

TIBCO ActiveMatrix BusinessWorks™ Plug-in for JD Edwards EnterpriseOne User's Guide

*Software Release 7.0
February 2016*

Important Information

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE "LICENSE" FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document contains confidential information that is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, Two-Second Advantage, TIBCO ActiveMatrix BusinessWorks, TIBCO Enterprise Administrator, TIBCO Business Studio, and TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

Enterprise Java Beans (EJB), Java Platform Enterprise Edition (Java EE), Java 2 Platform Enterprise Edition (J2EE), and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle Corporation in the U.S. and other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

THIS SOFTWARE MAY BE AVAILABLE ON MULTIPLE OPERATING SYSTEMS. HOWEVER, NOT ALL OPERATING SYSTEM PLATFORMS FOR A SPECIFIC SOFTWARE VERSION ARE RELEASED AT THE SAME TIME. SEE THE README FILE FOR THE AVAILABILITY OF THIS SOFTWARE VERSION ON A SPECIFIC OPERATING SYSTEM PLATFORM.

THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

Copyright ©1999-2016 TIBCO Software Inc. All rights reserved.

TIBCO Software Inc. Confidential Information

Contents

TIBCO Documentation and Support Services	4
Product Overview	5
Getting Started	6
Creating a Project	6
Creating a JDE Connection	7
Configuring the INI File	7
Configuring a Process	8
Testing a Process	8
Deploying an Application	9
TIBCO Business Studio Overview	10
JDE Connection	11
JDE Palette	13
CallBusinessFunction	13
MonitorRealTime	15
QueryXMLList	17
Working with the Sample Project	27
Importing the Sample Project	27
Configuring the JDE Connection	28
Running the Sample Project	28
Configuration of Sample Processes	28
Customer.bwp	29
SalesOrder.bwp	30
PurchaseOrder.bwp	30
XMLQueryList_TC.bwp	31
SalesOrder.bwp	31
Addressbook.bwp	32
Managing Logs	33
Log Levels	33
Setting Up Log Levels	33
Exporting Logs to a File	34
Error Codes	35

TIBCO Documentation and Support Services

Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, please visit:

<https://docs.tibco.com>

Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site. To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/release_notes/TIB_bwpluginjde_version_docinfo.html`

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

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

- *TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne Installation*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne User's Guide*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne Release Notes*

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

<http://www.tibco.com/services/support>

- If you already have a valid maintenance or support contract, visit this site:

<https://support.tibco.com>

Entry to this site requires a user name and password. If you do not have a user name, you can request one.

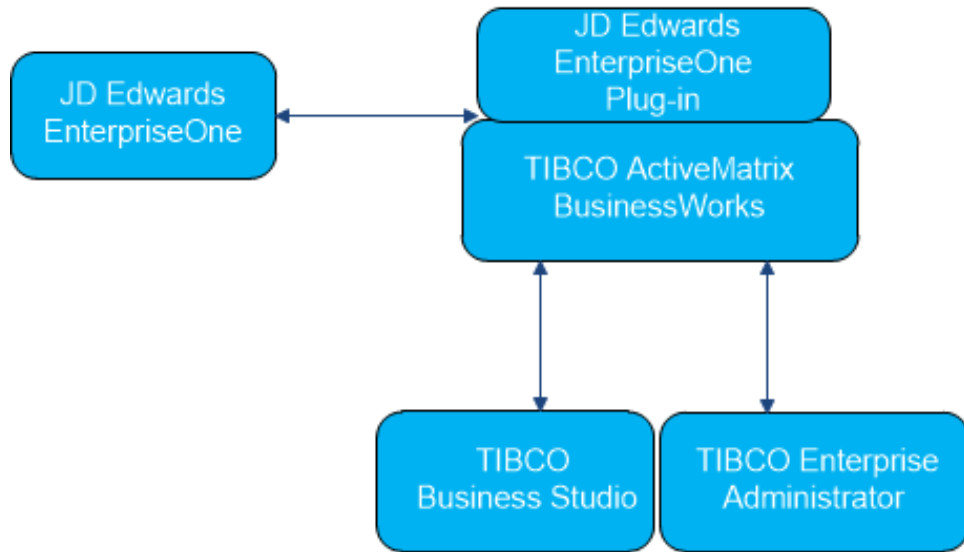
How to Join TIBCO Community

TIBCO Community is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCO Community offers forums, blogs, and access to a variety of resources. To register, go to the following web address:

<https://community.tibco.com>

Product Overview

TIBCO ActiveMatrix BusinessWorks™ Plug-in for JD Edwards EnterpriseOne provides the service of message exchange between TIBCO ActiveMatrix BusinessWorks™ applications and the JD Edwards EnterpriseOne enterprise resource planning (ERP) system. The plug-in supports business function calls, extracting data using query lists, and publishing real time events that interoperate with the JD Edwards EnterpriseOne system.



The following list describes each item and the relationship between them in the previous figure.

- JD Edwards EnterpriseOne is an integrated application suite of comprehensive enterprise resource planning software, which combines business values, standards-based technology, and deep industry experience into a business solution.
- TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne is plugged into TIBCO ActiveMatrix BusinessWorks and is connected to JD Edwards EnterpriseOne.
- TIBCO ActiveMatrix BusinessWorks is an easy-to-use integration product suite for enterprise applications.
- TIBCO Business Studio™ is the graphical user interface (GUI) used by TIBCO ActiveMatrix BusinessWorks and the plug-in to design business processes, and the process engine used to execute them.
- TIBCO® Enterprise Administrator provides a centralized administrative interface to manage and monitor the plug-in applications deployed in an enterprise.

Getting Started

This tutorial is designed for the beginners who want to use TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne in TIBCO Business Studio.

All the operations are performed in TIBCO Business Studio. See [TIBCO Business Studio Overview](#) to get familiar with TIBCO Business Studio.

A basic procedure of using TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne includes:

1. [Creating a Project](#)
2. [Creating a JDE Connection](#)
3. [Configuring a Process](#)
4. [Testing a Process](#)
5. [Deploying an Application](#)

Creating a Project

The first task using the plug-in is creating a project. After creating a project, you can add resources and processes.

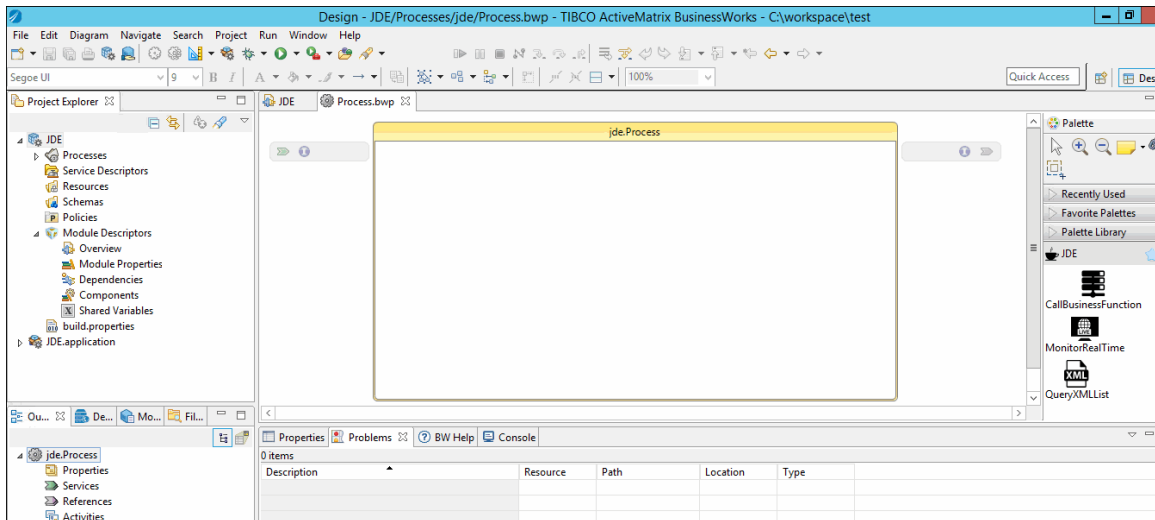
An Eclipse project is an application module configured for TIBCO ActiveMatrix BusinessWorks. An application module is the smallest unit of resources that is named, versioned, and packaged as part of an application.

