Oracle Commerce Guided Search

Tools and Frameworks Installation Guide

Version 11.2 • October 2015

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Contents

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Preface

Oracle Commerce Guided Search is the most effective way for your customers to dynamically explore your storefront and find relevant and desired items quickly. An industry-leading faceted search and Guided Navigation solution, Guided Search enables businesses to influence customers in each step of their search experience. At the core of Guided Search is the MDEX Engine™, a hybrid search-analytical database specifically designed for high-performance exploration and discovery. The Oracle Commerce Content Acquisition System provides a set of extensible mechanisms to bring both structured data and unstructured content into the MDEX Engine from a variety of source systems. The Oracle Commerce Assembler dynamically assembles content from any resource and seamlessly combines it into results that can be rendered for display.

Oracle Commerce Experience Manager enables non-technical users to create, manage, and deliver targeted, relevant content to customers. With Experience Manager, you can combine unlimited variations of virtual product and customer data into personalized assortments of relevant products, promotions, and other content and display it to buyers in response to any search or facet refinement. Out-of-the-box templates and experience cartridges are provided for the most common use cases; technical teams can also use a software developer's kit to create custom cartridges.

About this guide

This guide contains installation instructions for setting up Oracle Commerce Tools and Frameworks on Windows, Linux, or Solaris.

Who should use this guide

This guide is intended for users installing Oracle Endeca Tools and Frameworks on Windows, Linux, or Solaris.

Note: Unless otherwise indicated, whenever this document specifies UNIX, it applies to Linux and Solaris.

Conventions used in this guide

This guide uses the following typographical conventions:

Code examples, inline references to code elements, file names, and user input are set in `monospace` font. In the case of long lines of code, or when inline monospace text occurs at the end of a line, the following symbol is used to show that the content continues on to the next line: ¬

When copying and pasting such examples, ensure that any occurrences of the symbol and the corresponding line break are deleted and any remaining space is closed up.

Contacting Oracle Support

Oracle Support provides registered users with answers to implementation questions, product and solution help, and important news and updates about Guided Search software.

You can contact Oracle Support through the My Oracle Support site at *https://support.oracle.com*.

Chapter 1

Before You Install

This section provides an overview of Oracle Commerce Tools and Frameworks, including system requirements, package contents, and other information that you need to know before installing.

About Oracle Commerce Guided Search Tools and Frameworks

Oracle Commerce Guided Search Tools and Frameworks supports the dynamic presentation of content across all channels.

Deployments that use the Oracle Commerce Experience Manager require the Tools and Frameworks package for Oracle Commerce with Experience Manager. Deployments that do not include Experience Manager require the Tools and Frameworks package for Oracle Commerce with Guided Search.

Both versions of the package include the following:

- Workbench, a tools suite that enables merchandising, Content Spotlighting, and search configuration for cross-channel applications
- The Assembler, an API for controlling the presentation of commerce sites and collecting usage information across all channels
- The Oracle Commerce Workbench Service
- The Deployment Template, a collection of operational components that provides a starting point for developing and deploying applications.
- The Discover Electronics reference application

Supported operating systems and Web browsers

See the *Oracle Commerce Supported Environments Matrix* document in the My Oracle Support knowledge base at `https://support.oracle.com/` for information on supported operating systems and Web browsers.

Oracle software requirements

This section lists the Oracle Commerce components that must be installed on your machine prior to installing the Tools and Frameworks.

The Oracle Commerce Tools and Frameworks require the following Oracle Commerce components:

- MDEX Engine
- Platform Services

Chapter 2

Installing Oracle Commerce Tools and Frameworks

This section describes how to install Oracle Commerce Tools and Frameworks on your machine. The steps in this guide assume that you are installing all components on the same machine.

Installing Oracle Commerce Tools and Frameworks on Windows

You run the Oracle Commerce Tools and Frameworks installation wizard to install Tools and Frameworks.

If you have an earlier version of Tools and Frameworks, follow the steps in *Uninstalling Oracle Commerce Tools and Frameworks on Windows* on page 30 to completely remove it before installing Tools and Frameworks. This includes removing the Oracle Tools Service.

To install the Oracle Commerce Tools and Frameworks:

1. In your local environment, locate the Tools and Frameworks software that you downloaded from the Oracle Software Delivery Cloud.
2. Extract the Tools and Frameworks package to a local directory.
3. Navigate to the `\cd\Disk1\install` directory and double-click the `setup.exe` installer file to start the wizard.
   The Welcome screen displays.
4. Click **Next** to begin the installation process.
5. Read the License Agreement and click **I accept the License Terms and Export Restrictions**.
6. If this is the first product that you have installed on this machine using the Oracle Universal Installer, the Specify Inventory directory screen appears. Specify the directory where the Oracle Universal Installer should place inventory files and directories. Oracle recommends that you accept the default path.

   The Installer uses the Oracle Inventory directory to store inventory information in files and subdirectories. This directory contains permanent and product specific files. Ensure that the files in this folder are not deleted or modified, as this would make patching or upgrading impossible.

   Click **Next**
7. Choose the installation type, and click **Next**.

   The **Complete Installation** includes the reference application; the **Minimal Installation** does not.
8. Specify a name and a path where you want to install Tools and Frameworks.

Note: Do not accept the default path. Oracle recommends `C:\Endeca\ToolsAndFrameworks` as your path. This is the path that Oracle refers to as your default path throughout the Oracle Endeca Commerce documentation.

9. Click **Next**.

Note: If you are reinstalling Tools and Frameworks and you receive a message that the name is in use, click **Installed Products** and remove the previous instance of the name from your Oracle Inventory.

10. When the **Summary** screen appears, click **Install**.
11. When the **End of Installation** screen appears, click **Exit**.

After installing Tools and Frameworks, you must create and configure the Oracle Tools Service, or alternately run the Tools and Frameworks from the included batch files.

Related Links

About the Oracle Tools Service ports on page 35
You can change the default ports for the Oracle Tools Service, as long as you choose a new port that is not being used.

Creating the Oracle Tools Service on page 12
You can choose to run the Tools and Frameworks as a Windows service.

Running Oracle Commerce Tools and Frameworks from the included batch files on page 14
If you do not wish to create the Oracle Tools Service, you can start or stop the Tools and Frameworks directly by running the included batch files.

Creating the Oracle Tools Service

You can choose to run the Tools and Frameworks as a Windows service.

The user running `install_service.bat` and the Oracle Tools Service must have administrator privileges.

To create the Oracle Tools Service:

1. Navigate to your installation directory.
   By default, this should be `C:\Endeca\ToolsAndFrameworks\<version>`.
2. Install the Oracle Tools Service by running `server\bin\install_service.bat`.
   This creates the Oracle Tools Service and configures it to run under the current user profile.
3. Configure the Oracle Tools Service to run under the `endeca` user.
   a) Go to **Start** > **Control Panel** > **Administrative Tools** > **Services**.
   b) In the **Windows Services** editor, select the **Oracle Tools Service**.
   c) From the Oracle Tools Service, right-click and select **Properties** from the drop-down menu.
   The **Oracle Tools Service Properties** window appears.
   d) Switch to the **Log On** tab.
   e) Select the **This account:** radio button.
   f) Enter `endeca` in the **This account:** field and the password you set for the `endeca` user in the **Password:** and **Confirm Password:** fields.
   A dialog box appears, notifying you that the `endeca` user has been given service permissions.
   g) Click **OK** to close the dialog box.
   h) Click **OK** to save your changes to the Endeca Tools Service.
4. Start the Oracle Tools Service.
   a) Start the Microsoft Services console.
   b) Select the Oracle Tools Service from the list of services.

c) Click **Start Service**.

