

TIBCO ActiveMatrix BusinessWorks™ Plug-in for Twitter User's Guide

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Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site at <https://docs.tibco.com/products/tibco-activematrix-businessworks-plugin-for-twitter>. To directly access documentation for this product from the file system, double-click the following file:

`TIBCO_HOME/release_notes/TIB_bwplugintwitter_version_docinfo.html` where `TIBCO_HOME` is the top-level directory in which TIBCO products are installed.

On Windows, the default `TIBCO_HOME` is `C:\Program Files\tibco`.

On UNIX systems, the default `TIBCO_HOME` is `/opt/tibco`.

The following documents for this product can be found in the TIBCO Documentation Library:

- *TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter Installation*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter User's Guide*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter Release Notes*

The following documents provide additional information and can be found in the TIBCO Documentation Library:

- *TIBCO ActiveMatrix BusinessWorks Documentation*
- *TIBCO Enterprise Administrator User's Guide*

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

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

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<https://community.tibco.com>

Plug-in Overview

With TIBCO ActiveMatrix BusinessWorks™ Plug-in for Twitter, you can publish, search, extract, and stream Twitter data.

TIBCO ActiveMatrix BusinessWorks™ is a leading integration platform that can integrate a wide variety of technologies and systems within enterprise and on cloud. TIBCO ActiveMatrix BusinessWorks includes an Eclipse-based graphical user interface (GUI) provided by TIBCO Business Studio™ for design, testing, and deployment. If you are not familiar with TIBCO ActiveMatrix BusinessWorks, see the TIBCO ActiveMatrix BusinessWorks documentation for more details.

After installing TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter, an [OAuth 1.0](#) shared resource and a [Twitter Palette](#) become available in the TIBCO Business Studio. You can add the plug-in activities to the business process you are designing, and integrate them with the process flow. At run time, the plug-in activities are executed as part of the ActiveMatrix BusinessWorks process execution.

Getting Started

A typical workflow for using the plug-in to achieve different goals includes creating a project, designing a process, and deploying the application.

TIBCO ActiveMatrix BusinessWorks uses the Eclipse graphical user interface (GUI) provided by TIBCO Business Studio to define business processes and generate Enterprise Archives (EAR files). The EAR files are deployed and run in the ActiveMatrix BusinessWorks runtime, and also are managed by using TIBCO Enterprise Administrator (TEA).

The typical workflow for using the plug-in is:

1. [Creating a Project](#)
2. [Creating an OAuth 1.0 Shared Resource](#)
3. [Configuring a Process](#)
4. [Debugging and Running a Process](#)
5. [Deploying an Application](#)

Creating a Project

Projects are BusinessWorks application modules that are created in TIBCO Business Studio. A project contains various resources.

Procedure

1. Start TIBCO Business Studio.
2. Select **File > New > BusinessWorks Resources**.
3. Click the **BusinessWorks Application Module** resource in the BusinessWorks Resource Wizard wizard. Click **Next**.



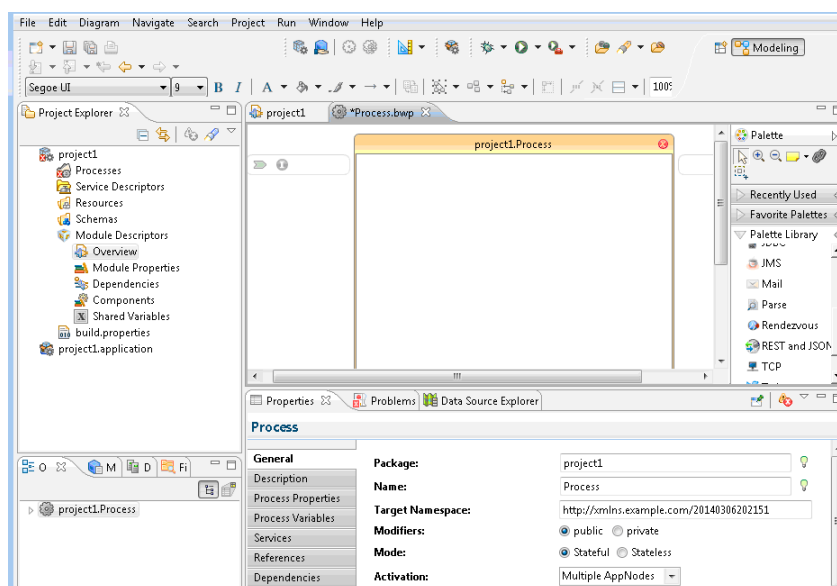
There are several ways to open the New BusinessWorks Application Module dialog and create a new project in TIBCO Business Studio. See the TIBCO ActiveMatrix BusinessWorks documentation for more information.

4. Type a name for the project that you are creating in the **Project name** field.
5. Keep the **Use default location**, **Create empty process**, and **Create Application** check boxes selected. Click **Finish**.

By default, the process name is Process and the application name is the same as the project name that you specified. If you want to use a different name, enter a name in the corresponding field.

Result

A project and an application are created and displayed in the Project Explorer view. The Process editor is opened automatically.



Creating an OAuth 1.0 Shared Resource

To use the plug-in activities, you need to create an OAuth 1.0 authentication resource to access Twitter. OAuth provides a method for clients to access server resources on behalf of a resource owner such as a different client or a user.

Prerequisites

The OAuth 1.0 protocol is used to authenticate and authorize access to Twitter applications. Before creating an OAuth 1.0 resource, ensure that you have generated an access token. See [Authentication and Authorization](#) for more details.

Procedure

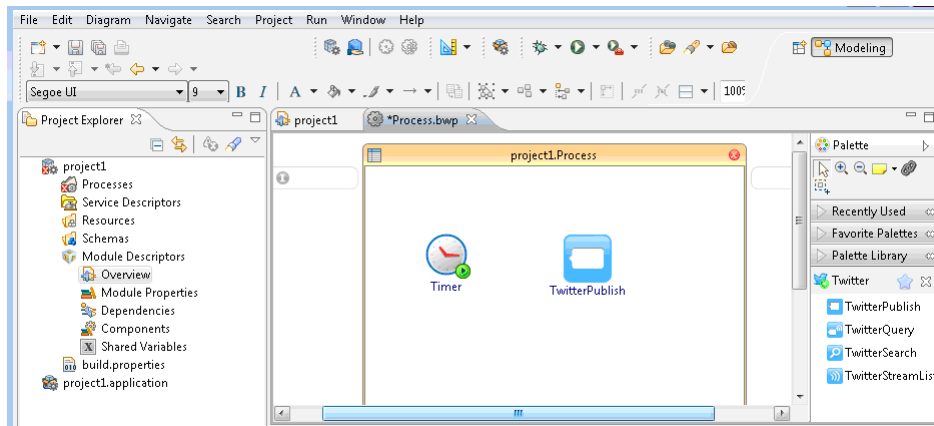
1. Create a project in TIBCO Business Studio, as described in [Creating a Project](#).
2. Expand the created project in the Project Explorer view.
3. Right-click the **Resources** folder and select **New > OAuth 1.0 Resource**.
4. Type a name in the **Resource Name** field in the OAuth 1.0 Resource window. Click **Finish**.
5. Configure the OAuth 1.0 resource in the displayed editor.
See [OAuth 1.0](#) for more details regarding the configuration parameters.


