



TIBCO BusinessEvents[®] Enterprise Edition

Installation

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Before You Begin

To maintain the uniformity, the following terms have been used in the TIBCO BusinessEvents Studio UI and the product documentation:

- TIBCO ActiveSpaces version 2.x software is referred to as *Legacy ActiveSpaces*.
- TIBCO ActiveSpaces version 4.7.0 and above software is referred to as *ActiveSpaces*.

For details about the supported versions, see the *Readme.txt* file available at the [TIBCO BusinessEvents Enterprise Edition® Product Documentation](#) page.

Rule Management Server Prerequisite

In addition to Legacy ActiveSpaces as cluster and cache provider, you can also configure TIBCO BusinessEvents Rule Management Server (RMS) with the following combinations:

Cluster	Cache	Store
Apache Ignite	Apache Ignite	None/Shared Nothing/RDBMS/Store Providers (TIBCO ActiveSpaces and Cassandra)
TIBCO FTL	Apache Ignite	None/Shared Nothing/RDBMS/Store Providers (TIBCO ActiveSpaces and Cassandra)
TIBCO FTL	No cache	TIBCO ActiveSpaces

By default, Apache Ignite is used as the cluster and cache provider.

For more information about configuring these for your RMS project, see *TIBCO BusinessEvents Configuration Guide*.

Third-Party Software Documentation References

For complete details on the third-party¹ software used in the project, see its documentation.

Third-Party Software Documentation

Software	Used as	Documentation Reference URL
TIBCO ActiveSpaces 4.7.0 and above	Store provider	TIBCO ActiveSpaces documentation
TIBCO ActiveSpaces 2.x	Cluster and Cache provider	TIBCO ActiveSpaces documentation
Apache Cassandra	Store provider	Apache Cassandra documentation
TIBCO FTL	Cluster provider	TIBCO FTL documentation
Apache Ignite	Cluster and Cache provider	Apache Ignite documentation
TIBCO Streaming TIBCO LiveView Server	Metrics store provider	TIBCO Streaming documentation
TIBCO LiveView Web	Application metrics visualization	TIBCO Streaming documentation
InfluxDB	Metrics store provider	InfluxDB documentation
Grafana	Application metrics visualization	Grafana documentation

¹When you obtain third-party software or services, it is your responsibility to ensure you understand the license terms associated with such third-party software or services and comply with such terms.

Installation

The TIBCO Universal Installer is used to install and uninstall this TIBCO BusinessEvents software.

TIBCO BusinessEvents Components and Add-on Products

This section lists the product components and add-on products.

TIBCO BusinessEvents Enterprise Edition Components

TIBCO BusinessEvents Enterprise Edition comprises of several components using which the BusinessEvents performs different functions.

- **TIBCO BusinessEvents Studio** - Eclipse-based component for designing TIBCO BusinessEvents projects.
- **Enterprise Administrator Agent** - A back-end server process that provides management and monitoring functionality for a BusinessEvents application and cluster. It communicates with the TIBCO Enterprise Administrator Server for UI interactions.
- **Eclipse Platform** - A provided Eclipse platform. If you do not use the provided Eclipse installation, you must have a preexisting Eclipse installation, at the supported release level. See [Existing Eclipse \(or TIBCO Business Studio\) Installation](#) for more information.
- **Examples** - Few example BusinessEvents projects to help you learn TIBCO BusinessEvents faster.
- **Rules Management Server (RMS)** - A lightweight server component for managing the repository of projects. It also includes the client component, WebStudio, which is a web-based user interface that allows business users to create and manage business rules in a web browser.
- **Database Concepts** - Database concepts are TIBCO BusinessEvents concepts that you create by mapping tables or views from a database to TIBCO BusinessEvents concepts.

- **State Modeler** - A component to create state models on the lifecycle of concepts based on UML-standard definitions.
- **Decision Manager** - The component provides TIBCO BusinessEvents Decision Manager Desktop Application and Rules Management Server features that help you to author, test and submit rules for approval and deployment to a TIBCO BusinessEvents application.
- **Application Metrics** - The component provides the capability to use TIBCO LiveView Web and other metrics services to display the changes to the BusinessEvents project in various visualizations.
- **Query** - The component enables you to query the event streams and data caches.
- **Pattern Matcher Framework** - The component enables pattern matching functionality in the event streams.

TIBCO BusinessEvents Process Orchestration Add-on

When you install TIBCO BusinessEvents Enterprise Edition, you can also install TIBCO BusinessEvents Process Orchestration add-on you have purchased.

Install the TIBCO BusinessEvents Process Orchestration add-on that is at the same version as TIBCO BusinessEvents Enterprise Edition. Do not install the add-on before you have installed TIBCO BusinessEvents Enterprise Edition. (You can, however, install TIBCO BusinessEvents Enterprise Edition and the TIBCO BusinessEvents Process Orchestration add-on at the same time, as explained in the installation instructions.)

Installation Overview

 **Warning:** Add-ons must be at the same version as TIBCO BusinessEvents in order to work correctly. When you upgrade TIBCO BusinessEvents, you must also upgrade the add-on products in use to the same version. Similarly, you cannot install a later version of an add-on onto an earlier version of TIBCO BusinessEvents.

Deploying with TIBCO Administrator on the Same Machine

If TIBCO Administrator is used to deploy TIBCO BusinessEvents applications and both are installed on the same machine, then install TIBCO Runtime Agent and TIBCO Administrator

before you install TIBCO BusinessEvents. TIBCO Administrator does not find TIBCO BusinessEvents, if TIBCO BusinessEvents is installed before TIBCO Administrator.

This requirement does not apply on machines where TIBCO BusinessEvents will be used for design-time activities only.

Required and Optional Products and Supported Platforms

For details about supported platforms, related TIBCO software, and third-party products, see the product readme file available at <https://docs.tibco.com>.

