TIBCO ActiveMatrix BusinessWorks™

Migration

Version 6.11.0 | December 2024

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Changing Help Preferences

By default, documentation access from TIBCO Business Studio™ for BusinessWorks™ is online, through the TIBCO Product Documentation website that contains the latest version of the documentation. Check the website frequently for updates. To access the product documentation offline, download the documentation to a local directory or an internal web server and then change the help preferences in TIBCO Business Studio for BusinessWorks.

Before you begin

Before changing the help preferences to access documentation locally or from an internal web server, download the documentation.

1. Go to https://docs.tibco.com/
2. In the **Search** field, enter TIBCO ActiveMatrix BusinessWorks™ and press **Enter**.
3. Select the TIBCO ActiveMatrix BusinessWorks™ product from the list. This opens the product documentation page for the latest version.
4. Click **Download All**.
5. A compressed .zip file containing the latest documentation is downloaded to your web browser's default download location.
6. Copy the .zip file to a local directory or to an internal web server and unzip the file.

To point to a custom location:

Procedure

1. Perform one of the following steps in TIBCO Business Studio for BusinessWorks based on your operating system:
   - On Windows OS: Click **Window > Preferences**
   - On macOS: Click **TIBCO Business Studio > Preferences**.
2. In the Preferences dialog, click **BusinessWorks > Help**.
3. Click **Custom Location**, and then browse to the `html` directory in the folder where you extracted the documentation or provide the URL to the `html` directory on your

internal web server.

4. Click **Apply**, and then click **OK**.

Introduction

TIBCO ActiveMatrix BusinessWorks™ 6.x architecture provides a migration path for ActiveMatrix BusinessWork™ 5.x projects with a few exceptions. This document explains how to migrate from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks™ 6.x, and lists differences between the two. There are many new features in ActiveMatrix BusinessWorks 6.x that advance integration, but are not covered in this document.

Migration Queries	Resolution
ActiveMatrix BusinessWorks 5.x constructs migrating to equivalent ActiveMatrix BusinessWorks 6.x constructs.	The value **Supported** is mentioned in the "Migration Support" for this category. **Note:** Supported does not mean defect free.
ActiveMatrix BusinessWorks 5.x constructs are not migrating to ActiveMatrix BusinessWorks 6.x, because corresponding ActiveMatrix BusinessWorks 6.x construct is available with corresponding migration support, with corner case limitations.	The value **Supported with limitations** is mentioned in the "Migration Support" for this category.
The corresponding ActiveMatrix BusinessWorks 6.x constructs are not currently available.	1. This implies a feature parity gap for ActiveMatrix BusinessWorks 6.x compared with ActiveMatrix BusinessWorks 5.x. 2. The value **Currently not supported** is mentioned in the "Migration Support" for this category. **Note:** Contact Product Management for details on features that are currently not supported.

Migration Queries	Resolution
The corresponding ActiveMatrix BusinessWorks 6.x construct is available, but ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x migration extension is currently not available.	1. This means a user can create such a construct using TIBCO Business Studio for BusinessWorks, but automated migration from ActiveMatrix BusinessWorks 5.x is not yet supported. 2. After migration, re-factor and re-create the construct using TIBCO Business Studio for BusinessWorks. 3. The value **BW6 migration not supported** is mentioned in the "Migration Support" for this category.
Fundamental design improvements in ActiveMatrix BusinessWorks 6.x renders automated migration.	1. You can achieve better results in ActiveMatrix BusinessWorks 6.x compared to ActiveMatrix BusinessWorks 5.x, but only when the construct is created in TIBCO Business Studio for BusinessWorks. 2. After migration, re-factor and re-create the construct using TIBCO Business Studio for BusinessWorks. 3. The value **Refactor and recreate** is mentioned in the "Migration Support" for this category.

Type Column Legends

The following values are used in the "Type" columns.

Values used in Type columns	Description
.*<resource extension>*	The file extension used to describe its type. For example, `.xml`, `.xsd`, and `.wsdl` resources.
Adapter Specific Resource	Special resources used only for configuration of Adapters.
Shared Configuration	Resource configuration with an associated a transport state that can be lifecycled.
Shared Resource	Re-usable configuration without a transport state that can be lifecycled.
Process Starter Activity	1. One of the three activity types supported by ActiveMatrix BusinessWorks 5.x and ActiveMatrix BusinessWorks 6.x. 2. This type of activity starts a new job from external messages or internal events.
Regular Activity	1. One of the three activity types supported by ActiveMatrix BusinessWorks 5.x and ActiveMatrix BusinessWorks 6.x. 2. This type of activity processes its input in-memory.
Signal-in Activity	1. One of the three activity types supported by ActiveMatrix BusinessWorks 5.x and ActiveMatrix BusinessWorks 6.x. 2. This type of activity suspends the job and waits for an external event. When BusinessWorks runtime receives an external event, it correlates the event base on a prescribed key. The ActiveMatrix BusinessWorks runtime joins the external event to the waiting job only when the prescribed key matches.

Values used in Type columns	Description
Built-in	1. An intrinsic built-in feature of ActiveMatrix BusinessWorks process editor. 2. A built-in feature can be from an eclipse or part of the editor feature (for example, ActiveMatrix BusinessWorks 6.x Process Design Editor).
Palette	1. In ActiveMatrix BusinessWorks 5.x, a palette is a TIBCO Designer™ concept for the grouping of resources or activities. 2. For the purpose of this documentation, a palette is for describing a group of activities that are offered as part of core ActiveMatrix BusinessWorks.
Plug-in	1. In ActiveMatrix BusinessWorks 5.x, a ActiveMatrix BusinessWorks Plug-in is an add-on extension that contains both design-time and runtime extensions of ActiveMatrix BusinessWorks activities. 2. In ActiveMatrix BusinessWorks 5.x, a ActiveMatrix BusinessWorks Plug-in is offered as an add-on product to ActiveMatrix BusinessWorks. 3. For the purpose of this documentation, a plug-in is for describing a ActiveMatrix BusinessWorks add-on product.
Binding	1. In ActiveMatrix BusinessWorks 6.x, binding type is offered as a first class concept as part of activities. 2. SOAP binding and REST binding are offered as a part of ActiveMatrix BusinessWorks 6.x core features.

Standard Constructs

The following table lists supported standard constructs.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
DTD	`.dtd`	XSD	`.xsd`	Supported	• ActiveMatrix BusinessWorks 6.x currently does not support DTD natively. • ActiveMatrix BusinessWorks 6.x Migration tool converts DTD resource to XSD.
Instance	`.xml`	Instance	`.xml`	Supported	Migrates as is.
Schema	`.xsd`	Schema	`.xsd`	Supported	Migrates as is.
XSLT	`.xslt`	XSLT	`.xslt`	Supported	Migrates as is.
WSDL	`.wsdl`	WSDL	`.wsdl`	Supported	Migrates as is.

TIBCO ActiveMatrix BusinessWorks™ Core Constructs

The following table displays supported core constructs.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Design-time Library		Application Module	Application Module	Supported	
Start		Start	Start	Supported	Applies to a Sub Process. If the Sub Process refers to an inline schema it is externalized.
Process Starter		Process Starter Activity or Service	Process Starter Activity or Service	Supported	If the ActiveMatrix BusinessWorks 5.x activity is a SOAP Event Source or a Service Binding then the Service is created. For all other Process Starters, it creates the Process Starters only.
End		End	End	Supported	Applies to a Sub Process. If the Sub Process refers to an inline schema it is externalized.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Global Variable	`.substvar`	Process Property Module Property Application Property	`.substvar`	Supported	As ActiveMatrix BusinessWorks 6.x Runtime supports multiple applications, it is recommended that Global Variable is not used to describe application configurable properties. Instead, there are following three levels of properties: • Process Properties • Module Properties • Application Properties These three levels of properties are hierarchical: **Application Properties** are in the outer most scope, followed by **Module Properties**, followed by **Process Properties**.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					You can define and source value from its parent scope. For example: 1. **Process Property** values can be defined by **Literal Values** or source its value from its parent scope **Module Property**. 2. By the same token, **Module Property** value can be defined by **Literal Values** or source from its parent scope **Application Property**.

Groups

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support
Group	Built-In	Scope	Built-In	Supported
Group : If	Built-In	-	-	Currently not supported
Group : Iterate	Built-In	Group : Iterate	Built-In	Supported
Group : Repeat Until True	Built-In	Group : Repeat	Built-In	Supported
Group : Repeat On Error Until True	Built-In	Group : Repeat On Error	Built-In	Supported
Group : Transaction	Built-In	Group : Local Transaction	Built-In	Supported
Group : Critical Section	Built-In	Group : Critical Section	Built-In	Supported
Group : Pick First	Built-In	-	-	Currently not supported
Group : While True	Built-In	Group : While	Built-In	Supported

Transitions

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Process Definition	`.process`	Process	`.bwp`	Supported	ActiveMatrix BusinessWorks 5.x `.process` files are migrated as `.bwp` files.
Project	Designer Project	Application Module	Application Module	Supported	
Transition : Condition Type : Success	Built-In	Transition : Condition Type : Success	Built-In	Supported	
Transition : Condition Type : Success with condition	Built-In	Transition : Condition Type : Success with condition	Built-In	Supported	
Transition : Condition Type : Success with no matching	Built-In	Transition : Condition Type : Success with no matching condition	Built-In	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
condition					
Transition : Condition Type : Error	Built-In	Transition : Condition Type : Error	Built-In	Supported	

Timer

Timer is a process starter activity that starts the process at a specific time. You can also specify the processes to be started periodically.

General

The **General** tab has the following fields.

Field	Literal Value/Module Property/Process Property	Description
Name	None	The name to be displayed as the label for the activity in the process.
Start Time	Yes	The day and time to start the process. To run the process periodically, the start time indicates the first time to run the process. The local machine's time zone is used to determine the process start. If the project is running on machines in different time zones, the time zone of the machine where the project was saved, is used. Use a process property in this field to provide start times relative to the time zone where the project is deployed. If you provide a process property for this field, the format of the specified time must be: `yyyy MMM dd HH:mm:ss z`
Run Once	None	Indicates this process should be run only once on the day and time indicated by the **Start Time** field. If you do not select this check box, the **Time Interval** and **Interval Unit** fields are displayed that you can use to specify the frequency of the process.

Field	Literal Value/Module Property/Process Property	Description
Time Interval	Yes	The integer indicating the number of units specified in the **Interval Unit** field. For example, if a value of **1** is specified and the **Interval Unit** field is specified as **Hour**, a new process is started every hour beginning at the time specified in the **Start Time** field. • If a value of **2** is specified and the **Interval Unit** field is specified as **Month**, a process is started every other month, beginning at the time specified in the Start Time field. • If the value specified is less than one second (1000 milliseconds), the timer ignores the specified interval and is triggered once every second. **Note:** Using **Literal Value**, **Module Property**, and **Process Property** in this field, specifies the time interval in milliseconds and the **Interval Unit** field is not displayed.
Interval Unit	None	The unit of time to use with the **Time Interval** field to determine how often to start a new process. The units can be: **Millisecond**, **Second**, **Minute**, **Hour**, **Day**, **Week**, **Month**, and **Year**.
End After	None	Specify the number of occurrences or the end time here. Select from the following available options: • **Never**: Click the **Never** radio button if you want to continuously execute the process instance. For example, if the Time Interval value specified is 5 and the Interval Unit specified is Second, the process instance executes every 5 seconds. • **Occurrences**: Clicking the **Occurrences** radio button displays the **Occurrences** field. Specify the

Field	Literal Value/Module Property/Process Property	Description
		number of occurrences of the process instance execution. This field can be configured with **Literal Value**, **Module Property**, and **Process Property**. • **End Time**: Clicking the **End Time** radio button displays the **End Time** field. Specify the end time and date when you want the process to end. This field can be configured with **Literal Value**, **Module Property**, and **Process Property**.

Description

Provide a short description of the activity.

Advanced

The **Advanced** tab has the following fields.

