Oracle® Identity Manager

Globalization Guide

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Oracle Identity Manager Globalization Guide, Release 9.1.0.1

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Contents

Preface

This guide discusses globalized portions of Oracle Identity Manager, and provides information about working with resource bundles to localize user-configurable strings.

Audience

This guide is intended for administrators who want to deploy Oracle Identity Manager for users belonging to diverse language communities.

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Related Documents

For more information, see the other documents in the Oracle Identity Manager documentation set for this release.

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen (or text that you enter), and names of files, directories, attributes, and parameters.

1

About Oracle Identity Manager Globalization

Globalization support in Oracle Identity Manager enables you to deploy Oracle Identity Manager by using supported languages and country locales from around the world. Globalization of software applications consists of two aspects, internationalization and localization, as described in the following topics:

- Understanding Internationalization
- Localizing Oracle Identity Manager

1.1 Understanding Internationalization

Internationalization is the process of adapting products for use with other languages, nations, and cultures. The internationalization of software applications includes the following tasks:

- Separating resources, such as strings and images from application code
- Selecting the appropriate code page (the character set) and defining the code page conversions
- Modifying all text manipulation algorithms to be aware of the selected code page
- Modifying the logic for algorithms that handle dates, times, currency, numerics, and so on
- Modifying the logic used in collation and sorting algorithms
- Isolating the text strings in images

1.2 Localizing Oracle Identity Manager

Localization is the process of preparing an internationalized software application for a specific market, and includes the following tasks:

- Translating resource strings into the target languages, taking into consideration the characteristics of the locale where the target language is used
- Identifying resources that cannot be localized and removing them, if necessary

Oracle Identity Manager has been localized into the following languages:

- Chinese (Simplified)
- Chinese (Traditional)
- Danish
- English

- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazilian)
- Spanish

When you use the Oracle Identity Manager Administrative and User Console, if your browser locale is set to one of these supported languages, then the text displayed on the console is in the same language. In other words, depending on their browser locale setting, users in your organization can view text displayed on the Administrative and User Console in different languages. Users who set the browser locale to French see console text in French, users with the German browser locale setting see console text in German, and so on.

Note: Localized display of text in the Oracle Identity Manager Design Console is not supported.

During installation, you select the language that you want from a list of the supported languages. This language selection is applied at two places for the entire Oracle Identity Manager installation:

- Text displayed on the Oracle Identity Manager Installer is in the selected language.
- E-mail sent from Oracle Identity Manager is in the selected language.

  See "Localizing E-Mail Notification Messages" on page 3-22 for more information.

2

Preinstallation Considerations for Globalization

Before installing the Oracle Identity Manager application components, configure your locale and set up your database for globalization.

This chapter discusses the following topics:

- Configuring Settings for a Locale
- Setting Up the Database

2.1 Configuring Settings for a Locale

Prior to installation, you must configure regional language settings for your locale on the application server. Ensure that you install the appropriate language version of your operating system and set any other required language settings.

The combination of a UTF-8 locale for multibyte languages and a Linux operating system is not supported by the Oracle Identity Manager Installer. To run Oracle Identity Manager on a Linux computer set to a UTF-8 locale for multibyte languages, use a non-UTF-8 locale only for installing Oracle Identity Manager, and then switch to the required UTF-8 locale after the installation.

If you run the Oracle Identity Manager Installer on a computer set to the Danish language locale, then the Danish language option is displayed as `dansk` in the list from which you select a language for the installation.

The combination of the Portuguese (Brazilian) locale and IBM WebSphere Application Server is not supported. For more details, see the following Web page:

`http://www-1.ibm.com/support/docview.wss?rs=3068&context=SSNVBF&dc=DB550&uid=swg1IZ01077&loc=en_US&cs=UTF-8%3C=en&rss=ct3068websphere`

2.2 Setting Up the Database

In this release, Oracle Identity Manager only supports globalization on Oracle Database.

For globalization support in Oracle Identity Manager, Oracle recommends configuring the database for Unicode. To configure Unicode support for Oracle Database, use the following settings:

Note: See *Oracle Database Installation Guide* to understand whether or not you must select the AL32UTF8 character set and set the NLS_LENGTH_SEMANTICS initialization parameter to CHAR.

- When you install Oracle Database, select the AL32UTF8 character set, as described in *Oracle Database Installation Guide*.
- If you have not already set the `NLS_LENGTH_SEMANTICS` initialization parameter to `CHAR`, do this as described in the following procedures.

To set the initialization parameter `NLS_LENGTH_SEMANTICS` to `CHAR` when you use a server parameter file (`SPFILE`):

1. Connect to SQL*Plus as the SYSDBA.
2. Run the following command in SQL*Plus:

```
ALTER SYSTEM SET NLS_LENGTH_SEMANTICS=CHAR SCOPE=BOTH
```

To set the initialization parameter `NLS_LENGTH_SEMANTICS` to `CHAR` when you use the `init.ora` parameter file (`PFILE`):

1. Connect to SQL*Plus as the SYSDBA:
2. Run the following command in SQL*Plus:

```
ALTER SYSTEM SET NLS_LENGTH_SEMANTICS=CHAR
```

   This command takes effect immediately and persists until the database is shut down.

3. Modify your `init.ora` parameter file to add `NLS_LENGTH_SEMANTICS=CHAR`.

   This step ensures that `NLS_LENGTH_SEMANTICS` is set if you restart the database.

3

Globalization of Oracle Identity Manager Components

System-defined components in Oracle Identity Manager have been globalized, and translations for these items are provided with the release. User-defined extensions to fields, forms, and other elements in the Oracle Identity Manager user interface require manual configuration to support globalization. You can optionally customize style sheets for the Oracle Identity Manager Administrative and User console.

Oracle Identity Manager consists of the following components:

- The Oracle Identity Manager Installer: This is used to install Oracle Identity Manager on a computer.
- The Oracle Identity Manager Administrative and User Console: This is the main application used by administrators and users.
- The Oracle Identity Manager Design Console: System administrators use the Design Console to create metadata extensions.
- The Diagnostic Dashboard: System administrators use the dashboard to find and troubleshoot issues with an Oracle Identity Manager installation.
- The Remote Manager: This lightweight network server enables you to integrate with target systems whose APIs cannot communicate over a network, or that have network awareness but are not secure.
- Connectors: These are used to integrate Oracle Identity Manager with specific third-party applications, such as Microsoft Exchange or Novell eDirectory.

This chapter discusses the following topics:

3.1 Oracle Identity Manager Globalization Properties

The following system properties support globalization for a single language in the current release and will support multilingual globalization in the future:

user.language: Oracle Identity Manager uses this property for back-end activities, for example, for automatic e-mail generation when sending e-mail to users. You set this property when you select a language during installation. In future releases, this setting will be in user preferences, and there will be no systemwide language setting.

For displaying data in a browser, Oracle Identity Manager localizes the data based on the value of the accept-language parameter in the HTTP header sent by the browser. The Oracle Identity Manager application localizes all responses into this language.

user.region: As with the user.language property, Oracle Identity Manager uses this setting for back-end processes, for example, sending e-mail to users.

> **See Also:** *Oracle Identity Manager Design Console Guide* for information about how to set the user.language and user.region system properties

The formatting of dates, times, and so on, that Oracle Identity Manager displays in the Web browser is based on the locale setting of the Web browser. This setting affects the following:

- Date and time formats for input and output
- Numeric formats for input and output
- Order of name components (first name and last name)

3.2 Globalization Components in the Installer

When you run the Oracle Identity Manager Installer, you are first prompted to select a language. All screens and messages in the installer are then localized based on the selected language.