Configuring a Process

The business logic is defined by processes. Once a project is created, you are required to configure processes by adding activities, conditions, and services.

Procedure

1. In the Process editor, select and drop an activity from the Palette view.
For example, select and drop the Timer activity from the **General Activities** folder and the TwitterPublish activity from the **Twitter** folder.



2. Click the  icon to create links between the activities.
3. Configure the added activities.



An OAuth 1.0 shared resource is required when configuring Twitter activities. See [Creating an OAuth 1.0 Shared Resource](#) for more details on how to create an OAuth 1.0 resource.

4. Click **File > Save** to save the process.

Debugging and Running a Process

Debug the application you have configured to ensure that the application configuration is correct.

Procedure

1. Open the process you have configured in TIBCO Business Studio.
2. In the menu bar, click **Run > Debug Configurations**.
3. In the left panel of the Debug Configurations window, click **BusinessWorks Application > BWApplication**.
4. Ensure that only the applications you want to debug and run is selected in the **Applications** tab in the right panel.
5. Click the **Advanced** tab and click **Browse** to locate the logback file.
By default, the log file is located in the `TIBCO_HOME\bw\6.3\config\design\logback` directory and error logs are captured. See [Managing Logs](#) for more details.
6. Click **Debug**.
TIBCO Business Studio changes to the Debug perspective. Logs are displayed in the Console view.

Checking Output of an Activity

After debugging the application, you can check the output of the activities.

Procedure

1. In the Debug perspective, expand **BWApplication** and click the activity in the upper left panel.
2. In the upper right panel, click the Job Data view and click **Output**.



You can also check the activity output in the plug-in logs. See [Managing Logs](#) for more information.

Deploying an Application

After deploying applications, you can manage BusinessWorks applications by using TIBCO Enterprise Administrator.

Prerequisites

The following tasks are required before deploying applications:

- [Creating a Project](#)
- [Generating an EAR File](#)

A complete workflow of deployment includes:

1. Building an EAR file.
2. Uploading the EAR file.
3. Deploying the EAR file.
4. Starting the application.

You can deploy an application EAR file by using the **bwadmin** utility. See *TIBCO ActiveMatrix BusinessWorks Administration* for more details about how to deploy an application.

Generating an EAR File

Application archives are enterprise archive (EAR) files that are created in TIBCO Business Studio. An EAR file is required when deploying an application.


Prerequisites

An application project has already been created, as described in [Creating a Project](#).



There are many ways to generate an EAR file, the following is one method. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

Procedure

1. Go to File Explorer and click the Open Directory to Browse  icon.
2. Select the folder where you want to generate the EAR file and click **OK**.
The new folder is displayed in the File Explorer view.
3. Drag the application from the Project Explorer to the new folder in the File Explorer.
The EAR file is generated with the name `<name>.<application>_<version>.ear`.

Authentication and Authorization

OAuth 1.0 is used for authentication and authorization. Before using the plug-in, you need to obtain the authentication parameters to authorize Twitter applications.

The OAuth authentication is a common authentication mechanism for REST service providers. The authentication protocol issues authentication parameters to authorize Twitter applications. See [Creating an OAuth 1.0 Shared Resource](#) for more details about how to create an OAuth 1.0 shared resource.



Before creating the OAuth 1.0 shared resource, ensure that you have obtained access tokens issued by Twitter. See <https://dev.twitter.com/oauth/overview/application-owner-access-tokens> for more details regarding generating access tokens.

Besides, the plug-in requires Read, Write, and Access direct messages permissions, you also need to update the permission accordingly.

An example is provided in the [Creating a Twitter application and generating an access token](#) section to show how to create access tokens and change permissions.

Creating a Twitter Application and Generating an Access Token

An access token is required for authorizing access to Twitter applications

Prerequisites

Ensure that you have a valid Twitter account first.



The protocol itself and how Twitter uses the protocol changes at any time. Therefore this document only provides an example.

Procedure

1. Go to <http://dev.twitter.com> and sign in with your Twitter user ID.
2. On the bottom of the page, click **Manage Your Apps** in the **TOOLS** section.
3. Click **Create New App**.
4. In the **Application Details** section, provide the following information:
 - a) Enter an application name in the **Name** field.
 - b) Provide a short description for your application in the **Description** field.
 - c) Provide a URL in the **Website** field, which is your application's publicly accessible home page.



If you do not have a valid web application currently, an invalid URL also works.

- d) Optional: Provide a callback URL in the **Callback URL** field.
5. Read rules in the **Developer Agreement** section and select the **Yes, I agree** check box.
6. Click **Create your Twitter application**.
7. Click the **My applications** link under your user ID.
8. Click the **Keys and Access Token** tab.
The API key and API secret are displayed.



In the plug-in, API key is mapped to Consumer key and API secret is mapped to Consumer secret. See [OAuth 1.0 Resource](#).

9. Click **Create my access token** in the **Your access token** section to generate access token parameters.
10. Click the **Permissions** tab and select **Read, Write and Access direct messages**.

OAuth 1.0

The OAuth 1.0 protocol is used for authentication and authorization. The OAuth 1.0 shared resource contains the authentication parameters to authorize Twitter applications.

The OAuth 1.0 resource is available at the Resource level. See [Creating an OAuth 1.0 Shared Resource](#) for more details about how to create an OAuth 1.0 shared resource.

For more details on authentication and authorization, see [Authentication and Authorization](#).

General

The **General** panel contains the following fields.

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

OAuth 1.0 Resource Configuration

The **OAuth 1.0 Resource Configuration** panel contains the following fields. See [Creating a Twitter application and generating an access token](#) for more details.

Field	Module Property?	Description
consumerKey	Yes	The API key of your Twitter application.
consumerSecret	Yes	The API secret of your Twitter application.
accessToken	Yes	The access token for authenticating Consumer access to the Twitter application.
accessTokenSecret	Yes	The token secret for authenticating Consumer access to the Twitter application.

Twitter Palette

The Twitter palette contains the activities to publish, query, search, and listen to Twitter data.

