

# **Oracle® Endeca Information Discovery Studio**

Studio Migration Guide

Version 3.1.0 Rev. A • December 2013

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# Preface

Endeca Information Discovery Studio is an industry-leading application composition environment and discovery experience that allows business users to easily upload and mash up multiple diverse data sources, and then quickly configure discovery applications - all within the context of an enterprise framework that maintains existing governance and enterprise definitions.

Studio includes world-class search, guided navigation, and filtering, as well as offering an array of powerful interactive visualizations, for rapid intuitive analysis that requires zero training.

## About this guide

This guide helps you upgrade your Oracle Endeca Information Discovery Studio implementation by describing the major changes between version 3.0.x and 3.1.x.

Note that this guide only covers changes to Studio.

- For information on migrating Oracle Endeca Server, see the *Oracle Endeca Server Migration Guide* for version 7.6.0.
- For information on migrating Oracle Endeca Information Discovery Integrator ETL, see the *Integrator ETL Migration Guide*.

## Who should use this guide

This guide is intended for system administrators and developers who are upgrading Oracle Endeca Information Discovery Studio on Windows or Linux.

This guide is intended for users whose Studio applications are built using standard Studio components. It does not necessarily apply to Studio applications built with custom components.

## Conventions used in this document

The following conventions are used in this document.

### Typographic conventions

The following table describes the typographic conventions used in this document.

| Typeface                       | Meaning   |
|--------------------------------|---|
| <b>User Interface Elements</b> | This formatting is used for graphical user interface elements such as pages, dialog boxes, buttons, and fields.         |
| Code Sample                    | This formatting is used for sample code phrases within a paragraph.   |
| <i>Variable</i>                | This formatting is used for variable values.<br>For variables within a code sample, the formatting is <i>Variable</i> . |

| Typeface  | Meaning   |
|-----------|---|
| File Path | This formatting is used for file names and paths. |

## Symbol conventions

The following table describes symbol conventions used in this document.

| Symbol | Description  | Example              | Meaning  |
|--------|--|----------------------|--|
| >      | The right angle bracket, or greater-than sign, indicates menu item selections in a graphic user interface. | File > New > Project | From the File menu, choose New, then from the New submenu, choose Project. |

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## Chapter 1

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# Upgrading to Oracle Endeca Information Discovery Studio Version 3.1.x

This section provides instructions for upgrading to Oracle Endeca Information Discovery Studio 3.1.x. Before you start the upgrade process, check the remaining sections of this guide to learn about the changes that will affect you during or after the upgrade.

[Required reading](#)

[High-level upgrade procedure](#)

[Upgrading Studio](#)

[Upgrading the Provisioning Service](#)

## Required reading

In addition to reading this document, it is recommended that you read the following documents for important information about the release.

### Release Announcement

The Release Announcement outlines the new features that were added in Version 3.1.x.

### Release Notes

The Release Notes for Studio and the Provisioning Service provide information about known issues and bug fixes for this release.

### Installation Guide

The *Studio Installation Guide* provides an overview of Studio and the Provisioning Service, and includes information about configuration scenarios. It contains installation instructions for Studio and the Provisioning Service, and information on how to verify your installation.

## High-level upgrade procedure

This topic provides the recommended order for upgrading to version 3.1.x of Studio.

The upgrade process in this guide includes upgrade procedures for Studio. Upgrade procedures for Oracle Endeca Server can be found in the *Oracle Endeca Server Migration Guide*. Upgrade procedures for Oracle Endeca Information Discovery Integrator ETL can be found in the *Integrator ETL Migration Guide*.

The following procedure provides high-level steps for the entire upgrade process. See the individual topics in this section for detailed instructions in each step.

To upgrade from version 3.0.x to version 3.1.x of Studio:

1. Upgrade to version 7.6.0 of Oracle Endeca Server.

For information on upgrading Oracle Endeca Server, see the *Oracle Endeca Server Migration Guide* for version 7.6.0.

As a result of this step, you should have Oracle Endeca Server installed and started.

2. Upgrade to version 3.1.0 of Oracle Endeca Information Discovery Integrator ETL.  
For upgrade information, see the *Integrator ETL Migration Guide* for version 3.1.0.

As a result of this step, you should have Integrator ETL installed. You should also have made any required updates to your existing graphs.

3. Studio application data now uses data sets (see [Application data structure now uses data sets on page 17](#)).

For Endeca Server domains that were created by ingesting data using Integrator ETL, you will need to use Integrator ETL to put the data into a single data set that has its key set to "Base".

4. Upgrade Studio. See [Upgrading Studio on page 8](#).
5. Upgrade the Provisioning Service. See [Upgrading the Provisioning Service on page 10](#).

After you complete the upgrade, for Endeca Server domains that were created by uploading an Excel spreadsheet, you will need to use the file to create a new version of the application.

You can delete the original application.

## Upgrading Studio

This section describes how to upgrade to Studio 3.1.x.

[Stopping and uninstalling the Windows service \(for Tomcat instances\)](#)

[Backing up your Studio 3.0.x files](#)

[Installing Studio 3.1.x and restoring backups](#)

### Stopping and uninstalling the Windows service (for Tomcat instances)

If your current instance of Studio is installed on Tomcat, and is running as a Windows service, then before you can start the upgrade, you must first stop and uninstall the service.

To stop and uninstall the Studio Windows service:

1. To stop the service, from the **Services** list, right click the service, then click **Stop**.
2. To uninstall the service:
  - (a) From the command line, navigate to the Studio Tomcat bin directory:

```
endeca_portal\tomcat-<version>\bin\
```



(b) Run the following command:

```
service.bat uninstall
```

## Backing up your Studio 3.0.x files

The first step in migrating to Studio 3.1.x is to back up files from Studio 3.0.x.

To back up your Studio 3.0.x files:

1. Stop your Studio server.
2. Back up your database.

If you are using HSQL, then you can skip this step. Your database will be backed up when you back up the `data` directory.

If you are using MySQL or some other RDBMS, follow the backup procedures from your vendor.

3. If you have customized settings in `portal-ext.properties`, then you should save a copy of the file.

The `portal-ext.properties` file has changed significantly. Some required settings have been moved out of the file into the Studio application, and some customization settings have been renamed or removed.

Because of this, after you upgrade, instead of replacing the new 3.1 file with your 3.0 file, you simply copy the relevant customized settings from your 3.0 file into the 3.1 file.

Customized settings in `portal-ext.properties` that you can copy over to the 3.1 file include:

- Database connection information for the Studio database
- Framework settings that have been configured in the file, so that they are not editable on the **Framework Settings** page of the **Control Panel**. Framework setting names start with "df".
- Reverse proxy configuration
- Synchronized caching for Studio clusters

The following customization settings have been renamed or do not apply in 3.1:

- The `liferay.home` setting for has been renamed to `eid.studio.home`. In 3.1, the Liferay Home directory is referred to as the Studio home directory.
- The process for changing the context path in WebLogic no longer uses `portal-ext.properties`.

