Release Notes

Legal notice

Copyright

Apache Hive, Hive are trademarks of The Apache Software Foundation.

Apache Spark, Spark, Apache, and the Spark logo are trademarks of The Apache Software Foundation.

Microsoft and SharePoint are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

MongoDB and Mongo are registered trademarks of MongoDB, Inc.

Qlik®, Qlik Tech®, QlikView® and the Qlik Tech logos are trademarks or registered trademarks of Qlik Tech International AB.

Salesforce, SALESFORCE.COM and others are trademarks of salesforce.com, inc. and are used here with permission.

Tableau and Tableau logo are registered trademarks of Tableau Software, Inc.

TIBCO® Enterprise Runtime for R are either registered trademarks or trademarks of TIBCO Software Inc. and/or its subsidiaries in the United States and/or other countries.

The names of actual companies and products mentioned herein may be trademarks or registered trademarks of their respective owners.

Disclaimer

> **Tip:** We recommend that you check our website for the latest documentation as minor updates or improvements may be made to the Help between releases.
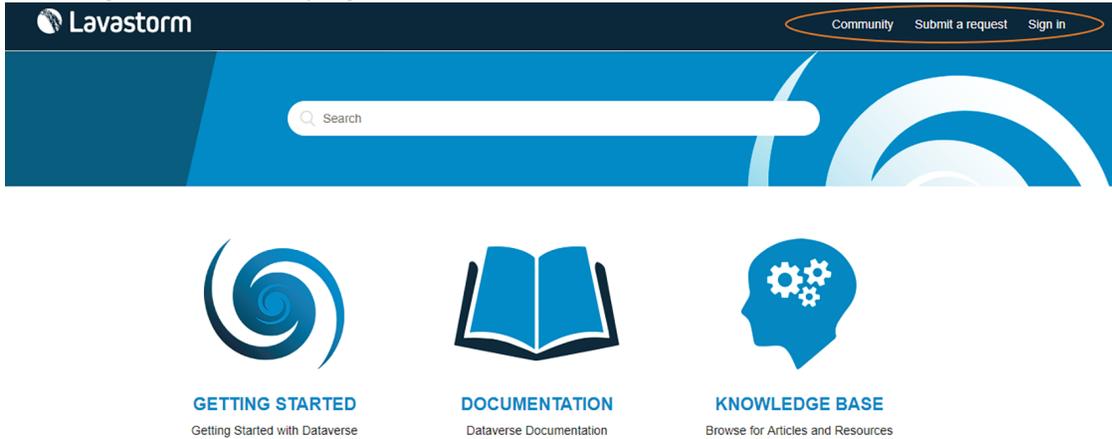
> **Note:** The images in this help are used purely for illustrative purposes and may display license-dependent functionality.

Contact us

If you encounter any technical issues, we recommend that you visit the Dataverse Forums at help.lavastorm.com. If your query has not been discussed previously in the forums, you can create a new topic and receive answers from our Dataverse experts.

Alternatively, you can log a support ticket:

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

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

2. Once you have registered and signed in, select **Submit a request** from the top right corner of the screen.

3. Complete all fields, then click **Submit** at the bottom of the screen.

Download

Lavastorm recommends that you use the latest version of the product. To download Dataverse, please go to http://www.lavastorm.com/product-downloads/.

Our product is constantly evolving and input from you is highly valued. If you have any suggestions, please contact the product team at product@lavastorm.com.
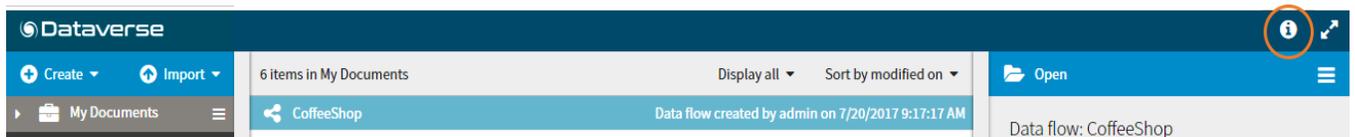
Table of contents

1. Welcome to Dataverse

Dataverse is a web application that provides a comprehensive solution for agile data management and analysis, allowing you to build analytic applications that can be shared across teams with other Dataverse users. For more information about our Dataverse server and desktop product options, please visit http://www.yourdataverse.com/product/#features.

This document provides an overview of the latest release of Dataverse. For information on installing Dataverse, 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:

Build data flows

- To help beginner and intermediate users get started, you can filter the number of nodes that are displayed to show only a curated set of commonly used nodes. If you are looking for our more advanced nodes, you can easily switch to display all available nodes, or search to find a specific node.

- Using one of the Input Connector nodes, you can import data from sources such as Microsoft Excel or CSV, or from big data platforms such as Hadoop or MongoDB.

- You can then build out your data flow by connecting nodes and configuring their properties to customize the analysis that is performed on the underlying data at each step through your data flow.

- You can quickly access commonly used tools for working with your data flow, including: Running and re-running a data flow, save, cut, copy and paste, undo and redo.

- Using one of the Output Connector nodes, you can publish the results to a file or another system, for example to Excel or to a data visualization tool such as Tableau or Qlik.

- Depending on your license, you can also configure data flows to automatically execute on a scheduled basis.

Simplify, re-use and share

- You can simplify complex data flows by grouping subsets of your application into a single composite node.

- You can create your own custom library nodes for reuse in multiple data flows.

- You can share your data flows and custom nodes with other Dataverse users.

Analyze data

- You can view the underlying data at each step through your data flow.

- When viewing large data sets, you can filter and sort the data to display only relevant information.

- Data from any point within the data flow can be exported to an external file for external viewing and sharing.

1.1 Setup requirements

	Dataverse Server	**Dataverse Desktop**
Supported platforms	The following operating systems are supported on the Dataverse server product: - Windows Server 2016 64-bit (Server with Desktop Experience) - Windows Server 2012R2 64-bit - RedHat Enterprise 6.X 64-bit - RedHat Enterprise 7.X 64-bit The following browsers are supported on both server and desktop: - Chrome - Internet Explorer 11	The following operating systems are supported on the Dataverse single-user desktop product: - Windows 7 64-bit - Windows 10 64-bit

	Dataverse Server	**Dataverse Desktop**
System requirements	The minimum hardware specification for the server product is as follows: • 8GB RAM base + 1GB for Database + 2GB per core. For installations on Windows Server, you must install the required Visual C++ Redistributable Packages for Visual Studio 2013. **Note:** 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.	The minimum hardware specification for the desktop product is as follows: • 8GB RAM. • Intel Core i5 or 4-core equivalent processor minimum (i7 recommended).
	Note: 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.	
App server databases	Postgres	H2
Authentication servers (server only)	• Active Directory • OpenLDAP	N/A
Authentication protocols (server only)	• LDAP • LDAPs	N/A

