



THE POWER TO TRUST

# Data3Sixty<sup>®</sup> Analyze

Release Notes

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## Table of contents

|   |           |
|---|-----------|
| <b>1. Welcome to Data3Sixty Analyze</b> ..... | <b>1</b>  |
| 1.1 Release overview .....                    | 1         |
| 1.2 Setup requirements .....                  | 3         |
| <b>2. Latest release - 3.4.0</b> .....        | <b>6</b>  |
| 2.1 New features and enhancements .....       | 7         |
| 2.2 Corrected issues .....                    | 9         |
| <b>3. Known issues and limitations</b> .....  | <b>15</b> |
| 3.1 Third parties .....                       | 15        |
| 3.2 Web application .....                     | 16        |
| <b>4. Contact us</b> .....                    | <b>18</b> |

# 1. Welcome to Data3Sixty Analyze

Data3Sixty Analyze is a web application that provides a comprehensive solution for agile data management and analysis, allowing you to build analytic applications that can be shared across teams with other Data3Sixty Analyze users. For more information about our Data3Sixty Analyze server and desktop product options, please visit

<https://www.infogix.com/data3sixty/analyze/analyze-download/>.

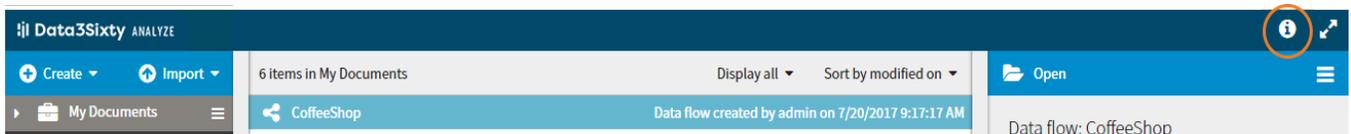


**Note:** This document provides release information for all releases of Data3Sixty Analyze from version 3.4.0 onwards. If you require release information for a previous release of Data3Sixty Analyze, please contact us at [help.lavastorm.com](http://help.lavastorm.com).



**Note:** Version 3.4.0 is a Long Term Support (LTS) release version of Data3Sixty Analyze.

For information on installing Data3Sixty Analyze, please see the installation guide. Once you are up and running, you can access the Getting Started guide in the integrated product help by clicking the Help icon in the corner of the screen:



## 1.1 Release overview

Data3Sixty Analyze enables you to acquire data from one or more sources, then analyze, reconcile, and transform the data before publishing to a file, database or external system.

### Acquire data

You can import data from sources such as Microsoft Excel or CSV, or from big data platforms such as Hadoop or MongoDB by using one of the Input Connector nodes.

## Build data flows to analyze your data

You can create data flows by connecting nodes and configuring their properties to customize the analysis that is performed on the underlying data at each step. Each node performs an operation on the input data and provides output data for subsequent nodes. To help beginner and intermediate users get started, you can filter the number of nodes that are displayed to show only a curated set of commonly used nodes. If you are looking for our more advanced nodes, you can easily switch to display all available nodes, or search to find a specific node.

At each step through your data flow, you can view the underlying data in the data viewer, allowing you to validate the business logic and to discover patterns in the data which suggest new avenues of inquiry. When viewing large data sets, you can filter and sort the data to display only relevant information.

Data flows are executed interactively using the tools in the Designer user interface. Depending on your license, you can also configure data flows to automatically execute on a scheduled basis.

## Simplify and reuse

You can simplify complex data flows by grouping subsets of nodes into a single composite node, and you can create custom library nodes for reuse in multiple data flows.

## Share and publish results

You can share custom nodes and data flows with other users. Data from any point within the data flow can be exported to an external file for external viewing and sharing.

Finally, you can publish the results of your analysis to a file or another system, for example to Microsoft Excel or to a data visualization tool such as Tableau or Qlik by using one of the Output Connector nodes.

## Manage permissions

In the Server product, administrators can set permissions on documents and folders in the Directory to grant or restrict access to specific users, groups of users or users who are assigned to a specific user role.

