

TIBCO® Fulfillment Catalog Installation and Configuration Guide

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TIBCO Documentation and Support Services

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

Product-Specific Documentation

The following documents for this product can be found on the TIBCO Documentation site:

- *TIBCO Fulfillment Catalog Installation Guide*
- *TIBCO Fulfillment Catalog Product Catalog Guide*
- *TIBCO Fulfillment Catalog User's Guide*
- *TIBCO Fulfillment Catalog Web Services Guide*
- *TIBCO Fulfillment Catalog Offer and Price Designer User's Guide*
- *TIBCO Fulfillment Catalog Release Notes*

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <http://www.tibco.com/services/support>.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

Installation Overview

Fulfillment Catalog installation overview covers the following details:

- [Required Third Party Products](#)
- [Required TIBCO Products](#)
- [Operating System and Database Requirements](#)
- [Installation Guidelines](#)
- [Check the Environment Variables](#)
- [Installer Options](#)
- [Installation Modes](#)
- [Installation Related Files](#)

Required Third Party Products

The following table lists the required third-party products (for version details, see the TIBCO® Fulfillment Catalog readme file):

Required Third-Party Products


Component to Install	Supported options	For more information, see:
JDK	JDK 1.8 (Required)	<i>TIBCO MDM™ Installation and Configuration Guide</i>
Application Server Configure a supported Application Server.	JBoss Enterprise Application Platform 6.4	<i>TIBCO MDM™ Installation and Configuration Guide</i>
Tomcat	Tomcat 8.5.x (Required)	<i>TIBCO MDM™ Installation and Configuration Guide</i>

Required TIBCO Products

The following table lists the required TIBCO products and their purpose:

Required TIBCO Products

Component	Purpose
TIBCO Enterprise Message Service™ 8.3.0 - 8.3.x	<p>TIBCO EMS is already included within TIBCO MDM for the limited use of TIBCO Fulfillment Catalog.</p> <p>Standards-based messaging software that can serve as the backbone of an SOA by providing Java Message Service (JMS)-compliant communications across a wide range of platforms and application technologies.</p>

Component	Purpose
TIBCO MDM™ 9.0.1 HF-02	<p>Included within the TIBCO Fulfillment Catalog Product License.</p> <p>Provides capability to ensure that your master data is consistent, complete, and accurate throughout your organization, enterprise systems, and partners. It provides a comprehensive approach to managing and synchronizing master data within your organization.</p> <p>TIBCO Fulfillment Catalog is a plug-in for TIBCO MDM that enables you to easily manage and maintain complex product offerings.</p> <div>  <p>One-click installer is not supported by Fulfillment Catalog installation. For example installers like TIB_mdm-JBOSS-PGRS_9.0.1_linux_x86_64.zip. If you want to use a Postgres database, you need to use the normal installer and install Postgres explicitly.</p> </div>

Operating System and Database Requirements

TIBCO Fulfillment Catalog supports the following set of operating systems and databases:

Operating System
Red Hat Enterprise Linux Server 6.x & 7.x 64-bit on x86-64
Database
Oracle 11g (Oracle 11.2.x), single and RAC
Oracle 12c (Oracle 12.1.x), single and RAC
PostgreSQL 9.x



For version number details, refer to the product readme document.

Installation Guidelines

The following table provides details about installation guidelines:

Installer Account	<p>TIBCO Fulfillment Catalog can be installed by a regular (non-root) user and super-user (root). This product can be installed only where TIBCO MDM is installed.</p> <p>Product dependencies during the installation are resolved at the user level through the installation registry maintained at the user's home directory.</p>
--------------------------	--

Installing from a Network Drive	If you intend to install the product from a network drive, you must ensure that the account used for installation has permission to access the network drive.
Install Required Software First for All the Installations	TIBCO recommends that you install TIBCO MDM before installing TIBCO Fulfillment Catalog.
Windowing Environment	A windowing environment, such as CDE (that is, X11 Windows), is required to run the installer in GUI mode. It is not required for a console installation or silent installation.

Check the Environment Variables

You have to set the environment variables. The following table lists the environment variables with respective sample values and their description:

Environment Variables and their Description

Environment Variable	Sample Value	Description
NODE_ID	Member1	Points to the current cluster member.
MQ_HOME	/opt/MDM/mdm/9.0	Points to the installation directory.
AS_HOME	\$MQ_HOME/bin/as/2.1	Points to the AS home directory.
MQ_LOG	\$MQ_HOME/log	The location where log files are generated.
MQ_COMMON_DIR	\$MQ_HOME/common	All standard configurations files for workflow and data validation as well as all customization are stored in this directory. This directory also holds all files generated during normal application processing.
MQ_CONFIG_FILE	\$MQ_HOME/config/ConfigValues.xml	The values/parameters in this file can be set using the Configurator.
JAVA_HOME	opt/Java/jdk<version>	The directory where JRE/JDK is installed.
NLS_LANG	AMERICAN_AMERICA.UTF8	NLS parameters to specify the locale-dependent behavior of client.
LANG	en_US.utf8	Language environment variable.

Environment Variable	Sample Value	Description
ORACLE_HOME	/home/oracle/app/product/ <version>	The directory where ORACLE is installed.
EMS_HOME	/opt/tibco/ems/8.3	The directory where TIBCO EMS (messaging software) is installed
AC_HOME	\$MQ_HOME/plugins/ac/4.0	The directory where TIBCO Fulfillment Catalog is installed.
PLUGIN_HOME	AC_HOME	-

Installer Options

This topic lists the executable file names, Fulfillment Catalog components, and describes some of the options available during product installation.

Executable File Names

Executable file names for Fulfillment Catalog vary by edition, version number, and platform. In this document, the executable file names are displayed using variables where needed, for example:

TIB_cim-ac_<version>_<platform>

where:

- `version` is the three-digit version number for this Fulfillment Catalog release, for example, 4.0.0
- `platform` is an abbreviated form of the hardware platform for which the executable is intended, for example, `linux_x86_64`.