Procedure

1. Start TIBCO Business Studio using one of the following ways:
 - Microsoft Windows: click **Start > All Programs > TIBCO > TIBCO_HOME > TIBCO Business Studio version_number > Studio for Designers**.
 - Mac OS and Linux: run the TIBCO Business Studio executable file located in the *TIBCO_HOME/studio/version_number/eclipse* directory.
2. From the menu, click **File > New > BusinessWorks Resources** to open BusinessWorks Resource Wizard.
3. In the "Select a wizard" dialog, click **BusinessWorks Application Module** and click **Next** to open the New BusinessWorks Application Module wizard.
4. In the Project dialog, configure the project that you want to create:
 - a) In the **Project name** field, enter a project name.
 - b) By default, the created project is located in the workspace currently in use. If you do not want to use the default location for the project, clear the **Use default location** check box and click **Browse** to select a new location.
 - c) Use the default version of the application module, or enter a new version in the **Version** field.
 - d) Keep the **Create empty process** and **Create Application** check boxes selected to automatically create an empty process and an application when creating the project.
 - e) Select the **Use Java configuration** check box if you want to create a Java module.
A Java module provides the Java tooling capabilities.
 - f) Click **Finish** to create the project.

Result

The project with the specified settings is displayed in the Project Explorer view.



Creating a JDE Connection

After creating a project, you have to create a JDE Connection shared resource to connect to the JD Edwards EnterpriseOne server.

Prerequisites

The JDE Connection shared resource is available at the **Resources** level. Ensure that you have created a project as described in [Creating a Project](#).

Procedure

1. Expand the created project in the Project Explorer view.
2. Right-click the **Resources** folder and click **New > JDE Connection** to open the JDE Connection wizard.
3. The resource folder, package name, and resource name of the JDE Connection shared resource are provided by default. If you do not want to use the default configurations, change them accordingly. Click **Finish** to open JDE Connection Editor.
4. Configure the JDE Connection shared resource in JDE Connection Editor.
See [JDE Connection](#) regarding the configuration fields.
5. Click **Test Connection** to validate the connection.

Configuring the INI File

Before configuring a JDE Connection share resource, you must configure the parameters in the `jdeinterop.ini` file.

Complete the following steps to configure the `jdeinterop.ini` file:

Procedure

1. Copy the `jdeinterop.ini.template` file in the `system\classes\samples\ConnectorSamples.zip\config` directory from the JD Edwards EnterpriseOne server to the machine where the plug-in is installed, and then change the file name to `jdeinterop.ini`.
2. Copy the `jdbj.ini` file in the `system\classes\samples\ConnectorSamples.zip\config` directory from the JD Edwards EnterpriseOne server to the machine where the plug-in is installed.

3. Copy the database configuration file that is used to connect to the database from the JD Edwards EnterpriseOne server to the machine where the plug-in is installed. The configuration file varies depending on the JDBC database used. For example, if an Oracle database is used, the configuration file is `tnsnames.ora` located in the `<database-home>\dbhome_1\network\admin` directory.
4. Copy the content in the `jdbj.ini` file to the `jdeinterop.ini` file.
5. Configure the `jdeinterop.ini` file according to the JD Edwards EnterpriseOne system which the plug-in connects to.
6. Save the file.

Configuring a Process

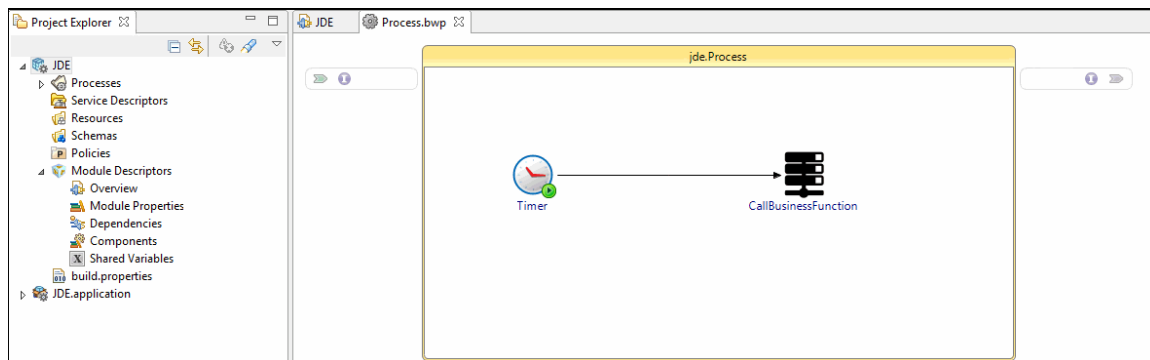
After creating a project, an empty process is created. You can add activities to the empty process to complete a task, such as invoking a business function to handle incoming requests.


Prerequisites

Ensure that you have created an empty process when creating a project. See [Creating a Project](#) for more information.

Procedure

1. In the Project Explorer view, click the created project and open the empty process from the **Processes** folder.
2. Select activities from the Palette view and drop them in the Process editor. For example, select and drop the Timer activity from the General Activities palette, and the CallBusinessFunction activity from the JDE palette.



3. Click an activity in the Process editor and drag the  icon to create a transition between the added activities.
4. Configure the added JDE activities, as described in [JDE Palette](#).
5. Click **File > Save** to save the process.


Testing a Process

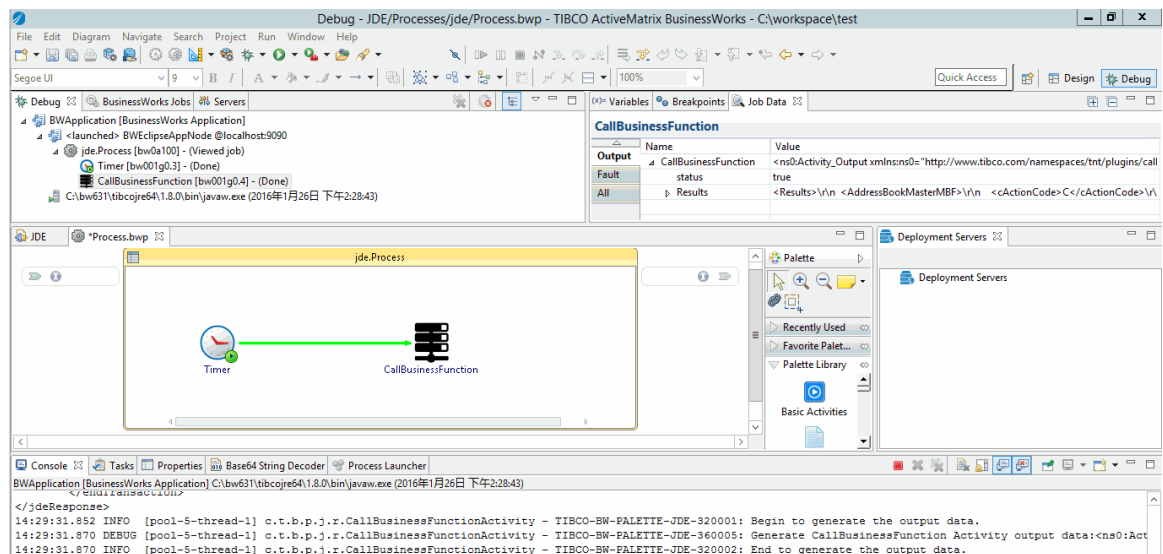
After configuring a process, you can test the process to check if the process completes your task.