Installation History Log Files

Installation and uninstallation history is kept in log files in the `.TIBCO` directory within the installer's user (or home) directory.

The folder names use this format:

```
install_year-month-day.time  
maintenance_year-month-day.time
```

The installation log files record environment details such as the user that invoked the installer, hostname, operating system details, and so on.

TIBCO Home and Default Installation Directory

The installer prompts you to specify the TIBCO home (`TIBCO_HOME`) where you want to install TIBCO BusinessEvents. Each TIBCO home is a separate environment. You can install the same software into different environments safely, for example, for test, QA, and staging purposes. You can install multiple TIBCO products into the same environment or into different ones. See [Using Multiple TIBCO Homes](#).

A TIBCO home has a name and a directory on disk. The directory is the root directory for all TIBCO products you want to install into this TIBCO home.



Note: When installing multiple TIBCO products into a single TIBCO Home, ensure that all the products are compatible.

Microsoft Windows

The default installation location is the `TIBCO_HOME` where all TIBCO products are installed. Typically, `TIBCO_HOME` is `c:\tibco`.

The Start menu path to the executable files includes the environment as follows:

Start > TIBCO > `TIBCO_HOME` > TIBCO BusinessEvents <version_number>

The name is also appended to the name of Windows services created by the installer.

UNIX

The default installation directory depends on who performs the installation:

- For root users, the default installation directory is `/opt/tibco`.
- For non-root users, the default installation directory is `/<myhome>/tibco`, where *<myhome>* is the home directory of the user.

Using Multiple TIBCO Homes

Install multiple products, or multiple versions of the same product, in the same machine in separate `TIBCO_HOME`, so that all of them can function smoothly.

It is possible that certain versions of TIBCO software products installed on your computers may not work well together. You may also want to install multiple versions of the same product on the same machine, for example if you are testing the current release while testing the prior release in production. To avoid any issues, one solution is to install each product version in its own `TIBCO_HOME`, under a common parent directory, for example called `tibco`.

In the following example, `be_50`, `be_60`, `bw_59` and `administrator_57` are all separate TIBCO homes:

```
tibco/  
  be_50/  
    be  
  be_60/  
    be  
  bw_59/  
    bw  
  administrator_57/  
    administrator
```

Using an Existing Eclipse (or TIBCO Business Studio™) Installation

Using the bundled Eclipse software is recommended. However, you can optionally use an existing Eclipse installation. You can, for example, use the Eclipse installation provided with TIBCO Business Studio business modeling software.

Limiting Access to TIBCO BusinessEvents Installations

Here is another case for using an existing Eclipse installation. In some enterprises, users are given limited access to software, such as TIBCO BusinessEvents. All users, however, require full rights to the Eclipse installation because certain files are written during normal use of BusinessEvents Studio. In this case you must install Eclipse separately, in areas where users have permission to write.

See [Existing Eclipse \(or TIBCO Business Studio\) Installation](#).

LGPL GTK Plugin for Eclipse

You can now install an LPGL GTK plugin for Eclipse.

You can either manually download the LGPL plugin or use the TIBCO Universal Installer download to it for installation.



Note:

- This procedure is applicable to the Linux, AIX, and Solaris platforms. Installation for Windows and Mac remain unchanged.
- If you have performed installation before, using same installers with on-the-fly download option, the LGPL plug-ins are present in assemblies folder. Thus, in such case, the installer do not prompts for the LGPL plug-ins download.

Procedure

1. During installation, select the option to use the TIBCO Universal Installer to download the LGPL plugin and install the plugin from the public TIBCO download site.
 - **GUI Mode** - Select the **Download Gnome Binding assembly from TIBCO** option in the LGPL Assembly Window of the installer for Linux.

- **Console Mode** - When the installer prompts for the action to perform for LGPL assembly download, enter 1 to select the option Download Gnome Binding assembly from the public TIBCO download site.
- **Silent Mode** - Specify the following properties in the silent file:

```
<entry key="LGPLAssemblyLicenseAccepted">true</entry>
<entry key="LGPLAssemblyDownload">true</entry>
<entry key="LGPLAssemblyPath"></entry>
```

The downloaded plugins are placed at the following locations:

- *TIBCO_HOME/eclipse-platform/eclipse/plugins/*
 - *<installer_path>/assemblies/*
2. Alternatively, you can download the LGPL plugin separately and then provide the downloaded location to the installer. Installer then uses that assembly for installation.
 - a. Download the platform-specific LGPL plugin for TIBCO BusinessEvents Enterprise Edition from [TIBCO edelivery website](#).
 - i. In the TIBCO edelivery website, on the TIBCO BusinessEvents Enterprise Edition download page, select the **Individual file download** option.
 - ii. Under the section to select an individual component, expand the TIBCO BusinessEvents Enterprise Edition software option and download the `TIB_product_tibco_be_eclipse_lgpl_<version>_<platform>.html` file.
 - iii. After it is downloaded on your system, double click the HTML file to start downloading the LGPL plugin.
 - b. Provide the path of the downloaded plugin to the installer.
 - **GUI Mode** - Select the **Provide the location for the assembly previously downloaded from TIBCO** option in the LGPL Assembly Download window of the installer. Click **Browse** and select the location of the downloaded LGPL plugin for the **Gnome Binding Assembly Path** field.
 - **Console Mode** - When installer prompts for the action to perform for LGPL assembly download, enter 2 to select the option Specify the location of a previously downloaded Gnome Binding assembly. Now enter the file path to the downloaded LGPL plugin in command line.

- **Silent Mode** - Specify the following properties in the silent file:

```
<entry key="LGPLAssemblyLicenseAccepted">true</entry>  
<entry key="LGPLAssemblyDownload">false</entry>  
<entry key="LGPLAssemblyPath">filePathToDownloadedPlugin</entry>
```

Installer places the plugins at *TIBCO_HOME/eclipse-platform/eclipse/plugins/*.