Note: By default, Workbench runs on port 8006 of your machine. If port 8006 is unavailable on your machine, you must change this to a different port. Additionally, if you are not running the Endeca Application Controller on `localhost:8888`, you must update the EAC configuration for Workbench.

Related Links

Updating Workbench to use non-default EAC settings on page 38
If the Endeca Application Controller is not running at the default location of `localhost:8888`, you must update this information in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file (`$ENDECA_TOOLS_CONF/conf/webstudio.properties` on UNIX).

Oracle Tools Service Scripts on page 33
This section covers the Oracle Tools Service scripts.

Oracle Tools Service and EAC Ports Reference on page 35
This section covers the steps required to change the Endeca Tools Service and EAC ports from the default values.

Verifying the Tools and Frameworks installation

The simplest way to check the installation is to load Oracle Commerce Workbench in a Web browser. This indicates the Endeca Tools service is running and that Workbench is available.

To verify the Tools and Frameworks installation:

1. Start a Web browser.
2. In the URL, specify the machine name and default port of Workbench (8006).
   For example, `http://localhost:8006/`
   The Workbench login screen displays.
3. Log in with the assigned username and password.
   As part of Workbench installation, a predefined Workbench administrator user is created with full administration privileges. This administrator is assigned the username `admin` and the default password `admin`.
4. Change the default Administrator password from `admin` to any other password that satisfies Oracle's security requirement. For information about these requirements, see the *Oracle Commerce Guided Search Administrator's Guide*.

Note: You must change the default Administrator password before you can proceed further.

Starting and stopping the Oracle Tools Service on Windows

When you first install the service, you must manually start it. Once you have created the Oracle Commerce Workbench Service, it starts automatically when you boot up Windows. You must stop and later restart the service to make certain modifications to your Tools and Frameworks installation.

To manage the Oracle Tools Service after installation:

1. Go to **Start > Control Panel > Administrative Tools > Services**.
2. In the **Windows Services** editor, select **Oracle Tools Service**.

3. Click **Stop** or **Restart**.

Running Oracle Commerce Tools and Frameworks from the included batch files

If you do not wish to create the Oracle Tools Service, you can start or stop the Tools and Frameworks directly by running the included batch files.

Note: For any topics that refer to starting or stopping the Oracle Tools Service, run the corresponding batch script instead.

To start or stop the Tools and Frameworks from the included batch files:

1. Navigate to your installation directory.
   By default, this should be `C:\Endeca\ToolsAndFrameworks\<version>`.
2. Navigate to the `server\bin` directory.
3. To start the Tools and Frameworks, run `run.bat`.
   This script sets the Oracle environment variables in the current command window and initializes the Apache Tomcat Web server, with Workbench running on `localhost:8006`.
4. To stop the Tools and Frameworks, run `stop.bat`.
   This script shuts down the Apache Tomcat Web server.

Once the Tools and Frameworks are running, you can provision the Discover Electronics reference application using the Deployment Template.

Note: By default, Workbench runs on port 8006 of your machine. If port 8006 is unavailable on your machine, you must change this to a different port. Additionally, if you are not running the Endeca Application Controller on `localhost:8888`, you must update the EAC configuration for Workbench.

Installing Oracle Commerce Tools and Frameworks silently on Windows

The silent installer is useful if you want to add the Tools and Frameworks installation to an install script, or push out the installation on multiple machines.

The syntax to run the silent installation is the following:

```
silent_install.bat <FULL_PATH_TO_RESPONSE_FILE> <ORACLE_HOME_NAME> <ORACLE_HO
ME_LOCATION>
```

where the options have the following values. Note that all the options are required.

Option	Description
FULL_PATH_TO_RESPONSE_FILE	The full path to response file which is used by the silent installer. For example, `C:\Users\`*`myname`*`\Docu¬ments\ToolsAndFrameworks-`*`version`*`-win64-xmgr-installer\cd\Disk1\in¬stall\silent_response.rsp`.
ORACLE_HOME_NAME	A string value which represents your ORACLE_HOME. For example ToolsandFrameworks

Option	Description
ORACLE_HOME_LOCATION	The location where you would like to install the product. For example, `C:\Endeca\ToolsAndFrameworks`.

Note: When you install Workbench, a predefined Workbench administrator user is created with full administration privileges. This administrator is assigned the username `admin` and the default password `admin`. You must change the default Administrator password before you can use Workbench.

Before you begin, review and the `install\silent_response.rsp` file in a text editor. All the settings in the file are optional.

To start the silent installer

1. From a command prompt, navigate to the directory where you downloaded the installer.
2. Issue the `silent_install.bat` command and specify all the options described above.

Example

```
silent_install.bat C:\Users\mine\Documents\ToolsAndFrameworks-11.1.0-win
64-xmgr-installer\cd\Disk1\install\silent_response.rsp toolsandframeworks c:\End
eca\ToolsAndFrameworks
```

Installing Oracle Commerce Tools and Frameworks on UNIX

To install Oracle Commerce Tools and Frameworks, extract the package the ZIP archive to your local install directory and run the included runinstaller script.

If you have an earlier version of Oracle Commerce Tools and Frameworks, you must follow the steps in the *Oracle Commerce Tools and Frameworks Installation Guide* to remove it before installing the latest version.

To install Oracle Commerce Tools and Frameworks:

1. Download the Tools and Frameworks package from the Oracle Software Delivery Cloud.
2. Extract the Tools and Frameworks package to a local directory.
3. If you log on to the UNIX machine through SSH, you must use an X-Windows client to start the installation wizard.
4. Navigate to the `/cd/Disk1/install` directory.

   Note: Verify that the files have executable permissions.

5. Run `runinstaller.sh`.
   The Welcome screen displays.
6. Click **Next** to begin the installation process.
7. Read the License Agreement and click **I accept the License Terms and Export Restrictions**.
8. If this is the first product that you have installed on this machine using the Oracle Universal Installer, the Specify Inventory directory screen appears.
   a) Specify the directory where the Oracle Universal Installer should place inventory files and directories. Oracle recommends that you accept the default path.

The Installer uses the Oracle Inventory directory to store inventory information in files and subdirectories. This directory contains permanent and product specific files. Ensure that the files in this folder are not deleted or modified, as this would make patching or upgrading impossible.

b) Specify the UNIX group name that should own the base directory.

You must specify a UNIX group name that has permission to update, install, and uninstall Oracle software. Members of this group must have write permissions to the base directory chosen.

c) Click **Next**

9. Choose the installation type, and click **Next**.

The **Complete Installation** includes the reference application; the **Minimal Installation** does not.

10. Specify a name and a path where you want to install Tools and Frameworks. Oracle recommends `/usr/local/endeca/ToolsAndFrameworks` as your path. This is the path that Oracle refers to as your default path throughout the Oracle Commerce documentation.

Click **Next**.