Prerequisites

Ensure that you have configured a process, as described in [Configuring a Process](#).

Procedure

1. Open the process you have configured in TIBCO Business Studio.
2. On the toolbar, click  **Debug > Debug Configurations**.
3. Click **BusinessWorks Application > BWApplication** in the left panel.
By default, all the applications in the current workspace are selected in the **Applications** tab. Ensure that only the application you want to debug is selected in the **Applications** tab in the right panel.
4. Click **Debug** to test the process in the selected application.
TIBCO Business Studio changes to the Debug perspective. The debug information is displayed in the Console view.
5. In the **Debug** tab, expand the debugged process and click an activity, such as the **CallBusinessFunction** activity.
6. In the upper-right panel, click **Job Data** view, and then click the **Output** tab to check the activity output.



Deploying an Application

After testing, if the configured process works as expected, you can deploy the application that contains the configured process into a runtime environment, and then use the **bwadmin** utility to manage the deployed application.

Before deploying an application, you must generate an application archive, which is an enterprise archive (EAR) file that is created in [TIBCO Business Studio](#).

Deploying an application involves the following tasks:

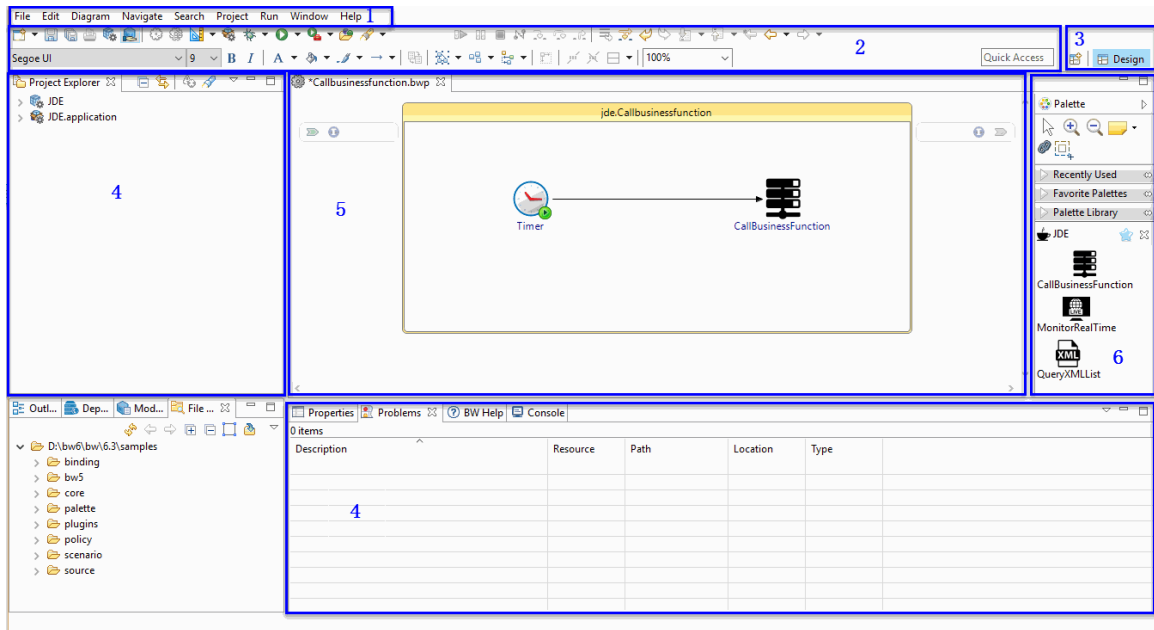
1. Uploading an application archive
2. Deploying an application archive
3. Starting an application

See *TIBCO ActiveMatrix BusinessWorks Administration* for more details on how to deploy an application.








TIBCO Business Studio Overview

TIBCO Business Studio is an Eclipse-based integration development environment that is used to design, develop, and test ActiveMatrix BusinessWorks applications.

TIBCO Business Studio provides a workbench in which you can create, manage, and navigate resources in your workspace. A *workspace* is the central location on your machine where all data files are stored.



The workbench consists of:

- **Menu:** contains menu items such as File, Edit, Diagram, Navigate, Search, Project, Run, Window, and Help.
- **Toolbar:** contains buttons for frequently used commands such as New , Save , Enable/Disable Business Studio Capabilities , Create a new BusinessWorks Application Module , Create a new BusinessWorks Shared Module , Debug , Run , and so on.
- **Perspective:** contains an initial set and layout of views that are required to perform a certain task. TIBCO Business Studio launches the Modeling perspective by default. You can change the perspective from the menu **Window > Open Perspective > Perspective_Name**.
- **View:** displays resources. For example, the Project Explorer view displays the ActiveMatrix BusinessWorks applications, modules, and other resources in your workspace, and the Properties view displays the properties for the selected resource. You can open a view from the menu **Window > Show View > View_Name**.
- **Editor:** provides a canvas to configure, edit, or browse a resource. Double-click a resource in a view to open the appropriate editor for the selected resource. For example, double-click an ActiveMatrix BusinessWorks process (Callbusinessfunction.bwp) in the Project Explorer view to open the process in the editor.
- **Palette:** contains a set of widgets and a palette library. A *palette* groups activities that perform similar tasks and provide quick access to activities when you configure a process.

JDE Connection

The JDE Connection shared resource contains all the necessary parameters that have to be configured when you use TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne to connect to the JD Edwards EnterpriseOne server. The JDE Connection shared resource is used by all the activities in the JDE palette.


General

The following table describes the fields in the General panel:

Field	Module Property?	Description
Package	No	The name of the package where the shared resource is added.
Name	No	The name to be displayed as the label for the shared resource in the process.
Description	No	A short description for the shared resource.

JDE Connection Configuration

The following table describes the fields in the JDE Connection Configuration panel:

Field	Module Property?	Description
Server Name	Yes	The host name or the IP address of the machine that hosts the JD Edwards EnterpriseOne application server which TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne connects to.
Port Number	Yes	The port number that is used to establish connection between the JD Edwards EnterpriseOne server and TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne.
Environment	Yes	<p>The environment name in JD Edwards EnterpriseOne that is used by TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne.</p> <div>  <p>The environment name must start with letter J, such as JDV900.</p> </div>
User Name	Yes	The user name that is used by TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne to connect to JD Edwards EnterpriseOne.
Password	Yes	The password for the account used by TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne to connect to JD Edwards EnterpriseOne.

Field	Module Property?	Description
Configuration File	Yes	The INI file that is used to connect to the specified JD Edwards EnterpriseOne server. For more details about configuring the INI file, see Configuring the INI File .