4. Back up the entire `data` directory to a safe backup location.

For Tomcat, the `data` directory is in `endeca-portal`.

For WebLogic, the `data` directory is in the Liferay Home directory.

If you have changed the location of anything normally kept in `data`, such as your JCR repository or Lucene search indexes, back up your custom location(s) as well.

5. After backing up the files, rename the `endeca-portal` or Studio Home directory.

This ensures that the Studio 3.1.x installation will not overwrite any of the existing files.

You can remove this directory after you complete the Studio 3.1.x installation.

## Installing Studio 3.1.x and restoring backups

You next install Studio 3.1.x. After installing, you use your backed-up files to restore your data and custom settings. You then start Studio 3.1.x.

To complete the upgrade to Studio 3.1.x:

1. Install Studio 3.1.x, following the steps in the *Studio Installation Guide*. Do not start the server.  
The default context path for Studio has changed from the root context to `/eid/`. If you need to change the context path, follow the instructions in the 3.1 guide.  
In WebLogic, the default Studio home (previously Liferay Home) directory has changed from `<MiddlewareHomeDirectory>/user_projects/domains` to `<MiddlewareHomeDirectory>/user_projects/domains/<StudioDomain>/eid/studio`. If you need to change the value for Studio home, follow the instructions in the 3.1 guide.
2. Restore the entire `data` directory from your safe backup location. Overwrite the `data` files that were installed with Studio 3.1.x.  
If you have changed the location of anything normally kept in `data`, such as your JCR repository or Lucene search indexes, restore and re-verify your custom locations as well.
3. Restore your database.  
If you are using HSQL, you can skip this step. Your database was restored when you restored the `data` directory.  
If you are using MYSQL or some other RDBMS, your database should still be intact. If it is not, follow the restore procedures from your vendor.
4. If you are not using HSQL, configure Studio to connect to your database.  
The 3.1 `portal-ext.properties` file includes some sample commented out settings.  
You can copy your customized settings from the 3.0 `portal-ext.properties` file.
5. Copy any other customized settings from the 3.0 `portal-ext.properties` file into the 3.1 `portal-ext.properties` file.
6. Start Studio 3.1.x.  
Before you start to use Studio, make sure that you wait until all of the components have been deployed and registered. To verify that the upgrade is truly complete, you can monitor the log files to see when all activity has stopped.

## Upgrading the Provisioning Service

After you upgrade Studio, you then upgrade the Provisioning Service.

To upgrade the Provisioning Service:

1. Record the Provisioning Service configurations in `plan.xml`.
2. Delete the Provisioning Service 3.0.x domain. To delete the domain:
  - (a) Stop the domain.
  - (b) In the file `$_MS_HOME/domain-registry.xml`, delete the domain entry for the Provisioning Service domain.

- (c) In the file `$MS_HOME/common/nodemanager/nodemanager.domains`, delete the domain entry for the Provisioning Service domain.
  - (d) Delete the Provisioning Service application directory from the `user_projects/applications` directory.
  - (e) Delete the Provisioning Service domain directory from the `user_projects/domains` directory.
3. Download and install the Application Development Framework (ADF). For details see [Installing Oracle ADF Runtime on page 11](#).
  4. Install the Provisioning Service version 3.1.x. For details, see "Installing the Provisioning Service" in the *Oracle Endeca Information Discovery Studio Installation Guide*.
  5. Re-apply your Provisioning Service configurations.

When upgrading a Windows environment, if you had created a Windows service for the Provisioning Service domain, you must delete the existing service and create a new one to ensure ADF is included in the service.

## Installing Oracle ADF Runtime

The Provisioning Service now requires the Oracle ADF Runtime. Install the ADF Runtime before running the Provisioning Service upgrade script.

You will need an Oracle account to download the Application Development Framework installer.



**Important:** The installation instructions in this topic are a distillation of the complete instructions in the *Oracle Fusion Middleware Installation Guide for Application Developer*. The complete instructions provide detailed information about installing the software, such as system requirements. The complete instructions are available online at: [http://docs.oracle.com/cd/E23943\\_01/doc.1111/e14827/toc.htm](http://docs.oracle.com/cd/E23943_01/doc.1111/e14827/toc.htm)



**Note:** Before proceeding to install Oracle ADF Runtime on Linux, ensure you:

- Do not run the installation program as the root user.
- Have an X-Windows (X11) environment. The installer requires that your monitor must be configured to display at least 256 colors.

To install Oracle ADF Runtime:

1. Download the ADF package:
  - (a) Go to <http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html>. The following graphic illustrates the location of the **Application Development Runtime** download link:

**Downloads for Oracle ADF 11g**  
This page consolidates all download links for Oracle Application Development Framework (Oracle ADF).

The downloads below are provided for customers under the OTN Developer License Agreement. Current customers should download their software via our Oracle Software Delivery Cloud, which offers different license terms.

Accept License Agreement  Decline License Agreement

**Oracle ADF Downloads**

From this page you can download Oracle ADF related software. Please make sure to choose the right sub-version of software that matches the one of your JDeveloper and WebLogic servers. For more information on version compatibility please see the certification information on the JDeveloper documentation page.

To get a complete development environment for Oracle ADF please download Oracle JDeveloper 11g - this will include everything you need in order to build and test Oracle ADF applications. If you prefer to use Eclipse based IDE for your development download Oracle Enterprise Pack for Eclipse that provides support for ADF Faces and ADF Controller development.

Note - Oracle ADF 11.1.2.\* Application Development Runtimes are provided as a patch for the complete Oracle ADF Runtime and is available through Oracle Support. Read the release notes for your specific version for further information.

**Application Development Runtime**

11.1.1.6

This is an independent installation which does not get installed over earlier versions. Detailed installation steps for Oracle Application Development Runtime are detailed in the [Install Guide](#).

**Prerequisites & Recommended Install Process**

- (b) Click the **Accept License Agreement** radio button at the top of the page.
- (c) Click the **File1** link in the Generic cell.
- (d) If you are not already logged in, sign in (on the Sign In page) with your Oracle username and password.
- (e) Click **Save File** on the download dialog.

2. Unpack the ADF zip package.

The package contains:

- readme.htm file
- Disk1 directory
- Disk2 directory

3. From a command prompt, change to the Disk1 directory.
4. Run the installer:

```
setup.exe -jreLoc <jre_location>
```

<jre\_location> is the full path to the location of the Sun Java 6 JRE (Java Runtime Environment) that you installed. The JRE is located in the JDK installation directory.

