



TIBCO Cloud™ Integration - Flogo® (PAYG) Release Notes

Version 2.11.0

January 2021



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TIBCO Documentation and Support Services

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

Product-Specific Documentation

Documentation for TIBCO Cloud™ Integration - Flogo® (PAYG) is available on the [TIBCO Cloud Integration - Flogo \(PAYG\) Product Documentation page](#).

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

- *TIBCO Cloud™ Integration - Flogo® (PAYG) Release Notes*
- *TIBCO Cloud™ Integration - Flogo® (PAYG) Getting Started*
- *TIBCO Cloud™ Integration - Flogo® (PAYG) User's Guide*
- *TIBCO Cloud™ Integration - Flogo® (PAYG) Activities and Triggers Guide*

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <http://www.tibco.com/services/support>.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

How to Join TIBCO Community

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

New Features

The following list highlights some of the key features of TIBCO Cloud Integration - Flogo (PAYG).

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SendEmail activity

The SendEmail activity now supports:

- Sending file attachments
- Setting Reply-To configuration

For more information, see the "SendMail" section in the *TIBCO Cloud Integration - Flogo (PAYG) Activities and Triggers Guide*.

Step-back flow testing

Using the enhanced Flow Tester, you can:

- See the flow execution and the progress made in the execution of the flow. In the new Flow Tester interface, when an activity is being executed, a blue animation is displayed around it.
- See errors displayed at the activity-level.
- Select an activity after its execution to see the inputs and outputs.
- Change the inputs to other valid values and start the execution of the flow from that point onwards.

For more information, see the "Flow Tester" section in the *TIBCO Cloud Integration - Flogo (PAYG) User's Guide*.

Support for OpenAPI Specification

Support for OpenAPI Specification is added as follows:

- The ReceiveHTTPMessage trigger supports Open API Specification 3.0.
- The InvokeRESTService activity supports both Open API Specification 3.0 and Swagger 2.0.

For more information, see the "REST Trigger - ReceiveHTTPMessage" and "InvokeRESTService" sections in the *TIBCO Cloud Integration - Flogo (PAYG) Activities and Triggers Guide*.

App file persistence

Flogo app (JSON) files are now persisted to the directory that you specify on your local machine. This allows you to easily use an external source control system such as Git or SVN. This makes it easier for you to setup the version control for Flogo apps for automated delivery using Continuous Integration/Continuous Deployment (CI/CD).

For more information, see the "App File Persistence" section in the *TIBCO Cloud Integration - Flogo (PAYG) User's Guide*.

Missing extensions

When you import an app that contains one or more activities or triggers that are not installed in your environment, a warning is displayed in the Import App dialog but you can still import those activities and triggers. Activities and triggers with a missing extension display an error until you upload the extension.

For more information, see the "Resolving Missing Activities and Triggers" section in the *TIBCO Cloud Integration - Flogo (PAYG) User's Guide*.

Apache Pulsar connectivity

TIBCO Flogo[®] Connector for Apache Pulsar is added to send and receive messages using publish-subscribe pattern and includes:

- Apache Pulsar Consumer Trigger
- Apache Pulsar Producer Activity

For more information, see the TIBCO Flogo[®] Connector for Apache Pulsar documentation.

Database connectivity

- For all complex queries which needed manual mode, metadata generation is significantly enhanced to use standard query parsing leading to better user experience.
- Secure connection support for TIBCO Flogo[®] Connector for Microsoft SQL Server, TIBCO Flogo[®] Connector for PostgreSQL, and TIBCO Flogo[®] Connector for Oracle MySQL is now provided.

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Enhanced monitoring

- **Hybrid monitoring:** Unified monitoring experience in TIBCO Cloud Integration is now available for monitoring Flogo applications deployed in private cloud environments outside of TIBCO Cloud. You can see and monitor your Flogo apps the same way as apps deployed on TIBCO Cloud using the TIBCO Cloud Integration - Hybrid Agent.
- **Kubernetes native monitoring:** Flogo Enterprise Monitoring can be run as a standalone app or in a container on Kubernetes. Once it starts on Kubernetes, it monitors Flogo apps added to the Kubernetes cluster.

App version support

The web UI displays app versions that can be modified anytime. At the creation of a new app, the default version displayed is 1.0.0.

Automatically generated HTTP response, Return activities and mapping configuration

When creating triggers and flows from an API (Swagger) specification, the app's Configure HTTP Response, Return activities, and mappings are now automatically configured.

Additional configuration for "Send email" activity

Input fields are added to the "Send email" activity to support HTML body and CC/BCC configuration.

Ability to run updated application without binary rebuild

In the CLI builder, an option is available to exclude the JSON file of the app when building the binary of an updated app to avoid creating a new app binary if you only want to make minor configuration or mapping changes in the app.

Improved Prometheus metrics

New improved Prometheus metrics related to count and execution interval for activity and flow are now available.

Mapping enhancement for loop

The output of an activity is accessible for mapping in its input for each iteration while using repeat while true loop.

That is, when using the Mapper you can use the output of an activity generated by the last iteration as an input for the next iteration. You can see this output as part of "Upstream Output". For example, assume

you have a loop with three iterations. In iteration zero, there is no value from that output because the activity has not run yet, but on the next iteration you can access the output of the activity from the previous run.

TIBCO Flogo® Connector for TIBCO Cloud Messaging

- TCMMMessageAck has been added to the connector with the following modes:
 - **Auto:** messages are auto acknowledged as soon as they are received from the TIBCO Cloud Messaging service.
 - **Explicit:** messages can be acknowledged by using new activity TCMMMessageAck within the flow.
- The MessageSubscriber trigger now supports standard durables.

TIBCO Flogo® Connector for MQTT

Auto reconnect: The MQTT Publisher activity and MQTT Subscriber trigger reconnect automatically to the MQTTbroker in an event of a connection failure.

TIBCO Flogo® Connector for Microsoft SQL Server, TIBCO Flogo® Connector for PostgreSQL, and TIBCO Flogo® Connector for Oracle MySQL

There have been significant enhancements to the connection configuration for configuring maximum open connections, maximum idle connections, and maximum connection lifetime. For more details, please check the *TIBCO Flogo® Activities and Triggers Guide*.

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App-level schemas

In a flow input or output, you can now define a schema and share it across the app. An app-level schema can be used in any flow, activity, or trigger configuration where a schema editor is provided. Types of schemas supported are JSON and Avro.

For details, see the "Application Schemas" section in the *TIBCO Cloud Integration - Flogo (PAYG) User's Guide*.

Coercing of fields

In the input, output or trigger reply configuration of an OSS activity, you can now coerce a parameter to take the value from a schema that you dynamically defined during design time.

TIBCO Cloud Integration - Flogo (PAYG) supports coercing for parameters of the following data types: array, object, param, and any.

Currently, coercion is supported only for top-level parameters.

Validation of flows

You can now validate an app before you deploy it. To validate your app, click the **Validate** button on the App details page. This validates each flow and activity. If a flow or activity has an error, it displays an error or warning icon on the flow or activity.

Validation of flow is done only when you click the **Validate** button.

Data mapping functions

This release now includes the `DateTime` and `Array.flatten` Open Source functions.

Iteration index available for "Repeat While True" loops

If you select **Repeat while true** as the type of a loop in an activity, iteration index is now available for mapping.

Support for PATCH method in InvokeRESTService activity

You can now use the PATCH method in the InvokeRESTService activity.

Configure app properties from the Flow View

You can now configure app properties from the Flow View directly, instead of navigating back to the Flow list page to edit the app properties.

Flexibility to start with a trigger or a flow

With the enhancements in this release, you can create and configure a new trigger without binding it to a flow. This gives you flexibility to start with either a trigger or a flow.

Streaming App Metrics to logs

You can now emit flow and activity metrics of a TIBCO Cloud Integration - Flogo (PAYG) app to logs by using two new environment variables: FLOGO_APP_METRICS_LOG_EMITTER_ENABLE and FLOGO_APP_METRICS_LOG_EMITTER_CONFIG.

Merging changes to an API specification

While creating a REST trigger, you can configure it by uploading the API specification file.

If the API specification changes after the trigger is created, you can now merge the changes into an existing app by uploading the specification file again.

Propagating error data from subflow to main flow

You can now propagate error data from a subflow to the main flow using the Throw Error activity.

Overriding host and port in the URL for Invoke REST Service activity

You can now override the host name and port in the URL when calling a REST service using InvokeRESTService activity.

Defining common schema for a response code category in REST Invoke activity

In the InvokeRESTService activity, you can now define a single schema for a category of response codes. For example, if you are calling a REST service which uses same schema for all response codes in the range 500-599 (such as 501, 502, 503, and so on), you can define a single schema (as 5xx) for them.