Linux

Linux: TIB_cim-ac_4.0.0_linux_x86_64.zip.

TIBCO Fulfillment Catalog Components

The following are the components included in each edition:

Fulfillment Catalog Plugin—An application plug-in for managing and maintaining complex products, offerings, and services.

Fulfillment Catalog Plugin contains the following different artifact categories:

- Binary files
- TIBCO Fulfillment Catalog metadata
- Validation rules for metadata
- Migration Scripts

Typical or Custom Install

Download the TIBCO Fulfillment Catalog installation package or install the components from a compact disc. The installer prompts you to accept the license agreement, then allows you to choose option to perform either a typical install or a custom install (full installer only).

- Typical install has minimal prompts and installs standard components in default locations.
- Custom install prompts you to choose the product suite components you wish to use, and then installs only those components.

Installation Modes

The installer allows you to run the installation in the following modes:

Installation Modes

GUI Mode	<p>In GUI mode, the installer presents panels that allow you to make choices about product selection, product location, and so on. When you run the installer by double-clicking on the icon, GUI mode is used.</p> <p>See the Installing in GUI Mode topic for more details.</p>
Console Mode	<p>Console mode allows you to run the installer from the command prompt or terminal window in a non-Windows environment.</p> <p>See the Installing in Console Mode topic for more details.</p>
Silent Mode	<p>Silent mode either installs using default settings or uses a response file that was saved during an earlier installation. Silent mode installs without user prompts.</p> <p>See the Installing in Silent Mode topic for more details.</p>

Installation Related Files

This topic provides information about:

- [Installer Disk Space Requirements in Temporary Area](#)
- [Installation Registry History and Log Files](#)

Installer Disk Space Requirements in Temporary Area

The topic describes the temporary disk space requirements for TIBCO Fulfillment Catalog.

UNIX Platform	<p>The installer launcher extracts a Java Virtual Machine (JVM) in a temporary directory, and then uses this JVM to launch itself. The size of the extracted JVM differs from platform to platform.</p> <p>On UNIX platforms the following disk space is required in the temporary area:</p> <ul style="list-style-type: none"> • 256 MB (minimum) of free disk space in /tmp <p>If your system does not have sufficient free disk space in the above temporary area, you can still run the installer with a different temporary area by using the following option when starting the installer:</p> <pre>install_package_name.bin -is:tempdir /new_tmp</pre> <p>where /new_tmp has sufficient free disk space.</p>
Disk Space Requirement in User's Home Directory	<p>On UNIX platforms when a regular (non-root) user installs a TIBCO product, the installation registry (two vpd files) is maintained in the user's home directory. As more products are installed, entries are added into these vpd files.</p> <p>The user's home directory must have a minimum of 50-100 GB free disk space.</p>

Installation Registry History and Log Files

Installation and uninstallation log files are in the \$HOME/.TIBCO directory within the installer's user home directory. The files use this format:

- .TIBCO/install_<yyyy-mm-dd.hhmmss>/tibco_universal_installer.<affuser>_install.log
- .TIBCO/uninstall_<yyyy-mm-dd.hhmmss>/tibco_universal_installer.<affuser>_uninstall.log

The installer and uninstaller logs the history and maintains the registry files in the \$HOME/InstallShield directory.



Do not edit, rename, move, or remove the files in the \$HOME/InstallShield directory.

Installing TIBCO Fulfillment Catalog

The topic describes the installation and uninstallation of TIBCO Fulfillment Catalog using TIBCO Universal Installer `TIBCOUniversalInstaller-<os platform>.bin`.

The following are the prerequisites before installing Fulfillment Catalog:

Procedure

1. Set the environment variable `JBOSS_HOME` and `NODE_ID`.
2. If the database is Oracle, set the environment variable `ORACLE_HOME`.
3. If the database is Oracle, its services should be up and running as installation creates the seed data for Fulfillment Catalog.
4. Copy the `ECM.ear` file of MDM 9.0.1 HF-02 into `MQ_HOME`. The MDM 9.0.1 HF-02 `ECM.ear` file can be copied from `MQ_HOME/customEAR` if MDM 9.0.1 HF-02 has been installed but not deployed to an application server. Otherwise, copy the MDM 9.0.1 HF-02 `ECM.ear` file from the respective application server's deployment directory.



If you are installing TIBCO® Fulfillment Catalog for the first time, install and configure TIBCO MDM™ as per the documentation.

TIBCO Fulfillment Catalog is a TIBCO MDM™ plug in. TIBCO Universal Installer creates the TIBCO Fulfillment Catalog directory and subdirectories in `$AC_HOME`.



The value of `$AC_HOME` is `$MQ_HOME/plugins/ac/4.0`.

Installing in GUI Mode

The following procedure lists the steps to install TIBCO Fulfillment Catalog in GUI mode:

Procedure

1. Open the physical media or download the TIBCO Fulfillment Catalog product package.
2. Extract the TIBCO Fulfillment Catalog product archive file to a temporary directory.
3. Navigate to the temporary directory.
4. Run **TIBCOUniversalInstaller**.
5. Review the information in the Welcome dialog and click the **Next** button.
6. The License Agreement dialog appears. Review the terms of the license agreement and select **I accept the terms of the license agreement**. Then click the **Next** button to continue with the installation.
7. Select the environment where TIBCO MDM is installed and click the **Next** button. The Installation Type dialog appears.
8. On the Installation Type dialog, you can choose from the following available options:
 - a) Select the **Typical** option to install all the default features, or
 - b) Select the **Custom** option to install the features of your choice.
 After making your choice, click the **Next** button.
9. Select the **TIBCO_HOME** path and click the **Next** button. After the installer configures your installation choices, the Pre Install Summary dialog appears. Review the information displayed in the dialog. If you want to change any of your choices, click the **Back** button to step back through the dialogs to the appropriate point. You can then proceed with the installation process.

