



THE POWER TO TRUST

# Data3Sixty<sup>®</sup> Analyze

Release Notes

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# 1. Setup requirements

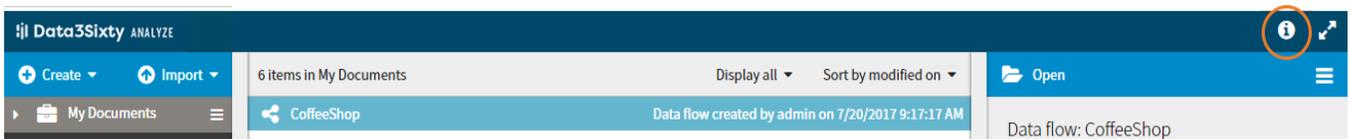
	Server	Desktop
<b>System requirements</b>	<p>The minimum hardware specification for the server product is as follows:</p> <ul style="list-style-type: none"><li>• 8GB RAM base + 1GB for Database + 2GB per core.</li><li>• Minimum 4 cores for an on-premises server instance.</li></ul> <div data-bbox="423 783 912 1066"><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 Visual C++ Redistributable Packages:</p> <ul style="list-style-type: none"><li>• <a href="#">Visual C++ Redistributable Packages for Visual Studio 2008.</a></li><li>• <a href="#">Visual C++ Redistributable Packages for Visual Studio 2013.</a></li></ul> <div data-bbox="412 1451 1442 1698"><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>	<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>

	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 browsers are supported on both server and desktop:</p> <ul style="list-style-type: none"> <li>• Chrome</li> <li>• Internet Explorer 11</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>
<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	

## 2. Latest release - 3.5.0

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 [support.infoqix.com](http://support.infoqix.com).

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:



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

### 2.1 What's new

#### Data Profiler node

The new Data Profiler node allows you to examine input data to determine its data type and statistical composition. The node outputs a detailed JSON description that you can then use for further analysis. The description includes details of the data such as its current and new data type, minimum and maximum values, the number of values that match the analysis and a confidence measure for the data field, and counts of null or blank fields.

You can add your own Logical types - also known as semantic types - to those detected by default by the Data Profiler node. To do this, you provide a JSON specification that the Data Profiler node uses to identify a type. For example, you can specify the regular expression `\\d{3}-\\d{2}-\\d{4}` to detect Social Security Numbers.

For more information, see the "Data Profiler" node help topic.

#### JDBC nodes

The JDBC Query and JDBC Execute nodes have been enhanced to support dynamic SQL provided from an input field. There is now a **from Field** option on the **SqlQuery** property on both the JDBC Query and JDBC Execute nodes, to enable you to take the SQL from an input field. For the JDBC



Query node, as this could result in different metadata in result sets from the database, new **ConcatenationMode** and **TypeConversion** properties have been added to the node to allow you to define how to handle the different metadata sets.

For more information, see the "JDBC Query" and "JDBC Execute" node help topics.

## Trim Fields node

A new **TrimCharactersAsString** property has been added to the Trim Fields node to give you the option to trim a string of characters to remove a prefix or suffix.

By default, the node will remove all instances of the characters specified in the **TrimCharacters** property. If you want to remove a prefix or suffix string, rather than individual characters, set the **TrimCharactersAsString** property to **True**.

For more information, see the "Trim Fields" node help topic.

## Unique node identifiers

New property substitutions have been added to enable better identification of a node's path within a data flow, the data flow itself, and per-run identifiers. The unique identifier allows you to detect each individual instance of a node, which can be useful when you have a data flow that contains multiple instances of the same node.

Previously, if a property contained multiple textual substitution references using the `{{^container:propertyName^}}` syntax, these were not working correctly. This has been fixed.

## Errors panel links

When troubleshooting errors, you can click an error in the **Errors** panel to navigate directly to the node with the issue, including nodes contained within one or more levels of composites.

## Performance improvements

Improved design time performance and usability.

