

# TIBCO BusinessWorks™ Container Edition Release Notes

*Software Release 2.1.0  
August 2016*

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# New Features

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Here are the new features available in this release (2.1.0) of TIBCO BusinessWorks™ Container Edition.

## Release 2.1.0

### New Features

- Support for service discovery and registration for Cloud Foundry, Docker, and Docker based platforms.
- Support added for the circuit breaker mechanism through Hystrix libraries.
- Support for FTP and Mail palette.
- Support for migrating your projects from TIBCO ActiveMatrix BusinessWorks 5.x to TIBCO BusinessWorks Container Edition.

### Eco-system Support

- Integration with TIBCO Mashery® for Docker applications.
- Support for TIBCO ActiveMatrix BusinessWorks™ Plug-in for WebSphere MQ and TIBCO ActiveMatrix BusinessWorks™ Plug-in for Data Conversion on Docker and Docker based platforms.
- Support for TIBCO ActiveMatrix BusinessWorks™ Plug-in for SAP and TIBCO ActiveMatrix BusinessWorks™ Plug-in for Salesforce.com on Cloud Foundry, Docker, and Docker based platforms.
- Ability to run TIBCO BusinessWorks Container Edition applications deployed to Linux Docker images managed and running inside Amazon EC2 Container Service and Azure Container Service.
- Support added for the Docker CS Engine and Docker approved open source engine which is in turn supported by:
  - Amazon EC2 Container Service - for more information see <https://aws.amazon.com/docker/>
  - Azure Container Service - for more information see <https://azure.microsoft.com/en-in/services/container-service/>

### Functional Improvements

- The new **Wait for Notification** and **Notify** activities and the **Notify Configuration** shared resource handle inter-process communication. These activities are similar to semaphores in programming. A process containing a **Wait for Notification** activity waits for another process to execute a corresponding **Notify** activity.

The **Notify Configuration** Shared Resource specifies a schema for passing data between executing process instances.

- Support added for JSON based EMS configurations.
- Design time libraries (DTL) as a part of TIBCO ActiveMatrix BusinessWorks 6.x Migration Utility.
- Concrete WSDLs can now be generated at runtime for SOAP over HTTP bindings.
- Ability to select inline schemas from WSDLs in the same application module.
- Group index variable can be made available by selecting the **Global** check-box for groups.

## Release 2.0.0

- Support for Docker and Docker-based platforms such as Kubernetes

You can now build applications and deploy them as Docker images to these cloud-native platforms. While doing so, the images can be customized for varied use cases and requirements.

- Cloud-Native Tooling

This release adds support for Consul as a configuration management solution when using with Docker. This is in addition to the ability to use Spring Cloud Config or Zuul when deploying to Cloud Foundry.

- Integration with TIBCO Microflow Container Edition

You can now build client-specific APIs and applications without changing their TIBCO BusinessWorks™ Container Edition applications and deploy them to Cloud Foundry using TIBCO Microflow Container Edition. Applications deployed to both Cloud Foundry and Docker are available for use with TIBCO Microflow Container Edition.

- Integration with TIBCO Mashery®

This release adds support for configuring your TIBCO Mashery® instance as a Create-User-Provided-Service (CUPS) in your Cloud Foundry environment. Subsequently any REST or SOAP service bound application to that CUPS will be exposed in TIBCO Mashery® for API distribution and management.

### Functional Improvements

- Added support for header parameters described in the Swagger 2.0 specification.
- Support for Form, specifically application/www-x-form-urlencoded and multipart/form-data as a media type for REST Service and REST Reference bindings.
- Support for anonymous JSON arrays.
- You can now use a new non-WSDL-based subprocess, called a direct subprocess. A direct subprocess does not require a WSDL to define subprocess details. Instead, details are set on the **Start** and **End** activities in the process interface. During migration processes all subprocesses are migrated as direct subprocesses.
- You can now configure the REST Reference Binding to use HTTPS protocol.
- When configuring the **Post Data Type** field from the **General** tab, users can now choose to send post data as a string or as binary.
- The new **REST Reference** wizard in Business Studio allows users to invoke web services by providing the web service URL.
- Ability to reuse an **HTTP Connector** Shared Resource from a Shared Module in multiple applications deployed on the same AppNode.
- Ability to select HTTP methods to disable
- Ability to use default confidentiality
- Users can now use module properties when selecting an **HTTP Client** Shared Resource for Transport Configuration in SOAP binding
- Support for a custom fault schema for individual operations and fault codes for REST services.
- Improved ability to create XML schema from a JSON payload.
- Supports for NULL values in JSON. However, this support does not extend to supporting NULL values in root elements.
- Ability to select individual processes and resources during migration.
- Logging HTTP request and response time.
- Ability to select individual processes and resources when running the Debugger.

### Release 1.0.1

#### Pivotal Cloud Foundry Tooling

- System defined user properties - You can now set Java properties for use at run time. Refer to the *Application Development* guide for more information.
- Support for SSH: You can now connect to the TIBCO BusinessWorks™ Container Edition runtime environment using SSH.

### Platform and Ecosystem Improvements

- Support for Java Runtime Environment (JRE) 8 - JRE has been upgraded for TIBCO Business Studio Container Edition and the buildpack.
- Support for Plug-ins - This release provides the necessary tooling and support to use plug-ins with your TIBCO BusinessWorks Container Edition projects.

For TIBCO Business Studio Container Edition, these plug-ins can be installed using the plug-in installer. For instructions on customizing your buildpack to include the plug-in runtime, refer to the *Application Development* guide.

