Step 4: Configuring the Demonstration in Eclipse](#)
- [Related Information](#)
- [Documentation Accessibility](#)

Step 1: Acquiring and Installing Demonstration Components

Acquire and install the following components:

Eclipse 3.3.2 with the Eclipse Web Tools Platform

You can acquire Eclipse 3.3.2 with the Eclipse Web Tools Platform from the eclipse project downloads web site at the following URL:

<http://download.eclipse.org/eclipse/downloads/>

Eclipse IDE for Java EE Developers

You can acquire Eclipse IDE for Java EE Developers from the Eclipse Downloads web site at the following URL:

<http://www.eclipse.org/downloads/>

Java EE 6 SDK Update 5

You can acquire Java EE 6 SDK Update 5 from the Sun Developer Network web site at the following URL:

<http://java.sun.com/javaee/sdk/>

Apache Tomcat 6.x

You can acquire Apache Tomcat 6.x from the Eclipse Downloads web site at the following URL:

<http://tomcat.apache.org/>

Perform the basic installation for Tomcat, that is, unzip the distribution, as you will Tomcat inside the Eclipse framework in this demonstration.

Oracle Virtual Directory 10g (10.1.4.3.0)

You can acquire Oracle Virtual Directory 10g (10.1.4.3.0) from the Oracle Technology Network web site at the following URL:

<http://www.oracle.com/technology/software/products/ias/htdocs/101401.html>

Install Oracle Virtual Directory using the *Patch Notes* listed in the "[Oracle Virtual Directory Documentation](#)" section of this tutorial.

Oracle Virtual Directory Provider for ArisID

You can acquire the Oracle Virtual Directory Provider for ArisID from the Oracle Technology Network web site at the following URL:

<http://www.oracle.com/technology/tech/standards/idm/igf/arisid/index.html>

(Optional) Subclipse Plug-in

Subclipse is an Eclipse Team Provider plug-in providing support for Subversion within the Eclipse IDE. You can use Subclipse for this demonstration to download IGF Project files from the sourceforge.net web site.

You can acquire Subclipse from the Tigris.org web site at the following URL:

<http://subclipse.tigris.org/>

Step 2: Acquiring IGF Components

This section explains how to acquire the IGF components for this demonstration. The recommended method for acquiring the IGF components is by using Subversion (SVN) from within Eclipse. SVN is an open source version control system used by Sourceforge.net. Using SVN makes it is easy to obtain updates, which is convenient if you plan to experiment with the IGF development code.

Note: You can also acquire the IGF components for this demonstration by downloading .zip file distributions from the sourceforge.net web site at:

<https://sourceforge.net/projects/idgov/>

If you download .zip file distributions from the sourceforge.net web site, unzip the files, then import the IGF components into Eclipse by clicking **File** and then **Import** in the Eclipse.

To acquire the IGF components for this demonstration using SVN from within Eclipse:

1. Click the Eclipse **Windows** menu and then click **Perspectives**. The Open Perspectives dialog box appears.
2. Click **SVN Repository Exploring** and then click the **OK** button.
3. Click the Eclipse **File** menu, then click **New**, and then click **Other**. The New dialog box appears.
4. Expand the **SVN** entry, click **Checkout Projects from SVN**, and then click the **Next** button.
5. Select **Create a new repository location**. The Add SVN Repository dialog box appears.
6. Enter the following in the URL field and click the **Finish** button:

<https://idgov.svn.sourceforge.net/svnroot/idgov>

The <https://idgov.svn.sourceforge.net/svnroot/idgov> repository appears in the SVN Repository navigation tree.