Upgrading TIBCO BusinessEvents



Warning: Read before upgrading.

Standard Upgrade Procedures

Software from TIBCO uses three numbers to indicate whether the release is major, minor or a patch. For example, 5.0.0 indicates a major release, 5.1.0 indicates a minor release and 5.1.1 indicates a service pack release.

The installer for a service pack release performs an automatic upgrade. For example, the installer would automatically upgrade TIBCO BusinessEvents 5.1.0 to 5.1.1 by overwriting the contents of the 5.1 directory.

Installing Over the Same Version

Note that if you are reinstalling over the same version, if any files are currently locked (that is, in use), the installer marks the file for deletion in the install location. After installation if the installer prompts you to reboot your system, you must reboot before using the software.

Installation Requirements

Before you run the installer, ensure that you meet all the hardware and software requirements and you have appropriate privileges to run the installer.

Check the TIBCO Product Support website at <https://support.tibco.com> for product information that was not available at release time. Entry to this site requires a username and password. If you do not have a username, you can request one. You must have a valid maintenance or support contract to use this site.



Note: If TIBCO Administrator is used to deploy TIBCO BusinessEvents applications and both are installed on the same machine, then install TIBCO Runtime Agent and TIBCO Administrator before you install TIBCO BusinessEvents. TIBCO Administrator do not find TIBCO BusinessEvents, if TIBCO BusinessEvents is installed before TIBCO Administrator.

Installer Account

Ensure that you have the appropriate privileges, depending on the platform on which you are installing.

Platform	Account Privileges
Microsoft Windows	<p>You must have administrator privileges for the machine on which the software is installed. If you do not have administrator privileges, the installer exits. You must then log out of the system and log in as a user with the required privileges, or request your system administrator to assign the privileges to your account.</p> <p>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.</p>
Linux	<p>The software can be installed by a regular (non-root) user and super-user (root). Different users can install the same product at different locations.</p> <p>The user performing the installation must have Read Write Execute permissions</p>

Platform	Account Privileges
	<p>on all files and directories, after the file is unpacked. The file structure after unpacking must be identical to the structure that was packed.</p> <p>Installation of TIBCO BusinessEvents add-on products must be performed by the same user who installed TIBCO BusinessEvents. Dependency checking will not work correctly unless the same user installs all dependent products.</p> <p>A windowing environment such as CDE (that is, X11 Windows) is required to run the installer in GUI mode.</p>

Hardware and Software Requirements

The product has certain hardware and software requirement for installation.

For information about the hardware and software requirements, as well as supported platforms, related TIBCO software, and third-party products, see the readme file that is provided with the product.

Optional Software Requirements

If you want to use the following optional software for their purposes (as listed), install them in the same *TIBCO_HOME* as TIBCO BusinessEvents. For more details about those software, see the provided reference links. You need to acquire license for these license separately according to your usage.

Optional Software Requirements

Optional Software	Purpose in the project	Documentation Reference Link
TIBCO ActiveSpaces® Enterprise Edition 2.x	As a cluster and cache provider	TIBCO ActiveSpaces Enterprise Edition 2.x Documentation
TIBCO ActiveSpaces® Enterprise Edition 4.5 and above	As a store provider for persistence	TIBCO ActiveSpaces Enterprise Edition Documentation

Optional Software	Purpose in the project	Documentation Reference Link
TIBCO FTL® - Enterprise Edition	As a cluster provider	TIBCO FTL - Enterprise Edition Documentation
TIBCO® Enterprise Administrator	As a monitoring and management tool	TIBCO Enterprise Administrator Documentation
Apache Cassandra ¹	As a store provider for persistence	Apache Cassandra Documentation
TIBCO® Streaming	As a metrics store and visualisation software for application metrics	TIBCO® Streaming
InfluxDB	As a store for application metrics	InfluxDB Documentation
Grafana	As a visualization software for application metrics	Grafana Documentation

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Installing the Software

The TIBCO Universal Installer can be used to install in GUI mode, console mode, or silent mode.

You can install multiple products at one time by extracting the product archive files to the same temporary directory. For example, you can install TIBCO BusinessEvents and one or more add-ons together. Or if you have already installed TIBCO BusinessEvents, you can install multiple add-ons together.



Tip: This technique works in the GUI and Console modes but not in Silent mode. In Silent mode, the silent installation file is overwritten with the last product that you extract, and installs only the last extracted product.

Installing in GUI Mode

When you run the installer in GUI mode, it prompts you for information about the installation environment, and allows other customization.

Procedure

1. Prepare to install as follows:
 - a. Log in to the system on which you want to install TIBCO BusinessEvents.
 - b. Extract the TIBCO BusinessEvents product archive file to a temporary directory then navigate to that directory. You can also extract the product archive files for all TIBCO BusinessEvents add-on products that you are installing to the same temporary directory. See the Tip section above,
2. Run the TIBCO Universal Installer executable (**TIBCOUniversalInstaller***).
3. Review the information in the Welcome dialog. If you are installing multiple add-ons, they are listed in this dialog. Click **Next**.
4. The License Agreement dialog displays. Review the terms of the license agreement and, if you agree to them, click **I accept the terms of the license agreement**. Then click **Next** to continue with the installation. If you are also installing add-on products,

you must accept each license separately.

(If you do not agree to the terms of the license agreement, click **Cancel** to exit from the installation process.)

5. Select or create a TIBCO home. For more details and guidelines see [TIBCO Home and Default Installation Directory](#). Do one of the following:

- Select **Use an Existing TIBCO_HOME** and select a home from the list.
For a service pack, select the TIBCO home used by the prior release.
- Select **Create a new TIBCO_HOME** and specify a new TIBCO installation directory. Enter the directory path or click **Browse** to select a directory.

