



TIBCO® Product and Service Catalog powered by TIBCO EBX®

Installation

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Contents

Contents	2
Installation Overview	3
Required TIBCO Products	4
Required Third-Party Products and Jars	6
Environment Variables	8
All-in-one Installation	9
Configuring the PostgreSQL Database for PSC-EBX	12
Configuring the Oracle Database for PSC-EBX	13
Setting Up TIBCO Enterprise Message Service™	14
Configuring TIBCO® Product and Service Catalog powered by TIBCO EBX®	15
Importing Dev Artifacts	16
Deploying TIBCO® Product and Service Catalog powered by TIBCO EBX® on Cloud	18
TIBCO Documentation and Support Services	23
Legal and Third-Party Notices	25

Installation Overview

TIBCO® Product and Service Catalog powered by TIBCO EBX® installation overview covers the following details:

- [Required Third-Party Products and Jars](#)
- [Environment Variables](#)
- [All-in-one Installation](#)

Required TIBCO Products

The following table lists the required TIBCO products for TIBCO® Product and Service Catalog powered by TIBCO EBX®:

Product and Version		Purpose
TIBCO Enterprise Message Service™ 8.6.0		Standards-based messaging software that can serve as the backbone of a service-oriented architecture by providing Java Message Service (JMS) compliant communications across a wide range of platforms and application technologies.
TIBCO EBX Software 6.0.16		TIBCO EBX is an all-in-one, model-driven, agile and multi-domain solution to manage, govern, and consume shared data assets.
TIB_ebx_6.0.16_addon_5.6.3_container_edition (for cloud only)		TIBCO EBX along with all the required addon for container edition.
TIB_ebx-addon_5.6.3	ebx-addon-adix (Data Exchange Add-on, for Legacy)	Data Exchange Add-on enables integration and transformation of data from one data store to another. It is responsible for, import and export data between tables in your TIBCO EBX® repository and external files, transfers data between tables, import and export data between tables in your repository and SQL databases.
	ebx-addon-dint (Data Exchange Add-on, for New)	Data Exchange Add-on enables integration and transformation of data from one data store to another. It is responsible for, import and export data between tables in your TIBCO EBX® repository and external files, transfers data between tables, import and export data

(Continued)

Product and Version	Purpose
	between tables in your repository and SQL databases.
ebx-addon-dama (The Digital Asset Manager Add-on)	The Digital Asset Manager Add-on allows you to manage digital asset storage, classification, and versioning. Once you have created a storage location, you can use the add-on to upload assets and enrich them with the metadata.
ebx-addon-dmdv (Data Model and Data Visualization Add-on)	Data Model and Data Visualization Add-on generates interactive graphs of your data, relationships, and data structure.
ebx-addon-tese (EBX® Information Search Add-on)	For advanced text search, it allows you to run a targeted search to find and retrieve data contained in your repository.
ebx-addon-common (EBX® Add-on's root module)	It is root addon module and any of the application that uses an add-on requires the root web application to be deployed.

Required Third-Party Products and Jars

The following table lists the required third-party products (for version details, see the TIBCO® Product and Service Catalog powered by the TIBCO EBX® readme file).

Component to Install	Supported Options	Reference
Java	Java 17.x	<i>TIBCO® Product and Service Catalog powered by TIBCO EBX® Installation</i>
Tomcat	Tomcat 9.x	<i>TIBCO® Product and Service Catalog powered by TIBCO EBX® Installation</i>

Third-party jars:

The following table lists the required third-party jars:

JAR	Download link
javax.mail-1.5.6.jar	https://repo1.maven.org/maven2/javax/mail/javax.mail-api/1.5.6/javax.mail-api-1.5.6.jar