	Dataverse Server	Dataverse Desktop
Single Sign-On (server only)	CA Single Sign-On Dataverse is tested against CA Single Sign-On v12.6 where it is integrated via the SiteMinder Access Gateway component. Other versions of CA Single Sign-On which support the SiteMinder Access Gateway may also work. Integrating with previous versions of CA Single Sign-On, where the SiteMinder Access Gateway is not available, may also work where those versions support the SiteMinder Secure Proxy Server component.	N/A
App servers	Tomcat 8.5.23	
Accessible databases	Within the Designer, you can connect your analytic application to a number of databases. The following accessible databases are supported: • Oracle 11g, 12c • Teradata 14.10 / 15.10 • MySQL • MS SQL Server 2012 • MongoDB 2.4.9 • Spark 1.5.0 • Hadoop 2.6.0	

2. What's new in 3.2.0?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

★ N^{EW}	Improved import process	✓ F^{IX}	Open data flows
★ N^{EW}	Notification of missing library nodes	✓ F^{IX}	Directory refresh
★ N^{EW}	MongoDB nodes	✓ F^{IX}	Node logs
★ N^{EW}	Enhanced library node information	✓ F^{IX}	Rewire composite input
★ N^{EW}	Salesforce node assignment rules	✓ F^{IX}	Field menu button
★ N^{EW}	Password properties	✓ F^{IX}	Timeout
★ N^{EW}	Performance improvement	✓ F^{IX}	Node execution
★ N^{EW}	UI enhancements	✓ F^{IX}	LAE server connection
★ N^{EW}	JDBC drivers	✓ F^{IX}	Property "default" value
✓ F^{IX}	Excel File node	✓ F^{IX}	Schedule a data flow
✓ F^{IX}	Data Converter node	✓ F^{IX}	Save changes
✓ F^{IX}	Lookup node	✓ F^{IX}	Node connections
✓ F^{IX}	Output Tableau node	✓ F^{IX}	Re-run nodes
✓ F^{IX}	JDBC nodes	✓ F^{IX}	Users and groups
✓ F^{IX}	Launch Dataverse Desktop		

> **Note:** The v2 version of the published APIs have been deprecated in this release. We recommend that you upgrade to use v3 of the published APIs.

2.1 New features and enhancements

Feature	Description
Improved import process	When you import a document, you are now able to choose a target folder, and if there are any import conflicts, you can decide whether to overwrite the existing document or import to a different location.

Feature	Description
Notification of missing library nodes	When you open a document (data flow or library node), the library paths defined for that document are used to locate all dependencies so that the document can be reconstructed. If there are library nodes used by the document which cannot be found, then your document will not be able to reconstruct itself. In this case, you will see the **Library Node Conflicts** dialog where you can investigate which nodes are missing and resolve the issue.
MongoDB nodes	The MongoDB nodes have been rewritten and now use the 3.6.3 version of the MongoDB driver. **Note:** This is a breaking change. You will need to reconfigure any data flows that contain one of the MongoDB nodes. For more information, please see the MongoDB documentation, for example: https://docs.mongodb.com/ecosystem/drivers/driver-compatibility-reference/
Enhanced library node information	If you have a data flow that contains a missing ("unspecified") library node, the error messaging has been improved to include the node's last known name and location. This can help you to identify whether the node is located at a library path that is not referenced by the data flow, or if it has been deleted.
Salesforce node assignment rules	The Dataverse Update for Salesforce node has a new **UseActiveAssignmentRules** property which allows you to override the default Assignment Rule behavior if you do not want to apply the active assignment rules. For more information see the Salesforce documentation, for example: https://developer.salesforce.com/docs/atlas.en-us.api_rest.meta/api_rest/headers_autoassign.htm
Password properties	In general, password property values are encrypted. However, to increase the portability of data flows between systems, if a password property contains textual substitution (e.g. `{{^otherproperty^}}`, the substitution expression is now treated as a string value and is not encrypted. This does not pose a security risk given that the substitution expression is not itself sensitive but rather, is referring to a sensitive value stored elsewhere. **Note:** For security, it is therefore recommended that you only substitute password properties into other password properties.
Performance improvement	The performance of nodes when processing a moderate number of records has been greatly increased due to a new in-container execution process, whereby nodes are processed in a "container" to reduce the latency in initializing node execution.

Feature	Description
UI enhancements	The width of dialog boxes has been rationalized to ensure consistency when multiple dialogs are shown in a flow.
JDBC drivers	The Amazon Redshift and SQL Server drivers that are shipped with Dataverse have been upgraded.

> **Note:** All superseded nodes are now hidden from the **Nodes** panel by default. These nodes are still available for backwards compatibility and can be displayed by choosing **Show Superseded Nodes** from the **Nodes** panel menu, however, it is recommended that you begin using the new Python-based nodes where possible.

2.2 Corrected issues

Issue summary	Issue number
Excel File node When importing data from an Excel file that contains a broken formula, the error messaging has been improved to help you to identify which cell contains the invalid data.	LAE-9824
Data Converter node The Data Converter node has been fixed so that it will not erroneously convert Unicode type fields into string type fields.	LAE-8372
Lookup node The Lookup node error messaging has been improved in cases where there are duplicate keys on the lookup input.	LAE-9957
Output Tableau node The error messaging has been improved on the Output Tableau node when the specified project does not exist.	LAE-9877

Issue summary	Issue number
JDBC nodes	
Resolved an error that was encountered when working with the JDBC Store node to load data into Teradata tables with the **LoadMethod** property set to **optimized**, where some non-string fields contained both null and non-null values. This fix ensures that for the Teradata driver, when storing non-null non-string data, the data to store is set on the driver using the JDBC type of the column against which it is to be bound (if the type is known).	LAE-10012
Launch Dataverse Desktop	
Resolved an issue where Chrome users were not being automatically directed to the Dataverse login page after launching the Desktop application.	LAE-9925
Open data flows	
Resolved an issue that prevented you from opening LNAs which were identified as having issues during import.	LAE-9906
Resolved an error that was seen after viewing a scheduled run then attempting to open a data flow from a different folder in the Directory.	LAE-9891
Resolved an error that was seen after a restart when attempting to open an existing data flow before creating a new data flow.	LAE-10003
Directory refresh	
The Directory screen will now automatically update to display the latest information after a document is imported and when multiple folders are selected for delete.	LAE-9869 LAE-9598
Node logs	
Resolved an issue where the node log was becoming corrupted when the Delimited File node imported invalid encoded values into a string field. This fix ensures that the node log will no longer become corrupted in this situation.	LAE-9722
Resolved an issue where node logs could be erroneously deleted during node execution.	LAE-9953