Click **Next**.



Note: The selected directory name is automatically taken as the environment name for the new TIBCO Installation.

6. You can customize the installation as follows.

If you don't want to customize the installation just click **Next** without selecting the **Customize Installation** checkbox and go to [the next step](#) .

- a. Check the **Customize Installation** check box.
- b. Optionally select only the components you want to install. See [TIBCO BusinessEvents Components and Add-on Products](#) for guidelines.
- c. Click **Next**.
- d. A dialog appears where you can specify the location of a different Eclipse installation from the version provided with TIBCO BusinessEvents. Do one of the following.
 - Do not check the **Use my own Eclipse installation** check box. Just click **Next** to accept the provided Eclipse installation. (This is the recommended approach).
 - Check the **Use my own Eclipse installation** check box. Specify the location of your Eclipse installation in the Eclipse Installation Location field, and click **Next**. Also see [Existing Eclipse \(or TIBCO Business Studio\) Installation](#) for additional configuration required to use your own installation.

7. The installer performs some basic checks and if it finds any problems with the Eclipse configuration that you specified, it displays messages. If you are installing TIBCO BusinessEvents before your own copy of Eclipse, you can ignore the messages and continue the installation.
8. The installer configures your installation choices, then the Pre-Install Summary dialog displays. Review the information in the dialog and make sure that it is correct.
 - If you want to change any of your choices, click **Back** to step back through the dialogs to the appropriate point. You can then restart the installation process from that point.
 - If you are satisfied with your choices, click **Install**.

The installer now performs the necessary installation tasks.

9. You may be prompted to replace files already on disk that are newer than the installation files.
 - In the case of a fresh installation of the add-on over a prior fresh installation of a full installer version of the add-on or of TIBCO BusinessEvents, such messages are harmless: overwrite all existing files.
 - In the case of files you have changed: if you want to save settings in any existing files, first save a backup of the files to a different name, and then replace the original files with the newly installed files. After installation configure the newly installed files using information from the prior version's file backups, as needed.
10. When installation has completed, the Post Install Summary dialog displays. Click **Finish** to exit from the installer. There is a slight delay while the installer deletes temporary files.

Installing in Console Mode

In console mode, the TIBCO Universal Installer is run from a command line.

Procedure

1. Open the physical media or download the software package from <https://edelivery.tibco.com>.

For downloading you will need your username and password. If you did not receive a

username and password, contact TIBCO Technical Support.

2. Extract the contents of the package to a temporary directory.
3. Using a command line, navigate to the temporary directory to which you extracted the installation package.
4. Run the installer using this command line:
 - Microsoft Windows: `TIBCOUniversalInstaller.cmd -console`
 - Linux: `./TIBCOUniversalInstaller-platform_acronym.bin -console`

5. Respond to the messages on the command line.

You may want to refer to [Installing in GUI Mode](#) for information about responding to the messages.

6. When the installation completes, press **Enter** to exit the installer.

Installing in Silent Mode

In the silent mode, you can run the installer without user input by pointing the installer to an existing *response file*, which contains installation parameters.

A default response file is included with the product. Edit the file in a text editor and provide all non-default values as needed before launching the silent installation. For example, ensure that the `installationRoot` and `createNewEnvironment` attributes are set correctly. The default response file has the name:
`TIBCOUniversalInstaller.silent`

The best practice is to make a copy of the default response file, then edit that file and use it for the installation.

If you invoke the Universal Installer with only the `-silent` argument, the installer reads the input from default response file.

If you make a copy of the default response file, and rename it, you must provide the name of the response file when invoking the Universal Installer. This done by passing the following arguments on the command line:

```
-silent -V responseFile="filename.silent"
```

where, *filename* is the name you gave the response file.

Procedure

1. Open the physical media or download the software package from <https://edelivery.tibco.com>.

For downloading you will need your username and password. If you did not receive a username and password, contact TIBCO Technical Support.

2. Extract the contents of the package to a temporary directory.
3. Navigate to the temporary directory to which you extracted the installation package.
4. Make a copy of the default response file, open the copy with a text editor, then update the parameters as needed.

The *response file* contains comments that describe each of the parameters. You can save the file using any desired name.

5. Enter the following command to start the installation (these assume you have copied the response file and saved it as `MyResponseFile.silent`):

Microsoft Windows:

```
TIBCOUniversalInstaller.cmd -silent -V  
responseFile="MyResponseFile.silent"
```

Linux:

```
TIBCOUniversalInstaller-platform_acronym.bin -silent -V  
responseFile="MyResponseFile.silent"
```

i Note: If you copy the response file to another directory, not the temporary directory containing the installer, you need to provide the absolute path of the response file.

A line like similar to the following is written to the installer log file when installation completes:

```
The installation has completed. Please check the log file for  
additional information.
```

Verifying the Installation

You can verify TIBCO BusinessEvents and TIBCO BusinessEvents add-on product installations after the installation is complete.

Verifying TIBCO BusinessEvents Installation

To verify if the installation is successful, first check the file `tibco_universal_installer.userid_install.log`, which is located in the `.TIBCO` directory of the user performing the installation:

Errors in this file, or the existence of error files under this folder, indicates installation problems. Error files have the following format:

```
antTask_ERROR_log_post-install_mm-dd-yyy.n.log
```

If the log files do not indicate any errors, then open a simple example project in TIBCO BusinessEvents Studio, and also run the example at the command line. The example readme files explain how to run the examples at the command line, from the installed location. Check for errors on the command line or user interface. Absence of errors, and a normal engine startup indicate successful installation.

Verifying Add-On Product Installations

To verify that add-ons are installed, look for the list of add-ons in the folder `TIBCO_HOME/_installInfo`. Every successfully installed add-on has a corresponding XML file under this folder.

You can also check the install log file to confirm which add-ons are installed.