JAR	Download link
activation-1.1.1.jar	https://repo1.maven.org/maven2/javax/activation/activation/1.1.1/activation-1.1.1.jar
javax.jms-api-2.0.1.jar	https://repo1.maven.org/maven2/javax/jms/javax.jms-api/2.0.1/javax.jms-api-2.0.1.jar
jaxb-api-2.3.1.jar	https://repo1.maven.org/maven2/javax/xml/bind/jaxb-api/2.3.1/jaxb-api-2.3.1.jar
jaxb-core-2.3.0.1.jar	https://repo1.maven.org/maven2/com/sun/xml/bind/jaxb-core/2.3.0.1/jaxb-core-2.3.0.1.jar
jaxb-impl-2.3.1.jar	https://repo1.maven.org/maven2/com/sun/xml/bind/jaxb-impl/2.3.1/jaxb-impl-2.3.1.jar

Environment Variables

The following table lists the environment variables with respective sample values and their description:

Environment Variable	Description
JAVA_HOME	The directory where Java 17.x is installed.
EMS_HOME	The directory where the TIBCO EMS is installed.
EBX_HOME	Defines EBX_HOME to point to the TIBCO EBX® directory where ebx.properties are present.
PSC_HOME	Defines PSC_HOME to point to the installation directory. Note: Both the PSC_HOME and EBX_HOME must be under the same directory.
PSC_BASE	Defines the location where TIB_pscebx_2.0.0.zip file is extracted. For example, if you extract the product at /home, then the directory structure is /home/pscebx/2.0.0
PSC_COMMON_DIR	All the standard configuration files for work flow and data validation as well as all customizations are stored in this directory. This directory also holds all files generated during normal application processing.

All-in-one Installation


This installation has a pre-configuration of the H2 database and Tomcat as web server.

Before you begin

- Confirm if you have Java 17 and TIBCO EMS (to publish records on JMS topics) installed on your computer.
- Make sure that TIBCO EBX Software 6.0.16 is deployed, the initial configurations (for repository) are done, and TIBCO EBX is starting successfully.
- Note the details of the repository.id and repository.label, which are required later on.
- Create a backup of the ebx.properties present in the \$EBX_HOME folder.

Procedure

1. Download the product TIB_pscebx_2.0.0.zip and unzip the archive file. For example, if you unzip the product at /home, then the directory structure is /home/pscebx/2.0.0 and is called as PSC_BASE.

 **Note:** The user must have the full access rights to the PSC_BASE folder.

The following components are present in the TIB_pscebx_2.0.0.zip file.

- db - Contains Oracle and PostgreSQL database scripts.
- ems - Contains files related to the creation or deletion of topics.
- common - Contains the artifacts, which is required for the Product and Service Catalog.
- config - Contains the artifacts, which is required for the Product and Service Catalog.
- data - Contains the artifacts, which is required for the Product and Service Catalog.

- doc - Contains the document about how to customize the rules in the Product and Service Catalog.
- tomcat - Contains server start up and shutdown scripts and the tomcatConfiguration.sh script to configure apache-tomcat related changes.
- bin - Contains the copyArtifacts.sh script to copy the necessary libraries and wars.
- war - Contains the psc-mdm.war files to be deployed into the application server.
- deploy/
 - docker - Contains files and artifacts to create and run Docker containers for Product and Service Catalog.
 - helm - Contains all files required to deploy Product and Service Catalog on the Kubernetes cluster.
 - k8s - Contains Kubernetes scripts for Product and Service Catalog.



Note: For a complete list of versions and supported platforms, see the TIB_pscebx_2.0.0_readme.txt file.