Issue summary	Issue number
Rewire composite input Resolved an issue where in certain situations, rewiring the input of a composite caused errors when the node was executed.	LAE-9962
Field menu button Resolved an issue where the field menu button was in some cases incorrectly displayed against a white background.	LAE-9671
Timeout Resolved an issue where in some cases, after a period of inactivity, an error message was displayed rather than the timeout screen, preventing continued use of the application.	LAE-9151
Node execution Resolved an issue where a data flow may continue to appear to be running despite the execution having failed to complete successfully.	LAE-9937
LAE server connection Users can now access the web application if the LAE server is down. Additionally, the error handling has been improved when the LAE server is down and a user attempts to execute a node.	LAE-9872 LAE-9871
Property "default" value The **default** option has been removed from the property drop-down menu to resolve an issue where it was being set incorrectly. You can use the **Restore Default Value** to return the property value to its default.	LAE-9890
Schedule a data flow Resolved an error that was seen when attempting to select a data flow in the **Schedule a Data Flow** dialog.	LAE-9907
Save changes Resolved an error that was sometimes encountered when saving immediately after making changes to your data flow.	LAE-9984

Issue summary	Issue number
Node connections	
Resolved an issue where making a connection from an output pin to an optional input pin caused the application to freeze.	LAE-9986
Resolved an issue where inserting a new node while adding a connection caused the application to freeze.	LAE-9813
Re-run nodes	
Resolved an issue where the re-run functionality would not complete successfully when attempting to re-run a set of Create Data nodes that had been edited after an initial run.	LAE-9408
Users and groups	
When multiple items are selected in the Directory, and one of the items is an imported user or group, the delete user/group menu option is no longer available.	LAE-9923
Resolved an issue that caused the delete action to fail if there were missing user preferences.	LAE-9919 LAE-9920
The error messaging has been improved on application startup if there are missing user preferences.	LAE-10010
Resolved an issue that caused LDAP/AD updates to fail when a member was missing from a group.	LAE-9935
Resolved an issue that prevented the editing of user groups.	LAE-9909
Resolved an issue that prevented users from being able to log in when one of the user groups within Dataverse was missing a specified member.	LAE-9870
The groups list is now automatically refreshed after any change is made to a group from the **Edit Group** dialog.	LAE-9737 LAE-9735
Resolved an issue that prevented the creation of a new user with the same name as another user, even if the existing user had been renamed.	LAE-9940

3. What's new in 3.1.8?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

★ NEW	Database connection enhancement	✓ FIX	Group nodes into Composite
★ NEW	Amazon Redshift driver	✓ FIX	Export data
★ NEW	Excel File node	✓ FIX	Statistics node
★ NEW	Hash Split node	✓ FIX	Field data types
★ NEW	Node help discoverability	✓ FIX	Nodes fail to complete
★ NEW	Python scripting improvement	✓ FIX	Advanced script edits
★ NEW	Startup time	✓ FIX	Node property configuration
★ NEW	Audit logging	✓ FIX	Aggregate node
✓ FIX	Import LNA created in newer version	✓ FIX	Spark node Kerberos authentication
✓ FIX	Shortcut key combinations	✓ FIX	Open Document as Read-Only dialog

3.1 New features and enhancements

Feature	Description
Database connection enhancement	The JDBC Query, JDBC Execute and JDBC Store nodes have been enhanced to simplify the process of connecting to external databases that use drivers which ship with Dataverse.
Amazon Redshift driver	As part of the JDBC node enhancements, the Amazon Redshift driver is again included as part of the Dataverse installation.
Excel File node	There is a new **TrimFieldNames** property on the Excel File node which allows you to configure whether to trim field names from Excel columns on import. Using this feature and choosing to auto-name duplicate fields on import can be used to help disambiguate fields from the Excel workbook(s) which only differ in their names by leading or trailing whitespace characters.

Feature	Description
Hash Split node	The Hash Split node has been superseded by a new version which moves away from the legacy Dataverse Script language. The Hash Split (Superseded) node is still available for backwards compatibility, but it is recommended that where possible you now use the new Hash Split node.
Node help discoverability	The discoverability of the node help from the **Properties** panel has been improved in this release.
Python scripting improvement	Pattern objects can now be used in the **Advanced** tab of record key properties (**Match Keys**, **GroupBy** and **SortBy**). This allows you to specify multiple input fields on which to join, group or sort data based on fields that match a pattern.
Startup time	The Dataverse startup time has been improved in this release.
Audit logging	Node execution actions are now included in the Dataverse audit log.

> **Note:** The SharePoint 2010 nodes have been deprecated and will not be supported in a future release. As an alternative, the SharePoint 2013 nodes can be used to provide similar functionality.

3.2 Corrected issues

Issue summary	Issue number
Import LNA created in newer version The error messaging has been improved to help you to identify the cause of any issues when importing an LNA file that was exported from a more recent version of Dataverse.	LAE-9629
Shortcut key combinations Resolved an issue that caused the **AltGr** + **9** key combination to invoke the **Ctrl** + **9** keyboard shortcut.	LAE-9709
Group nodes into Composite Resolved an error that was seen after using the **Group Nodes** button twice in succession.	LAE-9559

Issue summary	Issue number
Export data Resolved an issue that prevented the export of data from the data viewer and the export of documents from the Directory if the data flow name contained a comma.	LAE-9786 LAE-9731
Statistics node Resolved an error that caused the Statistics node to fail when no fields were specified in the **FieldList** property.	LAE-9766
Field data types The error messaging has been improved in cases where Unicode characters are found in a string field.	LAE-9723
Nodes fail to complete Resolved an issue that caused nodes to fail to complete a run when connected to a node with errors.	LAE-9725 LAE-9767
Advanced script edits Resolved an issue where script edits in the **Advanced** tab of a property were not saved after navigating away to another part of the application.	LAE-9701
Node property configuration Resolved an issue where evaluated property values were in some cases being shown in the **Configure** tab.	LAE-9762
Aggregate node Resolved an issue where fields containing data of type long were not available to select when using the Aggregate node to perform a numeric operation e.g. Sum or Average.	LAE-9796
Spark node Kerberos authentication Resolved an issue with the Spark nodes where Kerberos authentication would fail with usernames that contain "@" signs (e.g. user@example.com) when the **ServerAuthenticationMethod** property was set to **Kerberos Isolated**.	LAE-9817

Issue summary	Issue number
Open Document as Read-Only dialog When opening a document that was already opened for edit by another user, the **Open Document as Read-Only** dialog was displaying the user ID rather than the username. Also, the **Return to Directory** button was not allowing the user to exit to the directory. These issues have now been resolved and the **Return to Directory** button has been renamed to **Exit to Directory** for consistency with other dialogs in the application.	LAE-9772 LAE-9809

