



THE POWER TO TRUST

# Data360<sup>®</sup> Analyze

Release Notes

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3.6.0



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# 1. Setup requirements

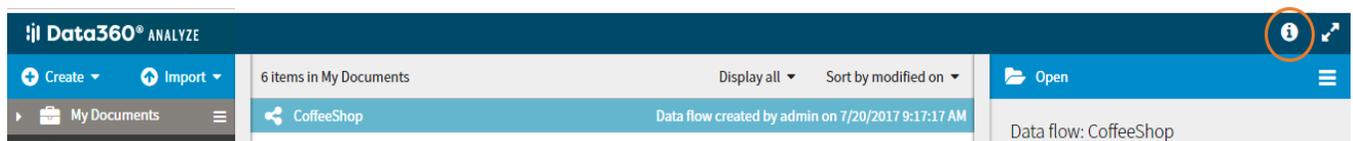
	Server	Desktop
<b>System requirements</b>	<p>The minimum hardware specification for the server product is as follows:</p> <ul style="list-style-type: none"><li>• 8GB RAM base + 1GB for Database + 2GB per core.</li><li>• Minimum 4 cores for an on-premises server instance.</li></ul> <div data-bbox="423 781 911 1047" style="border: 1px solid #0070C0; padding: 5px;"><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="410 1430 1442 1661" style="border: 1px solid #0070C0; padding: 5px;"><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> <p>For desktop installations, 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></ul>

	Server	Desktop
<b>Supported platforms</b>	<p>The following operating systems are supported on the Data360 Analyze server product:</p> <ul style="list-style-type: none"> <li>• Windows Server 2019 (Desktop Experience)</li> <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>• Microsoft Edge - new Chromium-based version</li> </ul>	<p>The following operating systems are supported on the Data360 Analyze single-user desktop product:</p> <ul style="list-style-type: none"> <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 9.0.31	

## 2. Latest release - 3.6.0

This document provides release information for all releases of Data360 Analyze from version 3.4.0 onwards. If you require release information for an older version of Data360 Analyze, please contact us at [support.infogix.com](mailto:support.infogix.com).

For information on installing Data360 Analyze, please see the installation guide. Once you are up and running, you can access 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

#### Run property sets

You can now create run property sets to group together a number of run properties which you can then reference across different data flows in your system. For example, you may want to create a set of run properties for a test environment, and another set of run properties for a production environment. By creating different run property sets with different properties and values, you can compare different versions of one data flow, either by running the data flow manually or via a schedule.

Additionally, when working in the Designer, you can save a default run property set with the open data flow so that the run properties and values can be shared with other users.

For more information, see the "Run property sets" topic in the help.

#### Scheduling follow-up runs

When configuring a schedule, you can chain a subsequent data flow to run based on whether the preceding data flow has succeeded or failed. Alternatively, if a scheduled data flow fails, you can configure the system to send an email to alert users of the failed run.



Scheduling follow-up data flows can be a useful way to automate your workflow. For example, you can automate the execution of a data flow to clean up a file system after a failed run, or you can automate the execution of a data flow to carry out a set of secondary tasks after a successful run.

A new **Data360 Services** folder has been added to the Directory and contains the default data flow that is used to send emails when a run of a scheduled data flow fails.

For more information, see the "Scheduling follow-up runs" topic in the help.

## Annotating your data flow

You can add text boxes to annotate your data flow to provide other users with a greater understanding of the tasks that are being performed. You can assign different colors to the text boxes to help visually organize the canvas.



**Note:** It is not possible to create or edit boxes with Internet Explorer. Note that Internet Explorer is no longer a supported browser from this release.

For more information, see the "Annotating your data flow" topic in the help.

## Comparing data sets side by side

When inspecting data in the data viewer, you now have the option to view a data set in a pop-out window which you can move around the screen independently of the browser window. This allows you to compare two or more data sets side by side. For example, you might want to compare the input to a node with the output. Or, you might want to compare the output of a node after an initial run, then reconfigure the node with different property values to generate a second data set for comparison.

For more information, see the "Inspecting data" topic in the help.

## Aligning nodes

To help you to organize your nodes on the canvas, when placing and connecting nodes you can now choose to align multiple nodes vertically or horizontally.

For more information, see the "Selecting and moving nodes" topic in the help.

## Configuring and viewing properties

The **Properties** panel now contains three separate tabs to allow you to access data flow and run properties at any level of the data flow:

- The **Properties** tab displays node properties (**Ctrl + 5**).
- The **Data Flow** tab displays data flow properties (**Ctrl + 6**).
- The **Run** tab displays run properties and run property sets (**Ctrl + 7**).

## Nodes

### Output CSV/Delimited node

The **Output CSV/Delimited** node is no longer experimental and has superseded the **Output Delimited** node.

A number of sample data flows that previously contained the **Output Delimited** node have been updated to use the new **Output CSV/Delimited** node.

For more information, see the "Output CSV/Delimited" node help topic.

### Database Metadata node

The **Database Metadata** node is no longer experimental.

For more information, see the "Database Metadata" node help topic.

### DeepSQL node

The **DeepSQL** node is no longer experimental, and a **PassThroughFields** property has been added to allow you to configure which input fields "pass through" the node unchanged from the input to the output.

For more information, see the "DeepSQL" node help topic.

### S3 nodes

The S3 nodes now support a HTTP proxy.