10. Verify the list of features selected for install and click the **Install** button.
11. The installer now performs the necessary installation tasks. When installation has completed, the Post Install Summary dialog is displayed. Click the **Finish** button to exit from the installer. Wait for the installer to delete the temporary files.
12. Complete the post installation tasks. See the [Post Installation Tasks](#) topic for more details.
13. After installing Fulfillment Catalog, run the Configurator. See the [Configuration of Fulfillment Catalog](#) topic for more details.

Installing in Console Mode

The following procedure lists the steps to install TIBCO Fulfillment Catalog in console mode:

Procedure

1. Open the physical media or download the TIBCO Fulfillment Catalog product package.
2. Extract the TIBCO Fulfillment Catalog product archive file to a temporary directory.
3. Using a console window, navigate to the temporary directory that contains the universal installer and run the installer using this command line:

```
bash-3.00$ ./TIBCOUniversalInstaller-<os platform>.bin -console
```

4. Complete the installation by responding to the console window prompts.



After installing Fulfillment Catalog, run the Configurator. See the [Configuration of Fulfillment Catalog](#) topic for more details. Complete the post installation tasks. See the [Post Installation Tasks](#) topic for more details

Installing in Silent Mode

The `TIBCOUniversalInstaller.silent` file is packaged in the directory that contains the universal installer. Edit the file with information for your environment before launching the silent installation. The file includes comments that describe the installation properties you can set.

While you can use the `TIBCOUniversalInstaller.silent` file, it is a good practice to copy the file to a different name and then edit the file for silent mode.

If errors occur during installation, they will be listed in the installation log file, which is located in the `User_Home/.TIBCO` directory.

The following procedure lists the steps to install TIBCO Fulfillment Catalog in silent mode:

Procedure

1. Open the physical media or download the TIBCO Fulfillment Catalog product package.
2. Extract the TIBCO Fulfillment Catalog product archive file to a temporary directory.
3. Using a console window, navigate to the temporary directory that contains the universal installer.
4. Copy the `TIBCOUniversalInstaller.silent` file and name the file.
5. Using a text editor, open the `TIBCOUniversalInstaller.silent` file, and update the install location and the list of features to install.
6. Run the installer. For example:

```
TIBCOUniversalInstaller-<os>.bin -silent -V responseFile="myfilename.silent"
```

When installation completes, a line similar to the following is written to the installer log file:

Install, com.tibco.installer.util.TIBCOInstaller, dbg.Debug, The installation has completed. Please check the log file for additional information.

7. Complete the post installation tasks. See the [Post Installation Tasks](#) topic for more details.



After installing Fulfillment Catalog, run the Configurator. See the [Configuration of Fulfillment Catalog](#) topic for more details .

Uninstalling TIBCO Fulfillment Catalog

Use one of the following options to uninstall TIBCO Fulfillment Catalog from the supported UNIX platform:

Procedure

- To uninstall Fulfillment Catalog from the supported UNIX platform, navigate to the \$TIBCO_HOME/tools/universal_installer directory and run the TIBCOUniversalInstaller-<os-type>.bin script.



Uninstaller removes or uninstalls the files which are installed during the installation. It does not delete the seed data and repository metadata.

Post Installation Tasks Performed by the Installer

Fulfillment Catalog 4.0.0 installer performs a set of tasks as a part of the Post installation steps, which require no intervention from the user. The user only needs to check the logs if something fails during these tasks.

The list of post installation tasks that are performed by the installer are as follows:

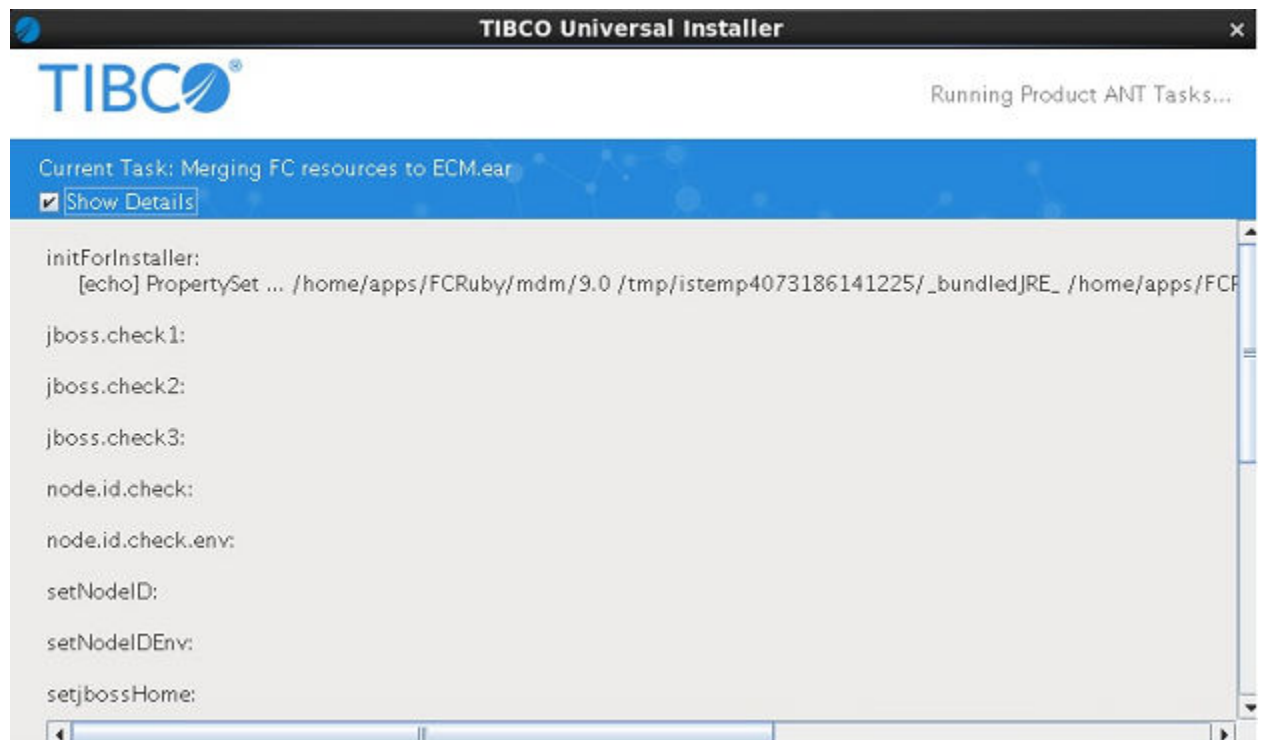
- [Merge Fulfillment Catalog Resources into ECM.ear](#)
- [Application Server Setup](#)
- [Database Setup](#)
- [Merge Configuration Files](#)
- [Pre-Created Sample Enterprise](#)