> **See Also:** Appendix A, "Oracle Identity Manager Installation Language Support and Restrictions" for restrictions on the inputs that you provide during installation

3.3 Oracle Identity Manager Administrative and User Console Globalization

The Oracle Identity Manager Administrative and User Console has been globalized and translated into the supported languages for the release. You can configure additional translated strings for user-defined data, clear the cache when you add user-defined data, and customize locale-specific style sheets.

The rest of this section discusses the following topics:

- Localization of Default Resource Bundles
- Localizing User-Defined Data by Using Custom Resource Bundles
- Encoding of User Input
- Encoding of Web Responses
- Handling Expansion and Shrinkage of Localized Text

- Date and Time Formatting
- Number Formatting
- Display of Names
- E-Mail Address Restrictions
- Password Restrictions
- Sorting and Comparison for Non-English Locales
- Translating Custom Columns
- Localizing Oracle Identity Manager Reports
- Naming Convention for Defining Error Codes
- Workflow Designer Localization
- Other Localization Changes

3.3.1 Localization of Default Resource Bundles

Oracle Identity Manager stores localized versions of text strings that appear in the user interface in resource bundles.

All messages that appear in the Administrative and User Console are localized in property files. The following files are the basis for translation into the supported languages:

`WEB-INF\classes\xlWebAdmin.properties`

`WEB-INF\classes\xlRichClient.properties`

These files contain basic user interface text that is not configurable by the user or administrator.

Elements in the property files have been translated into the following languages:

- Chinese (Simplified)
- Chinese (Traditional)
- Danish
- English
- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazilian)
- Spanish

The property files for each language are identified by an underscore (_) and language code appended to the file name. For example, the French language property files are named xlWebAdmin_fr.properties and xlRichClient_fr.properties.

When sending information to the browser, Oracle Identity Manager depends on the language setting of the browser. For example, if the browser language setting is

French, Oracle Identity Manager uses the French language property files xlWebAdmin_fr.properties and xlRichClient_fr.properties to localize the content.

The WEB-INF/classes/xlDefaultAdmin.properties file contains properties that do not need translation, including the following:

- Menu link actions
- Image paths
- Delimiters and separators
- Other special characters and numbers
- Web layer configuration properties

Oracle Identity Manager metadata is populated in the database during installation. For example, system-created users, organizations, processes, and resources, are supplied in the metadata. The following applies to metadata and metadata extensions that you configure after installation:

- Most system metadata is configured and stored in English in the database.
- After Oracle Identity Manager fetches data from the database and the data reaches the Web tier, Oracle Identity Manager locates resource bundles that contain the localized strings for the data.

Note: You cannot modify system metadata. However, you can create resource bundles for metadata extensions that you configure in the Oracle Identity Manager Design Console. The syntax for specifying the resources and properties in the resource bundle property file is similar to that for the default bundles. The following sections provide details about this topic.

3.3.2 Localizing User-Defined Data by Using Custom Resource Bundles

You can configure locale-specific text strings in resource bundles for user-defined data. As described in *Oracle Identity Manager Design Console Guide*, you usually create user-defined lookups, fields, forms, and so on in the Design Console. In this release, you can also configure localized versions of user-defined fields for display in the Administrative and User Console. The following topics describe how to localize user-defined data by using custom resource bundles:

- Locating the Custom Resource Bundle Property Files
- Localizing User-Defined Items
- Localizing Challenge Questions
- How Does Oracle Identity Manager Determine Which Lookup Fields to Localize?
- Localizing a Connector by Using Resource Bundles
- Encoding Property Files
- Clearing the Cache for Custom and Connector Resource Bundles

3.3.2.1 Locating the Custom Resource Bundle Property Files

You configure resource bundles for localized user-defined data in a folder named customResources in the Oracle Identity Manager home directory, as follows:

OIM_HOME/xellerate/customResources

This folder contains the following files:

- customDefaultResources.properties: Defines all custom properties that do not require translation.
- customResources.properties: Contains English language property translations. These properties are used when the locale setting does not match the locales supported by Oracle Identity Manager.
- customResources_en.properties: Contains English language property translations. These properties are used when the locale setting is English.
- customResources_*xx*.properties: Contains language property translations for the language represented by *xx*. For example, the customResources_ja.properties file contains language property translations for Japanese.

3.3.2.2 Localizing User-Defined Items

The following procedures describe how to localize user-defined items that are used by the Administrative and User Console interface.

> **Note:** In a clustered deployment, you must make the same changes on all nodes of the cluster.

To add a user-defined form, use the following format to define the key for the form's description:

```
global.Table Name.description=Form description value to display in the
Administrative and User Console interface
```

For example, the following key defines a description for a form named `UD_MYFORM`:

```
global.UD_MYFORM.description=My form description
```

To add user-defined field labels and form field labels:

1. Construct the resource string for the label, by using the following syntax:

   ```
   global.udf.udf_column_name=Text to display in the user interface
   ```

   For example, you could define the following key for a column named `UD_USER_USERNAME`:

   ```
   global.udf.UD_USER_USERNAME = First Name
   ```

2. Replace white space in any value in the resource bundle key with a hyphen (-).

To add a user-defined lookup field:

1. Construct the resource string for the lookup field by using the following format to define the key:

   ```
   global.lookup_code.encode_data=Value to appear in the user interface
   ```

   For example, you would create the following keys for a lookup code of `myuser.status` for a lookup column named `UD_USER_STATUS` with lookup-encoded values of `Active`, `Disabled`, and `Deleted`:

   ```
   global.myuser.status.Active=Active
   global.myuser.status.Disabled=Disabled
   global.myuser.status.Deleted=Deleted
   ```

2. Replace white space in any value in the resource bundle key with a hyphen (-).

To add columns to a form by using the `FormMetaData.xml` file, construct the column by using the following syntax:

```
global.lookup_code.encode_data=column_to_appear_in_the_user_interface
```

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" on page 3-9.

3.3.2.3 Localizing Challenge Questions

The following default challenge questions are localized automatically in Oracle Identity Manager:

- What is the name of your pet?
- What is the city of your birth?
- What is your favorite color?
- What is your mother's maiden name?

If you add custom challenge questions to the Oracle Identity Manager Design Console, then you must add corresponding properties to the custom resource bundles to localize the question text in the supported languages.

For example, you might add the following new challenge question: *Which is your favorite sport?*. To localize this text, you must add properties to the property files in the following format:

```
global.Lookup.WebClient.Questions.question-text=value
```

You must replace any white spaces in the question text with a hyphen (-). For example, to localize the *What is your favorite sport?* challenge question in French, you add the following property to the customResources_fr.properties file:

```
global.Lookup.WebClient.Questions.Which-is-your-favorite-sport?
     = Quel est votre sport favori?
```

To modify the text of the default challenge questions, you must also add corresponding properties to the custom resource bundles. For example, to modify the text of the *What is your favorite color?* question from American to British spelling, you must add the following new property in the customResources.properties file:

```
global.Lookup.WebClient.Questions.What-is-your-favorite-color?=What is your
favourite colour?
```

To modify the text of the default challenge questions for a specific locale, you must add properties for the modified questions to the customResources.properties file, and the customResources_*xx*.properties file that represents the locale's language. For example, the customResources_ja.properties file contains language property translations for Japanese.

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" section on page 3-9.