Note: If you are reinstalling Tools and Frameworks and you receive a message that the name is in use, click **Installed Products** and remove the previous instance of the name from your Oracle Inventory.

11. When the Summary screen appears, click **Install**.
12. When the End of Installation screen appears, click **Exit**.

Note: If you receive a warning that a new inventory has been created but not yet registered, then you must register the new inventory. Run the `/oraInventory/orainstRoot.sh` script with root privileges. If you do not register the inventory, you might not be able to update or patch the products you installed or uninstall Tools and Frameworks silently. Run the script as the `root` user or using `sudo` with permissions to run the file.

13. Navigate to the `server/bin` directory.
14. Run `startup.sh`.

This script sets the environment variables for your Tools and Frameworks installation and initializes the Apache Tomcat Web server, with Workbench running on `localhost:8006` as a background process.

To manage the Workbench process after installation:

- Start the Workbench process with the `startup.sh` script.
- Stop the Workbench process with the `shutdown.sh` script.

Once the Tools and Frameworks are running, you can provision the Discover Electronics reference application using the Deployment Template.

Note: By default, Workbench runs on port 8006 of your machine. If port 8006 is unavailable on your machine, you must change this to a different port. Additionally, if you are not running the Endeca Application Controller on `localhost:8888`, you must update the EAC configuration for Workbench.

Related Links

About the Oracle Tools Service ports on page 35

You can change the default ports for the Oracle Tools Service, as long as you choose a new port that is not being used.

Starting the Workbench process automatically on UNIX on page 17
In a UNIX development environment, the Workbench process can be started from the command line. In a UNIX production environment, however, Oracle recommends configuring the included `workbench-init.d.sh` script to start Workbench automatically.

Verifying the Tools and Frameworks installation

The simplest way to check the installation is to load Oracle Commerce Workbench in a Web browser. This indicates the Endeca Tools service is running and that Workbench is available.

To verify the Tools and Frameworks installation:

1. Start a Web browser.
2. In the URL, specify the machine name and default port of Workbench (8006).
   For example, `http://localhost:8006/`
   The Workbench login screen displays.
3. Log in with the assigned username and password.

   As part of Workbench installation, a predefined Workbench administrator user is created with full administration privileges. This administrator is assigned the username `admin` and the default password `admin`.
4. Change the default Administrator password from `admin` to any other password that satisfies Oracle's security requirement. For information about these requirements, see the *Oracle Commerce Guided Search Administrator's Guide*.

Note: You must change the default Administrator password before you can proceed further.

Starting the Workbench process automatically on UNIX

In a UNIX development environment, the Workbench process can be started from the command line. In a UNIX production environment, however, Oracle recommends configuring the included `workbench-init.d.sh` script to start Workbench automatically.

To start the Workbench process automatically on UNIX:

1. Navigate to the `server/bin` directory within your Tools and Frameworks installation directory.

   By default, this is `/usr/local/endeca/ToolsAndFrameworks/<version>/server/bin`.
2. Open the `workbench-init.d.sh` script.
3. Follow the instructions within the script to configure it for your environment.

Starting and stopping the Workbench process on UNIX

You must stop and later restart the Workbench process to make certain modifications to your Tools and Frameworks installation.

You must configure the `workbench-init-d.sh` script before using the commands outlined below.

When using the following commands, you may be prompted to enter the password for the system user that Workbench runs under.

- Start the Workbench process with the following command:

```
/sbin/service workbench start
```

- Stop the Workbench process with the following command:

```
/sbin/service workbench stop
```

Installing Oracle Commerce Tools and Frameworks silently on UNIX

The silent installer is useful if you want to add the Tools and Frameworks installation to an install script, or push out the installation on multiple machines.

The syntax to run the silent installation is the following:

```
silent_install.sh <FULL_PATH_TO_RESPONSE_FILE> <ORACLE_HOME_NAME> <ORACLE_HOME_LO¬
CATION>
```

where the options have the following values. Note that all the options are required.

Option	Description
FULL_PATH_TO_RESPONSE_FILE	The full path to response file which is used by the silent installer. For example, `/localdisk/my¬ name/cd/Disk1/install/silent_re¬ sponse.rsp .`
ORACLE_HOME_NAME	A string value which represents your ORACLE_HOME. For example ToolsandFrameworks
ORACLE_HOME_LOCATION	The location where you would like to install the product. For example, `/usr/local/endeca/ToolsAnd¬ Frameworks`.

Note: When you install Workbench, a predefined Workbench administrator user is created with full administration privileges. This administrator is assigned the username admin and the default password admin.

Before you begin, review the `install/silent_response.rsp` file in a text editor. Only `UNIX_GROUP_NAME` is required. You can accept the default value as *dba* or replace it with a value of your own.

To start the silent installer

1. From a command prompt, navigate to the directory where you downloaded the installer.
2. Issue the `silent_install.sh` command and specify all the options described above.

Example

```
silent_install.sh /localdisk/myname/cd/Disk1/install/silent_response.rsp
 ToolsAndFrameworks /usr/local/endeca/ToolsAndFrameworks
```

If you receive a warning that a new inventory has been created but not yet registered, then you must register the new inventory. Run the `/myname/oraInventory/orainstRoot.sh` script with root privileges. If you do not register the inventory, you might not be able to update or patch the products you installed or uninstall Tools and Frameworks silently. Run the script as the `root` user or using `sudo` with permissions to run the file.

Changing the shared secret

Oracle Commerce Tools and Frameworks uses a shared secret for secure communication. Oracle recommends changing the shared secret after installation.

To update the shared secret, you must run the `set_shared_secret` script and update the `webstudio.properties` file.

1. Navigate to the `%ENDECA_TOOLS_ROOT%\admin\conf` directory on Windows (`$ENDECA_TOOLS_ROOT/admin/bin` directory on UNIX).
2. Edit the `workbench.properties` file and change the `workbench.host` and `workbench.port` if your port is different than 8006 to point to your Oracle Commerce Workbench Service.
3. If SSL is enabled, set `workbench.sslEnabled=true`.
4. Save and close the file.
5. Navigate to the `%ENDECA_TOOLS_ROOT%\admin\bin` directory on Windows (`$ENDECA_TOOLS_ROOT/admin/bin` directory on UNIX).
6. Run the `set_shared_secret[.bat|.sh]` script passing in the `workbench.properties` configuration file and a new shared secret with the `--secret` parameter.

   For example, in UNIX this is:

   ```
   ./set_shared_secret.sh --config ../conf/workbench.properties --secret
   some_secret_here
   ```

7. Navigate to the `%ENDECA_TOOLS_CONF%\conf` directory on Windows (`$ENDECA_TOOLS_CONF/conf` directory on UNIX).
8. Open the `webstudio.properties` file.
9. Locate the `sharedSecret` property. For example:

   ```
   # Shared secret used for all IFCR-hosted tools
   # Value should match the shared secret defined for each tool
   # in ws-extensions.xml
   sharedSecret=DLK#*@#%Gu3897hr*#FI$fil#H2oHP@
   ```

10. Set the value of the property to the new shared secret. It must match the shared secret parameter that you used when you ran the `set_shared_secret` script.