Uninstalling TIBCO BusinessEvents

i Note: In the case of a service pack release, this procedure uninstalls the entire TIBCO BusinessEvents installation, not just the service pack. It is not possible to uninstall only the service pack.

Uninstall in GUI mode

To uninstall TIBCO BusinessEvents in the GUI mode, do the following:

Procedure

1. Do one of the following to start the uninstaller:
 - Navigate to the *TIBCO_HOME/tools/universal_installer* directory and run the `TIBCOUniversalInstaller` program.
 - (Windows) From the Start menu, select **Start > All Programs > TIBCO > TIBCO_HOME > Uninstall**.
 - (Windows) Use Add/Remove Programs from the Control Panel.
2. The Welcome screen appears. Click **Next**.
3. Do one of the following:
 - To uninstall only a selection of products in this TIBCO home, click **Custom Uninstall**. Select the product or products you want to uninstall. Then click **Next**. See [TIBCO BusinessEvents Components and Add-on Products](#) for guidelines.
 - To uninstall all TIBCO products in this TIBCO home (that were installed using the universal installer), click **Typical Uninstall**. Then click **Next**.
4. The Pre-Uninstall Summary screen appears. Click **Uninstall**. Uninstallation proceeds and then you see the Post-Uninstall Summary.
5. Click **Finish** to close the uninstaller window.
6. If you are prompted to do so, restart the computer.

You may also want to manually delete any remaining files in the installation directory

to completely remove the product.

Result

For information on the uninstallation log files, see [Installation History Log Files](#).

Uninstall in Console Mode

To uninstall TIBCO BusinessEvents in the console mode, do the following:

Procedure

1. Open a console window and navigate to the directory:
`TIBCO_HOME/tools/universal_installer`
2. Run the TIBCOUniversalInstaller in console mode using the command:

```
TIBCOUniversalInstaller -console
```

3. Respond to the prompts on the console window to uninstall the software.

Uninstalling in Silent Mode

Uninstalling in silent mode allows you to uninstall without user inputs by pointing to a *response file*.

For uninstallation, you need to create a response (`.silent`) file with the needed uninstallation parameters. You can use the `.SILENT` file provided with the installation package as a template.

Use the `-silent` command for performing the silent uninstallation. Pass the absolute path of the response file as an argument if the response file is not located in the same folder as `TIBCOUniversalInstaller`.

Before you begin

A `.SILENT` file should exist with values for atleast the following attributes:

- `uninstallProductID`
- `uninstallProductVersion`

- `uninstallTIBCOHome`

Procedure

1. Open a command line, navigate to the directory:
`TIBCO_HOME/tools/universal_installer`
2. Run the TIBCOUniversalInstaller in silent mode using the following command based on the response file location:

Response File Location	Silent Uninstallation Command
<code>TIBCO_HOME/tools/universal_installer</code>	<code>TIBCOUniversalInstaller -silent</code>
Other	<code>TIBCOUniversalInstaller -silent -V responseFile="<absolute_path_and_file_name>"</code>

The following sample content of the `Uninstall.silent` file removes all products from the specified `TIBCO_HOME`: `C:\BE\BE600`.

```
<?xml version="1.0"?>
<!DOCTYPE properties SYSTEM "http://java.sun.com/dtd/properties.dtd">
<properties>
  <comment>---Universal Installer Silent Installation Properties---
</comment>
  <entry key="uninstallProductID">*</entry>
  <entry key="uninstallProductVersion">*</entry>
  <entry key="uninstallTIBCOHome">C:\BE\BE600</entry>
</properties>
```

Existing Eclipse (or TIBCO Business Studio) Installation

This section is optional, for those using an existing eclipse installation instead of one provided with TIBCO BusinessEvents.

i Note: Using an existing Eclipse (or TIBCO Business Studio) installation is possible only for releases with full installers. It is not possible for releases with partial installers, such as service pack releases.

TIBCO BusinessEvents Studio is compatible with the Eclipse P2 provisioning system. You can choose to install TIBCO BusinessEvents Studio on an existing Eclipse installation using one of the following approaches:

- Executing the script `install_studio_repo` available at `BE_HOME/studio/repo`. See [Install Using the Script `install_studio_repo`](#) for details.
- Using Ant to run the build file available at `BE_HOME/studio/repo`. See [Install Using Ant](#) for details.
- Copying the links and updating the `.ini` files manually. This is applicable only when installing on an existing basic Eclipse installation and not on TIBCO Business Studio. See [Install Manually by Copying Links and Updating `.ini` Files](#) for details.

Eclipse Requirements

TIBCO recommends using the Eclipse software bundled with the TIBCO BusinessEvents software. However, if you prefer to use your existing Eclipse software installation, or want to install Eclipse separately, or want to install TIBCO BusinessEvents for use with the TIBCO Business Studio business modeling software product, you must update the existing Eclipse installation with the required plug-ins. You can do this before or after installing TIBCO BusinessEvents.

The Eclipse requirements are:

- Eclipse release 4.17
- Eclipse Modeling Framework (EMF) release 2.17
- Eclipse Process Framework (EPF) Richtext Feature release 1.5.1.8

- Model Development Tools (MDT) UML release 5.2.4
- Eclipse Web Tools Platform (WTP) release 3.6.0
- Nebula NatTable release 1.6.0

Eclipse Installation

Perform the following tasks to ensure that the dependencies required by Eclipse and TIBCO BusinessEvents are installed and available:

Procedure

1. Download the files listed in [Eclipse Requirements](#) from the Eclipse Foundation website.

This step is optional if the script `install_studio_repo` is used as described in [Install Using the Script `install_studio_repo`](#).

2. If you have not already done so, install the Eclipse release.
3. Extract the other components (Delta Pack, EMF, MDT, and WTP) to the top-level directory of your Eclipse installation.
4. Install TIBCO BusinessEvents (and one or more add-on products if required) as explained in [Installing the Software](#). Remember to select the **Use my own Eclipse installation** check box.