Improved TCM connection management

The TIBCO Cloud Messaging Connector now uses an upgraded client library for improved handling of reconnect and connection timeouts.

Two new fields have been added to TIBCO Cloud Messaging Connector - AutoReconnectAttempts and AutoReconnectMaxDelay (in seconds). These fields allow the client to re-establish a connection with TIBCO Cloud Messaging Server if the connection is lost.

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gRPC Support

This release provides the following gRPC capabilities:

- Includes a gRPC Client activity for calling gRPC services from flows
- Simplifies implementing the gRPC services by adding the ability to import gRPC Protocol Buffers (.proto) file for generating triggers and flows automatically.
- Supports header input field for gRPC activity

Avro Schema Registry for Kafka

This release supports built-in connectivity to Avro Schema Registry for Kafka Client Configuration for serialization and deserialization of messages published on or subscribed from Kafka topic in Avro format. If the user name and password are provided, basic authentication is used to connect to the registry.

OpenTracing

In the area of microservices observability, this release provides native support for OpenTracing, a Cloud Native Computing Foundation (CNCF) project, which provides vendor-neutral API specification and instrumentation libraries for distributed tracing. This release also provides built-in integration with the open source Jaeger tracing library for collecting the traces from the apps.

For enabling generation of OpenTracing compliant traces and spans and collecting the traces and spans by using Jaeger, you can set the `FLOGO_APP_MONITORING_OT_JAEGER` environment variable to `true`.

Flow Design

This release provides the following functionality to improve the Developer Experience (DX) for designing apps using the Web UI:

- **Selective Import:** To improve the reusability of apps, a **Selective Import** option has been added to the import functionality. This feature allows you to import an app into a new app or an existing app with the flexibility to select specific triggers, flows, and connections while importing the app.
- **Loop:** The ability to iterate the execution of an activity has been significantly enhanced:
 - A **Loop** tab has been added for activity configuration.
 - Support for two types of loops has been added: **Iterate** and **Repeat while true**. You can use the **Iterate** loop to specify a number of iterations. You can use the **Repeat while true** loop to specify a condition to repeat the execution of activity when the condition is true.
 - An **Accumulate** option has been added on the **Loop** tab for accumulating output of the activity from each iteration into an array.
- **Retry on Error:** A **Retry on Error** tab has been added in the activity configuration of `InvokeRESTService` and `TCMMessagePublisher` activities. You can retry the execution of these activities if it encounters a retrievable error. You can specify a retry count and retry interval in the **Retry on Error** tab.
- **Success with no matching condition:** This new type of branch can be used when you want to execute one or more specific activities when none of the "Success with condition" branches meet the condition and execute.
- **List view:** A new list view is added for Flow Input & Output parameters in addition to existing JSON schema view. You can define the flow parameters and their types in the UI.
- **Copy activity:** You can now create a copy of an existing activity within the same flow.
- **Branch Labels:** By default, a label is now added to a branch and displayed when you hover over the branch. You can also update the branch labels.

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Support for Amazon EKS

This release adds support for Amazon EKS. After you have developed an app and created its application run time image, you can run the app on Amazon EKS (in addition to Amazon ECS and Amazon Fargate).

REST API Development

This release adds the following advanced capabilities for simplifying development of REST APIs using Flogo applications:

- A new **Configure Response Codes** option has been added to the ReceiveHTTPMessage trigger and InvokeRESTService activity that allows you to add multiple HTTP response codes and define response content-type and schema for each code.
- A new ConfigureHTTPResponse activity has been added. You can add this activity before a Return activity if **Configure Response Codes** option is enabled on the ReceiveHTTPMessage trigger and use the activity to select a response code and define the response to be returned for that specific code.
- You can also define custom HTTP response header on the ReceiveHTTPMessage trigger.
- InvokeRESTService activity allows you to configure a connection timeout and proxy URL while invoking external REST APIs from the Flogo flows.

Kafka Consumer

KafkaConsumer trigger now supports the Whitelist feature to consume messages from multiple topics. You can whitelist a group of Kafka topics for consuming messages by specifying them as a comma-separated list of topics (**Topic** field) or a regex pattern (**Topic Whitelist** field).

Web UI Improvements

This release adds the following advanced Web UI capabilities:

- You can add multiple handlers for a trigger allowing you to bind multiple flows to a single trigger. It also adds a new Trigger View and the ability to switch between the Flow view and the Trigger view so that you can add more than one flows for a single trigger.
- Errors and warnings:
 - This release provides a better and consolidated view of validation errors and warnings.
 - For error branches, details of the error (such as activity and type of error message) are now captured and returned in the \$error variable. These details can be used by subsequent activities and the logic of the flow can be based on the type of error.

New Activities

This release adds the following out-of-the-box activities:

- Sleep: This activity is used to pause execution of the Flow for a specified time period.
- ParseJSON: This activity is used to parse JSON data in String format into a JSON Object.

Mapper Functions

This release adds the following advanced capabilities for mapper functions:

- Adds support for mapper function contributions giving you the flexibility to create custom mapper functions, install them as extensions and use within the mapping expressions.
- Includes a set of mapper functions from the open source Project Flogo out-of-the-box.
- The `array.foreach()` function now supports passing of an argument for filtering array elements to return only the matching elements.

Extensibility

You can now install extensions from GitHub repositories, thus eliminating the need to zip and upload the extension.

Exporting an Application's .json File

You can now export an application's .json file (embedded within the binary file), by using the `./<app-binary-name> --export app` command. The .json is exported as `<app-binary-name>.json`.

Out-of-the-box Connectivity

This release adds an out-of-the-box connector for MySQL.

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GraphQL

This release adds an out-of-the-box trigger for GraphQL that provides an efficient and flexible API design paradigm with a powerful query language allowing frontend clients to query exact data. You can import a GraphQL schema in a Flogo application and choose to auto-generate the GraphQL trigger and flows for implementing resolver functions or add a GraphQL trigger to existing flows allowing you to rapidly implement GraphQL server for your API.

Support for OpenAPI Specification 2.0 (formerly Swagger Specification)

You can now develop REST APIs from OpenAPI Specification version 2.0 (formerly Swagger Specification). You can import the OpenAPI Specification in an app and auto-generate the REST trigger and flows for implementing the API. This enables rapid development.

Improved error handling capabilities

The new Error branch type extends the flow execution control and error handling capabilities. An Error branch allows you to catch activity level exceptions and execute a different path in the flow if activity execution throws an error. Three types of branches are now supported - Success, Success with Condition, and Error.

Mapper activity

The new Mapper activity enables you to define data mappings for any data type and construct data in the required structure for mapping to subsequent activities in the flow.

New schema synchronization option

A new Sync flow input/output configuration option is added on the Trigger configuration tabs. If you make any changes in the trigger input/output schema, this option allows you to propagate the changes to the flow input and output parameters by copying the Trigger Output schema to Flow Inputs and Trigger Reply schema to Flow outputs without having to manually update flow input/output schema.

Support for securing APIs using TLS

You can now secure APIs built using Swagger and GraphQL through X509 certificates.

Mapper improvement

You can clear child mappings configured for objects and arrays in the mapper using the **Clear Mapping** option.

Prometheus Support

In the area of application monitoring, this release now provides support for Prometheus, an open source project under Cloud Native Computing Foundation (CNCF). If the environment variable FLOGO_APP_METRICS_PROMETHEUS is set to true, the app starts exposing flow and activity metrics via the HTTP endpoint as Prometheus-compliant time series data. This gives you the ability to configure Prometheus for pulling and storing metrics, use features of Prometheus for monitoring as well as alerting, and also use tools like Grafana for visualization.

Duplicating Flows

You can now make a copy of an existing flow within an app.

OOTB Connectivity

This release adds out-of-the-box connectors for MS SQL Server and PostgreSQL.

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Configuration Management

This release adds a set of new features to help you isolate the configuration from your app and manage it using external stores, so that you can deploy the same app in multiple environments without making any changes to the app. This release extends the Application Properties feature and allows you to provide the values for application properties at run time using environment variables or fetch them by connecting to external configuration stores. It certifies use of Consul and AWS Param Store for storing your app configuration. This release also adds ability to export application properties from the app binary in a JSON file or as environment variables. If you use application properties for configuring secrets in your app, such as database passwords, you can generate obfuscated values for the secrets.

Application Logging

This release adds support for Zap library for application logging. Zap aims to provide fast, structured, and leveled logging. You can switch to the Zap logger for your app by setting the environment variable, `FLOGO_LOGGER_IMPL`, to `zap`. This release also gives you the ability to log in JSON format by setting the environment variable `FLOGO_LOGGER_FORMAT` to `JSON`.

Application Metrics API

This release provides the ability to collect flow and activity metrics for monitoring your app using a REST API. You can now enable collection of app metrics by setting the environment variable `FLOGO_APP_METRICS` to `true` and collecting instrumentation as well as execution statistics for flows and activities in your app using the REST API.