After installing the plug-in, a Twitter palette is available in TIBCO Business Studio, which contains the following activities:

- [TwitterPublish](#)

You can send data to Twitter to perform various operations by using the TwitterPublish activity, including posting a tweet, retweeting, sending a direct message, following another tweeter account, or publishing a favorite to a tweet.

- [TwitterQuery](#)

You can extract Timelines, Friends and Followers, and Trends by using the TwitterQuery activity.

- [TwitterSearch](#)

You can retrieve Tweets, Users, or Places by the search criteria by using the TwitterSearch activity.

- [TwitterStreamListener](#)

You can listen to pre-defined Twitter streams which include user streams and public streams by using the TwitterStreamListener activity.


TwitterPublish

Use the TwitterPublish activity to publish tweets and direct messages, re-tweet, and set up favorites.

The plug-in sends data from TIBCO ActiveMatrix BusinessWorks by using the HTTP POST requests. The TwitterPublish activity interacts directly with the Twitter applications using the OAuth 1.0 authentication.

TwitterPublish Activity - General Tab

The **General** tab allows you to specify what to publish. It contains the following fields.

Field	Module Property?	Description
Name	No	The name to be displayed as the label of the activity in the process.
OAuth 1.0 Parameters	Yes	<p>The OAuth 1.0 shared resource includes the authentication parameters that are used to establish a connection with Twitter.</p> <p>Click the  icon to select an OAuth 1.0 shared resource. If no matching OAuth 1.0 shared resource is found, click Create Shared Resource to create one. See Creating an OAuth 1.0 Shared Resource for more details.</p>

Field	Module Property?	Description
PublishType	No	<p>Select a publish type from the following options:</p> <ul style="list-style-type: none"> • Tweet • Retweet • DirectMessage • Follow • Favorites <p>For more information on these publish types, refer to the Twitter Developer Field Guide at https://dev.twitter.com/rest/public.</p>

TwitterPublish Activity - Description Tab

You can provide a short description for this activity in the description tab.

TwitterPublish Activity - Input Tab

The input changes with the publish type you select in the **General** tab.


Check the input for the activity corresponding to the following publish types:

- [Tweet](#)
- [Retweet](#)
- [Direct Message](#)
- [Follow](#)
- [Favorites](#)

Tweet

When **Tweet** is selected as the publish type in the **General** tab, the input for activity is as follows.

Input Item	Data Type	Description
status	string	<p>The status for the authenticating user to update, also known as tweeting.</p> <p>To upload an image to accompany the tweet, use POST statuses/update_with_media. For each update attempt, the update text is compared with the authenticating user's recent tweets.</p>
inReplyToStatusId	long	The ID of an existing status that the update is in reply to.

Input Item	Data Type	Description
latitude	double	<p>The latitude of the location this tweet refers to, for example, 37.7821120598956.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -90.0 to +90.0 (North is positive). • When geo_enabled is disabled. • When no longitude value is specified.
longitude	double	<p>The longitude of the location this tweet refers to, for example, -122.400612831116.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -180.0 to +180.0 (East is positive), or the value is not a number. • When geo_enabled is disabled. • When no latitude value is specified.
placeId	string	<p>A place in the world identified by a Twitter place ID, for example, df51dec6f4ee2b2c.</p> <p>Place IDs are retrieved from geo_enabled.</p>
displayCoordinates	boolean	<p>Specifies whether or not to put a pin on the exact coordinates that a tweet has been sent from.</p> <p>Set the value to true to put a pin on the exact coordinates a tweet has been sent from.</p> <div>  <div>Ensure geo_enabled is enabled.</div> </div>
media	string	Updates the status for the authenticating user and attaches media for upload.
isSensitive	boolean	Set the value to true for content that is not suitable for every audience.

Retweet

When **Retweet** is selected as the publish type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
statusId	long	Specifies the status ID with which to retweet a message.

Direct Message

When **Direct Message** is selected as the publish type in the **General** tab, the input for the activity is as follows.



When the specified user ID and the screen name do not match, the user ID is used. That is, when the screen name conflicts with the user ID, the plug-in publishes a direct message to the user that the user ID points to.

Input Item	Data Type	Description
screenName	string	The screen name, handle, or alias that users identify themselves with. Screen names are unique but subject to change. Use <code>id_str</code> as a user identifier whenever possible. Typically a maximum of 15 characters long, but some historical accounts may exist with longer names.
text	string	The text of your direct message. Ensure that URL is encoded as necessary, and keep the message under 140 characters. For example: Meet me at the cafe at noon.
userId	long	The ID of the user who receives a direct message. Helpful for disambiguating when a valid user ID is also a valid screen name.

Follow

When **Follow** is selected as the publish type in the **General** tab, the input for the activity is as follows.



When the specified user ID and the screen name do not match, the user ID is used.

Input Item	Data Type	Description
userId	long	The ID of the user who is followed.
screenName	string	The screen name, handle, or alias that users identify themselves with. screenNames are unique but subject to change. Use <code>id_str</code> as a user identifier whenever possible. Typically a maximum of 15 characters long, but some historical accounts may exist with longer names.
follow	boolean	Specifies whether to enable notifications for the specified user. Set the value to <code>true</code> to enable notifications.

Favorites



When **Favorites** is selected as the publish type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
statusId	long	Favorites the authenticating user with the specified status ID.

TwitterPublish Activity - Output Tab

The following is the output for the activity.

The output for the publish activity is returned in a form of objects and contains multiple attributes. For detailed information about the object, see Twitter Documentation at <https://dev.twitter.com/overview/api/entities-in-twitter-objects>.

Output Item	Data Type	Description
Status	complex	The twitter object user created using the publish activity. This tweet object contains complete information about the tweet such as tweet ID, created date, tweet text, favorite count, retweet count, etc.
User	complex	<p>The twitter object user created using the publish activity. This tweet object contains complete information about the tweet like tweet ID, created date, tweet text, user details who created it, favorite count, retweet count, etc.</p> <p> This object is returned when Follow is selected as the publish type.</p>
DirectMessage	complex	<p>The DirectMessage object. This object contains complete information about a direct message like the recipient name, recipient ID, the sender ID, and sender name, etc.</p> <p> This object is returned when DirectMessage is selected as the publish type.</p>

TwitterPublish Activity - Fault Tab

The **Fault** tab lists exceptions that are thrown by the activity.

Fault	Thrown When...
TwitterPluginException	The plug-in fails to send the request or parse the response.
TwitterAPIException	<p>The Twitter API fails to process this request.</p> <p>This exception is thrown from the Twitter API, such as Rate Limit exception.</p>
TwitterConnectionException	The plug-in fails to establish a connection with Twitter using the authentication parameters specified in the OAuth 1.0 shared resource.