### Functional Improvements

- Unshared State Failover (UFO) support in JMS - This feature introduces a new check-box to indicate the usage of Unshared State Failover in JMS. This check-box appears only when the option **Direct** is used in the **Connection Factory Type** field.

When using the unshared failover setup, if a connection loss is detected on Server (A), BusinessWorks will try to connect to Server (B) as defined in the connection factory configuration.

After enabling the check-box, you can pass the provider URL in the form of UFO. For example,

```
tcp://serverA:7222+tcp://serverB:7222,
```

where Server A and Server B are two EMS servers configured for sharing the Unshared State Failover.

## Release 1.0.0

### Native Eclipse Design-time

- Process Designer
- Shared modules for modular design of applications
- Integrated with the Eclipse ecosystem of frameworks and plug-ins

### Graphical Modeler for Visually Building Cloud-native Micro Services with Zero-code

- Drag-and-drop process design user interface
- Extensive set of pre-built activities to build applications using technologies such as JDBC, JMS, HTTP
- Rich data mapping and XML management capabilities with shared context within processes
- Intuitive gestures for commonly performed tasks
- Multi-operation process definitions
- Support for Exception handlers and Error Transitions
- Visual process debugger with capabilities for powerful data inspection, breakpoints and stepping through execution
- Configuration management using scoped properties at Process or Module level and deployment specific environment profiles
- Support for converting TIBCO ActiveMatrix BusinessWorks Enterprise projects to TIBCO BusinessWorks Container Edition

### Zero-resistance to Coding with Java Development Tooling

- Leverages the rich Eclipse java development features
- Full-fledged Java palette in BusinessWorks processes
- Java debugger to seamlessly interweave between code and visual process
- Ability to develop Java/OSGi modules

#### **First Class Support for REST/JSON**

- Wizard to convert resource definitions to testable APIs and services in a few clicks
- Option to choose between XML or JSON for resource representation
- Integrated Web UI for documentation and testing that generates Swagger 2.0 specification
- Easily consumable from web and mobile applications in Javascript, Python, Ruby etc
- Support for REST reference bindings using Swagger specifications.

#### **Native Support for Cloud Foundry**

- Tailored design-time environment for developing Cloud Foundry applications
- Out-of-the-box support for Spring Cloud Config and Zuul Configuration Management Services
- Cloud Foundry build-pack that participates in a native manner with all Cloud Foundry tooling
- Ability to customize buildpacks for third party drivers and adding support for custom or new services/tooling (such as managed services or monitoring)
- Native integration with Cloud Foundry external services such as database, messaging, and logging

## Changes in Functionality

The following are the notable changes in functionality in this release (2.0.0).

### Release 2.1.0

There are no changes in functionality in the version 2.1.0 of TIBCO BusinessWorks Container Edition.

### Release 2.0.0

| Design-time   |   |
|---|---|
| Invoke activities with a single Message-Part(Element) as the output, can be selected as the Output Activity for the group | The <b>Accumulate Output</b> check box is now supported for the <b>Invoke</b> activity when the activity is used inside of a group.   |
| An easier way to create an XSD schema from a JSON payload in Business Studio  | The new JSON to Schema Wizard provides a streamlined approach to creating an XML schema from a JSON Payload. It can be easily accessed by right-clicking on the Schemas folder from the <b>Project Explorer</b> pane, and clicking <b>New &gt; XML Schema File from JSON Payload</b> .  |
| Updates to the HTTP access logs   | <p>The following HTTP Access Log properties have been removed removed:</p> <ol style="list-style-type: none"> <li>1. <code>bw.plugin.http.jetty.disableaccesslogs</code></li> <li>2. <code>bw.plugin.http.jetty.accesslogs.extended</code></li> <li>3. <code>bw.plugin.http.jetty.accesslogs.cookies</code></li> <li>4. <code>bw.plugin.http.jetty.accesslogs.servername</code></li> <li>5. <code>bw.plugin.http.jetty.accesslogs.dispatchtime</code></li> </ol> <p>Another update made was to the default behavior of HTTP access logs. Previously, HTTP access logs were printed by default. In this version of the software, HTTP access logs will not be printed by default. Users can choose one of the following options to enable the access log:</p> <ul style="list-style-type: none"> <li>• To turn on HTTP access logs for new applications, select the <b>Enable Access Logs</b> check box in the <b>HTTP Connector</b> Shared Resource.</li> <li>• To turn on HTTP access logs for applications that were created using previous versions of the software, set the <b><code>bw.plugin.http.jetty.accesslogs.enable</code></b> to <b>true</b>.</li> </ul> |



| Design-time   |   |
|---|---|
| The JDBC palette can be configured to use custom JDBC drivers | The <b>JDBC Connection</b> Shared Resource can be configured to use custom drivers at run time. For additional details, refer to the "Using Custom Drivers for Run Time" section in the <i>TIBCO BusinessWorks Container Edition Palette Reference</i> guide.                                       |
| JMS activities now support dynamic JMS properties             | Users can add JMS properties to the following JMS activities at runtime: <ul style="list-style-type: none"><li>• Get JMS Queue Message</li><li>• JMS Receive Message</li><li>• JMS Request Reply</li><li>• JMS Send Message</li><li>• Reply to JMS Message</li><li>• Wait for JMS Request</li></ul> |

## Closed Issues

The following are the closed issues for the 1.0.x releases of TIBCO BusinessWorks™ Container Edition.