3.3.2.4 How Does Oracle Identity Manager Determine Which Lookup Fields to Localize?

When a user clicks a lookup field in Oracle Identity Manager Administrative and User Console, Oracle Identity Manager first examines the locale-specific resource bundle for translated values. If the resource bundle does not contain any translated values for the lookup field, then the default values in the Oracle Identity Manager database are used. For example, if a locale-specific resource bundle does *not* contain the following keys for a lookup code of `myuser.status` for a lookup column named `UD_USER_STATUS`, then the default values of `Active`, `Disabled`, and `Deleted` in the Oracle Identity Manager database are used:

```
global.myuser.status.Active=Active User
global.myuser.status.Disabled=Disabled User
global.myuser.status.Deleted=Deleted User
```

If a resource bundle does not contain translated values for all of the keys in a lookup code, the missing keys are skipped. For example, if a locale-specific resource bundle contains the following keys for a lookup code of `myuser.status` for a lookup column named `UD_USER_STATUS`, then the `Disabled` status is not displayed:

```
global.myuser.status.Active=Active User
global.myuser.status.Deleted=Deleted User
```

If a resource bundle contains any translated values for a lookup key, Oracle Identity Manager searches the resource bundle for additional translated values. The default values in the Oracle Identity Manager database are used only if a resource bundle does not contain any translated values for a lookup key.

3.3.2.5 Localizing a Connector by Using Resource Bundles

A **connector** is a combination of Oracle Identity Manager resource objects, process definitions, adapters, forms, and executable code that can be used for provisioning and reconciliation with a target application. You configure resource bundles for localized user-defined connector data in a folder named `connectorResources` in the Oracle Identity Manager home directory, as follows:

OIM_HOME`/xellerate/connectorResources`

You can configure and localize the following for a connector:

- The response code description
- The process task response codes
- Attribute names in the target system, if they are used as input for operations that are coded for the connector
- Form descriptions
- Field labels on forms
- Response strings for provisioning operations in the target system that are used by the business logic of the connector

When you configure a new response code, response code description, lookup, form field, or a user-defined field for a connector, you create a corresponding resource bundle in the following folder:

OIM_HOME`/xellerate/connectorResources`

The file name of a resource bundle can only include underscore characters (_) to separate the language and country code values from the rest of the file name.

Underscore characters cannot be used in any other portion of the file name. For example, the following resource bundle file name is not valid because it contains underscores before the language and country code values:

```
GC_Prov_Format_SPML_en_US.properties
```

Instead of using underscores to separate portions of a resource bundle file name (other than the language and country code values), you can use hyphens, as follows:

```
GC-Prov-Format-SPML_en_US.properties
```

Note: In a clustered deployment, you must make the same changes on all nodes of the cluster.

To add localized text for response codes and response code descriptions:

1. Create two keys for each response code: one for the localized response code, and one for the localized response code description.

   Format the keys by using the following syntax:

   process_name.task_name.response_code=Response_code_value_to_appear_in_the_administrative_user_interface

   For example, you can create keys similar to the following:

   ```
   MyApplication.Create-User.CONNECTION_ERROR=Connection Error
   MyApplication.Create-User.CONNECTION_ERROR.description=Error connecting to
   MyApplication Server
   MyApplication.Create-User.PASSWORD_MISMATCH=Password Mismatch
   MyApplication.Create-User.PASSWORD_MISMATCH.description=Password and Confirm
   Password fields do not match
   MyApplication.Create-User.PASSWORD_INSUFFICIENT=Password Is Insufficient
   MyApplication.Create-User.PASSWORD_INSUFFICIENT.description=Password must be at
   least 5 characters
   ```

   In this example, the process name is `MyApplication`, the task name is `Create-User`, and the response codes are `CONNECTION_ERROR`, `PASSWORD_MISMATCH`, and `PASSWORD_INSUFFICIENT`.

2. Replace all white spaces in a process name, task name, or response code with a hyphen (-).

To define the key for a form's description, use the following format:

global.*Table Name*.description=*Form description value to display in the Administrative and User Console interface*

For example, the following key defines a description for a form named `UD_MYFORM`:

global.UD_MYFORM.description=*My form description*

To localize user-defined field labels and form field labels:

1. Format the keys by using the following syntax:

   global.udf.*udf_column_name=Field_label_value_to_be_displayed_on_the_administrative_console_user_interface*

   For example, you can create keys similar to the following for columns named `USR_UDF_LANGUAGE` and `USR_UDF_COUNTRY`:

   ```
   global.udf.USR_UDF_LANGUAGE = User's Language
   ```

```
global.udf.USR_UDF_COUNTRY = User's Country
```

2. Replace white spaces in any of the values in the resource bundle key with a hyphen (-).

To add a user-defined lookup field to search by column and code:

1. Construct the resource string for the lookup field by using the following format to define the key:

   ```
   global.lookup_code.encode_data=Value_to_be_displayed_in_the_user_interface
   ```

   For example, you would create the following keys for a lookup code of `myuser.status` for a lookup column named `UD_USER_STATUS` with lookup-encoded values of `Active`, `Disabled`, and `Deleted`:

   ```
   global.myuser.status.Active=Active
   global.myuser.status.Disabled=Disabled
   global.myuser.status.Deleted=Deleted
   ```

2. Replace white spaces in any of the values in the resource bundle key with a hyphen (-).

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" section on page 3-9.

3.3.2.6 Encoding Property Files

By default, property files do not support multibyte characters. To use multibyte characters in a property file, you must encode the property file with Sun Microsystem's native2ascii internationalization tool. For more information about the native2ascii internationalization tool, visit the Sun Developer Network at

`http://java.sun.com/`

3.3.2.7 Clearing the Cache for Custom and Connector Resource Bundles

Oracle Identity Manager caches resource bundles that are located in the following directories:

OIM_HOME/xellerate/customResources
OIM_HOME/xellerate/connectorResources

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. In a clustered deployment, you must clear the cache on all the nodes of cluster if they are not on the same subnet.

Note: The following procedure refers to the cache categories CustomResourceBundle and ConnectorResourceBundle. See the following file for information about the other content categories:

OIM_HOME/xellerate/config/xlConfig.xml

To clear the server cache, run one of the following utilities, depending on the operating system:

For Microsoft Windows:

```
OIM_HOME\xellerate\bin\PurgeCache.bat category_name
```

For UNIX

```
OIM_HOME/xellerate/bin/PurgeCache.sh category_name
```

For example, the following commands clear the server cache for the custom connector resource bundles:

For Microsoft Windows:

```
OIM_HOME\xellerate\bin\PurgeCache.bat ConnectorResourceBundle
```

For UNIX

```
OIM_HOME/xellerate/bin/PurgeCache.sh ConnectorResourceBundle
```

Use the following commands to remove content for all categories from the server cache:

For Microsoft Windows:

```
OIM_HOME\xellerate\bin\PurgeCache.bat All
```

For UNIX

```
OIM_HOME/xellerate/bin/PurgeCache.sh All
```

3.3.3 Encoding of User Input

Oracle Identity Manager encodes all user input in the Web client as UTF-8.

The Oracle Identity Manager Design Console sends Unicode data to the Oracle Identity Manager server by using the UCS-2 encoding supported by Java.

3.3.4 Encoding of Web Responses

Oracle Identity Manager encodes HTML pages according to the character set used by the locale. When displaying Web pages, browsers require the page encoding to use specific fonts and character set mapping tables. Applications require the page encoding to process input data from HTML forms.

