



# **TIBCO® Data Science - Team Studio**

## **Release Notes**

Version 7.1.0 | September 2023

Document Updated: December 2023

# Contents

---

<b>Contents</b> .....	<b>2</b>
<b>New Features</b> .....	<b>3</b>
<b>Changes in Platform Support</b> .....	<b>4</b>
<b>Changes in Functionality</b> .....	<b>5</b>
<b>Deprecated Features</b> .....	<b>6</b>
<b>Removed Features</b> .....	<b>7</b>
<b>Migration and Compatibility</b> .....	<b>8</b>
<b>Closed Issues</b> .....	<b>9</b>
<b>Known Issues</b> .....	<b>10</b>
<b>TIBCO Documentation and Support Services</b> .....	<b>22</b>
<b>Legal and Third-Party Notices</b> .....	<b>24</b>

# New Features

---

The following features have been added in this release of TIBCO® Data Science - Team Studio.

## **Compute engine enhancement**

Upgraded to Apache Spark 3.3.

## **Addition of Apache Spark specific operators**

- Isolation Forest operator
- Import Excel operator

## **Performance enhancement**

- Integration of TIBCO® Data Virtualization with TIBCO Data Science - Team Studio.
- Added Shared Volume Optimized Data Access for Remote Sources method for accessing data in TIBCO Data Virtualization from TIBCO Data Science - Team Studio.

## **Jupyter Notebook enhancement**

- The rack awareness is disabled for the Jupyter Notebook.

# Changes in Platform Support

---

In this release, platform support for TIBCO® Data Science - Team Studio has changed as follows:

Platform	Status	As of Release
Red Hat Enterprise Linux 8.6	Added	7.1.0
CentOS Stream 9	Added	7.1.0
Debian GNU/Linux 12	Added	7.1.0
Ubuntu 22.04.2 LTS	Added	7.1.0
Oracle Linux Server 8.8	Added	7.1.0
CentOS 8	Removed	7.1.0

For a complete list of supported platforms, see the [Readme file](#).

# Changes in Functionality

---

No functionality changes have been made in this release of TIBCO® Data Science - Team Studio.

# Deprecated Features

---

No features have been deprecated in this release of TIBCO® Data Science - Team Studio.

# Removed Features

---

No features have been removed in this release of TIBCO® Data Science - Team Studio.

# Migration and Compatibility

---

Migration and compatibility are not affected in this release of TIBCO® Data Science - Team Studio.



# Closed Issues

---

The following issues have been fixed in this release of TIBCO® Data Science - Team Studio.

Key	Summary
TDS-889	<b>Summary:</b> If you repeatedly run certain workflows or jobs, it causes the TIBCO Data Virtualization server associated with TIBCO Data Science - Team Studio to run out of memory.
TDS-653	<b>Summary:</b> The Join operator displays an error message when selecting columns with the same name but different case letters. The operator compares the columns in a case-sensitive way.  For example, if a data set has a column name <b>id</b> and another data set has a column name <b>ID</b> , then the <b>Join</b> operator treats them as two different columns.
TDS-430	<b>Summary:</b> All the data sets and operators are run again when you click <b>Run</b> or <b>Step Run</b> in a New Workflow without changing the workflow.
TSDEV-26091	<b>Summary:</b> When a column in the Excel file has mixed data types, the leading row derives the column data type in the Import Excel operator.
TDS-26086	<b>Summary:</b> When an operator fails while creating a table, the table in TIBCO Data Virtualization is deleted but the table exists in the data source. This results in the failure of operators on every subsequent run.

# Known Issues

---

The following issues exist in this release of TIBCO® Data Science - Team Studio.