JDE Connection Pool Configuration

The following table describes the fields in the JDE Connection Pool Configuration panel:

Field	Module Property?	Description
MaxConnectionNum	Yes	The maximum number of connections that can be established between TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne and JD Edwards EnterpriseOne.
ReconnectionNum	Yes	The total number of reconnection attempts for TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne to connect to JD Edwards EnterpriseOne.
ReconnInterval	Yes	The time interval between each connection attempt.

JDE Palette

A palette groups the activities that connect the same external applications together. The JDE palette is added to TIBCO Business Studio after installing TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne.

The JDE palette contains the following activities:



- [CallBusinessFunction](#)
- [MonitorRealTime](#)
- [QueryXMLList](#)

CallBusinessFunction

You can use the CallBusinessFunction activity to invoke a business function or a group of business functions to handle incoming requests in the JD Edwards EnterpriseOne system.

General

The following table describes the configurations in the **General** tab of the CallBusinessFunction activity.

Field	Module Property?	Description
Name	No	The name of the activity displayed in the process. The default value is CallBusinessFunction.
JDE Connection	Yes	<p>Select a JDE Connection shared resource by completing the following steps:</p> <ol style="list-style-type: none"> 1. Click the Choose/Create Default Resource  icon to open the "Select JdeconnectionResource Resource Template" window, where all the available resources are listed. 2. In the Matching items panel, click the shared resource you want to select. Click OK.
IsGroup	No	Select this check box if you want to choose a group of business functions.
BusinessFuction	Yes	Click the Choose a resource  icon to select one or multiple business functions.

Description

In the **Description** tab, you can add a short description for the CallBusinessFunction activity.

Advanced

The following table describes the configurations in the **Advanced** tab of the CallBusinessFunction activity.

Field	Module Property?	Description
Get Schema	No	Click this button to get the schema of the selected business function. The schema is displayed in the Input tab after clicking this button.
Name	No	The name of the selected business function.
IsLoop	No	Select this check box if you want the business function to be called multiple times in a business function group. This check box is only used by business function group.
Use Attribute	No	Select this check box if you want to use the attribute as an input parameter for the selected business functions.
Use Bind	No	Select this check box if you want to use the output parameter of the business function as the input parameter of the subsequent business functions. This check box is only used by business function group. The plug-in supports passing values of output parameters of any business functions to subsequent business functions as the input.
Bind Identify	No	Enter a value for the Bind parameter. All the parameters with the Use Bind check box selected in a preceding business function are displayed in the list. The Bind Identify attribute is only used by business function group.
Refresh	No	Click this button after you complete all the settings in the Advanced tab to refresh the Input tab.


Input

In the **Input** tab, enter values in each field for your selected business functions.

Output

The following table describes the output elements in the **Output** tab of the CallBusinessFunction activity.

Output Item	Data Type	Description
Status	Boolean	The status of the CallBusinessFunction activity. When the activity runs successfully, the status is <code>true</code> ; otherwise, the status is <code>false</code> .
ID	String	The ID number of the returned error message after running the CallBusinessFunction activity.
Message	String	The returned error message which contains information about the CallBusinessFunction activity.

Output Item	Data Type	Description
		The output items vary, depending on the business functions you select.

Fault

The following table describes the error schema elements in the **Fault** tab of the CallBusinessFunction activity.


Error Schema Element	Data Type	Description
JDEPluginException		
msg	String	This error message is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the CallBusinessFunction activity.
msgCode	String	This error code is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the CallBusinessFunction activity.


MonitorRealTime

You can use the MonitorRealTime activity to listen to the real time event that is created by the JD Edwards EnterpriseOne system.

General

The following table describes the configurations in the **General** tab of the MonitorRealTime activity.

Field	Module Property?	Description
Name	No	The name of the activity displayed in the process. The default value is MonitorRealTime.
JDE Connection	Yes	<p>Select a JDE Connection shared resource by completing the following steps:</p> <ol style="list-style-type: none"> 1. Click the Choose/Create Default Resource  icon to open the "Select JdeconnectionResource Resource Template" window, where all the available resources are listed. 2. In the Matching items panel, click the shared resource you want to select. Click OK.

Field	Module Property?	Description
Real Time Event	Yes	<p>Select a real time event by completing the following steps:</p> <ol style="list-style-type: none"> 1. Click the Choose a resource  icon; the JDE Object List window is displayed. 2. Select an object by entering a value in the Please select an object field to match the desired object, or by scrolling up and down the object list. Click OK.

Description


In the **Description** tab, you can add a short description for the MonitorRealTime activity.

Advanced

The following table describes the configurations in the **Advanced** tab of the MonitorRealTime activity.


Field	Module Property?	Description
Get Schema	No	Click this button to get the schema of the selected real time event.
Name	No	The name of the selected real time event.
IsLoop	No	Select this check box to indicate that the data structure occurs multiple times in a real time event.
Use Attribute	No	Select this check box if you want the attribute to be the output in the ActiveEnterprise messages.
Refresh	No	Click this button after you complete all the settings in the Advanced tab to refresh the Input tab.
Sequence Key	No	This field contains an XPath expression that specifies the order in which the process runs. Process instances with sequencing keys that have the same value are executed sequentially in the order in which the process instances are created.
Custom Job Id	No	This field contains an XPath expression that specifies a custom job ID for every job in the process instance.

Conversations

In the **Conversations** tab, you can click **Add New Conversation**  icon to initiate a conversation. A conversation represents two or more related message exchanges in the same process that are correlated by the BusinessWorks engine.

Output

The following table describes the output elements in the **Output** tab of the MonitorRealTime activity.

Output Item	Data Type	Description
Status	Boolean	The status of receiving data by the MonitorRealTime activity. When the activity receives data successfully, the status is <code>true</code> ; otherwise, the status is <code>false</code> .
 The output items vary, depending on the real time event you select.		

Fault

The following table describes the error schema elements in the **Fault** tab of the MonitorRealTime activity.

Error Schema Element	Data Type	Description
JDEPluginException		
msg	String	This error message is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the MonitorRealTime activity.
msgCode	String	This error code is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the MonitorRealTime activity.



QueryXMLList

You can use the QueryXMLList activity to query an existed table in the JD Edwards EnterpriseOne system.

General

The following table describes the configurations in the **General** tab of the QueryXMLList activity.

Field	Module Property?	Description
Name	No	The name of the activity displayed in the process. The default value is <code>QueryXMLList</code> .

Field	Module Property?	Description
JDE Connection	Yes	<p>Select a JDE Connection shared resource by completing the following steps:</p> <ol style="list-style-type: none"> 1. Click the Choose/Create Default Resource  icon to open the "Select JdeconnectionResource Resource Template" window, where all the available resources are listed. 2. In the Matching items panel, click the shared resource you want to select. Click OK.
Table Type	No	<p>Select one of the following table types:</p> <ol style="list-style-type: none"> 1. Table 2. View 3. TC
Table Name	Yes	<p>Select a table name by completing the following steps:</p> <ol style="list-style-type: none"> 1. Click the Choose a resource  icon; the JDE Object List window is displayed. 2. Select an object by entering a value in the Please select an object field to match the desired object, or by scrolling up and down the object list. Click OK.
Query Type	No	<p>Select one of the following query types:</p> <ol style="list-style-type: none"> 1. ListCreate Creates a list in the specified Table, View or TC. 2. ListRetrieve Retrieves a list from the specified Table, View or TC. 3. ListDelete Deletes a list from the specified Table, View or TC.