Merge Fulfillment Catalog Resources into ECM.ear

The installer merges the Fulfillment Catalog resources into the MDM \$MQ_HOME/ECM.ear file for deploying Fulfillment Catalog. The installer also deploys the merged ECM.ear file to the application server.

A sample screen that is displayed during installation is as follows:

Merging Fulfillment Catalog Resources to ECM.ear



Application Server Setup

For JBOSS EAP application server, the Fulfillment Catalog installer automatically creates fulfillmentcatalog module in the \$JBOSS_HOME/modules that is used by the server to fetch the acprop.jar file for loading the properties files.

Database Setup

There are a few DB scripts used for adding Fulfillment Catalog specific seed data into the database.

For PostgreSQL, the seed data has to be created manually. See the topic [Creating Seed Data for Fulfillment Catalog in PostgreSQL Database](#), for more details.

Merge Configuration Files

Configurations specific to Fulfillment Catalog are merged into the respective MDM configuration files.

The example for configuration files are:

- ConfigValues_AC.xml
- allmenu.xml
- defaultdata.xml

Pre-Created Sample Enterprise

Fulfillment Catalog has been pre-loaded with a sample FC400 enterprise.

The reason for providing pre-created sample enterprise is that users will be able to quickly start using the system after installation.

The sample enterprise name is FC400, which is also the version number.

The credentials to log in to the sample enterprise is as follows:

Enterprise Name	FC400
Username	sample
Password	euc!1d

Post Installation Tasks

Perform the following steps after installing TIBCO® Fulfillment Catalog:

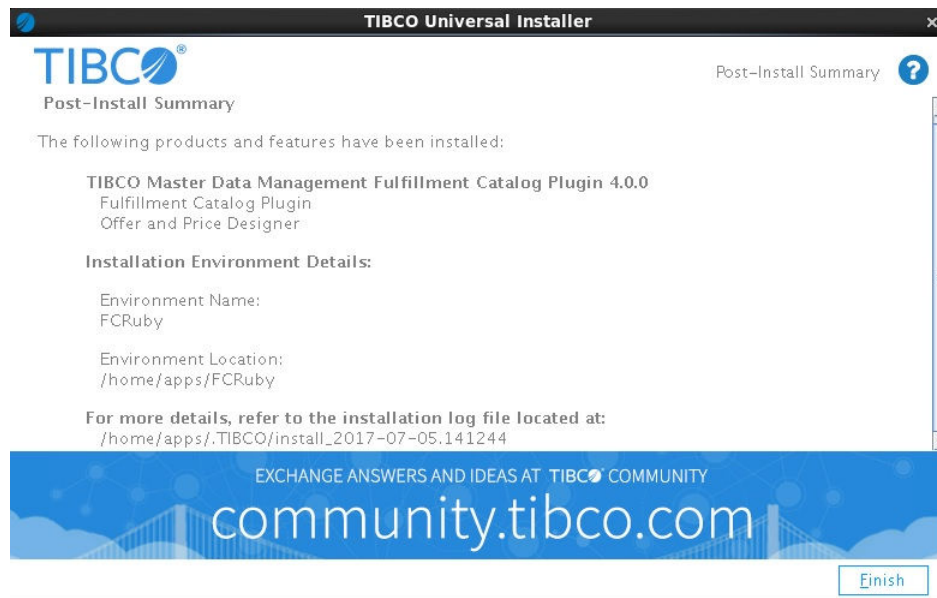
- [Verify the Installation](#)
- [Grant Privileges to the User](#)
- [Creating Seed Data for Fulfillment Catalog in PostgreSQL Database](#)
- [Deploying Offer and Price Designer](#)
- [Configuration of Fulfillment Catalog](#)

Verify the Installation

After the installation is complete, it is recommended to open the log file and check for any error.

The log file location is shown in the following image:

Installation Logs Verification



If there is an error, then it means that the post installation tasks performed by the installer have not been completed successfully.

To troubleshoot errors in the post installation logs, see the [Installation FAQs and Troubleshooting](#) topic.

Grant Privileges to the User

You must have the "create table" privileges in the database. Run the grant Create Any Table to <db_username> command as a Database Administrator.

```
SQL> grant Create Any Table to <db_username>;
```

For instance, for the <db_username> as *cimuser*, the command to grant privilege is:

```
SQL> grant Create Any Table to cimuser;
```

Creating Seed Data for Fulfillment Catalog in PostgreSQL Database

There are few SQL scripts used for adding Fulfillment Catalog specific seed data into the database. Fulfillment Catalog provides a utility for this task. The installer executes this utility automatically if the database is PostgreSQL as a part of the MDM installation (one-click installer).

The procedure to create seed data should be performed only if the PostgreSQL database resides outside \$MQ_HOME.

The following steps need to be performed to create seed data for Fulfillment Catalog in PostgreSQL database:

Procedure

1. Navigate to the location `$AC_HOME/db/postgreSQL/install`.
2. Run `install_ac.bat/install_ac.sh` file based on the platform (windows or linux).
3. Provide the required inputs, like PostgreSQL installation directory path, database name, host, port, username, and password.