4. What's new in 3.1.7?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

⭐N^{EW}   New AzureBlob nodes   ⭐N^{EW}   Tomcat upgrade

⭐N^{EW}   Meta Check node   ✓F^{IX}   Bundlers and unbundlers

⭐N^{EW}   Publish to Tableau Server   ✓F^{IX}   Node names on canvas

⭐N^{EW}   Delete run data   ✓F^{IX}   Loss of node run status

⭐N^{EW}   Create library node from custom node   ✓F^{IX}   Move into Composite

⭐N^{EW}   Zero record output metadata ✓F^{IX}   License application

⭐N^{EW}   File picker   ✓F^{IX}   Composite with unresolved nodes

⭐N^{EW}   Node icons   ✓F^{IX}   HTTP node

⭐N^{EW}   Python scripting help link   ✓F^{IX}   Spaces in username

⭐N^{EW}   Performance improvement

4.1 New features and enhancements

Feature	Description
New AzureBlob nodes	There are four new AzureBlob nodes available in this release: AzureBlob Get, AzureBlob List, AzureBlob Delete and AzureBlob Put. The Azure nodes enable you to integrate your data flows with Azure and access data from Azure containers.
Meta Check node	The Meta Check node, which was available in older versions of the Lavastorm product, is now available in Dataverse. You can use this node to enable the conditional running of paths within a data flow.
Publish to Tableau Server	The Output Tableau node now has the option for you to publish data directly to Tableau Server.
Delete run data	You can now easily free up system space by deleting run data from the Directory (including node status information and temporary files associated with runs).

Feature	Description
Create library node from custom node	When creating a new library node, you can base the new node on any node that you have access to, including custom library nodes.
Zero record output metadata	It is now possible to click on the output pin for data sets with zero records to view the corresponding metadata (field names and data types) in the data viewer.
File picker	The file picker is now available on the **LocalPath** property of the FTP Put and Upload for SharePoint nodes, allowing you to more easily browse to the files that you want to upload.
Node icons	The icons for some nodes have been updated to make them more easily recognizable.
Python scripting help link	As we continue to transition from Dataverse Script to the widely-used Python language, we have added a direct link to the Python scripting section of the help from the help menu in the top right corner of the application.
Performance improvement	The application is now more responsive when connecting nodes and drilling in and out of composites on large data flows.
Tomcat upgrade	The version of the Tomcat application server used with Dataverse has been upgraded to 8.5.23.

4.2 Corrected issues

Issue summary	Issue number
Bundlers and unbundlers Resolved an issue that prevented bundlers and unbundlers from working correctly when the output of an unbundler provided the input for a bundler.	LAE-9571
Node names on canvas Resolved an issue where drilling in and out of a Composite while it was running caused node names to remain on the canvas.	LAE-9577
Loss of node run status Resolved an issue where node run statuses were not retained if a data flow was executed before it had been saved.	LAE-9570

Issue summary	Issue number
Move into Composite Resolved an issue that prevented nodes from being moved into a Composite when the Composite had already been run.	LAE-9568
License application If an issue is encountered when applying a license, the error messaging has been improved to provide additional details on the issue, such as if the CPU limit is lower than that available on the machine, or if the hostname that the license is locked to is different to the hostname of the machine that is being licensed.	LAE-9547 LAE-8887 LAE-8886
Composite with unresolved nodes Improved the error messaging for issues encountered when attempting to copy a Composite that contains an unresolved node.	LAE-9364
HTTP node The error messaging has been improved on the HTTP node to clarify if the directory specified in the **DataOutputDirectory** property does not exist.	LAE-8942
Spaces in username Resolved an issue that prevented Python-based nodes (e.g. the Transform node) from running when the Windows username contained space characters.	LAE-9668

5. What's new in 3.1.6?

Dataverse Server and Dataverse Desktop

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

⭐ NEW Folder support	✔ FIX Cut, copy and paste
⭐ NEW Library paths	✔ FIX Wait and re-run dependencies
⭐ NEW Dialog box display	✔ FIX Extract ERP Table node
⭐ NEW Data quality indicators	✔ FIX Rename inherited property
⭐ NEW Performance improvements	✔ FIX Breadcrumb navigation in library node
⭐ NEW New Transpose node	✔ FIX Overwrite renamed data flow
⭐ NEW New S3 nodes	✔ FIX Transform node
⭐ NEW Script-free Aggregate node	✔ FIX Run property name
⭐ NEW Script-free Merge, Lookup and Join nodes	✔ FIX Rename a node
⭐ NEW CSV/Delimited Input node	✔ FIX Aggregate node
⭐ NEW Band By Deviation node	✔ FIX JSON Data node
⭐ NEW Duplicate Detection node	✔ FIX CSV/Delimited Input node
⭐ NEW Histogram node	✔ FIX Sort node
⭐ NEW Net Present Value node	✔ FIX Composite connections
⭐ NEW Percent Rank node	✔ FIX Salesforce nodes
⭐ NEW Statistics node	✔ FIX Missing translation error
⭐ NEW Python API updates	

Dataverse Server only

In addition to the above new features and fixes, the Dataverse Server product now also supports the following:

⭐ NEW   Windows Server 2016 support

⭐ NEW   Dataverse Server on Amazon Marketplace

5.1 New features and enhancements

Feature	Description
Folder support	The Directory user interface has been enhanced to allow you to organize documents in folders. You can use nested folder structures to organize your documents, for example, by project, organization unit or document type. Additionally, users with the role of Administrator can access all folders on the system to perform administration tasks such as moving documents from a user's folder once they have left the organization.
Library paths	When you create a new document, or open an existing document, library paths are used to determine which nodes are available to you. You can edit the list of default library paths that apply to your documents or edit library paths at a document level to specify the locations to be searched when Dataverse attempts to locate a library node.
Dialog box display	The size of dialog boxes has been optimized to better align with the height of the browser window.
Data quality indicators	Clicking a data quality bar in the data viewer opens a histogram of the data values in the field and a number of statistics on the (sample) data shown (e.g. min, max, average, Std Dev, etc). There is now also the option to open the histogram by selecting **Statistics** from the column menu.
Performance improvements	When working with large data sets (millions of records), the new Python-based nodes generally process data more quickly than the nodes that they have superseded. Additionally, the application is now more responsive when navigating within a data flow which contains errors and when executing a subset of nodes within larger data flows.

Node updates

Feature	Description
New Transpose node	This release includes a new Transpose node which allows you to easily rotate data so that the rows from a selected input field become the column headers in the output.
New S3 nodes	There are four new S3 nodes available in this release: S3 Get, S3 List, S3 Delete and S3 Put. The S3 nodes enable you to access data from AWS S3 buckets, so that you can integrate your data flows with Amazon.

Feature	Description
Script-free Aggregate node	The Aggregate node has been enhanced to allow you to select fields and operations from an easy-to-use grid, as an alternative to using Python script.
Script-free Merge, Lookup and Join nodes	A number of the correlation nodes have been enhanced in this release to enable you to more easily combine related streams within your data flow by selecting match keys and output fields from an easy-to-use grid. The enhanced nodes are Python-based and have superseded the older Dataverse Script versions. For a full list of all nodes that have been superseded by new Python versions in this release, see Superseded nodes below.
CSV/Delimited Input node	When the CSV/Delimited Input node is configured to read delimited data from an input field, the node can now also obtain the associated field header information from an input field.