Subflows

This release adds support for creating a subflow and calling the subflow from other flows in your app. This gives you the ability to define common logic in a subflow and reuse it in multiple flows.

Mapper Improvements

This release adds a set of new array functions to support the `count`, `get`, `delete`, and `append` operations in the mapper. The use of nested ternary operators in the mapper expressions for conditions is now supported. This release also improves the validation of mandatory fields and expressions in the mapper.

Cloud Formation Templates

Using the Cloud Formation templates, you can easily set up the AWS resources required for running Flogo apps on AWS Fargate.

Out-of-the-box support for Kafka, MQTT, TCM and Avro connectors

This release includes a range of activities and triggers for Apache Kafka, MQTT, Apache Avro, and TIBCO Cloud Messaging out-of-the-box removing the need to install them as separate connectors.

Changes in Functionality

The following functionality-related changes have been made in this release.

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Metadata in database connectors

For database connectors, metadata populated in the table now displays generic datatypes.

Aggregate function in TIBCO Flogo® Connector for Microsoft SQL Server

When using the Aggregate function (SUM, AVG, COUNT, and so on) in a query, use an alias with the Aggregate function as follows:

- Replace:
 - `SELECT COUNT(*) FROM BookStore;`
 - `SELECT AVG(BookNumber) FROM BookStore;`
- With:
 - `SELECT COUNT(*) AS alias_name <name of alias> FROM BookStore;`
 - `SELECT AVG(BookNumber) AS alias_name <name of alias> FROM BookStore;`

Table names with spaces

If a table name contains space, change the query as follows:

- From: `select * from "Order Details"`
- To: `select * from [Order Details]`

Authentication key type in TIBCO Flogo® Connector for TIBCO Cloud Messaging

In TIBCO Flogo® Connector for TIBCO Cloud Messaging, the type of the Authentication Key field has been changed from PASSWORD to STRING.

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Automatic generation of mappings, Configure HTTP Response, and Return activities

When a Flogo app is created from a Swagger API specification, Flogo REST triggers and flows are now automatically configured with:

- trigger and flow input/output mappings
- Return and Configure HTTP Response activities, wherever applicable

Flogo Studio now called Flogo Web UI

Flogo Studio is now called Flogo Web UI. For example, this is reflected in the following areas of the product:

- The commands `run-studio.sh` and `run-studio.bat` are renamed to `start-webui.sh` and `start-webui.bat` respectively.
- Console output of the startup scripts
- Docker image is renamed to `flogo-webui`

- Title of the tab in the web browser

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Schema Configuration when a new REST trigger is added

When a new trigger is added, for GET and DELETE methods, the Response Schema configuration is enabled instead of the Request Schema.

When new trigger is added, for POST and PUT methods, both Request Schema and Response Schema configurations are enabled.

Connector installation

Starting with this release, you need not install the following connectors separately:

- PostgreSQL Connector
- MySQL Connector
- MSSQL Connector

Database service installation

Starting with this release, the database service is available out-of-the-box and need not be installed separately.

Revalidating an app after navigating to the flow list page

After validating an app on flow details page, if you navigate back to flow list page you must validate the app again irrespective of whether you made changes to the flow or not. TIBCO Cloud Integration - Flogo (PAYG) does not retain the results of any previous validation.

Validation improvements

- In prior releases, flows on the flow list page were validated automatically. Now, you need to manually validate the flows.
- In prior releases, on editing an activity, the entire flow was validated automatically. Now, only that particular activity is validated automatically.

Timeout field of InvokeRESTService activity

The unit of measurement for the **Timeout** field in the InvokeRESTService activity has been changed to milliseconds. You might want to reconfigure this field using milliseconds and deploy the app again.

Changes in user interface

The following changes have been made to the user interface:

- Flows list page
 - The **App Properties** Button has been renamed to **Properties**.
 - The **Revert to last build**, **Import**, and **Export** buttons have been moved into a list menu.
- Flow Canvas/Details page
 - The **Start testing** button is renamed to **Test**.
 - The **Revert to last build** button is removed.
 - The **Properties** button has been added for specifying app properties.

- Buttons have been rearranged to group primary actions together and secondary actions together.

Explicit save for activity and trigger configuration

If you make any changes to the schema that you entered when creating a trigger, you must save the changes explicitly by clicking Save and then propagate the changes to the flow input and flow output.

If you have make changes to the schema but do not save the changes explicitly by clicking **Save**, a warning message is displayed asking you to first save the changes before the schema can be synchronized.

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Lambda triggers

For apps with Lambda triggers (namely ReceiveLambdaInvocation trigger, S3BucketEventLambda trigger, and AWSAPIGatewayLambda trigger):

- An app can have multiple flows or handlers.
- When a trigger is added to other flows, a validation error indicating that other triggers are not allowed in the app is displayed.

Resource name for InvokeLambdaFunction

For InvokeLambdaFunction, you can now specify the Amazon Resource Name (ARN) from the Input tab in addition to the Settings tab. This can be used to take the ARN from a previous activity or trigger.

Return activity

A Return activity is not added by default. Depending on your requirements, you must add the Return activity manually. The Return activity is not added by default in the following cases:

- Creating a flow
- Adding a branch
- Creating error handler
- Importing an app

Mandatory sign

In the input mapper window, for mandatory fields, the mandatory sign (*) is now displayed before the field name instead of after the field name.

Updating GraphQL schema

You can now update the GraphQL schema without generating a new Flogo flow.

Restarting Studio after installing connectors

After installing any connector, Studio must be re-started.

Release 2.8.0

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- An app can have multiple flows or handlers.
- When a trigger is added to other flows, a validation error indicating that other triggers are not allowed in the app is displayed.

Resource name for InvokeLambdaFunction

For InvokeLambdaFunction, you can now specify the Amazon Resource Name (ARN) on the **Input** tab (in addition to the **Settings** tab). This way, you can now use the ARN from a previous activity or trigger.

Return activity

A Return activity is not added by default. Depending on your requirements, you must add the Return activity manually. The Return activity is not added by default in the following cases:

- Creating a flow
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InvokeRESTService activity

After installing any connector, Studio must be re-started.

In the InvokeRESTService activity, the timeout period for invoking a service is now set in milliseconds. Specify the timeout period in the **Timeout** field in the **Settings** tab of the activity.

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JSON string in quotes

If an input string value contains a JSON string that is not enclosed in quotation marks, a validation error is returned.

Response Type in InvokeRestService

In the InvokeRestService activity, **Response type** has been moved from **Settings** to **Output Settings**. The default value of **Response type** is `application/json`.



If you set **Response type** to `plain/text` and export the application from 2.6.1, after upgrading to 2.7.0, you must manually change the **Response type** to `application/json`.

Consistent structure across functions

The structure of TIBCO Cloud Integration - Flogo (PAYG) and open source Project Flogo functions is now consistent so that the open source Project Flogo functions can be used in TIBCO Cloud Integration - Flogo (PAYG) and vice versa.

Redesigned error panels

The error panel is no longer displayed. Errors and warnings are now displayed on the trigger, activity, and flow UI.

DEBUG logs

The default log level of the Flogo Tester is now INFO and not DEBUG.

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Iterator Mappings

Apps created in earlier versions of TIBCO Cloud Integration - Flogo (PAYG) have iterator mappings using the `$current` tag. Such apps return validation errors in version 2.6. You must manually update the iterator mappings for such apps.

Also, the datatype for key attribute under `$current` is changed from number to string. So, any mappings that involve the key attribute must also be manually updated.

Imported Apps

It is mandatory to provide a condition on branches. If the condition is not provided, the app fails at run time.

Application Property

This release of TIBCO Cloud Integration - Flogo (PAYG) provides additional validations for app properties. If you delete an app property or the property is not configured properly, the app fails to start.

Application Property Override Using Environment Variables

The environment variable used to enable application property override using environment variables has changed from `FLOGO_APP_PROPS_RESOLVERS=env` to `FLOGO_APP_PROPS_ENV="{ }"`

Deprecated and Removed Features

The following functionality-related changes have been made in this release.

When relevant, useful alternatives to the deprecated features are listed. As a deprecated feature can be removed in a future release, you must plan for discontinuing the use of the feature and avoid creating new dependencies that use the deprecated feature.