Check the logs for database script execution at `$AC_HOME/db/postgreSQL/install/logs` location.

Deploying Offer and Price Designer

This is an optional step.

Deploy the Offer and Price Designer war file in Tomcat.

Procedure

1. Install Apache Tomcat 8.5.11. (for more details on installation, please refer Apache Tomcat installation guide).
2. Copy `opdesigner.war` from `$AC_HOME` to the webapps directory of the Tomcat installation (as mentioned in Step 1).
3. Create a `setenv.sh` file inside `<TOMCAT_INSTALLATION>/bin` and add following lines:

```
JAVA_OPTS="-Dfc.host=<<hostIP>> -Dfc.port=<<port>> -Dlogging.file=<<log file location>>"
```
4. Start Tomcat.
5. Access the Offer and Price Designer UI with the following URL:

`http://host:port/opdesigner`



For more information see the *TIBCO Fulfillment Catalog - Offer and Price Designer User's Guide*.

Configuration of Fulfillment Catalog

The Configurator is a web-based configuration application that allows you to configure various properties for Fulfillment Catalog. It can be used for the initial setup and maintenance of the Fulfillment Catalog application.

You can use the add-on plugin installer and the following artifacts are created:

- Enterprise.
- Single user with Enterprise credentials as `admin`.

- Repository metadata.
- Process definitions and register the workflow.
- Workflow and maps from the installation directory to the enterprise directory.
- Validation file to its respective repository directory.
- Admin privileges assigned to the user. For example, assign permission to access Publish Catalog, Import from TIBCO Provisioning, Export FC Data, and Import FC Data.

To configure Fulfillment Catalog version 4.0.0, see the [Setting the Required Configurations for Fulfillment Catalog](#) topic.

To upgrade from Fulfillment Catalog 3.1.0 to Fulfillment Catalog version 4.0.0, see the [Fulfillment Catalog Upgrade](#) topic.

Invoking Configurator

To invoke the configuration, perform the following steps:

Procedure

1. On the command prompt, access the `$MQ_HOME/configurator/tomcat/bin` directory.



Before invoking Configurator, ensure that environment variable `NLS_LANG` is set to `AMERICAN_AMERICA.UTF8` and `LANG` to `en_US.utf8`.

Confirm if the `PLUGIN_HOME` environment variable is set or not.

2. Start the Tomcat server using the `startup.sh` command.

```
$cd $MQ_HOME/configurator/tomcat/bin
$ ./startup.sh
```



To stop the Configurator, use the `shutdown.sh` command.

Accessing Configurator

To access the configuration, perform the following steps:

Procedure

1. Invoke the Configurator by using `http://<localhost>:<port>/config/index.html`.
2. Enter the username and password as *admin*. Click **Login**.

Setting the Required Configurations for Fulfillment Catalog

Prerequisites



Ensure that the Fulfillment Catalog application is up and running.

Procedure

1. Open the `ConfigValues.xml` in the `$MQ_HOME/config` directory. Update the following properties as needed:

```
cim.superadmin.enterprisename
cim.superadmin.username
cim.superadmin.password
```

2. Access Fulfillment Catalog Configurator.
3. Search for the property `cim.server.machineandportdetail` and provide the value `host:port` of FC server. Save the configuration.
4. Go to **Tools > Add-on Plug-in Installer**. The MDM Plug-in add-on installer pop up is displayed.

Plug-in Type Selection

Add-on Plug-in Installer

1. Specify Plug-in Details

Specify Plug-in Details Specify the version details for plug-in installation.

▼ Plug-in's Detected

Plug-in Type

Fulfillment Catalog 4.0.0

▼ Installation Mode

☒ Install New Version

☐ Migration to Existing Version

Next Cancel

5. Select the Plug-in type as **Fulfillment Catalog 4.0.0** and click **Next**.
6. Select the **Installation Mode**.
7. Click **Next**.
8. Specify the **Enterprise Name**, and verify the `$MQ_COMMON_DIR` path. Click **Next**.

Plug-in Configurator

Add-on Plug-in Installer

2. Plug-in Installation Details

Plug-in Installation Details Specify the release version path of MQ_COMMON_DIR.

MQ_COMMON_DIR Path **This path is either \$MQ_COMMON_DIR of new MDM901 installation OR \$MQ_COMMON_DIR directory of migrated common dir of MDM832 to MDM901**

F:\MDM832_HF13_FC302_HF02\mdm\8.3\common

Enterprise Name

FC

Previous Finish Cancel

9. Click **Finish**. The Configurator creates the enterprise with the default username and password as admin. These details must be the same as those used in TIBCO MDM. For detailed information on the Configurator, see *TIBCO MDM System Administration* document.



You can use any username, but you must use the same username for Fulfillment Catalog.

10. On the Installation Summary page, click the **OK** button.
Verify the following components:

- Verify the following configuration settings under the \$MQ_COMMON_DIR directory:
 - Maps (.xsl) are created in the \$MQ_COMMON_DIR/<createdenterprisename>/maps directory.
 - Workflow files are created in the \$MQ_COMMON_DIR/<createdenterprisename>/workflow directory.
 - Rulebase file is created in \$MQ_COMMON_DIR/<createdenterprisename>/rulebase directory



After the installation, log in to TIBCO Fulfillment Catalog. Verify the following:

- Whether the enterprise and default credentials (admin) were successfully created.
- Whether the repositories were created, and whether the process definition was configured.
- To integrate Fulfillment Catalog with Fulfillment Provisioning, provided you have Fulfillment Provisioning configured on your machine, refer to the *Integration Between Fulfillment Catalog and Fulfillment Provisioning* section in the *TIBCO Fulfillment Catalog User's Guide*.