7. Expand the <https://idgov.svn.sourceforge.net/svnroot/idgov> entry in the tree. The IDGOV project structure appears. The following list describes the entries within the IDGOV project:
 - *Trunk*: The head or latest version in development containing nested individual Eclipse projects representing various IGF projects.
 - Samples: Tutorial and sample projects
 - branches: Published releases of IGF
 - Milestones: Various working IGF releases

8. Right-click and select **Checkout** for the following projects and sample code in the IDGOV project under /IGF_AttrSvcs/branches/milestone1.0/:
 - org.openliberty.arisid.core
 - /Samples/AttrSvcsDemo

Note: Optionally, you may want to check out the following projects and sample code to experiment with:

- org.openliberty.arisid.core.test
 - /Samples/IdBeansDemo
-
-

The Checkout from SVN dialog box appears after right-clicking and selecting **Checkout**. Select the **Check out as a project in the workspace** option and retain the suggested name prefilled in the Project Name field. Select the **Head Revision** option in the Revision to check out field and then click the **Finish** button.

Step 3: Configuring Oracle Virtual Directory

To configure Oracle Virtual Directory for the demonstration:

1. Create a Local Store Adapter and configure it with an inetorgperson account that includes attributes the demonstration can retrieve, such as email and password.

Refer to the *Oracle Virtual Directory Product Manual* listed in the "[Oracle Virtual Directory Documentation](#)" section for more information.

2. Download the Oracle Virtual Directory Provider for ArisID to your Oracle Virtual Directory server. You can download the Oracle Virtual Directory Provider for ArisID from the Oracle Technology Network web site at the following URL:

<http://www.oracle.com/technology/tech/standards/idm/igf/arisid/index.html>

3. Load the arisid-over-provider_1.0.jar library into Oracle Virtual Directory.

Step 4: Configuring the Demonstration in Eclipse

To configure the demonstration in Eclipse:

1. Open **Preferences**, expand the **Server** entry in the navigation tree, and click **Installed Runtimes**. The Installed Server Runtime Environments screen appears.
2. Click the **Add** button. The New Server Runtime dialog box appears.
3. Select **Apache Tomcat v6.0**, ensure the **Also create new local server** option is selected, and click the **Next** button.
4. Enter the directory path to where you want to install Tomcat in the Tomcat installation directory field. In the JRE field, be sure to select a full JDK—not just a JRE—as a java compiler is required. Click the **Finish** button.
5. If you have not already done so, import the AttrSvcsDemo project.

6. Right-click on the **showInfo.jsp** file inside the WebContent folder of AttrSvcsDemo, select **Debug As**, and then select **Debug On Server**. Eclipse WTP will prompt you to define a new server if you are running it for the first time.
7. Select **Tomcat V6.x Server with the localhost or IP address** in the navigation tree and select the directory path to where you installed Tomcat in step 4.
8. Select **Run**, then **Open Debug Dialog** from the Debug perspective, and then select the debug instance you created in step 7.
9. Review the arguments listed in the VM Arguments field on the Arguments tab. Ensure the following java argument string is listed:

```
-Djava.security.auth.login.config=  
"${workspace_loc}/AttrSvcsDemo/conf/login.config"  
-Dorg.openliberty.arisid.stack="STACK_NAME"
```

Note: Enter the java arguments listed above as one continuous string without using line breaks (pressing the Enter or Return key). The argument string will wrap over multiple lines as a result of the size VM Arguments field, but you should not manually break the lines.

10. Replace the *STACK_NAME* variable in the java argument string with the name of the ArisID Provider implementation you are using. For example, if you are using the OvdStackProvider, set the following:

```
-Dvde.home="OVD_HOME"  
-Dorg.openliberty.arisid.stack="com.oracle.ovd.arisid.OvdStackProvider"
```

Notes:

- Enter the name of the ArisID Provider on one line; the preceding example is limited by the width of this document.
 - Replace the *OVD_HOME* variable in the preceding example with the root directory of your Oracle Virtual Directory installation.
-
-

11. Click the **Debug** button.
12. Update the classpath to include any libraries or projects required by your stack provider. For Oracle Virtual Directory, this includes all library files included with the Oracle Virtual Directory installation.

Note: If you are using JRE 1.6, make sure the xercesImpl and xml-apis jar files are higher in the classpath than the JRE System Library or you will cause a ClassCastException internal to the DOM Parsers.