2. Make a directory ext-lib in the \$PSC_BASE location. Download the jars mentioned in [external jars](#). Copy the additional JAR files such as tibjms, jms2.0 jar, and database related JAR files (ojdbc8 and postgres) and copy them in this directory.
3. Run the \$PSC_BASE/bin/copyArtifact.sh script to copy the required artifacts to \$EBX_HOME location. When prompted, provide the path to the wars folder of extracted TIB_ebx-addon_5.6.3.zip file.
4. Run the \$PSC_BASE/tomcat/tomcatConfiguration.sh script to configure the apache-tomcat related changes.
5. Update the \$EBX_HOME/ebx.properties file according to the user details:
 - ebx.license
 - ebx.install.repository.id
 - ebx.install.repository.label
 - ebx.install.admin.login
 - ebx.install.admin.firstName

- `ebx.install.admin.lastName`
 - `ebx.install.admin.password.encrypted`
6. If TIBCO EMS requires any credentials to access, then it can be configured in the `$EBX_HOME/config/config.properties` file. You can set the username and password using the following properties:

```
com.tibco.psc.jms.topic.connection.username
com.tibco.psc.jms.topic.connection.password
```

7. To publish records on the JMS topics, perform the following steps:
- Set `ebx.jms.activate=true` in `$PSC_HOME/ebx.properties` and update the TIBCO EMS address URL in the following resource property, which is present in `PSC_HOME/apache-tomcat/conf/context.xml`.

```
<Resource name="jms/EBX_JMSConnectionFactory"
auth="Container"
type="com.tibco.tibjms.TibjmsConnectionFactory"
factory="com.tibco.tibjms.naming.TibjmsAdministeredObjectFactory"
address=<<ems-address>>
clientID="TibcoPSCEBX">
</Resource>
```

- Create all the topics in the `$PSC_BASE/ems/createtopic.txt` file in TIBCO EMS.
8. Run the `$PSC_HOME/apache-tomcat/bin/startPSCServer.bat` or `$PSC_HOME/apache-tomcat/bin/startPSCServer.sh` script to start the Tomcat server.
9. After starting the server, see [Configuring TIBCO® Product and Service Catalog powered by TIBCO EBX®](#).



Note:

These steps install the PSC-EBX with H2 database. To start PSC-EBX with Oracle or PostgreSQL database, see the following sections:

- [Configuring the PostgreSQL Database for PSC-EBX](#)
- [Configuring the Oracle Database for PSC-EBX](#)

Result

The environment is ready to use.

Configuring the PostgreSQL Database for PSC-EBX

To configure the PostgreSQL Database for PSC-EBX, perform the following steps:

Procedure

1. Start the PostgreSQL Database.
2. Navigate to `$PSC_HOME/db/postgresql/configure` and modify the `postgres_pscebx_db.properties` file.
3. Run the `$PSC_HOME/db/postgresql/configure/doall.sh` to run all the database scripts in one go.
4. Uncomment and update the database details such as database url, username, password, and dataspace to the following section in the `$PSC_HOME/ebx.properties` file under `##Case EBX® persistence system is PostgreSQL:`
 - `ebx.persistence.factory=postgresql`
 - `ebx.persistence.url`
 - `ebx.persistence.driver`
 - `ebx.persistence.user`
 - `ebx.persistence.password`

i Note: There are multiple occurrences of each of the property mentioned above. Comment all the other properties and there must be a single `ebx.persistence.factory` property, which points to the PostgreSQL database.

Configuring the Oracle Database for PSC-EBX

To configure the Oracle database for PSC-EBX, perform the following steps:

i Note: If you want to connect with the Oracle database, then `ojdbc8.jar` must be downloaded and placed in the `$PSC_HOME/apache-tomcat/lib` folder.

Procedure

1. Navigate to `$PSC_HOME/db/oracle/configure` and modify the `oracle_pscebx_db.properties` file.
2. Run the `$PSC_HOME/db/oracle/configure/doall.sh` to run all the database scripts in one go.
3. Uncomment and update the database details such as database url, username, password, and dataspace to the following section in the `$PSC_HOME/ebx.properties` file under `##Case EBX® persistence system is Oracle database:`
 - `ebx.persistence.factory=oracle`
 - `ebx.persistence.url`
 - `ebx.persistence.driver`
 - `ebx.persistence.user`
 - `ebx.persistence.password`

i Note: There are multiple occurrences of each of the property mentioned above. Comment all the other properties and there must be a single `ebx.persistence.factory` property, which points to the PostgreSQL database.