Field	Description
Sequencing Key	This field contains an XPath expression that specifies which processes should run in sequence. Process instances with sequencing keys evaluating to the same value, are executed sequentially in the sequence the process instance was created.
Custom Job Id	This field contains an XPath expression that specifies a custom job ID for every job in the process instance.

Conversations

You can initiate the conversation here. Click the **Add New Conversation** button to initiate multiple conversations.
For more information about conversations, see *TIBCO ActiveMatrix BusinessWorks™ Application Development*.

Output

The following is the output of the activity.

Output Item	Description
TimerOutputSchema	The time the process instance started. The time is represented by several items in the output schema indicating: • Now • Hour • Minute • Second • Week • Month • Year • Date • Time • DayOfMonth Each of these items uses the appropriate datatype.

Threading Policy Details

The following are the details about the **Timer** activity threading policy.

Activity Type	Multi-Threaded?	Default Thread Count	Thread Count Configuration
ProcessStarter	No	1	Not applicable. The Timer process starter does not generate multiple events concurrently. You cannot

Activity Type	Multi-Threaded?	Default Thread Count	Thread Count Configuration
			alter the default thread count for this activity.

Mapper

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
XPATH	XPATH in Designer Mapper	XPATH	XPATH in Eclipse Mapper	Supported	XPATH support in ActiveMatrix BusinessWorks 5.x is limited to XPATH 1.0. ActiveMatrix BusinessWorks 6.x supports XPATH 1.0. For example, all literal values used in XPATH 1.0 must have a corresponding constructor function around the literal value.
XSLT	XSLT in Designer Mapper	XSLT	XSLT in Eclipse Mapper	Supported	XSLT support in ActiveMatrix BusinessWorks 5.x is limited to XSLT 1.0. ActiveMatrix BusinessWorks 6.x also supports XSLT 1.0. When a repeating element is mapped to a string using a filter, and the `xsl:value-of instruction` parameter has no separator attribute, and the value of the select expression is a sequence of more than one item, then under XSLT 2.0 all

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					the items in the output sequence are space separated, whereas for XSLT 1.0, all items after the first element are discarded.

BusinessWorks Palettes

General Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Alias Library	Shared Configuration	Application Module with Java Nature or Eclipse Java Plug-In Project	Eclipse Plug-in Project	Not Supported	
Enterprise Archive Resource	Shared Configuration	ActiveMatrix BusinessWorks 6.x Application	Eclipse Plug-in Project	Not Supported	
Folder	Generic Resource	Folder	Eclipse Folder	Supported	
Generic Image Resource	Generic Resource		Generic Resource		
Identity	Shared Configuration	Identity	Shared Configuration	Supported	
Library Builder	`.projlib`	Shared Module	Eclipse Plug-in Project	Not Supported	In this version of ActiveMatrix BusinessWorks 6.x Migration Framework, ActiveMatrix BusinessWorks 5.x Design-

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					time Libraries are migrated inline, as part of regular resources in Application Module. If an ActiveMatrix BusinessWorks 6.x developer wants to reuse the contents of the DT Library, the migrated resource can be manually re-factored into Shared Module. **Workaround**: To support Design-time libraries after migration configure the libraries and save them to the disk before migrating.
Task List	`.taskList`	Task List	`.taskList`	Currently not supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Text Document	`.txt`	Text Document	`.txt`	Supported	

General Activities Shared Resources

ActiveMatrix BusinessWorks 5.x: General Activities Shared Resources

Type: Palette

ActiveMatrix BusinessWorks 6.x: Shared Resources Wizards

Type: Shared Resources

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Custom Activity	Shared Configuration	Custom Activity	Shared Configuration	Currently not supported	
JNDI Configuration	Shared Configuration	JNDI Configuration	Shared Configuration	Supported	
Job Shared Variable	Shared Configuration	Module : Job Shared Variable	Shared Configuration	Supported	
Lock Object	Shared Configuration	Module : Job Shared Variable	Shared Configuration	Supported	In ActiveMatrix BusinessWorks 5.x, **Lock**

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Object is used with the **Critical Section** group. This construct is also supported for cross engines critical section. In ActiveMatrix BusinessWorks 6.x, the **Critical Section** group is configured with Module Shared Variable. In TIBCO Business Studio for BusinessWorks, module shared variables are configured through **Module**

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Descriptors > Shared Variables editor. This construct is also supported for AppSpaces with multiple AppNodes in ActiveMatrix BusinessWorks 6.x, if the AppSpace is configured with Engine Group active/active configuration. Migration Tool migrates ActiveMatrix BusinessWorks 5.x Lock Object as a Module Shared Variable and the **Critical Section** group.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Notify Configuration	Shared Configuration	Process : WSDL/Interface/Operation	Shared Configuration	Supported	
Shared Variable	Shared Resource	Module : Module Shared Variable Type: Shared Resource	Shared Resource	Supported	ActiveMatrix BusinessWorks 5.x shared variable with multi-engine option is now a Module Shared Variable with **Persistent** option.

General Activities Palette

ActiveMatrix BusinessWorks 5.x: General Activities Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: General Activities Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Assign	Regular Activity	Basic : Assign	Regular Activity	Supported	
Call Process	Regular	Call Process	Regular	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
	Activity	Activity	Activity + Binding Type		
Catch	Regular Activity	Scope with Catch Block	Built-in	Supported	
Checkpoint	Regular Activity	Checkpoint	Regular Activity		
Confirm	Regular Activity	Confirm	Regular Activity	Supported	
Engine Command	Regular Activity	Engine Command	Regular Activity	Supported	
External Command	Regular Activity	External Command	Regular Activity	Supported	
Generate Error	Regular Activity	Basic : Throw	Regular Activity	Supported	
Get Shared Variable	Regular Activity	Get Shared Variable	Regular Activity	Supported	
Inspector	Regular Activity	Inspector	Regular Activity	Supported	
Label	Diagram Notation	Note	Diagram Notation	Supported	
Mapper	Regular Activity	Mapper	Regular Activity	Supported	
Notify	Regular Activity	Invoke Process	Regular Activity	Supported	In ActiveMatrix BusinessWorks 5.x,

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Notify, and **Wait** activities are used for inter-process communication. In ActiveMatrix BusinessWorks 6.x, a process now supports interface with multiple operations. These operations can be used for inter-process communication. When the **Notify** and **Wait** activities are used for multiple processes waiting to receive notification, you can use a JMS transport with topic to achieve the same publish/subscribe pattern.
Null	Regular Activity	Basic : Empty	Regular Activity	Supported	
On Error Type:	Process Starter Activity			Currently not supported	
On Event	Process			Currently	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Timeout	Starter Activity			not supported	
On Notification Timeout	Process Starter Activity			Supported	
On Shutdown	Process Starter Activity	Activator Process	Process	Supported	Process with a special ActiveMatrix BusinessWorks 6.x defined service that supports an operation for **onShutdown** functionality. This process can be configured per application. Close, re-open, and clean the migrated project to resolve unresolved schema references.
On Startup	Process Starter Activity	Activator Process	Process	Supported	Process with a special ActiveMatrix BusinessWorks 6.x defined service that supports an operation for **onStartup** an be configured per application.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Close, re-open, and clean the migrated project to resolve unresolved schema references.
Receive Notification	Process Starter Activity	Basic : Receive	Process Starter Activity	Supported	
Rethrow	Regular Activity	Basic : Rethrow	Regular Activity	Supported	
Set Shared Variable	Regular Activity	Set Shared Variable	Regular Activity	Supported	
Sleep	Regular Activity	Sleep	Regular Activity	Supported	
Timer	Regular Activity	Timer	Regular Activity	Supported	
Wait	Signal-In Activity	Receive	Process Starter	Supported	
Write To Log	Regular Activity	Log	Regular Activity	Supported	

BPEL Extension Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Orchestration Process	.orchestration	Built-In : Process	.bwp	Supported	The .orchestration resource is available in the BPEL Palette. ActiveMatrix BusinessWorks Process is natively based on BPEL.
Assign	Regular Activity	Basic: Assign	Regular Activity	Supported	
Catch	Regular Activity	Scope with Catch Block	Built-In	Supported	
Checkpoint	Regular Activity	General Activities: Checkpoint	Regular Activity	Supported	
Exit	Regular Activity	Basic: Exit	Regular Activity	Supported	
Invoke	Regular Activity	Basic: Invoke	Regular Activity	Supported	
Invoke Process	Regular Activity	General Activities : Invoke Process + Reference Binding	Regular Activity	Supported	
Null	Regular	Basic: Empty	Regular	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
	Activity		Activity		
On Alarm	Process Starter Activity	Built-In: Alarm Handler	Built-In	Currently not supported	
On Event	Process Starter Activity	Built-In: Event Handler	Built-In	Supported	
Receive Starter	Process Starter Activity	Basic: Receive (Create Instance = true) Type: Process Starter Activity	Process Starter Activity	Supported	
Receive	Signal-In Activity	Basic: Receive (Create Instance = false)	Signal-In Activity	Supported	
Reply with Fault	Regular Activity	Basic : Reply with Fault configured	Regular Activity	Supported	
Reply	Regular Activity	Basic: Reply	Regular Activity	Supported	
Rethrow	Regular Activity	Basic: Rethrow	Regular Activity	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Sleep	Regular Activity	General Activities: Sleep	Regular Activity	Supported	
Throw	Regular Activity	Basic: Throw	Regular Activity	Supported	
Write To Log	Regular Activity	General Activities: Log	Regular Activity	Supported	

File Palette

ActiveMatrix BusinessWorks 5.x: File Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: File Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Copy File	Regular Activity	Copy File	Regular Activity	Supported	
Create File	Regular Activity	Create File	Regular Activity	Supported	
File Poller	Process Starter Activity	File Poller	Process Starter Activity	Supported	
List Files	Regular	List Files	Regular	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
	Activity		Activity		
Read File	Regular Activity	Read File	Regular Activity	Supported	
Remove File	Regular Activity	Remove File	Regular Activity	Supported	
Rename File	Regular Activity	Rename File	Regular Activity	Supported	
Wait for File Change	Signal-In Activity	Wait for File Change	Signal-In Activity	Supported	
Write File	Regular Activity	Write File	Regular Activity	Supported	

FTP Palette

ActiveMatrix BusinessWorks 5.x: FTP

Type: Palette

ActiveMatrix BusinessWorks 6.x: FTP Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
FTP Connection	Shared Resource	FTP Connection Type: Shared Resource	Shared Resource	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
FTP Change Default Directory	Regular Activity	FTP Change Default Directory	Regular Activity	Supported	
FTP Delete File	Regular Activity	FTP Delete File Type: Regular Activity	Regular Activity	Supported	
FTP Dir	Regular Activity	FTP Dir	Regular Activity	Supported	
FTP Get Default Directory	Regular Activity	FTP Get Default Directory	Regular Activity	Supported	
FTP Get	Regular Activity	FTP Get	Regular Activity	Supported	
FTP Make Remote Directory	Regular Activity	FTP Make Remote Directory	Regular Activity	Supported	
FTP Put	Regular Activity	FTP Put	Regular Activity	Supported	
FTP Quote	Regular Activity	FTP Quote	Regular Activity	Supported	
FTP Remove Remote Directory	Regular Activity	FTP Remove Remote Directory	Regular Activity	Supported	
FTP Rename File	Regular Activity	FTP Rename File	Regular Activity	Supported	
FTP Sys Type	Regular Activity	FTP Sys Type	Regular Activity	Supported	