TwitterQuery


Use the Twitter Query activity to extract the Timeline, Friends and Followers, or Trends Twitter with the specified criteria.

This activity uses the Twitter REST API 1.1.

TwitterQuery Activity - General Tab

The **General** tab allows you to specify a query type. It contains the following fields.

Field	Module Property?	Description
Name	No	The name to be displayed as the label for the activity in the process.
OAuth 1.0 Parameters	Yes	<p>The OAuth 1.0 shared resource includes the authentication parameters that are used to establish a connection with Twitter.</p> <p>Click the  icon to select an OAuth 1.0 shared resource. If no matching OAuth 1.0 shared resources are found, click Create Shared Resource to create one. See Creating an OAuth 1.0 Shared Resource for more details.</p>
QueryType	No	<p>The query type determines the endpoints of the query requests. Selects one from the following options:</p> <ul style="list-style-type: none"> • Trends • Timeline • Friends_Followers
Timeline	No	<p>A <i>timeline</i> is a collection of tweets that a user follows or a user is interested in. Select one from the following options:</p> <ul style="list-style-type: none"> • UserTimeline returns a collection of the most recent Tweets posted by the user specified in the Input tab. • HomeTimeline returns a collection of the most recent Tweets and retweets by the authenticating user and the users they follow. The home timeline is central to how most users interact with the Twitter service. <p> This field is displayed only when Timeline is selected in the QueryType field.</p>
Friends_Followers	No	<p>Select to query friends or followers that the specified user has:</p> <ul style="list-style-type: none"> • Friends queries the friends of the user specified in the Input tab. • Followers queries the followers for the user specified in the Input tab. <p> This field is displayed only when Friends_Followers is selected in the QueryType field.</p>

Field	Module Property?	Description
Trends	No	<p>A <i>trend</i> is the 30 most trending topics from the date specified. For more information on Trends, refer to the Twitter developer documentation at https://dev.twitter.com/overview/documentation#110.</p> <p>Selects one trending topics from the following options:</p> <ul style="list-style-type: none"> • Place returns the top 10 trending topics for a specific ID, if trending information is available for it. The response is an array of "trend" objects that encode the name of the trending topic, the query parameter that is used to search for the topic on Twitter Search, and the Twitter Search URL. • ClosestLocations returns the locations that Twitter has trending topic information for, closest to a specified latitude and longitude. The response is an array of "locations" that encode the location's WOEID and some other human-readable information such as a canonical name and country. • AvailableLocations searches for places that are attached to a statues/updates, given a latitude and a longitude pair. <p> This field is displayed only when Trends is selected in the QueryType field.</p>

TwitterQuery Activity - DescriptionTab

You can provide a short description for this activity in the description tab.

TwitterQuery Activity - Input Tab

The input changes with the query type you select in the **General** tab.

Check the input for the activity corresponding to the following query types:

- [Timeline](#)
- [Friends_Followers](#)
- [Trends](#)

Timeline

When **Timeline** is selected as the query type, the input for the activity differs from **User Timeline** and **Home Timeline**.

Check the input for the activity corresponding to the following timeline:

- [User Timeline](#)
- [Home Timeline](#)

User Timeline

When **User Timeline** is selected from the **Timeline** field in the **General** tab, the input for the activity is as follows.



When the user ID and the screen name do not match, the user ID is used. That is, the plug-in queries from the user that user ID points to, when user ID conflicts with the user name.

Input Item	Data Type	Description
userId	long	The ID of the user for whom to return results for.
screenName	string	The screen name of the user for whom to return results for.
count	integer	Specifies the number of records to retrieve. By default, 200 records are retrieved each time. The maximum number to retrieve is the maximum value of the integer type.
sinceId	long	An ID greater than (that is, more recent than) the specified ID. There are limits to the number of Tweets which are accessed through the API. If the limit of Tweets has occurred since the <code>since_id</code> , the <code>since_id</code> is forced to the oldest ID available. See https://dev.twitter.com/rest/public/timelines for more information.
maxId	long	An ID less than (that is, older than) or equal to the specified ID. See https://dev.twitter.com/rest/public/timelines for more information.

Home Timeline

When **Home Timeline** is selected from the **Timeline** field in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
count	integer	Specifies the number of records to retrieve. By default, 200 records are retrieved each time. The maximum number to retrieve is the maximum value of the integer type.
sinceId	long	An ID greater than (that is, more recent than) the specified ID. There are limits to the number of Tweets which are accessed through the API. If the limit of Tweets has occurred since the <code>since_id</code> , the <code>since_id</code> is forced to the oldest ID available. See https://dev.twitter.com/docs/working-with-timelines for more information.
maxId	long	An ID less than (that is, older than) or equal to the specified ID. See https://dev.twitter.com/docs/working-with-timelines for more information.

Friends_Followers

When **Friends_Followers** is selected as the query type, the input for the activity is as follows no matter if it is **Friends** or **Followers**.

Input Item	Data Type	Description
userId	long	The ID of the user for whom to return results for.
screenName	string	The screen name of the user for whom to return results for.

Input Item	Data Type	Description
cursor	long	Causes the list of connections to be broken into pages of no more than 5000 IDs at a time. The number of IDs returned is not guaranteed to be 5000 because suspended users are filtered out after connections are queried.

Trends

When **Trends** is selected as the query type, the input changes with trend topics.

Check the input for the activity corresponding to the following trend topics:

- [Place](#)
- [ClosestLocations](#)
- [AvailableLocations](#)

Place

When **Place** is selected from the **Trends** field in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
id	integer	The place ID of the place that is queried from.

ClosestLocations

When **ClosestLocations** is selected from the **Trends** field in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
latitude	double	<p>The latitude to search around.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -90.0 to +90.0 (North is positive). • When geo_enabled is disabled. • When no longitude value is specified.
longitude	double	<p>The longitude to search around.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -90.0 to +90.0 (North is positive). • When geo_enabled is disabled. • When no longitude value is specified.

Available Locations

No input is required, when **Available Locations** is selected from the **Trends** field in the **General** tab.

TwitterQuery Activity - Output Tab

The output changes with the query type you select in the **General** tab.

Check the output for the activity corresponding to the following query types:

- [Timeline](#)
- [Friends_Followers](#)
- [Trends](#)

Each returned object contains corresponding attributes defined for the object. For a detailed description on these output objects, refer to the Twitter Documentation at <https://dev.twitter.com/overview/api/entities-in-twitter-objects>.

Timeline

When **Timeline** is selected as the query type in the **General** type, the output for the activity is as follows, no matter if it is user timeline or home timeline.