    For example:

    ```
    sharedSecret=some_secret_here
    ```

11. Save and close the `webstudio.properties` file.
12. Start the Oracle Commerce Workbench Service.

Package contents

Oracle Commerce Tools and Frameworks are available for both Or acle Endeca Guided Search and Oracle Endeca Experience Manager.

Core package components

Both distribution packages contain the following resources on Windows and UNIX:

File / Directory	Contents
`admin/bin`	Contains batch or shell scripts for running Workbench administration tasks such as importing and exporting users.
`admin/conf`	Contains configuration files for Workbench administration scripts.
`admin/lib`	Contains libraries to support the Workbench administration scripts.
`admin/logs`	Contains logs that are generated from running Workbench administration scripts.
`assembler/apidoc`	Contains the *Endeca Assembler API Reference (Javadoc)*.
`assembler/lib`	Contains the Assembler and its dependencies, including the URL Optimization API for Java.
`config_import_api/apidoc`	Contains the *Endeca Configuration Import API Reference (Javadoc)*.
`config_import_api/lib`	Contains the Endeca Configuration Import API.
`credential_store/bin`	Contains scripts for creating and maintaining credentials using Oracle Platform Security Services.
`credential_store/lib`	Contains libraries to support Oracle Platform Security Services.
`deployment_template`	Contains the Deployment Template and accompanying API References (Javadoc).
`migration/lib`	Contains libraries to support the Workbench migration script.
`migration/workbench`	Contains the Workbench migration script (`migrate_workbench`), a configuration file for the script, and a configuration file that specifies log-level settings for the migration operations.
`reference/cookbook`	Contains sample code and documentation for implementing advanced Oracle Commerce features in the Discover Electronics reference application.
`reference/discover-data`	Contains the data and Endeca application configuration for the Discover Electronics reference application. This application is configured to process the source data using Forge.
`reference/discover-data/cartridge_templates`	Reference application templates designed to enable content administrators to configure pages for applications.
`reference/discover-data/ifcr`	Sample content for the reference application.
`reference/discover-data-cas`	Contains the CAS-based reference application.

File / Directory	Contents
reference/discover-electronics	The source code for a live instance of the Discover Electronics application including renderers and configuration files, provided for reference purposes.
reference/discover-electronics-authoring	The source code for an authoring instance of the Discover Electronics application including renderers and configuration files, provided for reference purposes.
reference/discover-service	Contains the Assembler service as configured for a live instance of the Discover Electronics application.
reference/discover-service-authoring	Contains the Assembler service as configured for an authoring instance of the Discover Electronics application.
reference/endeca_jspref	A data explorer Web application that you can use to verify and browse your data.
server/apache-tomcat-6.0.32	The Apache Tomcat Web application container for Endeca Workbench.
server/bin	Contains batch or shell scripts for running the Oracle Commerce Workbench Service, which sets environment variables and initializes the Tomcat application container.
server/j2sdk	The Java 2 Software Development Kit, version 1.8.
server/webapps	Contains the Workbench, Endeca Configuration Repository, and related tools.
server/workspace	The workspace into which you deploy applications to run in the Oracle Commerce Workbench Service.
sitemap_generator/bin	Contains the `.bat` and `.sh` scripts used to run the Sitemap Generator from the command line.
sitemap_generator/conf	Contains all files necessary to configure the Sitemap Generator.
sitemap_generator/lib	Contains the Sitemap Generator classes packaged in `endeca-sitemapgen-<version>.jar`, which must be included in the Java classpath when running the Sitemap Generator.
sitemap_generator/samples	Contains sample sitemaps that have been generated using different configuration settings.

Oracle Endeca Experience Manager components

In addition to the contents described above, the Tools and Frameworks package specific to Oracle Endeca Experience Manager also includes the following resources:

File / Directory	Contents
`editor_sdk`	Contains the SDK for developing custom editors for use with the Experience Manager tool in Workbench.
`reference/media-mdex-cas`	Contains the data and Endeca application configuration for populating the Media MDEX Engine with Discover Electronics media using CAS.

Related Links

Oracle Tools Service scripts on page 33
The Windows and UNIX versions of the Tools and Frameworks archive contain scripts for running the Oracle Tools Service.

Troubleshooting Oracle Commerce Tools and Frameworks

This section provides an overview of how to address possible problems with your Tools and Frameworks installation.

Error	Solution
Discover Electronics reference application not displaying data	If your MDEX Engine is not running on `localhost:15002`, you must modify the Assembler context files so that the Assembler can query the MDEX for data. See "Communicating with the MDEX Engine" for details.
Experience Manager editors display but are inactive, "Loading...", or are not configurable	If you are not accessing Workbench from the same hostname specified for the MDEX, you must create a cross-domain policy file, as described in *Setting up a cross-domain policy file* on page 39. Additionally, both the EAC configuration in the <app dir>`\config\script\AuthoringDgraphCluster.xml` file and the data service defined in `\config\import\configuration\tools\xmgr\_.json` file must have the same host and port configuration in order for Experience Manager editors to function correctly.
Experience Manager displays red warning boxes instead of editors	This behavior indicates that required editors are either not present or are incorrectly configured in the editor configuration file, located in the deployed application directory under `\config\import\configuration\tools\xmgr\editors.xml`. Updates to this file can be pushed to the deployed application by running the <app dir>`\control\set_editors_config` script.

Chapter 3

Deploying a Reference Application

After installing Oracle Commerce, you can deploy a reference application to process a test data set and examine it in an Endeca front-end application.

About the Discover Electronics reference application

Tools and Frameworks provides a reference application called the Discover Electronics reference application. You can deploy the Discover Electronics reference application using the Deployment Template, then provision the application, run a baseline update, and view the data set in the front-end application.

About multichannel support

In Tools and Frameworks 3.1.0 and later, the Discover Electronics reference application has been augmented to demonstrate best practices for multichannel implementations.

Supported devices

The Discover Electronics reference application is supported on the following mobile browsers:

- Mobile Safari
- Google Android
- BlackBerry (OS 6 or later)
- Skyfire (iOS/Android)

The following browsers are partially supported (some features such as JavaScript, auto-suggest, and cosmetic issues may not work as designed):

- BlackBerry (OS 5)
- Firefox Mobile (Android)

Deploying the Discover Electronics reference application using CAS

You can deploy the Discover Electronics reference application by provisioning it using the Deployment Template and running a baseline update. In this procedure, the Deployment Template copies the source data in

`reference\discover-data-cas` to the `C:\Endeca\Apps\Discover` directory, and CAS processes the source data as part of the baseline update. Oracle recommends that you deploy the CAS-based version of the Discover Electronics Reference Application as the basis for any custom Guided Search applications that you may create.

Before you begin, you must install Tools and Frameworks using the **Complete Installation** type of installation.