Setting Up TIBCO Enterprise Message Service™

Configure TIBCO EMS™ to publish the records on JMS topics.

Procedure

1. Start TIBCO EMS™.
2. Set the `ebx.jms.activate` to `true` in `$EBX_HOME/ebx.properties`.
3. Create all the topics in TIBCO EMS™, which are present in `$PSC_BASE/ems/createtopic.txt` file.
4. Update the TIBCO EMS™ address under the resource - `jms/EBX_JMSConnectionFactory` present in the `$CATALINA_HOME/conf/context.xml` file. This is the TIBCO EMS™ URL where TIBCO EMS™ is running.

```
<Resource name="jms/EBX_JMSConnectionFactory" auth="Container"
type="com.tibco.tibjms.TibjmsConnectionFactory"
factory="com.tibco.tibjms.naming.TibjmsAdministeredObjectFactory"
address=<<ems-address>>
clientID="TibcoPSCEBX">
</Resource>
```


Result

TIBCO EMS™ is configured.

Configuring TIBCO® Product and Service Catalog powered by TIBCO EBX®

Perform the following steps to configure the TIBCO® Product and Service Catalog.


Procedure

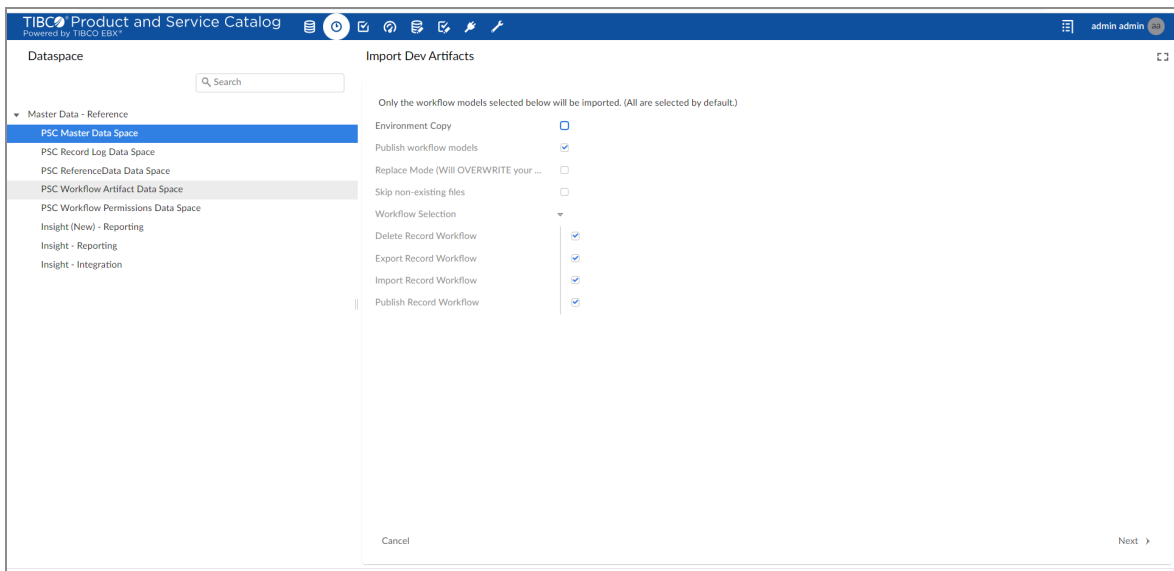
1. Go to the `http://$host:$PORT/ebx` URL to open the Login page. The default port is 8080 (if not changed).
2. Login using the credentials for administrator which are given during the initialization of EBX repository.
3. Click the Administration icon .
4. Click **Administration section > Directory > Roles** and create the **Tech Admin** role.
5. Assign this role to the admin user through the User menu by selecting the **Tech Admin** role and clicking **Associate**.
6. Import the Dev Artifacts. For more information, see [Importing Dev Artifacts](#).
7. Initialize the TIBCO® Product and Service Catalog environment by clicking **Dataspaces > Master Data - Reference > Actions > Admin > Initialize PSC Environment**.