### Release 2.1.0

#### Bindings

| Key        | Description  |
|------------|--|
| AMBW-24395 | REST References could not be created if a process was created within a Shared Module.  |
| AMBW-23984 | An <b>Invoke</b> activity, configured to send a SOAP over JMS message to a webservice using an asynchronous operation, did not throw an exception when the connection to the EMS server broke. |
| AMBW-23966 | The body of the request message did not contain the namespace defined in the WSDL when the SOAP Binding style was of type <b>RPC/Literal</b> .   |
| AMBW-22848 | Users can now view the associated Swagger file as a link in the REST Service Binding.  |
| AMBW-22747 | When the Swagger file has a property of type <b>object</b> an equivalent XSD was not generated and an error was thrown.  |
| AMBW-16039 | Incorrect Swagger specification models were generated for REST services when using the pass through mechanism (Opaque mode).   |

#### General

| Key        | Description  |
|------------|--|
| AMBW-24604 | If no component process was selected, the Debugger did not validate process selection.   |
| AMBW-24463 | ActiveMatrix BusinessWorks incorrectly tried to look up namespaces on the network when loading a schema from a shared module that contained a target namespace corresponding to a network host, for example, ns.tibco.com. |
| AMBW-24408 | When debugging a direct sub process, the process launcher loaded the incorrect schema element as the input element of the request message.   |
| AMBW-24393 | Calling the parent process failed after executing the <b>Activator Process</b> for <b>OnStartup</b> containing a <b>Call Process</b> activity.   |
| AMBW-24310 | While working in the Process Launcher view, users could not enter input for direct sub processes.  |
| AMBW-24059 | Imported projects took a long time to open in Business Studio because externally located documents were not getting resolved.  |

| Key        | Description  |
|------------|--|
| AMBW-23857 | If a message failed on the SOAP Reference binding, the Java ClassCastException error message was thrown instead of the ActiveMatrix BusinessWorks error code and message.                                |
| AMBW-23699 | When a <b>Call Process</b> activity called a direct subprocess, that was defined in the Shared Module, and the Shared Module was restarted, a Null Pointer Exception was thrown.                         |
| AMBW-23540 | The issue of column names appearing twice on the tabs in the <b>Module Properties</b> editor has been fixed.   |
| AMBW-22852 | Module properties, that were part of a property group, can now be selected when configuring an activity.   |
| AMBW-22273 | The <b>Invoke</b> activity timeout attribute can be set to module property of type String or Integer, by selecting the required type in the drop down option added in the <b>Activity Timeout</b> field. |
| AMBW-20502 | Removing an unused schema from a project did not remove the dependency of schema from the process.   |
| AMBW-18366 | The No Schema with target namespace found in the module errors were thrown when users migrated BusinessWorks 5.x projects to BusinessWorks 6.x.  |
| AMBW-17807 | When working in Mac OS X, the xpath expression was properly updated for the Sequence Key field after users selected OK in the xpath builder editor.  |

### Palettes

| Key                 | Description  |
|---------------------|--|
| <b>HTTP Palette</b> |  |
| AMBW-24623          | When a header was repeated in a HTTP fault response, the <b>Send HTTP Request</b> activity failed with the error, <code>java.lang.ClassCastException: [Ljava.lang.String; cannot be cast to java.lang.String</code> .              |
| AMBW-23318          | An exception was thrown, and the application failed to start, if the <b>Send HTTP Request</b> activity in an application process tried connecting to a remote, and secured, REST service configured to use a proxy server.         |
| AMBW-12732          | Dynamic Headers for <b>HTTP Send Request</b> activity were partially migrated. After migration, the user had to re-map these missing dynamic header fields by using original ActiveMatrix BusinessWorks 5.x mappings in reference. |
| <b>JDBC Palette</b> |  |
| AMBW-24791          | If a JDBC connection was marked as invalid after creation, the active connection count was not decremented, which prevented new connections from being created if the max connections value was reached.                           |

| Key                          | Description  |
|------------------------------|--|
| AMBW-24446                   | The internal lock was not released when a database connection was not successful. This caused the thread to freeze and the thread did not continue the expected execution.   |
| AMBW-24138                   | Activities from the JDBC Palette threw a JDBC Timeout Exception if the query loads too large for the connection pool could handle.   |
| <b>Java Palette</b>          |  |
| AMBW-24008                   | Improvements have been made to the performance of the <b>Java to XML</b> activity.   |
| <b>JMS Palette</b>           |  |
| AMBW-24033                   | The JMS Application Properties editor did not set the cardinality of the element.  |
| AMBW-24032                   | When configuring the security settings of the <b>JMS Connection Shared Resource</b> , a NullPointerException occurred if the user name and password in the <b>JNDI Resource</b> were not set.                                  |
| AMBW-23955                   | An error was thrown if the the <b>JMS Receiver</b> activity received a message that was configured to use application properties, but did not contain any application properties.  |
| AMBW-22662                   | If the <b>JMS Connection Shared Resource</b> was configured with a Keystore Shared Resource, the <b>JMS Connection Shared Resource</b> failed to initialize when a module property was used for the <b>Keystore URL</b> field. |
| AMBW-22488                   | The <b>JMS Receiver</b> and <b>Get JMS Queue Message</b> activities threw a validation error if the JMS client sent a message with JMSXGroupID and JMSXGroupSeq header properties.   |
| AMBW-21866                   | Attempts to reconnect to the <b>JMS Request Reply</b> activity failed after the EMS server was restarted.  |
| AMBW-20889                   | JMS test connection failed when a module property was used to configure <b>Keystore URL</b> field.   |
| AMBW-16250                   | The <b>JMS Request Reply</b> activity threw a warning if the <b>Reply To Destination</b> field was specified on the <b>Input</b> tab instead of the <b>Advanced</b> tab of the activity.                                       |
| AMBW-10770                   | An exception was not thrown if messages sent to the WebSphere MQ queue were more than value specified by the MaxQDepth property.   |
| <b>Mail Palette</b>          |  |
| AMBW-24217                   | The text body content is now sent in byte array.   |
| <b>REST and JSON Palette</b> |  |