To deploy the Discover Electronics reference application using CAS:

1. Ensure that the Content Acquisition System is installed. (See the *Endeca CAS Installation Guide*.)
2. Ensure that the Oracle Tools Service is running.
3. If you haven't already, create a directory for deployed Endeca applications, such as `C:\Endeca\Apps` on Windows, or `/usr/local/endeca/apps` on UNIX.
4. If you have logged into the Oracle Commerce Workbench and changed the admin password, run the `manage_credentials.bat` script to update credentials in the credential store.
   a) Navigate to the `<installation path>\ToolsAndFrameworks\<version>\credential_store\bin` directory on Windows, or the equivalent path on UNIX.
   b) Run the `manage_credentials.bat` script as follows:
   ```
   manage_credentials.bat add --key ifcr
   ```
   c) Type `yes` when asked if you want to replace existing credential of type [password]
5. Run the Deployment Template to create the application:
   a) Open a command prompt or command shell.
   b) Navigate to the `<installation path>\ToolsAndFrameworks\<version>\deployment_template\bin` directory on Windows, or the equivalent path on UNIX.
   c) Run the `deploy` script with the `--app` flag and an argument that specifies the path to the `deploy.xml` descriptor file that uses CAS.
   For example:
   ```
   C:\Endeca\ToolsAndFrameworks\<version>\deployment_template\bin>deploy
   --app C:\Endeca\ToolsAndFrameworks\<version>\reference\discover-data-cas\de¬
   ploy.xml
   ```
   d) Press **Enter** to confirm your Platform Services installation directory.
   e) Specify n when prompted to install a base deployment.

   

   Note: This configuration is different from deploying using Forge. When using CAS, you must specify no to this prompt.

   f) Specify `Discover` as the application name.

   

   Note: The application configuration depends on this name and case sensitivity is important.

   If you enter the application name incorrectly, you must update the `workbench.app.name` in the `WEB-INF/assembler.properties` file to match the name that you entered.

   g) Specify the application directory previously created for applications. This is typically a directory, such as `C:\Endeca\Apps` on Windows or `/usr/local/endeca/apps` on UNIX.
   h) Specify the EAC port and then you can press **Enter** to accept the default values for subsequent prompts about port values and the Oracle Wallet. (Oracle recommends using the default values.)

i) Specify the path to the location where you can export your application content to, or press **Enter** to accept the default path of `../../server/workspace/state/repository`.

j) Specify the path to the location where you can publish your authoring application content to, or press **Enter** to accept the default path of `../../server/workspace/state/generation_data`.

Note: In the paths to locations for exported or published content, use forward leaning slashes (/) in Windows as well as in Unix.

k) Specify the path to the CAS installation directory and specify the Endeca CAS Service port.

6. Navigate to the `control` directory of the new deployed application.

   This is located under your application directory, for example: `C:\Endeca\Apps\Discover\control` on Windows.

7. Run the `initialize_services` script.

   This script does the following:

   - Provisions the application in the Endeca Application Controller.
   - Uploads sample templates and configuration to the application.
   - Uploads sample content and media to the application. (This action occurs only if you are using Experience Manager.)

8. Run the `load_baseline_test_data` script.
9. Run the `baseline_update` script.
10. Run the `promote_content` script.
11. Confirm that the Discover Electronics reference applications are running:

    - Navigate to `http://localhost:8006/discover-authoring` to view the authoring version of the Discover Electronics application.
    - Navigate to `http://localhost:8006/discover` to view the live version of the Discover Electronics application.

Deploying the Discover Electronics reference application using Forge

As part of the deployment process, the source data in `reference\discover-data` is copied to the `<installation path>\Endeca\Apps\Discover`, and Forge processes the source data as part of the baseline update. Deploying the Forge-based version of the Discover Electronics Reference Application is not recommended.

Before you begin, you must install Tools and Frameworks using the **Complete Installation** type of installation. The complete installation installs Forge by default. You do not need to install the Content Acquisition System (CAS) to deploy the Discover Electronics reference application using Forge.

The indexed data is loaded into two separate Dgraph instances. One is an authoring instance Dgraph and the other is a live Dgraph for the application.

To deploy the Discover Electronics reference application:

1. Ensure that the Oracle Commerce Workbench Service is running.
2. If you haven't already, create a directory for deployed Endeca applications, such as `C:\Endeca\Apps` on Windows, or `/usr/local/endeca/apps` on UNIX.

3. Run the Deployment Template to create the application:
   a) Open a command prompt or command shell.
   b) Navigate to the `<installation path>\ToolsAndFrameworks\<version>\deployment_template\bin` directory on Windows, or `<installation path>/ToolsAndFrameworks/<version>/deployment_template/bin` on UNIX.
   c) Run the `deploy` script with the `--app` flag and an argument that specifies the path to the `deploy.xml` descriptor file:

      For example:

      ```
      C:\Endeca\ToolsAndFrameworks\11.1.0\deployment_template\bin>deploy
      --app C:\Endeca\ToolsAndFrameworks\11.1.0\reference\discover-data\deploy.xml
      ```

   d) Confirm the Platform Services installation directory.
   e) Select `y` to install a base application.
   f) Specify `Discover` as the application name.

      

      Note: The application configuration depends on this name and case sensitivity is important.

      If you enter the application name incorrectly, you must update the `workbench.app.name` in the `WEB-INF/assembler.properties` file to match the name that you entered.

   g) Specify the application directory previously created for applications. This is typically a directory, such as `C:\Endeca\Apps` on Windows or `/usr/local/endeca/apps` on UNIX.
   h) Specify the EAC port and then Oracle recommends using the default values for subsequent prompts about port values and the Oracle Wallet.
   i) Specify the path to the location where you can export your application content to, or press **Enter** to accept the default path of `../../server/workspace/state/repository`.
   j) Specify the path to the location where you can publish your authoring application content to, or press **Enter** to accept the default path of `../../server/workspace/state/generation_data`.

      

      Note: In the paths to locations for exported or published content, use forward leaning slashes (/) in Windows as well as in Unix.

4. Navigate to the `control` directory of your new deployed application.

   This is located under your application directory, for example: `C:\Endeca\Apps\Discover\control` on Windows.

5. Run the `initialize_services` script.

   This script does the following:

   - Provisions the application in the Endeca Application Controller.
   - Uploads sample templates and configuration to the application.
   - Uploads sample content and media to the application. (This action occurs only if you are using Experience Manager.)

6. Run the `load_baseline_test_data` script.
7. Run the `baseline_update` script.
8. Run the `promote_content` script.
9. Confirm that the Discover Electronics reference applications are running:

   - Navigate to `http://localhost:8006/discover-authoring` to view the authoring version of the Discover application.

- Navigate to `http://localhost:8006/discover` to view the live version of the Discover application.

Verifying your Tools and Frameworks configuration

Once you have deployed the Discover Electronics reference application, you should verify that all included Tools and Frameworks components are correctly configured for your environment.

To verify that your Tools and Frameworks installation is correctly configured:

1. Confirm that the Discover Electronics reference application is running by navigating to `http://<hostname>:8006/discover-authoring` in your browser, or to the appropriate port if you changed the default value. In this release, be sure to replace `<hostname>` with the actual host name rather than `localhost`.
2. Navigate away from the home page by selecting the **Price Range > Over 1000** dimension value.
   A **Top Rated Products** spotlight appears in the right sidebar with a set of results. You will modify this cartridge in later steps.
3. Confirm that Workbench is running by navigating to `http://localhost:8006` in your browser, or to the appropriate port if you changed the default value.
4. Log in to Workbench.
5. Confirm that the Discover Electronics reference application has been deployed.
   The application drop-down on the left side of the top menu bar should display the **Discover** application.
6. Open the **Rule Manager** or **Experience Manager** tool.
7. Navigate to the **Top Rated Products** spotlight cartridge and confirm that the editors are available and able to send and receive information from the MDEX Engine:

Option	Description
Experience Manager	1. In the **Content** tree, expand **Web > General > Pages > Default Browse Page**. 2. In the Content Details Panel, select **rightContent > Top Rated Products**. 3. Verify the editors, confirming that they display correctly and do not show warning messages.
Rule Manager	1. In the **Content** tree, expand **Right Column Spotlights > Top Rated Products**. 2. Verify the editors, confirming that they display correctly and do not show warning messages.