## 1.2 Setup requirements

|                            | Server  | Desktop  |
|----------------------------|---|--|
| <b>Supported platforms</b> | <p>The following operating systems are supported on the Data3Sixty Analyze server product:</p> <ul style="list-style-type: none"><li>• Windows Server 2016 64-bit (Server with Desktop Experience)</li><li>• Windows Server 2012R2 64-bit</li><li>• RedHat Enterprise 6.X 64-bit</li><li>• RedHat Enterprise 7.X 64-bit</li><li>• SUSE Linux Enterprise Server 12 SP3</li></ul> | <p>The following operating systems are supported on the Data3Sixty Analyze single-user desktop product:</p> <ul style="list-style-type: none"><li>• Windows 7 64-bit</li><li>• Windows 10 64-bit</li></ul> |
|                            | <p>The following browsers are supported on both server and desktop:</p> <ul style="list-style-type: none"><li>• Chrome</li><li>• Internet Explorer 11</li></ul>   |  |

|   | Server   | Desktop  |
|---|--|--|
| <b>System requirements</b>                    | <p>The minimum hardware specification for the server product is as follows:</p> <ul style="list-style-type: none"> <li>• 8GB RAM base + 1GB for Database + 2GB per core.</li> <li>• Minimum 4 cores for an on-premises server instance.</li> </ul> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p> <b>Note:</b> As the number of users and/or the number of scheduled jobs increases, you should look to increase the number of cores and thus memory.</p> </div> <p>For installations on Windows Server, you must install the required <a href="#">Visual C++ Redistributable Packages for Visual Studio 2013</a>.</p> | <p>The minimum hardware specification for the desktop product is as follows:</p> <ul style="list-style-type: none"> <li>• 8GB RAM.</li> <li>• Intel Core i5 or 4-core equivalent processor minimum (i7 recommended).</li> </ul> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p> <b>Note:</b> The Power R node and the nodes in the Statistical and Predictive Node Pack process data in-memory. Additional RAM will be required when processing data sets with a large volume of data. Similarly, if the R node is used, the machine hosting the R environment must have sufficient available RAM to process the data.</p> </div> |
| <b>App server databases</b>                   | Postgres   | H2   |
| <b>Authentication servers (server only)</b>   | <ul style="list-style-type: none"> <li>• Active Directory</li> <li>• OpenLDAP</li> </ul>   | N/A  |
| <b>Authentication protocols (server only)</b> | <ul style="list-style-type: none"> <li>• LDAP</li> <li>• LDAPS</li> </ul>  | N/A  |
| <b>App servers</b>                            | Tomcat 9.0.16  |  |

|                             | Server  | Desktop |
|-----------------------------|---|---------|
| <b>Accessible databases</b> | Within the Designer, you can connect your analytic application to a number of databases. The following accessible databases are supported: <ul style="list-style-type: none"><li>• Oracle 11g, 12c</li><li>• Teradata 14.10 / 15.10</li><li>• MySQL</li><li>• MS SQL Server 2012</li><li>• MongoDB 2.4.9</li><li>• Spark 1.5.0</li><li>• Hadoop 2.6.0</li></ul> |         |

## 2. Latest release - 3.4.0

The availability of the following new features, enhancements and corrected issues is dependent on the installed edition of the product and licensed features:

- ★ New      Modify Fields node
- ★ New      New Generate Data node
- ★ New      Dummy Input node superseded
- ★ New      Backward compatibility
- ★ New      Node keyword search
- ✓ Fix      Lucene library
- ✓ Fix      Data viewer
- ✓ Fix      JDBC drivers
- ✓ Fix      Properties panel
- ✓ Fix      Amazon Redshift
- ✓ Fix      Correlation nodes
- ✓ Fix      Head node
- ✓ Fix      Modify Fields node
- ✓ Fix      Send Email node
- ✓ Fix      Switch node
- ✓ Fix      Clock

- ✓ Fix Data sets
- ✓ Fix Error reporting
- ✓ Fix ERP Table
- ✓ Fix Brainscript sum and count macros
- ✓ Fix BRG import