Note: The TIBCO BusinessEvents products can be installed before installing the Eclipse software. Ensure that all of them are installed before proceeding to the next step.

5. Choose one of the following approaches to install TIBCO BusinessEvents Studio:
 - [Install Using the Script `install_studio_repo`](#)
 - [Install Using Ant](#)
 - [Install Manually by Copying Links and Updating .ini Files](#)

Install Using the Script `install_studio_repo`

This option is available only if the Eclipse Platform feature is installed when installing TIBCO BusinessEvents. If the Eclipse Platform feature is not installed, you can use Ant to install TIBCO BusinessEvents Studio as described in [Install Using Ant](#).

When you install TIBCO BusinessEvents (and one or more add-ons), the TIBCO BusinessEvents Studio repositories are installed under `BE_HOME/studio/repo`. For each of the installed products, a folder with the product name is created under `BE_HOME/studio/repo`.

Scripts are provided with the repositories to install on an existing Eclipse installation.

Procedure

1. Using a console window, navigate to `BE_HOME/studio/repo` and run the following command (on Windows):

```
install_studio_repo.bat <absolutePathOf_YourEclipse>/eclipse.exe
```

2. The script performs the following tasks:
 - installs the TIBCO BusinessEvents Studio repositories for all the installed products.
 - checks if the dependencies are available. If they are not available, the script downloads the dependencies from the Eclipse download site.

i Note: If the dependencies are not available, you must ensure that the machine has network connectivity to enable the script to download the required files. This may take a while to complete.

- Updates the following properties in `Your_Eclipse/eclipse.ini` file:

```
-DBE_HOME=path to BE_HOME
-Dstudio.wrapper.tra.file=<path to BE_
HOME>/studio/eclipse/configuration/studio.tra
-DJDK_LIB=TIBCO_JAVA_HOME/lib
```

i Note: The script uses JRE 1.11 that is provided with TIBCO BusinessEvents. To use a different JDK, edit the property `DJDK_LIB` and specify the absolute path of the JDK that is to be used.

The script throws an error with an appropriate message if the Eclipse executable or the eclipse.ini files are missing.

3. Once the execution is completed, start Eclipse and open the BusinessEvents Perspective to access the TIBCO BusinessEvents Studio features.

Install Using Ant

This option does not require the Eclipse Platform feature to be installed when installing TIBCO BusinessEvents. Ensure that Ant is installed and available in your environment.

Procedure

1. Install TIBCO BusinessEvents Studio on an existing Eclipse installation by executing the command:

```
ant -buildfile install_studio_repo.xml -DappBinary=<absolutePathOf_YourEclipse>/eclipse.exe -DappIni=<absolutePathOf_YourEclipse>/eclipse.ini
```

2. The script performs the tasks described in [Install Using the Script install_studio_repo](#).
3. Once the execution is completed, start Eclipse and open the BusinessEvents Perspective to access the TIBCO BusinessEvents Studio features.

Install Manually by Copying Links and Updating .ini Files

This approach can be used to install on any existing standard Eclipse installation only.

i Note: This approach does not support installing TIBCO BusinessEvents Studio on TIBCO Business Studio.

Procedure

1. Copy the files TIBCOBusinessEvents-Studio-plugins.link and TIBCOBusinessEvents-EclipsePlatform-plugins.link from BE_HOME/studio/eclipse/dropins_configuration to *Your_Eclipse/links*.

2. Configure the *Your_Eclipse/eclipse.ini* file as follows:

- Ensure that the VM setting is done for Java 1.11 JVM. Path should appear in a new line:

```
-vm
```

```
path to JRE 1.11
```

- Add the following properties to `-vmargs`, each on a new line

```
-DBE_HOME=path to BE_HOME  
-Dstudio.wrapper.tra.file=<path to BE_  
HOME>/studio/eclipse/configuration/studio.tra  
-DJDK_LIB=path to JRE 1.11/lib
```

3. Change directory to the *Your_Eclipse* location and run the command:

```
eclipse -clean -initialize
```

4. Run the command `eclipse`.

Running this command loads Eclipse with the BusinessEvents Studio plug-ins.

Post Installation Tasks

This chapter explains some post-installation steps you may have to perform in your installation.

 **Note:** Also see for additional procedures you may have to do after installation.

Post Installation Tasks for All Platforms

This section explains changes that are required in the circumstances shown.

Also see [JVM Settings in Properties Files](#) in case it pertains to your situation.

Migrating Projects

For all projects created using prior releases, you must perform migration steps. After you migrate, you must also rebuild the EAR files for the projects, as is always the case when you upgrade. See and carefully follow all instructions.

Integrating the Required External Software

To use Legacy ActiveSpaces, ActiveSpaces, or TIBCO FTL as a provider in TIBCO BusinessEvents, you must configure the properties files in TIBCO BusinessEvents with their installation path.

Before you begin

Install the Legacy ActiveSpaces, ActiveSpaces, or TIBCO FTL software based on the installation instructions provided in their software documentation. For list of supported third-party software documentation URLs, see [Before You Begin](#).