8. Change the spotlighted records:
   a) In the editor panel, click the **Edit Query** button.
   b) Under **Applied Filters**, click **Clear All**.
   c) Click the **camera.color** dimension.
   d) Select the **Pink** dimension value.
   e) Click **Save Selection**.
9. Click the **Save Changes** button in the upper-right corner of the screen.
   This displays the following message at the bottom of the Rule Manager or Experience Manager pane:

```
Success: Last publish to the MDEX Engine completed at <date> <time>
```

10. Navigate to `http://<host>:<port>/discover-authoring` in your browser.
11. Navigate away from the home page by selecting the **Price Range > Over 1000** dimension value. The **Top Rated Products** spotlight shows only pink results.

About logging and reporting in the reference application

By default, Oracle Commerce Tools and Frameworks is configured to log certain events within the Assembler and collect this information in daily, weekly, and monthly reports.

You can view the reports for the reference application by navigating to the current day, daily, or weekly reports under the **View Reports** tool in Workbench.

For information on configuring logging requests specific to your own Assembler application, see the *Assembler Application Developer's Guide*.

For information on generating log files and reports, see the *Platform Services Log Server and Report Generator Guide*.

Chapter 4

Uninstalling Oracle Commerce Tools and Frameworks

This section describes how to uninstall Oracle Endeca Tools and Frameworks from Windows and UNIX. If you want to upgrade an earlier version of Oracle Commerce Tools and Frameworks to the most recent version and migrate an Endeca application and users to the most recent version of Tools and Frameworks, see the *Tools and Frameworks Migration Guide*.

Uninstalling a deployed application

You should remove any deployed applications from the Endeca Application Controller prior to deleting the application directory.

To remove a deployed application:

1. Remove the application from the Endeca Application Controller:
   a) In a command prompt window, list the current applications by running `eaccmd list-apps`.
   b) Navigate to the `<app dir>\control` directory of a specific application.
      For the Discover Electronics reference application installed using the suggested directory paths, this is `C:\Endeca\apps\Discover\control` (on Windows) or `/usr/local/endeca/apps/Discover/control` (on UNIX).
   c) Remove the application by running `runcommand --remove-app`.
      This removes the specific application and its configuration in Workbench.
   d) List the current applications again by running `eaccmd list-apps`.
      The specific application should no longer display.
2. Navigate to `C:\Endeca\apps` (on Windows) or `/usr/local/endeca/apps` (on UNIX).
3. Delete the selected application directory.
   For the Discover Electronics reference application, this is the `Discover` directory.
4. For CAS-based applications, you must also remove the record store instances, delete dimension value ID Manager and crawl configuration associated with the application. Run the following commands to list the available components and remove them.
   a) Get the list of available components: *CAS_ROOT*`\bin\component-manager-cmd.bat list-components -h` *CAS_HOST* `-p` *CAS_PORT*
   b) Identify the list of components associated with the application to be removed from the previous step: *CAS_ROOT*`\bin\component-manager-cmd.bat delete-component -h` *CAS_HOST* `-p` *CAS_PORT* `-n` *APP_COMPONENT_NAME*

c) Remove the dimension value ID manager: *CAS_ROOT*\bin\cas-cmd.bat deleteDimensionValueIdManager -h *CAS_HOST* -p *CAS_PORT* -m *DVAL_ID_MGR_NAME*
d) Get the list of available crawls: *CAS_ROOT*\bin\cas-cmd.bat listCrawls -h *CAS_HOST* -p *CAS_PORT*
e) Identify the crawl configuration associated with the application to be removed from the previous step: *CAS_ROOT*\bin\cas-cmd.bat deleteCrawl -h *CAS_HOST* -p *CAS_PORT* -id *APP_CRAWL_NAME*

Uninstalling Oracle Commerce Tools and Frameworks on Windows

Oracle Commerce Tools and Frameworks must be manually uninstalled, including removing the Oracle Commerce Workbench Service.

Before uninstalling the Tools and Frameworks, you should remove any deployed applications.

To uninstall Oracle Commerce Tools and Frameworks on Windows:

1. Remove the Endeca Tools Service:
   a) Ensure the Endeca Tools Service is stopped.
   b) Navigate to your %ENDECA_TOOLS_ROOT% directory.
      By default, this is C:\Endeca\ToolsAndFrameworks\<version>.
   c) Navigate to the server\bin directory.
   d) Run uninstall_service.bat to remove the service.
   e) Verify that the service has been removed. If you leave the Services window open after removing the Endeca Tools Service, it does not update to show that the service has been removed until you refresh it.
      If the Endeca Tools Service still displays in the services window, reboot your machine.
2. Copy the ToolsAndFrameworks\<version>\server\workspace directory to a back up location that is outside the Endeca installation directory.
   (You can use this content later in migration scenarios.)
3. If you still have the Tools and Frameworks installer on your machine, follow these steps. If you do not, then skip to the next step.
   a) Navigate to the \cd\Disk1\install directory and double-click the setup.exe installer file to start the wizard.
   The Welcome screen displays.
   b) Click **Deinstall Products...**.
   c) In the Inventory dialog box, expand EndecaWorkbenchHome, select **Oracle Commerce Tools and Frameworks with *<Experience Manager/>/<version number>/Development***, and click **Remove...**.
   d) Click **Yes** to confirm that you want to remove Tools and Frameworks and the reference applications.

      

      Note: This removes the reference application from the inventory. You should have already removed the reference application and any other applications from your deployment before you started uninstalling.

   e) When the installer completes the uninstall, click **Close**.
4. Navigate to the Endeca installation directory, for example C:\Endeca.

5. Delete the `ToolsAndFrameworks` directory.

Uninstalling Oracle Commerce Tools and Frameworks silently on Windows

The silent uninstaller is useful if you want to remove the Tools and Frameworks installation using a script, or remove the installation on multiple machines.

The syntax to run the silent uninstaller is the following:

```
silent_uninstall.bat <FULL_PATH_TO_RESPONSE_FILE> <ORACLE_HOME_NAME> <ORACLE_
HOME_LOCATION>
```

where the options have the following values. Note that all the options are required.

Option	Description
FULL_PATH_TO_RESPONSE_FILE	The full path to response file which is used by the silent uninstaller. For example, `C:\Users\`*`myname`*`\Documents\ToolsAndFrameworks-`*`version`*`-win64-xmgr-installer\cd\Disk1\install\silent_response.rsp`.
ORACLE_HOME_NAME	A string value which represents your ORACLE_HOME. For example ToolsandFrameworks
ORACLE_HOME_LOCATION	The location from which you are removing the product. For example, `C:\Endeca\ToolsAndFrameworks`.

Before you begin, review and edit the `install\silent_response.rsp` file in a text editor with values that are appropriate for your site.