Key	Summary and Workaround
TDS-1437	<p><b>Summary:</b> In Legacy Workflow, Row Filter, Null Value Replacement, and Variable operator may fail with script mode.</p> <p><b>Workaround:</b> None.</p>
TDS-1345	<p><b>Summary:</b> The backup and restore from version 6.6.0 to 7.1.0 is not supported. This is due to the restrictions made in the Ruby file that handles the migration of the PostgreSQL database.</p> <p><b>Workaround:</b> Upgrade 6.6.0 to 7.0.x, and then 7.0.x to 7.1.0.</p>
TDS-1332	<p><b>Summary:</b> After a workflow finishes running on the cluster, the operators may not display the results.</p> <p><b>Workaround:</b> Modify the upstream most operator and rerun the workflow, or, you can copy the workflow to a new workflow and run them.</p>
TDS-1331	<p><b>Summary:</b> The following connection exception error may appear when a workflow is run.</p> <pre>java.net.ConnectException : Connection refused (Connection refused)</pre> <p><b>Workaround:</b> Rerun the workflow.</p>
TDS-1326	<p><b>Summary:</b> When a workflow is run, the Results console may not show the progress of a workflow.</p> <p><b>Workaround:</b> Refresh your web browser.</p>
TDS-1319	<p><b>Summary:</b> When you are using <b>Read Dataset using Direct</b></p>

Key	Summary and Workaround
	<p><b>Connection</b> in a Jupyter Notebook with the shared file system, writing back to TIBCO Data Virtualization may fail.</p> <p><b>Workaround:</b> Use parquet files instead of CSV files.</p>
TDS-1305	<p><b>Summary:</b> When the owner of a workspace is deleted, you cannot change the data sources of the workflow.</p> <p><b>Workaround:</b> Copy the workflow to the same or a different workspace.</p>
TDS-1274	<p><b>Summary:</b> The output of the Join operator from the Legacy Workflow engine cannot be used as an input for the New Workflow engine if the output column name contains a dot (.).</p> <p><b>Workaround:</b> None.</p>
TDS-1272	<p><b>Summary:</b> An error may appear while using the Jupyter Notebook with Apache Spark Standalone cluster manager version 3.2.</p> <p><b>Workaround:</b> Use the Apache Spark version 3.3 or CDP7 cluster.</p>
TDS-1269	<p><b>Summary:</b> An error may appear while creating the Conda environment due to a difference in the Python components version.</p> <p><b>Workaround:</b> While creating a custom kernel, use the supported version of the Python components mentioned in the Jupyter Notebook.</p>
TDS-1242	<p><b>Summary:</b> The Shared Volume Optimized data access for Remote Sources method may fail when using the Shared File System.</p> <p><b>Workaround:</b> The directory of the schema and the directory used by TIBCO Data Virtualization for Shared File System must be the same.</p>
TDS-1215	<p><b>Summary:</b> The following error may appear when you run a</p>

Key	Summary and Workaround
	<p>workflow.</p> <pre>status : 500, message : workflow not found</pre> <p><b>Workaround:</b> Rerun the workflow.</p>
TDS-1196	<p><b>Summary:</b> The Normalization operator and all the Modeling operators that use the Vector Assembler take longer to complete. This is an issue with Apache Spark version 3.3.</p> <p><b>Workaround:</b> None.</p>
TDS-1178	<p><b>Summary:</b> When the server and user browsers are in different timezones, the logs are displayed without indicating the actual timezone.</p> <p><b>Workaround:</b> None.</p>
TDS-1155	<p><b>Summary:</b> The operators may display truncated results while you are using the CDP7 cluster.</p> <p><b>Workaround:</b> In the TIBCO Data Virtualization configuration of CDP7, set the <b>Default String Length</b> parameter to <b>32678</b> and <b>Concurrent Request Limit</b> to <b>0</b>.</p>
TDS-1069	<p><b>Summary:</b> The Null Value Replacement operator fails to run on wide data with 3,000 columns.</p> <p><b>Workaround:</b> Use the Null Value Replacement operator in multiple phases, where the operator in each step replaces a different subset of columns.</p>
TDS-1040	<p><b>Summary:</b> Jupyter Notebook may get timed out for Job Scheduler when it runs for more than 60 minutes.</p> <p><b>Workaround:</b> Increase the value of the <b>timeout</b> parameter in the <code>jupyterhub_config.py</code> file, and then restart the Notebook container.</p>