For more information, see the "S3 Get", "S3 List", "S3 Delete" and "S3 Put" node help topics.

## REST API

The Simple Scheduled Tasks Ad-hoc Run API (`/api/v4/simple-scheduled-tasks/run-now`) has been enhanced to return the execution-plan-state locator when the request is posted. You can use the execution-plan-state locator to query the status of the run using the `/apiv3/execution-plan-states` API.

For more information, see the "API developer documentation" topic in the server help.

## Performance improvements

- Minor performance improvements have been made to improve the responsiveness when executing nodes and data flows. In particular, the improvements can be seen in large data flows when a significant number of nodes are selected to run.
- The performance of the **Apply Auto-Fixes** functionality has been greatly improved.

## Other changes

### Supported platforms

- New versions of the Desktop product will no longer be tested on Windows 7.
- Internet Explorer is no longer a supported browser.
- Microsoft Edge (new Chromium-based version) is now supported.

### Backup settings

The default backup time has been changed on the Desktop version to 12 PM, rather than 2 AM. The default backup time on the server product remains at 2 AM.

Additionally, a new setting has been added allowing you to set the error threshold for backups.

For more information, see the "Editing backup settings" topic in the help.

### Migrating from LAE

In LAE, if you entered a BRAINscript function that was not recognized, but it was recognized by Expert, then it would still work. This behavior has been restored in Data360 Analyze, however the node will report a warning about the unrecognized function.

For more information, see the "BRAINscript changes" topic in the help.

## CSV/Delimited nodes

The **MySQL** option has been removed from the **Format** property of the **CSV/Delimited Input** and **Output CSV/Delimited** nodes.

## Audit log

The audit log now contains information about which system processes are used to run nodes.

## Server silent installation

Silent installation is now supported on server editions of the product.

Administrators can run a silent (unattended) installation to silently install, upgrade or uninstall Data360 Analyze Server on user machines, applying predefined settings, without the need for user interaction.

For more information, see the Data360 Analyze Server Installation Guide.

## General updates

- A number of third-party libraries have been updated to benefit from the latest security updates.
- Error messages have been improved to include more information and to suggest applying auto-fixes where appropriate.
- Upgraded Tomcat to 9.0.31 to address the security vulnerability CVE-2020-1938.

## 2.2 Corrected issues

Issue summary	Issue number
Fixed an issue that caused the <b>Summary</b> section to be incorrectly displayed in the <b>Properties</b> panel at the top level of a data flow or library node.	LAE-23294
Fixed an issue that in some cases caused the system to become deadlocked, usually when save operations were being performed at the same time as resolution operations.	LAE-23239 LAE-23238

Issue summary	Issue number
Fixed an issue that prevented the loading spinner from being displayed in the title bar when updating inputs or outputs from the <b>Properties</b> panel.	LAE-23201
Fixed an issue that prevented the data flow search functionality from working correctly after performing the following actions on a node: delete, undo, redo, undo delete.	LAE-23200
Fixed an issue that caused an error message to be displayed after making an edit and then quickly navigating into or out of a composite node. In some cases the edits would not be saved.	LAE-23198
Fixed an issue where encrypted run property values were not decrypted when used in schedules.	LAE-23193
Fixed an issue that caused run properties to be cleared after navigating into or out of a composite node.	LAE-23144
Fixed an issue where it was possible to edit a folder name in the Directory by pressing the <b>Shift</b> key.	LAE-23059
Fixed an issue that prevented you from changing the interval type on a schedule.	LAE-23034
Fixed an issue that prevented some drop-down menus from resizing correctly to fit the width of the contents.	LAE-23023
Fixed an issue that prevented you from importing an LNA with missing dependent library nodes when the dependencies were also not on the system being imported to.	LAE-22948
Fixed an issue that caused property values to be deleted when editing properties on the <b>Advanced</b> tab of the <b>Lookup</b> , <b>Merge</b> and <b>Join</b> nodes.	LAE-22942
Fixed an issue that prevented the <b>Discard</b> and <b>Apply Changes</b> buttons from being displayed on the screen in the details panel of the Directory on the <b>Settings</b> page.	LAE-22939
Fixed an issue that prevented you from adding a pattern on a custom output pin of the <b>Lookup</b> node.	LAE-22886

Issue summary	Issue number
Fixed a permissions issue that prevented you from creating a new data flow when your library path contained an inaccessible folder.	LAE-22464
Fixed an issue that prevented unused library paths from being deleted.	LAE-22003
Fixed an issue that prevented you from editing a data flow while a schedule for that data flow was running.	LAE-21783
Fixed an issue that caused the <b>Fixed File Format</b> node to fail if an empty line existed in the data.	LAE-21430
Fixed an issue that prevented connection lines from updating correctly.	LAE-23135
Fixed an issue that in some cases prevented you from importing legacy .BRG files.	LAE-22995

## 3. Previous releases - 3.5.x

For information on the 3.5.x releases, see:

- [New in 3.5.0](#)
- [New in 3.5.1](#)
- [New in 3.5.2](#)

### 3.1 New in 3.5.0

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

#### 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.

## 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

Issue summary	Issue number
The performance of the Extract ERP Table node has been improved.	LAE-21540
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 1230" 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

Issue summary	Issue number
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.	LAE-21804
Fixed an issue that prevented you from being able to filter the list of input fields when selecting match keys on the Merge and Lookup nodes.  (Note: This issue was fixed as part of the 3.5.0 release, but was originally omitted from the release notes).	LAE-21698

## 3.2 New in 3.5.1

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

### What's new

#### Connection points

Connection points allow you to simplify the view of your data flow by organizing multiple data sets into a single bundle, reducing the number of connection lines on the canvas. This can be particularly useful when working with large, complex data flows.