Creating Fulfillment Catalog Enterprise with Metadata Manually

To manually create Fulfillment Catalog Enterprise, with metadata, perform the following steps:

Procedure

1. Log in to MDM and create an Enterprise with the Administrator Role (user).



For details on creating Enterprise and user, see *TIBCO MDM User's Guide*.


2. Log in to MDM using newly created Enterprise and login credentials.
3. Go to the \$AC_HOME/common/standard/rulebase directory, and copy all files to the \$MQ_COMMON_DIR/<Enterprise_Internal_Name>/rulebase directory.
4. Go to **System Operations > Import Metadata**.
5. Upload the FulfilmentCatalog_Metadata.zip file located at the \$AC_HOME/samples location. Monitor event log and wait till the Event Status shows the success message.
6. Go to **Master Data > Repositories** to verify that all the repositories are created.

Setting Configuration for Decoupling of Documentation

Just like the TIBCO MDM documentation, TIBCO Fulfillment Catalog documentation is also decoupled from the product installation. Therefore, to integrate documentation in the application, select either online or offline for the com.tibco.cim.help.url (MDM Help Configuration) property in Configurator. The default value is online.

- **Online:** Using this mode, you can access the documentation online when you are in the network. In the online mode, by default the documentation is linked to the latest documentation site URL. For example, for the TIBCO Fulfillment Catalog 4.0.0 release version, after clicking the Help icon in the application, the documentation is linked to <https://docs.tibco.com/pub/cim-ac/4.0.0/doc/html/GUID-5D93CD59-7BCF-4235-8F31-59ACEBE876A5-homepage.html> URL.
- **Offline:** Select this mode if you are off the network and want to access the documentation in the application. Stop the TIBCO MDM server if it is running, and then perform the following steps:

Procedure

1.  The following steps only mention the decoupling of Fulfillment Catalog documentation. If you want to decouple MDM documentation as well, see *TIBCO MDM Installation Guide* for more details.

Copying Documentation Directory

- a) Go to <https://docs.tibco.com> and access TIBCO Fulfillment Catalog documentation.
 - b) Click the **Versions** tab to access the release specific documentation assembly.
 - c) Click **Download All** to download all documentation including PDF and HTML Help.
 - d) Save `tibco-cim-ac-version-documentation.zip` file to your local directory.
 - e) Extract contents of the documentation ZIP directory.
 - f) Go to `$MQ_HOME` and locate `ECM.ear\EML.war`.
 - g) Create the doc sub-directory inside the help folder.
 - h) Copy the html directory extracted from the documentation ZIP directory inside the doc sub-directory.
 - i) Deploy the modified the `ECM.ear` file to the Application Server.
2. Specifying Configurations
 - a) Restart the Configurator.
 - b) Click **Advanced** in the **Configuration Outline** section. A list of advanced configuration categories is displayed.
 - c) Select the **UI Setting** category.
 - d) Select **offline** from the MDM Help Configuration property drop-down list.
 - e) Click **Save**. The Save dialog box is displayed.
 - f) Enter the description, if any.
 - g) Click **Save**. The configuration changes are saved.
 3. Hot Deploying on Application Server
 - a) Go to **Initial Config***NodeID*
 - b) Click **Save & Redeploy**. The Save & Redeploy dialog box is displayed. For Host Name, by default **localhost** is displayed.
 - c) Enter the description, if any.
 - d) Click **Save**. The MDM Help Configuration property is hot deployed on the application server.
 4. Verifying Help
 - a) Restart the TIBCO Fulfillment Catalog server.
 - b) Click the Help icon on any screen, the TIBCO Fulfillment Catalog documentation is displayed.

Configuring Fulfillment Catalog for PostgreSQL

In this topic we show you how to configure Fulfillment Catalog for use with PostgreSQL 9.5.x version and later.



If you install TIBCO MDM using a standalone installer and if you install PostgreSQL 9.5.x on your system, you have to configure Fulfillment Catalog for PostgreSQL.

Prerequisites

Before configuring the Fulfillment Catalog for PostgreSQL 9.5.x version, the following prerequisites have to be met:

- Install TIBCO MDM 9.0.1 HF-02, which supports JBOSS, and verify the installation logs to confirm a successful installation. For more details related to TIBCO MDM 9.0.1 HF-02 installation, refer the *TIBCO® MDM Installation and Configuration Guide* and the *TIBCO MDM 9.0.1 HF-02 Readme* file.
- Configure JBOSS EAP 6.4. For more details related to configuring JBOSS EAP 6.4, see the topic "TIBCO MDM Installation on Application Servers" within the *TIBCO® MDM Installation and Configuration Guide*.
- Install TIBCO EMS 8.0 and create the channels for MDM. For more details, see the *TIBCO® MDM Installation and Configuration Guide*.
- Install PostgreSQL 9.5.x, verify the installation, and ensure that the folder structure conforms to the requirements of MDM 9.0.1 database script creation.

Procedure

1. Run the `install.sh` file within the `$MQ_HOME/db/postgreSQL/install/` location. Enter the necessary details, verify whether the tables and seed data are proper or not.
2. Edit the `Config_Values.xml` file, within the `$MQ_HOME/config/` location, and also edit the `standalone.xml` file within the `$JBOSS_HOME/standalone/configuration/` location and specify the database details. In the `Config_Values.xml` file search for the group `DatabaseServerType` and enter the value `POSTGRES`. You can specify the database details using the Configurator as well.
3. Turn up the following servers: EMS, POSTGRES, and JBOSS EAP.
4.  This step is performed only to verify if MDM installation was successful.
Login to the MDM enterprise using the enterprise name `Tibcocim`.
5. Stop the JBOSS server.
6. Install Fulfillment Catalog and check the logs to see if the post installation activities were successful.
7.  Before performing this step, ensure that PostgreSQL server is up and running.

Since PostgreSQL was already installed on the system, create the Fulfillment Catalog seed data in the MDM database. Browse to the `$AC_HOME/db/postgreSQL/install` location and run the `install_ac.sh` file. The `install_ac.sh` file creates seed data only for the Fulfillment Catalog and not for MDM.