To start the silent uninstaller

1. From a command prompt, navigate to the directory where you downloaded the installer.
2. Issue the `silent_uninstall.bat` command and specify all the options described above.

Example

```
silent_uninstall.bat C:\Users\mine\Documents\ToolsAndFrameworks-11.1.0-win64
-xmgr-installer\cd\Disk1\install\silent_response.rsp toolsandframeworks
 C:\Endeca\ToolsAndFrameworks
```

Uninstalling Oracle Commerce Tools and Frameworks on UNIX

Oracle Commerce Tools and Frameworks must be manually uninstalled.

Before uninstalling the Tools and Frameworks, you should remove any deployed applications.

To uninstall Oracle Commerce Tools and Frameworks on UNIX:

1. If you still have the Tools and Frameworks installer on your machine, follow these steps. If you do not, then skip to the next step.

a) Navigate to the `/cd/Disk1/install` directory and run the `runinstaller.sh` installer file to start the wizard.
The Welcome screen displays.
b) Click **Deinstall Products...**.
c) In the Inventory dialog box, select **Oracle Commerce Tools and Frameworks with *<Experience Manager/Guided Search>***, and click **Remove...**.
d) Click **Yes** to confirm that you want to remove Tools and Frameworks and the reference applications.

Note: This removes the reference application from the inventory. You should have already removed the reference application and any other applications from your deployment before you started uninstalling.

e) When the installer completes the uninstall, click **Close**.

2. Navigate to `/usr/local/endeca`.
3. Delete your `ToolsAndFrameworks` directory.

Uninstalling Oracle Commerce Tools and Frameworks silently on UNIX

The silent uninstaller is useful if you want to remove the Tools and Frameworks installation using a script, or remove the installation on multiple machines.

The syntax to run the silent uninstaller is the following:

```
silent_uninstall.sh <FULL_PATH_TO_RESPONSE_FILE> <ORACLE_HOME_NAME> <ORACLE_
HOME_LOCATION>
```

where the options have the following values. Note that all the options are required.

Option	Description
FULL_PATH_TO_RESPONSE_FILE	The full path to response file which is used by the silent uninstaller. For example, `/localdisk/my¬ name/cd/Disk1/install/silent_re¬ sponse.rsp`.
ORACLE_HOME_NAME	A string value which represents your ORACLE_HOME. For example ToolsandFrameworks
ORACLE_HOME_LOCATION	The location from which you are removing the product. For example, `/usr/local/endeca/ToolsAnd¬ Frameworks`.

Before you begin, review and edit the `install/silent_response.rsp` file in a text editor with values that are appropriate for your site.

To start the silent uninstaller

1. From a command prompt, navigate to the directory where you downloaded the installer.
2. Issue the `silent_uninstall.sh` command and specify all the options described above.

```
silent_uninstall.sh /localdisk/myname/cd/Disk1/install/silent_response.rsp
 ToolAndFrameworks /usr/local/endeca/ToolsAndFrameworks
```

Appendix A

Oracle Tools Service Scripts

This section covers the Oracle Tools Service scripts.

Oracle Tools Service scripts

The Windows and UNIX versions of the Tools and Frameworks archive contain scripts for running the Oracle Tools Service.

The following scripts are located in the `server/bin` directory of your Tools and Frameworks installation:

Script	Function
`run.bat` or `startup.sh`	Installation script for setting variables and initializing the Tomcat application container.
`install_service.bat`	On Windows, installs the Endeca Tools Service.
`setenv.bat`	Script for setting environment variables, called by `run.bat`.
`stop.bat` or `shutdown.sh`	Shuts down Workbench and the Tomcat application container.
`start_service.bat`	On Windows, starts the Oracle Tools Service.
`stop_service.bat`	On Windows, stops the Oracle Tools Service.
`uninstall_service.bat`	On Windows, removes the Oracle Tools Service.
`workbench.sh`	On UNIX, controls the Workbench process.
`workbench-init.d.sh`	On UNIX, can be configured to start Workbench automatically.

Appendix B

Oracle Tools Service and EAC Ports Reference

This section covers the steps required to change the Endeca Tools Service and EAC ports from the default values.

About the Oracle Tools Service ports

You can change the default ports for the Oracle Tools Service, as long as you choose a new port that is not being used.

The ports on which the Oracle Tools Service and Endeca Workbench listen are specified in the `server.xml` file, which is located in the `%ENDECA_TOOLS_CONF%\conf` directory (`$ENDECA_TOOLS_CONF/conf` for UNIX).

The `server.xml` file also specifies the default server port. The default values are:

- Port 8006 for the Endeca Tools Service port.
- Port 8007 for the Endeca Tools Service Promotion port.
- Port 8446 for the Endeca Tools Service SSL port.
- Port 8084 for the Endeca Tools Service shutdown port.

Additionally, the Oracle Tools Service port is listed in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file (`$ENDECA_TOOLS_CONF/conf/webstudio.properties` on UNIX).

Changing the Oracle Tools Service port

You can change the Oracle Tools Service port by editing the `server.xml` file located in the `%ENDECA_TOOLS_CONF%\conf` directory (`$ENDECA_TOOLS_CONF/conf` on UNIX). You must also update this information in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file.

To change the Oracle Tools Service port:

1. Stop the Oracle Tools Service.
2. Open the `%ENDECA_TOOLS_CONF%\conf\server.xml` file in a text editor.
3. Find the non-SSL HTTP/1.1 `Connector` element:

```
<!-- Define a non-SSL HTTP/1.1 Connector on port 8006 -->
 <Connector port="8006" maxHttpHeaderSize="8192"
   maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
   enableLookups="true" redirectPort="8446" acceptCount="10"
```

```
    connectionTimeout="60000" disableUploadTimeout="true" debug="0"
    URIEncoding="UTF-8"/>
```

4. Change the number in the port attribute to the new port you want Workbench to use.

Note: You must choose a port not already in use.

5. Save and close the `server.xml` file.
6. Open the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file in a text editor (`$ENDECA_TOOLS_CONF/conf/webstudio.properties` on UNIX).
7. Find the line that specifies `com.endeca.webstudio.port`:

```
# This must be set to a non-SSL port, even if you are using the
# SSL version of Endeca Workbench
com.endeca.webstudio.port=8006
```

8. Change the port number to the new port that you specified in Step 4.
9. Save and close the file.
10. In your application, and the Discover Electronics reference application, change the Oracle Tools Service Promotion port by doing the following:
    a) Open the `<application name>\WEB-INF\assembler.properties` file in a text editor. For example, in the Discover Electronics reference application (on Windows) this file is in `C:\Endeca\ToolsAndFrameworks\3.1.0\reference\discover-electronics-authoring\WEB-INF\assembler.properties`
    b) Find the `workbench.publishing.serverPort` property and change the value to the new port you want to use.
    c) Save and close the `assembler.properties` file.
11. Start the Oracle Tools Service.

Changing the Oracle Tools Service Promotion port

You can change the Oracle Tools Service Promotion port by editing the `server.xml` file located in the `%ENDECA_TOOLS_CONF%\conf` directory (`$ENDECA_TOOLS_CONF/conf` on UNIX). You must also update this information in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file.