The data sets in a connection point are identified by a tag. Tag names are taken from an input or output pin name on the source node, or from a previous connection point.

A thicker connection line is displayed on the canvas when you connect a connection point to the next item in your data flow, with a connection filter button allowing you to select which data to pass through to the next stage of the data flow:

- **All Data Sets** - Pass through all data sets.
- **Data Sets by Tag** - Select specific data sets to pass through.
- **First Enabled Data Set** - Pass through only the first enabled data set. In this case, you define the order in which to evaluate the inputs, and the first enabled data set with a matching tag will be passed through.



If you are not sure which data set a tag relates to, you can hover over a tag to see a purple line on the canvas, tracing back to the source of the data set. Additionally, a number of default output pin names have been renamed to help you to identify the source node, for example, the **Sort** node output pin has been renamed from "out1" to "Sorted Data".

If you are migrating from LAE, you can import legacy data flows that contain Bundlers, Unbundlers and Bypasses, and these are displayed in Data360 Analyze as connection points and connection filters. These will continue to work without any additional configuration, however you can choose to upgrade selected connection filters to use the new improved filter mechanics.

For more information, see the "Connection points" help topic.

### Navigating between nodes

To help you to locate the source of a data set at a specific point within your data flow, there is a new right-click option that takes you to the upstream node or connection point that provides the input data. This can be particularly useful when working with large, complex data flows.

The new **Go to Linked Item** option is available by right-clicking a node input pin or a connection point. On a Composite node, or within a Composite, this new option is also available from the output pin.

For more information, see the "Navigating between nodes" help topic.

### Reorder Fields node

The new **Reorder Fields** node allows you to select and reorder the fields in a data set. It can be useful to use this node before an Output Connector node to guarantee the order of the output fields.

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

### Run properties

The following "Current\*" data flow properties have been deprecated in this release:

- **CurrentTime**
- **CurrentDateTime**
- **CurrentDate**

Please use the corresponding "Execution" or "Run" prefixed properties which have been added in this release. If you are migrating to Data360 Analyze from LAE and used the `RunDate` property in previous versions of the product, this will now be recognized.

The following run properties are now automatically created for every data flow and will be automatically populated with the date and time that a scheduled run commenced:

- `RunDate`
- `RunTime`
- `RunTimeZoneOffset`

The "Execution" prefixed property values are derived from the start time of an execution of a data flow, or part of a data flow. When running a data flow from a scheduled task, the execute time will be the time when the data flow actually begins executing. Therefore, if multiple data flows are being run by a single scheduled task, the execution time may be different for each data flow. To get a consistent value across all data flows run by a scheduled task, use the "Run" prefixed properties.

For more information, see the "Using derived property values" help topic.

### Python editor

Following the [Style Guide for Python Code](#), the Python Editor that you can use to add Python scripting to nodes has been updated to indent by four spaces and convert tabs to spaces when indenting.

### DB2 drivers

Previously, to use DB2 you needed to download and install the DB2 drivers. DB2 drivers are now included with Data360 Analyze.



**Note:** If you are upgrading, and have a DB2 JAR already installed in the site directory, remove this before installing the latest version of Data360 Analyze.

For more information, see the "Acquiring data from a database" help topic.

### Enabling and disabling nodes

An option to Enable or Disable selected nodes is now available from the canvas right-click menu.

## BRD File node

The following two new properties have been added to the BRD File node to support passing input fields through to the node's output:

- **PassThroughFields**
- **AlwaysEmitPassThroughFields**

The addition of these new properties will have no impact on the behavior of existing data flows that contain the BRD File node, unless you modify the property values.

For more information, see the "BRD File" node help topic.

## Fixed Format File node

A new **startLine** property has been added to the Fixed Format File node to allow you to specify the line in the file where importing should start, for example, if the **startLine** property is set to 10 then the first 9 lines of the file are ignored.

For more information, see the "Fixed Format File" node help topic.

## JDBC nodes

The **DbOptions** property of the **JDBC Query**, **JDBC Execute**, and **JDBC Store** nodes has been converted to a multi-line property.

You can now specify each option as a key/value pair on a separate line. For example:

```
key1=val1
```

```
key2=val2
```

You can also still specify all options on a single line, delimited by an ampersand character. For example:

```
key1=val1&key2=val2
```

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

## Salesforce nodes

The **Data3Sixty Get for Salesforce**, **Data3Sixty Metadata for Salesforce** and **Data3Sixty Update for Salesforce** nodes have been updated to use the latest version of the Salesforce API (version 46.0).

Additionally, the following usability enhancements have been made to the **Data3Sixty Update for Salesforce** node:

- The **IdField** property defaults to **Id** if no value is specified.
- If you do not specify any values in the **DataFields** property, the fields will be taken from the headers.
- A new **Errors** output pin has been added which contains details of failed transactions.
- A new **ErrorBehavior** property has been added to enable you to control the behavior of the node when it encounters a malformed record.