Procedure

1. Open the following TIBCO BusinessEvents TRA files for editing and update the software path in the respective fields.

Legacy ActiveSpaces

Environment variable - `tibco.env.AS_HOME`

Files to be updated:

- `BE_HOME\bin\be-engine.tra`
- `BE_HOME\bin\be-storedeploy.tra`
- `BE_HOME\studio\bin\studio-tools.tra`
- `BE_HOME\studio\eclipse\configuration\studio.tra`
- `BE_HOME\rms\bin\be-rms.tra`

ActiveSpaces

Environment variable - `tibco.env.ACTIVESPACES_HOME`

Files to be updated:

- `BE_HOME\bin\be-engine.tra`
- `BE_HOME\bin\be-storedeploy.tra`
- `BE_HOME\studio\eclipse\configuration\studio.tra`

TIBCO FTL

Environment variable - `tibco.env.FTL_HOME`

Files to be updated:

- `BE_HOME\bin\be-engine.tra`
- `BE_HOME\bin\be-storedeploy.tra`
- `BE_HOME\studio\eclipse\configuration\studio.tra`

2. Save the TRA files and restart the TIBCO BusinessEvents Studio and components.

Re-Initialize Studio Plug-ins Registry after Add-on Software Installation

When you install add-on products after installing TIBCO BusinessEvents, you need to ensure that the correct plug-ins contributed by the add-ons are initialized. To do this, re-initialize the studio plug-ins registry before you start using TIBCO BusinessEvents Studio, as explained next.

Procedure

1. To re-initialize Studio plug-ins, open a command prompt.
2. Change directory to `BE_HOME/studio/eclipse`.
3. Run the command

```
studio -clean -initialize
```

JVM Settings in Properties Files

Check the engine properties file to ensure that all settings are appropriate for your platform.

Set the Heap Size as Needed

By default, the initial (`-Xms`) and maximum (`-Xmx`) heap size are set to 1GB for TIBCO BusinessEvents. Change the settings as needed to meet your requirements. The settings are in the `BE_HOME/bin/be-engine.tra` file.

You can also set the stack size for each thread using the `-Xss` option.

For example, if you want to run TIBCO BusinessEvents on a machine with 1GB memory, you might reduce the initial heap size setting (`-Xms`):

```
java.extended.properties=-server -Xms512m -Xmx1024m -Xss2m
```

As another example, if you use a machine with more memory, and you work with very large decision tables, you might increase the heap size accordingly.

Platform-Specific Settings

Some of the JVM settings do not work for all platforms, and some platforms use additional, platform-specific parameters. For example:

For 64 bit Sun JVM for Intel or AMD on Linux, use

```
JVM_LIB_PATH=%TIB_JAVA_HOME%/lib/amd64/server/libjvm.so
```

For 64 bit Sun JVM for Intel or AMD on Windows, use:

```
JVM_LIB_PATH=%TIB_JAVA_HOME%/lib/amd64/server/libjvm.dll
```

For AMD on Windows and 32 bit Sun JVM for Intel use:

```
JVM_LIB_PATH=%TIB_JAVA_HOME%/lib/i386/server/libjvm.dll
```

The IBM AIX platform uses parameters common to all JVMs, but does not use the `-d64` parameter. AIX also uses additional parameters (using the format, `-Xparameter`).

Refer to the appropriate JVM reference manuals for the platform in question at <https://www.ibm.com>.

Note that on AIX, you can determine the mode in which JVM is running using the following simple Java program:

```
System.getProperty("com.ibm.vm.bitmode");
```

It returns the following values:

- * 32 - the JVM is running in 32-bit mode
- * 64 - the JVM is running in 64-bit mode

All UNIX Installations — Directory Permissions

 **Note:** This step is required on all UNIX platforms.

This section explains what directory permissions must be set to enable users to use the system.

Permissions for TIBCO BusinessEvents Directories

All TIBCO BusinessEvents users must have read, write, and execute permissions for the following directories:

```
bin Directory
$TIBCO_HOME/be/<version_number>/bin
```

For example, if TIBCO BusinessEvents has been installed in `/opt/tibco`, the user who installed TIBCO BusinessEvents should execute the following commands:

```
% chmod 755 /opt/tibco/be/<version_number>/bin/
```

(Other changes can be made using the `chown` command as needed.)

You can verify ownership and permissions using the long listing command, `ls -l`.

Configuration for 64-bit Mode

The following platforms allow you to run TIBCO BusinessEvents in 64-bit mode. See the product readme for versions supported:

- AIX
- Linux
- Solaris 10 SPARC
- Solaris 10 X86

i Note: For Microsoft Windows, a 64-bit installer is available from the download site.

Configure for 64-bit Mode

Procedure

1. Open all TRA files for editing. Do this for TIBCO BusinessEvents and for each add-on product used:
 - `BE_HOME/bin/be-engine.tra`
 - `BE_HOME/bin/be-storedeploy.tra`
 - `BE_HOME/bin/be-migration.tra`
 - `BE_HOME/rms/bin/be-rms.tra`
2. To increase the heap size used by the engine, in each TRA file modify the values of `-Xms` and `-Xmx` in the `java.extended.properties` parameter. For example, some

common values are as follows:

```
-d64 -XX:MinHeapFreeRatio=52 -XX:MaxHeapFreeRatio=90 -
XX:GCTimeRatio=19 -Xms1024m -Xmx1024m -javaagent:%BE_HOME%/lib/cep-
base.jar
```

3. Modify `%BE_HOME%/bin/be-engine.tra`.
4. Append `%RV_HOME%/lib/64` to `tibco.env.LD_LIBRARY_PATH`.
 - Alternatively, you can run as root:
 - a. Edit `/etc/ld.so.conf`.
 - b. Add the actual path `%RV_HOME/lib/64`.
 - c. Run `ldconfig`.

i Note: If you do not perform steps 3 and 4, an error similar to the following might occur when you start the application:

```
java.lang.UnsatisfiedLinkError:/opt/tibco/tibrv/8.3/lib/libtibrv
jsd64.so:libssl.so.0.9.8:wrongELF class: ELFCLASS32.
```

Enabling 64-bit Properties

By default, the 32-bit `java.extended.properties` are enabled.