Deprecated Features

| Affected Component | Deprecated Feature | Alternative Feature | Deprecated in Release |
|-----------------------------|---|--|-----------------------|
| Project Flogo contributions | Deprecated contributions: <ul style="list-style-type: none"> Receive HTTP Message REST Invoke Log activity | Alternative activities and triggers: <ul style="list-style-type: none"> Receive HTTP Message Invoke REST Service Log Message | 2.11.0 |
| Prometheus Metrics | <ul style="list-style-type: none"> flogo_activity_metrics flogo_flow_metrics | <ul style="list-style-type: none"> flogo_activity_execution_count flogo_activity_execution_duration_msec flogo_flow_execution_count flogo_flow_execution_duration_msec | 2.10.0 |
| Functions | boolean.true() boolean.false() float.float64() number.int64() number.len() string.base64ToString() string.stringToBase64() string.dateFormat() string.datetimeFormat() string.timeFormat() string.lowerCase() | true false string.float() coerce.toInt64() string.len() utils.decodeBase64() utils.encodeBase64() YYYY-MM-DD YYYY-MM-DDTHH:mm:ss HH-mm-ss string.toLowerCase() | 2.7.0 |

| Affected Component | Deprecated Feature | Alternative Feature | Deprecated in Release |
|--|---------------------------------------|--|-----------------------|
| | string.toUpperCase() | string.toUpper() | |
| | string.regex() | string.matchRegex() | |
| | string.length | string.len() | |
| | string.toString() | coerce.toString() | |
| | utility.renderJSON | coerce.toString() | |
| Triggered flows | Use of triggered flows is deprecated. | | 2.4.0 |
| Flogo OSS Reply(Legacy) activity | | Use the Return activity in serverless flows. | 2.2.0 |

Removed Features

| Affected Component | Description | Deprecated in Release | Removed in Release |
|----------------------------------|--|-----------------------|--------------------|
| Start with Trigger option | The Start with Trigger option when creating flows has been removed. | - | 2.5.0 |

Migration and Compatibility

The following functionality-related changes have been made in this release.

Release 2.11.0

There are no migration procedures or compatibility issues in this release.

Release 2.10.0

HTTP Rest Trigger Mappings

Importing an app created in a prior version that uses a REST Trigger and is configured with an HTTP response code breaks trigger reply mappings. To fix this issue, export the app from the latest version and import it again.

Mappings after import

For older apps, in some cases, mappings done at parent level are displayed at the element level after import. Note that it does not have any impact at runtime.

Release 2.9.0

HTTP Trigger Mappings

Importing an app created in a prior version of TIBCO Cloud™ Integration - Flogo® (PAYG) that uses a REST Trigger and is configured with an HTTP response code breaks trigger reply mappings. To fix this issue, export the app from the latest version and import it again.

Export the app without making any changes and then import it again.

Zuora App

If a Zuora app is created in a prior version of TIBCO Cloud Integration - Flogo (PAYG) and is then imported to the current version, mapping issues are observed on the **Input** tab of the Zuora Subscription Activity for the Create Subscription operation.

Export the app without making any changes and then import it again.

Release 2.8.0

There are no migration or compatibility related changes in this release.

Release 2.7.0

InvokeRESTService Backward Compatibility

After an old application JSON file is imported, if it uses the open source Project Flogo REST Invoke activity, an error is encountered.

As a workaround, import the application and delete the existing open source Project Flogo REST Invoke activity. Then, add a new REST Invoke activity from the Default category.

Release 2.6.1

Web UI

In version 2.6, due to an application model change, it is recommended that you import old apps JSON in version 2.6 and export them.

Closed Issues

The following issues have been closed in this release of TIBCO Cloud Integration - Flogo (PAYG).

Release 2.11.0

| Key | Description |
|------------|--|
| FLOGO-6269 | After renaming a Flogo app, the app name field was not editable. |
| FLOGO-6234 | (Only for database connectors) In the Manual mode, after you hit the Clear Table widget, the subsequent fetch query failed. |
| FLOGO-6233 | (Only for database connectors such as MySQL, PostgreSQL, SQLServer, and Oracle) In the manual mode, when you entered a query and clicked Fetch , the table was populated with metadata. However, when you clicked Add row , all previous metadata disappeared. |
| FLOGO-6216 | You could not multiply <code>float64</code> with a JSON number. When using the multiply operation in the mapper of a number field, an error occurred at run time. |
| FLOGO-5998 | The <code>datetime.currentDate()</code> function could not be formatted or parsed by the <code>datetime.parse()</code> or <code>datetime.formatDate()</code> function. |
| FLOGO-5876 | For any old REST triggers where the API Specification upload feature was not enabled, adding a new handler failed. |
| FLOGO-5867 | App level schema was not available for the <code>application/xxx-urlencoded</code> request type and it had a non-editable schema by default. |
| FLOGO-5647 | When creating a new trigger, you could not use the Bind an application property button to bind a property to the port. |
| FLOGO-5344 | While adding elements in the <code>array.flatten()</code> function, the mapper became slow and the page became unresponsive after some time. |
| FLOGO-4954 | When multiple flows used the same TIBCO Cloud Messaging subscriber trigger, only some of the flows worked as expected. |
| FLOGO-1488 | Mandatory fields in all the AWS Kinesis activities were not displayed as mandatory in the Web UI. |

Release 2.10.0

| Key | Description |
|------------|--|
| FGTCM-21 | The TCM Publisher activity threw an operation timeout error and a duplicate message was received at the subscriber side. To fix this, increase the connection timeout value and re-push app or restart (scale down or up) the app. |
| FLOGO-6255 | When an existing TIBCO Cloud Integration - Flogo (PAYG) setup was upgraded to 2.10, the version of the existing apps was set to 4.0.0 by default. |

| Key | Description |
|----------------------------|--|
| FLOGO-5895 | You could not map empty arrays in activity mappings. |
| FLOGO-5893 | At runtime, the Flogo engine threw an error when the application property was configured to the Delay field in a Repeat Until True loop. |
| FLOGO-5846 | The Add row option was present for path parameters. It could not be added from Input Settings . |
| FLOGO-5755 | The Send Email activity did not work with Office365 mail server. |
| FLOGO-5730 | Subflow flow mappings got moved to the top level node after export/import app. |
| FLOGO-5714 | <p>If an existing trigger in a flow was deleted from the flow list page and you added a new trigger from the same page, you could not build the binary app and export the app.</p> <p>As a workaround, you could duplicate the existing flow and delete the original one. You can perform all actions on the newly created flow.</p> |
| FLOGO-5655 | <p>You could not import tester launch configuration. The following error was displayed:</p> <pre>Configuration already exists.</pre> |
| FLOGO-5654 | For the InvokeRESTService activity, the Accept request header was set to Response Type when using Configure Response Codes. |
| FLOGO-5650 | If an app-level schema was attached in the request or response schema of the AWSAPIGatewayLambda trigger, the API gateway was not created. |
| FLOGO-5634 | In the input and output of a flow, if you changed the parameter type and then selected another type as Required , the parameter type changed to the previous type again. |
| FLOGO-5616 | If you did not click the Save button while configuring an activity and then moved to the Flow Inputs & Outputs tab, the flow was unavailable and appeared grayed out. |
| FLOGO-4855 | <p>If you upgraded from TIBCO Cloud Integration - Flogo (PAYG) 2.8.0 to 2.8.1, the following error message was displayed:</p> <pre>"'o' is not recognized as an internal command or 'things' is not recognized as an internal command"</pre> <p>You can ignore the error. The upgrade happens correctly despite the error.</p> |
| FLOGO-4420 | While mapping arrays, validation errors were displayed on the UI when the source array came from a fixed array child such as: <code>\$flow.input[0].test.arraysource</code> . |
| WIMSSS-188 | The SQLServer output schema was not available immediately for mapping in the downstream activities. |
| WIMSSS-207 / WIMSSS-215 | Input schema was blank and did not populate immediately. |

Release 2.9.0

| Key | Description |
|---------------------------|---|
| FLOGO-5570 | If an input string contained the equals sign (=) in the app property and the app property was updated at run time, the <code>string.replaceAll</code> function generated an incorrect result. |
| FLOGO-5068 | Loading an app and validating flows took a long time. In addition, if you tried to access mappings in a flow, the mapper UI did not load. |
| FLOGO-4969 | Moving activities around in large flows was slow. |
| FLOGO-4968 | Mapper was slow for large flows. |
| FLOGO-4954 | Multiple flows using the same TIBCO Cloud Messaging subscriber trigger did not work as expected if you added more than one flow to the TIBCO Cloud Messaging subscriber trigger. |
| FLOGO-4953 | When the <code>InvokeRestService</code> activity was used in an app with output settings configured for a String type response code, the output for the response code was generated as type JSON. |
| FLOGO-4946 | If a TIBCO Cloud Messaging trigger had multiple flows, only one flow was triggered and the rest of the flows were not triggered. |
| FLOGO-4945 | For the <code>MongoDBInsertDocument</code> activity, when an app was imported, input parameters were not displayed on the Input tab. If the imported flow contained any object or param fields that did not have a fixed schema definition in the <code>activity.json</code> or <code>trigger.json</code> , it resulted in loss of data and a blank screen was displayed. |
| FLOGO-4935 | After upgrading to the current release, all codes were displayed as 200 in the manifest. |
| FLOGO-4924 | For REST triggers created in prior releases (which did not have the Configure Response Codes field in Reply Settings of the REST trigger), the Swagger spec was generated with response code as undefined. |
| FLOGO-4903 | When a Flogo app was scaled down to 0, the app did not shut down gracefully. Thus, in Flogo apps with Salesforce activities, the push topics were not deleted. |
| FLOGO-4902, FLOGO-4872 | The Extensions tab took a long time to load and, in some cases, was unresponsive. If the number of large apps was high, the Extensions tab did not load. |
| FLOGO-4860 | For large apps, there was a lag in design-time performance. For example, tasks such as viewing logs in a browser or downloading a large log file took a long time. |
| FLOGO-4845 | If an app was updated and the app already existed in another environment, when the app was imported into the other environment, changes made to the app did not reflect in the other environment. |
| FLOGO-4842 | If you upgrade from 2.x.x to 2.8.0, binaries of an app could not be generated. |