For more information, see the "Data3Sixty Get for Salesforce", "Data3Sixty Metadata for Salesforce" and "Data3Sixty Update for Salesforce" node help topics.

### Encrypt Fields and Decrypt Fields nodes

The **Encrypt Fields** and **Decrypt Fields** nodes now provide support for AES 256 encryption.

For more information, see the "Encrypt Fields" and "Decrypt Fields" node help topics.

### General updates

A number of third-party libraries have been updated to benefit from the latest security updates.

### Corrected issues

Issue summary	Issue number
Fixed an issue that caused run properties to be set to an empty string when cleared, rather than clearing them completely.	LAE-22000
Fixed an issue that prevented the installer from handling corrupted backup files when restoring from backup.	LAE-22035
Fixed an issue where users were deleted after double-clicking the username in the user list to edit them.	LAE-22015
Fixed an issue where modifying properties on a node within a composite node could cause a permissions problem, preventing a user from copying the composite node.	LAE-10520

Issue summary	Issue number
Improved error handling and error messaging when the <b>Change Metadata</b> node fails when trying to change a field to Datetime where the input is unicode and contains a value of "Null" as opposed to being a NULL value.	LAE-21956
Fixed an issue in the <b>Sample</b> node where the link to the documentation for the node was incorrect.	LAE-21955
Fixed an issue in the data viewer where some valid dates were being incorrectly flagged as invalid when used in a filter.	LAE-21941
Fixed an issue with the <b>XML Data</b> and <b>JSON Data</b> nodes where they would sometimes fail with cryptic errors when processing very large (multi GB) data files with a structure that required the data to be saved to a <code>.tmp</code> file during parsing.	LAE-21939
Fixed an issue where it was possible to delete imported LDAP users while deleting multiple users.	LAE-21936
Fixed an issue that incorrectly triggered "execution has no running processes but there are still nodes executing" warnings when a node, for example the <b>Meta Check</b> node, had downstream items that were affected by its operations but were not selected to run. If downstream nodes were in a composite that was not part of the execution, further warnings could incorrectly be displayed.	LAE-21931
Fixed the following issues with the <b>Match Keys</b> grid on the <b>Merge</b> node: <ul style="list-style-type: none"> <li>• Typing the name of a key and then selecting the key from the filtered list incorrectly created an additional row with the typed text.</li> <li>• Using the down arrow to browse the list of match keys incorrectly caused new rows to be created.</li> </ul>	LAE-21923
Fixed an issue where the <b>Modify Field Prefix</b> node was classified as a superseded node.	LAE-21919
Fixed an issue that caused the <b>Save</b> button to remain disabled after adding an input or output pin to a <b>Composite</b> node from the <b>Define</b> tab of the <b>Properties</b> panel.	LAE-21916

Issue summary	Issue number
Fixed an issue that prevented the <b>Restore Default Value</b> option from working correctly on some inherited nodes.	LAE-21905
<p>Fixed an issue where a system backup could not run while there were any ongoing executions or schedules.</p> <p>Active executions are now effectively suspended, and resumed when the backup is completed, so ongoing executions should not interfere with the system backup.</p> <p>Previously, the backup system paused the scheduler, and waited until all currently running executions and schedules were completed. If you had very long running or unresponsive nodes, this could cause an outage while the system waited to perform the backup.</p>	LAE-21869
Fixed an issue that prevented the <b>TransposeField</b> property on the <b>Transpose</b> node from working correctly.	LAE-21857
Fixed an issue where the system could become deadlocked if an operation to clear a node's state interfered with an ongoing execution.	LAE-21839
Fixed an issue for Mac and Linux clients where the you had to change the file filter dropdown to "all files" in order to view any files when uploading files to a data flow.	LAE-21833
Fixed an issue where an error in a node's <b>Enabled</b> property was not always displayed correctly in the <b>Errors</b> panel.	LAE-21830
Fixed an issue where BRGs using the Windows file format could be corrupted when imported to Linux Data360 Analyze installations, causing a data flow to fail.	LAE-21688
Fixed an issue where the <b>URL Query Builder</b> node could not display data when the value in the <b>UrlOutputField</b> or <b>QueryStringOutputField</b> property matched the name of one of the <b>PassThroughFields</b> .	LAE-21612
Fixed an issue that prevented renamed field values from being saved on <b>Merge</b> , <b>Join</b> and <b>Lookup</b> nodes.	LAE-21607

Issue summary	Issue number
Fixed an issue that caused an "Execution has execute elements" warning to be incorrectly displayed when executing a set of nodes, some of which were disabled.	LAE-10791
Fixed an issue when using the <code>todict()</code> method on the python "fields" objects, where the keys in the dictionary were converted to lower-case from the input field names. The case of the input metadata is now preserved, and used for the dictionary keys.	LAE-21897
Fixed an issue that prevented you from importing a legacy data flow with multiple bend points in the same location.	LAE-22022
Fixed an issue that caused the LNA Imports API to return a 200 Success Code in certain error scenarios instead of a 400 Fail Code.	LAE-22179
Fixed an issue that prevented the inherited badge and <b>Remove Local Changes</b> menu option from being displayed on some contained nodes.	LAE-10518
Fixed an issue that caused an error to be displayed as a result of caches in the web application not getting rolled back correctly.	LAE-10236
Fixed an issue with the <b>Sort</b> node where typing the name of an input field before connecting the input data set could cause an error if the input field was not a string field. Now, if this issue occurs, an additional button is displayed on the field token to convert the field type.	LAE-22120
Fixed an issue that prevented vertical scroll bars from appearing when there was a long list of items in the folder list, the item list or the details panel, making it impossible to select items that were located towards the bottom of the list.	LAE-22082
Fixed an issue that caused a node error after applying a second Filter or Split node to the canvas from the data viewer.	LAE-9858
Fixed an issue that prevented the Undo/Redo function from working correctly in data flows and library nodes.	LAE-9544
Fixed a stability issue that in some cases caused draft data flows to become corrupted, resulting in error messages such as "container object not found" or "repositoryDeleteError".	LAE-22200