Output Item	Data Type	Description
StatusCount	integer	The number of status in the user timeline.
Status	complex	The timeline of the specified user. <i>A timeline</i> is a collection of tweets. The timeline object contains attributes like <code>contributors</code> , the <code>geo_location</code> of where it is created, whether this is set as favorite, etc

Friends_Followers

When **Friends_Followers** is selected as the query type in the **General** type, the output for the activity is as follows.

Output Item	Data Type	Description
ids	string	A cursored collection of user IDs for every user who is a friend with the specified user.
idsCount	integer	The number of user Ids in the cursor.
nextCursor	integer	In one request, 5000 IDs are returned. If you need more requests, click <code>nextCursor</code> .
previousCursor	integer	In one request, 5000 IDs are returned. If you want to see the previous request, click <code>previousCursor</code> .

Trends

When **Trends** is selected as the query type, the output changes with trend topics.

Check the output for the activity corresponding to the following trend topics :

- [Place](#)
- [ClosestLocations and AvailableLocations](#)

Place

When **Place** is selected from the **Trends** field in the **General** tab, the output for the activity is as follows.

Output Item	Data Type	Description
asOf	date	The timestamp for a current trend/place response.
location	Complex	The timestamp for a current trend/place response.
createdAt	date	The creation timestamp of the current trend/place response.
trends	Complex	The creation timestamp of the current trend/place response.

ClosestLocation and AvailableLocation

When **ClosestLocation** or **AvailableLocation** is selected from the **Trends** field in the **General** tab, the output for the activity is as follows.

Output Item	Date Type	Description
countryCode	string	The country code Twitter specified.
country	string	The name of the country.
name	string	The name of the country.
placeCode	string	The place code specified by Twitter.
placeType	string	The type of places Twitter specified. The type of a place is a city, admin or country.
URL	string	The URL of a place.
WOEID	integer	Where on earth ID.

TwitterQuery Activity - Fault Tab

The **Fault** tab lists exceptions that are thrown by the activity.

Fault	Thrown When...
TwitterPluginException	The plug-in fails to send the request or parse the response.
TwitterAPIException	The Twitter API fails to process this request. This exception is thrown from the Twitter API, such as Rate Limit exception.
TwitterConnectionException	The plug-in fails to establish a connection with Twitter using the authentication parameters specified in the OAuth 1.0 shared resource.


TwitterSearch

Use the TwitterSearch activity to search tweets, users, and places.

By default, the search count is different from different endpoints. For example, searching tweets returns 20, searching user returns 15, and searching place returns 5.

TwitterSearch Activity - General Tab

The **General** tab allows you to specify the search type. It contains the following fields.

Field	Module Property?	Description
Name	No	The name to be displayed as the label for the activity in the process.
OAuth 1.0 Parameters	Yes	<p>The OAuth 1.0 shared resource includes the authentication parameters that are used to establish a connection with Twitter.</p> <p>Click the  icon to select an OAuth 1.0 shared resource. If no matching OAuth 1.0 shared resources are found, click Create Shared Resource to create one. See Creating an OAuth 1.0 Shared Resource for more details.</p>
SearchType	No	<p>The object that you want to search. Select one from the following options:</p> <ul style="list-style-type: none"> • Tweets • User • Places
SubType	No	<p>Select a place type when Places is selected in the Search Type field:</p> <ul style="list-style-type: none"> • Nearby Places • Similar Places

TwitterSearch Activity - DescriptionTab

You can provide a short description for this activity in the description tab.

TwitterSearch Activity - Input Tab


The input changes with the search type you select in the **General** tab.

Check the input for the activity corresponding to the following search type:

- [Tweets](#)
- [User](#)
- [Places](#)

Tweets

When **Tweets** is selected as the search type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
query	string	<p>A UTF-8, URL-encoded search query of 1,000 characters maximum, including operators. Queries may additionally be limited by complexity.</p> <p>For example, @noradio.</p>
geocode	complex	<p>The location parameters that are used to locate the user. The location is preferentially taking from the Geotagging API, but falls back to their Twitter profile.</p> <p>This parameter consists of latitude, longitude, and radius, where radius units must be specified as either "mi" (miles) or "km" (kilometers). For example, 37.781157, -122.398720, 1mi.</p> <div>  <p>You cannot use the near operator via the API to geocode arbitrary locations; however, you can use this geocode parameter to directly search near geocode. A maximum of 1,000 distinct "sub-regions" is considered when using the radius modifier.</p> </div>
language	string	The list of languages supported by Twitter along with their ISO 639-1 code.
locale	string	The language of the query you are sending (only ja is currently effective). This is intended for language-specific clients and the default works in the majority of cases.
resultType	string	<p>The type of search results you want to receive. Select from one of the following options:</p> <ul style="list-style-type: none"> • mixed: includes both popular and real-time results in the response. • recent: returns only the most recent results in the response. • popular: returns only the most popular results in the response.
count	integer	<p>The number of tweets to return per page.</p> <p>By default, 100 tweets are returned. The maximum number of tweets to return is 800.</p>
until	date	<p>The date that the tweet was generated. The date is in the format of YYYY-MM-DD.</p> <p>For example, 2010-03-28.</p>

Input Item	Data Type	Description
sinceId	long	The ID greater than (that is, more recent than) the specified ID is returned. There are limits to the number of Tweets which are accessed through the API. If the limit of Tweets has occurred since the <code>since_id</code> , the <code>since_id</code> is forced to the oldest ID available.
maxId	long	The ID less than (that is, older than) or equal to the specified ID is returned. For example: 54321.

User

When **User** is selected as the search type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
query	string	A UTF-8, URL-encoded search query of 1,000 characters maximum, including operators. Queries may additionally be limited by complexity.
page	Integer	The page number (starting at 1) to return, up to a max of roughly 1500 results (based on <code>rpp * page</code>).

Places

When **Places** is selected as the search type in the **General** tab, the input for the activity differs from different place types.

Check the input for the activity corresponding to the following place types:

- [Nearby Places](#)
- [Similar Places](#)

Nearby Places

When **Nearby Places** is selected as the search type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
latitude	double	The latitude to search around. This parameter is ignored in the following cases: <ul style="list-style-type: none"> • When the value is not in the range of -90.0 to +90.0 (North is positive). • When geo_enabled is disabled. • When no longitude value is specified.