Note: The Output Tableau node now requires you to have Tableau 9.3 or later to process files produced by this node.

Superseded nodes

As we continue to transition from Dataverse Script to the widely-used Python language, many of our nodes that previously used Dataverse Script have been superseded by new Python-based nodes.

You may have used some of these superseded nodes in data flows that were created in earlier versions of Dataverse. Although the superseded nodes are still available for backwards compatibility, it is recommended that where possible you now use the new Python-based nodes:

Enhanced node	Superseded node
Band By Deviation	Band By Deviation (Superseded)
Duplicate Detection	Duplicate Detection (Superseded)
Histogram	Histogram (Superseded)

Enhanced node	Superseded node
Join	Join (Superseded)
	Join Inner (Superseded)
	Join Left (Superseded)
	Join Left Inner (Superseded)
	Join Right (Superseded)
	Join Right Inner (Superseded)
Lookup	Lookup (Superseded)
Merge	X-Ref (Superseded)
Net Present Value	Net Present Value (Superseded)
Percent Rank	Percent Rank (Superseded)
Statistics The new Statistics node has an additional **WideOutput** property where you can specify the output format.	Quick Stats (Superseded) Standard Deviation (Superseded)

Python API updates

The Dataverse Python API has been enhanced to allow you to perform additional tasks when working with Python script in the Python-based nodes. The following enhancements have been made:

Feature	Description
| Modifying metadata objects | Metadata objects are used to define the output data from a node. When an input field reference is removed from the metadata object, all items that refer to that input field are removed from the metadata object. This is because removing fields from a metadata builder is now "source" based, not "name" based. Therefore, when renaming field metadata in the **ConfigureFields** property, you must write the exclude metadata statement first, prior to inserting new field metadata that references the excluded input field. For example:<br><br>```
out1 =+ in1
out1 -= in1.oldName
out1.newName = in1.oldName
```<br>In this example, `out1 -= in1.oldName` must be written before `out1.newName = in1.oldName`. Reversing the order of these statements would exclude not only the original field metadata, but would also remove any output field that is mapped from the excluded input field.<br><br>To perform "name" based subtraction on the metadata, use the patterns applied to the output metadata builder, for example to remove the field "oldName" from the output:<br><br>```
out1 -= patterns.wildcard('oldName', out1)
``` |
| The `find` function | Added `find(<fieldName>)` functions to Record, Metadata and MetadataBuilder objects and `fields` to locate the index of a field by its name.<br><br>The `find` function on metadata would previously return the value of the object that was found. It now returns the index of the field, the field metadata, or $-1$ if the specified field does not exist on the metadata, e.g.<br><br>```
# Set 'idx' to the index position of the 'rand' field in
the data on input 'in1' if 'rand' is not present 'idx'
will be set to a value of -1

idx = in1.find('rand')
``` |
| Check field existence | To check to see if a field exists on an input, you can use the standard Python `in` mechanism, e.g.<br><br>```
if 'myField' in in1:
        out1 += in1.myField
else:
        node.logger.error('Missing expected field
        "myField"')
        raise node.fail()
``` |

Feature	Description
Dictionary representation of an object	It is now possible to create a dictionary representation of an object by using the `todict()` function. The `todict()` function is available on the Record, Metadata and MetadataBuilder objects and `fields`, and is similar to a Python `dict()` object, e.g. `inputDict = in1.toDict()`

Iterate over fields	Changed Record, Metadata and MetadataBuilder objects so that their iterators are over field names instead of values, e.g.
	
	`#In ConfigureFields. Rename all fields on the output to have a "Result." prefix. Loop over all field names.`
	
	`for fieldName in fields:`
	`        out1['Result.' + fieldName] = fields[fieldName]`

The `del` statement	Added support for `del out1[<fieldName>]` on metadata builder.
Error reporting	Enhanced error reporting on attempting to set items on read-only objects for example on metadata.

Server only

Feature	Description
Windows Server 2016 support	Dataverse Server now supports Windows Server 2016 (Server with Desktop Experience).
Dataverse Server on Amazon Marketplace	Dataverse Server is now available to purchase from Amazon Marketplace. You can choose the bring your own license (BYOL) option, or for the Dataverse Automation Server edition you also have the option to pay per hour.

5.2 Corrected issues

Issue summary	Issue number
Cut, copy and paste Resolved an error that was encountered when the copy and paste function was used multiple times in quick succession.	LAE-9238
Resolved issue that caused the canvas to freeze after a node was cut.	LAE-9174
Wait and re-run dependencies Resolved an issue where in certain cases, wait and re-run dependencies were not correctly enforced when the dependency involved nodes at different composite levels.	LAE-9211 LAE-9212 LAE-9200
Extract ERP Table node Resolved issue that caused the Extract ERP Table node to incorrectly split columns with `AND` or `OR` in their name when the **Options** property contained a clause longer than 72 characters.	LAE-9205
Rename inherited property Resolved issue where a "Cannot rename inherited property" error was seen on attempting to rename a property in any property group containing hidden inherited properties.	LAE-9204
Breadcrumb navigation in library node Resolved an error that was seen when opening a composite inside a library node, then using the breadcrumb bar to navigate back up to another level of the library node.	LAE-9182
Overwrite renamed data flow Resolved an issue where importing a data flow overwrites any existing edited and renamed versions of the same data flow (originally imported from the same file).	LAE-9172
Transform node Resolved an issue that caused the Transform node to give a cache directory warning if the server was not running with administrator privileges.	LAE-9164

Issue summary	Issue number
Run property name Resolved an issue where after editing a run property name, the name was not automatically updated in the **Input Fields** menu.	LAE-8809
Rename a node Resolved an issue where the use of the Delete, Backspace or arrow keys when renaming a node would move or delete the node, rather than affecting the cursor position in the node name text field.	LAE-9197
Aggregate node Resolved issue where the Aggregate node would fail when summing data over a double field when all values in a group were Null.	LAE-9441
JSON Data node Resolved issue where the JSON Data node would occasionally fail on nested JSON data files when attempting to process the tmp files that it created.	LAE-9485
CSV/Delimited Input node The CSV/Delimited Input node now handles UTF-8 files with Byte-Order Marks (BOMs) and by default will now use UTF-8 as the character set, unless it detects a BOM informing it to use a different character set.	LAE-9481
Sort node The performance of the Sort node has been enhanced when sorting double fields.	LAE-9270
Composite connections Resolved an issue where after creating connections through composites, the connection was in some cases displayed incorrectly and not recognized during execution.	LAE-9240
Salesforce nodes Resolved an issue that prevented the Salesforce nodes from working correctly with a trusted connection when using a proxy.	LAE-9114
Missing translation error Resolved issue that caused a "missing translation" error when the browser language was not set to British English or American English.	LAE-9460