## 3.3 New in 3.5.2

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

### What's new

#### View all schedules and runs

The new **Schedules** and **Runs** collections in the Directory give a centralized view of all schedules and runs on the system which you have access to view. This allows you to quickly identify schedules that have completed a run, failed to run or are still in progress. For example, you may want to identify long-running jobs, or re-run a schedule that has failed.

If you are interested in a specific schedule, you can search for the schedule by name, rather than checking through multiple folders in the Directory.

For more information, see the "Scheduling" section of the help.

#### Data flow search

You can now search within a data flow or library node to locate a specific node or property value. This allows you to quickly find and change property values throughout your document, or to find and replace nodes of a specific type. This can be particularly useful when working with large, complex data flows, where only a small proportion of the nodes are visible on the canvas at any one time.

For more information, see the "Searching within a data flow" topic in the help.

### Nodes

#### Modify Fields node

The following enhancements have been made to the **Modify Fields** node:

- A new **DetectionThreshold** property has been added to enable you to set the tolerance for identifying the correct data type to map to when the node is analyzing input data. This works

in the same way as the **Detection Threshold** property on the **Data Profiler** node.

- The **Modify Fields** node is now able to successfully convert string and unicode fields to int, long, and double types where the string contains a trailing minus ("-") sign.
- The **Modify Fields** node now applies formats specified in the **OutputFields** grid for conversions from int and long types to date, time and datetime.

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

### Output CSV/Delimited (Experimental) node

The new **Output CSV/Delimited** node includes a number of additional properties, and is more similar to the **CSV/Delimited Input** node. This node will supersede the **Output Delimited** node in a future release.



**Note:** This node is experimental and may be subject to change in a future release.

For more information, see the "Output CSV/Delimited (Experimental)" node help topic.

### Database Metadata (Experimental) node

The new Database Metadata (Experimental) node uses third-party JDBC drivers to connect to and query the metadata of a database. You can use this node to extract SQL code which you can then feed into the DeepSQL (Experimental) node.



**Note:** This node is experimental and may be subject to change in a future release.

For more information, see the "Database Metadata (Experimental)" node help topic.

### DeepSQL (Experimental) node

The new **DeepSQL** node allows you to extract objects and relationships from SQL code, for example to analyze SQL code from the Database Metadata (Experimental) node. You can then publish this metadata to Data360 Govern to enrich your data governance glossaries.



**Note:** This node is experimental and may be subject to change in a future release.

For more information, see the "DeepSQL" node help topic.

## JDBC drivers

### Snowflake driver

The Snowflake driver is now included with Data360 Analyze. Previously, to connect to Snowflake you needed to download and install the required driver.



**Note:** If you are upgrading, and have a Snowflake JAR already installed in the site directory, remove this before installing the latest version of Data360 Analyze.

### Amazon Redshift driver

The Amazon Redshift driver that is provided with Data360 Analyze has been upgraded to RedshiftJDBC42-1.2.36.1060.jar.

### MariaDB driver

The MariaDB driver that is provided with Data360 Analyze has been upgraded to mariadb-java-client-2.5.2.jar. You can also use this driver to access MySQL.

For more information on database drivers, see the "Acquiring data from a database" help topic.

## Other changes

### JDBC nodes

The JDBC Execute node now supports **BatchMode**.

The JDBC Store node will now use **BatchMode** by default and if the **CommitFrequency** property is not set, it will default to 1000. The **LoadMethod** property has been removed.

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

### Help menu

After clicking the Help menu in the top right corner of the application, you can now use the up and down arrows and the Enter key to select an option.

## General updates

- A number of third-party libraries have been updated to benefit from the latest security updates.
- Execution performance when running large data flows containing loops has been significantly improved.

## 3.4 Corrected issues

Issue summary	Issue number
Fixed an issue that prevented you from adding new patterns on the <b>Lookup</b> , <b>Join</b> and <b>Merge</b> nodes.	LAE-22476
Fixed an issue that prevented the <b>Property References</b> menu option from displaying available reference information.	LAE-22533
Fixed an issue that prevented the <b>Nodes</b> panel search from locating nodes that were saved in a Directory sub-folder.	LAE-22465
Fixed an issue that caused the <b>HTTP</b> node to drop one or two bytes from the end of the data if binary files were read using an <b>Input Raw</b> node before being sent via the <b>HTTP</b> node as a Content-Type application/octet-stream.	LAE-22376
Fixed an issue that caused users to be deleted from the user list after double-clicking their username to edit them.	LAE-22015
Fixed an issue that caused unnecessary warnings to be written to the webapp log.	LAE-22795
Fixed an issue that caused "doctd" errors.	LAE-22792
Fixed an issue that prevented you from opening a data flow by clicking the link in the details panel when a schedule was selected in the Directory.	LAE-22771
Fixed an issue that in some cases prevented you from closing the <b>About</b> dialog.	LAE-22685