| Key | Description |
|------------|--|
| FLOGO-4840 | If you upgrade from 2.x.x to 2.8.0, the Flow Tester did not work. |
| FLOGO-4625 | If there are changes in an uploaded Swagger file, a warning message was not displayed requesting the user to update the activity mappings. As a result, you had to navigate to each downstream activity to check for changes in the schema. This has now been fixed. |
| FLOGO-4583 | A TIBCO Cloud Messaging Subscriber app of type Durable with Content Matcher failed to start if an app with the same Durable name and Content Matcher was pushed before. |
| FLOGO-4570 | If an array name contained a dollar sign (\$) or a dash (-) character and the flow output was mapped to the Return activity, the character (\$ or -) was removed from the array name in the Input field. |
| FLOGO-4553 | For the InvokeRESTService activity, if the Accumulate check box on the Loop tab was selected and you selected None as the Type of iteration, the output continued to be an accumulated output array. This has now been fixed. |
| FLOGO-4552 | For the InvokeRESTService activity, the hover text of the Timeout field erroneously displayed seconds as the unit of measurement. This has now been changed to display milliseconds. |
| FLOGO-4549 | When flow execution branches were created, from the second branch onward, the destination activity name was missing in the branch label. This has now been fixed. |
| FLOGO-4548 | In a flow, you could not map any fields on the Map Outputs tab of a Return activity. This issue occurred if the activity before the Return activity had a sub-flow in which output was accumulated (by selecting the Accumulate check box on the Loop tab). |
| FLOGO-4545 | The ParseJSON activity failed with the following error when a jsonString (string containing JSON data) was provided on the Input tab: Invalid character ' ' looking for beginning of object key string |
| FLOGO-4543 | The condition in an Otherwise branch was executed even though the condition of the first branch was true. |
| FLOGO-4538 | The ParseJSON activity could not parse a JSON array string if the array string did not have a root element and returned the following error: Invalid input. It must be a valid JSON string or a file path prefixed with 'file:/' |
| FLOGO-4537 | If an API returned a JSON data with an exclamation mark (!) in the JSON element name, the evaluation of the JSON path failed with the following error: Execution failed for Activity[<activity name>] in Flow[<flow name>] - unable to evaluate path: ["T!T"].rows |

| Key | Description |
|------------|--|
| FLOGO-4492 | When an app property was bound to a trigger handler configuration and the same trigger was used in another flow, the same app property was used in the new trigger handler. You had to manually unbind the app property in the new trigger handler. |
| FLOGO-4582 | A TIBCO Cloud Messaging Subscriber Content Matcher was not saved after importing the app. |
| FLOGO-4573 | TIBCO Cloud Integration - Flogo (PAYG) did not handle special variables containing bracket notation, such as 'address[line1]'. |
| FLOGO-4489 | When an app property was bound to a trigger handler configuration and the app was exported, the name of the property was lost and was not displayed in the design-time model after the app was imported into Flogo Web UI. The app failed at runtime. |
| FLOGO-4456 | The Flogo AWS Connection failed at runtime if Use Assume Role was set to True . |
| FLOGO-4448 | When the output was configured for a flow, a warning message regarding the Error Handler was reported. |
| FLOGO-4427 | At design time, when a filter expression in a mapper had multiple arguments from \$loop, a wrong validation marker was displayed. |
| FLOGO-4407 | The Flogo AWS Connection failed at runtime if Use Assume Role was set to True and External ID was not configured. |
| FLOGO-4388 | The data set in the Throw Error activity in a sub flow was not accessible to the parent flow. |
| FLOGO-4315 | You could import apps with AWS API Gateway Lambda Trigger, Receive Lambda Invocation Trigger, or S3 Bucket Event Lambda Trigger along with other triggers in the same app. A validation error was not returned at design time and the app failed at runtime. |
| FLOGO-4250 | If you changed or switched a Loop type, the configuration settings of the previous Loop type were not stored or preserved. |
| FLOGO-3912 | Activities and flows showed an error when a parent element accessed the child element array as a filter. |
| FLOGO-3910 | For an app, when a child element was added as a filter to the parent array mapping, an index was not added. |
| FLOGO-3908 | While mapping arrays, an extra element was added as a null value for missing elements in the array. For example, if the first element in an array had 3 fields and the second element had only 1 field, 2 fields were added as null for the second element. |
| FLOGO-3741 | If you upgraded to TIBCO Cloud Integration - Flogo (PAYG) 2.7.0 and then tried to build a binary for an app with a Lambda trigger, building the binary failed with an error. |

| Key | Description |
|------------|---|
| FLOGO-3650 | Building an app using the builder CLI resulted in an issue for an app exported before 2.6.0. You can import the app into the latest version of TIBCO Cloud Integration - Flogo (PAYG) and export it again. |
| FLOGO-3561 | Logs were not visible in Flow Tester and the following error was displayed: Debugger failed to start as the test engine is currently being built. Please try again after sometime. For more information check builder.log. |
| FLOGO-3520 | For the InvokeRestService activity, if you selected Response type as text/plain or other in the Output settings tab, the Response schema was not refreshed. |
| FLOGO-3375 | On re-importing an app, single quotes were replaced by double quotes in a JSON string field. |
| FLOGO-3305 | After an old app JSON file was imported, if it used the default REST Invoke activity, an error was displayed. |
| FLOGO-3124 | After importing an app, a Return activity was added by default if the flow had no return activity. This has now been fixed. |
| FLOGO-2676 | On Linux platforms, the TIBCO Cloud Integration - Flogo (PAYG) Web UI was not launched after connecting to VPN. You can disconnect the VPN and re-launch or refresh the Web UI. |
| FLOGO-2451 | After importing a Flogo app, an extra return activity was added if the flow had no return activity. |
| FLOGO-2344 | When you used the Iterator key as an array index, the flow execution failed and the following error was displayed: index based access expected for an array |
| FLOGO-389 | Anonymous arrays are not supported. You can add a root element to the array. |

Release 2.8.0

| Key | Description |
|------------|--|
| FLOGO-4366 | When using the <code>isdefined()</code> function in a mapper, if the source attribute was not configured and you wanted to set a null value for an object or array, a validation error was displayed. For example, when the <code>isdefined()</code> function was used as follows, a validation error was returned: "address": "=isdefined(\$flow.pl.person.address)? \$flow.pl.person.address:null" |
| FLOGO-4330 | An activity returned a mapper error if the mapped object did not exist. This error occurred because the <code>FLOGO_MAPPING_SKIP_MISSING</code> environment variable could not be set in the flow tester. |

| Key | Description |
|---------------------------|--|
| FLOGO-4322, FLOGO-4298 | You could not filter the objects in an array based on a condition that is applied on the child element of the object in the array. |
| FLOGO-4262 | When ternary operators were used with the <code>array.count()</code> function, an error message was displayed at design time. |
| FLOGO-4161 | False validation errors were reported in case of nested array fields mapping from different sources. |
| FLOGO-4129 | When an error occurred in one of the subflows, the main flow did not stop and continued executing. |
| FLOGO-4056 | When the URL of a big-sized Github repo (which did not have the expected structure of extensions) was provided to extensions downloaded from Github, a new app could not be created. |
| FLOGO-3878 | <p>A RESTInvoke flow that used a ConfigureHTTPResponse activity failed. This issue occurred when all the following conditions were true:</p> <ul style="list-style-type: none"> • The RESTInvoke activity called a REST service created in Flogo • The REST service used the ConfigureHTTPResponse activity • The input of ConfigureHTTPResponse activity was mapped from the output of the RESTInvoke activity |
| FLOGO-3858 | If an array inside an array was mapped to <code>root</code> , the child elements were not upgraded to <code>\$loop</code> . Instead, they were mapped by using <code>\$</code> only for hybrid mappings. |
| FLOGO-3856 | If you mapped an array to another array and to its child elements, an error was displayed at the trigger and activity level even though the mappings were correct. |
| FLOGO-3754 | When importing an app, if the app used an extension that was not present in the environment, the import process stopped responding. |
| FLOGO-3742 | <p>After upgrading, if you uninstalled the dbservice and then installed it again, the installation failed and the following error message was displayed:</p> <pre>Failed to install service</pre> |
| FLOGO-3741 | After upgrading, building a binary for an app with a Lambda trigger failed with an error. |
| FLOGO-3595 | When an app was created by importing a Swagger specification with multiple response codes, the Message field was displayed in the Map from Flow Outputs tab even after adding a responseBody element in the Reply Settings tab. |
| FLOGO-3561 | <p>Logs were not visible in Flow Tester and the following error was displayed:</p> <pre>Debugger failed to start as the test engine is currently being built. Please try again after sometime. For more information check builder.log.</pre> |