HTTP Palette

ActiveMatrix BusinessWorks 5.x: HTTP

Type: Palette

ActiveMatrix BusinessWorks 6.x: HTTP Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
HTTP Connection	Shared Resource	HTTP Connector	Shared Resource	Supported	HTTP Connection shared resource is migrated to ActiveMatrix BusinessWorks 6.x as an **HTTP Connector** shared resource. This is for the HTTP Service. ActiveMatrix BusinessWorks uses Jetty Server and does not support Tomcat and HttpComponent implementation from ActiveMatrix BusinessWorks 5.x.
Proxy Configuration	Shared Resource	Proxy Configuration	Shared Resource	Supported	
HTTP Receiver	Process Starter	HTTP Receiver	Process Starter	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Send HTTP Request	Regular Activity	Send HTTP Request	Regular Activity	Supported	ActiveMatrix BusinessWorks 6.x has also introduced a new shared resource for this client side invoke, **HTTP Client** shared resource. You can use this shared resource to configure and tune a number of optimization parameters such as **Maximum Total Connection** and **Maximum Total Connection Per Host**. This new **HTTP Client** shared resource also allows the users to configure a **Thread Pool** shared resource (new in ActiveMatrix BusinessWorks 6.x). Using the **Thread Pool** shared resource you can configure **Minimum Pool**

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Size, **Maximum Pool Size** and a number of other tuning parameters. **Note:** After Axis2 upgrade, Apache Commons client library is no longer used in HTTP. The projects migrated from ActiveMatrix BusinessWorks 5.x shall now show Apache Components as the client library instead of Apache Commons.
Send HTTP Response	Regular Activity	Send HTTP Response	Regular Activity	Supported	
Wait For HTTP Request	Signal-In Activity	Wait For HTTP Request	Signal-In Activity	Supported	

JAVA Palette

ActiveMatrix BusinessWorks 5.x: JAVA

Type: Palette

ActiveMatrix BusinessWorks 6.x: JAVA Palette

Type: Palette

Note: If the ActiveMatrix BusinessWorks 5.x project has an activity from the Java palette, the ActiveMatrix BusinessWorks application module gets converted to a Java project. The additional **src** and **lib** folders are seen in the project. The **src** folder contains the Java source files. The **lib** folder contains the Java libraries (JAR Files). Java Nature is also added to the project.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Java Custom Function	Shared Configuration	Custom XPATH Function	Shared Configuration	Supported	
Java Global Instance	Shared Resource	Java Global Instance	Shared Resource	Supported	
Java Schema	Shared Configuration	XSD Schema	.xsd	Supported	In ActiveMatrix BusinessWorks 6.x the **Java To XML** and **XML To Java** activities do not use Java Schema. After migration the corresponding Schema equivalent to the Java Schema is generated and associated with the activity.
Java Code	Regular Activity	Java Invoke	Regular Activity	Supported	The source code for the **Java Code** activity which was in-lined in the ActiveMatrix BusinessWorks 5.x now gets created externally in the **src** folder of the AppModule and then it is

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					referred by the **Java Invoke** activity with **MultiOutput** check box selected.
Java Event Source	Process Starter Activity	Java Process Starter	Process Starter Activity	Supported	The Source code for **Java Event Source** activity which was in-lined in the ActiveMatrix BusinessWorks 5.x now gets created externally in the **src** folder of the AppModule and then **Java Process Starter** activity refers to it. The Java class implementing the **Java Event Source** now extends `com.tibco.bw.palette.shared.java.JavaProcessStarter` class instead of `com.tibco.plugin.java.JavaProcessStarter`. **Java Event Source** in ActiveMatrix BusinessWorks 5.x referring to an external class needs to change this.
Java Method	Regular Activity	Java Invoke	Regular Activity	Supported	
Java To XML	Regular Activity	Java To XML	Regular Activity	Supported	
XML To Java	Regular Activity	XML To Java	Regular Activity	Supported	

JDBC Palette

Starting from ActiveMatrix BusinessWorks 6.10.0 release, the JDBC Progress DataDirect Drivers are not supported directly. For more information, see "Migrating existing JDBC applications configured with Progress DataDirect Drivers " in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palette Reference*.

ActiveMatrix BusinessWorks 5.x: JDBC

Type: Palette

ActiveMatrix BusinessWorks 6.x: JDBC Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
JDBC Connection	Shared Resource	JDBC Connection	Shared Resource	Supported	
JDBC Call Procedure	Regular Activity	JDBC Call Procedure	Regular Activity	Supported	
JDBC Get Connection	Regular Activity	JDBC Get Connection	Regular Activity	Currently not supported	
JDBC Query	Regular Activity	JDBC Query	Regular Activity	Supported	
JDBC Update	Regular Activity	JDBC Update	Regular Activity	Supported	
SQL Direct	Regular Activity	SQL Direct	Regular Activity	Supported	

JMS Palette

ActiveMatrix BusinessWorks 5.x: JMS Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: JMS Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
JMS Application Properties	Shared Configuration	XSD Schema	.xsd	Supported	**JMS Application Properties** is migrated as XML Schema (XSD File) in ActiveMatrix BusinessWorks 6.x.
JMS Connection	Shared Resource	JMS Connection	Shared Resource	Supported	
Get JMS Queue Message	Regular Activity	Get JMS Queue Message	Regular Activity	Supported	
JMS Queue Receiver	Process Starter Activity	JMS Receive Message	Process Starter Activity	Supported	
JMS Queue Requester	Regular Activity	JMS Request Reply	Regular Activity	Supported	
JMS Queue Sender	Regular Activity	JMS Send Message	Regular Activity	Supported	
JMS Topic Publisher Type:	Regular Activity	JMS Send Message Type:	Regular Activity	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Regular Activity		Regular Activity			
JMS Topic Requestor Type: Regular Activity	Regular Activity	JMS Request Reply Type: Regular Activity	Regular Activity	Supported	
JMS Topic Subscriber	Process Starter Activity	JMS Receive Message	Process Starter Activity	Supported	
Reply to JMS Message Type: Regular Activity	Regular Activity	Reply to JMS Message Type: Regular Activity	Regular Activity	Supported	
Wait for JMS Queue Message	Signal-In Activity	Wait for JMS Message	Signal-In Activity	Supported	
Wait for JMS Topic Message	Signal-In Activity	Wait for JMS Message	Signal-In Activity	Supported	

Mail Palette

ActiveMatrix BusinessWorks 5.x: Mail Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Mail Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Receive Mail	Process Starter Activity	Receive Mail	Process Starter Activity	Supported	
Send Mail	Regular Activity	Send Mail	Regular Activity	Supported	ActiveMatrix BusinessWorks 6.x introduces a new **SMTP** shared resource. ActiveMatrix BusinessWorks 5.x **Send Mail** activity configuration migrates to both **Send Mail** activity and SMTP shared resource.

Parse Palette

ActiveMatrix BusinessWorks 5.x: Parse Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Parse Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Data Format	Shared Configuration	Data Format	Shared Configuration	Supported	
Parse Data	Regular Activity	Parse Data	Regular Activity	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Render Data	Regular Activity	Render Data	Regular Activity	Supported	

Policy Palette

ActiveMatrix BusinessWorks 5.x: Policy Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Security Policy Association	Shared Configuration	Security Policy Association	Shared Configuration	Currently not supported	
Security Policy	Shared Configuration	Security Policy	Shared Configuration	Currently not supported	

Process Palette

ActiveMatrix BusinessWorks 5.x: Process Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Built-In

Type: Built-In

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Process Definition	`.process`	Process	`.bwp`	Supported	
Process Archive	Shared Configuration	Application Project	`.application`	Refactor and recreate	In ActiveMatrix BusinessWorks 5.x, Process Archive is configured within the Enterprise Archive Resource. This specifies which processes in the ActiveMatrix BusinessWorks 5.x project are packaged to form an .EAR file for deployment. In ActiveMatrix BusinessWorks 6.x, the Enterprise Archive Resource and Process Archive configuration are no longer supported and their functionality are replaced by Application and Application Module, respectively. Any project artifacts that can be re-used by multiple Applications and multiple Application Modules are created in Shared Modules. In the current version of

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					Migration Tool, an ActiveMatrix BusinessWorks 5.x project is migrated as an application module with a corresponding application project. If the content of the ActiveMatrix BusinessWorks 5.x project is meant for creating multiple applications, then do the following: 1. Convert the **Application Module** to **Shared Module**. 2. Create an **Application Module** and a corresponding application project. a. In the **Application Module > Module Descriptors > Components** editor, define the component

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					to refer to process implementation in the Shared Module. b. Repeat 2.a step for each process that is required to be a part of this Application Module. In ActiveMatrix BusinessWorks 6.x, a Process (say, Process A) in a Shared Module is not activated unless a Component is defined and is configured with Process A . 3. Repeat Step 2 for the number of

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					applications required.

Rendezvous Palette

ActiveMatrix BusinessWorks 5.x: Rendezvous Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Rendezvous Palette

Type: Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Rendezvous Transport	Shared Resource	Rendezvous Transport	Shared Resource	Supported	
Publish Rendezvous Message	Regular Activity	Rendezvous Publisher	Regular Activity	Supported	
Rendezvous Subscriber	Process Starter Activity	Rendezvous Subscriber	Process Starter Activity	Supported	
Reply To Rendezvous Request	Regular Activity	Rendezvous Reply To Request	Regular Activity	Supported	
Send Rendezvous Request	Regular Activity	Rendezvous Request Reply	Regular Activity	Supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Wait for Rendezvous Message	Signal-In Activity	Wait for Rendezvous Message	Signal-In Activity	Supported	

REST and JSON Plug-in

ActiveMatrix BusinessWorks 5.x: REST/JSON Plug-in

Type: Plug-in

ActiveMatrix BusinessWorks 6.x: REST and JSON Palette

Type: Palette

Migration: Supported

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Invoke REST API	Regular Activity	Invoke REST API	Regular Activity	Supported with limitations	ActiveMatrix BusinessWorks 6.x does not support the following: • WADL protocols • Responses returned in binary format • Rich output • Authentication OAuth1.0 and OAuth2.0

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Note: The Circuit Breaker pattern is not supported by the Invoke REST API activity. If you want to use Circuit Breaker pattern, you need to configure the REST Reference Binding. For more information, see Using the Wizard to Create a REST Reference in *TIBCO ActiveMatrix BusinessWorks™ REST Reference*.					
Parse JSON	Regular Activity	Parse JSON	Regular Activity	Supported with limitations	ActiveMatrix BusinessWorks 6.x does not support the schema type Java Classes.
Render JSON	Regular Activity	Render JSON	Regular Activity	Supported with limitations	The **Remove Root** check box is not supported in ActiveMatrix BusinessWorks 6.x. Root elements in TIBCO BusinessWorks Container Edition are skipped by default. You must modify the input JSON if it contains root element. The schema type Java Classes is not supported in ActiveMatrix BusinessWorks 6.x.
REST Dispatch and Reply	Regular Activity	REST Service Binding	Service Binding	Supported with limitations	The ActiveMatrix BusinessWorks 5.x **Dispatch and Reply REST** activity is migrated to REST Service Binding of ActiveMatrix BusinessWorks 6.x.

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					REST Service of ActiveMatrix BusinessWorks 6.x uses XSD as the resource for building REST Service. The XSD must be external to the WSDL. That is, direct reference to inline schema in WSDL is not supported for REST binding. If the **Dispatch and Reply** activity is configured to route requests to ActiveMatrix BusinessWorks 5.x processes with inline schema for its input, output and fault, then the ActiveMatrix BusinessWorks 6.x Migration Tool currently does not externalize the inline schema before configuring the REST binding. You can manually externalize the inline schema and re-create the REST binding. ActiveMatrix BusinessWorks 6.x also does not support the following: • Enable WADL Reference

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					• Enable OAuth • Parameter styles- Template and Header

Note: For more information about additional restrictions, see "Restrictions on XML Schema" in *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference*.