Key	Summary and Workaround
	<p>For example, the value of <code>str(60*60*1000)</code> is increased to <code>str(90*60*1000)</code> in the following snippet.</p> <pre>c.ConfigurableHTTPProxy.command = [ 'configurable-http-proxy', '--log-level', proxy_log_level, '--timeout', str(90*60*1000) ]</pre>
TDS-1016	<p><b>Summary:</b> When a workflow is exported from 7.0.0 and imported in 7.1.0, the proxy operators do not appear in the workflow.</p> <p><b>Workaround:</b> After the workflow is imported, the Linux administrator must run the following command:</p> <pre>tds alpine amend</pre>
TDS-972	<p><b>Summary:</b> When an S3 data source is used as the shared file system, the Jupyter Notebook may not work.</p> <p><b>Workaround:</b> Use different data sources as the Shared File System.</p> <p><b>Note:</b> It is recommended not to use an S3 data source as the Shared File System.</p>
TDS-958	<p><b>Summary:</b> While using the Spark Standalone cluster, an error may appear when you try to write data on the shared volume.</p> <p><b>Workaround:</b> Add the following line to the <code>PYSPARK_SUBMIT_ARGS</code> environment variable:</p> <pre>--conf spark.hadoop.fs.permissions.umask-mode=000</pre>
TDS-941	<p><b>Summary:</b> Duplicate entries of data sources result in an error</p>

Key	Summary and Workaround
	<p>while running a workflow.</p> <p><b>Workaround:</b> Delete the data source and reenter the data source.</p>
TDS-928	<p><b>Summary:</b> The workflow variables provided with the REST API to run a workflow override the user-defined workflow variable in Alpine (managed from <b>Actions &gt; Workflow Variables</b> option on the UI).</p> <p><b>Workaround:</b> Validate the workflow variables before running the workflow through the UI.</p>
TDS-923	<p><b>Summary:</b> The dollar (\$) symbol is not accepted as a workflow variable for the regular expression in the Dynamic Column Filter operator.</p> <p><b>Workaround:</b> Use \Z instead of \$ character as a workflow variable.</p>
TDS-855	<p><b>Summary:</b> The operator can fail due to OOTB CDATA configuration in the Amazon Redshift adapter.</p> <p><b>Workaround:</b> Contact the TIBCO Data Virtualization support for the required configuration.</p>
TDS-849	<p><b>Summary:</b> When the <code>Disjoint</code> parameter is set to <code>True</code>, the <b>Random Sampling</b> operator takes a substantial amount of time to run with the S3 data source.</p> <p><b>Workaround:</b> None.</p>
TDS-831	<p><b>Summary:</b> When the <b>Null Value Replacement</b> operator is not configured, an error might occur while running the workflow.</p> <p><b>Workaround:</b> Configure the <b>Null Value Replacement</b> operator.</p>
TDS-826	<p><b>Summary:</b> The Join operator fails when you join by columns where the column name contains multibyte characters such as Chinese, Japanese, or Korean. This is an issue with Spark.</p>

Key	Summary and Workaround
	<p><b>Workaround:</b> Do not use multibyte characters on the joiner columns.</p>
TDS-824	<p><b>Summary:</b> When a user creates a clause in script mode to filter the data in the <b>Row Filter</b> operator, an error message appears if the column name contains Chinese, Japanese, Korean, or special characters such as a dot, or only a number.</p> <p><b>Workaround:</b> Enclose the column names with backticks ( ` ` ) in the clause. For example, if a column name is <code>ab.c</code>, then use <code>`ab.c`</code>.</p> <div data-bbox="418 747 1211 852"> <p><b>Note:</b> The use of dots in column names is not recommended. Some operators may not work when the column name contains a dot.</p> </div>
TDS-802	<p><b>Summary:</b> The Docker container cannot resolve the DNS name mapped with the TIBCO Data Virtualization services.</p> <p><b>Workaround:</b> Install TIBCO Data Science - Team Studio and TIBCO Data Virtualization on a different machine.</p>
TDS-762	<p><b>Summary:</b> The <b>Stop</b> button in the workflow canvas does not stop the actual Spark job in a <b>New Workflow</b> engine.</p> <p><b>Workaround:</b> To stop the application using the Spark web user interface, perform these steps:</p> <ol style="list-style-type: none"> <li>1. Access the Spark master web user interface of the configured data source.</li> <li>2. Navigate to a driver or application that you want to stop, and click <b>Kill</b>.</li> </ol> <p>To stop the application using the Hadoop YARN user interface, perform these steps:</p> <ol style="list-style-type: none"> <li>1. Access the Hadoop YARN web user interface of the configured data source.</li> </ol>