## 2.1 New features and enhancements

### Node enhancements

| Feature            | Description  |
|--------------------|--|
| Modify Fields node | <p>Auto type detection</p> <p>You can now use the <b>Auto</b> type conversion option to detect the input field type on string and unicode fields, and automatically convert the corresponding output field to an appropriate type, for example long or int.</p> <p>ConvertLeadingZeroes option</p> <p>Using the ConvertLeadingZeroes option you can specify whether or not string and unicode fields that contain leading zeros are automatically converted to long or int output fields when the "Auto" type detection and conversion option is selected.</p> <p>For more information, see the "Modify Fields" node help topic.</p> |

| Feature                     | Description  |
|-----------------------------|--|
| New Generate Data node      | <p>A new node, <b>Generate Data</b>, has been added.</p> <p>You can use this node to create data from a python script, enabling you to generate output data without needing an input.</p> <p>For example, using the <b>ConfigureFields</b> option, you can generate two output fields:</p> <pre>out1.Text= str out1.LastWeek = datetime.datetime</pre> <p>You can then use the <b>CreateRecords</b> option to write output records containing data for those fields:</p> <pre>out1.Text= 'Test ' out1.LastWeek = datetime.datetime.now() - datetime.timedelta(days=7)</pre> <p>When you run the node, the output <b>out1</b> will contain a record consisting of two fields called "Text" and "LastWeek". The value of the "Text" field in the output is <code>Test</code>, and the value of "LastWeek" is a datetime value of seven days before the node was run.</p> <p>For more information, see the "Generate Data node" help topic.</p> |
| Dummy Input node superseded | The <b>Dummy Input</b> node is superseded by the <b>Create Data</b> node and the new <b>Generate Data</b> node.  |

## LNA files

| Feature                | Description  |
|------------------------|--|
| Backward compatibility | Any data flows exported as LNA files from version 3.4.x of Data3Sixty Analyze can be imported to any other 3.4.x version. This will allow backward compatibility in future versions of Data3Sixty Analyze. |

## UI enhancements

| Feature             | Description  |
|---------------------|--|
| Node keyword search | <p>You can now search for nodes in the <b>Nodes</b> panel by using pre-defined keywords as well as searching by node name. This can make finding the right node easier when you don't already know the name of the node you are looking for.</p> <p>For example, the <b>Directory List</b> node can be found by entering the keywords 'file' or 'folder' as well as by entering any part of the name of the node itself. Similarly, using the keyword 'merge' now lists the complete set of Correlation nodes.</p> <p>For more information, see the "Browsing for nodes" help topic.</p> |

## 2.2 Corrected issues

| Issue Summary   | Issue Number |
|---|--------------|
| <p>Lucene library</p> <p>Fixed a problem with the Lucene library that could cause index corruption.</p> <div style="border: 1px solid #0070C0; padding: 5px;"><p> <b>Tip:</b> Any customers with suspected index corruption should contact support for help.</p></div> | LAE-21259    |
| <p>Data viewer</p> <p>Fixed a problem where the sort order on a date field in the data viewer was reversed when using the Add nodes to data flow option in the data viewer to add a Sort node.</p>  | LAE-9802     |

| Issue Summary   | Issue Number   |
|---|--|
| <p>JDBC drivers</p> <p>The following JDBC drivers have been updated for this release:</p> <ul style="list-style-type: none"> <li>• SQL Server</li> <li>• Oracle</li> <li>• MariaDB</li> <li>• Redshift</li> <li>• Postgres</li> </ul> | <p>LAE-21272</p> <p>LAE-21273</p> <p>LAE-21274</p> <p>LAE-21275</p> <p>LAE-21276</p> |
| <p>Properties panel</p> <p>Fixed an issue where the Properties panel did not open when the correct keyboard shortcut was used (Ctrl+3).</p>   | <p>LAE-21360</p>   |
| <p>Amazon Redshift</p> <p>Fixed an issue where selecting Amazon Redshift for the value of <b>DbType</b> did not work properly, resulting in error messages.</p>   | <p>LAE-21336</p>   |
| <p>Correlation nodes</p> <p>A number of improvements have been made to the stability of the <b>Lookup</b>, <b>Join</b>, and <b>Merge</b> nodes.</p>   | <p>LAE-9337</p> <p>LAE-10273</p> <p>LAE-10878</p>                                    |
| <p>Head node</p> <p>Performance improvements have been made to the <b>Head</b> node, for example in situations where the node produces a large number of records from an input with a large number of fields.</p>                     | <p>LAE-21280</p>   |