Issue summary	Issue number
Fixed an issue that prevented the Coffee Shop tutorial data flow from working correctly in some locales.	LAE-22616
Fixed an issue on the <b>Reorder Fields</b> node that prevented changes from being saved when using the <b>Add Fields</b> dialog.	LAE-22590
Fixed an issue that prevented run dependencies from working correctly with composites.	LAE-22609
Fixed an issue that caused an extraneous filter item to be displayed when configuring some <b>Split</b> and <b>Filter</b> nodes.	LAE-22625 LAE-22121
Fixed an issue where the <b>CSV/Delimited Input</b> node was not correctly handling UTF-16 Byte Order Mark (BOM)s at the start of the input CSV file.	LAE-22535
Fixed an issue that caused the <b>Modify Fields</b> node to fail when converting a string or unicode input to an int or long type when the data contained only "0" and "1" values.	LAE-22513
Fixed an issue with the <b>Reorder Fields</b> node where if you ran the node immediately after reordering a field, the change in order was not always recognized.	LAE-22413
Fixed an upgrade issue that prevented data flow run properties from being named correctly.	LAE-22411
Fixed an issue where the <b>Convert to Library Node</b> menu option was not enabled when multiple nodes were selected.	LAE-22131
Fixed an issue that occasionally caused the <b>Excel File</b> node to run into Null Pointer Exceptions when processing XLSX files which were not generated by Excel, and were in a format where not all cell information contained a corresponding cell reference in the XML stored in the XLSX.	LAE-22102
The date picker used in the data viewer has been fixed so that the default value is today's date.	LAE-21882

Issue summary	Issue number
<p>Fixed an issue that prevented the <b>Modify Fields</b> node from successfully converting string and unicode fields to int or long data types. In some cases this caused a "NullPointerException". The fix ensures that the node respects the <b>NumericConversionErrorBehavior</b> property.</p>	LAE-21860
<p>Fixed an issue that prevented the <b>Modify Fields</b> node from correctly converting data types in cases where there were no input records, you had explicitly set the type of field to convert to, and where (in the non-zero record case) the conversion required analysis to determine how to convert.</p>	LAE-21832
<p>The <b>Modify Fields</b> node will now warn you if you enter a value in the <b>Format</b> field of the <b>OutputFields</b> grid when no format can be applied. Previously, the node ignored the specified format without a warning.</p>	LAE-21327
<p>Fixed an issue that caused a node error after applying a second <b>Filter</b> or <b>Split</b> node to the canvas from the data viewer.</p>	LAE-9858
<p>Fixed an issue that prevented you from updating the <b>Run Time Property Name</b> field on properties that were not at the top level of the data flow or library node.</p>	LAE-22853

## 4. Previous releases - 3.4.x

For information on the 3.4.x releases, see:

- [New in 3.4.0](#)
- [New in 3.4.1](#)
- [New in 3.4.2](#)
- [New in 3.4.3](#)

### 4.1 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.

#### 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 Data360 Analyze can be imported to any other 3.4.x version. This will allow backward compatibility in future versions of Data360 Analyze.

## Corrected issues

Issue Summary	Issue Number
Fixed a problem with the Lucene library that could cause index corruption.   <b>Tip:</b> Any customers with suspected index corruption should contact support for help.	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
Fixed an issue where the Properties panel did not open when the correct keyboard shortcut was used (Ctrl+3).	LAE-21360

## 4.2 New in 3.4.1

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

## 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" help topic.



**Note:** This is an experimental node that is not yet fully supported and may be subject to change in future versions.

### 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 instantiation 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.

## Corrected issues

Issue Summary	Issue Number
<p>Excel File node</p> <p>Fixed a problem where the Excel File node was not correctly reading some Excel files generated by 3rd party libraries - ie not by Excel - when the library created <code>.xlsx</code> files that had namespace qualifiers in the generated XML.</p>	LAE-21602
<p>Extract ERP Table node</p> <p>Fixed an issue where the ErrorDetails output defined some fields as containing string instead of unicode metadata, which could cause the node to fail on unmappable characters.</p> <p>Performance has been improved when extracting relatively small - in terms of byte size - fields, and ensuring some tables where the size of the key fields combined is greater than the RowByteLimit bytes can still be read so long as the size of the fields being extracted is less than the RowByteLimit.</p> <p>Fixed an issue that meant the error message when the size of the key fields was too large to be processed (greater than the RowByteLimit) reported the total key size incorrectly.</p> <p>Updated the way the node handles <b>Options</b>, by ensuring they fit into the size limits imposed by <code>RFC_READ_TABLE</code> when the Options are in the form <code>&lt;FIELDNAME&gt; in ('&lt;VALUE_1&gt;', '&lt;VALUE_2&gt;', ..., '&lt;VALUE_N&gt;')</code>.</p> <p>Fixed an error where the 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 by the user.</p>	LAE-21599

### Extract ERP Table node

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`.

LAE-21549

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.

The following properties have been added to the node.

### UniqueKeyFields

You can use the **UniqueKeyFields** property to specify the fields that form a unique key in the table.