To specify the page encoding for HTML pages, Oracle Identity Manager does the following:

- Chooses a page encoding
- Encodes the HTML content
- Specifies the HTML pages by using the encoding name

The rest of this section discusses the following topics:

- Encoding in Servlets and Java Server Pages (JSP)
- Static HTML Encoding
- HTML Form Input Encoding
- GET URL Encoding

3.3.4.1 Encoding in Servlets and Java Server Pages (JSP)

For single-language and multilanguage applications, Oracle Identity Manager specifies the encoding for HTML pages in the `ContentType` HTTP header in Java Server Pages (JSP). Oracle Identity Manager uses the `contentType` page directive with a `charset` value of `utf-8`, as in the following example:

```
<%@ page contentType="text/html; charset=utf-8" %>
This will be used in the common files
web\layouts\tjspClassicLayout.jsp,
web\pages\FilterErrorPage.jsp
web\layouts\tjspPopUpLayout.jsp
```

In the preceding example, the `ContentType` HTTP header ensures that all communication between a Web client and server uses UTF-8 encoding.

> **Note:** UTF-8 supports all languages.

3.3.4.2 Static HTML Encoding

Oracle Identity Manager specifies character encoding in HTML page headers as follows:

```
<meta http-equiv="Content-Type" content="text/html;charset=utf-8">
```

3.3.4.3 HTML Form Input Encoding

Oracle Identity Manager generates HTML forms that enable users to provide input. For both POST and GET requests on Microsoft Internet Explorer browsers, Oracle Identity Manager encodes user input based on the encoding of the form. For example, if a form uses UTF-8 encoding, the browser returns UTF-8-encoded user input.

The browser uses different methods for passing input in a POST request and passing input in a GET request:

- For POST requests, the browser passes input as part of the request body. Only 8-bit data is allowed.
- For GET requests, the browser passes input as part of a URL.

  The input is an embedded query string where every non-ASCII byte is encoded as `%`*`XX`*, where *`XX`* is the hexadecimal representation for the binary value of the byte.

  This is called **URL encoding**.

3.3.4.4 GET URL Encoding

All GET URL requests that Oracle Identity Manager generates are URL-encoded to support multibyte characters in the URL.

3.3.5 Handling Expansion and Shrinkage of Localized Text

Text strings often expand when they are translated from English to most European languages. A translated English sentence is an average of 30 to 40% longer in a European language, and a particular work can be as much as 200% longer. For Asian languages, text can shrink by 30 to 50%.

When you configure and localize user-defined elements in the user interface, ensure that elements such as menu items and icon names do not adversely affect the display of the Web-based Administrative and User Console after translation.

Note: You localize user-defined elements in resource bundles. See "Localizing User-Defined Data by Using Custom Resource Bundles" on page 3-4 and "Localizing a Connector by Using Resource Bundles" on page 3-7 for details.

3.3.5.1 Using Locale-Specific Style Sheets

Font size, family, face, and formatting in bold, italic, oblique, and so on, are locale-sensitive. For example, smaller font sizes can be hard to read in Asian languages, and some Asian languages use formatting such as bold and italic sparingly or not at all. It is a best practice to define a style for each locale. Locale-specific style sheets enable you to provide different font sizes, turn bold or italic on or off, and make similar changes depending on the locale. The style sheet selection mechanism can also use a default style sheet if there is no style sheet for a specific locale.

Oracle Identity Manager uses language-specific style sheets. Locale-specific information in cascading style sheets include classes that must be modified for each language in the language-specific style sheets. Cascading style sheets are loaded dynamically based on the client browser language settings.

The JSP files inherit the following language-specific properties from the language-specific style sheet:

- Font names, font size in terms of width, height in pixels, and so on.
- Alignments for languages that read right-to-left as well as languages that read left-to-right. This is known as bidirectional language support.
- Direction of text for bidirectional language support.

Note: Bidirectional support is not currently implemented, because Oracle Identity Manager does not support any languages that require bidirectional support.

Oracle Identity Manager uses the following JSP files:

- tjspClassicLayout.jsp
- tjspPopupLayout.jsp

The following code in the JSP pages controls the locale:

```
<%
java.util.Locale locale =
(java.util.Locale)session.getAttribute(org.apache.struts.Globals.LOCALE_KEY);
String languageFile = application.getRealPath("/css/Xellerate_" +
locale.getLanguage() + ".css");
String css_file = "css/Xellerate_" + locale.getLanguage() + ".css";
if(locale.getCountry() != null && locale.getCountry().equals("")==false){
languageFile = application.getRealPath("/css/Xellerate_" + locale.getLanguage() +
"_" + locale.getCountry() + ".css");
css_file = "css/Xellerate_" + locale.getLanguage() + "_" + locale.getCountry() +
".css";
}
try{
File f = new File(languageFile);
if(!f.exists() || !f.isFile() || !f.canRead()){
css_file = "css/Xellerate.css";
}
```

```
}catch(Exception e){
css_file = "css/Xellerate.css";
}
%>
<link rel="stylesheet" href="<%=css_file%>" type="text/css" />
```

3.3.5.1.1 Horizontal Expansion

The style classes `Outlines` and `popupOutline` control horizontal text expansion. These elements have default values in the style sheet. In the following, the `width` value can be modified to other `%` values to expand or shrink the overall width.

```
.Outlines {
    BORDER-BOTTOM: #666666 1px solid;
    BORDER-LEFT: #666666 1px solid;
    BORDER-RIGHT: #666666 1px solid;
    BORDER-TOP: #666666 1px solid;
    WIDTH: 130%;
}

.popupOutline{
    WIDTH: 100%;
}
```

3.3.5.1.2 Vertical Expansion

For generic vertical expansion, the corresponding style sheet file modifies the value for `PADDING-BOTTOM` in the `TD` class located near the top of the file, as follows:

```
 td{
PADDING-BOTTOM:2px !important;
}
```

The default value in the style sheet is adequate for most situations, but you can modify the `2px` value.

To override the behavior from the first addition and use no padding, you can add the following to the end of the xellerate.css file:

```
 .noBottomPadding {
   PADDING-BOTTOM:0px !important;
}
```

In addition to the general control of vertical spacing in the preceding example, you can control vertical expansion of tables that are created by the Table Generator by modifying table cell height, as follows:

```
 .object_list_table TD
{
    HEIGHT: 28px;
}
```

You can also control the height of lookup windows, as follows:

```
 .popupOutline TD{
   HEIGHT: 28px;
}
```

3.3.5.2 Text Truncation

The Table Generator code automatically truncates field values if they exceed the length specified in the global.property.tableColumnSize property in the xlDefaultAdmin.properties file.

The global.property.tableColumnSize property is set to –1 by default to prevent truncation. In general, text should not be truncated, but you can change the value of this property. If you update the xlDefaultAdmin.properties file, you must redeploy the application running the patch_*appserver* script from the *OIM_HOME*/xellerate/setup directory, where *appserver* is the name of your application server. For example, if you are using Oracle WebLogic Server, this file is called patch_weblogic.

3.3.6 Date and Time Formatting

Date and time formats are locale-sensitive, based on the locale set in the browser. You can input dates by using a calendar control that displays localized dates. For example, for English, you can enter **June 15, 2007** and for French, you can enter **15 juin 2007**. Date and time values are stored in the back-end repository in the same way for all locales.

The only exception is searches based on **Date** type fields. You must always enter the date in the format YYYY-MM-DD in these fields.

The time stamp displayed in the Design Console is based on the time-zone offset of the browser whereas the time stamp displayed in the Administrative and User Console is the same as that saved in the database.

3.3.7 Number Formatting

Oracle Identity Manager displays numeric strings by using the regional settings of the browser. For example, the number 547567567 appears as 547,567,567 for the en_US locale.

Oracle Identity Manager formats the number only at the time of displaying the data. You must enter data in numeric fields in a standard format.