Input Item	Data Type	Description
longitude	double	<p>The longitude to search around.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> When the value is not in the range of -180.0 to +180.0 (East is positive), or the value is not a number. When geo_enabled is disabled. When no latitude value is specified.
query	string	A UTF-8, URL-encoded search query of 1,000 characters maximum, including operators. Queries may additionally be limited by complexity.
granularity	string	<p>The minimal granularity of place types to return, which is poi, neighborhood, city, admin or country.</p> <p>If no granularity is provided for the request, neighborhood is assumed.</p> <p>For example, to search a city, the granularity you specify is city, admin or country.</p>
ip	string	<p>An IP address. Used when attempting to fix geolocation based on the user's IP address.</p> <p>For example, 74.125.19.104.</p>
accuracy	string	<p>A hint on the "region" in which to search.</p> <p>If a number, then this is a radius in meters, but it also takes a string that is suffixed with ft to specify feet. If this is not passed in, then it is assumed to be 0m.</p> <p>If coming from a device, in practice, this value is whatever accuracy the device has measuring its location (whether it be coming from a GPS, WiFi triangulation, etc.).</p>
maxResults	integer	A hint as to the number of results to return. This does not guarantee that the number of results returned equals max_results , but instead informs how many "nearby" results to return, only pass in the number of places you intend to display to the user here.

Similar Places

When **Similar Places** is selected as the search type in the **General** tab, the input for the activity is as follows.

Input Item	Data Type	Description
name	string	<p>The name a place is known as.</p> <p>For example, TwitterHQ.</p>

Input Item	Data Type	Description
latitude	double	<p>The latitude to search around.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -90.0 to +90.0 (North is positive). • When geo_enabled is disabled. • When no longitude value is specified.
longitude	double	<p>The longitude to search around.</p> <p>This parameter is ignored in the following cases:</p> <ul style="list-style-type: none"> • When the value is not in the range of -180.0 to +180.0 (East is positive), or the value is not a number. • When geo_enabled is disabled. • When no latitude value is specified.
containedWithin	string	<p>The Place ID within which the new place is found.</p> <p>For example, for a room in a building, set the place ID of building as <i>contained_within</i>.</p>
streetAddress	string	<p>The street to search with the specified address. Custom attributes are also supported.</p> <p>For example: 795FolsomSt.</p>

TwitterSearch Activity - Output Tab

The output changes with the search type you select in the **General** tab.

Check the output for the activity corresponding to the following search types:

- [Tweets](#)
- [User](#)
- [Places](#)

Tweets

When **Tweets** is selected as the search type in the **General** tab, the output for the activity is as follows.

Output Item	Data Type	Description
StatusCount	integer	The number of tweets is returned with the criteria specified in the Input tab.
Status	Complex	A collection of tweet information. Multiple Status lists are created if multiple tweets are found.

User

When **User** is selected as the search type in the **General** tab, the output for the activity is as follows.

Output Item	Data Type	Description
UserCount	integer	The number of users is returned with the criteria specified in the Input tab.
User	Complex	A cursored collection of user information. Multiple User lists are created if multiple users are found.

Places

When **Places** is selected as the search type in the **General** tab, the output for the activity is as follows.

Output Item	Data Type	Description
PlaceCount	integer	The number of places is returned with the criteria specified in the Input tab.
Place	Complex	A collection of place information. Multiple Place lists are created if multiple places are found.

TwitterSearch Activity - Fault Tab

The **Fault** tab lists exceptions that are thrown by the activity.

Fault	Thrown When...
TwitterPluginException	The plug-in fails to send the request or parse the response.
TwitterAPIException	The Twitter API fails to process this request. This exception is thrown from the Twitter API, such as Rate Limit exception.
TwitterConnectionException	The plug-in fails to establish a connection with Twitter using the authentication parameters specified in the OAuth 1.0 shared resource.

TwitterStreamListener

Use the **TwitterStreamListener** activity to listen to published tweets by using Twitter Streaming API 1.0.




Twitter streaming API provides two endpoints: public streams and user streams. When the configured streaming event is triggered, the messages are streamed as a message Pojo.

Streaming data has overhead in system resources, because connecting to the streaming API requires keeping a persistent HTTP connection. To avoid this situation, take note of the guidelines described in [TwitterStreamListener Best Practice](#) when configuring the **TwitterStreamListener** activity.

TwitterStreamListener Activity - General Tab

The **General** tab allows you to specify the stream type. It contains the following fields.

Field	Module Property?	Description
Name	No	The name to be displayed for the activity in the process.

Field	Module Property?	Description
OAuth 1.0 Parameters	Yes	<p>The OAuth 1.0 shared resource includes the authentication parameters that are used to establish a connection with Twitter.</p> <p>Click the  icon to select an OAuth 1.0 shared resource. If no matching OAuth 1.0 shared resources are found, click Create Shared Resource to create one. See Creating an OAuth 1.0 Shared Resource for more details.</p>
StreamType	No	<p>Selects one stream type that plug-in listens to:</p> <ul style="list-style-type: none"> • PublicStream: Streams of public data flowing through Twitter. Suitable for following specific users or topics, and data mining. • UserStream: Single-user streams, containing roughly all of the data corresponding with a single user's view of Twitter. <div>  <p>User stream is used with multiple listeners with the same user connection. For more details on this, go to https://dev.twitter.com/streaming/userstreams#Connections.</p> </div>
StreamClosingLimit	Yes	<p>This feature allows you to set the limit on how many tweets can miss when the stream listener is open.</p> <p>If the number of missed tweets exceeds the specified value, the stream listener closes.</p>
StreamSubType	No	<p>A filter stream returns public statuses that match one or more filter predicates.</p> <div>  <p>FilterStream has the limitation of not allowing multiple stream listeners with a same user connection to run. If you start a second FilterStream with the same user connection after the first one is already open, the first FilterStream listener closes. For more details on this behavior, see https://dev.twitter.com/streaming/userstreams#Connections.</p> </div>




TwitterStreamListener Activity - Description Tab

You can provide a short description for this activity in the description tab.

TwitterStreamListener Activity - Advanced Tab

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


Field	Module Property?	Description
track	Yes	A string value that is used as a keyword to track in the stream specified.

Field	Module Property?	Description
follow	Yes	<p>A comma-separated list of user IDs, indicating the users whose Tweets are delivered on the stream. Following protected users is not supported.</p> <p> This field is displayed only when PublicStream is selected in the General tab.</p>
locations	Yes	<p>A comma-separated list of longitude, latitude pairs specifying a set of bounding boxes to filter Tweets by.</p> <p>The user's location field is not used to filter tweets.</p> <p> This field is displayed only when PublicStream is selected in the General tab.</p>
replies	No	<p>Select to include reply data in the specified stream.</p> <p>By default @replies is only sent if the current user follows both the sender and receiver of the reply. When creating a connection, you can use the replies=all parameter to enable all the replies by followings.</p> <p>For example, consider the case where Alice follows Bob, but Alice does not follow Carol. If Bob @replies Carol, by default, Alice does not see the Tweet. However, with the replies=all parameter configured in the connection, Alice sees the Tweet.</p> <p> This field is displayed only when UserStream is selected in the General tab.</p>
Sequence Key	No	<p>This field contains an XPath expression that specifies which processes should run in order. Process instances with sequencing keys that evaluate to the same value are executed sequentially in the order the process instances were created.</p>
Custom Job ID	No	<p>This field contains an XPath expression that specifies a custom ID for the process instance.</p>

TwitterStreamListener Activity - Conversations Tab

The **Conversations** tab allows you to initiate or join a conversation.