Description

In the **Description** tab, you can add a short description for the QueryXMLList activity.

Advanced

The following table describes the configurations in the **Advanced** tab of the QueryXMLList activity.

Field	Module Property?	Description
Get Schema	No	Click this button to get the schema of the selected table.

Field	Module Property?	Description
Name	No	The name of the table selected from the Table Name list in the General tab.
Use Attribute	No	Select this check box if you want to use the attribute as an input parameter for the selected table.
Refresh	No	Click this button after you complete all the settings in the Advanced tab.
 If TC is selected in the Table Type field, you have to select the TC version after clicking Get Schema in the Advanced tab.		

Input

The following table describes the input elements in the **Input** tab of the QueryXMLList activity.

Input Item	Data Type	Description
The following fields are displayed when Table , or View in the Table Type list, and ListCreate in the Query Type list are selected.		
TableName	String	Specify the name for the table, where ListCreate operations are performed, with single or double quotation marks.
TableType	String	Enter a table type, such as OWTABLE, OWVIEW, or FOREIGN_TABLE.
DataSelection	N/A	Specify the data used to create a list in the specified table under this node.
ClauseType	N/A	Specify the clause type under this node.
ClauseName	String	Enter the name for the clause with single or double quotation marks. The clause name can be WHERE, OR, or AND.
OperationType	String	Enter an operation type, such as EQ, NE, or LT.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column, where ListCreate operations are performed, with single or double quotation marks.
TableName	String	Enter the name for the table, where ListCreate operations are performed, with single or double quotation marks.
Instance	String	Enter the instance value for the column with single or double quotation marks.

Input Item	Data Type	Description
Alias	String	Enter an alias for the column name with single or double quotation marks.
Operand	N/A	Specify the supported element types under this node.
LiteralValue	String	Enter the literal value with single or double quotation marks.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column, where ListCreate operations are performed, with single or double quotation marks.
TableName	String	Enter the name for the table with single or double quotation marks.
Instance	String	Enter the instance value for the column with single or double quotation marks.
Alias	String	Enter an alias for the column name with single or double quotation marks.
OpRange	N/A	Specify the operand range under this node.
LiteralFrom	Int	Enter the starting literal value with single or double quotation marks.
LiteralTo	Int	Enter the end literal value with single or double quotation marks.
OpList	N/A	Specify the operand list under this node.
LiteralValue	String	Enter the literal value for the operand with single or double quotation marks.
DataSequencing	N/A	Specify the data sequence for the specified column.
Sort	String	Sort the specified column in descending or ascending order, with single or double quotation marks.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column with single or double quotation marks.
TableName	String	Enter the name for the table with single or double quotation marks.
Instance	String	Enter the instance value for the column with single or double quotation marks.

Input Item	Data Type	Description
Alias	String	Enter an alias for the column with single or double quotation marks.
The following fields are displayed when TC in the Table Type list, and ListCreate in the Query Type list are selected.		
TCName	String	Specify the name for the TC, where ListRetrieve operations are performed, with single or double quotation marks.
TCVersion	String	Specify the version for the TC with single or double quotation marks.
DataSelection	N/A	Specify the data used to create a list in the specified table under this node.
ClauseType	N/A	Specify the clause type under this node.
ClauseName	String	Enter the name for the clause with single or double quotation marks. The clause name can be WHERE, OR, or AND.
OperationType	String	Enter an operation type, such as EQ, NE, or LT.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column, where ListCreate operations are performed, with single or double quotation marks.
TableName	String	Enter the name for the table, where ListCreate operations are performed, with single or double quotation marks.
Instance	String	Enter the instance value for the column with single or double quotation marks.
Alias	String	Enter an alias for the column name with single or double quotation marks.
Oprand	N/A	Specify the supported element types under this node.
LiteralValue	String	Enter the literal value with single or double quotation marks.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column with single or double quotation marks.
TableName	String	Enter the name for the table with single or double quotation marks.

Input Item	Data Type	Description
Instance	String	Enter the instance value for the column with single or double quotation marks.
Alias	String	Enter an alias for the column name with single or double quotation marks.
OpRange	N/A	Specify the operand range under this node.
LiteralFrom	Int	Enter the starting literal value with single or double quotation marks.
LiteralTo	Int	Enter the end literal value with single or double quotation marks.
OpList	N/A	Specify the operand list under this node.
LiteralValue	String	Enter the literal value for the operand with single or double quotation marks.
DataSequencing	N/A	Specify the data sequence for the specified column.
Sort	String	Sort the specified column in descending or ascending order, with single or double quotation marks.
ColumnAttributes	N/A	Specify the column attributes for the specified table under this node.
ColumnName	String	Enter the name for the column with single or double quotation marks.
TableName	String	Enter the name for the table with single or double quotation marks.
Instance	String	Enter the instance value for the column with single or double quotation marks.
Alias	String	Enter an alias for the column with single or double quotation marks.
The following fields are displayed when Table , or View in the Table Type list, and ListRetrieve in the Query Type list are selected.		
TableName	String	Specify the name for the table, where ListRetrieve operations are performed, with single or double quotation marks.
Handle	String	Specify the handle which is generated by the ListCreate operation and is used to retrieve data from a list.
From	String	Enter a value to specify where to start retrieving data, with single or double quotation marks.

Input Item	Data Type	Description
To	String	Enter a value to specify where to end retrieving data, with single or double quotation marks.
The following fields are displayed when TC in the Table Type list and ListRetrieve in the Query Type list are selected.		
TCName	String	Specify the name for the TC, where ListRetrieve operations are performed, with single or double quotation marks.
Handle	String	Specify the handle which is generated by the ListCreate operation and is used to retrieve data from a list.
From	String	Enter a value to specify where to start retrieving data, with single or double quotation marks.
To	String	Enter a value to specify where to end retrieving data, with single or double quotation marks.
The following field is displayed when Table , View or TC in the Table Type list, and ListDelete in the Query Type list are selected.		
Handle	String	Specify the handle which is generated by the ListCreate operation and is used to delete a list.

Output

The following table describes the output elements in the **Output** tab of the QueryXMLList activity.

Output Item	Data Type	Description
The following fields are displayed when Table , or View in the Table Type list, and ListCreate in the Query Type list are selected.		
Status	Boolean	The status of the QueryXMLList activity. If it runs successfully, the status is true ; otherwise, the status is false .
ID	String	The ID number of the returned message.
Message	String	The return message after running the QueryXMLList activity.
TableName	String	The name of the table where ListCreate operations are performed.
Handle	String	The unique identifier which is used to retrieve data or delete a list.
Session	String	The session and its value in the process.
Size	Int	The size of the data in bytes.

Output Item	Data Type	Description
ReturnCode	String	The return code after running the QueryXMLList activity.
The following fields are displayed when TC in the Table Type list and ListCreate in the Query Type list are selected.		
Status	Boolean	The status of the QueryXMLList activity. If it runs successfully, the status is <code>true</code> ; otherwise, the status is <code>false</code> .
ID	String	The ID number of the returned message.
Message	String	The return message after running the QueryXMLList activity.
TCName	String	The name of the TC where ListCreate operations are performed.
Handle	String	The unique identifier which is used to retrieve data or delete a list.
Session	String	The session and its value in the process.
Size	Int	The size of the data in bytes.
ReturnCode	String	The return code after running the QueryXMLList activity.
The following fields are displayed when Table , or View in the Table Type list, and ListRetrieve in the Query Type list are selected.		
Status	Boolean	The status of the QueryXMLList activity. If it runs successfully, the status is <code>true</code> ; otherwise, the status is <code>false</code> .
ID	String	The ID number of the returned message.
Message	String	The return message after running the QueryXMLList activity.
TableName	String	The name of the table where ListRetrieve operations are performed.
Handle	String	The unique identifier which is used to retrieve data from a list.
ReturnCode	String	The return code after running the QueryXMLList activity.
The following fields are displayed when TC in the Table Type list and ListRetrieve in the Query Type list are selected.		