## 2.2 Corrected issues

Issue summary	Issue number
Fixed an issue that caused the Excel nodes to occasionally report errors on Linux, such as 'Can't connect to X11 window server using ':0' as the value of the DISPLAY'.	LAE-21658
Fixed a number of concurrency issues that caused intermittent inconsistencies. This resulted in 'ConcurrentModificationException' messages in the webapp log while data flows were being compiled, and may have also resulted in some inconsistent compilation operations.	LAE-21656
Fixed the link from the application to the 'Python Scripting' section of the help.	LAE-21623
Fixed an issue where the Excel File node was not correctly reading some Excel files generated by third party libraries (that is, not generated by Excel) when the library created .xlsx files that had namespace qualifiers in the generated XML.	LAE-21602
Fixed an issue where an LDAP user import was removing the system role from previously imported users, preventing them from adding properties to nodes.	LAE-21598
Fixed an issue where the REST API endpoint <code>api/login/flows</code> was misnamed as <code>api/login/rest/flows</code> , meaning it was not accessible without authenticating. The endpoint is now accessible without authentication.	LAE-21563
Fixed an issue where right-clicking on the canvas to insert inputs and outputs on a composite would not create the input or output in the place of the click, but instead would create it in a default location.	LAE-21573
Fixed an issue that caused the XML Data node to error with a 'NullPointerException' when the following conditions were true: <ul style="list-style-type: none"><li>• The node was processing data from an input.</li><li>• <b>PassThroughFields</b> was configured to pass through some fields from the input.</li><li>• <b>NoRecordForOutputBehavior</b> was not set to error.</li><li>• An output existed that had no fields from the XML file(s) mapped to it.</li></ul>	LAE-21559
The performance of the Extract ERP Table node has been improved.	LAE-21540

Issue summary	Issue number
The default value of the <b>RowBatchSize</b> property on the Extract ERP Table node has been updated to 100,000.	LAE-21539
Fixed an issue that caused the Extract ERP Table node to fail with a key mismatch error in some cases when extracting records that contained key fields with leading whitespace characters.	LAE-21538
Fixed an error that caused the Extract ERP Table node to fail with an error message stating that the specified field was not available in the table metadata when duplicate field names were specified in the <b>Fields</b> property. A warning is now issued, and the duplicate field name is ignored.	LAE-21537
Fixed an error that caused the Extract ERP Table node to fail in some cases when the node was run with multiple Options clauses provided from an input field.	LAE-21534

## Issue summary

## Issue number

The following fixes apply to the Extract ERP Table node:

LAE-21599

- Fixed an issue that caused the **ErrorDetails** output to define some fields as containing string instead of unicode metadata, which could cause the Extract ERP Table node to fail on unmappable characters.
- The performance of the Extract ERP Table node has been improved when extracting relatively small fields (in terms of byte size), and modifications have been made to ensure that fields can be read when the size of the key fields combined is greater than the **RowByteLimit** bytes as long as the size of the fields being extracted is less than the **RowByteLimit**.
- Fixed an issue that caused the Extract ERP Table node error message to report the total key size incorrectly when the size of the key fields was too large to be processed (greater than the **RowByteLimit**).
- Updated the way that the Extract ERP Table node handles Options, by ensuring that they fit into the size limits imposed by RFC\_READ\_TABLE when the Options are in the following form:  
`<FIELDNAME> in ('<VALUE_1>', '<VALUE_2>', ..., '<VALUE_N>')`
- Fixed an error where the Extract ERP Table node would incorrectly configure the **RowCount** sent to SAP when multiple extracts were required to retrieve all fields for a given record, which caused the subsequent extracts to have a reduced **RowCount** specified, meaning the node would encounter 'missing extract keys' issues if the number of records returned was less than one half of the value of **RowCount** specified.

Issue summary	Issue number
<p>In some cases, when the Extract ERP Table node needs to query data from the SAP system to rejoin data using key fields, some of the values in the key fields cannot be correctly queried using the Options clause in RFC_READ_TABLE.</p> <p>Previously, the node was using the fields identified as key fields in table DD03L to generate options to query SAP. However, sometimes not all of these fields are required to form a unique record key for a table.</p> <p>As a result, the following properties have been added to the Extract ERP Table node:</p> <p><b>UniqueKeyFields</b> - You can use the <b>UniqueKeyFields</b> property to specify the fields that form a unique key in the table.</p> <ul style="list-style-type: none"> <li>• If no value is specified, the node uses the value that is set in the server property  <code>ls.brain.node.erp.sapconnector.extractTable.&lt;TableName&gt;-Keys.</code></li> <li>• If a unique key set needs to be set for a given table, it can be set via a server property which then takes effect for all Extract ERP Table nodes trying to extract from that table. If no such property exists, the node will use any pre-configured defaults it knows for the specified table.</li> <li>• Pre-configured defaults have been added for BSAD, BSAK, BSEG, BSAS, BSID, BSIK, BSIP and BSIS. If there is no <b>UniqueKeyFields</b> property set, no corresponding  <code>ls.brain.node.erp.sapconnector.extractTable.&lt;TableName&gt;-Keys</code> server property set, and the table being extracted has no pre-configured default unique key fields set, the node resorts to using all fields specified as key fields in the table DD03L for the table to extract.</li> </ul> <p><b>UnexpectedExtractKeysBehavior</b> - Determines the behavior when the node requests the data for field subsets in batches and must rejoin the different extracts for each row using key fields, and some data is returned via a request which cannot be matched to the keys extracted in the initial request. This should only occur if data is changing on the table during the execution of the node and should only occur if the number of records to extract, based on the Options clause, is less than both the <b>RowBatchSize</b> and the <b>RowCount</b>. The default value is <b>Log</b>.</p>	LAE-21549