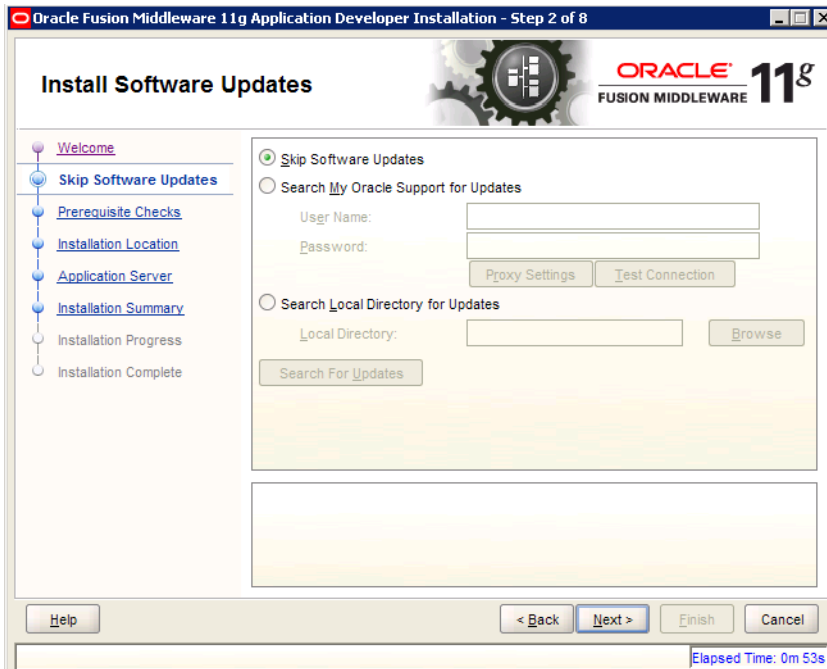
For example:

```
setup.exe -jreLoc c:\Java\jdk1.6.0_43
```

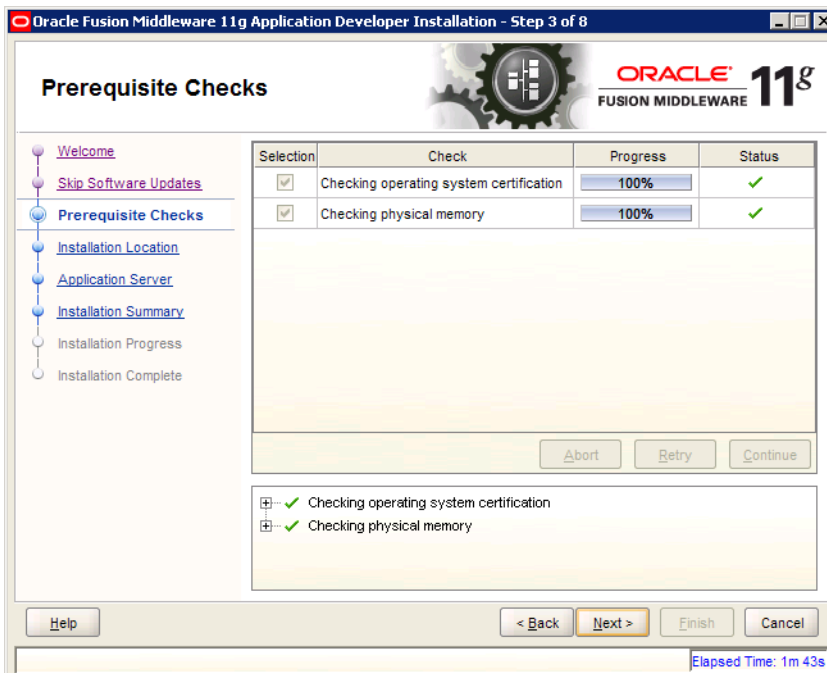
The **Welcome** page of the ADF installation wizard is displayed.

5. On the **Welcome** page, read the information, then click **Next**.

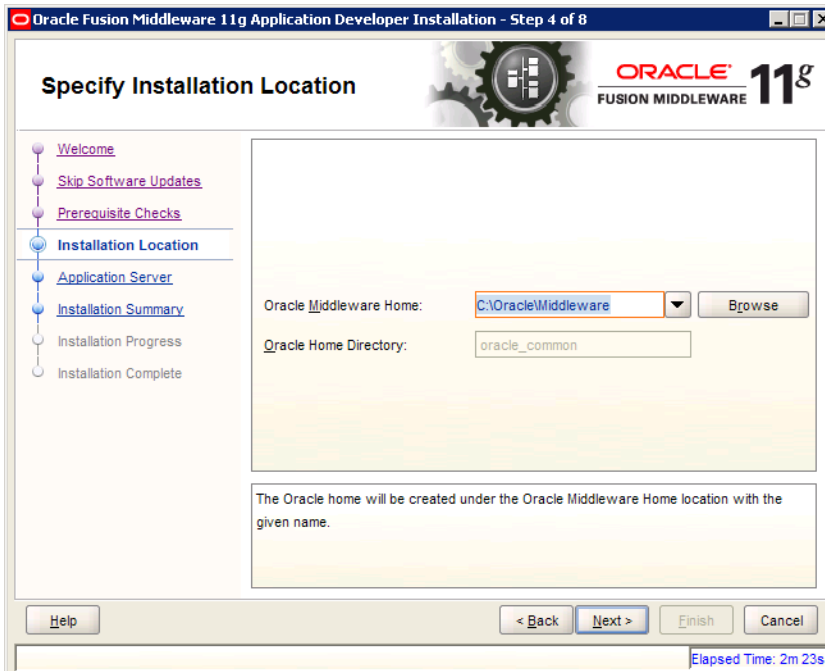
- On the **Install Software Updates** page, click the **Skip Software Updates** radio button, then click **Next**.



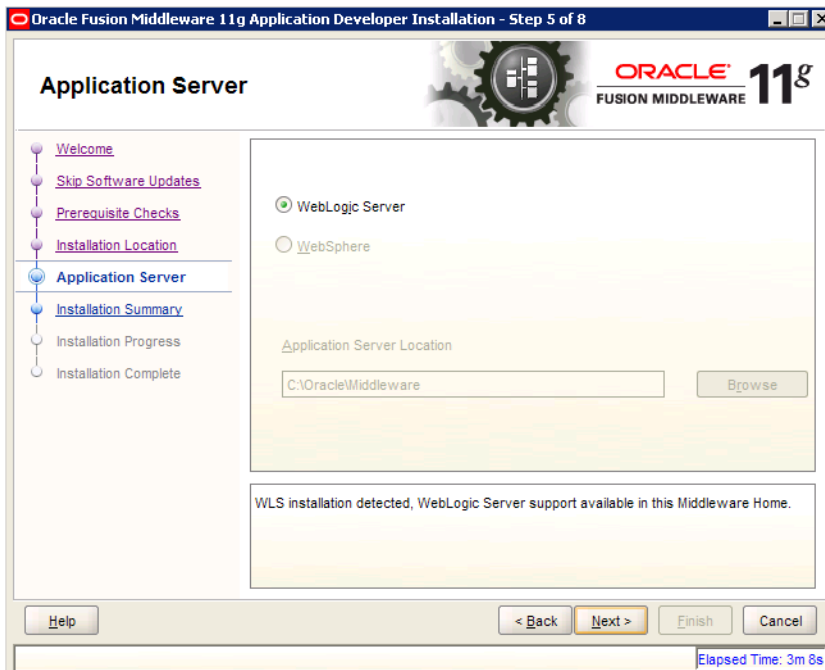
- On the **Prerequisite Checks** page, wait until the installation process passes all the necessary checks. If everything passes the checks, click **Next**.