Output Item	Data Type	Description
Status	Boolean	The status of the QueryXMLList activity. If it runs successfully, the status is true; otherwise, the status is false.
ID	String	The ID number of the returned message.
Message	String	The return message after running the QueryXMLList activity.
TCName	String	The name of the TC where ListRetrieve operations are performed.
Handle	String	The unique identifier which is used to retrieve data from a list.
ReturnCode	String	The return code after running the QueryXMLList activity.
The following fields are displayed when Table , View or TC in the Table Type list and ListDelete in the Query Type list are selected.		
Status	Boolean	The status of the QueryXMLList activity. If it runs successfully, the status is true; otherwise, the status is false.
ID	String	The ID number of the returned message.
Message	String	The return message after running the QueryXMLList activity.
TableName	String	The name of the table where ListDelete operations are performed.
Handle	String	The unique identifier which is used to delete a list.
ReturnCode	String	The return code after running the QueryXMLList activity.

Fault

The following table describes the error schema elements in the **Fault** tab of the QueryXMLList activity.

Error Schema Element	Data Type	Description
JDEPluginException		
msg	String	This error message is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the QueryXMLList activity.

Error Schema Element	Data Type	Description
msgCode	String	This error code is displayed when the JD Edwards EnterpriseOne plug-in captures an exception for the QueryXMLList activity.

Working with the Sample Project

Working through the sample project helps you understand how TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne operates.

TIBCO ActiveMatrix BusinessWorks Plug-in for JD Edwards EnterpriseOne is packaged with a sample project within the installer. After installing the plug-in, you can find the sample project which is located in the *TIBCO_HOME\bw\palettes\jde\version_number\samples* directory.

Importing the Sample Project

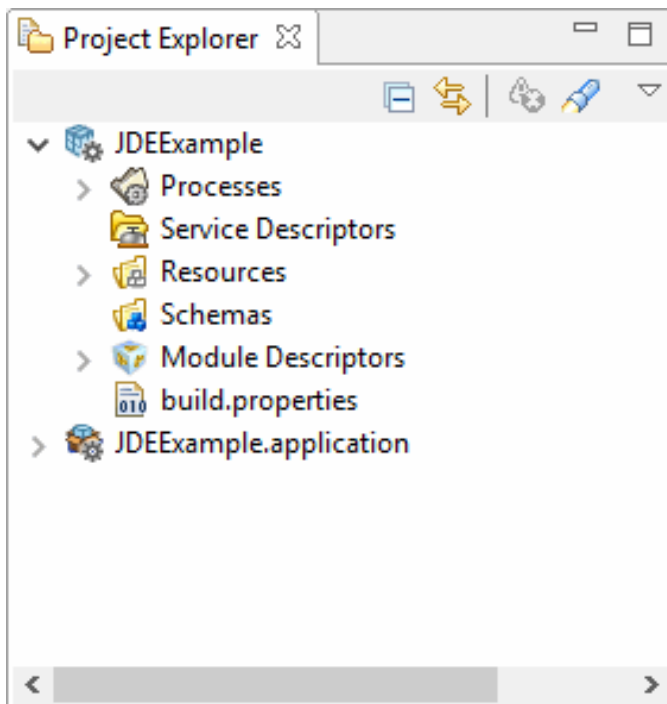
Before running the project, you must import it to TIBCO Business Studio.

Procedure

1. Start TIBCO Business Studio using one of the following ways:
 - Microsoft Windows: click **Start > All Programs > TIBCO > TIBCO_HOME > TIBCO Business Studio version_number > Studio for Designers**
 - Mac OS and Linux: run the TIBCO Business Studio executable file located in the *TIBCO_HOME/studio/version_number/eclipse* directory.
2. From the menu, click **File > Import**.
3. In the Import window, expand the **General** folder and select the **Existing Studio Projects into Workspace** item. Click **Next**.
4. Click **Browse** next to the **Select archive file** field to select the *JDEExample.zip* file. Click **Finish**.
The *JDEExample.zip* file is located in the *TIBCO_HOME\bw\palettes\jde\version_number\samples* directory.

Result

The sample project is imported to TIBCO Business Studio.




Configuring the JDE Connection

Configuring the JDE Connection shared resource is essential for the plug-in to establish a connection to the JD Edwards EnterpriseOne server.

Prerequisites

[Importing the Sample Project.](#)

Procedure

1. In the Project Explorer view, expand **JDEExample > Resources**.
2. Double-click **JDEConnectionResource.JDEConnectionResource**.
3. In JDE Connection Editor, configure each field accordingly.
4. On the toolbar, click the **Save**  icon to save your changes.




Running the Sample Project

The sample project shows how to use the plug-in to run one or a group of business functions, query tables by XML lists, and monitor real time events in the JD Edwards EnterpriseOne system.

Prerequisites

Ensure that you have imported the sample project to TIBCO Business Studio, as described in [Importing the Sample Project](#), and configured JDE Connection, as described in [Configuring the JDE Connection](#).

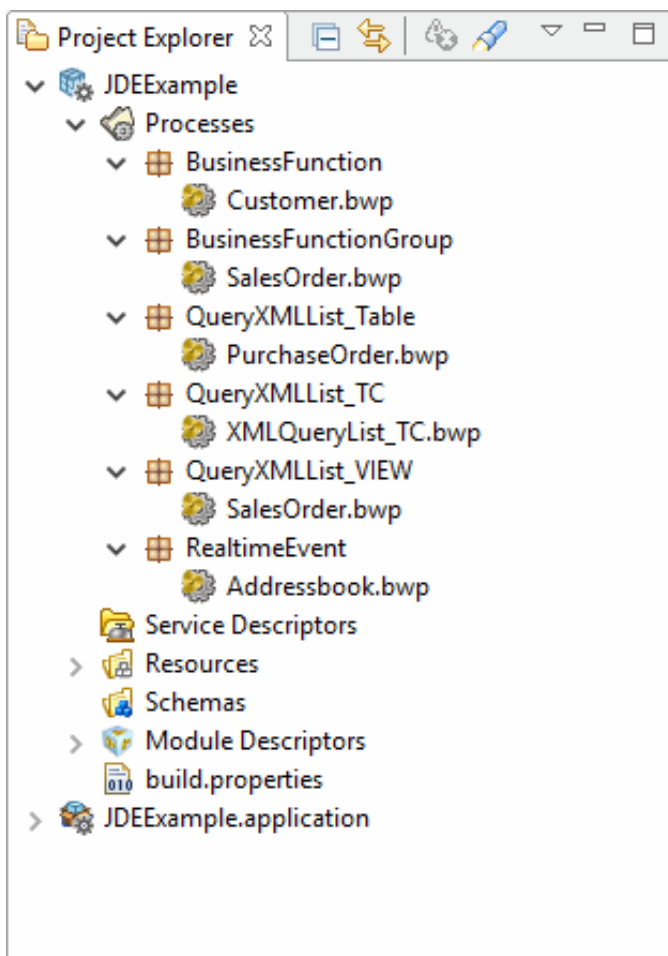
Procedure

1. In the Project Explorer view, expand the **Module Descriptors** resource, and then double-click **Components**.
2. By default, all the processes are listed in the Components editor. Select the process that you do not want to run and click the **remove selected component**  icon.
3. On the toolbar, click the **Save**  icon to save your changes.
4. From the menu, click **Run > Run Configurations** to run the selected process.
5. In the Run Configurations dialog, expand **BusinessWorks Application**, and then click **BWApplication**.
6. In the right panel, click the **Applications** tab, and select the check box next to **JDEExample.application**.
7. Click **Run** to run the selected process.
8. Click the **Terminate**  icon to stop the process.