Issue summary	Issue number
<p><b>MissingExtractKeysBehavior</b> - Determines the behavior when the node requests the data for field subsets in batches and must rejoin the different extracts for each row using key fields, and there are no records extracted in a given request that match the keys extracted in the initial request.</p> <p>This should only occur if data is changing on the table during the execution of the node, where a record is deleted which was retrieved in the first extract, or the value of a key field in such a record changes. This could happen if there are key field values in the initial request that contain characters that cannot be used as part of a query in the OPTIONS clause to RFC_READ_TABLE. In this case, the fields would normally be identified as key fields in DD03L but not strictly required to form a unique identifier to the record. If that is the case, then the <b>UniqueKeyFields</b> property, or the corresponding server property can be used to specify a minimal set of structured fields required to form a unique key on the table.</p> <p>If set to <b>Error</b>, the node errors when a mismatch is encountered and the error details are also written to the error output pins.</p> <p>If set to <b>Log</b>, the error details are also written to the error output pins when such a mismatch is encountered.</p> <div data-bbox="180 1077 1222 1251" style="border: 1px solid #0070C0; padding: 5px;"> <p> <b>Note:</b> The node can still fail if the value is set to <b>MissingExtractKeysBehavior</b>, because the errors contribute to the error count, and the node will fail if <b>ErrorThreshold</b> is exceeded.</p> </div> <p>If set to <b>Ignore</b>, the errors are simply ignored and nothing is written to the error output pins.</p> <p>The default value is <b>Log</b>.</p>	
<p>Fixed an issue that caused backups to fail if a scheduled run started before the backup started, and completed before the backup had taken place, because log files that were marked for backup in the process were deleted.</p>	LAE-21473
<p>Fixed an issue that caused node properties to be displayed in FTP Get error messages.</p>	LAE-21471
<p>Fixed an issue that caused misleading errors to be displayed if you clicked the <b>Save</b> button in a Data Flow twice in quick succession.</p>	LAE-21447

Issue summary	Issue number
<p>Fixed an issue that caused the Sort node to run out of memory when processing large numbers of very narrow records.</p> <p>The <b>BufferSize</b> property on the Sort node was previously only applied to the first batch of records loaded into memory, and thereafter the buffer was dynamically resized. Now, <b>BufferSize</b> can be used as a hard limit for the number of records to hold in memory for any batch, to ensure that when there are a large number of narrow records followed by some very wide records - for example in the case where fields were normally null, but could sometimes be very large - the node can be constrained to not use too much memory. The same property has also been added to the Merge and Join nodes.</p>	LAE-21443
<p>Fixed an issue that caused upgrades to fail if the application data directory path contained spaces, for example 'C:\Users\<username>\Data3Sixty Analyze'.</username></p>	LAE-21427
<p>Fixed an issue that caused the application to fail to start if the Secure Store Key was not stored in the site.prop property file during installation.</p>	LAE-21225
<p>Fixed an issue that caused imported legacy BRG files that contained bypasses to only pass through the first data set, rather than passing through bundled data sets.</p>	LAE-10214
<p>Fixed an issue that prevented the legacy Script <code>groupString</code> macro from working correctly when only given one argument.</p>	LAE-21686
<p>Fixed an issue that caused the legacy Script function operators using the '&amp;' token from working in conjunction with the 'and' and 'or' operators. For example, this fixes the following examples when using the reduce function:</p> <pre>x = reduce(&amp;and, something) x = reduce(&amp;or, something)</pre>	LAE-21683
<p>Fixed an issue where tooltips that contained a large number of error details could cover the whole page. In cases where there are a large number of errors, the details are now shown in a tooltip with a scroll bar to prevent the tooltip from covering large portions of the canvas.</p>	LAE-8872
<p>Fixed an issue that prevented the Modify Fields node from successfully converting the data type of an input data set to double.</p>	LAE-21465
<p>Fixed an issue that occasionally caused the CSV/Delimited Data and Create Data nodes to fail with a "Stream Closed" error.</p>	LAE-21431
<p>Fixed an issue that prevented you from being able to reset a run property value to no value when the run property value was set in a schedule definition.</p>	LAE-21804

## 3. New in 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.

### 3.1 What's new

#### Modify Fields node

You can now use the **Auto** 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.