| Key                             | Description   |
|---------------------------------|---|
| AMBW-24282                      | The parse exception was thrown when a JSON string, with decimal value restricted to 6 fractional digits was parsed to an XML activity. The <b>Parse JSON</b> activity converted large numbers into scientific form which was not validated against the decimal type. This also caused rounding off numbers when roundtripped, for example, when json is translated to xml, which is then translated back to json. |
| AMBW-18651                      | Descriptive error messages are now thrown when <b>Parse JSON</b> and <b>Render JSON</b> activities fail.  |
| <b>XML Palette</b>              |   |
| AMBW-24089                      | When a complex element was selected in the <b>Select Schema Element</b> declaration window for CDATA section, CDATA was not applied to the child elements of the complex element.   |
| <b>Basic Activities Palette</b> |   |
| AMBW-24171                      | The error <code>IndexOutOfBoundsException</code> was thrown when <b>Critical Section</b> groups were used.  |

## Release 2.0.0

### Binding

| Key        | Description  |
|------------|--|
| AMBW-23581 | If a SOAP service binding was configured to use JMS as the transport type, and the <b>Acknowledge Mode</b> field was set to Client or TIBCO Explicit, unconfirmed messages were not redelivered.         |
| AMBW-23309 | The 404 <code>Not Found</code> error was thrown for a REST Resource when multiple hierarchical REST Resources were deployed in the same application.   |
| AMBW-22634 | Swagger UI incorrectly used HTTP, instead of HTTPS, even if the <b>HTTP Connector Resource</b> used by the REST Service Binding was configured with HTTPS.   |
| AMBW-22496 | TIBCO ActiveMatrix BusinessWorks always published SOAP/JMS services response messages in the PERSISTENT mode, even if the request message has been published by the consumer in the NON_PERSISTENT mode. |
| AMBW-22495 | Added an option to not confirm a message if an error is thrown in a process containing Service over JMS with TIBCO EMS Explicit Client ACK, or client ACK mode.  |
| AMBW-22038 | Swagger UI did not display the REST services if the operation response was configured to use <b>Simple Element</b> or <b>Simple Type</b> .   |

| Key        | Description  |
|------------|--|
| AMBW-21864 | Renaming an implemented REST service binding operation from Business Studio did not work, and caused an exception to be thrown.  |
| AMBW-21351 | Query parameter types can now be edited in the REST binding. Query parameters are now defined for every REST operation instead of every service binding.                                   |
| AMBW-21338 | Swagger UI did not support fields for Basic Authentication.  |
| AMBW-20990 | The <b>Connection Header</b> field was not populated in a SOAP service request.  |
| AMBW-20406 | Users were unable to use an <b>Invoke</b> activity that had a reference inside an Event handler. The <b>Invoke</b> activity could reference to either a subprocess or an external service. |
| AMBW-19616 | Changes were not saved when parameters in the Resource Service Path of a REST Service Binding were altered without pressing the Enter key.   |
| AMBW-19194 | The error REST Service Binding configuration error was thrown if unrelated REST bindings were deleted.   |

### General

| Key        | Description  |
|------------|--|
| AMBW-23806 | The cache did not properly resolve schemas when the bwdesign <b>export</b> command was used for complex projects.  |
| AMBW-23207 | If an array type was used in the JSON Request Body for the REST Service Binding, an incorrect Swagger was generated under the <b>Service Descriptors</b> folder. |
| AMBW-23127 | For some nested schema imports Business Studio did not manage the shared components properly.  |
| AMBW-22681 | The resource tree locked exception was thrown while refreshing an internal repository file when running the bwdesign tool.                                       |
| AMBW-22676 | Infinite recursion, that occurs if nested coercion contains cyclic schema types, is now prevented.   |
| AMBW-22660 | Database locks were not detected when the engine was started.  |
| AMBW-22658 | A NullPointerException was reported when a <b>Group</b> contained the <b>Reply</b> activity.   |
| AMBW-22497 | When importing dependent schemas, schema references were not always properly resolved when the application was started.  |
| AMBW-22494 | The AppNode status hung if an application used JDK 1.7, or later versions of the software, and allowed unsynchronized access from multiple threads.              |

| Key        | Description  |
|------------|--|
| AMBW-22055 | The <b>enablestats</b> command for <code>processinstance</code> failed in TIBCO Activematrix BusinessWorks 6.3.0.  |
| AMBW-22053 | A <b>Shared Module</b> was not added as dependency after a <b>Module Property</b> , which was pointing to a <b>Shared Resource</b> from a <b>Shared Module</b> , was referenced in the <b>Application Module</b> .   |
| AMBW-22037 | Users could not create new projects in Business Studio if the region and language format in their operating system was set to Thailand.  |
| AMBW-21898 | Custom plugins could not be installed in Business Studio.  |
| AMBW-21803 | When configuring <b>Authentication</b> and <b>Confidentiality</b> for the <b>HTTP Client Shared Resource</b> , an incorrect label displayed when users hovered over the ... icon.  |
| AMBW-21713 | The <b>dbconnectionurl</b> property value was corrected in the Administration guide topic "Database with TIBCO Enterprise Message Service Configuration for bwagent".  |
| AMBW-21677 | The XML model miscalculated prefixes when ancestor nodes contained two different prefix mappings for the same namespace and the current Appnode remapped one of those prefixes.  |
| AMBW-21402 | When the engine persistence mode was configured for datastore mode, the duplicate key detection feature did not work with the PostgreSQL database.   |
| AMBW-21167 | Business Studio was unable to send the first EMS message to the EMS server after restarting. However, the subsequent messages were successfully sent to the EMS server.  |
| AMBW-21115 | When users right-clicked on a module property in Business Studio, the menu incorrectly displayed duplicate options, and some options did not work.   |
| AMBW-21083 | Business Studio failed to add the necessary xslt parameter when a parameter reference followed an asterisk (*) in an xpath.  |
| AMBW-20977 | When the <b>Create New Process Property</b> button was used, while creating a new process property for a process starter, the error, <code>IllegalStateException: Cannot activate read/write transaction in read-only transaction context</code> was thrown. |
| AMBW-20900 | The error <code>java.lang.reflect.InvocationTargetException</code> was intermittently thrown in Business Studio if users had configured an application module to use a <b>shared module</b> contained within another <b>shared module</b> .                  |
| AMBW-20725 | After creating a new process and launching it in the Debugger, an exception was thrown.  |
| AMBW-20720 | When elements of data type any were coerced, their sibling elements were also coerced.   |