6. What's new in 3.1.5?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

★ NEW [Aggregate node](#)	✔ FIX [Salesforce connection](#)
★ NEW [Band by Strata node](#)	✔ FIX [Excel nodes temp file management](#)
★ NEW [Filter node](#)	✔ FIX [Excel File node and XLSX files](#)
★ NEW [Remove Duplicates node](#)	✔ FIX [Create Data node with invalid datetime format](#)
★ NEW [Sort node](#)	✔ FIX [Node status icon](#)
★ NEW [Split node](#)	✔ FIX [Data Analyzer node data type conversion](#)
★ NEW [Transform node](#)	✔ FIX [X-Ref node](#)
★ NEW [Trim Fields node](#)	✔ FIX [Unspecified library node](#)
★ NEW [Directory user interface](#)	✔ FIX [Case sensitivity of data viewer filter and Filter node](#)
★ NEW [Restore default property value](#)	✔ FIX [Input Fields list](#)
★ NEW [Cat node string to Unicode conversion](#)	✔ FIX [Username with only numeric characters](#)
✔ FIX [Legacy data flow export](#)	✔ FIX [LDAP user authentication](#)
✔ FIX [Import legacy data flow with outdated nodes](#)	✔ FIX [Out of memory error](#)
✔ FIX [Import example data flow](#)	✔ FIX [UI stability improvement](#)
✔ FIX [Import legacy data flow error reporting](#)	✔ FIX [Run dependencies](#)
✔ FIX [Canvas display of composite name](#)	✔ FIX [Auto-Fix errors](#)
✔ FIX [Delete composite node input](#)	✔ FIX [Data flow execution and Script parsing](#)

6.1 New features and enhancements

Node enhancements

As we transition from Dataverse Script to the widely-used Python language, many of our nodes that previously used Dataverse Script have been superseded by new Python-based nodes.

You may have used some of these superseded nodes in data flows that were created in earlier versions of Dataverse. Although the superseded nodes are still available for backwards compatibility, it is recommended that where possible you now use the new Python-based nodes:

Enhanced node	Superseded node
Aggregate	Agg Ex (Superseded)
Band By Strata	Band by Strata (Superseded)
Filter	Filter (Superseded)
Remove Duplicates	Remove Duplicates (Superseded)
Sort The grid editor on the new Sort node now also allows you to easily compare substrings and sort case insensitively.	Sort (Superseded)
Split	Split (Superseded)
Transform Note that in the previous release, this node was experimental and was named "Python Transform". In this release, the Transform node has been further enhanced to include a **GroupBy** and **UnsortedInputBehavior** property.	Transform (Superseded)
Trim Fields	Trim Fields (Superseded)

Note: The Get Metadata node is no longer included in the **Favorites** subset of nodes in the **Nodes** panel, but is still available when **All Nodes** is selected.

Additional enhancements

Feature	Description
Directory user interface	You can now resize or collapse the side panels in the Directory, allowing you to modify the user interface to suit your preferences. As the size of the side panels is changed, the display of the Document list in the center of the screen is responsive and adjusts accordingly. The date format that is displayed in the Directory is now based on your browser settings, for example 7/26/2017 or 26/7/2017.

Feature	Description
Restore default property value	To clarify when a property is configured with the default value versus when the property is configured with a blank value, **Restore Default Value** and **Set to Blank** options are available from the property menu depending on the currently configured value. When a blank value is set, this is indicated by the word "Blank" in the property field.
Cat node string to Unicode conversion	When combining fields from multiple inputs, if the fields have the same name but are of different data types, the Cat node will now promote String data types to Unicode when the **TypeConversion** property is set to **None** or **Numeric** (default).

6.2 Corrected issues

Importing / exporting data flows

Issue summary	Issue number
Legacy data flow export In some cases, errors were seen when exporting a legacy data flow from Dataverse as an LNA file then importing it into another system. This issue has now been resolved.	LAE-9037
Import legacy data flow with outdated nodes Resolved issue that caused the import of a legacy data flow to fail if it contained outdated nodes. For example, a legacy node library is imported in which a composite library node has been edited to remove one of its contained nodes. A legacy data flow is then subsequently imported which contains an instance of this composite library node, but in its original unedited state. This results in the legacy data flow being out of sync with the legacy node library, causing the import to fail. To resolve this issue, in cases where there are instances of contained nodes that no longer exist in the parent library node, they are removed from the instance on import.	LAE-9053
Import example data flow Resolved issue where importing an example data flow caused the executions folder to be deleted.	LAE-9052

Issue summary	Issue number
Import legacy data flow error reporting The error messaging when importing a legacy data flow has been improved to include additional node information so that problematic nodes can be more easily identified.	LAE-8938

Nodes

Issue summary	Issue number
Canvas display of composite name Resolved issue where, after drilling into a composite, the composite name remained on the canvas if the cursor was in the composite name box.	LAE-8758
Delete composite node input Previously, deleting a single input on a Composite node would also delete all other connections that were connected to the same source node. This issue has now been resolved.	LAE-9109
Salesforce connection An issue that prevented the Salesforce nodes from connecting to Salesforce on Linux has now been resolved.	LAE-9074
Excel nodes temp file management Excel nodes will now write any temporary files to the node's output directory.	LAE-8984
Excel File node and XLSX files Previously, the Excel File node would open XLSX files in read/write mode which caused the node to fail if the Excel file was not writable by Dataverse. The Excel File node will now open XLSX files in read only mode.	LAE-8983
Create Data node with invalid datetime format Previously, when an invalid format was used for datetime data types, rather than producing an error, the Create Data node would output an incorrect date. This issue has now been resolved.	LAE-8961

Issue summary	Issue number
Node status icon When a node is running, a status icon below the node indicates that the run is in progress. In some cases, this node status icon would disappear if another node in the same data flow was edited while the node was running. This issue has now been resolved.	LAE-8951
Data Analyzer node data type conversion The Data Analyzer node no longer converts Unicode fields to String data types, as this could result in a loss of data.	LAE-8930
X-Ref node Previously, when the **Script** property of the X-Ref node was configured to exclude a field that appeared on both the left and right inputs, if the name of the field was inserted using the menu button, the input (left or right) was not automatically referenced, resulting in the field being excluded from the output altogether. This issue has now been resolved.	LAE-8921
Unspecified library node Previously, if a data flow was imported that contained an instance of a library node that did not exist in the system, the node displayed as "unspecified" even after subsequently importing an LNA that included the library node. This issue has now been resolved.	LAE-8783
Case sensitivity of data viewer filter and Filter node Previously, the filter applied to data in the data viewer was not consistent in terms of case sensitivity with the Filter node when added to the canvas from the data viewer. This discrepancy has been resolved.	LAE-8270
Input Fields list Previously, when configuring a node property by selecting an input field, it was in some cases necessary to click away from the node then reselect it in order to force the list of available fields to update. This issue has now been resolved and the list of input fields is populated as soon as the input data is available.	LAE-7558