8. Turn the following servers on: EMS, POSTGRES, and JBOSS EAP.

Fulfillment Catalog Upgrade



Ensure that the following prerequisites are performed:

1. The `$AC_HOME` is pointing to the 4.0 directory, which is present at the `$MQ_HOME/plugins/ac` location.
2. The Fulfillment Catalog installation should be successfully completed.
3. The application server should be up.

To upgrade from Fulfillment Catalog 3.1.0 enterprise to Fulfillment Catalog 4.0.0 enterprise, you only need to import the `FulfilmentCatalog_Metadata.zip` file that is present within the `$AC_HOME/samples/` location.



Since `FulfilmentCatalog_Metadata.zip` is out-of-box metadata, you have to redo the customization, in the existing metadata artifacts from the previous version of Fulfillment Catalog (3.1.0), after the upgrade of the Fulfillment Catalog enterprise to 4.0.0.

Performance Tuning for Fulfillment Catalog Import

You can implement the following settings to tune the performance for large data set import using Direct Load:

- [Settings for the File ConfigValues.xml](#)
- [Settings for the JVM](#)
- [Settings for the File CacheConfig.xml](#)
- [Database Configuration to Improve the Performance](#)

Settings for the File ConfigValues.xml

Configure the mentioned settings for the ConfigValues.xml file:

- Set all the log levels to ERROR.
- Set `com.tibco.cim.jmxmonitor.details.enable` to false.
- Set `com.tibco.cim.init.AsyncCallQueueSenderManager.poolSize` to 12 (can be increased if the CPU usage of the application server and the database server results in a bottleneck).
- Set `com.tibco.cim.init.AsyncCallQueueReceiverManager.poolSize` to 12 (can be increased if the CPU usage of the application server and the database server results in a bottleneck).
- Set `com.tibco.cim.optimization.import.cyclictest` to false.
- Set `com.tibco.cim.optimization.import.mutationtest` to false.
- Set `com.tibco.cim.jmxmonitor.copytoas.enable` to false.
- Set `com.tibco.cim.cache.debug` to false.
- Set `com.tibco.fc.importcatalog.chunksize` to 500000.



The property setting is purely based on the maximum number of records in a CSV and database configuration. If your database can process high numbers in a single transaction, then you can set the parameter value as high as possible.

- Set `com.tibco.fc.importcatalog.delay` to 30.



The property defines the amount of wait time (in seconds) before the next ping for the event status will be triggered. If number of records are less in every CSV, you can set the parameter to smaller values like 5.

- Set `com.tibco.fc.retry.count` to 600.



The property defines the maximum number of pings for event status before the import on the next repository or relationship is triggered. This parameter works along with `com.tibco.fc.importcatalog.delay` to define the maximum wait time before the next import is triggered.

If the value of `com.tibco.fc.retry.count` is set to 600 then the maximum wait time would be $600 * 30 = 18,000$ seconds, which is 300 minutes or five hours.

Settings for the JVM

Configure the mentioned settings for the JVM:

```
JAVA_OPTS="-Xms8192m -Xmx8192m -Xloggc:${MQ_LOG}/gc.log -XX:
+HeapDumpOnOutOfMemoryError -XX:PermSize=512m -XX:MaxPermSize=2048m -XX:
+UseConcMarkSweepGC -XX:+CMSIncrementalMode -XX:CMSInitiatingOccupancyFraction=60 -
Djava.net.preferIPv4Stack=true -Dorg.jboss.resolver.warning=true -
Dsun.rmi.dgc.client.gcInterval=3600000 -Dsun.rmi.dgc.server.gcInterval=3600000"
```

Settings for the File CacheConfig.xml

Configure the mentioned settings for the CacheConfig.xml file:

- `<Memory>20480</Memory>` (the mentioned setting depends on memory available on the host machine)
- Set `<ListSize>-1</ListSize>` for:
 - PRODUCTKEY
 - RECORD
 - RECORDMAXMODVERSION
 - MV_VALUE

Database Configuration to Improve the Performance

If you use the Oracle database, you should perform the following steps to improve the database performance:

Procedure

1. Create multiple temp files of an appropriate size (not exceeding 250 MB), and assign one of the files as the default file.
2. Create multiple groups of redo logs.
3. Configure sga and pga with adequate size.
4. Perform the operation gather database stats, before executing any import, using the command `EXEC DBMS_STATS.gather_database_stats;` (See Oracle documentation for more options and details).



See *MDM Performance Tuning Guide* for performance tuning recommendations for more tuning options

Installation FAQs and Troubleshooting

The topic lists some common errors, along with their causes and solutions:

- [Question 1](#)
- [Question 2](#)
- [Question 3](#)
- [Question 4](#)
- [Question 5](#)
- [Question 6](#)
- [Question 7](#)
- [Question 8](#)
- [Question 9](#)
- [Question 10](#)
- [Question 11](#)
- [Question 12](#)
- [Question 13](#)
- [Question 14](#)
- [Question 15](#)
- [Question 16](#)
- [Question 17](#)

Question 1

What should I do if the Enterprise Message Service topic creation fails while configuring TIBCO® Fulfillment Catalog?

If TIBCO Enterprise Message Service is not installed on the same machine as TIBCO® Fulfillment Catalog, the topic creation fails. Create topics manually using the Enterprise Message Service Administration utility on the machine where Enterprise Message Service is installed. For details about the topics, refer `$AC_HOME/bin/createtopic.txt`.

Question 2

What should I do if an application fails to start with the error `Unsatisfied Link Error` related to ActiveSpaces though all the environment variables are correctly defined?