RMI Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
RMI Lookup	Regular Activity	RMI Lookup	Regular Activity	Currently not supported	None
RMI Server	Process Starter	RMI Server	Process Starter	Currently not supported	None

Service Palette

ActiveMatrix BusinessWorks 5.x: Service Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Built-In

Type: Built-In

Migration: Supported

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Context Resource	`.contextResource`		Built-In	Supported	Migrated as Job Shared Variable
Partner Link Configuration	`.sharedpartner`	Process : Reference	Built-In	Supported	
Service	`.serviceagent`	Process : Service	Built-In	Supported	
Get Context	Regular Activity	Basic : Get Context	Regular Activity	Supported	Post migration, two sets of Get Context and Set Context activities are displayed in a service process. The sets retrieve the context information and pass the information to the subprocesses, and vice versa.
Invoke Partner	Regular Activity	Basic : Invoke Service	Regular Activity	Supported	**SOAP Request Reply** activity is migrated as a process with reference and SOAP reference binding is

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
					added for the same. The binding is added under **Module Descriptors > Components > Binding**.
Receive Partner Notification	Process Starter Activity	Basic : Receive	Process Starter Activity	Supported	
Set Context	Regular Activity	Basic : Set Context	Regular Activity	Supported	Post migration, two sets of **Get Context** and **Set Context** activities are displayed in a service process. The sets retrieve the context information and pass the information to the subprocesses, and vice versa.

SOAP Palette

ActiveMatrix BusinessWorks 5.x: SOAP Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: Basic Palette + SOAP Binding

Type: Binding

Migration: Supported

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
MIME Parser	Regular Activity	Parse : MIME Parser	Regular Activity	Currently not supported	
Retrieve Resources	Regular Activity	Generate WSDL Service	Regular Activity + SOAP Binding	Currently not supported	The WSDL in ActiveMatrix BusinessWorks 6.x has to be generated in TIBCO Business Studio for BusinessWorks on the Component Binding.
SOAP Event Source	Process Starter Activity	Basic : Receive + SOAP Service Binding	Process Starter Activity + SOAP Binding	Supported with limitations.	The SOAP Event Source is migrated as a Process with Service and a SOAP Service Binding is added for the same. The Binding is added under Module Descriptors, Components, or Binding. Currently only Copy-Of binding is supported for headers in the Binding section. Manually, set/map the **Input** tab of the **Set Context** activity to use the **SOAP Event Source** activity header migration functionality.
SOAP Request Reply	Regular Activity	Basic : Invoke Service + SOAP Reference	Regular Activity + SOAP Binding	Supported with limitations.	The SOAP Request Reply is migrated as a Process with Reference and a SOAP Reference Binding is added for the same. The Binding is

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
		Binding			added under Module Descriptors/Components/Binding. Currently only Copy-Of binding is supported for headers in the Binding section. Manually, set/map the **Input** tab of the **Set Context** activity to use the **SOAP Request Reply** activity header migration functionality.
SOAP Send Fault	Regular Activity	Basic : Reply with Fault + SOAP Reference Binding	Regular Activity + SOAP Binding	Supported	
SOAP Send Reply	Regular Activity	Basic Activities: Reply + SOAP Reference Binding	Regular Activity + SOAP Binding	Supported	

TCP Palette

ActiveMatrix BusinessWorks 5.x: TCP Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: TCP Palette

Type: Palette

Migration: Supported

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
TCP Connection	Shared Resource	TCP Connection	Shared Resource	Supported	
Read TCP Data	Regular Activity	Read TCP Data	Regular Activity	Supported	
TCP Close Connection	Regular Activity	TCP Close Connection	Regular Activity	Supported	
TCP Open Connection	Regular Activity	TCP Open Connection	Regular Activity	Supported	
TCP Receiver	Process Starter Activity	TCP Receiver	Process Starter Activity	Supported	
Wait for TCP Request	Signal-In Activity	Wait for TCP Request	Signal-In Activity	Supported	
Write TCP Data	Regular Activity	Write TCP Data	Regular Activity	Supported	

Transaction Palette

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
JTA User Transaction Configuration	Shared Resource	JTA User Transaction Configuration	Shared Resource	Currently not supported	
XA Transaction Manager Configuration	Shared Resource	XA Transaction Manager Configuration	Shared Resource	Currently not supported	

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
Transaction State	Regular Activity	Transaction State	Regular Activity	Currently not supported	

XML Palette

ActiveMatrix BusinessWorks 5.x: XML Palette

Type: Palette

ActiveMatrix BusinessWorks 6.x: XML Palette

Type: Palette

Migration: Supported

BW 5.x	BW 5.x Type	BW 6.x	BW 6.x Type	Migration Support	Comments
XSLT File	Shared Configuration	XSLT File	Shared Configuration	Supported	
Parse XML	Regular Activity	Parse XML	Regular Activity	Supported	
Render XML	Regular Activity	Render XML	Regular Activity	Supported	
Transform XML	Regular Activity	Transform XML	Regular Activity	Supported	

Migration Scenario

The migration scenarios show the core construct migration of ActiveMatrix BusinessWorks 5.x projects. After migration, these projects are converted to their equivalent in ActiveMatrix BusinessWorks 6.x. The ActiveMatrix BusinessWorks 6.x **Call Process**, **Signal-in**,**Start**, and **End** activities are notably different from the activities in ActiveMatrix BusinessWorks 5.x.

Call Process Activity Migration

The following table provides information about the **Call Process** activity migration from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.

ActiveMatrix BusinessWorks 5.x	ActiveMatrix BusinessWorks 6.x
Call Process is literal. It calls a process with process pipeline data mapped into it and generates an output that is in essence the output of the called process.	Call Process mechanism is based on the standard **Invoke** activity. It abstracts out the actual Call Process configuration to the reference that the Invoke activity is calling. **After Migration**: Call Process activity is migrated as a Direct Call Process.

Signal-in Activity Migration

The following table provides information about the **Signal-in** activity migration from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.

ActiveMatrix BusinessWorks 5.x	ActiveMatrix BusinessWorks 6.x
Signal-In activities join an existing job by comparing the key generated by mapping process pipeline data to the key field of the signal-in activity. The	**Conversations** is introduced to join an existing process instance, which is based on a correlation mechanism. It applies to all the activities receiving a message after the process instance is created.

ActiveMatrix BusinessWorks 5.x	ActiveMatrix BusinessWorks 6.x
value is matched with the value generated for the candidate event key field of the signal-in activity by mapping the signal-in output data.	A process instance can initialize a conversation using an activity by initializing a conversation key with the values mapped from the process pipeline data. If the join activity generates a conversation key value by evaluating the expression against the message data, which matches the value of the initialized conversation key, a message can join the conversation. • Input key mapping migrates as Conversation Initiate • Candidate Event Key migrates as Conversation Join. **After Migration**: Signal-in activity is migrated to an ActiveMatrix BusinessWorks 6.x equivalent Signal-in activity with a dummy conversation with Initiate and Join as "true". This mechanism initiates the conversation based on the process data mapped to a key and matches it with a value that is generated by mapping the activity output data.

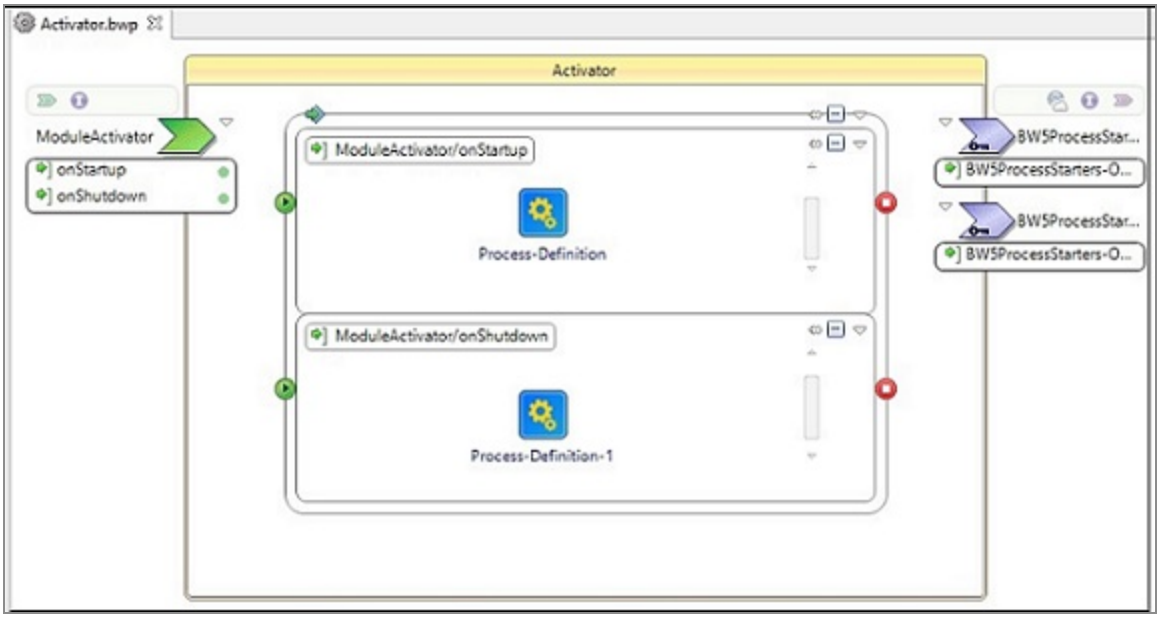
Start and End Activity Migration

The following table provides information about the **Start** and **End** activities migration from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.

ActiveMatrix BusinessWorks 5.x	ActiveMatrix BusinessWorks 6.x
The **Start** activity is a receiver that starts a process on receiving a message that may be empty. The **End** activity sends a reply. The **Start** activity is the first activity in a process definition (process starters replace the Start activity when used in a process definition). The **End** activity is the last activity in a process definition.	The **Start** activity and **End** activity are now supported.

Activator

In ActiveMatrix BusinessWorks 6.x, each application module has one Activator process that has two service operations, **On StartUp** and **On ShutDown**. Any TIBCO Designer process linked with the **On Start** and **On ShutDown** activity in ActiveMatrix BusinessWorks 5.x after migration is simultaneously changed to a **StartUp Operation** activity and **On ShutDown Operation** activity. The activator calls the `start()` and `stop()` methods to start or stop the process.



Service and References

Service and References are defined at a process level.

ActiveMatrix BusinessWorks 5.x	ActiveMatrix BusinessWorks 6.x
SOAP services are used for exchanging information in the implementation of web services relying on XML message format sent over HTTP and JMS.	Includes REST compliant services along with HTTP and JMS, where the purpose of the service is to manipulate XML representations of web resources using a uniform set of stateless operations. When using a stateless operation, the state is managed by the job itself instead of by the engine.

Migrating ActiveMatrix BusinessWorks 5.x Projects to ActiveMatrix BusinessWorks 6.x

Use the following options to migrate ActiveMatrix BusinessWorks 5.x projects to ActiveMatrix BusinessWorks 6.x

- **Project > Migrate BW Projects** option in TIBCO Business Studio for BusinessWorks
- A command-line option

Migrating Projects Using TIBCO Business Studio for BusinessWorks

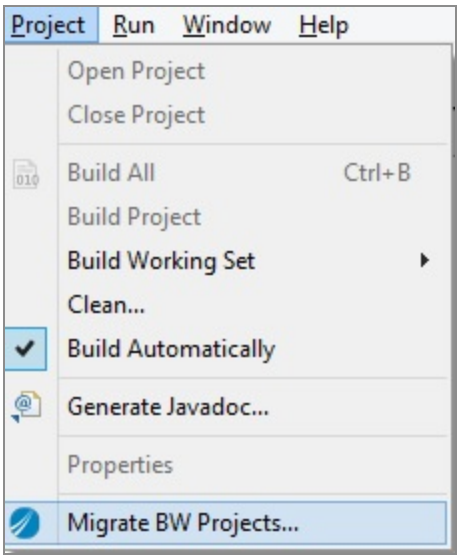
This section describes how to use the **Migrate BW Projects** menu option in TIBCO Business Studio for BusinessWorks.