3.3.8 Display of Names

In many languages, such as English, the first name is displayed before the last name. However, in some locales such as Japan, the last name is usually displayed before the first name. This section describes how Oracle Identity Manager displays names according to locale. It contains these topics:

- Name Components in Table Columns
- Name Components Displayed as One String
- Name Components Displayed on Forms
- Name Components Displayed in Reports

3.3.8.1 Name Components in Table Columns

Many tables in the Web application display **First Name** and **Last Name** columns. For example, the Manage Users page contains tables of this type. The user locale determines the ordering of these columns, for example, displaying the first name column before the last name column.

3.3.8.2 Name Components Displayed as One String

The first name and last name, and possibly the middle name, can be displayed together as a full name. For example, the **Welcome System Administrator** string can be displayed in a page header.

3.3.8.3 Name Components Displayed on Forms

The first name, middle name, last name can be displayed as separate form fields and text strings on a page. For example, the Create User page contains form fields and the User Detail page contains text. However, Oracle Identity Manager does not automatically reorder name fields on forms according to the locale. Instead, you must manually configure the order of name fields on each form by modifying the FormMetaData.xml file. See *Oracle Identity Manager Administrative and User Console Customization Guide* for information about how to modify the FormMetaData.xml file.

3.3.8.4 Name Components Displayed in Reports

Oracle Identity Manager does not automatically reorder name fields according to locale for either Report Input pages or Report Display pages. However, you can manually configure the order of name fields for each type of page. To manually configure the order of name fields on Report Input pages, you must reorder the `<InputParameter>` tags in the report XML data. To manually configure the order of name fields on Report Display pages, you must reorder the `<ReturnColumn>` tags in the report XML data. See *Oracle Identity Manager Audit Report Developer's Guide* for information about how to modify report XML data.

3.3.9 E-Mail Address Restrictions

The local-part and domain name portions of an e-mail address are restricted to ASCII letters, numbers, underscores, hyphens, and periods. The domain identifier portion of an e-mail address is restricted to ASCII letters and numbers.

3.3.10 Password Restrictions

Although Oracle Identity Manager supports non-ASCII passwords, for security reasons some input method editors cannot be used to enter passwords in Internet Explorer. An input method editor (IME) is a program that is used for entering characters that are not available on a computer keyboard. For example, on a computer with a standard Western keyboard, you would use an IME to enter characters from a language such as Japanese. Similarly, on a computer with a Japanese keyboard, you would use an IME to enter characters from English or another Western language. Other browsers such as Firefox do not restrict the entering of passwords with an IME. If the IME you are using prevents you from entering passwords in a browser, then you can always cut and paste a password into a password field or use a localized keyboard to enter password characters.

When using a Japanese keyboard, you cannot use kanji characters in a password. Instead, passwords must be composed of hiragana or katakana characters that are available on the keyboard.

3.3.11 Sorting and Comparison for Non-English Locales

Data sorting for all the pages in the Oracle Identity Manager Administrative and User Console depends on the NLS_SORT and NLS_COMP parameter values, which are used by Oracle Database to determine sorting and comparison methods. See *Oracle Database Globalization Support Guide* in the Oracle Database documentation set to

determine the default values for the NLS_SORT and NLS_COMP parameters for your installation, and to determine the appropriate values for these parameters based on your linguistic requirements. Setting these parameters to values other than BINARY will have performance implications because BINARY sorts and comparisons are the fastest. Oracle recommends starting initially with the default values (as listed in *Oracle Database Globalization Support Guide*) and then adjusting the values according to your needs.

Oracle Identity Manager includes a create_logon_trigger.sql script that you can use to change the values assigned to the NLS_SORT and NLS_COMP parameters. This script is located in the /installServer/Xellerate/db/oracle directory on the installation CD-ROM.

Perform the following steps to change the NLS_SORT and NLS_COMP parameters to nondefault values for your Oracle Identity Manager database:

1. Type the following command at a command prompt to start SQL*Plus:

   ```
   sqlplus /nolog
   ```

2. Use the following syntax to connect to the target Oracle instance as `SYS` user with `SYSDBA` role.

   ```
   CONNECT SYS/sys_password@db_instance AS SYSDBA
   ```

   For example, the following statement connects a system account of `SYS` with a password of `mypassword` to a database named `oimdb`:

   ```
   CONNECT SYS/mypassword@oimdb AS SYSDBA
   ```

3. Open the create_logon_trigger.sql script in a text editor, and specify the desired values for the `NLS_SORT` and `NLS_COMP` parameters. See *Oracle Database Globalization Support Guide* in the Oracle Database documentation set to determine the appropriate values for your environment. By default, the create_logon_trigger.sql script assigns a value of BINARY to both parameters.
4. Run the create_logon_trigger.sql script. This script creates a database trigger that is fired each time a connection is established with the database.
5. Stop the Oracle Identity Manager server.
6. Restart the database instance.
7. Restart Oracle Identity Manager.

3.3.12 Translating Custom Columns

By default, all columns in the Oracle Identity Manager Administrative and User Console are translated. The xlDefaultAdmin.properties file identifies all default columns and their possible values. For example, consider the User Status column. The xlDefaultAdmin.properties file contains the following property for the User Status column:

```
global.resultSet.Users.Status=Active|Disabled|Deleted
   |Disabled Until Start Date|Locked
```

The property name is in the form global.resultSet.*ColumnMetaData*. The *ColumnMetaData* portion of the property name represents the metadata name of the column or the actual column name if no metadata is associated with the column. Spaces in the property name are represented by tildes (~). For example, the metadata for the User Status column is Users.Status.

Translated property values for default columns are stored in the xlWebAdmin.properties files, which are located in the *OIM_HOME*/webapp/xlWebApp.war file. The xlWebAdmin.properties files are named xlWebAdmin_en.properties for English deployments and xlWebAdmin_*xx*.properties for other languages. For example, the xlWebAdmin_ja.properties file contains Japanese translations for default column property values. As an example, the xlWebAdmin_en.properties file contains the following property values for the User Status column:

```
global.resultSet.Users.Status.Active=Active
global.resultSet.Users.Status.Disabled=Disabled
global.resultSet.Users.Status.Deleted=Deleted
global.resultSet.Users.Status.Disabled~Until~Start~Date=Disabled Until Start Date
global.resultSet.Users.Status.Locked=Locked
```

In comparison, the xlWebAdmin_fr.properties file contains the following French property values. Notice that some of the values contain Unicode to represent French characters.

```
global.resultSet.Users.Status.Active=Actif
global.resultSet.Users.Status.Disabled=D\u00E9sactiv\u00E9
global.resultSet.Users.Status.Deleted=Supprim\u00E9
global.resultSet.Users.Status.Disabled~Until~Start~Date=D\u00E9sactiv\u00E9
jusqu'\u00E0 la date de d\u00E9but
global.resultSet.Users.Status.Locked=Verrouill\u00E9
```

To translate custom columns, you must edit the custom resource files and update the translation data structures, as described in the following topics:

- Editing Custom Resource Files
- Updating Translation Data Structures

3.3.12.1 Editing Custom Resource Files

To translate custom columns, you edit the custom resource files, which are described in "Localizing User-Defined Data by Using Custom Resource Bundles" on page 3-4. As an example of how to translate custom columns, consider a custom report containing a column named GROUP MEMBERSHIP TYPE that can be assigned one of two values: Direct or Indirect. You must perform the following steps to translate the values of the GROUP MEMBERSHIP TYPE column:

1. Open the following file in a text editor:

   OIM_HOME/xellerate/customResources/customDefaultResources.properties

2. Add to the customDefaultResources.properties the following property definition and values for the GROUP MEMBERSHIP TYPE column:

   ```
   global.resultSet.GROUP~MEMBERSHIP~TYPE=Direct|Indirect
   ```

3. Open in a text editor the custom resource file representing the locale for which you want to translate the column values. For example, the path and file name for the French custom resource file is as follows:

   OIM_HOME/xellerate/customResources/customResource_fr.properties

4. Add to the customResource_fr.properties file the following French property values for the GROUP MEMBERSHIP TYPE column:

   ```
   global.resultSet.GROUP~MEMBERSHIP~TYPE.Direct=Direct
   global.resultSet.GROUP~MEMBERSHIP~TYPE.Indirect=Indirect
   ```

5. Repeat the preceding steps for each language into which you want to translate property values for custom columns.

> **Note:** If a column name is an alias, Oracle Identity Manager converts it to uppercase. Property names are case-sensitive, so ensure to specify the correct case for column names in the property files. Do not change the case (uppercase or lowercase) for column names that already contain column metadata, such as Users.User Status.