Release 2.7.0

| Key | Description |
|------------|--|
| FLOGO-3304 | An application that used an open source Project Flogo REST trigger or REST Invoke activity did not work in the Flow tester or with the binary. |
| FLOGO-3235 | An error in a condition was not shown anywhere in the flow except on the condition definition page. |
| FLOGO-3209 | When you import an application created in open source Project Flogo into TIBCO Cloud Integration - Flogo (PAYG), the data type of the code field in the REST trigger was not displayed. |
| FLOGO-3162 | In Lambda applications, if you used an application property when configuring the Execution Role Name field, you could not push the application. The following error was displayed: Execution role name [= \$property ["execRoleName"]]Execution role name [= \$property ["execRoleName"]]ValidationError: The specified value for roleName is invalid. |
| FLOGO-3136 | On importing a Lambda Trigger application, Reply Data schema (in the Reply Settings tab in Receive Lambda Invocation Trigger) was lost. |
| FLOGO-3131 | In a condition, you could not check whether an object was empty or null. |
| FLOGO-3121 | Creating a Flogo application from an API specification resulted in a validation error during application creation. |
| FLOGO-3117 | In branch condition, if you compared a string type variable with a number, a validation error was not displayed at design time and the flow did not get executed at run time. |
| FLOGO-3102 | An error was not displayed for an empty condition on the UI. |
| FLOGO-3099 | If a string in a mapper started with =, the flow failed at run time. |
| FLOGO-2863 | You could not create a Flogo application from an API specification that had a 400 response code with a schema response. |
| FLOGO-2855 | A flow was unable to capture the body of the response when Invoke API returned a 400 error. |
| FLOGO-2466 | Use of any "trigger output" was not supported in "trigger output" to "flow input" array mappings. Also, use of "flow output" was not supported in "flow output" to trigger reply array mappings. |
| FLOGO-2187 | When the Iterator key was used as an array index, the following error was displayed and the flow execution failed: index based access expected for an array |
| FLOGO-646 | Formatting and parsing of date and time to a MM-DD-YYYY format was not supported. |

Release 2.6.1

| Key | Description |
|------------|---|
| FLOGO-3204 | Flogo apps exported from Project Flogo™ version 0.9.0 could not be imported into TIBCO Cloud Integration - Flogo (PAYG) 2.6.x. |
| FLOGO-3186 | You could not import a Swagger specification which did not have any unsupported methods or paths while creating flows. This has been fixed. |
| FLOGO-3162 | In Lambda apps, if you used an application property when configuring the Execution Role Name field, you were unable to push your app. You got an error, <code>Execution role name [=\$property ["execRoleName"]]Execution role name [=\$property ["execRoleName"]]ValidationError: The specified value for roleName is invalid.</code> |
| FLOGO-3160 | TIBCO Cloud Integration - Flogo (PAYG) Web UI did not return a validation error for invalid credentials in Connections. |
| FLOGO-3154 | Failed to get data from Marketo Upsert or Delete activity's output errors field. |
| FLOGO-3141 | When an app is imported, input data (string) in a subflow activity was lost. |
| FLOGO-2923 | For an empty condition, an error was not returned and the condition was evaluated as true at run time. |
| FLOGO-2695 | Building a Flogo app binary through UI and testing the Flogo app through Flow tester did not work. |
| FLOGO-2512 | If you created a Flogo app from an API specification, the flows for the REST methods that had query or path parameters of type <code>integer</code> or <code>long</code> were not created even though the app was created successfully. |
| FLOGO-2404 | If you imported an app that contained a connection extension, the app got imported without errors, but you had to recreate the connection after importing the app. The connection detail are now preserved except for the password which must be reset in the imported app. |

Known Issues

The following known issues have been identified in this release of TIBCO Cloud Integration - Flogo (PAYG).

| Key | Description |
|------------|--|
| FGTCM-53 | <p>Summary: (TIBCO Flogo® Connector for TIBCO Cloud™ Messaging) The subscriber stops receiving the message from the server after the reconnect attempts are exceeded.</p> <p>Workaround: Make sure that the TIBCO Cloud™ Messaging server is running normally and try the following:</p> <ul style="list-style-type: none"> Restart the app. Configure a larger number of AutoReconnectAttempts under the connection to make sure it can try to reconnect more times until the server is up. |
| FGTCM-18 | <p>Summary: (TIBCO Flogo® Connector for TIBCO Cloud™ Messaging) Content matcher does not work with INTEGER type for TIBCO Cloud™ Messaging Subscriber.</p> <p>Workaround: None</p> |
| FLOGO-992 | <p>Summary: If you enter an invalid API Key when creating a Chargify connection, you are prompted to enter username and password for your Chargify account instead of an error being displayed.</p> <p>Workaround: Cancel out of the username/password dialog and reenter the valid API Key. This is a third-party issue.</p> |
| FLOGO-836 | <p>Summary: You can, erroneously, scale a Lambda app to more than one instance.</p> <p>Workaround: None</p> |
| FLOGO-814 | <p>Summary: In the flow error handler, <code>\$error.data</code> and <code>\$error.code</code> are not supported in the mapper.</p> <p>Workaround: Manually delete them from mappings in any Project Flogo applications that are imported into TIBCO Cloud Integration - Flogo (PAYG).</p> |
| FLOGO-6661 | <p>Summary: After installing or uploading connectors or extensions without dependencies such as third-party libraries, a flow using a connector or extension cannot be tested in the tester. The following error is displayed:</p> <p>Failed to create engine instance</p> <p>Workaround: Check the connector or extension installation guide for any additional dependencies to be installed. Also, check <code>builder.log</code> file for additional details.</p> |
| FLOGO-6586 | <p>Summary: The value of BIGINT data type is converted to an incorrect value.</p> <p>Workaround: If possible, use a STRING data type instead.</p> |

| Key | Description |
|------------|--|
| FLOGO-6552 | <p>Summary: The resource path of a previous specification is shown in the Resource path list even after deleting the specification file and uploading a new specification file.</p> <p>Workaround: Select the resource path from the Resource path list even if it shows paths of previous specifications. Even though the specification displayed is incorrect, the new path is loaded.</p> |
| FLOGO-6542 | <p>Summary: If you upload an OpenAPI Specification (OAS) file in the InvokeREST activity and later upload an updated version of the same OAS, the changes to the schema are not reflected in the associated parameters and request/response schemas.</p> <p>Workaround: Delete the original specification and upload the new OAS again.</p> |
| FLOGO-6458 | <p>Summary: If you use the Cisco AnyConnect VPN client and then use the InvokeRESTService in the debugger to call a service, it fails.</p> <p>Workaround: Use any VPN client other than Cisco AnyConnect. Alternatively, restart Web UI after disconnecting the VPN.</p> |
| FLOGO-6439 | <p>Summary: An app using an on-premises connection might run into connection issues if a tunnel connection is broken.</p> <p>Workaround: Include a retry logic in the flow by using an error branch or error handler.</p> |
| FLOGO-6237 | <p>Summary: Using literal values in the <code>string.join</code> function in a Flogo app fails both at design and run time.</p> <p>Workaround: None</p> |
| FLOGO-6031 | <p>Summary: In InvokeRestService activity, application level schema toggle should not be displayed for plain/text and other type request/response.</p> <p>Workaround: None</p> |
| FLOGO-5890 | <p>Summary: The following error is displayed when the service called in the InvokeRestService activity is re-pushed after upgrade:</p> <p>'Service has been updated in TIBCO Cloud Mesh, please reconfigure this activity.'</p> <p>Workaround: Select another service first, then select the main service to remove the error and then select the required path and method. Note that at runtime the app works correctly despite this design time validation error.</p> |
| FLOGO-5869 | <p>Summary: App level schema is not available for the request or response of Plain/text and Other types because they have a non-editable schema by default.</p> <p>Workaround: None</p> |
| FLOGO-5655 | <p>Summary: You cannot import tester launch configuration. The following error is displayed:</p> <p>Configuration already exists.</p> <p>Workaround: Create a new tester launch configuration.</p> |