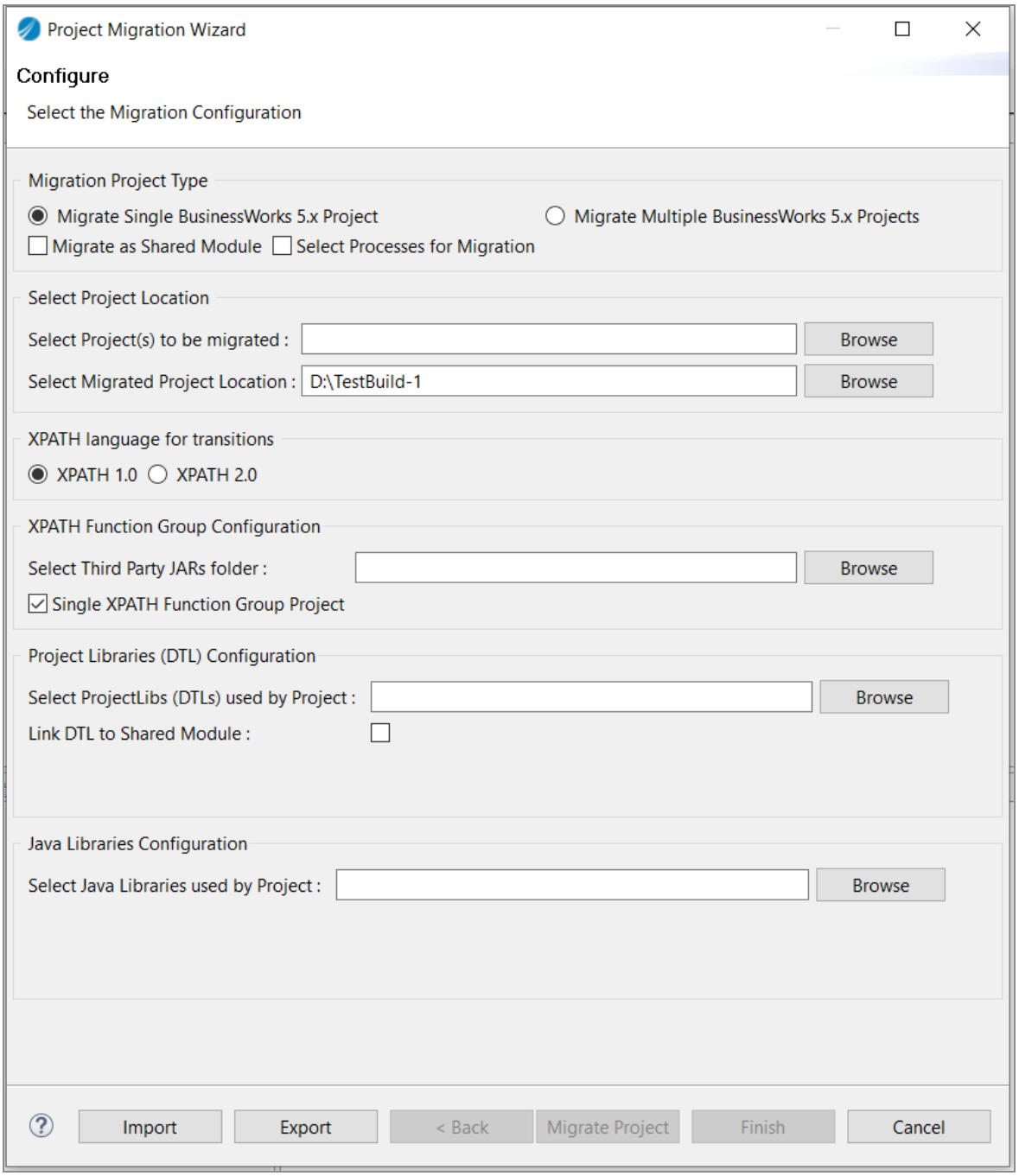
Before you begin

- Perform validation and ensure that ActiveMatrix BusinessWorks 5.x project does not have errors.
- Optionally, schemas without namespaces should be refactored before migration.
- Remove spaces in the namespace.
- Remove or update any retrieve WSDL processes.
- It is recommended to add missing namespaces for the schemas.
- Ensure that there are no spaces or special characters in folder names.
- Global variables with integer values and a String data type must be updated to data type as Integer. Examples include timeouts, message size, and so on.
- Ensure that no two resources, such as schemas, WSDLs, and DTDs have the same name when they have a common hierarchical structure or layout.

Procedure

1. In TIBCO Business Studio for BusinessWorks, choose **Project > Migrate BW Projects**.


Project
Run
Window
Help
Open Project
Close Project
Build All
Ctrl+B
Build Project
Build Working Set
Clean...
Build Automatically
Generate Javadoc...
Properties
Migrate BW Projects...



2. In the Project Migration Wizard dialog box, to migrate a single ActiveMatrix BusinessWorks 5.x project, click **Migrate Single BusinessWorks 5x Project**.

   To migrate multiple projects, click **Migrate Multiple BusinessWorks 5.x Project.**

   When migrating a single ActiveMatrix BusinessWorks 5.x project, you can also migrate

selective processes or subprocesses. Select the **Select Processes for Migration** check box, and provide the required information as explained in Step 7, below.

After the required information is provided, the **Select Processes** button is displayed.

> **Note: Note:** The **Select Processes for Migration** check box is disabled when you select the **Migrate Multiple BusinessWorks 5.x Projects** option. Use this check box only to migrate single projects.

The list of processes in the selected TIBCO ActiveMatrix BusinessWorks™ 5.x project are displayed in the Project Migration Wizard dialog box. The processes can be viewed in the **Flat Hierarchy** or in the **Tree Hierarchy** structures.

3. To select all the subprocesses under the main process, click **Select Linked Processes**. Clear the check box for the process you do not want to migrate.

   To view the static and dynamic processes that are selected for migration, click **Show Linked Process Hierarchy**.

4. While migrating selective processes, to select or clear the already migrated existing processes, on the **Select Processes** page of the Project Migration Wizard dialog box, select the **Re-Select Process** check box.

   > **Note:** During the re-migration process, the module properties are not changed.

5. Click **Migrate Project**.
6. Specify the relevant information in the following fields.
   a. Click **Browse** in the **Select Project(s) to be migrated** field and provide the location of the ActiveMatrix BusinessWorks 5.x project to migrate.

      > **Note:** Select CTRL+ Spacebar to retrieve the history of the last five migrated project paths.

   b. The **Select Migrated Project Location** field displays the location of the current open workspace where the project is migrated. To provide a different workspace, click **Browse**.

   c. While migrating any project from version 6.6.1 of TIBCO ActiveMatrix

BusinessWorks™ onwards, the default XPATH language for transitions is pre-set to **XPATH 1.0**. Select **XPATH 2.0** to set the XPATH language for transitions to XPATH 2.0. The transitions are migrated by default to XPATH 2.0 for versions prior to 6.6.1 of TIBCO ActiveMatrix BusinessWorks™.

> **Note:** The XPATH language for transition is introduced to get rid of invalid comparison or conversion issues on transitions or groups while migrating ActiveMatrix BusinessWorks 5.x projects.

d. To browse for third party jars required for your project, click the **Select Third Party JAR's folder** field.

e. The **Single XPath Function Group Project** check box is selected by default, to create all custom XPaths as a single plugin project and under a single custom XPath.

   After migration, the custom XPath function group plugin project is included in the application project. The classes folder is located in the `customXPathFunction.jar` file, and is no longer available in the plug-in project. This jar file is also added to the project class path.

f. In the **Select ProjectLibs (DTLs) used by Project** field, click **Browse** to select the project libraries to be used for the project.

g. In the **Select Java Libraries used by Project** field, click **Browse** and provide the location of the JAR files on disk if the ActiveMatrix BusinessWorks 5.x project is using external JAR files in context with Java activities.

   > **Important:** TIBCO recommends that you place the external JAR files in a single location.

   These JAR files can then be in-lined in the migrated ActiveMatrix BusinessWorks 6.x project.

h. To generate the dot (.) properties file which is used for performing command-line migration, click **Export**. For more information about the (.) properties file, see Command line Configuration File Template.

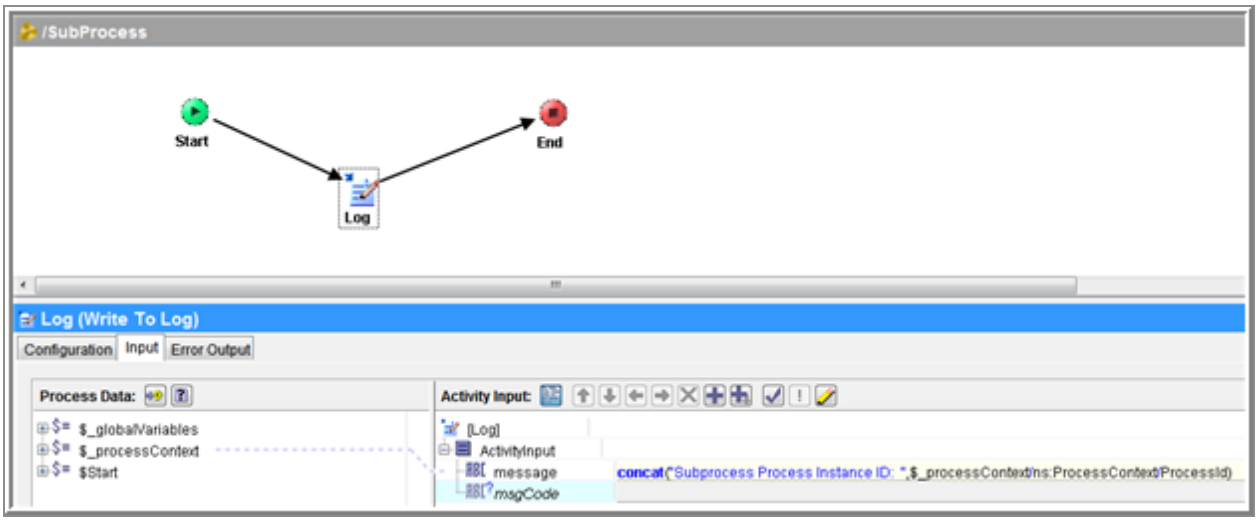
i. To browse the (.) properties file which populates the referred 5.x project path for migration, click **Import**.

7. Click **Migrate Project**.
    - The process count displayed on the **Migrate** page of the **Project Migration Wizard** is inclusive of migration service agents.
    - The tooltip available for the Migration progress bar displays the general information about migration process.
    - The Project Migration Wizard dialog box displays the migration status in blue and green colors, where blue and green colors indicate the start and the completion of the migration process respectively.
    - To cancel the migration process anytime, in the **Project Migration Wizard**, click **Cancel**.
8. Click **Finish** after the migration is complete.