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" on page 3-9.

3.3.12.2 Updating Translation Data Structures

To translate custom columns, Oracle Identity Manager creates translation data structures containing custom resource information. For the columns to be translated correctly, you must refresh the translation data structures whenever you change any of the existing resource bundle files in the customResources directory. To update the translation data structures:

1. Open the following URL in a Web browser:

   `http://host:port/xlWebApp/XellerateBootstrapServlet`

   In the preceding URL, *host* and *port* refer to the domain name (or IP address) and port where Oracle Identity Manager is running. You should see a message confirming that the custom resource properties were successfully updated.

2. Clear the server cache for the CustomDefaultBundle cache category by following the instructions in "Clearing the Cache for Custom and Connector Resource Bundles" on page 3-9.

3.3.13 Localizing Oracle Identity Manager Reports

As described in the *Oracle Identity Manager Administrative and User Console Guide*, system administrators can configure reports of user entitlements and users who are allocated to resources. You can convert static fields in a report to selection lists. These selection lists are known as *lookup fields*. For example, fields such as user type and status can be represented as sets of lookup values. You can create and modify lookup values on input pages of a report and in results pages where there is support for filtering of results.

You customize the appearance of a report by editing the report metadata XML in the REP_XML_META column content in the REP table. This table resides in the database schema that is used for Oracle Identity Manager installation. To access the contents of the REP_XML_META column in the REP table, you can use a commercial tool, for example, Quest Software's TOAD.

The following example creates a report field as a set of lookup values:

```
<InputParameter name="struseremptype_in" parameterType="varchar2" order="11"
fieldType="Combobox" allowedValues="Lookup.Users.Role"
fieldLabel="report.userResourceAccess.label.employeeType" required="false" />
```

In the preceding example, the `fieldType` is set to `Combobox`. This setting configures the field as a list of selectable values. The `allowedValues` attribute is set to a lookup code named `Lookup.Users.Role`. The lookup code populates the field with data.

The following example modifies a report results filter page. This example configures the User field as a lookup field with a set of selectable values:

```
<ReturnColumn name="Users.Role"
label="report.userResourceAccess.label.employeeType" position="SectionHeader"
filterColumn="false" filterColumnName="usr.usr_emp_type" filterType="Combobox"
filterLookupKey="Lookup.Users.Role" />
```

In the preceding example, the `filterColumn` attribute is set to false, `filterType` is set to `Combobox` and the `filterLookupKey` attribute is set to a lookup code named `Lookup.Users.Role`. The lookup code populates the field with data.

If you add values for a lookup code in the Design Console, you must create corresponding entries in the following file for each locale you support:

```
customResorces\custombundle_lang_Country.properties
```

For example, you would add a user role in the `Lookup.Users.Role` lookup code by using the naming conventions:

```
global.lookup_code.decode_data=unicoded_decodedata_string
```

> **See Also:** "Localizing User-Defined Data by Using Custom Resource Bundles" on page 3-4 for examples of creating a resource string

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" on page 3-9.

3.3.14 Naming Convention for Defining Error Codes

After creating error messages by using the Error Message Definition form, you must add new error codes and advice messages in the Oracle Identity Manager *OIM_HOME*/xellerate/customResources/customResources.properties resource bundle file.

The customResources.properties file contains English language property translations. These properties are used when the locale setting does not match the locales supported by Oracle Identity Manager. When there is a specific locale setting, you must add error codes and advice messages in any one of the following files:

- customResources_en.properties: This file contains English language property translations. These properties are used when the locale setting is English.
- customResources_lang.properties: This file contains language property translations for the language represented by *lang*. For example, the customResources_ja.properties file contains language property translations for Japanese.

> **Note:** The error code messages and the error code advice messages must be UTF-8 encoded according to the locale.

The naming convention for adding the error codes in the resource bundles is shown in the following syntax:

```
global.genericerror.error_code=error_code_message
global.genericerror.advice.error_code=error_code_advice_message
```

All spaces in *error_code* must be replaced by the tilde (~) sign.

The following is an example of an error code definition:

```
global.genericerror.ADAPTER.MY=Invalid String Received While Running Process Task
Adapter
global.genericerror.advice.ADAPTER.MY=An invalid string was received as input
while running the process task adapter. Check the input values, and then try
again.
```

> **See Also:** The "Creating an Error Message" section in *Oracle Identity Manager Design Console Guide*

For all adapter-related errors, even if error code is not defined in the Error Message Definition form, you can localize the error messages by making entries in the custom bundle file by using the error code displayed in the Administrative and User Console.

You must clear the cache when adding a new resource bundle file to the connectorResources directory or changing an existing resource bundle file in the connectorResources or the customResources directory. For more information, see "Clearing the Cache for Custom and Connector Resource Bundles" on page 3-9.

3.3.15 Workflow Designer Localization

While using the Administrative and User Console, you can implement localization in the Workflow Designer by using the corresponding locale xlWebAdmin.properties and xlRichClient.properties files. These files have the localized values of the different labels and properties that provide the necessary localization.

For certain tasks that cannot be updated but are required by the system, you can localize their system-defined names so that they appear in the local language. You can do so by using English at the back end and their localized values at the front end. However, you cannot edit these values by using the front-end user interface. Consider the following sample entries in the xlRichClient.properties file:

```
global.workflow.viewer.Discovered-By-Reconciliation=Discovered By Reconciliation
global.workflow.viewer.Reconciliation-Insert-Received=Reconciliation Insert
Received
global.workflow.viewer.Update-Detected-By-Reconciliation=Update Detected By
Reconciliation
global.workflow.viewer.Reconciliation-Update-Received=Reconciliation Update
Received
global.workflow.viewer.Deletion-Discovered-By-Reconciliation=Deletion Discovered
By Reconciliation
global.workflow.viewer.Reconciliation-Delete-Received=Reconciliation Delete
Received
global.workflow.viewer.Action-Taken-On-Service-Account=Action Taken On Service
Account
global.workflow.viewer.Service-Account-Alert=Service Account Alert
global.workflow.viewer.Service-Account-Transferred-To-Another-Owner=Service
Account Transferred To Another Owner
global.workflow.viewer.Service-Account-Moved=Service Account Moved
global.workflow.viewer.Service-Account-Updated=Service Account Updated
global.workflow.viewer.Service-Account-Changed=Service Account Changed
global.workflow.viewer.Enabled=Enabled
global.workflow.viewer.Disabled=Disabled
```

```
global.workflow.viewer.User-Attestation-Occurred=User Attestation Occurred
global.workflow.viewer.User-Attestation-Event-Occurred=User Attestation Event
Occurred
global.workflow.viewer.Resource-Attestation-Occurred=Resource Attestation Occurred
workflowDesigner.workflow.name.recon_insert=Discovered By Reconciliation
workflowDesigner.workflow.name.recon_update=Update Detected By Reconciliation
workflowDesigner.workflow.name.recon_delete=Deletion Discovered By Reconciliation
workflowDesigner.workflow.name.service_alert=Action Taken On Service Account
workflowDesigner.workflow.name.service_moved=Service Account Transferred To
Another Owner
workflowDesigner.workflow.name.service_changed=Service Account Updated
workflowDesigner.workflow.name.enable=Enabled
workflowDesigner.workflow.name.disable=Disabled
workflowDesigner.workflow.name.attestation_user=User Attestation Occurred
workflowDesigner.workflow.name.attestation_resource=Resource Attestation Occurred
```