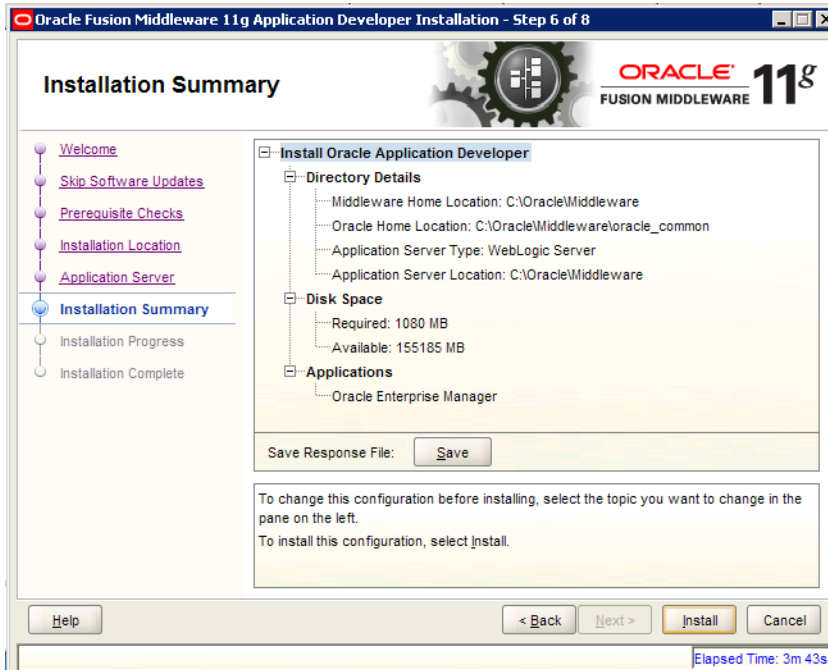
- On the **Specify Installation Location** page, verify that the Oracle Middleware Home directory is the location where you installed WebLogic, then click **Next**.



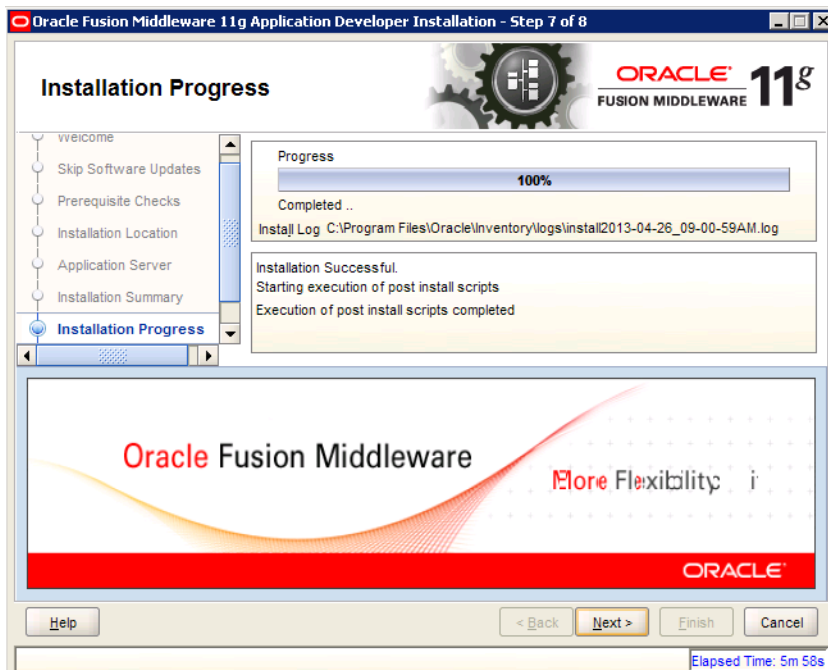
- On the **Application Server** page, click the **WebLogic Server** radio button, then click **Next**.



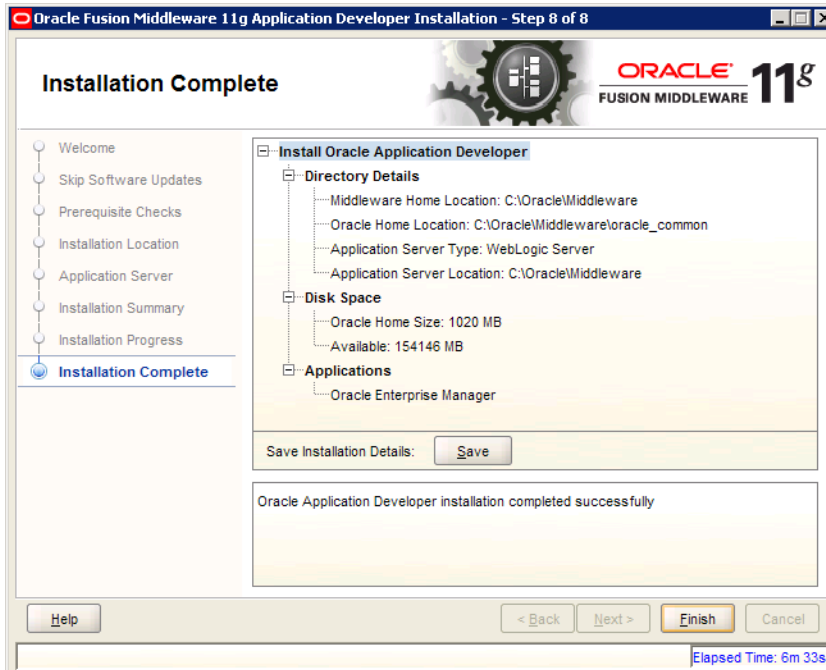
- On the **Installation Summary** page, verify the installation details, then click **Install**.



- On the **Installation Progress** page, when the installation process has completed, click **Next**.