Configuration of Sample Processes

The example file contains one project. Each process in the project has different functions.

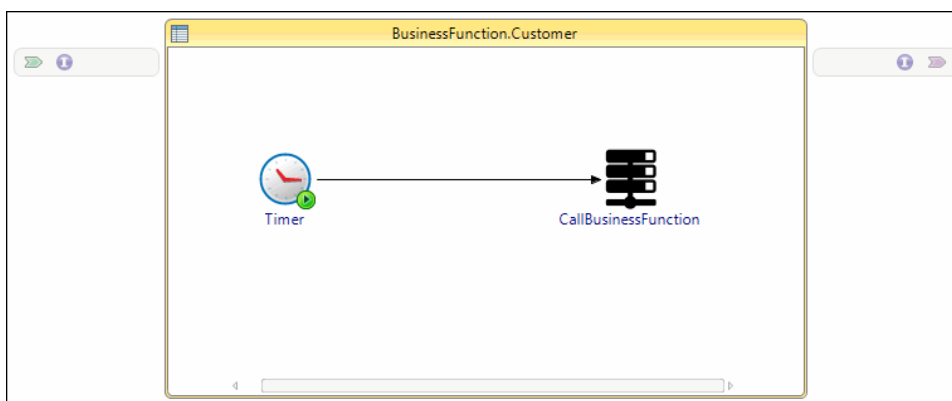
After importing the sample project, expand the project in the Project Explorer view. All the processes are displayed. See [Importing the Sample Project](#) for more information.



Customer.bwp

This process demonstrates how to use the plug-in to run a business function in the JD Edwards EnterpriseOne system.

The process is designed with the following activities:



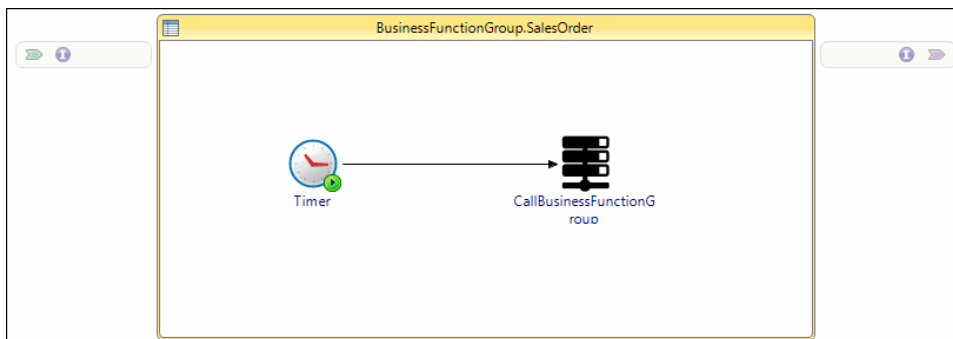
The following table describes the activities in the process.

Activity	Description
Timer	Starts the process.
CallBusinessFunction	Runs a business function in the JD Edwards EnterpriseOne system.

SalesOrder.bwp

This process demonstrates how to use the plug-in to run a group of business functions in the JD Edwards EnterpriseOne system.

The process is designed with the following activities:



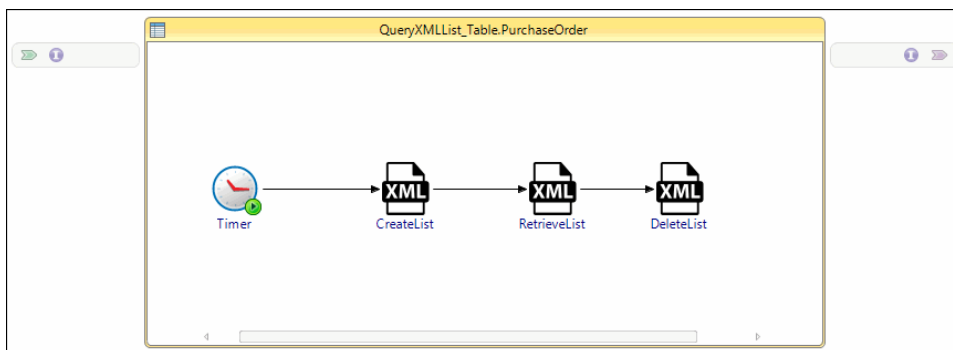
The following table describes the activities in the process.

Activity	Description
Timer	Starts the process.
CallBusinessFunctionGroup	Runs a group of business functions in the JD Edwards EnterpriseOne system.

PurchaseOrder.bwp

This process demonstrates how to use the plug-in to perform a query operation in the specified Table.

The process is designed with the following activities:

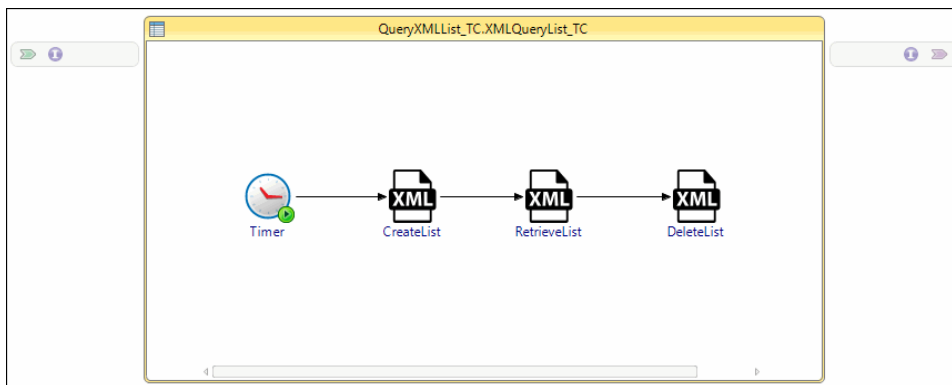


The following table describes the activities in the process.

Activity	Description
Timer	Starts the process.
CreateList	Creates a query list for the specified Table in the JD Edwards EnterpriseOne system.
RetrieveList	Retrieves data from the JD Edwards EnterpriseOne system according to the query list.
DeleteList	Deletes the query list from the JD Edwards EnterpriseOne system after the query operation is completed.