Project with Subprocess after Migration

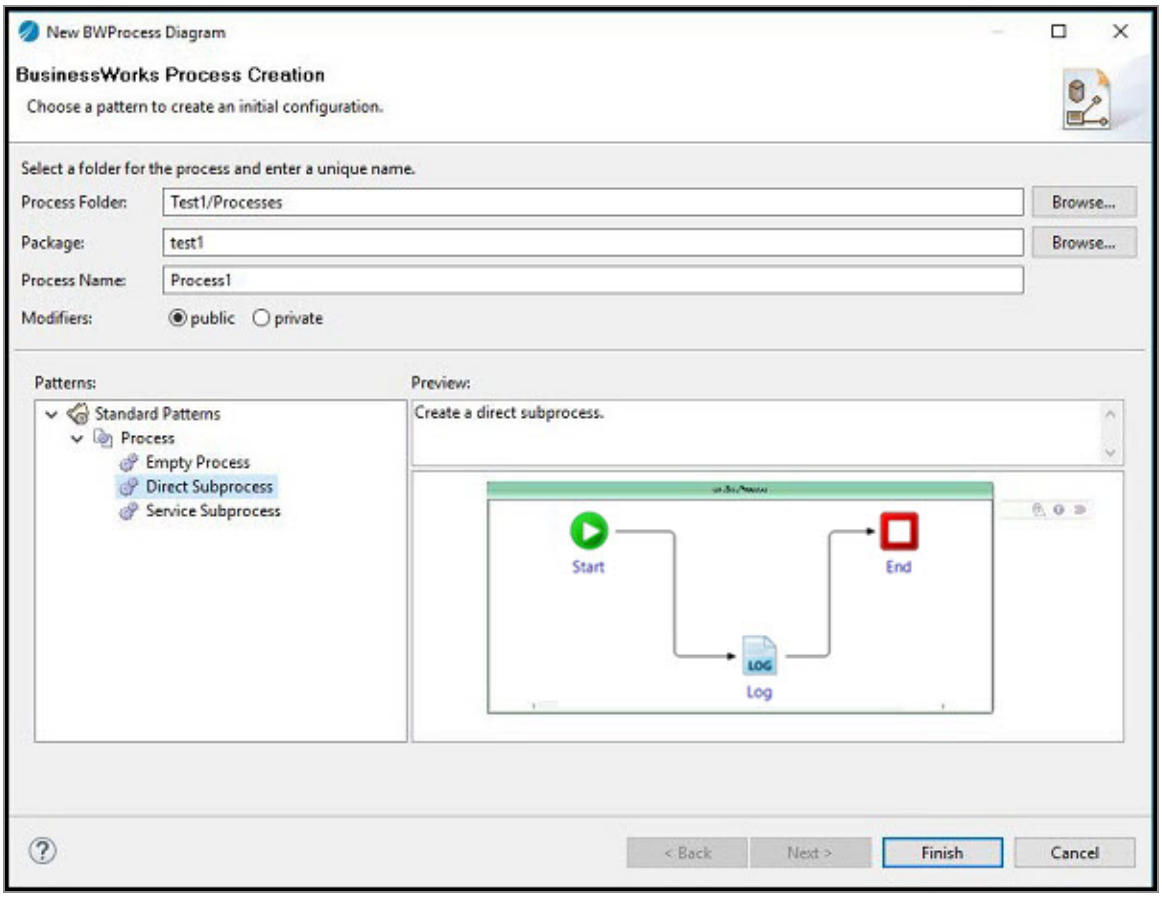
Subprocesses in ActiveMatrix BusinessWorks 6.x use a standardized concept of receiving messages and replying to messages through a service.

Before Migration



After Migration

The Call Process is migrated as a Direct Call Process.



Migrating Projects Using the Command Line

This section describes how to migrate the projects using the command line.

Usage: `bwmigrator [-options] BW5Project...`

where options include the following:

Option	Description
`-projectDir`	Location where ActiveMatrix BusinessWorks 6.x projects are generated.
`BW5Project...`	Location\locations of ActiveMatrix BusinessWorks 5.x projects.
`-propFile`	The bw6migration.properties file. The syntax for passing the bw6migration properties file is `bwmigrator.exe [-data <User_`

Option	Description
	Workspace>] -projectDir <BusinessWorks 6.x Target directory> <BusinessWorks 5.x Project location> -propFile <bw6migration.properties location>. The template is at, <*TIBCO_HOME*>\bw\6.x\config\bw6migration_template.properties.

Examples

- bwmigrator -projectDir <BW6_PROJECTS_HOME>\projects <TIBCO_HOME>\5.9\examples\activities\file\File (Migrates single ActiveMatrix BusinessWorks 5.x project.)
- bwmigrator -projectDir <BW6_PROJECTS_HOME>\projects <TIBCO_HOME>\5.9\examples\activities\file\File <TIBCO_HOME>\5.9\examples\activities\ftp\ftp (Migrates File and FTP ActiveMatrix BusinessWorks 5.x projects.)
- bwmigrator -projectDir <BW6_PROJECTS_HOME>\projects <TIBCO_HOME>\5.9\examples\activities (Migrates all ActiveMatrix BusinessWorks 5.x projects in activities directory.)
- bwmigrator -projectDir <BW6_PROJECTS_HOME>\projects <TIBCO_HOME>\5.9\examples\file <TIBCO_HOME>\5.9\examples\ftp (Migrates all ActiveMatrix BusinessWorks 5.x Projects in File and FTP directories.)

Procedure

1. For Java migration enter the following command:

   ```
   bwmigrator.exe -projectDir c:/temp -classpath <Jar Location Path> <BW 5.x Project Path>
   ```

2. For non-Java migration enter the following command:

   ```
   bwmigrator.exe -projectDir c:/temp <BW 5.x Project Path>
   ```

3. For the Eclipse environment, run the `bwmigrator` tool as described in step 2, but use a temporary directory (not the Eclipse workspace directory) as a target.

   In addition, to make the project visible in the current workspace, open the Eclipse UI, select **File > Import Existing Studio Project into Workspace**, and specify the temporary directory as the source.

Command line Configuration File Template

The ActiveMatrix BusinessWorks 6.x migration configuration file, `.properties` file is a template file that contains configurable properties to migrate design time libraries, custom XPath functions, selected processes and projects using the command line.

To migrate projects using the command line migration option, open the `.properties` file and paste the command from the `.properties` file into the command prompt, and execute the command using the following format:

```
bwmigrator.exe [-data <User_Workspace>] -projectDir <BusinessWorks 6.x Target directory> <BusinessWorks 5.x Project location> -propFile <.properties location>
```

Note: Optionally, you can also modify the *User_Workspace* path. If the *User_Workspace* path has been modified, make sure that the same path is provided for the BW6 Target directory.

The properties to be configured to migrate design time libraries, custom XPath functions, and selected processes are explained in the tables below.

Selective Migration

Property	Description
`selectProcess`	The default value `false` will migrate all the processes. Set the property to `true` to migrate only the specified processes.
`selectLinkedProcess`	The default value `false` migrates the specified main process. For example, `.process=<process1>,<process2>...` Set the property to `true` to migrate all the dependent processes, of the specified main process. For example,`.process=<folder1/process1>,</process2>,.` Specifying the main process path will migrate all the processes that are dependent on the main process.
`.process`	Provide comma separated processes with relative process paths with respect to the ActiveMatrix BusinessWorks 5.x project root folder as

Property	Description
	explained in the following example. `.process=Service/ZipInfo-service1.serviceagent,TestService/getCityInfoTest.process, Service/getCityInfoService.process,TestService/getCityDistanceTestJMS.process, Service/getCityDistanceService.process,TestService/getCityInfoTestJMS.process, TestService/getCityDistanceTest.process,`

Design Time Library Migration (DTL)

Property	Description
`sharedModule`	The default value of this property is `false`, and will migrate the DTL as an application module. Set the property to `true` to create an ActiveMatrix BusinessWorks 6.x shared module.

Mapping DTLs to Shared Modules

Property	Description
`dtlDir`	Provide the project `lib` folder location here. For example: `C:/Users/workspace1/folder/BW5DTLLib.projlib`.
`sharedModuleDirs`	Provide multiple directory locations using comma separated values. For example: `C:/CLIWorkspace,C:/CLIWorkspace/SharedModuleProject1,....`

Custom XPath Migration

Property	Description
`singleCXFGroupProject`	By default, the property is set to `true`, to migrate all the custom XPath functions under a single custom XPath function group.

Property	Description
	Set the property to `false` to migrate each custom XPath function and create custom XPath function groups for each individual XPath function.
`thirdPartyCXFJarDir`	Provide the location of the third party JAR files that are referred by the custom XPath function.

Post-Migration Manual Tasks

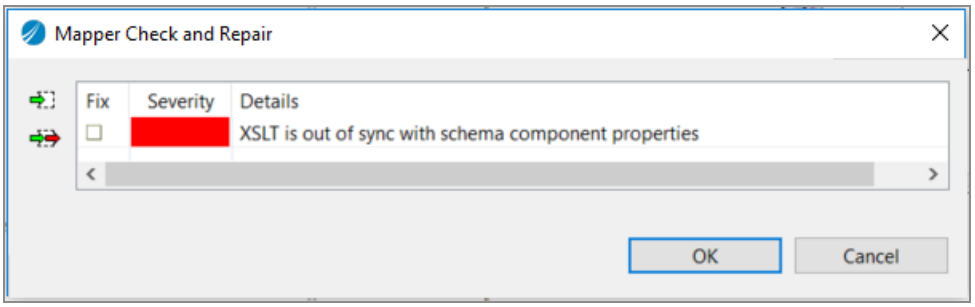
If you encounter problem markers that are related to activity input mapping, use the **Show Check and Repair** and the **Fix Type-Casting Errors** functions to resolve the errors.

Show Check and Repair

Procedure

1. To clear the problem markers in the migrated project, click `project.bwp`.
2. Click the activity in your project, then click the **Input** tab.
3. Click the **Show Check and Repair** icon .

   The Mapper Check and Repair window is displayed.



4. Click **OK** and run the project.

Fix Type-Casting Errors

To fix the construct functions errors, click the **Fix Type-Casting Errors** icon ☑.

> **Note:** If the **Project > Clean** option does not work to resolve problem markers, close and reopen the project.

HTTP Basic Sample

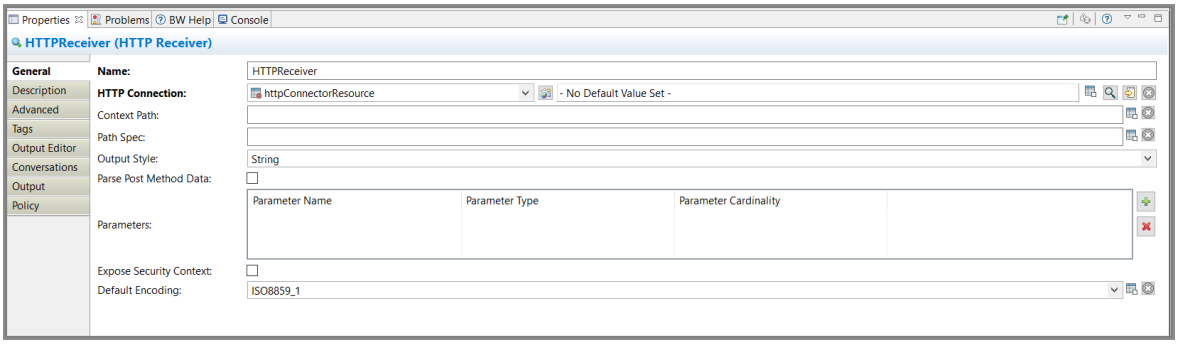
This section describes how to migrate an HTTP Basic sample.

Before you begin

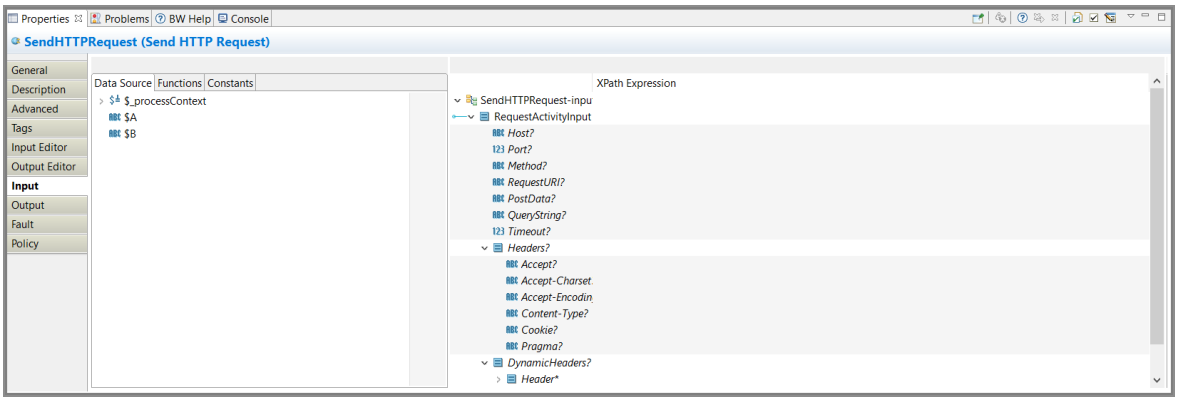
Migrate the ActiveMatrix BusinessWorks 5.x project.

Procedure

1. Click the **Incoming-HTTP-request (HTTP Receiver)** activity.
2. Click the **General** tab.
3. In the **Parameter** table, change the **Parameter Cardinality** from **Required** to **Optional**.