| Key        | Description  |
|------------|--|
| AMBW-20530 | Business Studio did not support text content in XSLT files. In the <b>Mapper</b> activity, after mapping a text variable for the first time if you move to another tab, the text node disappeared from the UI.                           |
| AMBW-20368 | Activities that the user had set to be hidden in Business Studio were incorrectly displayed in the Palettes pane if the user created a new process.  |
| AMBW-20297 | When the <b>bwdesign import</b> utility was executed from the command line, and the job failed, an errorlevel of 0 was incorrectly returned.   |
| AMBW-19982 | Migrating large projects took a long time to complete.   |
| AMBW-19768 | If an activity did not include a transition to the next activity, and the activity was renamed, the name change was not reflected in the XPATH expression of the next activity.  |
| AMBW-19718 | From Business Studio, processes were not successfully copied and pasted to the Components folder.  |
| AMBW-19530 | Nested inner loop accumulation did not reset on entry of each inner loop. On subsequent iterations of the inner loop, the accumulation variable of the inner loop contained accumulation values from the previous inner loop iterations. |
| AMBW-18516 | While mapping a repeating element in the design time, the corresponding runtime XSLT was not generated properly. It missed one of the <code>xs1:param</code> element in the runtime XSLT.  |
| AMBW-18219 | An exception was thrown, and users were unable to connect to bwagent configured for SSL from the Business Studio Deployment Servers View.  |
| AMBW-18079 | Inline schemas that lacked a <b>targetNamespace</b> attribute, threw the Null Pointer Exception, when used in a project.   |
| AMBW-17968 | The value of the module property was not displayed in the combo box when they were selected on the <b>Shared Resource</b> .  |
| AMBW-17550 | When data was mapped from one mapper to another mapper, the schema that was produced incorrectly contained unused namespaces.  |
| AMBW-15154 | Large projects took a long time to migrate to . After fixing errors in the migrated project and saving the project in the workspace took a long time to build.   |

### Palettes

| HTTP Palette |  |
|--------------|--|
| Key          | Description  |
| AMBW-22518   | The TIBCO ActiveMatix BusinessWorks 6.3.1 HTTP client did not support for TLSv1.2 GCM ciphers offered in Java 8. |



| HTTP Palette |   |
|--------------|---|
| Key          | Description   |
| AMBW-20924   | The <b>Authentication</b> check-box for the <b>HTTP Client</b> Shared Resource was reset after the check-box was cleared.   |
| AMBW-19092   | The <b>Send HTTP Request</b> activity was unable to handle Chinese characters in the <code>filename</code> attribute of the content disposition header in the mimepart.                     |
| AMBW-19048   | Logging the time stamp for sending a HTTP request and receiving the HTTP response in the <b>Send HTTP Request</b> activity was not supported in Business Studio.                            |
| AMBW-19075   | The HTTP server did not recognize requests containing multiple Accept or Content-Type elements in the header.   |
| JDBC Palette |   |
| Key          | Description   |
| AMBW-22120   | JDBC activities did not free temporary tablespace when working with Oracle LOB data.  |
| AMBW-21860   | An error was thrown if the output data type parameter in the <b>JDBC Call Procedure</b> activity was set to <code>Null</code> , or left empty.  |
| JMS Palette  |   |
| Key          | Description   |
| AMBW-23031   | The <b>JMS Send Message</b> activity with JNDI connection failed to send messages in the EMS Fault Tolerance with SSL mode.   |
| AMBW-22588   | The <b>JMS Receiver</b> activity incorrectly continued to create jobs even after the EMS Server was terminated.   |
| AMBW-22500   | Runtime XML serialization mishandled redeclaration of the default namespace mapping to the null namespace.  |
| AMBW-22499   | A session leak has been fixed on the <b>JMS Connection</b> Shared Resource.   |
| AMBW-22498   | The <b>JMS Receiver</b> activity threw an <code>out of memory</code> exception when the one of the applications using the shared resource was stopped.                                      |
| AMBW-22481   | When the <b>JMS Receiver</b> activity received messages of type XML Text, and the messages did not conform to the schema, the session was blocked and no additional messages were received. |
| AMBW-21167   | The <b>JMS Send</b> activity was unable to send the first message to the EMS server after restarting. Subsequent messages however, were successfully sent to the server.                    |

| JMS Palette |   |
|-------------|---|
| Key         | Description   |
| AMBW-21140  | Applications deployed in one AppNode stopped consuming JMS inbound messages under load.   |
| AMBW-21124  | The <b>JMS Connection</b> Shared Resource test connection failed to connect to the EMS server if mutual authentication was enabled in TIBCO ActiveMatrix BusinessWorks 6.x. |
| AMBW-19105  | Business Studio now supports JBOSS as a JMS provider.   |
| AMBW-18646  | Business Studio now supports IBM Websphere MQ as a JMS provider.  |
| AMBW-18213  | An unclear error message was displayed when a message was not successfully deserialized.  |