| Key | Description |
|------------|--|
| FLOGO-5654 | <p>Summary: For the InvokeRESTService activity, the Accept request header is set to Response Type when using Configure Response Codes.</p> <p>Workaround: Switch Configure Response Codes to false and change response type to others and switch back Configure Response Codes to true and set Accept header in the input.</p> |
| FLOGO-5650 | <p>Summary: If an app-level schema is attached in the request or response schema of the AWSAPIGatewayLambda trigger, the API gateway is not created.</p> <p>Workaround: Do not use an app-level schema in the AWSAPIGatewayLambda trigger.</p> |
| FLOGO-5647 | <p>Summary: When creating a new trigger, you cannot use the Bind an application property button to bind a property to the port.</p> <p>Workaround: None</p> |
| FLOGO-5634 | <p>Summary: In the input and output of a flow, if you change the parameter type and then select another type as Required, the parameter type changes to the previous type again.</p> <p>Workaround: None</p> |
| FLOGO-5616 | <p>Summary: If you do not click the Save button while configuring an activity and then move to the Flow Inputs & Outputs tab, the flow is unavailable and appears as grayed out.</p> <p>Workaround: Save the activity and then click anywhere on the canvas.</p> |
| FLOGO-5400 | <p>Summary: While running an app in flow tester, if you provide a JSON schema with a nested array, it returns an error at design time.</p> <p>Workaround: None</p> |
| FLOGO-5344 | <p>Summary: While adding elements in the array.flatten() function, the mapper becomes slow and the page becomes unresponsive after some time.</p> <p>Workaround: None</p> |
| FLOGO-5267 | <p>Summary: When the reply settings of a ReceiveHTTPMessage trigger are modified, the corresponding ConfigureHTTPResponse activities within the flow are not modified appropriately.</p> <p>Workaround: None</p> |
| FLOGO-5200 | <p>Summary: If you add wrong data in the input mapper, an error symbol is not displayed for the activity. The error symbol is, however, correctly displayed in the input mapper section.</p> <p>Workaround: None</p> |
| FLOGO-5133 | <p>Summary: In the ReceiveHTTPMessage trigger and InvokeRestService service, you cannot select an app-level schema if the trigger or activity has multiple responses.</p> <p>Workaround: None</p> |

| Key | Description |
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| FLOGO-4936 | <p>Summary: Boolean data type and null data type are not supported in TIBCO Cloud Messaging.</p> <p>Workaround: None</p> |
| FLOGO-4855 | <p>Summary: If you upgrade from TIBCO Cloud Integration - Flogo (PAYG) 2.8.0 to 2.8.1, the following error message is displayed:</p> <pre>'o' is not recognized as an internal command or 'things' is not recognized as an internal command"</pre> <p>Workaround: Ignore the error. The upgrade happens correctly despite the error.</p> |
| FLOGO-4717 | <p>Summary: When a Swagger specification file of size 2.5 MB or more is used for creating an app or uploaded using the REST trigger configuration, the app is not deployed to TIBCO Cloud.</p> <p>Workaround: Use a Swagger specification file of a smaller size.</p> |
| FLOGO-4716 | <p>Summary: If required elements of a request schema are not provided, the runtime provides a response but the tester returns a validation error.</p> <p>Workaround: None</p> |
| FLOGO-4661 | <p>Summary: Single quotes are not supported in TIBCO Flogo mapper variables.</p> <p>Workaround: None</p> |
| FLOGO-4659 | <p>Summary: When using a field name that contains special characters, the <code>array.foreach</code> mapping fails with the following error:</p> <pre>eval expression failed to resolve Loop: 'field name', ensure that Loop is configured in the application</pre> <p>Workaround: Add a scope name before the field name. For example, manually change <code>\$loop["fieldName"]</code> to <code>\$loop["ScopeName"]["fieldName"]</code>.</p> |
| FLOGO-4628 | <p>Summary: If changes are made to a Swagger specification file and the file is saved with a different name, the changes are not reflected in the app even if you click the Sync Schema button.</p> <p>Workaround: None</p> |
| FLOGO-4625 | <p>Summary: If there are changes in an uploaded Swagger file, a warning message is not displayed requesting the user to update the activity mappings. As a result, you need to navigate to each downstream activity to check for changes in the schema.</p> <p>Workaround: None</p> |
| FLOGO-4583 | <p>Summary: A TIBCO Cloud™ Messaging Subscriber app of type Durable with Content Matcher fails to start, if an app with the same Durable name and Content Matcher was pushed before.</p> <p>Workaround: None</p> |

| Key | Description |
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| FLOGO-4420 | <p>Summary: When mapping arrays, the following validation error is displayed when the source array is a fixed array child:</p> <pre>\$flow.input[0].test.arraysource</pre> <p>Workaround: None</p> |
| FLOGO-4416 | <p>Summary: When using the <code>isdefined()</code> function in a mapper, if you want to validate whether an array is empty and you click the array in the Activity Input section on the left, <code>array.foreach()</code> is erroneously displayed on the right side and the app fails at run time.</p> <p>Workaround: Remove <code>array.foreach()</code> manually before running the app.</p> |
| FLOGO-4387 | <p>Summary: An activity returns a mapper error if the mapped object does not exist, as the <code>FLOGO_MAPPING_SKIP_MISSING</code> environment variable cannot be set in the flow tester.</p> <p>Workaround: None</p> |
| FLOGO-4375 | <p>Summary: When a Kafka app created in a previous version of TIBCO Cloud Integration - Flogo (PAYG) is imported to the current version and you click Edit on the Connections tab, the Use Schema Registry option is not available in the Apache Kafka Client Configuration dialog box.</p> <p>Workaround: Create a new connection and use the connection in the app.</p> |
| FLOGO-4363 | <p>Summary: When an app with different trigger and handler settings is imported, the trigger and handler settings are not replaced after the selective import.</p> <p>Workaround: None</p> |
| FLOGO-4255 | <p>Summary: When you use the same proto file to start a gRPC app binary that has a gRPC trigger and a gRPC activity, the following error message is displayed:</p> <pre>Duplicate proto type registered</pre> <p>or</p> <pre>Duplicate enum registered</pre> <p>Workaround: Ensure that the gRPC trigger and the gRPC activity use different package names in the proto file.</p> |
| FLOGO-4188 | <p>Summary: For OpenTracing, even after terminating an app, recurring warnings are displayed in Jaeger UI.</p> <p>Workaround: None</p> |
| FLOGO-4164 | <p>Summary: While starting a gRPC app binary that has a gRPC trigger and gRPC activity using the same proto file, the following error message is displayed:</p> <pre>Duplicate enum registered</pre> <p>Workaround: Change the package name to a different one to make sure gRPC trigger and gRPC activity use the different package name in proto file.</p> |
| FLOGO-4104 | <p>Summary: When Project Flogo apps are imported, the settings on the Input/Output mappings tab are lost after the Sync Schema option is used.</p> <p>Workaround: None</p> |

| Key | Description |
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| FLOGO-3821 | <p>Summary: While configuring the response code in a REST Trigger, the Response Body and Response Headers must follow the same input schema type. Failing to do so will result in an error.</p> <p>Workaround: Make sure that the Response Body and Response Headers follow the same input schema type.</p> |
| FLOGO-3624 | <p>Summary: In the mapper of an activity, if a field is mandatory and you have not provided a value, an error is not displayed on the activity or flow canvas.</p> <p>Workaround: None.</p> |
| FLOGO-358 | <p>Summary: On macOS, if you run the <code>run-studio.sh</code> installer from a directory that is not shared with the Docker container, the installation fails and the following error is displayed:</p> <p>Mounts denied</p> <p>Workaround: Configure the path to the <code>run-studio.sh</code> file in Docker > Preferences > File Sharing before running the <code>run-studio.sh</code> command.</p> |
| FLOGO-3393 | <p>Summary: If a Kafka producer produces a JSON string, the Kafka consumer does not receive any data.</p> <p>Workaround: None</p> |
| FLOGO-3155 | <p>Summary: If there is no activity on the UI for some time, the UI is redirected to <code>http://localhost:<port>/undefined/idm/logout-request</code>.</p> <p>Workaround: Change the URL and access it again:</p> <p><code>http://localhost:<port>/</code></p> |
| FLOGO-2888 | <p>Summary: You cannot upload Swagger specification definitions which have a cyclic dependency.</p> <p>Workaround: None</p> |
| FLOGO-2886 | <p>Summary: Depending on your machine configuration and browser configuration, you might not be able to upload a large Swagger API definition JSON file or the browser might become unresponsive. The following error message is displayed on the Network tab and the file is not uploaded:</p> <p>Request entity too large</p> <p>Workaround: None</p> |
| FLOGO-2861 | <p>Summary: When uploading custom schema for GraphQL, if the custom schema has a cyclic dependency, the upload fails and the following error is returned:</p> <p>Maximum call stack size exceeded for circular reference</p> <p>Workaround: None</p> |
| FLOGO-2844 | <p>Summary: If you change the input or output schema in a subflow, it does not give any warning or error in mapping in the call flow activity.</p> <p>Workaround: None</p> |