Comment the 32-bit `java.extended.properties` and enable the 64-bit `java.extended.properties` in the TRA files in these folders:

```
BE_HOME/bin/be-engine.tra
BE_HOME/rms/bin/be-rms.tra
```

Adding Installation or Build Script for OpenSSL for Tomcat

You need to add installation or build script for Windows and Linux (Debian and Red Hat) for OpenSSL for Tomcat, which will provide SSL support for the HTTP channel, when the Identity Resource is of the type Certificate/KeyURL.

i Note:

- Procedure mention in this section are not mandatory for TIBCO BusinessEvents installation. Use this information, only when you need to enable Open SSL for Tomcat.
- Tomcat Native 1.1.32 or 1.1.33 and OpenSSL 1.0.2 onwards are required to build libraries, which are compatible with Tomcat 7.0.62 onwards.

Setting Up OpenSSL on Windows

Procedure

1. Save the `tcnative-1.dll` file in a directory. The file can be found under `TOMCAT_HOME\bin` in the Tomcat installation. You can download Tomcat from the following URL¹:
<http://archive.apache.org/dist/tomcat/tomcat-7/v7.0.64/bin/>
2. Provide the path to this directory in the TRA file using the `java.library.path` property.

```
java.library.path=<dllDirectoryPath>
```

Setting Up OpenSSL on Linux (Debian & Red Hat)

Procedure

1. Install Apache Portable Runtime (APR) and OpenSSL. OpenSSL is already available in most linux setups.

For Debian based Linux use the following command:

```
apt-get install build-essential libapr1-dev libssl-dev
```

¹When you obtain third-party software or services, it is your responsibility to ensure you understand the license terms associated with such third-party software or services and comply with such terms.

For Red Hat, download source (the `.tar.gz` file) for APR¹ from <http://apr.apache.org/download.cgi> Now run the following commands:

```
tar xvzf apr-1.5.1.tar.gz
cd apr-1.5.1
./configure
make
make install
```

2. Note down the path shown at the end of the command `make install`. This directory contains the `apr-1-CONFIG` file, which is used for building the Tomcat native library.
3. To build Tomcat native library, extract `tomcat-native.tar.gz`, which is located under `TOMCAT_HOME/bin/tomcat-native.tar.gz`, to a local directory (for example, `home/user/tomnative`). You can download Tomcat from the following URL: <http://archive.apache.org/dist/tomcat/tomcat-7/v7.0.64/bin/>
4. Browse to the native library in the extracted directory (for example, `home/user/tomnative/tomcat-native-1.1.32-src/jni/native`) and run the following commands:

```
/configure -with-apr=1-CONFIG> -with-java-home= -with-ssl=yes -
prefix=destinationDirectoryForLibrariesInstallation
make
make install
```

To verify if the installation is successful, browse to the destination directory provided for libraries installation and check if it contains five new files (with `.so`, `.la` and `.a` extensions).

5. Provide the path of the destination directory provided for libraries installation in the TRA file.

```
LD_LIBRARY_PATH=destinationDirectoryForLibrariesInstallation
```

```
export LD_LIBRARY_PATH
```

¹When you obtain third-party software or services, it is your responsibility to ensure you understand the license terms associated with such third-party software or services and comply with such terms.

TIBCO Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join TIBCO Community.

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.

Product-Specific Documentation

Documentation for TIBCO BusinessEvents® Enterprise Edition is available on the [TIBCO BusinessEvents® Enterprise Edition Product Documentation](#) page.

To directly access documentation for this product, double-click the file at the following location:

```
TIBCO_HOME/release_notes/TIB_businessevents-enterprise_6.1.2_docinfo.html
```

where *TIBCO_HOME* is the top-level directory in which TIBCO products are installed. On Windows, the default *TIBCO_HOME* is `C:\tibco`. On UNIX systems, the default *TIBCO_HOME* is `/opt/tibco`.

The following documentation for this product is available on the [TIBCO BusinessEvents® Enterprise Edition Product Documentation](#) page:

- *TIBCO BusinessEvents® Release Notes*
- *TIBCO BusinessEvents® Installation*
- *TIBCO BusinessEvents® Getting Started*
- *TIBCO BusinessEvents® Architect's Guide*
- *TIBCO BusinessEvents® Administration*
- *TIBCO BusinessEvents® Developer's Guide*
- *TIBCO BusinessEvents® Configuration Guide*
- *TIBCO BusinessEvents® Data Modeling Developer's Guide*

- *TIBCO BusinessEvents® Decision Manager User's Guide*
- *TIBCO BusinessEvents® WebStudio User's Guide*
- *TIBCO BusinessEvents® Event Stream Processing Pattern Matcher Developer's Guide*
- *TIBCO BusinessEvents® Event Stream Processing Query Developer's Guide*
- *TIBCO BusinessEvents® Security Guide*
- Online References:
 - *TIBCO BusinessEvents® Java API Reference*
 - *TIBCO BusinessEvents® Functions Reference*

Other TIBCO Product Documentation

When working with TIBCO BusinessEvents Enterprise Edition, you may find it useful to read the documentation of the following TIBCO products:

- TIBCO ActiveSpaces®: It is used as the cluster, cache, or store provider for the TIBCO BusinessEvents Enterprise Edition project.
- TIBCO FTL®: It is used as the cluster provider for the TIBCO BusinessEvents Enterprise Edition project.
- TIBCO Streaming®: It is used as the metrics store provider for the TIBCO BusinessEvents Enterprise Edition project.

How to Access Related Third-Party Documentation

When working with TIBCO BusinessEvents® Enterprise Edition, you may find it useful to read the documentation of the following third-party products:

- Apache Ignite
- InfluxDB
- Grafana
- Apache Cassandra

How to Contact TIBCO Support

Get an overview of [TIBCO Support](#). You can contact TIBCO Support in the following ways:

- For accessing the Support Knowledge Base and getting personalized content about

products you are interested in, visit the [TIBCO Support](#) website.

- 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 [TIBCO Support](#) website. If you do not have a user name, you can request one by clicking **Register** on the website.

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