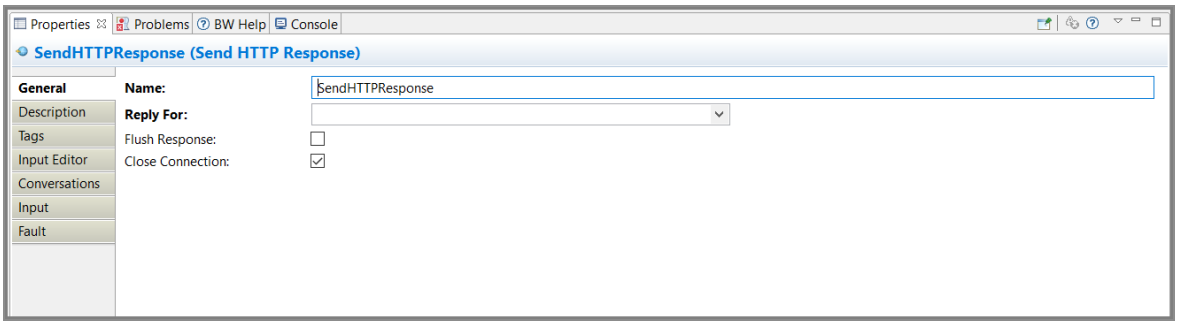


4. Click the **Send-Request-to-Wiki-News (Send HTTP Request)** activity and specify the following three values on the **Input** tab.



Input Type	Values
RequestURI	"/wiki/Main_Page"
Accept-Encoding	"text/*, text/html, text/html;level=1"
Content-Type	"text/html;charset=UTF-8"

5. Click the **Send-Response-from-Wiki-News (Send HTTP Response)** activity and specify the value for **Content-Type** on the **Input** tab.



Custom XPath Migration

Some manual tasks need to be performed after custom XPath migration. These tasks impact Design-time.

Design Time

This section describes how to provision migrated custom XPath functions into ActiveMatrix BusinessWorks 6.x.

Procedure

1. Export the custom XPath function plug-ins into the **Host** repository. To do this, right-click on the XPath Function Plug-in, and select **Plug-in Development/Deployable Plug-ins and fragments**.
2. Select **Install into .host Repository** and, click **Finish**.
3. Restart and refresh your workspace.

   This results in the validation errors related to XPath functions not visible.

Custom XPath Migration Using the Command Line

Set the following properties to migrate custom XPath functions using the `bw6migration.properties` file.

Property	Description
`singleCXFGroupProject`	By default, the property is set to `true`, and migrates all the custom XPath functions under a single custom XPath function group. Set the property to `false` to migrate each custom XPath function and create custom XPath function groups for each individual XPath function.
`thirdPartyCXFJarDir`	Provide the location of the third party JAR files that are referred by the custom XPath function.

Migrating Design Time Libraries (DTL) as Shared Modules

ActiveMatrix BusinessWorks 5.x design time library source projects are migrated as ActiveMatrix BusinessWorks 6.x shared modules.

Migrating Design Time Libraries Using TIBCO Business Studio for BusinessWorks

Use the ActiveMatrix BusinessWorks 6.x framework to migrate ActiveMatrix BusinessWorks 5.x projects where the business process uses design time libraries to define processes, resources, and subprocesses.

You can migrate the design time libraries using the following options:

- **Project > Migrate BW Projects** option in TIBCO Business Studio for BusinessWorks
- The command-line option

Procedure

1. In the Project Migration Wizard dialog box, click **Migrate Single BusinessWorks 5.x Project** and select the **Migrate as Shared Module** check box.
2. Provide the **Project Location** details and the **XPATH Function Group Configuration** details if a custom XPath is used in the project.
3. To browse for third party jars only if your project contains a custom XPath, click the **Select Third Party JARs folder** field .
4. Click **Migrate Project**.

Result

After migration, view the folder structure of the resources, including the resource, schema, wsdl, and so on that are available in the shared module under the **Module Descriptors > Provides** tab.

After migration, do not perform refactoring operations on any of the resources, such as the schema, ActiveMatrix BusinessWorks 6.x shared resources, and service definitions. The resource properties, and naming conventions must be retained as they are. Mapping issues, if any, can be corrected, and resource specific properties of the shared resources can be

changed.

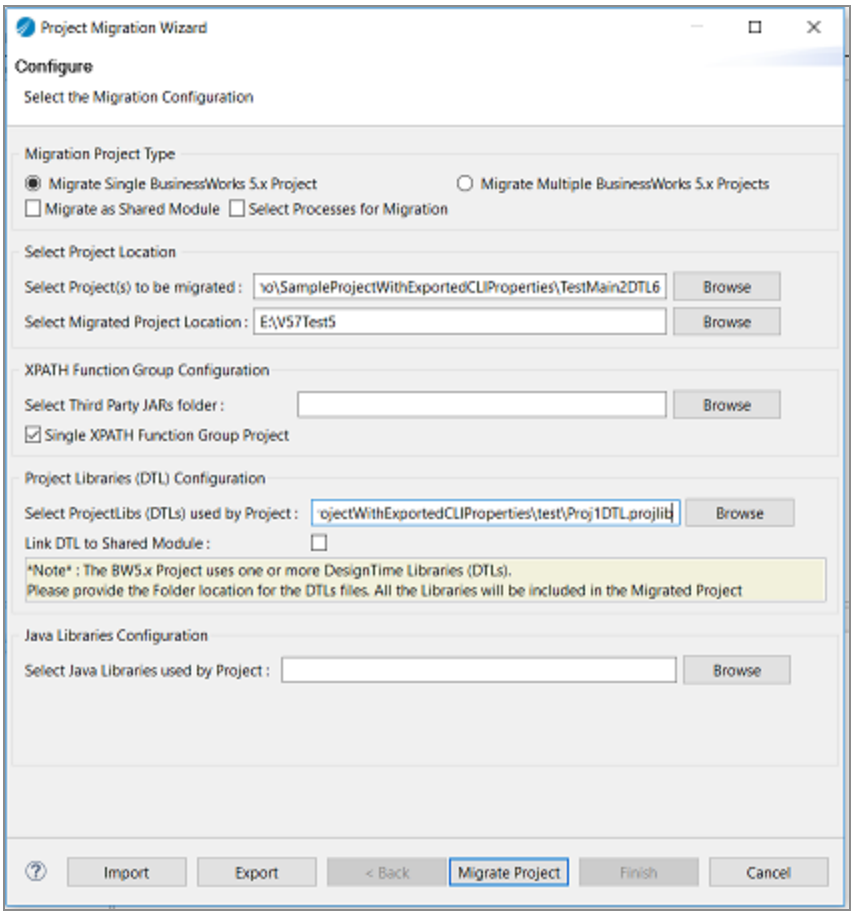
Limitations

- Shared module migration does not support ActiveMatrix BusinessWorks 5.x AE schemas. AE Schemas are migrated as part of the application module.
- Custom XPath function project duplication should be managed manually by deleting the duplicate source projects.
- DTL migration does not support the Process Name Dynamic Override feature of the **Call Process** activity. Instead, add the process name manually.

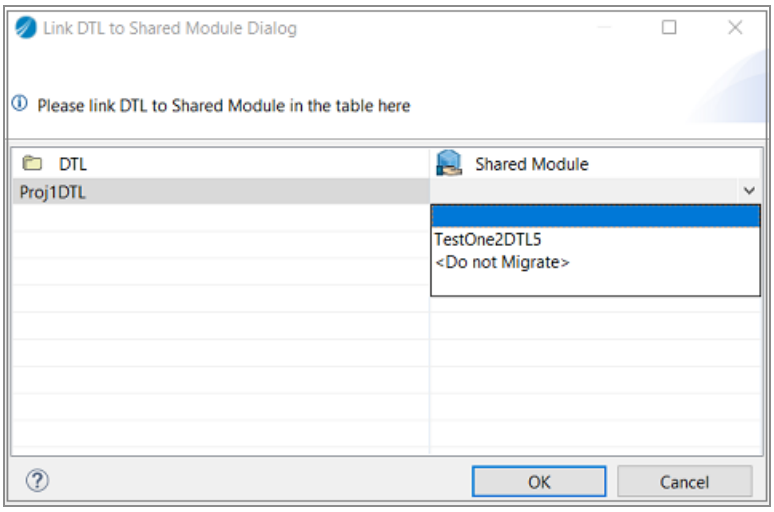
Migrating Application Modules

ActiveMatrix BusinessWorks 5.x projects using design time libraries can be migrated as application modules by linking the corresponding shared modules to the DTL libraries.

Select the **Link DTL to Shared Module** check box.



Select the required DTL project, and click **OK**.



Mapping the DTL to the **<Do Not Migrate>** option does not link the DTL to the shared module.

Note: Multiple DTL libraries can be linked to one shared module. After migration all the DTL libraries refer to the same shared module to resolve resource references.

Migrating Design Time Libraries Using Command line

Design time library source projects can be migrated as shared modules using the command line.

Set the following properties to migrate DTL projects as a shared module using the `bw6migration.properties` file.

Property	Description
`sharedModule`	Set the property to `true` to create an ActiveMatrix BusinessWorks 6.x shared module. Set the property to `false` to migrate the DTL as an application module.

Note: The shared module and the application module must be maintained in the same workspace while performing migration using the command line.

Mapping a Design Time Library to a Shared Module

Set the following properties to link a DTL library to the shared module.

Property	Description
`dtlDir`	Provide the project lib folder location. For example,

Property	Description
	`C:/Users/workspace1/folder/BW5DTLLib.projlib`.
`sharedModuleDirs`	Provide the shared module location. You can provide multiple directory locations using comma separated values. For example, `C:/CLIWorkspace,C:/CLIWorkspace/SharedModuleProject1,....`

Using the Quick Fix Option to Resolve XSLT out of Sync Errors

After migrating a project, use the **Quick Fix** option to resolve XSLT out of Sync errors in the project.

Before you begin

Set the minimum JVM heap size to either 4GB, 6GB or 8GB, keeping in mind the size of the project. For additional instructions, see Specifying JVM Heap Size in *TIBCO ActiveMatrix BusinessWorks™ Performance Benchmarking and Tuning*.

After migrating a project, follow these steps:

Procedure

1. Turn off the Auto Build, which is enabled by default, by selecting **Project > Build Automatically**.
2. From the **Problems** tab, click the downward arrow icon, and select **Configure Contents**.

   The Configure Contents window is displayed.
3. Clear the **Use item limits** check box and select **OK**.

   This causes all of the errors in the project to display.
4. From the **Problems** tab, right-click on an XSLT out of Sync error, and select **Quick Fix**.
5. Click **Select All**.

6. Click **Finish**.
7. Clean the project to fix broken mappings that might have occurred.
8. To fix broken mappings, select **Project > Clean**.

Result

The number of XSLT out of Sync errors in the migrated project are either reduced or fully resolved. If there are a few XSLT out of Sync errors still lingering, use the **Quick Fix** option to resolve these problems. Make sure the **Auto Build** is turned off during this process.

Migration Process Outline

The migration mechanism takes ActiveMatrix BusinessWorks 5.x projects and converts them to their equivalent in ActiveMatrix BusinessWorks 6.x.