#### Release 1.0.1

| Key      | Description   |
|----------|---|
| EPAS-206 | The buildpack did not prefix jdbc to the user provided service (CUPS) database services.        |
| EPAS-181 | Exceptions were seen when shutting down applications in your Pivotal Cloud Foundry environment. |

## Known Issues

The following are the known issues in this release of TIBCO BusinessWorks™ Container Edition.

| Key      | Description   |
|----------|---|
| EPAS-751 | <p><b>Summary:</b> In the HTTP Client shared resource, if a module property is used for the <b>Execution Timeout Enabled</b> field for the Circuit Breaker configuration then the <b>Execution Timeout (ms)</b> field remains disabled irrespective of the value of the module property.</p> <p><b>Workaround:</b> Do not configure the module property configuration for this field.</p> |
| EPAS-748 | <p><b>Summary:</b> When importing the <b>ZipCodeLookup</b> sample errors are seen in the workspace log file</p> <p><b>Workaround:</b> None. These errors can be ignored.</p>  |
| EPAS-747 | <p><b>Summary:</b> When importing the <b>JDBC Basic</b> sample errors are seen in the workspace log file</p> <p><b>Workaround:</b> None. These errors can be ignored.</p>   |
| EPAS-738 | <p><b>Summary:</b> When the Circuit Breaker feature is enabled, some requests for Docker applications may fail with a <b>No route to host</b> error even after the circuit is closed.</p> <p><b>Workaround:</b> None.</p>   |
| EPAS-736 | <p><b>Summary:</b> The Service Discovery and Circuit Breaker features are not supported for SOAP Reference Bindings.</p> <p><b>Workaround:</b> None.</p>  |
| EPAS-725 | <p><b>Summary:</b> (Windows only) Due to the limitation of the horizontal scrollbar, the <b>Default Port</b> configuration of the <b>HTTP Client Shared Resource</b> is not visible.</p> <p><b>Workaround:</b> Resize the <b>HTTP Client Shared Resource</b> configuration UI.</p>  |
| EPAS-103 | <p><b>Summary:</b> When specifying Application Properties, if invalid login credentials are specified in the <b>Configure Container Connection Dialog</b>, the dialog asking for valid login credentials repeatedly pops up even after valid login credentials are specified.</p> <p><b>Workaround:</b> Press the <b>Cancel</b> button on the dialog.</p>                                 |
| EPAS-79  | <p><b>Summary:</b> Exceptions are seen when you import a project that contains a JDBC shared resource.</p> <p><b>Workaround:</b> Restart TIBCO Business Studio Container Edition™ and open the project in a new workspace. If the issue persists, recreate and reconfigure the JDBC shared resource.</p>  |

## Bindings

| Key        | Description   |
|------------|---|
| AMBW-21091 | <p><b>Summary:</b> If REST resources are implemented as Opaque, the Swagger specification generated is incorrect.</p> <p><b>Workaround:</b> None.</p>   |
| AMBW-13607 | <p><b>Summary:</b> REST Doc UI is not supported on Firefox browser.</p> <p><b>Workaround:</b> Use other browsers for the Doc UI.</p>  |
| AMBW-13572 | <p><b>Summary:</b> For some use cases, REST Doc UI does not show the correct error code in case of Internal Server errors on the Server side.</p> <p><b>Workaround:</b> Check the raw message that contains the correct error code.</p> |
| AMBW-13485 | <p><b>Summary:</b> REST Doc UI does not support browsers like Internet Explorer.</p> <p><b>Workaround:</b> Use Chrome browsers for the Doc UI.</p>  |
| AMBW-8982  | <p><b>Summary:</b> Changing the <b>Resource</b> name in the REST service <b>Bindings</b> tab, does not update the <b>Resource Service Path</b>.</p> <p><b>Workaround:</b> None.</p>   |

## General

| Key        | Description  |
|------------|--|
| AMBW-21128 | <p><b>Summary:</b> Flow limit does not work for REST Bindings.</p> <p><b>Workaround:</b> None.</p>   |
| AMBW-19540 | <p><b>Summary:</b> When a project contain abstract and concrete WSDL using same target namespace, a validation error is thrown.</p> <p><b>Workaround:</b> None.</p>  |
| AMBW-18459 | <p><b>Summary:</b> The ability to reference from a standalone (external) schema to an inline schema is not supported. If your project contains such a reference, a validation error is thrown.</p> <p><b>Workaround:</b> Externalize the WSDL-inline schema and change the import statements to reference the newly created (external) schema.</p> |
| AMBW-17998 | <p><b>Summary:</b> The EAR file generated using <b>bwdesign</b> utility does not support non-ASCII characters.</p> <p><b>Workaround:</b> None.</p>   |
| AMBW-17089 | <p><b>Summary:</b> TIBCO ActiveMatrix BusinessWorks project throws a warning during validation when it is copied from an old workspace and imported to a new workspace.</p> <p><b>Workaround:</b> None.</p>  |