Key	Summary and Workaround
	<p>2. Navigate to a driver or application that you want to stop, and click <b>Kill Application</b>.</p>
TDS-746	<p><b>Summary:</b> A temporary schema (<b>Compute_temp</b>) is available in TIBCO Data Science - Team Studio for the model trainer operators that do not provide UI for the user to specify the output schema.</p> <p><b>Note:</b> Do not use <b>Compute_temp</b> schema for your workflow.</p> <p><b>Workaround:</b> None.</p>
TDS-745	<p><b>Summary:</b> The model imported in the <b>New Workflow</b> engine using the <b>Load Model</b> operator does not display the summary of the loaded model.</p> <p><b>Workaround:</b> None.</p>
TDS-742	<p><b>Summary:</b> The <b>Export to SBDF</b> and <b>Export Model to Workspace</b> operators fail for larger data sets. The following error message appears due to the file size limit of the Chorus workspace:</p> <pre>java.lang.Exception: could not create file because of: status=422</pre> <p><b>Workaround:</b> Increase the file size of work files in <code>file_sizes_mb.workfiles</code>.</p> <p><b>Note:</b> The maximum limit applicable for the <code>file_sizes_mb.workfiles</code> configuration is 2,048 MB.</p>
TDS-737	<p><b>Summary:</b> The <b>PCA</b> operator fails with a data set that has more than 1,000 columns because of an issue in Apache Spark.</p> <p><b>Workaround:</b> None.</p>
TDS-731	<p><b>Summary:</b> The following errors may appear when you edit a</p>



Key	Summary and Workaround
	<p>workflow:</p> <pre data-bbox="440 348 1227 436">actor name is not unique!</pre> <p><b>Workaround:</b> Close the workflow and then reopen it.</p>
TDS-723	<p><b>Summary:</b> When using a Notebook as a <b>Python Execute</b> operator in legacy workflows, the operator remains invalid when passing three substitute inputs.</p> <p><b>Workaround:</b> The <code>cc.write_output_file</code> in the notebook python code (<code>use_output_substitution=True</code> argument) should either have an explicit <code>header=False</code> argument or should not have any header argument.</p> <p><b>Note:</b> The CSV file data used as inputs should not have a header line.</p> <p>If the <b>Python Execute</b> operator is a terminal operator in a workflow or if the <code>cc.write_output_file</code> does not have <code>use_output_substitution</code> as <code>True</code>, then the header argument can be either <code>True</code> or <code>False</code>.</p>
TDS-676	<p><b>Summary:</b> When all the columns are removed while running the <b>Column Cleanser</b> operator, the results are not visible.</p> <p><b>Workaround:</b> Refresh the workflow page.</p>
TDS-659	<p><b>Summary:</b> If your computer goes into sleep mode while running a workflow, then <b>Click on individual operators to see their output</b> logs may appear on the result tab.</p> <p><b>Workaround:</b> Refresh your web browser or reopen the workflow.</p>
TDS-571	<p><b>Summary:</b> An error might occur while using a <b>Output Table</b> name that exists in the underlying data source.</p> <p><b>Workaround:</b> Use a new name in the <b>Output Table</b> parameter</p>