The process flow in the project is migrated as is for the following:

- The activities and their associated mappings
- The transitions and their associated conditions
- Groups

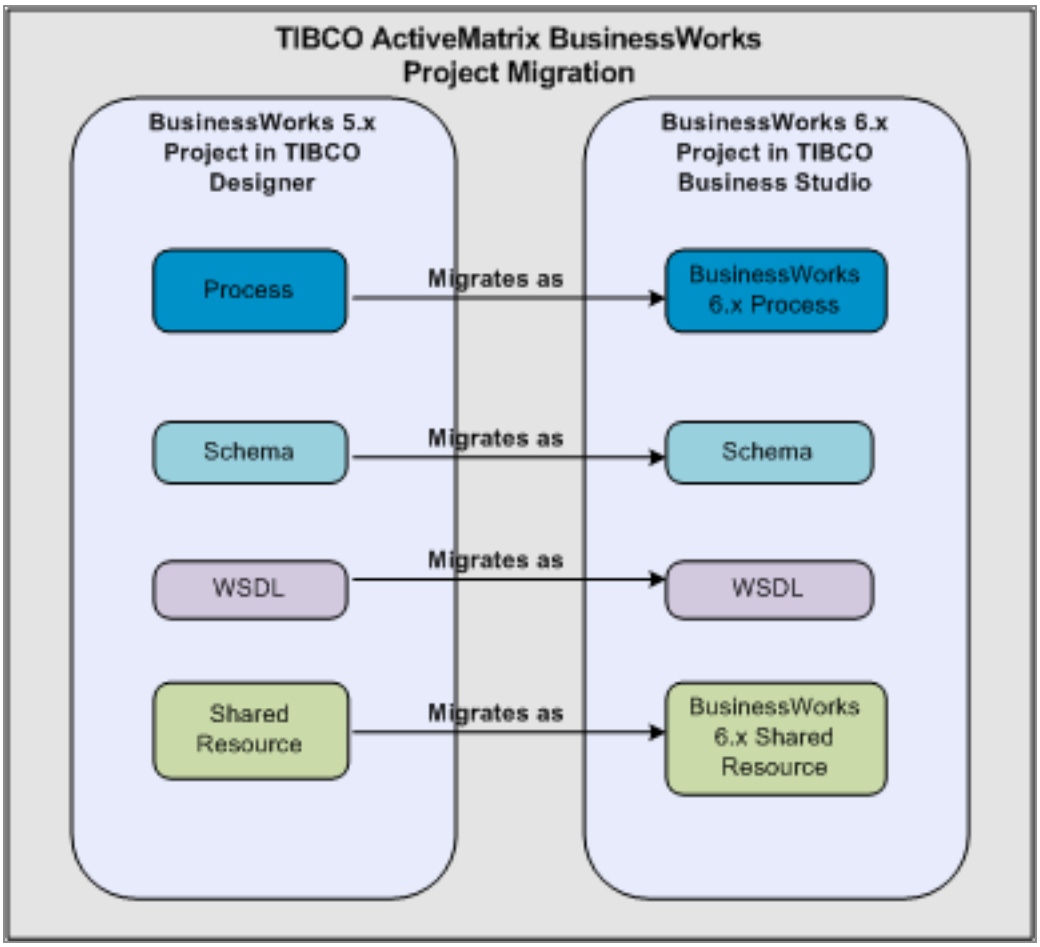
ActiveMatrix BusinessWorks Project Migration

5.x Project in TIBCO Designer	6.x Project in TIBCO Business Studio for BusinessWorks
Process	ActiveMatrix BusinessWorks 6.x Process
Schema	Schema
WSDL	WSDL
Shared Resource	ActiveMatrix BusinessWorks 6.x Shared Resource

Note: While migrating projects, if a project rests in a multiple folder hierarchy structure and contains WSDLs, or schemas, or both, the folder names must be unique. If the folder names are not unique the project can run into design time issues due to incorrect namespaces and imports.

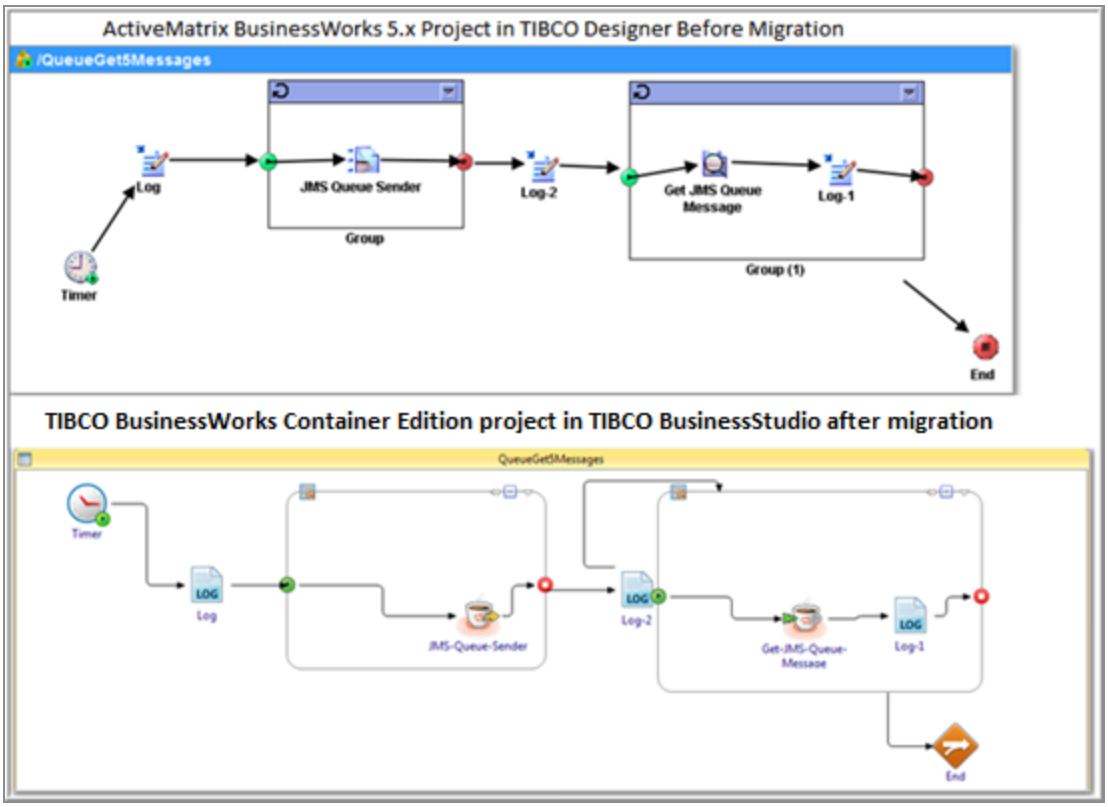
Note: For ActiveMatrix BusinessWorks 6.x, spaces are not allowed in the namespace.

Project Migration Diagram



The following image shows the project process flow after the migration. Activities, transitions, and their associated mappings visible in ActiveMatrix BusinessWorks 5.x project in TIBCO Designer are displayed in ActiveMatrix BusinessWorks 6.x project in TIBCO Business Studio for BusinessWorks.

Migrated Project - Before and After



Frequently Asked Questions

What do I do...	Answer
When migrated process shows mapping errors?	1. Go to **Menu > Project > Clean** and click **Clean All Projects**. 2. Go to the Activity Input with the Mapping Error. Click **Show Check and Repair** and fix existing errors. 3. Click **Fix Type Casting Errors**. 4. If the error still persists, check the expression and do the necessary corrections.
When processes have unresolved WSDL references?	1. Close and reopen the project. 2. If this does not fix the references, heck the WSDL Interface value on the **General** tab of the **Process Service**.
When Java Invoke activities show `Input Configuration Error` after migration?	1. Go to the **General** tab of the **Java Invoke** activity and check whether the Class Name is available in the workspace. If available, re-select the Java class. 2. If the class is not available, check whether the JAR file packaging the Java class is available. Otherwise, copy the JAR file to the "lib" folder and reselect the Java class.
When activities in the Catch block show Mapping errors?	The **Catch Block** activities does not have the visibility to the output of the activities from the main process. Re-map the activity input accordingly. This is similar to the Java try or catch constructs.
When `Variable not defined` error	1. In ActiveMatrix BusinessWorks 6.x the Iterate

What do I do...	Answer
for Iterate Group Index variable is used outside the **Iterate** scope?	Group Index Variable does not have visibility outside the Iterate scope. 2. Define a process variable of type integer, map it to the Iterate Group Index variable, and use the variable in the process scope.
When a ActiveMatrix BusinessWorks 5.x activity migrates as **Empty** or **Rescue** activity in ActiveMatrix BusinessWorks 6.x?	The ActiveMatrix BusinessWorks 5.x activity migrates as **Rescue** activity, if the migration framework fails to migrate. 1. Check the ActiveMatrix BusinessWorks 5.x project 2. Add the corresponding activity in the ActiveMatrix BusinessWorks 6.x project 3. Redo the mappings.
After migrating a project using the `tib:concat-sequence-format()`, the output returns errors.	The function `tib:concat-sequence-format()` does not accept a string as its return value for node set. After migration, replace the `tib:concat-sequence-format()` with the `string-join()` function.
When a group is around the activities and the XPath condition over the group is not satisfied after migration, the `Expected Non Repeating got repeating` error is displayed.	1. Verify the XPath condition and resolve the group issues (for example, iterator, for-each...) 2. Re-map the same from the group.
When the `Variable not defined` error is displayed post migration for multiple variables created in the input of any activity and each variable is created with the condition on another variable.	1. Remove all the variables 2. Recreate the variables 3. Add the mappings again. In this case the back-end references are also removed. 4. Delete the XPath on the variables one by one and re-correct them. This also resolves the issue sometimes.

What do I do...	Answer
When the `Unresolved reference schema` error is displayed.	Reconfigure the broken module variables. Redo all the mappings as they break due to reconfiguration.
When the `Catch-All End` error is not configured.	When a Catch All fault handler is used in a ActiveMatrix BusinessWorks5.x project, on migration the fault handler is converted as expected but an **End** activity is created in place of a **Catch All** activity. An End activity without any input is created. Delete the end activity and to resolve the issue.
Schema references issues post migration	References of schemas that are imported in another schema are not found. Delete the import and add it again. The references are updated with the correct namespace and the namespace issues are resolved.
When you map an integer value, for example 1, to a decimal field, expecting the output in the decimal field to be 1, but, instead, the decimal field result is 1.0.	Create a new **Mapper** activity using the same naming and mappings from the existing mapper activity. Once all the inwards and outwards mappings are done, delete the old **Mapper** activity, which is already migrated, and point the transitions to the newly created mapper activity.
There is no `tokenize-allow-empty ()` function in ActiveMatrix BusinessWorks 6.x.	After migration to ActiveMatrix BusinessWorks 6.x, the `tokenize()` function can yield the same results as the `tib:tokenize-allow-empty()` and `tib:tokenize() functions`of ActiveMatrix BusinessWorks 5.x.
When a mapper activity that has a tokenize function inside a `for-each` expression, throws a Null Input at runtime?	Post migration, convert the XSLT version in the activity from 1.0 to 2.0, since in version 1.0 the `for-each` expression requires things to be evaluated to a node-set. The Tokenize function creates a sequence of string atoms, which is not node-set. In 2.0, the `for-each` expression must be evaluated to sequence, which covers the sequence of atoms and

What do I do...	Answer
	node scenario.
After migration, when a boolean always evaluates to false with XSLT 1.0 and validation off.	1. Navigate to **Windows > Preferences > Mapper**. 2. Select the **Assume all inputs untyped** check box. 3. Click **Apply**, and then **OK**. 4. Clean the project. After the errors related to untyped input are displayed, use the **Quick Fix** option to resolve them. 5. Execute the project.
After migration, when there is a invalid comparison, or conversion error in a transition or a group.	1. Navigate to **Windows > Preferences > Mapper**. 2. Select the **Enable Quick fix to change Xpath version from 2.0 to 1.0** check box. 3. Click **Apply**, and then **OK**. 4. Clean the project. 5. On the **Problems** tab, right-click and select the **Quick Fix** option for the XPath Version 2.0.

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Product-Specific Documentation

The following documentation for this product is available on the TIBCO ActiveMatrix BusinessWorks™ page:

- *TIBCO ActiveMatrix BusinessWorks™ Release Notes*
- *TIBCO ActiveMatrix BusinessWorks™ Installation*
- *TIBCO ActiveMatrix BusinessWorks™ Application Development*
- *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference*
- *TIBCO ActiveMatrix BusinessWorks™ Concepts*
- *TIBCO ActiveMatrix BusinessWorks™ Error Codes*
- *TIBCO ActiveMatrix BusinessWorks™ Getting Started*
- *TIBCO ActiveMatrix BusinessWorks™ Maven Plug-in*
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