12. On the **Installation Complete** page, to exit the installer, click **Finish**.



Two shortcuts are created in the **Start Menu**:

- Oracle Application Developer 11g
- Oracle Common Home 11g





## Chapter 2

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# Required Changes

Required changes, if they apply to your instance of Studio or the Provisioning Service, require action on your part.

[Application data structure now uses data sets](#)

[Upgrade overview for Studio components](#)

[Changes to the documentation set](#)

[Studio terminology changes](#)

[Studio security changes](#)

[Studio application data changes](#)

[Studio application management and component changes](#)

## Application data structure now uses data sets

Data for Studio applications is now made up of data sets, which are separate sets of records from different sources.

Previously, each application was linked to a data source, a single set of records from an Endeca Server domain. Applications could also be linked to a family of data sources. Data source families were data sources that linked to the same Endeca Server domain, but that had different filter or security settings.

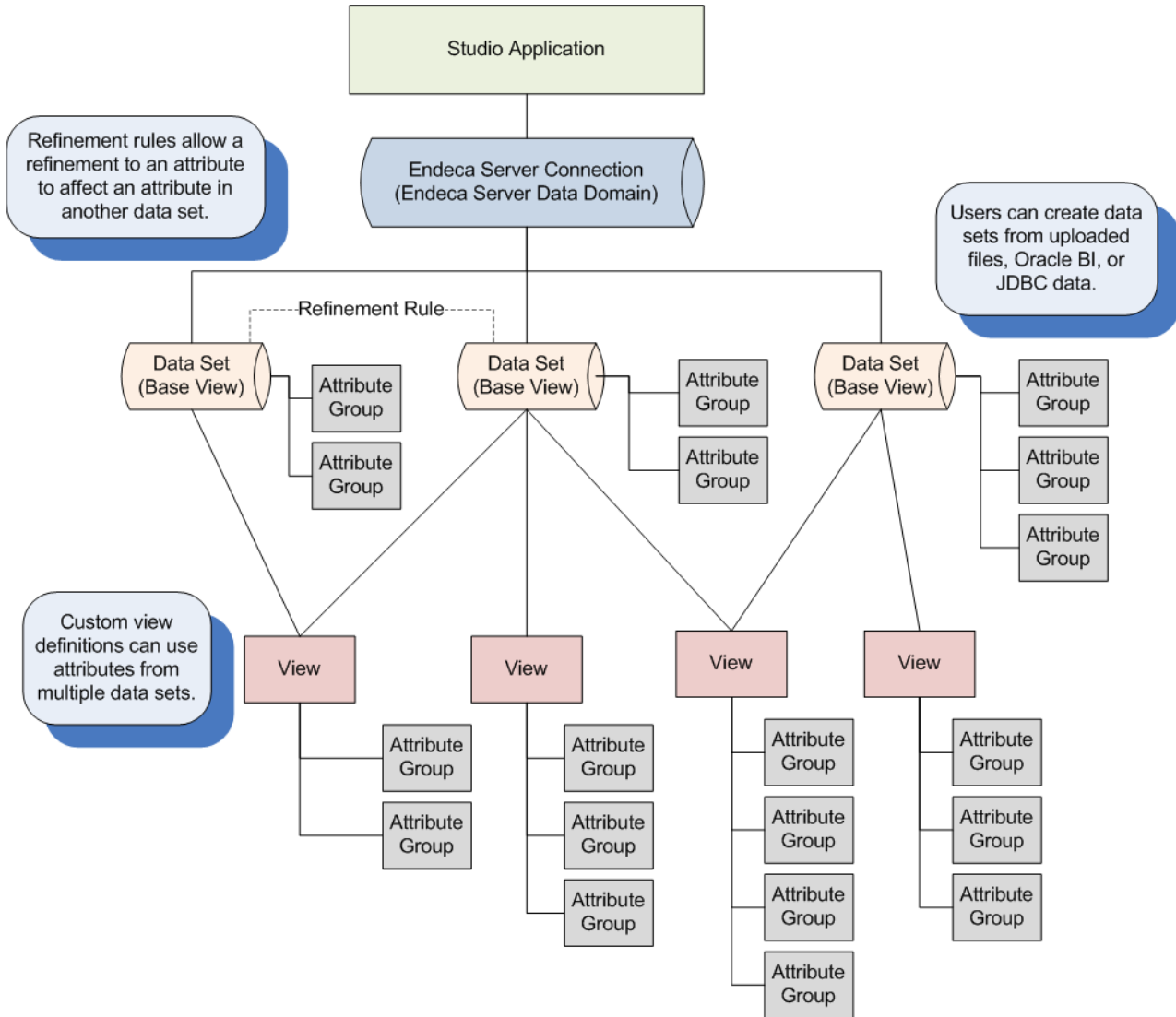
You then configured views within each data source, and attribute groups within those views.

As of 3.1, each application is still connected to a single Endeca Server domain, which is now made up of one or more data sets. A data set is a single set of records. Data sets can come from different sources (such as a file upload or the new **Data Source Library**). For example, one data set may contain product information, while another data set contains sales records, and third data set contains Twitter feeds.

Each data set automatically has a "base" view consisting of all of the records in the data set. The base view is automatically named for the data set.

Custom views, however, can include data from different data sets. Groups are still created within a single view.

The following diagram provides an overview of the new structure for application data:



### Upgrading Integrator ETL-based Endeca Server data domains

When you upgrade Endeca Server data domains that were ingested using Integrator ETL, you will need to ingest the records into a single data set (referred to as a collection in Endeca Server and Integrator ETL) that has its key set to "Base". The display name can then be something to represent the actual content of the records.

Setting the data set key to "Base" allows any existing components that were tied to the Base view in 3.0 to be able to display the correct data.

For example, for a Endeca Server data domain containing sales records, you would ingest the records into a single data set, with the key set to "Base", and the display name set to something like "Sales".

## Upgrading file upload Endeca Server data domains

For Endeca Server data domains that were created by uploading an Excel spreadsheet into Studio, you cannot add data sets to the existing data.

You will need to use the file to create a new application, and then recreate the pages and components.

You can delete the original application.

## Upgrade overview for Studio components

Here is a summary of how each Studio component in an upgraded application is configured after the upgrade process is completed.