Key	Summary and Workaround
	or contact the system administrator to remove the existing table from the underlying data source.
TDS-568	<p><b>Summary:</b> The <b>Set Operations</b> operator accepts a maximum of two data sets as inputs.</p> <p><b>Workaround:</b> None.</p>
TDS-567	<p><b>Summary:</b> The <b>Join</b> operator accepts a maximum of two data sets as inputs.</p> <p><b>Workaround:</b> None.</p>
TDS-537	<p><b>Summary:</b> When the <b>Run Now</b> button is clicked in the workflow summary page, the <b>Activity</b> tab does not provide information about the workflow execution. However, the results can be viewed from the <b>Your Workflow Results</b> option.</p> <p><b>Workaround:</b> None.</p>
TDS-534	<p><b>Summary:</b> Some operators do not respond to the <b>Store All Results</b> option in <b>Legacy Workflow Engine</b>.</p> <p><b>Workaround:</b> None.</p>
TDS-319	<p><b>Summary:</b> The <b>Copy Between Databases</b> option is not supported for TDV object storage.</p> <p><b>Workaround:</b> None.</p>
TSDEV-25979	<p><b>Summary:</b> When you insert data sets into a TIBCO® Data Virtualization data source from a Python notebook, ensure that the <code>tdv_scripts_location</code> in the <code>ChorusCommander</code> field matches the one set in your <code>alpine.config</code> file. By default, <code>cc.tdv_scripts_location</code> is set to <code>Util</code>.</p> <p><b>Workaround:</b> For example, if your <code>startBatch</code>, <code>addBatch</code>, and <code>loadBatch</code> scripts are in a TIBCO® DV schema called <code>Utilities</code>, then use <code>cc.tdv_scripts_location='Utilities'</code> before calling <code>cc.write_output_table</code>.</p>

Key	Summary and Workaround
TSDEV-25838	<p><b>Summary:</b> In the case of parquet library conflict, operators cannot write or infer parquet files successfully for EMR data sources.</p> <p><b>Workaround:</b> In this case, use Avro or CSV as the output format from operators.</p>
TSDEV-25835	<p><b>Summary:</b> <b>R Execute</b> operator does not work with EMR S3 and CDP7.</p> <p><b>Workaround:</b> None.</p>
TSDEV-25810	<p><b>Summary:</b> The column names for TIBCO Data Virtualization metadata tables are stored in the order in which they are modified, so when TIBCO® Data Science - Team Studio queries the metadata table, the column names can be displayed in the wrong order in its user interface.</p> <p><b>Workaround:</b> You can correct this problem by republishing the view/table in TIBCO Data Virtualization with the correct column order.</p>
TSDEV-25806	<p><b>Summary:</b> TIBCO Data Virtualization object storage does not support the <b>Python Execute</b> operator with Notebooks.</p> <p><b>Workaround:</b> None.</p>
TSDEV-25776	<p><b>Summary:</b> For the TIBCO Data Virtualization data source, the <b>Copy to Database</b> operator (<b>Copy mode &gt; Parallel</b> option) does not work. The operator displays an explicit error message, prompting you to use the Simple mode for copying.</p> <p><b>Workaround:</b> To use the <b>Copy to Database</b> operator with a TIBCO Data Virtualization data source, use Simple mode.</p>
TSDEV-25774	<p><b>Summary:</b> The <b>Copy to Hadoop</b> operator does not support appending to an existing Parquet or Avro file on HDFS. This process is not supported by the Hadoop API used by TIBCO® Data Science - Team Studio.</p>

Key	Summary and Workaround
	<b>Workaround:</b> None.
TSDEV-25747	<p><b>Summary:</b> The Use Array parameter of <b>Pivot</b> operator does not work with a TIBCO Data Virtualization data source because TIBCO Data Virtualization does not support array types.</p> <p><b>Workaround:</b> None.</p>
TSDEV-25657	<p><b>Summary:</b> An exported workflow lost many operators from the original workflow.</p> <p><b>Workaround:</b> By using SSH access, the administrator can edit the <code>workfileid.inf</code> file to change the version number in the file to the latest version of the work file.</p> <p>You can find this file under <code>/usr/chorus/shared/ALPINE_DATA_REPOSITORY/flow/Public/</code>.</p> <p>The latest version of the file can be found at <code>/usr/chorus/shared/ALPINE_DATA_REPOSITORY/flow_version</code> directory.</p>
TSDEV-25472	<p><b>Summary:</b> A PySpark notebook that uses Avro can fail.</p> <p><b>Workaround:</b> Change the PySpark initialization to <code>os.environ['PYSPARK_SUBMIT_ARGS'] = "--master yarn-client --num-executors 1 --executor-memory 1g --packages org.apache.spark:sparkavro_2.11:2.4.3 pyspark-shell"</code>. Older PySpark notebooks accessing avro files must be migrated to use this change for the notebooks to work with the new notebook server.</p> <p>This is a known issue with Spark. See <a href="#">SPARK-27623</a> for more information.</p>
TSDEV-23858	<p><b>Summary:</b> After updating the email configuration through the user interface, you must restart the server for the configuration changes to take effect.</p> <p><b>Workaround:</b> None.</p>