| Key        | Description   |
|------------|---|
| AMBW-16256 | <p><b>Summary:</b> The first attempt to change the data type of an Operator's input or output schema element fails and the change is not committed. Subsequent attempts complete without any failure.</p> <p><b>Workaround:</b> To commit the change, you must press the return key after every change.</p>   |
| AMBW-15154 | <p><b>Summary:</b> Large BusinessWorks 5.x projects take a long time to migrate to BusinessWorks 6.x. After fixing errors in the migrated project and saving the it the workspace take a long time to build.</p> <p><b>Workaround:</b> Ensure the heap memory is set to 4 gigabytes for large projects, and complete the following steps:</p> <ol style="list-style-type: none"> <li>1. Switch <b>Auto Build</b> off when importing the project.</li> <li>2. After the project is imported, switch <b>Auto Build</b> on.</li> <li>3. Repair the project using the <b>Refactor &gt; Repair BusinessWorks Project &gt; Refresh Projects Cache</b> option.</li> <li>4. Clean the project.</li> </ol> |
| AMBW-14861 | <p><b>Summary:</b> Unable to enter an XPath expression on a transition using the XPath Builder. This issue is observed on Mac OS only.</p> <p><b>Workaround:</b> Enter the XPath expression directly in the <b>Properties</b> tab &gt; <b>Expression</b> field for the transition without using the XPath Builder.</p>  |
| AMBW-14533 | <p><b>Summary:</b> Mapper does not throw typecasting error, if the <b>Integer</b> data type is mapped with <b>String</b> data type.</p> <p><b>Workaround:</b> None</p>  |
| AMBW-13823 | <p><b>Summary:</b> Directory browser dialog in BW Context Sensitive Help preference setting page does not consistently popup on Mac OS X 10.9.2</p> <p><b>Workaround:</b> Copy and paste the directory path into the configuration field instead of using directory browser to pick it.</p>   |
| AMBW-13683 | <p><b>Summary:</b> Shared resource module property references in the migrated TIBCO ActiveMatrix BusinessWorks 5.x projects do not show up correctly on non-Windows platforms.</p> <p><b>Workaround:</b> Close and reopen the project.</p>  |
| AMBW-13673 | <p><b>Summary:</b> Schema is not populated in Input Editor/Output Editor if there is no targetNamespace in the schema.</p> <p><b>Workaround:</b> Provide targetNamespace in the schema.</p>   |
| AMBW-12785 | <p><b>Summary:</b> When trying to exit TIBCO Business Studio before saving the process, the error <code>java.lang.NullPointerException</code> is thrown.</p> <p><b>Workaround:</b> None.</p>  |

| Key        | Description  |
|------------|--|
| AMBW-12490 | <p><b>Summary:</b> Under certain circumstances, substitution types do not resolve properly in the mapper. The mapper shows errors for them.</p> <p><b>Workaround:</b> Try closing and reopening the project. If that does not solve the issue, try closing and reopening Eclipse. If the errors still persist, perform a project clean (that is, go to the <b>Project</b> menu and click <b>Clean...</b>).</p> |
| AMBW-11815 | <p><b>Summary:</b> A module shared variable cannot be initialized with an XML file that contains double-byte characters.</p> <p><b>Workaround:</b> None.</p>   |
| AMBW-11624 | <p><b>Summary:</b> TIBCO Business Studio hangs when opening SQL Builder if the database details on the JDBC shared resource are changed from PostgreSQL to MySQL after a query has been created using SQL builder.</p> <p><b>Workaround:</b> None.</p>   |
| AMBW-11534 | <p><b>Summary:</b> TIBCO Business Studio crashes occasionally on Windows 2012 R2 platform when switching workspace from <b>File &gt; Switch Workspace</b>.</p> <p><b>Workaround:</b> Retry by switching the workspace.</p>   |

## Migration

| Key        | Description   |
|------------|---|
| AMBW-20170 | <p><b>Summary:</b> Validation errors occur after migration when an XML element from an XSD schema, that does not have a target namespace, cannot be resolved.</p> <p><b>Workaround:</b> None</p>  |
| AMBW-16406 | <p><b>Summary:</b> When you migrate a project using the command line, the output schema in the migrated project is missing.</p> <p><b>Workaround:</b> To fix this issue, follow these steps:</p> <ol style="list-style-type: none"> <li>1. In the Project Explorer view, select all the projects in your workspace.</li> <li>2. Right-click and select <b>Refactor &gt; Reload Working Copy</b>.</li> </ol> |
| AMBW-14547 | <p><b>Summary:</b> When you migrate an ActiveMatrix BusinessWorks 5.x project containing in-built functions in the JDBC Query activity, an Invalid Column name error is thrown at the JDBC Query activity.</p> <p><b>Workaround:</b> Use an Alias instead of the in-built functions in the ActiveMatrix BusinessWorks 5.x project.</p>  |
| AMBW-14533 | <p><b>Summary:</b> Mapper does not throw typecasting error if Integer datatype is mapped with String datatype.</p> <p><b>Workaround:</b> None</p>   |
| AMBW-14295 | <p><b>Summary:</b> After migration, the output of project with Rest and JSON activities does not match with the input of the other activities in the migrated project.</p> <p><b>Workaround:</b> None.</p>  |