Conversations receive messages after the creation of the process instance, which is initiated or joined by an activity.

The RealTimeListener activity is used to initiate a conversation. Click the **Add New Conversation**  icon to initiate a conversation. For more details on conversations, see *TIBCO ActiveMatrix BusinessWorks Application Design*.

TwitterStreamListener Activity - Output Tab

The output changes with the stream type you select in the **General** tab.

Depending on the type of the stream, the stream listener activity feeds different messages as Pojo objects. The output for the activity is as follows:

- `PublicStream`: Public streams offer samples of the public data flowing through Twitter.
- `UserStream`: User streams flow single-user streams, containing roughly all of the data corresponding with a single user's view of Twitter. Messages are delivered as `directMessage`, `status` or `user` objects.

See <http://dev.twitter.com> for information regarding public streams and user streams.

TwitterStreamListener Activity - Fault Tab

The **Fault** tab lists exceptions that are thrown by the activity.

Fault	Thrown When...
TwitterEventSourceFault	Track words are too broad or an Twitter API error occurs such as the returned HTTP response code is 401 or 403.

Working with Sample Projects

Working through the sample projects helps you understand how TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter works.

TIBCO ActiveMatrix BusinessWorks Plug-in for Twitter packages two sample projects with the installer. The following sample projects are located in the *TIBCO_HOME\bw\palettes\twitter\6.1\samples* directory:

- [Working with the ListenAndRetweet Project](#)
- [Working with the Search_Users&Access_Timeline Project](#)

Importing Sample Projects

Two sample projects are packaged with the plug-in. Before running the projects, you need to import the projects to TIBCO Business Studio.

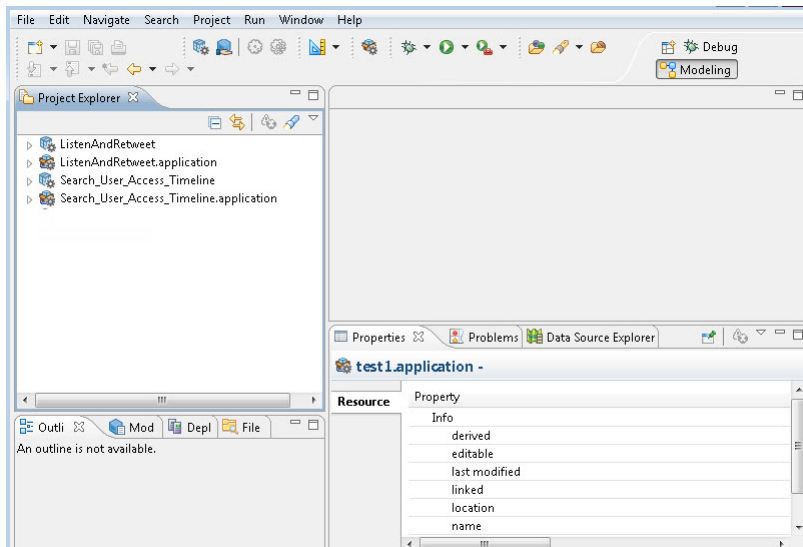
Procedure

1. Start TIBCO Business Studio.
2. Click **File > Import**.
3. In the Import window, expand the **General** folder and select the **Existing Studio Projects into Workspace** item. Click **Next**.
4. Click **Browse** next to the **Select root directory** field to locate the samples. Click **Finish**.

The sample projects are located in the *TIBCO_HOME\bw\palettes\Twitter\6.1\samples* directory.

Result

The imported projects are displayed in the Project Explorer view.



Working with the ListenAndRetweet Project

This project shows how to listen to tweets with a topic of interest and re-tweet messages.

A user tracks a public stream for the new game "Game of Six", the newest game released from the user's company. The company wants to collect the user IDs who like this game and have positive feedback on the game and would like to re-tweet these tweets.

The tweets and the user IDs are streamed and fed to a mock natural language analysis activity. This mock natural language process activity culls user IDs and tweets that had a positive response to the game "Game of Six." The user then publishes these tweets to Twitter again to increase the user basis.

Prerequisites

Ensure that you have imported the sample project, as described in [Importing Sample Projects](#).

Procedure

1. Expand the ListenAndRetweet project in the Project Explorer view.
2. Click **Processes > listenandretweet > ListenAndReTweet.bwp**.
3. Click **Run > Run Configurations**.
4. Expand **BusinessWorks Application** in the Run Configurations dialog and click **BWApplication**.
5. Ensure only the ListenAndRetweet.application is selected in the **Applications** tab.
6. Click **Run**.



If this is not your first time to run this application, you need to change the reply status from the **Input** tab of the Send reply to Tweet (TwitterPublish) activity.

7. Click the **Terminate**  icon to stop the process.

Result

All the tweets that have positive feedback on the game according to the analysis activity are published to Twitter.


Working with the Search_User&Access_Timeline Project

This project shows how to use the plug-in to search for a user and access the user's timeline on Twitter. A user searches for Twitter users who tweet TIBCO. Then, the collection of users found in the search activity is used as input to the query activity where the timelines for those users are returned.

Prerequisites

Ensure that you have imported the sample project, as described in [Importing Sample Projects](#).

Procedure

1. Expand the Search_User_Access_Timeline project in the Project Explorer view.
2. Click **Processes > search_user_access_timeline > Search_User&Access_Timeline.bwp**
3. Click **Run > Run Configurations**.
4. Expand **BusinessWorks Application** in the Run Configurations dialog and click **BWApplication**.
5. Ensure only Search_User_Access_Timeline.application is selected in the **Applications** tab.
6. Click **Run**.
7. Click the **Terminate**  icon to stop the process.

Result

The timeline of the users who tweet TIBCO are returned.

Troubleshooting

A built-in debugger is provided by BusinessWorks, allowing you to troubleshoot errors that are encountered.

When an error is encountered or the results are not what you expected while running a process, there may be several possibilities:

- Twitter behavior has changed since the plug-in was released. Read the Twitter API documentation at <http://dev.twitter.com> carefully.
- The behavior you expect does not completely map to the behavior of the Twitter API. For example, certain terms such as "site" might mean something very specific.
- In some situations, you might give an input in the **Input** tab that does not match the item selected in the **General** tab.