User authentication

Issue summary	Issue number
Username with only numeric characters Resolved issue where users were not able to sign in to Dataverse if their username contained only numeric characters.	LAE-9016
LDAP user authentication Resolved issue that prevented non-admin users signing back in to Dataverse after a session timeout when the LDAP configuration was set to synchronize users on login.	LAE-9067

Additional fixes

Issue summary	Issue number
Out of memory error In some cases, performance issues were noticed during normal use of the application and an out of memory error was seen when the Dataverse processes had been running for a number of days, for example, it took longer than usual to open a data flow or load the Directory. This issue has now been resolved.	LAE-8977
UI stability improvement In some cases, a data flow would not successfully complete a run when executed after being edited. A stability improvement has been put in place to resolve this issue.	LAE-8769
Run dependencies Resolved issue where certain modifications to a data flow that contained nodes with run dependencies prevented clocks or events from having any effect.	LAE-8986
Auto-Fix errors Previously, Auto-Fix was not deleting connection points which were attached to inputs and outputs which no longer existed. Now, the Auto-Fix functionality will remove these connection points.	LAE-9139

Issue summary	Issue number

Data flow execution and Script parsing

In some cases, the use of very long chained Dataverse Script expressions prevented data flows from successfully completing a run, and it was not possible to stop the run or start a new run.

This issue has now been resolved.

Note: as part of this fix, the use of "`if`" in Script expressions has been restricted. For example:

LAE-9036

LAE-9050

LAE-9055

Allowed

```
x = if
(if a then c else d)
and
(if b then c else d )
then "foo" else "bar"
```

Not allowed

```
x = if
(if a then c else d)
and
if b then c else d
then "foo" else "bar"
```

7. What's new in 3.1.4?

Dataverse Server only

The following new features are available on Dataverse Server, subject to your license:

⭐ N^{EW} [Single Sign-On (SSO) integration](#)

⭐ N^{EW} [Dynamic user creation](#)

⭐ N^{EW} [Automatic LDAP/AD synchronization](#)

⭐ N^{EW} [Explorer user role](#)

Dataverse Server and Dataverse Desktop

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

⭐ N^{EW} [Convert to library node](#)   ⭐ N^{EW} [Audit log documentation](#)

⭐ N^{EW} [Manually run a schedule](#)   ✔ F^{IX} [Decision Forest node](#)

⭐ N^{EW} [Data quality indicators](#)   ✔ F^{IX} [CSV/Delimited Input node](#)

⭐ N^{EW} [Data viewer filter "Null" operators](#)   ✔ F^{IX} [Importing legacy data flows](#)

⭐ N^{EW} [Excel File node data types](#)   ✔ F^{IX} [Running legacy data flows](#)

⭐ N^{EW} [JDBC Execute and JDBC Query nodes](#)   ✔ F^{IX} [Processing date data types](#)

⭐ N^{EW} [Experimental Python Transform node](#)   ✔ F^{IX} [Data viewer display of white space](#)

7.1 New features and enhancements

Dataverse Server only

Feature	Description
Single Sign-On (SSO) integration	You can now integrate Dataverse with CA Single Sign-On (SiteMinder), allowing your users to sign in with the same set of user credentials (username and password) that they use elsewhere in your business.

Feature	Description
Dynamic user creation	If you have set up SSO or LDAP/AD integration, you can enable the automatic creation of users when they sign in to Dataverse. You can select a default role for these users which can be modified if necessary at a later date.
Automatic LDAP/AD synchronization	You can now configure Dataverse to automatically synchronize with your LDAP/AD server at regular intervals to gather the latest user account and group information.
Explorer user role	The new "Explorer" user role allows users to view and run data flows including uploading data and setting run properties as required for the run. They can also create and maintain schedules, and view the results of each of the runs. **Note:** The "End User" role has been renamed as "Designer" and the "Scheduler" role has been renamed as "Designer - Scheduler".

Dataverse Server and Dataverse Desktop

Feature	Description
Convert to library node	If you have one or more nodes in a data flow that you want to make available for use in other data flows, you can now easily convert them to a library node.
Manually run a schedule	In addition to the pre-determined times that you have scheduled for your data flow to run, you can now also manually run your schedule at any time when it is not already running. **Note:** The availability of this feature depends on your user role and license. If you do not currently have access to the Automation Services functionality, and would like to upgrade, please visit http://www.yourdataverse.com/product/#features to learn more about our Dataverse product options.
Data quality indicators	Colored data quality bars are now displayed on each column in the data viewer, enabling you to quickly identify any fields that may contain low quality data. The length and color of the bar indicates the quality of each field of data. The data quality bar can also be clicked to display a histogram of the data values in the field and a number of statistics on the (sample) data shown in the data viewer (e.g. min, max, average, Std Dev, etc).

Feature	Description
Data viewer filter "Null" operators	The data viewer filter that enables you to add a pre-configured Filter node to your data flow now contains two additional operators; "Is Null" and "Is Not Null". This enables you to easily filter your data to include or exclude NULL values.
Excel File node data types	The Excel File node now attempts to determine the data type of the imported fields and assigns the most appropriate Dataverse data types. For example, if an input field contains integer and decimal values, the node will assign a double data type to this field. **Note:** If you are working with data flows created in earlier versions of the product, to avoid any incompatibility issues with the Excel File node, you may want to revert to the previous behavior, where all fields from Excel files were output as either string or Unicode types. To revert to this behavior for a specific Excel File node, set the **DetectFieldTypes** property to **False** and leave the **DefaultType** property blank (default). Or, to revert to the previous behavior for **all** Excel File nodes, copy the following text into your cust.prop file: `ls.brain.node.excelFile.inferTypes=false`
JDBC Execute and JDBC Query nodes	The performance of the JDBC Execute and JDBC Query nodes has been greatly improved, in particular when working with Oracle databases. These nodes now contain a new property that allows you to specify the number of rows that should be fetched in each round trip to the database.
Experimental Python Transform node	This release includes a new experimental node that uses the standard Python language to transform data. This node is a Python version of the existing Script-based Transform node. **Note:** As this is an experimental node, it is not yet fully supported and may be subject to change in future releases.
Audit log documentation	The audit log documentation has been expanded in this release to explain how the audit entries map to user actions.