Key	Summary and Workaround
TSDEV-22930	<p><b>Summary:</b> The compression format, Snappy, is not supported by the CSV file format.</p> <p><b>Workaround:</b> For this file format, use another compression format.</p>
TSDEV-22859	<p><b>Summary:</b> If you try to run Spark normalization on a wide data set, it fails due to an issue in Spark versions before 2.3.</p> <p><b>Workaround:</b> Use the MR version on a wide dataset, or set the option not to use Spark.</p>
TSDEV-22778	<p><b>Summary:</b> In the <b>Hadoop Join</b> operator, clicking a checkbox to add or remove a column does not work.</p> <p><b>Workaround:</b> Double-click the checkbox to select the checkbox for adding or removing columns in a <b>Hadoop Join</b> operator. This issue occurs due to a limitation in the user interface framework.</p>

# TIBCO Documentation and Support Services

---

For information about this product, you can read the documentation, contact TIBCO Support, and join TIBCO Community.

## How to Access TIBCO Documentation

Documentation for TIBCO products is available on the [Product Documentation website](#), mainly in HTML and PDF formats.

The [Product Documentation website](#) is updated frequently and is more current than any other documentation included with the product.

## Product-Specific Documentation

The documentation for this product is available on the [TIBCO® Data Science - Team Studio Product Documentation](#) page.

## How to Contact Support for TIBCO Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about products you are interested in, visit our [product Support website](#).
- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the our [product Support website](#). If you do not have a username, 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 [TIBCO Community](#).

# Legal and Third-Party Notices

---

SOME CLOUD SOFTWARE GROUP, INC. (“CLOUD SG”) SOFTWARE AND CLOUD SERVICES EMBED, BUNDLE, OR OTHERWISE INCLUDE OTHER SOFTWARE, INCLUDING OTHER CLOUD SG SOFTWARE (COLLECTIVELY, “INCLUDED SOFTWARE”). USE OF INCLUDED SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED CLOUD SG SOFTWARE AND/OR CLOUD SERVICES. THE INCLUDED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER CLOUD SG SOFTWARE AND/OR CLOUD SERVICES OR FOR ANY OTHER PURPOSE.

USE OF CLOUD SG SOFTWARE AND CLOUD SERVICES IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER AGREEMENT WHICH IS DISPLAYED WHEN ACCESSING, DOWNLOADING, OR INSTALLING THE SOFTWARE OR CLOUD SERVICES (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH LICENSE AGREEMENT OR CLICKWRAP END USER AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE SAME TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of Cloud Software Group, Inc.

TIBCO, the TIBCO logo, the TIBCO O logo, Spotfire, and Alpine Data Labs are either registered trademarks or trademarks of Cloud Software Group, Inc. in the United States and/or other countries.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only. You acknowledge that all rights to these third party marks are the exclusive property of their respective owners. Please refer to Cloud SG’s Third Party Trademark Notices (<https://www.cloud.com/legal>) for more information.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

Cloud SG software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. See the “readme” file for the availability of a specific version of Cloud SG software on a specific operating system platform.



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

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. CLOUD SG MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S), THE PROGRAM(S), AND/OR THE SERVICES DESCRIBED IN THIS DOCUMENT AT ANY TIME WITHOUT NOTICE.

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

This and other products of Cloud SG may be covered by registered patents. For details, please refer to the Virtual Patent Marking document located at <https://www.tibco.com/patents>.

Copyright © 2017-2023. Cloud Software Group, Inc. All Rights Reserved.