To change the Oracle Tools Service Promotion port:

1. Stop the Oracle Tools Service.
2. Open the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file in a text editor (`$ENDECA_TOOLS_CONF/conf/webstudio.properties` on UNIX).
3. Find the line that specifies `com.endeca.webstudio.promotion.port`:

```
# Port opened for promotion of content from Workbench to
# Live Environments.
com.endeca.webstudio.promotion.port=8007
```

4. Change the port number to the new port you want Workbench to use.
5. Save and close the file.
6. In your application, and the Discover Electronics reference application, change the Oracle Tools Service Promotion port by doing the following:
    a) Open the `<application name>\WEB-INF\assembler.properties` file in a text editor.

For example, in the Discover Electronics reference application (on Windows) this file is in `C:\Endeca\ToolsAndFrameworks\3.1.0\reference\discover-electronics-authoring\WEB-INF\assembler.properties`

b) Find the `workbench.publishing.serverPort` property and change the value to the new port you want to use.

c) Save and close the `assembler.properties` file.

7. Start the Oracle Tools Service.

Changing the Oracle Tools Service SSL port

You can change the Oracle Tools Service SSL port by editing the `server.xml` file located in the `%ENDECA_TOOLS_CONF%\conf` directory (`$ENDECA_TOOLS_CONF/conf` on UNIX). You must also update this information in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file.

To change the Oracle Tools Service SSL port:

1. Stop the Oracle Tools Service.
2. Open the `%ENDECA_TOOLS_CONF%\conf\server.xml` file in a text editor.
3. Find the SSL HTTP/1.1 `Connector` element:

```
<Connector port="8446" SSLEnabled="true"
    protocol="org.apache.coyote.http11.Http11Protocol"
    maxPostSize="0"
    maxThreads="150" scheme="https" secure="true"
    clientAuth="false" sslProtocol="TLS"
    keystoreFile="conf/eac.ks" keystorePass="eacpass"
    truststoreFile="conf/ca.ks" truststorePass="eacpass"
    />
```

4. Change the number in the port attribute to the new SSL port you want the Oracle Tools Service to use.

Note: You must choose a port not already in use.

5. Save and close the `server.xml` file.
6. Save and close the file.
7. Start the Oracle Tools Service.

Changing the Oracle Tools Service shutdown port

You can change the Oracle Tools Service shutdown port by editing the `server.xml` file located in the `%ENDECA_TOOLS_CONF%\conf` directory (`$ENDECA_TOOLS_CONF/conf` on UNIX). This port is used internally by the Oracle Tools Service software. It is typically only necessary to change it in cases where you have port number conflicts.

To change the Oracle Tools Service shutdown port:

1. Stop the Oracle Tools Service.
2. Open the `server.xml` file in a text editor.
3. Find the `Server` element in the file:

```
<!-- Note:  A "Server" is not itself a "Container", so you may not
     define subcomponents such as "Valves" at this level.
     Documentation at /docs/config/server.html
```

```
 -->
<Server port="8084" shutdown="SHUTDOWN">
```

4. Change the number in the port attribute to the new port you want to use.

Note: You must choose a port not already in use.

5. Save and close the `server.xml` file.
6. Start the Oracle Tools Service.

Updating Workbench to use non-default EAC settings

If the Endeca Application Controller is not running at the default location of `localhost:8888`, you must update this information in the `%ENDECA_TOOLS_CONF%\conf\webstudio.properties` file (`$ENDECA_TOOLS_CONF/conf/webstudio.properties` on UNIX).

To update the Workbench EAC information:

1. Stop the Oracle Tools Service.
2. Open the `webstudio.properties` file in a text editor.
3. Find the lines that specify the EAC server and port:

```
# The EAC Central Server that this Workbench uses
com.endeca.webstudio.eac.hostname=localhost
com.endeca.webstudio.eac.port=8888
```

4. Replace `localhost` with the hostname of the EAC host.
5. Replace `8888` with the EAC port.
6. Save and close the file.
7. Start the Oracle Tools Service.

Appendix C

Communicating with the MDEX Engine

This section covers configuring the Tools and Frameworks to communicate with the MDEX Engine and MDEX Web services.

Setting up a cross-domain policy file

By default, MDEX Web services are accessible from Experience Manager and other Endeca Workbench tools only if the MDEX Engine and Workbench are hosted on the same domain.

For example, if Workbench is hosted on `apps.example.com`, the MDEX must also be accessible at `apps.example.com`, and Experience Manager must be configured to access the MDEX Engine at `"apps.example.com"`. Using the host's IP address or an alias hostname, such as `"localhost"` causes a "Security Error" alert box to appear in Experience Manager when an editor attempts to access the MDEX Engine.

If the MDEX Engine is hosted on a different domain from Workbench, you must set up a cross-domain policy file on the MDEX Engine server. These steps apply to any Flex client application that communicates with an MDEX Engine via Web services.

To configure cross-domain access to MDEX Web services from a Flex client:

1. Navigate to the `/conf/dtd/xform` directory of your MDEX Engine installation, for example:
   `C:\Endeca\MDEX\6.4.0\conf\dtd\xform`
2. Create an Adobe Flash cross-domain policy file, `crossdomain.xml`.
3. Configure your `crossdomain.xml` file to grant access to all domains hosting instances of Workbench.
   An example is provided below:

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM "http://www.macromedia.com/xml/dtds/cross-
domain-policy.dtd">
<cross-domain-policy>
  <allow-access-from domain="*.example.com" />
  <allow-http-request-headers-from domain="*" headers="SOAPAction" />
</cross-domain-policy>
```

   - The `<allow-access-from>` element grants access to the local MDEX Web service from a set of domains. The `domain` attribute may be specific, or may include a wildcard, as shown above. You can include any number of `<allow-access-from>` elements, each for a different domain.
   - The `<allow-http-request-headers-from>` element as specified above is required. It enables Flash clients to communicate with the MDEX using the SOAP protocol.

For a complete specification of the cross-domain policy file format, please see the Adobe documentation at *http://www.adobe.com/devnet/articles/crossdomain_policy_file_spec.html*.

Updating Assembler host configuration

By default, the Assembler properties files use `localhost` as the host value for Workbench, MDEX Engine, and Log Server. If you are not installing Tools and Frameworks and the MDEX Engine on the same machine, you must update these files with fully qualified host names to ensure that the components can communicate.

To update the Assembler host configuration:

1. Navigate to the `reference` subdirectory of your Tools and Frameworks installation directory.

   By default, this is `C:\Endeca\ToolsAndFrameworks\<version>\reference` on Windows, or `/usr/local/endeca/ToolsAndFrameworks/<version>/reference` on UNIX.
2. Navigate to the `discover-service\WEB-INF` directory.
3. In a text editor, open the `assembler.properties` file.
4. Find the lines that specify the Workbench, MDEX Engine, and Log Server host:

   ```
   workbench.host=localhost
   mdex.host=localhost
   logserver.host=localhost
   ```
5. Modify the properties to specify the fully qualified name of the host machine.
6. Save and close the file.
7. Repeat Steps 4-6 for the following Assembler property files:
   - `reference\discover-electronics\WEB-INF\assembler.properties`
   - `reference\discover-service-authoring\WEB-INF\assembler.properties`
   - `reference\discover-electronics-authoring\WEB-INF\assembler.properties`

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