Similarly, the tasks that are added as part of the field change events use the following property:

```
global.workflow.startMarker.UpdatedField=Field {0} Updated
```

The Start icon label is localized by using the following property:

```
workflowDesigner.workflow.name.provisioning=Start
```

The System validation task uses the following:

```
global.workflow.viewer.System-Validation=System Validation
```

Any value that cannot be changed from the back end by the system and must be in English, can still be localized for the front end.

> **See Also:** The "Using the Workflow Designer" section in *Oracle Identity Manager Administrative and User Console Guide* for information about the Workflow Designer

3.3.16 Other Localization Changes

This section discusses the following topics:

- Special Character Restrictions
- Localizing E-Mail Notification Messages

3.3.16.1 Special Character Restrictions

Alphanumeric characters (a through z, A through Z, and 0 through 9) and the underscore character (_) can be used in all Oracle Identity Manager attributes.

The following special characters can be used in the Password field:

- Percent sign (%)
- Plus sign (+)
- Equal sign (=)
- Comma (,)
- Backslash (\ )
- Single quotation mark (')
- Slash (/)

- Vertical bar (|)

The single quotation mark (') can be used *only* in the following attributes:

- Login
- Manager ID
- First Name
- Last Name
- Middle Name
- Group Name
- Organization Name
- Resource Name

The semicolon (;) can be used only in access policy names.

The following special characters are not supported in *any* Oracle Identity Manager attribute:

- Period (.)
- Number sign (#)
- Slash (/)
- Percent sign (%)
- Equal sign (=)
- Vertical bar (|)
- Plus sign (+)
- Comma (,)
- Backslash (\ )
- Double quotation mark (")
- Less than symbol (<)
- Greater than symbol (>)

3.3.16.2 Localizing E-Mail Notification Messages

At run time, Oracle Identity Manager generates e-mail messages that are localized in the language that you selected during installation.

As described in the *Oracle Identity Manager Design Console Guide*, the Process Management folder provides system administrators with tools for creating and managing Oracle Identity Manager e-mail templates. The Email Definition form enables you to create templates for e-mail notifications.

The predefined e-mail templates are localized in the supported languages. In the Email Definition form of the Design Console, if you search for a template with a particular name, the returned template contains all configured languages. You can edit all language versions of the template.

Note: In the Oracle Identity Manager Administrative and User Console, some of the text in the notes field on the task details page appears in English. This occurs for task instances with the following task names:

- Reconciliation Update Received
- Reconciliation Insert Received
- Reconciliation Delete Received

3.4 Design Console

The Oracle Identity Manager Design Console is not localized. All static strings and messages appear in English. However, the Design Console can handle native language input, and it can generate data as Unicode-encoded strings.

For more information about the restriction on the types of data encoding supported on the various attributes, see Appendix B, "Oracle Identity Manager Application Language Support and Restrictions".

3.5 Diagnostic Dashboard

The Diagnostic Dashboard application generates HTTP responses by using the language setting of the Web client browser.

3.6 Deployment Manager

The Deployment Manager exports and imports data by using UTF-8 encoding. If you export a file by using an older release of Oracle Identity Manager, and the data in the exported file does not use UTF-8 encoding, you must convert the file to UTF-8 encoding before importing it again into the current version of the Deployment Manager.

3.7 Remote Manager

During installation, you must specify the name for the Remote Manager in English.

3.8 Adapters

Some Oracle Identity Manager adapters provide connectivity to provisionable target systems. These adapters handle language-specific character string data for the supported language. The strings can have multibyte character encoding. The adapters pass data from Oracle Identity Manager to the targets by using UCS-2 Unicode encoding in the Java layer. This data can be converted to either UTF-8 or native character sets, depending on the target system or target system-specific native code.

A

Oracle Identity Manager Installation Language Support and Restrictions

The Oracle Identity Manager installation program constrains the type of input that you can provide during installation. Some installation parameters can be entered only in English. This appendix describes Oracle Identity Manager Installer language support and restrictions in the following sections:

- Oracle Identity Manager Design Console Installation Restrictions
- Oracle Identity Manager Server Installation Restrictions
- Oracle Identity Manager Remote Manager Installation Restrictions

A.1 Oracle Identity Manager Design Console Installation Restrictions

Table A–1 lists the Oracle Identity Manager Design Console installation restrictions.

Table A–1 Oracle Identity Manager Design Console Installation Restrictions

Installation Page	Attributes Restricted to English
Target directory	Directory
JRE selection	JRE location
IBM WebSphere Application Server directory	Directory
Application server configuration	Host name Naming port
Graphical workflow rendering information	Oracle Identity Manager Web server host IP address Port number

Note: When the Design Console is started for the first time, it prompts for importing certificates from the server. You must enter `y` at the prompt.

For non-English installations of IBM WebSphere Application Server, only `y` will work irrespective of the language. For example, in the German language installation, you are prompted with the options `j/n`. However, entering `j` will not work.

A.2 Oracle Identity Manager Server Installation Restrictions

Table A–2 lists the Oracle Identity Manager server installation restrictions.

Table A–2 Oracle Identity Manager Server Installation Restrictions

Installation Page	Attributes Not Restricted to English	Attributes Restricted to English
Target directory		Directory
Database information, Oracle		Database host name or IP address Port number Database SID User name Password
Authentication information	Header variable used in the Single Sign-On system	
Application server, cluster information		Cluster partition name
Application server information		Provide the location where the application server is installed Provide the location of the JDK to run the application server
Oracle WebLogic Server application information		Host or IP address WebLogic server name Administration port Server port Administration Console user name Password Confirm Password
Oracle WebLogic Server domain information		Enter the location of the WebLogic domain
IBM WebSphere Application Server application information		Host name or IP address WebSphere cell name Node name Server name
Oracle Application Server information		User name Password RMI port number OPMN port number Oracle Application Server instance name
JMS node information		JMS node name

A.3 Oracle Identity Manager Remote Manager Installation Restrictions

Table A–3 lists the Oracle Identity Manager Remote Manager installation restrictions.

Table A–3 Oracle Identity Manager Remote Manager Installation Restrictions

Installation Page	Attributes Restricted to English
Target directory	Destination
JRE selection	Target system JRE location
Remote Manager configuration	Service name Remote manager binding Remote manager SSL port

B

Oracle Identity Manager Application Language Support and Restrictions

The Oracle Identity Manager application imposes the following language restrictions on some types of information that it maintains:

- Some attributes support native data
- Some attributes are restricted to English
- Some attributes are restricted to English but can be localized from a resource bundle

This appendix describes the Oracle Identity Manager application language support and restrictions in the following topics:

B.1 Oracle Identity Manager System Metadata Language Restrictions

Table B–1 lists the Oracle Identity Manager system metadata language restrictions.