| Key        | Description   |
|------------|---|
| AMBW-14213 | <p><b>Summary:</b> After migration, the Render XML activity gets an incorrect input schema because of schema collision.</p> <p><b>Workaround:</b> Avoid schema collisions by declaring targetNamespaces in all schema. When that is not possible, include only one of the conflicting schema in each process.</p>   |
| AMBW-13823 | <p><b>Summary:</b> Directory browser dialog in BW Context Sensitive Help preference setting page does not consistently open on Mac OS X 10.9.2</p> <p><b>Workaround:</b> Copy and paste the directory path into the configuration field instead of using directory browser to pick it.</p>  |
| AMBW-11853 | <p><b>Summary:</b> A process that has an XSLT with a substitution, throws a validation exception at run time, unless the process is explicitly importing the XML Schema.</p> <p><b>Workaround:</b> The user should explicitly import the XML Schema in the process, by using the <b>Add Process Import</b> tool that is available in <b>Process Properties &gt; Dependencies</b> tab.</p>   |
| AMBW-11449 | <p><b>Summary:</b> Mapping an anyType element to a XML Schema simple type value results in an error.</p> <p><b>Workaround:</b> Coerce the anyType element with XML Schema simple type element and map. The type of the element used for coercion is determined by the value that is used in the mapping.</p>  |
| AMBW-9969  | <p><b>Summary:</b> TIBCO ActiveMatrix BusinessWorks 5.x projects with SOAP headers configuration in SOAP activities are not properly migrated to TIBCO ActiveMatrix BusinessWorks 6.x.</p> <p><b>Workaround:</b> SOAP functionality in ActiveMatrix BusinessWorks 6.x is achieved through SOAP Binding where its detail configuration is outside of BusinessWorks Process. The SOAP headers definition are defined at the Binding configuration and configured as generic context parameters for the Process. In the Process, you can use the Get Context activity (from Basic Palette) to retrieve and process the headers as context data. You can do this manually to complete the migrated project.</p> |

#### HTTP Palette

| Key        | Description   |
|------------|---|
| AMBW-12732 | <p><b>Summary:</b> Dynamic Headers for HTTP send request activity are partially migrated. The user after migration has to re-map these missing dynamic header fields by using original ActiveMatrix BusinessWorks 5x mappings in reference.</p> <p><b>Workaround:</b> Add the missing headers manually after migration.</p> |

## Java Palette

| Key        | Description  |
|------------|--|
| AMBW-22073 | <p><b>Summary:</b> Java classes, which require Spring framework, do not load in TIBCO ActiveMatrix BusinessWorks 6.3.1.</p> <p><b>Workaround:</b> None.</p>                                      |
| AMBW-13526 | <p><b>Summary:</b> In Java To XML activity, the Output tab is not populated correctly, if Java Class contains nested Object references in different classes.</p> <p><b>Workaround:</b> None.</p> |

## JDBC Palette

| JDBC Palette |  |
|--------------|--|
| Key          | Description  |
| AMBW-23464   | <p><b>Summary:</b> The Oracle DataDirect driver does not support cursor datatype.</p> <p><b>Workaround:</b> Use native drivers instead of DataDirect drivers.</p>  |
| AMBW-23384   | <p><b>Summary:</b> TIBCO ActiveMatrix BusinessWorks is unable to use functions that return the data type BIGInt if DataDirect drivers are used.</p> <p><b>Workaround:</b> Use native drivers instead of DataDirect drivers.</p>  |
| AMBW-23383   | <p><b>Summary:</b> Unable to retrieve smallint values from the Postgres database if DataDirect drivers are used.</p> <p><b>Workaround:</b> Use native drivers instead of DataDirect drivers.</p>   |
| AMBW-23265   | <p><b>Summary:</b> DB2 is not supported with DataDirect drivers.</p> <p><b>Workaround:</b> Use native drivers.</p>   |
| AMBW-23193   | <p><b>Summary:</b> When using DataDirect drivers with a JDBC Shared Resource, that is linked to a JDBC process, the SQL Builder Wizard does not work correctly.</p> <p><b>Workaround:</b> Use native drivers.</p>  |
| AMBW- 14547  | <p><b>Summary:</b> When you migrate an ActiveMatrix BusinessWorks 5.x project containing in-built functions in the JDBC Query activity, an Invalid Column name error is thrown at the JDBC Query activity.</p> <p><b>Workaround:</b> Use an Alias instead of the in-built functions in the ActiveMatrix BusinessWorks 5.x project.</p> |
| AMBW- 11624  | <p><b>Summary:</b> TIBCO Business Studio hangs when opening SQL Builder if the database details on the JDBC shared resource are changed from PostgreSQL to MySQL after a query has been created using SQL builder.</p> <p><b>Workaround:</b> None.</p>   |



| JDBC Palette |   |
|--------------|---|
| Key          | Description   |
| AMBW-11667   | <p><b>Summary:</b> Using any in-built function in JDBC Query activity without "Alias" fails to execute the application and throws an <code>Invalid Column name</code> error at run time.</p> <p><b>Workaround:</b> Use "Alias" to work with any in-built function in JDBC Query activity.</p> |
| AMBW-14624   | <p><b>Summary:</b> The <b>Set Explicit Nil</b> check box for Objects and Collections in <b>JDBC Call Procedure</b> activity is disabled.</p> <p><b>Workaround:</b> None.</p>  |
| AMBW-8855    | <p><b>Summary:</b> The localized error messages of JDBC connection are not displayed correctly in Studio.</p> <p><b>Workaround:</b> None.</p>   |

#### Parse Palette

| Parse Palette |  |
|---------------|--|
| Key           | Description  |
| AMBW-12473    | <p><b>Summary:</b> <b>Parse Data</b> activity throws a <code>NullPointerException</code> for the XSD namespace collision scenario.</p> <p><b>Workaround:</b> None.</p> |

#### XML Palette

| XML Palette |   |
|-------------|---|
| Key         | Description   |
| AMBW-14292  | <p><b>Summary:</b> <b>Parse XML</b> activity displays blank <code>ErrorCode</code> and <code>ErrorMessage</code> for activity output data validation error.</p> <p><b>Workaround:</b> None.</p> |