For details on how to create and configure components, see the *Studio User's Guide*.

| Component                  | Status After Upgrade  | Required Action  |
|----------------------------|---|--|
| <b>Alerts</b>              | The <b>Alerts</b> component has been removed, and its functionality incorporated into the new <b>Summarization Bar</b> component.<br>Existing <b>Alerts</b> components will display with a warning message.   | Remove the component.<br>Recreate each alert group as a flag summary item on a <b>Summarization Bar</b> component. |
| <b>Bookmarks</b>           | The <b>Bookmarks</b> component should maintain its existing configuration, although the UI has changed slightly.  | None.  |
| <b>Breadcrumbs</b>         | The <b>Breadcrumbs</b> component has been renamed to <b>Selected Refinements</b> . Otherwise, the component will maintain its current configuration.  | None.  |
| <b>Chart</b>               | Maintains its current configuration.  | None.  |
| <b>Compare</b>             | The <b>Compare</b> component is no longer a separate component that can be added to a page. When users select the <b>Compare</b> option, the <b>Compare</b> dialog is displayed.<br>Existing <b>Compare</b> components will display with a warning message. | Remove the component.  |
| <b>Component Container</b> | Maintains its current configuration.  | None.  |

| Component                | Status After Upgrade  | Required Action   |
|--------------------------|---|---|
| <b>Data Explorer</b>     | <p>The <b>Data Explorer</b> component configuration options have been reduced.</p> <p>The sort options automatically include all of the attributes, and users can no longer display <b>Record Details</b>.</p> <p>The data should still display correctly.</p> <p>When the component is first deployed, there will be an error in the log, but the error does not affect how the component works.</p> | None.   |
| <b>Guided Navigation</b> | <p>The <b>Guided Navigation</b> component has been renamed to <b>Available Refinements</b>.</p> <p>If the component was configured to navigate to a different page, that page transition will not work.</p> <p>Otherwise, the component will maintain its current configuration.</p>  | Edit the component to set the target page again.  |
| <b>IFrame</b>            | Maintains its current configuration.  | None.   |
| <b>Map</b>               | <p>The non-EQL-based <b>Map</b> location set becomes a numbered point layer on the redesigned <b>Map</b> component. Most of the configuration should be maintained.</p> <p>The EQL-based location sets are not replicated on the new component.</p>   | <p>Verify the configuration of the numbered point layer.</p> <p>You will need to recreate <b>Map</b> layers that originally used EQL to define the location points.</p> |
| <b>Metrics Bar</b>       | <p>The <b>Metrics Bar</b> component has been removed, and its functionality incorporated into the new <b>Summarization Bar</b> component.</p> <p>Existing <b>Metrics Bar</b> components will display with a warning message.</p>  | Remove the component. For each metric, create a new metric or dimension value spotlight summary item on a <b>Summarization Bar</b> component.                           |
| <b>Pivot Table</b>       | Maintains its current configuration.  | None.   |

| Component                         | Status After Upgrade  | Required Action   |
|-----------------------------------|---|---|
| <b>Record Details</b>             | <p>The <b>Record Details</b> component is no longer a separate component that can be added to a workspace. When users select the <b>Record Details</b> option from a component, the <b>Record Details</b> dialog is displayed.</p> <p>Existing <b>Record Details</b> components will display with a warning message.</p>          | Remove the component.   |
| <b>Results List</b>               | Maintains its current configuration.  | None.   |
| <b>Results Table</b>              | <p>Maintains its current configuration.</p> <p>However, if the component is configured to include the <b>Compare</b> function, that function will not work.</p>   | Update the configuration to re-add the <b>Compare</b> option.                                     |
| <b>Search Box</b>                 | <p>The <b>Search Box</b> will look very similar, and allow for searches, but how the search options are configured has changed significantly.</p> <p>For details, see <a href="#">Changes to configuring the available Search Box search options on page 26</a>.</p>  | On the <b>Search Box</b> edit view, verify the search option configuration, and update as needed. |
| <b>Tabbed Component Container</b> | Maintains its current configuration.  | None.   |
| <b>Tag Cloud</b>                  | <p>The basic cloud display should be very similar to what it was before.</p> <p>The new <b>Tag Cloud</b> will use the same dimension, and the Number of Records metric.</p> <p>Note that on the 3.1 version of <b>Tag Cloud</b>, dimensions are always refinable. There is no configuration option to disable the refinement.</p> | None.   |
| <b>Web Content Display</b>        | <p>The component has been replaced, and no longer uses content from the <b>Web Content</b> page on the <b>Control Panel</b> has been removed.</p> <p>Existing components will display with a warning message.</p>   | Remove and recreate the component.  |

## Changes to the documentation set

In version 3.1, the following changes have occurred to the Oracle Endeca Information Discovery Studio documentation set.

### Control Panel options moved to the Studio Administration and Customization Guide

Because the **Control Panel** can only be used by Studio administrators, we have moved all **Control Panel**-related information that was in the *Studio User's Guide* to the *Studio Administration and Customization Guide*.

This includes information on:

- Managing connections to Endeca Server data domains
- Configuring the connection to the Provisioning Service
- Using **Control Panel** options to configure and remove Studio applications

## Studio terminology changes

Studio has made changes to some of the terminology used in the application.

| Previous Term     | New Term                 | Description of Change   |
|-------------------|--------------------------|---|
| Data source       | Endeca Server connection | On the <b>Control Panel</b> , the <b>Data Sources</b> page has been renamed to <b>Endeca Servers</b> .<br><br>In 3.1, the term data source now refers to a connection to Oracle BI or a JDBC database. These are managed from the <b>Data Source Library</b> on the <b>Control Panel</b> . Users can use a data source to add data to an application. |
| Guided Navigation | Available Refinements    | The <b>Guided Navigation</b> component has been renamed to <b>Available Refinements</b> , to better reflect its function.   |
| Breadcrumbs       | Selected Refinements     | The <b>Breadcrumbs</b> component has been renamed to <b>Selected Refinements</b> , to better reflect its function.  |

## Studio security changes

These changes are related to security management in Studio.

*Creating an application requires the Power User role*

*Filters are specific to a data set*

## Creating an application requires the Power User role

Previously, the ability to create new applications was not restricted. Any logged-in user could create a Studio application. Now, for users other than Studio administrators, if a user only has the User role and not the Power User role, they cannot create new applications (the **New Application** button does not display on the landing page).

Note that new users by default have the Power User role.

## Filters are specific to a data set

Previously, when using `QueryFunctions` or providing filters in a deep link URL, the filter applied to the data domain. As of 3.1, the filter applies to a specific data set.

When providing `queryFunctions` filters in a deep link, you must provide the `viewKey` parameter.

The `viewKey` parameter identifies the data set that the query applies to. It is the key name (not the display name) of the data set against which to apply the filter.

For example, here is a deep link URL with the `viewKey` parameter added to the `queryFunctions`:

```
http://localhost:8080/web/sales-discovery-dashboard/data-results?doAsUserLanguageId=es_ES&deeplink=[{"queryFunctions":[{"class":"DataSourceFilter","filterString":"Designation='Best Buy'","viewKey":"Wines"}]}]
```

## Studio application data changes

The following changes are related to the data used by Studio applications.