You can change the log level from error to debug to get more details regarding troubleshooting. See [Setting Up a Log Level](#) for more details.

TwitterStreamListener Best Practice

When using the TwitterStreamListener activity, follow the guidelines to optimize the system resources and avoid situations where Twitter closes the stream.

The following are the situations where Twitter closes the stream or interferes with your application. To avoid these situations, take note of the stream behaviors and following the rules when creating listeners.

Public Stream

When listening to the public stream, conform to the following rules when creating listeners.

Situations	Solutions/Suggestions/Reasons
The oldest connection is terminated when a client establishes too many connections with the same credentials.	Do not run two clients in parallel with the same credentials.
A client suddenly stops reading data. When the rate of Tweets being read off of the stream drops suddenly, the connection is closed.	This occurs when the client drops the speed of reading.
A client reads data too slow. Every streaming connection is backed by a queue of messages to be sent to the client. When the queue grows too large over time, the connection is closed.	Reduce the number of Tweets hitting a queue by using appropriate parameters. <ul style="list-style-type: none"> • Track: When you retrieve specific Tweets, do not use generic or broad keywords, like a, b, c, or d. Instead, use Tibco, Tibbr, Bestbuy. Therefore, you can receive specific Tweets and avoid the queue being flooded. • Location: When you retrieve Tweets from the specific location, use boundary coordinates of that place instead of listening to the Tweets created all over the world.

Situations	Solutions/Suggestions/Reasons
A streaming server has been restarted.	The plug-in automatically reconnects to the server when this situations occurs. However, if it fails after multiple attempts, manual restart is required.
Repeatedly opening and closing a connection can cause the stream listener to close	Keep your connections as stable and long-lived as possible.
Clients who make excessive connection attempts (both successful and unsuccessful) run the risk of having their IP automatically banned by Twitter.	Avoid getting your IP banned by not making excessive connection attempts.

User Stream

When listening to the user stream, conform to the following rules when creating listeners.

Situations	Solutions/Suggestions/Reasons
Each Twitter account is limited to only a few simultaneous User Streams connections per OAuth application regardless of the IP.	Minimize the number of connections your application makes to User Streams.
Twitter bans the account temporarily from User Streams for an excessive login rate or starting and stopping frequently.	Avoid logging in with same account too often.
Number of simultaneous connections per IP address is still limited, regardless of application.	Do not use multiple connections from a same IP.

Managing Logs

Logs are used to trace and troubleshoot the plug-in exceptions.

A `logback.xml` file is located in the `TIBCO_HOME\bw\6.3\config\design\logback` directory. Update this file to set up a log level and export logs to a file. See [Setting Up a Log Level](#) and [Exporting Logs to a File](#) for more details.

Log Levels

The plug-in captures logs at different levels.

Log Level	Description
Info	Indicates normal plug-in operations. No action is needed. A tracing message tagged with Info indicates that a significant processing step is reached and logged for tracking or auditing purposes. Only info messages preceding a tracking identifier are considered as significant steps.
Warn	Indicates that an abnormal condition is found. Processing continues, but special attention from an administrator is recommended.
Error	Indicates that an unrecoverable error has occurred. Depending on the error severity, the plug-in may continue with the next operation or may stop altogether.
Debug	Indicates a developer-defined tracing message.
Trace	Includes all the information regarding the running process.

Setting Up a Log Level

By default, the log level is Error. The plug-in allows you to change the log level to trace different messages.



If neither the plug-in log nor the BusinessWorks log is configured in the `logback.xml` file, the error logs of the plug-in will be displayed in the Console view by default.

If the plug-in log is not configured but the BusinessWorks log is configured in the `logback.xml` file, the configuration for the BusinessWorks log is implemented by the plug-in.

Procedure

1. Navigate to the `TIBCO_HOME\bw\6.3\config\design\logback` directory and open the `logback.xml` file.
2. Add the following node in the **User Loggers** area to specify the log level for the plug-in.

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

The `level` tag defines the log level. The valid values are Info, Warn, Error, Debug, or Trace.



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

- Optional: Add the following node in the **User Loggers** area to specify the log level for an activity.

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

For example, if you want to set the log level of the TwitterPublish activity to Debug, you need to add the following node:

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



The setup of the TwitterStreamListener activity is different from other activities. When you want to set up a log level for this activity, you need to add the following node:

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



For the activities that are not configured with specific log levels, they still use the log level configured for the plug-in or the BusinessWorks.

- Save the file.

Exporting Logs to a File

Modify the `logback.xml` file to export plug-in logs to a file.

Procedure

- Navigate to the `TIBCO_HOME\bw\6.3\config\design\logback` directory and open the `logback.xml` file.



When deploying an application in TIBCO Enterprise Administrator, you need to navigate to the `TIBCO_HOME\bw\domains\mydomain\appnodes\myspace\mynode` directory to find the `logback.xml` file.

- Add the following node to specify the file location.

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

The `file` tag defines the location to which the log is exported and the value is the absolute path of the file that is detailed to the file name.


- Add the following node to the `ROOT` node at the bottom of the `logback.xml` file to enable exporting the logs to a file.

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

- Save the file.

Error Codes

The exceptions that are thrown by the plug-in are listed with corresponding descriptions and resolutions.

Error Code	Error Messages	Description	Resolution
TIBCO-BW-PALETTE-TWITTER-500000	Throw some unknown exceptions and we cannot handle.	An unexpected error occurs.	No action.
TIBCO-BW-PALETTE-TWITTER-500001	Input invalid.	The input for the activity is not correct.	Check the input for the activity.
TIBCO-BW-PALETTE-TWITTER-500002	Please provide either [{0}].	The input is missing, such as the geo code is not completed.	Check the input for the activity.
TIBCO-BW-PALETTE-TWITTER-500003	Throw IOException, and JAXBException when generated the output.	An error occurred when generating the output.	No action.
TIBCO-BW-PALETTE-TWITTER-500004	Occurred net work connection issues.	An error occurred in the network connection.	Check the network connection.
TIBCO-BW-PALETTE-TWITTER-500005	Missing Oauth 1.0 SR parameters.	The OAuth 1.0 parameters are not correct or missed.	Check the authentication parameters specified in the OAuth 1.0 shared resource.
TIBCO-BW-PALETTE-TWITTER-500006	 This message is returned by Twitter.	An error occurred in the Twitter side, such as, the server is shut down or your application is unauthorized.	No action.
TIBCO-BW-PALETTE-TWITTER-500007	[{0}] statuses have not been delivered to you, as your track keywords are too broad. Please consider a predicate with higher selectivity.	The specified track value is not correct.	Check the track value for the TwitterStreamListener activity.