| Issue Summary  | Issue Number |
|--|--------------|
| <p>Modify Fields node</p> <p>Additional properties have been added to the Modify Fields node to improve error handling:</p> <ul style="list-style-type: none"> <li>• <code>ErrorOutputIncludesExcludedFields</code> - when set to true, the error output does not include fields that have been excluded and would not show up on the main output.</li> <li>• <code>GeneratedFieldsPrefix</code> - sets a prefix for fields in the error output.</li> <li>• <code>SingleErrorRecordPerInputRecord</code> - when set to true, each input record generates a maximum of one error output record, rather than one error record per field conversion error.</li> </ul> | LAE-21306    |
| <p>Previously, rename patterns were available in the <b>Modify Fields</b> node only where fields were included in the output by default. When fields were excluded from the output by default, you could still enter a rename pattern for the checked and included fields, but the pattern was not applied when the node was run. The pattern now applies whether fields are included or excluded by default.</p>  | LAE-21296    |
| <p>Send Email node</p> <p>Fixed an issue where the <b>Send Email</b> node failed to send multiple attachments if there was a space between them in the file list.</p>  | LAE-21315    |
| <p>Fixed an issue where the <b>Send Email</b> node sent an e-mail even when it reported an error, for example if a specified attachment cannot be found.</p>   | LAE-21311    |
| <p>The <b>Send Email</b> node now supports comma-separated lists of email addresses in the <b>ToAddress</b> and <b>CcAddress</b> fields for improved SMTP server compatibility. Existing address lists that are delimited by a semi-colon will continue to work as before, with the semi-colon converted to a comma before the list is processed.</p>  | LAE-10691    |

| Issue Summary  | Issue Number                                       |
|--|--|
| <p>Switch node</p> <p>Fixed an issue where clearing the <b>Switch</b> node incorrectly removed the temp file that was produced by its upstream node.</p>   | <p>LAE-9374</p>                                    |
| <p>Clock</p> <p>In some cases, warnings and errors would appear relating to clock (run dependencies) not being compiled correctly. This could happen when the clock was coming out of a node that did not have all of its inputs correctly wired, or from a node where something upstream from that node either did not have all of its inputs correctly wired, or was disabled.</p> | <p>LAE-21301</p> <p>LAE-21290</p> <p>LAE-10864</p> |
| <p>Data sets</p> <p>Fixed an issue with nested loops where something within the nested loop path that was not correctly connected or disabled resulted in compilation warnings and subsequent errors.</p>  | <p>LAE-10860</p>                                   |
| <p>Error reporting</p> <p>Error reporting has been improved for unexpected node failures, for example as a result of missing jars or bad classpath construction.</p>   | <p>LAE-21300</p>                                   |

| Issue Summary | Issue Number |
|---------------|--------------|
|---------------|--------------|

ERP Table

Fixed an issue where the **Extract ERP Table** sometimes returned duplicate or incorrect data.

LAE-10889

The following properties have been added to the node:

- `MaxOptionsSize` - handles large OPTIONS generated for record extracts. The default value is 3000.
- `MaxOptionsLineSize`- for custom RFCs if the RFC has a max size other than 72 characters for the OPTIONS clause. The default value is 72.
- `ExtractedDateFormat`, `ExtractedTimeFormat` - for date and time formats for custom RFCs
- `PassThroughFields`- use this property when running the node with an input pin. The default value is **None**.
- `JcoProperties`- for advanced properties to pass to Jco, such as trace settings.
- `MaxHeapSize` - allows for changing the heap size for the node when running larger extracts that require more memory. The default value is 2 GB.