| Key | Description |
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| FLOGO-2720 | <p>Summary: You cannot export app properties from a binary that has an API Gateway or S3 trigger.</p> <p>Workaround: None</p> |
| FLOGO-2594 | <p>Summary: Deploying Lambda apps on AWS using the Flogo engine binary is not supported.</p> <p>Workaround: None</p> |
| FLOGO-2536 | <p>Summary: Importing a Flogo app using Salesforce activities with no connection set in connections page takes longer than expected time to import.</p> <p>Workaround: None</p> |
| FLOGO-2224 | <p>Summary: In a REST trigger, when the endpoints have the same base path but different wildcard in path parameters, the app fails to run resulting in a path conflict error.</p> <p>Workaround: Change the wildcard names such that they match. For example, if you have the following endpoints:</p> <p><code>/books/{name}/id</code> and <code>/books/{name2}/id2</code></p> <p>you must change them to either <code>/books/{name}/id</code> and <code>/books/{name}/id2</code> or <code>/books/{name2}/id</code> and <code>/books/{name2}/id2</code></p> |
| FLOGO-2223 | <p>Summary: When there is a conflict in the path parameters wildcards, even though you see an error in the logs, the app proceeds to run.</p> <p>Workaround: Change the wildcard names.</p> |
| FLOGO-1684 | <p>Summary: When accessing the TIBCO Cloud Integration - Flogo (PAYG) Web UI, if your machine is configured with a static IP address, the following error is displayed:</p> <p>502 Bad Gateway</p> <p>Workaround: Configure the machine IP address as dynamic.</p> |
| WIAVRO-65 | <p>Summary: (TIBCO Flogo® Connector for Apache Avro) For Avro activities, when app-level schemas are used, Avro schemas are not displayed in the list for selecting the schema. Instead, JSON scemas are displayed.</p> <p>Workaround: None</p> |
| WIDBSV-451 | <p>Summary: In a select query with a where clause, if the parameter name is the same as the column name, the return type is incorrect.</p> <p>Workaround: None</p> |

| Key | Description |
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| WIDBSV-37 | <p>Summary: The following sections specify the grammar supported by Flogo DB Service 2.0.1 for SQL SELECT, INSERT and DELETE statements. The grammar follows the standard normative form as described in PostgreSQL documentation.</p> <p>SQL Statement</p> <p>The following grammar is supported for SQL SELECT queries:</p> <pre>[WITH with_query [, ...]] SELECT [[* expression [[AS] output_name] [, ...]] [FROM from_item [, ...]] [WHERE condition] [GROUP BY grouping_element [, ...]] [{ UNION INTERSECT EXCEPT } [ALL] select] [ORDER BY expression [USING operator]] [, ...]] table_name]</pre> <p>The following clauses and parameters are not supported:</p> <pre>[RECURSIVE]] [HAVING condition] { RANGE ROWS GROUPS } frame_start [frame_exclusion] { RANGE ROWS GROUPS } BETWEEN frame_start AND frame_end [frame_exclusion] [DISTINCT] FIRST LAST }]] [LIMIT { count ALL }] [OFFSET start [ROW ROWS]] [FETCH { FIRST NEXT } [count] { ROW ROWS } ONLY] [FOR { UPDATE NO KEY UPDATE SHARE KEY SHARE } [OF [NOWAIT SKIP LOCKED]]</pre> <p>INSERT Statement</p> <p>The following grammar is supported for SQL INSERT statement:</p> <pre>INSERT INTO table_name [(column_name [, ...])] { VALUES ({ expression } [, ...]) [, ...] query } [RETURNING * output_expression]</pre> <p>The following clauses and parameters are not supported:</p> <pre>[WITH [RECURSIVE] with_query [, ...]] [OVERRIDING { SYSTEM USER } VALUE] { DEFAULT VALUES ({ DEFAULT }) } [ON CONFLICT [conflict_target] conflict_action] [[[AS] output_name]]</pre> <p>DELETE Statement</p> <p>The following grammar is supported for SQL DELETE statement:</p> <pre>DELETE FROM table_name [*] [USING using_list] [WHERE condition] [RETURNING * output_expression]</pre> <p>The following clauses and parameters are not supported:</p> <pre>[WITH [RECURSIVE] with_query [, ...]] [ONLY] [[AS] alias] [WHERE CURRENT OF cursor_name] [[[AS] output_name] [, ...]]</pre> <p>SQL Functions (for all Database Connectors)</p> <p>The following SQL functions are not supported:</p> <pre>CONCAT</pre> <p>Workaround: None</p> |

| Key | Description |
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| WIMSSS-92 | <p>Summary: (Microsoft SQL Server) OUTPUT clause in INSERT INTO is not supported. For example, the following INSERT INTO statement does not return the expected value for promotion id:</p> <pre> INSERT INTO promotions (promotion_name, discount, start_date, expired_date) OUTPUT inserted.promotion_id VALUES ('2018 Fall Promotion', 0.15, '20181001', '20181101'); </pre> <p>Workaround: None</p> |
| WIMSSS-284 | <p>Summary: (TIBCO Flogo® Connector for Microsoft SQL Server) When creating a connection with incorrect SSL details, a meaningful error message is not displayed.</p> <p>Workaround: None</p> |
| WIMSSS-268 | <p>Summary: (Microsoft SQL Server) At runtime, XML type not supported.</p> <p>Workaround: None</p> |
| WIMSSS-213 | <p>Summary: (Microsoft SQL Server) If you export or import from 2.8.1 to the current version, an error is shown on the activities even after establishing a connection.</p> <p>Workaround: Refresh the page or click on the respective activity again.</p> <p>Workaround: None</p> |
| WIMYSQ-440 | <p>Summary: (TIBCO Flogo® Connector for Oracle MySQL) If there is no SSL server and you configure the connection as an SSL Connection with the TLS Required option selected, no error is generated at design time. An error is generated only at run time.</p> <p>Workaround: None</p> |
| WIMYSQ-381 | <p>Summary: (Oracle MySQL) If you export or import from 2.8.1 to the current version, an error is shown on the activities even after establishing a connection.</p> <p>Workaround: Refresh the page or click on the respective activity again.</p> |
| WIORA-153 | <p>Summary: (TIBCO Flogo® Connector for Oracle Database) If the password contains a colon (:), an error occurs while connecting to the database.</p> <p>Workaround: None</p> |

| Key | Description |
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| WIPGRS-390 | <p>Summary: (TIBCO Flogo® Connector for PostgreSQL) During an INSERT INTO operation, the following error is displayed:</p> <pre>Execution failed for Activity[<activity name>] in Flow[<flow name>] - query execution failed: missing parameter substitution for: ?<parameter>"</pre> <p>Workaround: Do not use the same set of parameters in the same query (INSERT INTO and UPDATE SET).</p> |
| WIPGRS-387 | <p>Summary: (PostgreSQL) When running the connector with an SSL configuration with incorrect client key and client certificate issues, it results in errors at run time. These issues are not validated at design time.</p> <p>Workaround: None</p> |
| WIPGRS-327 | <p>Summary: (PostgreSQL) If you export or import from 2.8.1 to the current version, an error is shown on the activities even after establishing a connection.</p> <p>Workaround: Refresh the page or click on the respective activity again.</p> |
| WIPGRS-285 | <p>Summary: (PostgreSQL) The PostgreSQL Update activity does not return the expected output when using the returning clause.</p> <p>Workaround: None</p> |
| WIPGRS-282 | <p>Summary: (PostgreSQL) For parameter queries where parameter name is same as data in the query, the connector returns {"records":null} at runtime.</p> <p>Workaround: None</p> |
| WIPGRS-257 | <p>Summary: (PostgreSQL) Postgres values of enum type are encoded instead of the actual value being displayed.</p> <p>Workaround: None</p> |
| WIPGRS-166 | <p>Summary: (PostgreSQL) You cannot use multiple user-defined prepared parameter as a sub-string of another. The following query does not work as dep is a substring of dep1:</p> <pre>select name, dept_name from student where student.dept_name=?dep OR student.dept_name=?dep1;</pre> <p>Workaround: None</p> |
| WISFEI-62 | <p>Summary: If Flogo apps using Salesforce Wave activities are run for longer durations, a token refresh error is displayed.</p> <p>Workaround: Reconfigure the Salesforce connection used in the activities and build the app again.</p> |

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