XMLQueryList_TC.bwp

This process demonstrates how to use the plug-in to perform a query operation in the specified TC. The process is designed with the following activities:

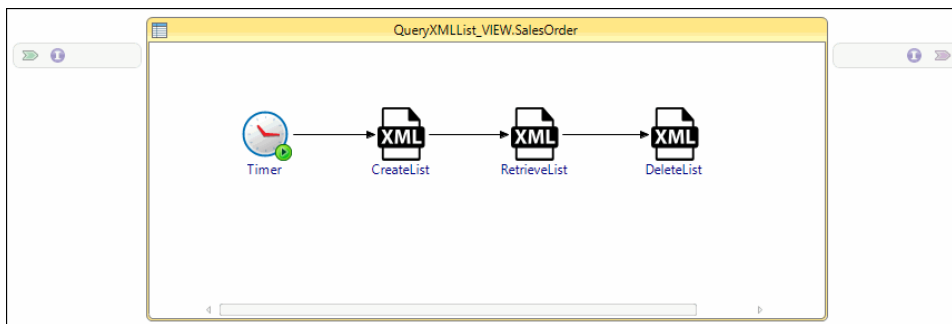


The following table describes the activities in the process.

Activity	Description
Timer	Starts the process.
CreateList	Creates a query list for the specified TC in the JD Edwards EnterpriseOne system.
RetrieveList	Retrieves data from the JD Edwards EnterpriseOne system according to the query list.
DeleteList	Deletes the query list from the JD Edwards EnterpriseOne system after the query operation is completed.

SalesOrder.bwp

This process demonstrates how to use the plug-in to perform a query operation in the specified View. The process is designed with the following activities:



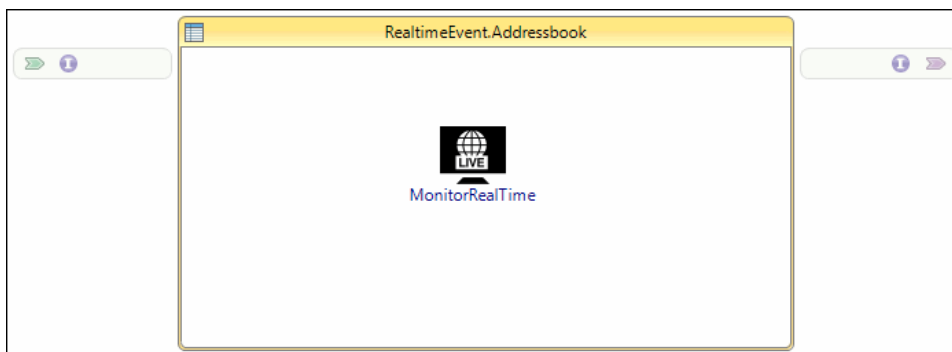
The following table describes the activities in the process.

Activity	Description
Timer	Starts the process.
CreateList	Creates a query list for the specified View in the JD Edwards EnterpriseOne system.
RetrieveList	Retrieves data from the JD Edwards EnterpriseOne system according to the query list.
DeleteList	Deletes the query list from the JD Edwards EnterpriseOne system after the query operation is completed.

Addressbook.bwp

This process demonstrates how to use the plug-in to monitor the real time event created by the JD Edwards EnterpriseOne system.

The process is designed with the following activity:



The following table describes the activity in the process.

Activity	Description
MonitorRealTime	Monitors the real time event created by the JD Edwards EnterpriseOne system.

Managing Logs

When an error occurs, you can check logs to trace and troubleshoot the plug-in exceptions.

By default, error logs are displayed in the Console view when you run a process in debug mode. You can change the log level of the plug-in to trace different messages and export logs to a file. Different log levels correspond to different messages, as described in [Log Levels](#).

Log Levels

Different log levels include different information.

The plug-in supports the following log levels.

Log Level	Description
Trace	Includes all information regarding the running process.
Debug	Indicates a developer-defined tracing message.
Info	Indicates normal plug-in operations. No action is required. A tracing message tagged with Info indicates that a significant processing step is reached, and logged for tracking or auditing purposes. Only info messages preceding a tracking identifier are considered as significant steps.
Error	Indicates that an unrecoverable error occurred. Depending on the severity of the error, the plug-in might continue with the next operation or might stop.

Setting Up Log Levels

You can configure different log levels for the plug-in and plug-in activities to trace different messages.

If you do not change any log levels, the plug-in uses the default log level of TIBCO ActiveMatrix BusinessWorks. The default log level is Error.

Procedure

1. Navigate to the *TIBCO_HOME/bw/version_number/config/design/logback* directory and open the *logback.xml* file.
2. Add the following node in the **BusinessWorks Palette and Activity loggers** area to specify a log level for the plug-in:

```
<logger name="com.tibco.bw.palette.jde.runtime">
  <level value="DEBUG"/>
</logger>
```

The value of the **level** element can be Error, Info, Debug or, Trace.



If you set the log level to Debug, the input and output for the plug-in activities are also displayed in the Console view. See [Log Levels](#) for more details regarding each log level.

3. Optional: Add different nodes in the **User loggers** area to specify different log levels for the activities:
 - For the CallBusinessFunction and QueryXMLList activities, add the following node to set the log level to Debug:

```
<logger name="com.tibco.bw.palette.jde.runtime.ActivityNameActivity">
  <level value="DEBUG"/>
</logger>
```

- For the MonitorRealTime activity, add the following node to set the log level to Debug:

```
<logger name="com.tibco.bw.palette.jde.runtime.MonitorRealTimeEventSource">
  <level value="DEBUG"/>
</logger>
```



The activities that are not configured with specific log levels use the log level configured for the plug-in.

- Save the file.

Exporting Logs to a File

You can update the `logback.xml` file to export plug-in logs to a file.

Procedure

- Navigate to the `TIBCO_HOME\bw\version_number\config\design\logback` directory and open the `logback.xml` file.



After deploying an application in TIBCO Enterprise Administrator, navigate to the `TIBCO_HOME\bw\version_number\domains\domain_name\appnodes\space_name\node_name` directory to find the `logback.xml` file.

- Add the following node to specify the file where the log is exported:

```
<appender name="FILE" class="ch.qos.logback.core.FileAppender">
  <file>c:/bw6-jde.log</file>
  <encoder>
    <pattern>%d{HH:mm:ss.SSS} [%thread] %-5level %logger{36}-%msg%n</pattern>
  </encoder>
</appender>
```

The value of the `file` element is the absolute path of the file that stores the exported log.

- Add the following node to the root node at the bottom of the `logback.xml` file:

```
<root level="DEBUG">
  <appender-ref ref="STDOUT"/>
  <appender-ref ref="FILE"/>
</root>
```

- Save the file.

Error Codes

The following table lists error codes, detailed explanation of error codes, and where applicable, ways to solve different errors.

Error Code and Error Message	Role	Category	Description	Solution
TIBCO-BW-PALETTE-JDE-500002 IOException occurred while retrieving XML Output for activity [{0}].	Error	BW-Plug-in	Occurs when retrieving XML output for an activity.	No.
TIBCO-BW-PALETTE-JDE-500003 Exception occurred while invoke execute method for activity [{0}].	Error	BW-Plug-in	Occurs when an execution method is invoked for an activity.	No.
TIBCO-BW-PALETTE-JDE-520001 The business function should not be null.	Error	BW-Plug-in	Occurs when the business function is null.	Check if the business function name is null.
TIBCO-BW-PALETTE-JDE-520002 The business function value is not consistent with schema.	Error	BW-Plug-in	Occurs when the business function value is not consistent with the schema value.	Keep the business function name and schema value consistent.
TIBCO-BW-PALETTE-JDE-540001 The table name should not be null.	Error	BW-Plug-in	Occurs when the table name is null.	Set the correct table name.
TIBCO-BW-PALETTE-JDE-560001 Exception occurred while execute the activity [{0}].The error message is:{1}	Error	BW-Plug-in	Occurs when the activity is executed.	No.