13. Edit the login.config file in the conf folder of the AttrSvcDemo project to reflect the ArisID provider to be used for JAAS. For example, to use Oracle Virtual Directory, enter the following:

```
ArisIdLoginModule
{
    org.openliberty.arisid.jaas.ArisIdLoginModule required debug=true
    org.openliberty.arisid.stack=com.oracle.ovd.arisid.OvdStackProvider
;
};
```

14. Go to the **Servers** project you created in steps 3-4. Select the folder representing the Tomcat server you created. In server.xml, define a JAAS realm as follows:

```
<Realm appName="ArisIdLoginModule"
className="org.apache.catalina.realm.JAASRealm"
roleClassNames="org.openliberty.arisid.stack.RoleIdentifierPrincipal"
userClassNames="com.oracle.ovd.arisid.OvdPrincipal"/>
```

Note: If you are not using the OvdProvider, you must change the userClassNames and roleClassNames to match the providers class names. If you change these values, remember to reset and clean the server configuration.

15. Click the **Windows** menu, then click **Perspective**, and then click **Debug**. Start the server by right-clicking on the Tomcat Server and selecting **Debug**.

Note: You can start, stop, and debug the server using the Servers tab. Alternatively, to actively control the server process, for example kill, switch to the Debug tab. The debug tab will also allow you to step through JSP and IGF source code.

16. Open a web browser and go to the following URL:

```
http://localhost:8080/AttrSvcDemo/showInfoAttrSvc.jsp
```

A log in challenge appears.

17. Enter an email address and password previously configured within Oracle Virtual Directory.

The profile entered in Oracle Virtual Directory should appear within the output of the JSP. You are encouraged to experiment with the JSPs and explore the Attribute Service APIs.

Related Information

The following are additional information resources related to this tutorial:

ArisID API Information

Refer to the Aristotle Project information at http://www.openliberty.org/wiki/index.php/ArisID_API

IGF 1.0 Specifications

You can access the IGF 1.0 specifications from the Specifications page at <http://www.projectliberty.org/>

Oracle Virtual Directory Documentation

- *Oracle Virtual Directory Patch Notes 10.1.4.3.0*

This document contains information, including install and upgrade procedures, about functionality included in Oracle Virtual Directory 10.1.4.3.0. You can access this document on the Oracle Technology Network web site at the following URL:

<http://www.oracle.com/technology/documentation/oim1014.html>

- *Oracle Virtual Directory Product Manual Release 10.1.4.3.0*

The *Oracle Virtual Directory Product Manual* for Release 10.1.4.3.0 contains information about configuring and administering Oracle Virtual Directory 10.1.4.3.0. You can access this document on the Oracle Technology Network web site at the following URL:

<http://www.oracle.com/technology/documentation/oim1014.html>

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at

<http://www.oracle.com/accessibility/>

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week. For TTY support, call 800.446.2398.

Oracle Virtual Directory Patch Notes 10.1.4.3.0
E12282-01

Copyright © 1991, 2008, Oracle. All rights reserved.

The Programs (which include both the software and documentation) contain proprietary information; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. This document is not warranted to be error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose.

If the Programs are delivered to the United States Government or anyone licensing or using the Programs on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the Programs, including documentation and technical data, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement, and, to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software—Restricted Rights (June 1987). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and we disclaim liability for any damages caused by such use of the Programs.

Oracle, JD Edwards, and PeopleSoft are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

The Programs may provide links to Web sites and access to content, products, and services from third parties. Oracle is not responsible for the availability of, or any content provided on, third-party Web sites. You bear all risks associated with the use of such content. If you choose to purchase any products or services from a third party, the relationship is directly between you and the third party. Oracle is not responsible for: (a) the quality of third-party products or services; or (b) fulfilling any of the terms of the agreement with the third party, including delivery of products or services and warranty obligations related to purchased products or services. Oracle is not responsible for any loss or damage of any sort that you may incur from dealing with any third party.