[Removed State Manager, baseFunctions, parent/child relationships](#)

[Removed Endeca Server connection option to display configuration records](#)

[FROM clause required for view definitions](#)

[Changes to the EQL syntax for using multi-value attributes in view definitions](#)

## Removed State Manager, baseFunctions, parent/child relationships

With the introduction of data sets, we have removed or replaced some of the current functions for filtering data.

The State Manager extension point has been removed. If you were using a custom State Manager, it will no longer be usable.

In the JSON syntax for Endeca Server connections (previously called data sources), we have removed the following options:

- `baseFunctions` syntax for filtering
- Parent/child relationships
- Selective refinements, which was dependent on parent/child relationships

These functions are replaced as follows:

- You can create multiple data sets within an application. These different data sets may reflect different filter states or different subsets of data.
- Each data set can be configured with a base filter.
- Applications can be configured with refinement rules to link attributes across data sets. On the **Application Settings** page, the new **Refinement Rules** page allows you to configure the refinement rules.

## Removed Endeca Server connection option to display configuration records

In 3.0, the Endeca Server connection configuration included an option to determine whether to display the data records or the configuration records. In 3.1, this option has been removed.

If you have an Endeca Server connection configured with:

```
"mdexRecords" : "propertyRecords"
```

Studio ignores it and will always display the data records.

If you had an application that was tied to a data source configured to display configuration records, it will now use the data records.

To replace this function, the **Data Explorer** component always includes an option to display the configuration records for the Endeca Server domain.

## FROM clause required for view definitions

With the introduction of data sets, views that are defined by the user (views other than the base view) must now include a `FROM` clause to identify the source of the view attributes.

For example, in 3.1, if you create a copy of a base view, you will see that the view definition includes the view key for that base view.

```
DEFINE Customers as SELECT
ARB(Customer_Name) as Customer_Name,
ARB (Customer_Address) as Customer_Address,
ARB(Cities) as Cities,
ARB(States) as States,
ARB(CustomerZip) as CustomerZip,
ARB(LatLong) as LatLong,
ARB(Business_Types) as Business_Types,
ARB(CustomerAgreedDaysCredit) as CustomerAgreedDaysCredit,
ARB(Credit_Rating) as Credit_Rating,
ARB(CustomerDiscount) as CustomerDiscount,
SUM(Number_of_Cases_Sold) as TotalCustomerCases,
CountDistinct(Transaction_Id) as TotalCustomerTransactions,
SUM(GrossDollars) as TotalCustomerGross,
SUM(MarginDollars) as TotalCustomerMargin,
SET(Shipping_Companies) as ShippingCompaniesUsed
FROM "wine-sales"
GROUP BY Customer_Id
```

When identifying the source view, you use the view key, and not the view display name. When referring to another view, you can only refer to the final `DEFINE` statement that identifies the attributes for the other view. You cannot refer to any intermediate `DEFINE` or `SELECT` statements in that view definition.



For your existing custom views, you will need to update the view definitions to add the `FROM` clause.

If you have updated your upgraded Endeca Server data domains to have a single data set called "Base", then the corresponding base view is also called "Base". For custom views created from the Base view, you would add `FROM Base` to the custom view definition.

## Changes to the EQL syntax for using multi-value attributes in view definitions

Previously, when including a multi-value attribute in a view definition, the `ARB` aggregation was applied automatically. Now, you must specifically indicate whether to use `ARB` or maintain the full set of values for each record.

To get a single, arbitrary value for the attribute from each record, use the `ARB` aggregation method. For example:

```
SELECT ARB(ItemColors) as ItemColors
```

To get the complete set of values for the records, use the `SET_UNIONS` aggregation method. For example:

```
SELECT SET_UNIONS(ItemColors) as ItemColors
```

When grouping by a multi-value attribute, the default `GROUP BY` function now groups by the actual sets of values. To group by the individual values, you must use `GROUP BY MEMBERS`.

For multi-value attributes, `COUNTDISTINCT` calculates the number of unique combinations of values, not the number of unique individual values. To get the number of unique individual values for a multi-value attribute, the syntax is:

```
CARDINALITY(SET_UNIONS(attributeName))
```

This is the syntax used when the **Number of unique values** system metric is added to a component for a multi-value attribute.

## Studio application management and component changes

These changes are related to how applications are managed, as well as to how components are configured.

[Changes to configuring the available Search Box search options](#)

[Record Details component now displays as a dialog](#)

[Compare component now displays as a dialog](#)

[Summarization Bar replaces Metrics Bar and Alerts components](#)

[Web Content Display component redesigned](#)

[Changes to the component export function](#)

## Changes to configuring the available Search Box search options

While the basic search functions remain the same in 3.1, the configuration of the available search options (called search configurations in 3.1) for the **Search Box** has changed.

### How available search configurations were configured in 3.0

In Studio 3.0, users manually created the list of search configurations. For each search configuration, users selected:

- The data source to use, because in 3.0 Studio supported the concept of "data source family"
- The search interface to use
- The match mode to use
- The target page to display when the search is executed
- Whether to enable type-ahead search

So even though an Endeca Server data domain had 3 search interfaces, you might only have created a single search configuration. Or you could create multiple search options for the same search interface, each with different values for match mode or target page.

### How the available search options are configured in 3.1

In 3.1, Studio automatically creates a single search option for each combination of data set and search interface in the Endeca Server data domain. You cannot create additional search options.

All of the search options are enabled by default.

For example, for the following search interfaces and data sets:

| Data Sets                      | Search Interfaces                     |
|--------------------------------|---------------------------------------|
| Products<br>Sales<br>Employees | Employee search<br>Transaction search |

You would have the following available search options:

- Products - Employee search
- Products - Transaction search
- Sales - Employee search
- Sales - Transaction search
- Employees - Employee search
- Employees - Transaction search

If there are multiple data sets, then Studio also creates available search options for each combination of "All Data" and search interface. These search options search across all of the data sets. So to continue our example, in addition to the data set-specific search options, you would also have:

- All Data - Employee search
- All Data - Transaction search

You can then choose which options to keep enabled. For example, if the "Employee search" search interface is only relevant for the Employees data set, you would disable the search options for:

- Products - Employee search
- Sales - Employee search

Type-ahead search is enabled and configured for each data set and for All Data. You do not configure type-ahead search for the individual search options.

For each search option, you have the same configuration options as before for match mode and target page.

Boolean search is no longer an available match mode for a search option. Instead, you enable or disable Boolean search for the **Search Box** as a whole.

## How the Search Box component is upgraded from 3.0 to 3.1

Assuming that you upgraded the Endeca Server data domain as recommended (see [Application data structure now uses data sets on page 17](#)), it will contain a single data set with the key set to "Base".