Importing Dev Artifacts

Perform the following steps to import the dev artifacts:

Procedure

1. Click  to go to **Datanamespace** and select the **Master Data - Reference** dataspace.
2. Go to **Actions > Admin > select Import Dev Artifacts**.
3. The default options are selected already. Click **Next**.



This process creates the following environments:

- The PSC Master Data Space dataspace: This is the master dataspace for the TIBCO® Product and Service Catalog.
- The following roles are created:
 - Service User
 - Tech Admin
 - Test User
 - WorkFlow Administrator
 - Workflow Executor
- The following users are created:
 - Username - pscadmin, Role - PSC - Admin, Password - pscadmin

- Username - testuser, Role - PSC Test User, Password - testuser
- The required data models that you can view using the techadmin user.
- The dataset PSCDataSet into the "PSC Master Data Space" dataspace.

Deploying TIBCO® Product and Service Catalog powered by TIBCO EBX® on Cloud

- [Deploying through Docker](#)
- [Deploying through Helm Charts](#)
- [Deploying through Kubernetes](#)

i Note: Ensure that the TIBCO EBX® images are available in Docker before using TIBCO® Product and Service Catalog powered by TIBCO EBX®. See the *TIBCO EBX® Container Edition Guide*. Ensure that you have used TIB_ebx_6.0.16_addon_5.6.3_container_edition.zip to create the ebx image.

Before you begin

1. Download TIB_pscebx_2.0.0.zip from [TIBCO eDelivery](#) and extract the archive file. For example, if the product is unarchived at /home then the directory structure is /home/psc-ebx/2.0.0. The /home/psc-ebx/2.0.0 directory location is called \$PSC_PSC_BASE.
2. Create an ext-lib folder under the \$PSC_BASE directory.
3. Download the ebx-addon-adix.war of ebx-addon from [TIBCO eDelivery](#) and move it to the ext-lib folder.
4. Download the JAR files mentioned in the \$PSC_BASE/downloadexternalLibs.txt file and move them to the ext-lib folder.
5. Move the JMS and database related JAR files (tibjms, jms2.0-jar, ojdbc8, and postgres42.x.jar) in the ext-lib folder.

Deploying through Docker

Procedure

1. Open the \$PSC_BASE/deploy/docker/ebx.properties file in a suitable editor and update the required properties (such as database details and JMS request activation).
2. Run the \$PSC_BASE/deploy/copy-required-files.sh script. Pass the absolute path value of

the ext-lib folder when prompted.

3. Update the `ems.address` property (ems url) in the `$PSC_BASE/deploy/docker/psc-mdm.xml` and `$PSC_BASE/deploy/docker/ebx.xml` files.
4. Create the required columns as follows:

```
docker volume create --name ebxLog
docker volume create --name ebxRepository
```

5. Navigate to the `$PSC_BASE/deploy/docker` directory and build a Docker image using the following command:

```
docker build -t psc-ebx:<tag-name>
```

6. Deploy the image into the container by using the following command:

```
docker run -d -p 8080:8080 -v ebxLog:/ebx/ebxLog -v
ebxRepository:/ebx/ebxRepository -v ebxdata:/ebx/data -v
ebx-temp:/ebx/temp -e
"EBX_DB_FACTORY=<<DB_FACTORY>>" -e
"EBX_DB_URL=<<DB_URL>>" -e
"EBX_DB_USER=<<DB_USER>>" -e
"EBX_DB_PASSWORD=<<DB_PASSWORD>>" psc-ebx
```