- If no value is specified by this parameter, the node uses the value that is set in the server property  
`ls.brain.node.erp.sapconnector.extractTable.<TableName>-Keys`.
- 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.
- Pre-configured defaults have been added for BSAD, BSAK, BSEG, BSAS, BSID, BSIK, BSIP and BSIS. If there is no **UniqueKeyFields** property set, no corresponding `ls.brain.node.erp.sapconnector.extractTable.<TableName>-Keys` 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.

### UnexpectedExtractKeysBehavior

**UnexpectedExtractKeysBehavior** determines the behavior - one of **Error**, **Log**, or **Ignore** - 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 **RowBatchSize** and the **RowCount**.

The default value is **Log**.

Extract ERP Table node

### MissingExtractKeysBehavior

LAE-21549

The **MissingExtractKeysBehavior** property determines the behavior - one of **Error**, **Log**, or **Ignore** - 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.

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 **UniqueKeyFields** 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.

If set to **Error**, the node errors when a mismatch is encountered and the error details are also written to the error output pins.

If set to **Log**, the error details are also written to the error output pins when such a mismatch is encountered.



**Note:** The node can still fail if the value is set to **MissingExtractKeysBehavior**, because the errors contribute to the error count, and the node will fail if **ErrorThreshold** is exceeded.

If set to **Ignore**, the errors are simply ignored and nothing is written to the error output pins.

The default value is **Log**.

Issue Summary	Issue Number
Extract ERP Table node	
The performance of the Extract ERP Table node has been improved.	LAE-21540
The default value of the <b>RowBatchSize</b> property has been updated to 100 000.	LAE-21539
Fixed an issue where the <b>Extract ERP Table</b> node failed with a key mismatch error in some cases when extracting records that contain key fields with leading whitespace characters.	LAE-21538
Fixed an error where the <b>Extract ERP Table</b> node failed 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 where the <b>Extract ERP Table</b> node could fail when run with multiple <b>Options</b> clauses provided from an input field.	LAE-21534
Fixed an issue where the <b>Extract ERP Table</b> node would error if there were any key fields in the "DD03L" table for a given table to extract, when the specified field was not returned in the <b>FIELDS</b> response from <b>RFC_READ_TABLE</b> for that table. Some fields, for example <b>INCLUDE</b> , can be referenced in the "DD03L" table without being present in the table extracts, and should be ignored. In this case, the node now issues a warning, and additional fields from the "DD03L" table are ignored.	LAE-21499
Fixed an error where the <b>Extract ERP Table</b> node would operate incorrectly, and failed reporting "A condition specified dynamically has an unexpected format.". This could happen if the node needed to generate a query to extract data, where one of the key field values in the query contained a single quote.	LAE-21498

Issue Summary	Issue Number
<p>Extract ERP Table node</p> <p>Fixed an error where the <b>Extract ERP Table</b> node would operate incorrectly and could fail, reporting that data had changed in the SAP system. The node could fail if it needed to perform multiple queries on key fields in a table where the key fields were taking up more than 127 bytes.</p>	LAE-21497
<p>Fixed an error where the <b>Extract ERP Table</b> the node would error with a message returned from SAP "Whole number overflow on addition" if a <b>RowSkips</b> value was set but no <b>RowCount</b> value was set.</p>	LAE-21490
<p>LDAP</p> <p>Fixed an issue where an LDAP User Import was removing the System Role from previously imported users, preventing them from adding properties to nodes.</p>	LAE-21598
<p>API</p> <p>Fixed a problem 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.</p>	LAE-21563
<p>XML Data node</p> <p>Fixed an issue where the <b>XML Data</b> node would previously error with a <code>NullPointerException</code> if the following conditions were met:</p> <ul style="list-style-type: none"> <li>• The node was processing data from an input</li> <li>• <b>PassThroughFields</b> is 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

Issue Summary	Issue Number
<p>FTP nodes</p> <p>Fixed an issue where node properties could be displayed in <b>FTP Get</b> error messages.</p>	LAE-21517
<p>Backup</p> <p>Fixed an issue where backups failed 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>User interface</p> <p>Fixed issue where misleading errors could be shown if a user clicked the <b>Save</b> button in a Data Flow twice in quick succession.</p>	LAE-21447
<p>Sort node</p> <p>Fixed an issue where the <b>Sort</b> node could run out of memory when processing large numbers of very narrow records, by reducing the per-record memory footprint for record keys.</p> <p>The <b>BufferSize</b> property on the <b>Sort</b> 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 in the case of many very narrow records followed by some very wide ones - 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.</p> <p>The same property has also been added to <b>Merge</b> and <b>Join</b> nodes.</p>	LAE-21443
<p>Shutdown</p> <p>Fixed an issue where shutdown scripts could corrupt the database if they did not complete properly, preventing Data360 Analyze from being restarted.</p>	LAE-21400

## 4.3 New in 3.4.2

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

### Corrected issues

Issue Summary	Issue Number
Fixed the link from the application to the 'Python Scripting' section of the help.	LAE-21623
Fixed an issue that prevented parent nodes from resolving correctly after importing legacy data flows and legacy library nodes if a library node inherited from a parent library node and shared the same name as the parent.	LAE-21640
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 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

## 4.4 New in 3.4.3

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

### What's new

#### JDBC nodes

The **DBOptions** property of the **JDBC Query**, **JDBC Execute**, and **JDBC Store** nodes has been converted to a multi-line property.