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.

For more information, see the "Modify Fields" node help topic.

#### Generate Data node

A new node, **Generate Data**, has been added.

You can use this node to create data from a python script, enabling you to generate output data without needing an input.

For example, using the **ConfigureFields** option, you can generate two output fields:

```
out1.Text= str
out1.LastWeek = datetime.datetime
```

You can then use the **CreateRecords** option to write output records containing data for those fields:

```
out1.Text= 'Test'
out1.LastWeek = datetime.datetime.now() - datetime.timedelta(days=7)
```

When you run the node, the output **out1** will contain a record consisting of two fields called "Text" and "LastWeek". The value of the "Text" field in the output is `Test`, and the value of "LastWeek" is a datetime value of seven days before the node was run.

For more information, see the "Generate Data node" help topic.

Dummy Input node

The **Dummy Input** node is superseded by the **Create Data** node and the new **Generate Data** node.

## LNA files

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.

## 3.2 Corrected issues

Issue Summary	Issue Number
Fixed a problem with the Lucene library that could cause index corruption. <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <b>Tip:</b> Any customers with suspected index corruption should contact support for help.</div>	LAE-21259
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.	LAE-9802
The following JDBC drivers have been updated for this release: <ul style="list-style-type: none"><li>• SQL Server</li><li>• Oracle</li><li>• MariaDB</li><li>• Redshift</li><li>• Postgres</li></ul>	LAE-21272 LAE-21273 LAE-21274 LAE-21275 LAE-21276



Issue Summary	Issue Number
Fixed an issue where the Properties panel did not open when the correct keyboard shortcut was used (Ctrl+3).	LAE-21360

## 4. 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.

### 4.1 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>

## 4.2 Web application

The following table lists Data3Sixty Analyze known issues and limitations:

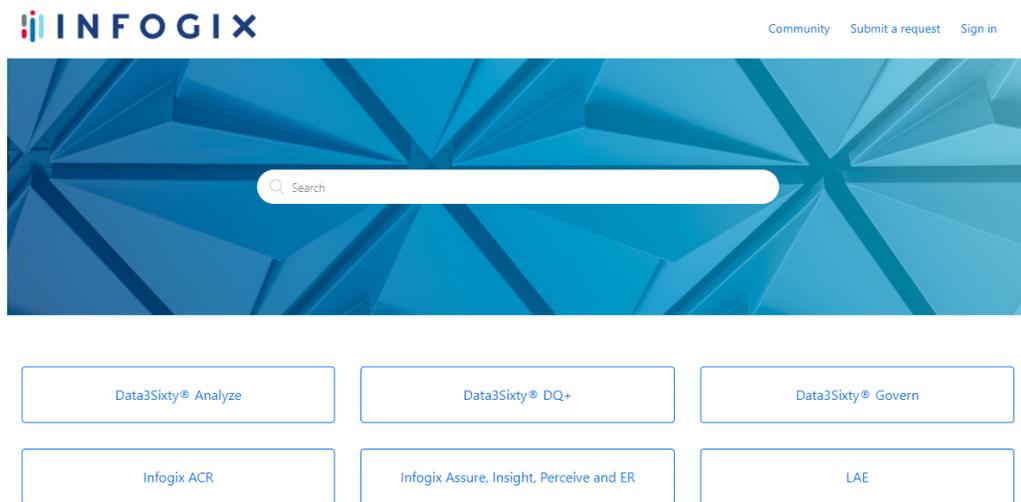
Feature	Description
Data viewer	<p>A sample of up to the first 1000 records of node data can be displayed in the data viewer.</p> <p>The data viewer only shows the first line of multi-line values. You can hover over the cell to show the full multi-line value in a tooltip. Selected records can also be 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.

## 5. Contact us

If you encounter any technical issues, we recommend that you visit the support portal at [support.infogix.com](https://support.infogix.com):



If your query has not been discussed previously, 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.
2. If you have already registered, enter your **Email** and **Password**, then click the **Sign in** button.  
Or, if you are not a registered support portal user, click **Sign up**:

The image shows a 'Sign in to Infogix' modal window. It contains an 'Email' input field, a 'Password' input field, and a 'Stay signed in' checkbox. A blue 'Sign in' button is at the bottom. Below the button are links for 'I am an Agent' and 'Forgot my password'. At the bottom left, there is a link 'New to Infogix? Sign up' which is highlighted with a red box. Below this link is a note: 'Have you emailed us? Get a password. If you've communicated with our support staff through email previously, you're already registered. You probably don't have a password yet, though.'

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

## Download

Infogix recommends 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 contact the product team by submitting a feature request on the [Community](#).

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