Table B–1 Oracle Identity Manager System Metadata Language Restrictions

Type of Information	Restricted to English
Groups	SYSTEM ADMINISTRATORS
	OPERATORS
	ALL USERS
	SELF OPERATORS
Resources	Request
	Xellerate User
	OIM Organization
	Installation
Organizations	Xellerate Users
	Requests

Table B–1 (Cont.) Oracle Identity Manager System Metadata Language Restrictions

Type of Information	Restricted to English
Users	XELOPERATOR
	XELSELFREG
	XELSYSADM
Task Names	Approve
	Add Organization
	Add User
	Archive User Data
	Awaiting Approval Data
	Awaiting Object Data
	Delete Organization
	Delete User
	Disable Organization
	Disable User
	Enable Organization
	Enable User
	Enter Info into Xellerate
	Install Application
	Move Organization
	Move To New Organization
	Provide Data For Object
	Provide Information
	Reconciliation Delete Received
	Reconciliation Insert Received
	Reconciliation Update Received
	Service Account Alert
	Service Account Changed
	Service Account Moved
	System Validation
	User Attestation Event Occurred

B.2 Oracle Identity Manager Administrative and User Console Language Support and Restrictions

The Oracle Identity Manager Administrative and User Console has been globalized and translated into the supported languages for the release as described in "Oracle Identity Manager Administrative and User Console Globalization" on page 3-2. The only restriction is with e-mail addresses, which must conform to the restrictions listed in "E-Mail Address Restrictions" on page 3-15.

B.3 Oracle Identity Manager Design Console Language Support and Restrictions

The Design Console is not localized. All static strings and messages appear in English. However, the Design Console can handle native language input, and it can output data as Unicode-encoded strings according to the restrictions listed in Table B–2.

Note: In the following table, rows that are empty except for the row heading indicate that there are no input fields on this form.

Table B–2 Oracle Identity Manager Design Console Language Support and Restrictions

Type of information	Supports Native Data	Restricted to English	Restricted to English/ Can Be Localized
User Management, Pending Approvals		Task Names	
User Management, Organization Defaults	Organization Name Parent Name		Type Status
User Management, Policy History	User ID First Name Middle Name Last Name Organization Manager ID	E-mail Address	Status User Type Employee Type
User Management, Group Entitlements	Group Name		
User Management, Administrative Queue	Queue Name Parent Queue Description		
User Management, Reconciliation Manager	Object Name Assigned to User User Login Organization Name Assigned to Group	Status	
Resource Management, IT Resources Type Definition	Server Type		
Resource Management, IT Resources Type Definition, IT Resource Type Parameter	Field Name Default Field Value		
Resource Management, IT Resources	Name Type Remote Manager		
Resource Management, IT Resources, Parameters	Name Value		

Table B–2 (Cont.) Oracle Identity Manager Design Console Language Support and

Type of information	Supports Native Data	Restricted to English	Restricted to English/ Can Be Localized
Resource Management, Rule Designer	Name Description Object Process	Type Sub-Type	
Resource Management, Rule Designer, Rule Elements, Add Element	Attribute Value	Attribute Source User-Defined Form Attribute	
Resource Management, Resource Objects	Name	Table Name Type	
Resource Management, Resource Objects, Process Determination Rules	Rules Processes		
Resource Management, Resource Objects, Status Definitions	Status		
Resource Management, Resource Objects, Password Policies Rule	Rule Policy		
Resource Management, Resource Objects, Object Reconciliation, Reconciliation Fields, Add	Field Name	Field Type	
Resource Management, Resource Objects, Object Reconciliation, Reconciliation Action Rules, Add		Rule Condition Rule Action	
Process Management, E-mail Definition	Object Name Process Name User Login Subject Body	Name Targets Variables Form	
Process Management, Process Definition	Name Object	Table Name	Type
Process Management, Process Definition, Tasks, General	Task Name Task Definition		
Process Management, Process Definition, Tasks, Responses	Response Description	Status	
Process Management, Process Definition, Tasks, Assignment	Rule Group User	Target Type Adapter Adapter Status E-mail Name	

Table B–2 (Cont.) Oracle Identity Manager Design Console Language Support and

Type of information	Supports Native Data	Restricted to English	Restricted to English/ Can Be Localized
Administration, Form Information	Description Graphic File Name	Class Name Context Sensitive Help URL Type	
Administration, Lookup Definition	Group	Code Field	
Administration, Lookup Definition, Lookup Code Information		Code Key Language Country	Decode
Administration, User Defined Field Definition	Description (not used)	Form Name	
Administration, User Defined Field Definition, User Defined Columns, Add	Default Value	Data Type Field Type Column Name	Label
Administration, User Defined Field Definition, Properties, Add Property		All values	
Administration, System Configuration	Name Keyword Value	System administrator	
Administration, Remote Manager			
Administration, Password Policies	Policy Name Policy Description Characters Required Characters Not Allowed Characters Allowed Substrings Not Allowed		
Administration, Task Scheduler	Scheduled Task Attribute Name Attribute Value	Class Name Status	
Development Tools, Adapter Factory	Description	Adapter Name Adapter Type Compile Status	

Table B–2 (Cont.) Oracle Identity Manager Design Console Language Support and

Type of information	Supports Native Data	Restricted to English	Restricted to English/ Can Be Localized
Development Tools, Adapter Factory, Adapter Tasks, Add, Functional Tasks, Java		Task Name API Source Application API Constructors Methods	
Development Tools, Adapter Factory, Adapter Tasks, Add, Functional Tasks, Remote		Task Name API Source Application API Constructors Methods	
Development Tools, Adapter Factory, Adapter Tasks, Add, Functional Tasks, Stored Procedure	Description	Task Name Database Schema Procedure	
Development Tools, Adapter Factory, Adapter Tasks, Add, Utility Task, Utility and Xellerate API		Task Name API Source Application API Constructors Methods	
Development Tools, Adapter Factory, Adapter Tasks, Add, Logic Task, SET VARIABLE	Text field displayed when Operand Qualifier value is Text Literal	Variable Name Operand Type Operand Qualifier	
Development Tools, Adapter Factory, Adapter Tasks, Add, Logic Task, Handle Error		Select an error code from the lookup field	
Development Tools, Adapter Factory, Adapter Tasks, Add, Logic Task, (FOR, WHILE, IF, ELSE, ELSE IF)		All the fields except the text that is displayed when Operand Type is Literal	
Development Tools, Adapter Factory, Variable List, Add	Description	Variable Name Type Map To Qualifier	
Development Tools, Adapter Factory, Responses	Description	Code Name Status	
Development Tools, Adapter Manager			

Table B–2 (Cont.) Oracle Identity Manager Design Console Language Support and

Type of information	Supports Native Data	Restricted to English	Restricted to English/ Can Be Localized
Development Tools, Form Designer	Description	Table Name	
	Object Name	Latest Version	
		Active Version	
		Current Version	
Development Tools, Form Designer, Additional Columns	Default Value	Name	Field Label
		Variant Type	
		Field Type	
Development Tools, Form Designer, Pre-Populate	Rule	Form Name	
		Adapter	
Development Tools, Error Message Definition	Description	Code	
	Remedy	Action	
	Note	Severity	
		Help URL	
Development Tools, Event Handler Manager	Notes	Event Handler Name	
		Package	
Development Tools, Data Object Manager	Form Description	Data Object	
Development Tools, Reconciliation Rules	Name		
	Object		
	Description		

Index

M

N

O

P

R

S

T

U

W