On the upgraded **Search Box** component, Studio automatically creates a search option for each combination of the "Base" data set and the available search interfaces. All of those search options are enabled by default. If you do not want all of these search options to be available, you must use the **Search Box** edit view to disable the ones you do not want used.

Because Studio no longer supports "data source families", Studio discards any search configurations that were configured for related data sources.

If there were multiple search configurations for a search interface, then only the first one is used as a search option on the new **Search Box** component. The other ones are discarded.

Studio maintains the settings from the 3.0 search configuration (match mode and target page) in the new 3.1 search option, unless the search configuration used the Boolean match mode.

If the search configuration used the Boolean match mode, then the match mode on the search option is changed to All-Partial.

Studio uses the type-ahead settings from the default search configuration for the data set type-ahead configuration.

If the default search configuration used the Boolean match mode, then the Boolean option for the **Search Box** component is enabled by default.

## Record Details component now displays as a dialog

As of 3.1, you no longer add a **Record Details** component as a separate component on a page. When a component is configured to enable a **Record Details** action, the **Record Details** component now displays as a dialog on top of the component.

From the **Record Details** dialog, you can export and print the detail data.

After you upgrade, you will need to remove any existing **Record Details** components from your application pages.

## Compare component now displays as a dialog

As of 3.1, you no longer add a **Compare** component as a separate component on a page. When a component is configured to enable a **Compare** action, the **Compare** component now displays as a dialog on top of the component.

From the **Compare** dialog, you can still select a baseline record and highlight differences in the records.

After you upgrade, you will need to remove any existing **Compare** components from your application pages.

## Summarization Bar replaces Metrics Bar and Alerts components

A new **Summarization Bar** component has been added, which includes the functionality from both the **Metrics Bar** component and the **Alerts** component.

You will have to replace any existing **Metrics Bar** and **Alerts** components with a **Summarization Bar** component.

For both functions, you can no longer enter EQL manually.

If an existing **Metrics Bar** or **Alerts** component was using a more complex metric, you may need to replicate it as a predefined metric in the view.

In the **Summarization Bar** component, alerts are now referred to as flags.

## Web Content Display component redesigned

We have replaced the **Web Content Display** component. The new component uses a different HTML editor. The content also is no longer stored as part of the **Web Content** page of the **Control Panel**.

The **Web Content** page has been removed.

After you upgrade, you will need to replace any **Web Content Display** components.

## Changes to the component export function

We have created a new version of the export function for components. Custom components that use the previous export component need to be updated to refer to the new version.

Also, previously, there were two settings to control the maximum number of records to include in an export:

- `df.maxExportBaseRecords`
- `df.maxExportEQLRecords`

These have been removed and replaced with a single setting called `df.maxExportRecords`.

When you upgrade, the new setting is populated with the value that was set for `df.maxExportBaseRecords`. You need to update any custom components to refer to the correct setting.



## Chapter 3

# Behavioral Changes

---

The changes listed here do not require any action on your part, but will affect how your application behaves after you upgrade.

*Changes to the Studio menu structure*

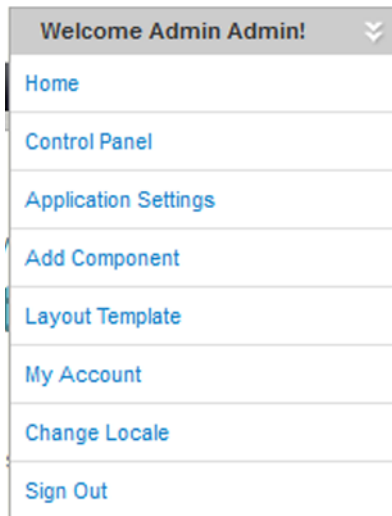
*Add page option moved*

*Component edit view displays with a single click*

## Changes to the Studio menu structure

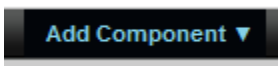
The structure of the Studio menu has changed.

Previously, Studio had a single menu containing all of the Studio menu options.

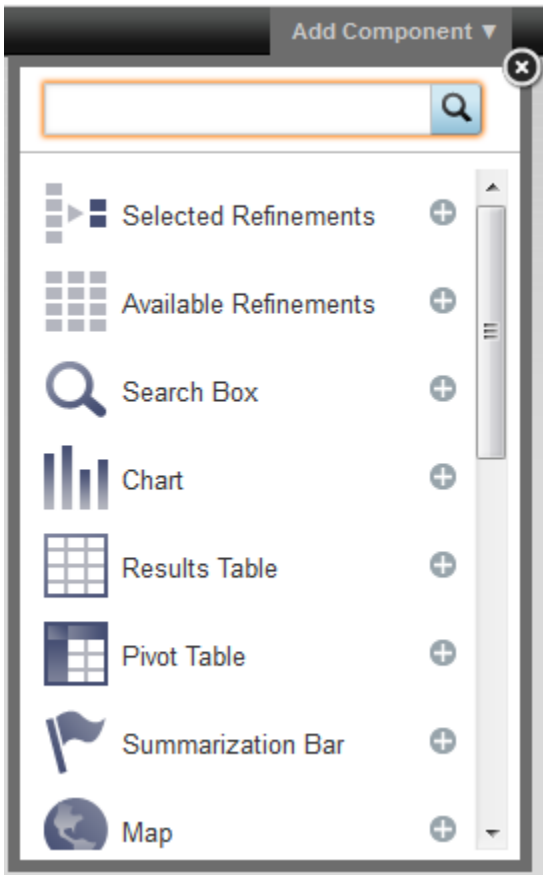


As of 3.1, the following changes have been made to the menu structure in Studio:

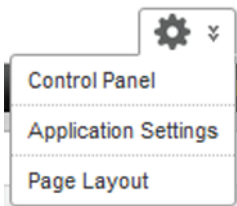
- The **Add Component** option has been removed from the menu, and added to the header bar.



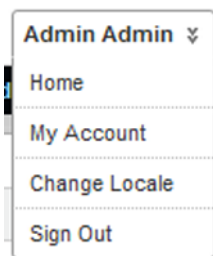
The **Add Component** menu also now displays as a drop-down list, instead of a modal, and is no longer grouped into categories.



- The **Control Panel**, **Application Settings**, and **Page Layout** (formerly **Layout Template**) options have been moved to a new administrator menu.

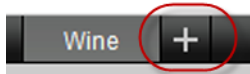


- The user menu (which has the user's name as the heading) contains the **Home**, **My Account**, **Change Locale**, and **Sign In/Sign Out** options.



## Add page option moved

The option to add a page to the current application is no longer displayed as a text link on the header bar. It is now a + button immediately after the page tabs.



## Component edit view displays with a single click

Previously, when users clicked the gear icon on the component, a menu displayed that contained the **Configuration** option. Because there are no other options, the menu has been removed. When users click the gear icon, the component edit view is displayed.