Deploying through Helm Charts

Procedure

1. Open the `$PSC_BASE/deploy/docker/ebx.properties` file in a suitable editor and update the required properties (such as JMS queues activation).
2. Run the `$PSC_BASE/deploy/copy-required-files.sh` script. Pass the value of `EXTERNAL_LIB_PATH` when prompted.
3. Create the required volumes as follows:

```
docker volume create --name ebxLog
docker volume create --name ebxRepository
docker volume create --name common
docker volume create --name config
docker volume create --name data
```

4. Navigate to the \$PSC_BASE/deploy/docker directory and build a Docker image using the following command:

```
docker build -t psc-ebx
```

5. Then, tag the image with the remote repository and push it into as follows:

```
docker tag psc-ebx:latest $docker_repo$
docker push $REPO_NAME:Tag_Name
```

6. Navigate to the \$PSC_BASE/deploy/k8s directory and run the following command to create the PersistentVolumeClaim or Storage classes:

```
kubectl create -f psc-volumes.yaml
```

You can verify the created storage classes by using the `kubectl get storageclass` command.

7. Update the \$PSC_BASE/helm/psc-ebx/values.yaml file and mention the values of the following properties:

```
repository: docker image name
tag: docker tag name
imagePullSecrets
env.EBX_DB_FACTORY
env.EBX_DB_URL
env.EBX_DB_USER
env.EBX_DB_PASSWORD
provisioner (for GCP - kubernetes.io/gce-pd)
```

8. Update the \$PSC_BASE/helm/psc-ebx/templates/deployment.yaml file by adding the `ems` details under the `spec` tag.
9. Upload the `helm` folder and then choose from the following commands to perform an action:

To verify chart is well-formed:

```
helm lint ./psc-ebx
```

```
helm template ./psc-ebx
```

To run helm:

```
helm install psc-ebx ./psc-ebx
```

To list all helm:

```
helm list
```

To upgrade helm - modified the existing chart:

```
helm upgrade psc-ebx ./psc-ebx
```

For Debug the issue:

```
helm upgrade --debug psc-ebx ./psc-ebx
```

Helm uninstall - uninstall a release:

```
helm uninstall psc-ebx
release "psc-ebx" deleted
```

Deploying through Kubernetes

Procedure

1. Open the \$PSC_BASE/deploy/docker/ebx.properties file in a suitable editor and update the required properties (such as JMS queues activation).
2. Run the \$PSC_BASE/deploy/copy-required-files.sh script. Pass the value of EXTERNAL_LIB_PATH when prompted.
3. Create the required columns as follows:

```
docker volume create --name ebxLog
docker volume create --name ebxRepository
docker volume create --name common
docker volume create --name config
docker volume create --name data
```

4. Navigate to the \$PSC_BASE/deploy/docker directory and build a Docker image using the following command:

```
docker build -t psc-ebx:<tag-name>
```

5. Then, tag the image with the remote repository and push it into as follows:

```
docker tag psc-ebx:latest $docker_repo$  
docker push $REPO_NAME:Tag_Name
```

6. Update the \$PSC_BASE/k8s/psc.yml file for the image, EBX_DB_URL (database details) as per the following properties:

```
psc.yml  
initContainers.image (multiple entry)  
env.EBX_DB_URL  
env.EBX_DB_PASSWORD  
imagePullSecrets
```

7. Update the provisioner name in the psc-volumes.yaml file.
8. Create the persistent volume claim and storage classes by using the following command:

```
kubectl create -f psc-volumes.yaml
```

9. Run the following command, which creates deployment, services, and pods:

```
kubectl apply -f psc.yml
```

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

The following documentation for this product is available on the [TIBCO® Product and Service Catalog powered by TIBCO EBX® Product Documentation](#) page:

- *TIBCO® Product and Service Catalog powered by TIBCO EBX® Release Notes*
- *TIBCO® Product and Service Catalog powered by TIBCO EBX® Installation*
- *TIBCO® Product and Service Catalog powered by TIBCO EBX® User Guide*
- *TIBCO® Product and Service Catalog powered by TIBCO EBX® Customization*

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.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to [TIBCO Community](#).

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