The `ExecutionIdentifierField` and `ExcludeOutputIdentifiers` properties have been removed from the node.

The `RowSkips` property is no longer recommended. A warning is generated when this node is used.

The node will generally require more memory than previously.

For more information, see the "Extract ERP Table" help topic.

| Issue Summary   | Issue Number                                   |
|---|--|
| <p data-bbox="181 352 662 384">Brainscript sum and count macros</p> <p data-bbox="181 401 1047 653">The brainscript sum and count macros had previously been deprecated. Using these macros would cause an error stating that groupSum and groupCount should be used instead. To improve upgrading and migration to new versions of Data3Sixty Analyze, these macros will now no longer result in errors. Instead, when they are encountered, the groupSum and groupCount macros will be invoked.</p> | <p data-bbox="1179 401 1321 426">LAE-21294</p> |
| <p data-bbox="181 741 354 772">BRG import</p> <p data-bbox="181 789 1047 894">Fixed an issue on BRG import where the import failed if an input or output that was referenced in a connection could not be found. The import now completes with a warning.</p>   | <p data-bbox="1179 789 1321 814">LAE-10662</p> |

## 3. Known issues and limitations

We would like to make you aware of the following list of issues and limitations.

If you encounter any other technical issues, please get in touch with us by visiting the [forum](#). If your query has not been discussed previously in the forums, you can create a new topic and receive answers from our Data3Sixty Analyze experts.

### 3.1 Third parties

The following table lists third party known issues and limitations:

| Feature | Description  |
|---------|--|
| Apache  | <p>The Spark SQL Query node has highlighted some Apache issues in the following scenarios:</p> <ul style="list-style-type: none"><li>• Selecting a field with binary type fails with the exception "UnresolvedUnionException: Not in union [\"bytes\", \"null\"]". This is already raised on Apache JIRA: <a href="https://issues.apache.org/jira/browse/AVRO-1401">https://issues.apache.org/jira/browse/AVRO-1401</a></li><li>• Describe operation returns 3 fields (col_name, col_type, comment) however the comment field is handled as not "nullable" but returns a NULL value.</li></ul> <p>The Spark SQL Query node processes against Hive tables. When Hive tables are processed by the cluster, the minimum memory requirement is higher compared to the memory required to run other Spark nodes that do not access Hive. The DriverMemory and ExecutorMemory both have a minimum 5G threshold. We recommend that you increase this for larger environments.</p> |
| Avro    | <p>The Avro 1.7.7 specification lists some supported metadata constraints. Specifically, it places restrictions on the names of fields, as follows:</p> <ul style="list-style-type: none"><li>• The field names must start with [A-Za-z_]</li><li>• The field names must only contain [A-Za-z0-9_]</li></ul> <p>Avro 1.7.7 does not support date, time and datetime data types. As a result, if you want to upload data and use the Data3Sixty Analyze nodes, these fields will need to be converted to string data types.</p>   |

| Feature             | Description   |
|---------------------|---|
| Hadoop Hive Cluster | <p>When downloading files from the Hadoop Hive Cluster, the WebHDFS API automatically encodes files to base64 format. As a result, it is not always possible to view the contents of the download in the fields on the output.</p> <p>For example, if the <b>DataOutputMode</b> property is set to <b>Field</b>, due to the automatic base64 encoding, the encoded result will be visible instead of the contents.</p> <p>To view the contents, set the <b>DataOutputFieldEncoding</b> property to <b>None</b>. However, this is not always possible due to invalid characters in the original file; in this case, the workaround is to set the <b>DataOutputMode</b> to <b>File</b> and then import the data using one of the input connector nodes.</p> |