You can now specify each option as a key/value pair on a separate line. For example:

```
key1=val1  
key2=val2
```

You can also still specify all options on a single line, delimited by an ampersand character. For example:

```
key1=val1&key2=val2
```

### Python editor

Following the [Style Guide for Python Code](#), the Python Editor that you can use to add Python scripting to nodes has been updated to indent by four spaces and convert tabs to spaces when indenting.

### DB2 drivers

Previously, to use DB2 you needed to download and install the DB2 drivers. DB2 drivers are now included with Data360 Analyze.

### Data viewer

A system property has been added that you can use to define the number of records that are displayed in the Data Viewer. Previously, the data viewer displayed a maximum of 1000 records.

To configure the property, add the following line to your site.prop file, replacing `<records>` with the required value:

```
ls.lae.dataviewer.pageSize=<records>
```

The value will be applied to all users.

The maximum value is 20 000. If you enter a value greater than 20 000, the first 20 000 records will be displayed.

### BRD File node

Support for PassThroughFields has been added to the **BRD File** node.

## Corrected issues

Issue Summary	Issue Number
Fixed an issue where the <b>XML Data</b> node sometimes produced incorrect output when flattening complex, nested, repeating structures into flat output records.	LAE-21990
Improved error handling and error messaging when the <b>Change Metadata</b> node fails when trying to change a field to Datetime where the input is unicode and contains a value of "Null" as opposed to being a NULL value.	LAE-21956
Fixed an issue in the <b>Sample</b> node where the link to the documentation for the node was incorrect.	LAE-21955
Fixed an issue attempting to move a document to its present directory, and resolving the Move Conflict by using the Change ID action caused an authentication error.	LAE-21947
Fixed an issue in the data viewer where some valid dates were being incorrectly flagged as invalid when used in a filter.	LAE-21941
Fixed an issue with the <b>XML Data</b> and <b>JSON Data</b> nodes where they would sometimes fail with cryptic errors when processing very large (multi GB) data files with a structure that required the data to be saved to a <code>.tmp</code> file during parsing.	LAE-21939
Fixed an issue where it was possible to delete imported LDAP users while deleting multiple users.	LAE-21936
Fixed an issue with nodes, for example <b>Meta Check</b> , where downstream items incorrectly triggered "execution has no running processes but there are still nodes executing" warnings. If downstream nodes were in a composite that was not part of the execution, further warnings could incorrectly be displayed.	LAE-21931
Fixed an issue where the <b>Modify Field Prefix</b> node was classified as a superseded node.	LAE-21919

Issue Summary	Issue Number
Fixed an issue when using the <code>todict()</code> method on the python "fields" objects, where the keys in the dictionary were converted to lower-case from the input field names. The case of the input metadata is now preserved, and used for the dictionary keys.	LAE-21897
<p>Fixed an issue where a system backup could not run while there were any ongoing executions or schedules.</p> <p>Active executions are now effectively suspended, and resumed when the backup is completed, so ongoing executions should not interfere with the system backup.</p> <p>Previously, the backup system paused the scheduler, and waited until all currently running executions and schedules were completed. If you had very long running or unresponsive nodes, this could cause an outage while the system waited to perform the backup.</p>	LAE-21869
Fixed an issue in the <b>Merge</b> and <b>Lookup</b> nodes where it was not possible to type the name of a field in the <b>Match Keys Grid</b> to filter column names in order to find the correct column.	LAE-21864
Fixed an issue where the system could become deadlocked if an operation to clear a node's state interfered with an ongoing execution.	LAE-21839
Fixed an issue where an error in a node's Enabled property, was not always displayed correctly in the error panel.	LAE-21830
Fixed an issue related to connecting to a Kerberized SFTP server when using user/password to authenticate.	LAE-21827
Fixed an issue where a run property value could not be cleared after it was set in a schedule definition.	LAE-21815
Fixed an issue where the Data360 Analyze Script <code>groupString</code> macro was not working correctly when only one argument was supplied.	LAE-21770

Issue Summary	Issue Number
Fixed an issue where the Data360 Analyze Script function operators using the "&" token were not working in conjunction with the "and" and "or" operators, for example when using the "reduce" function, <code>x = reduce(&amp;and, something)</code> or <code>x = reduce(&amp;or, something)</code> .	LAE-21769
Fixed an issue where imported legacy BRGs that contained bypasses that were meant to pass through bundled data sets were only passing through the first data set.	LAE-21768
Fixed an issue where BRGs using the Windows file format could be corrupted when imported to Linux Data360 Analyze installations, causing a data flow to fail.	LAE-21688
Fixed an issue where the <b>CSV/Delimited Data</b> and <b>Create Data</b> nodes could fail with a "Stream Closed" error when the system was under heavy load.	LAE-21431
Fixed an issue where modifying properties on a node within a composite node could cause a permissions problem, preventing a user from copying the composite node.	LAE-10520

## 5. 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 Data360 Analyze experts.

### 5.1 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 Data360 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>

## 5.2 Web application

The following table lists Data360 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>



Feature	Description
Links from tooltips to help	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.
Logistic Regression node	The Logistic Regression node does not support Unicode for categorical data.

## 6. 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**:

Sign in to Infogix

Email

Password

Stay signed in

**Sign in**

[I am an Agent](#)

[Forgot my password](#)

[New to Infogix? Sign up](#)

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 Data360 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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