Check if you have 64-bit JDK installed, because the libraries shipped with the Installer are 64-bit compatible. Alternatively, add the following JVM argument in the application server and restart the server:

```
-d64
```

To verify, you may check the log on the application server console for the following message:

```
Java VM: Java HotSpot(TM) 64-Bit Server VM
```

Question 3

What should I do if get `java.sql.SQLException: ORA-00902: invalid datatype error` while adding record in repository for created or upgraded enterprise?

Above error occurs if Type Object is corrupted. Recreate it. Run the following command to recreate it.

```
CREATE OR REPLACE TYPE INSTRTBL
AS TABLE OF VARCHAR2 (255)
/
```

Question 4

What should I do if I get the following message in the log: Please check if MDM application is up and running?

This message is displayed when either MDM server is down or enterprise credentials are incorrect. Ensure that the values for the Miscellaneous category are correctly set in the `$MQ_HOME/config/ConfigValues.xml` file. For example, the values of Superadmin name, Superadmin username, Superadmin password, Machine and port of cim application running properties are correctly provided, and the MDM port must be running.

Question 5

What should I do if merging of FC source files into `ECM.ear` fails?

Go to `$AC_HOME/bin` and run the `acustomutil.sh` utility. This utility also deploys the merged `ECM.ear` to the application server.

Question 6

What should I do if merging of `$AC_HOME/ConfigValues_AC.xml` into `ConfigValues.xml` fails?

Go to `$MQ_HOME/bin` and run the `XMLconfigPluginMerge.sh` utility.

Question 7

What should I do if merging of `FC AllMenu.xml` and `defaultData.xml` into respective files of MDM fails?

Perform the following steps:

Procedure

1. Please verify the installation logs and `MenuConfiguration.log`, rectify the problem.
2. Uninstall Fulfillment Catalog.
3. Go to `$MQ_COMMON_DIR` and delete `FC400` directory.
4. Install Fulfillment Catalog again.

Question 8

What should I do if JBOSS configuration fails?

Perform the following steps:

Procedure

1. Open File `$JBOSS_HOME/standalone/configuration/standalone.xml`.

2. Add the highlighted property, shown in the following example, within the <system-properties> tag:

```
<system-properties>
    ... ..
    ... ..
    <property name="AC_HOME" value="<absolute AC_HOME path> "/>
</system-properties>
```

3. Go to \$JBOSS_HOME/modules/com/tibco/fulfillmentcatalog. Locate fulfillmentcatalog module.
4. Add the details of fulfillmentcatalog module to standalone.xml.

```
<subsystem xmlns="urn:jboss:domain:ee:1.0">
    <global-modules>
        ... ..
        <module name="com.tibco.fulfillmentcatalog" slot="main"/>
    </global-modules>
</subsystem>
```

Question 9

What should I do if database configuration fails?

Perform the following steps:

Procedure

1. Open \$AC_HOME/db/oracle/install_ac.sql if the database is ORACLE. If the database is PostgreSQL then open \$AC_HOME/db/postgreSQL/install/install_ac.sql.
2. Check if the install_ac.sql includes create_procs.sql or not. If create_procs.sql is included perform step 3. If create_procs.sql is not included perform the following steps:
 - a) Verify the installation logs and fix the problem.
 - b) Uninstall Fulfillment Catalog.
 - c) Go to \$MQ_COMMON_DIR and delete FC400 directory.
 - d) Install Fulfillment Catalog again.
3. Run the install_ac.sql file.

Question 10

What should I do if starting the JBOSS application server results in the following error: SEC-5501: Cannot authenticate credentials with user name sample, domain MartQuestNet?

The error SEC-5501: Cannot authenticate credentials with user name sample, domain MartQuestNet means that there is information missing in the database corresponding to the sample enterprise FC400. The reason for this are as follows:

- There was an existing directory called FC400 in \$MQ_HOME/common before installing FC. In this case, the database script for adding data for sample enterprise would not be executed. The recommended approach would be to uninstall FC, remove the FC400 from \$MQ_HOME/common and then to install FC again.
- The database configuration failed. To fix database configurations, see the response to the question *What should I do if database configuration fails* in this topic.

Question 11

When creating an enterprise through configurator the following error is seen:

```
java.lang.ClassNotFoundException:
com.tibco.mdm.configurator.addonPlugins.CatalogSeedData. What should I do?
```

Even if you get this error, the enterprise would be successfully created. Ignore the error.

Question 12

When I publish, export, or import a model, the following exception occurs: "No permission to execute process records web service.: com.tibco.ac.webservice.fcservices.FCServicesFaultException: FCServicesFaultException". What should I do?

Set the Allow 'Process records' Web Service feature in Resource Security on the UI.

Question 13

When creating a new user for an Oracle 12c container database through TIBCO MDM Configurator, the following error occurs: "ERROR:-ORA-01917: user or role 'USER' does not exist".

When creating the user, append the user credentials as C##USER and C##PASSWORD.

Question 14

The `install.sh` file did not work for the Postgres database. Why?

Currently `install.sh` does not work on Postgres database. You need to manually run all the `.sql` files for table creation.

Question 15

A few UI functionality does not work on the Internet Explorer 11.420 and Internet Explorer 11.447 versions of the browser. Why?

Currently, in the Fulfillment Catalog user interface, functionality like the menu to modify a record or to remove a record is not getting displayed. Additionally, on the Browse and Search screen, a product search does not fetch any records. Both issues occur if Fulfillment Catalog UI is accessed using the Internet Explorer browser versions 11.420 or 11.447. The issues do not occur if Fulfillment Catalog UI is accessed using the Internet Explorer browser version 11.662. We recommend you use Internet Explorer 11.672 or some other browsers.

Question 16

When importing metadata the following message is displayed GEN-7022: Cannot open file Unknown exception in importseeddata activity. Why?

You have to restart the JBOSS (application) server and re-import the metadata.

Question 17

When importing metadata, the Load Data Source and Import Records event gets triggered for the plan fragment. Why?

You can ignore it as the event is triggered only if records are already present in the enterprise and the duplicate records get rejected.