## 3.2 Web application

The following table lists Data3Sixty Analyze known issues and limitations:

| Feature  | Description  |
|--|--|
| Data viewer  | <p>A sample of up to the first 1000 records of node data can be displayed in the data viewer.</p> <p>The data viewer only shows the first line of multi-line values. You can hover over the cell to show the full multi-line value in a tooltip. Selected records can also be copied from the data viewer to another application (e.g. Notepad).</p>   |
| Composite library nodes created in previous versions | <p>When importing or running a data flow that was created in an older version of the product, you may see error messages if the data flow contains composite library nodes that have been upgraded since the data flow was first created. If the data flow did not previously show these errors, you can resolve the issues as follows:</p> <ol style="list-style-type: none"> <li>1. Open the data flow and select all nodes.</li> <li>2. Choose <b>Apply Auto-Fixes</b>.</li> <li>3. Save the data flow, then return to the Directory before reopening the data flow.</li> </ol> |
| Links from tooltips to help                          | <p>Although it is not currently possible to open the integrated help from the links in node property tooltips, you can manually navigate to the help by pressing <b>F1</b> then searching for the relevant topic.</p>  |



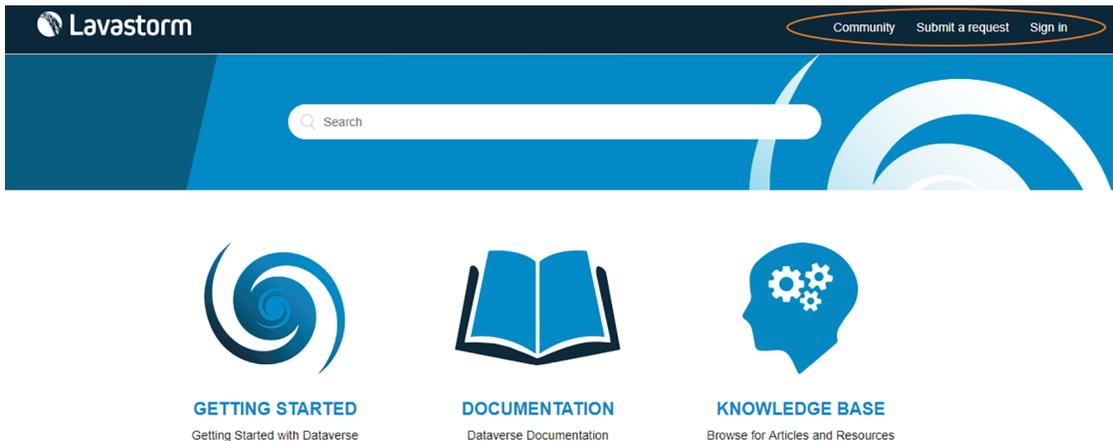
| Feature                  | Description   |
|--------------------------|---|
| Logistic Regression node | The Logistic Regression node does not support Unicode for categorical data. |

## 4. Contact us

If you encounter any technical issues, we recommend that you visit the forums at [help.lavastorm.com](http://help.lavastorm.com). If your query has not been discussed previously in the forums, you can create a new topic and receive answers from our product experts.

Alternatively, you can log a support ticket:

1. Select **Sign in** from the top right corner of the screen:



If you are not already a registered Support Portal user, click **Sign up**:

The image shows the 'Sign in to Lavastorm' form. It includes an 'Email' input field, a 'Password' input field, and a 'Stay signed in' checkbox. Below these is a dark grey 'Sign in' button. Underneath the button, it says 'Your credentials will be sent over a secure connection'. There are also links for 'Cancel', 'Forgot my password', 'New to Lavastorm? Sign up' (with 'Sign up' circled in orange), and 'Have you emailed us? Get a password'.

2. Once you have registered and signed in, select **Submit a request** from the top right corner of the screen.
3. Complete all fields, then click **Submit** at the bottom of the screen.



## Download

We recommend that you use the latest version of the product. To download Data3Sixty Analyze, please go to <https://www.infogix.com/data3sixty/analyze/analyze-download/>.

Our product is constantly evolving and input from you is highly valued. If you have any suggestions, please go to the [Community page](#) and add a new feature request.

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