7.2 Corrected issues

Issue summary	Issue number
Decision Forest node Resolved issue with the Decision Forest node where unstable results were generated due to an incorrect default parameter value being sent to the embedded R node.	LAE-8189
CSV/Delimited Input node The default delimiter is now correctly dictated by the value set in the **Format** property if no value is specified in the **FieldDelimiter** property.	LAE-8743
Resolved issue with the CSV/Delimited Input node so that it now works correctly when the | character is used as the **FieldDelimiter** and a comma-separated list of fields is specified in the **FieldNames** property.	LAE-8852
Importing legacy data flows Previously, the system would fail to import a **Legacy Data Flow** in the following cases:	
If the legacy data flow contained a Composite node with multiple Bypasses or Bundlers, in some cases it would not import successfully because there was an issue in converting these to the correct format for the Dataverse system. This issue has now been resolved.	LAE-8826
If the legacy data flow contained an instance of a library node that had an equals sign (=) in its name it would not import successfully. This issue has now been resolved.	LAE-8823
Running legacy data flows Previously, legacy data flows containing run properties that were set as "required" would fail to execute. This issue has now been resolved.	LAE-8893
Processing date data types When processing input fields that contained a date data type, the Change Metadata node and the Data Converter node would incorrectly output the year element. For example, if the field contained a date value of 1970-01-01, the node would incorrectly output the year element as 1714, rather than 1970. This issue has now been resolved.	LAE-8778 LAE-8734

Issue summary	Issue number
Data viewer display of white space The data viewer now correctly displays leading and trailing white space for field values.	LAE-8854

8. What's new in 3.1.3?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

⭐ NEW	Group nodes into a Composite	⭐ NEW	Improved audit logging
⭐ NEW	Continue failed scheduled runs	⭐ NEW	Improved data viewer performance
⭐ NEW	Improved purge options for scheduled runs	✔ FIX	Output Excel and Append Excel nodes
⭐ NEW	Apply a new license	✔ FIX	Library nodes with similar name
⭐ NEW	New Create Data node	✔ FIX	Hide properties on library nodes
⭐ NEW	New CSV/Delimited Input node	✔ FIX	Tail node
⭐ NEW	Directory List node	✔ FIX	Static Data node
⭐ NEW	Filter and Split node "Null" operators	✔ FIX	CSV File and Delimited File nodes
⭐ NEW	File picker	✔ FIX	Directory List node

> 📄 **Note:** The Amazon Redshift JDBC driver is not shipped with this release due to a clash with the Postgres driver.

8.1 Deprecated nodes

> ⚠️ **Caution:** The following nodes have been deprecated and will not be supported in a future release.

Deprecated node	Alternative node
CSV File	CSV/Delimited Input
Delimited File	CSV/Delimited Input
Static Data	Create Data

8.2 New features and enhancements

Feature	Description
Group nodes into a Composite	With the addition of a new toolbar button and right-click menu option, you can now more easily group selected nodes into a Composite.
Continue failed scheduled runs	When viewing a completed run, if the run has failed, you now have the option to continue the run.
Improved purge options for scheduled runs	To save system resources, you can now configure Dataverse to delete temporary data after a successful run.
Apply a new license	You can now apply new base licenses and additional node pack licenses from within the Dataverse user interface.
New Create Data node	The new Create Data node replaces the deprecated Static Data node. This new node has resolved a number of issues (see Corrected issues) and also has the following additional functionality: • You can specify a field delimiter. • You can specify if you want to repeat the data on the output to quickly build large example data sets.
New CSV/Delimited Input node	The new CSV/Delimited Input node replaces the deprecated CSV File and Delimited File nodes. This new node has resolved a number of issues (see Corrected issues) and also has the following additional functionality: • You can use the output generated by another node as input. • Byte-order mark (BOM) Unicode characters are handled by the UTF-16 character set. • The performance of this node when processing Unicode files has been significantly improved compared to the deprecated Delimited File node.

Feature	Description
Directory List node	The Directory List node now outputs additional file information, including file created/modified times, file size and file names along with full file paths. Additionally, you can now use this node to import files from more than one directory. **Note:** The Directory List node now outputs fields as Unicode rather than string. If you have a Directory List node in a data flow that you created prior to this release and it is connected to a Transform node that contains file system operators e.g. `moveFile`, you can use the Script `'<fieldName>'.str()` operator to change fields to a string data type.
Filter and Split node "Null" operators	The grid editor that allows you to easily configure the Filter and Split nodes now contains two additional operators for all data types; "Is Null" and "Is Not Null".
File picker	When working with input connector nodes that have a **(from Filename)** input option, the file picker is now available enabling you to browse to the file that you want to import.
Improved audit logging	Data flow run and save actions are now included in the Dataverse audit log.
Improved data viewer performance	The performance and usability of the data viewer has been improved, for example when scrolling with a large number of rows and columns and when viewing multi-line data.

8.3 Corrected issues

Issue summary	Issue number
Static Data node	
The new Create Data node which replaces the deprecated Static Data node resolves the following issues:	
The new Create Data node does not allow you to create multiple fields with the same name.	LAE-8157
The new Create Data node resolves the issue where a leading space in front of a datetime string value or a quoted string value caused the Static Data node to fail.	LAE-8702
The Create Data node allows you to specify a field delimiter.	LAE-8701
Output Excel and Append Excel nodes	
The Output Excel and Append Excel nodes have a new property called **TrustedSource** where you can specify whether you trust any Excel file source used by the node, allowing you to force the node to run successfully when the source is trusted, even if a zip bomb is detected.	LAE-8716
Library nodes with similar name	
Previously, the system would fail to import **Legacy Node Libraries** when multiple library nodes shared the same name except for one or more non-alphanumeric characters, for example "Node name" and "Node name +". This issue has now been fixed.	LAE-8700
Hide properties on library nodes	
Resolved issue where hidden properties were still being displayed on library nodes.	LAE-8085
Directory List node	
Resolved issue where the output file names on a Directory List node contained a mixture of "/" and "\" file path separators.	LAE-8349

Issue summary	Issue number
Tail node	
Resolved issue that caused the Tail node to run out of memory when used with data sets with a large record count. The performance of this node has been greatly improved.	LAE-8697
Resolved issue where the Tail node failed to produce a valid output pin (missing column headers).	LAE-8698
CSV File and Delimited File nodes	
The new CSV/Delimited Input node which replaces the deprecated CSV File and Delimited File nodes resolves the following node issues:	
The new CSV/Delimited Input node contains an **errors** output by default which contains information about any errors, including the full file path of the source file.	LAE-8308
The new CSV/Delimited Input node contains a **TypedHeaders** property where you can specify if the field metadata contains data type information. This resolves the issue of field types not being correctly read on the CSV File and Delimited File nodes.	LAE-8303
The new CSV/Delimited Input node supports single character Unicode delimiters.	LAE-8301
When importing a UTF-8 encoded file, the deprecated Delimited File node would output the fields as string, not as Unicode. This issue has been resolved with the new CSV/Delimited Input node.	LAE-8300
The new CSV/Delimited Input node resolves an issue seen on the deprecated Delimited File node whereby an additional value that was not present on the input was being output if the last record had a blank last field without a field delimiter.	LAE-5189
The new CSV/Delimited Input node supports additional encodings with the UTF-16 character set.	LAE-2684

9. What's new in 3.1.2?

The following fix applies to all editions of Dataverse Server and Dataverse Desktop.

9.1 Corrected issues

✓FᴵX   Non-ASCII characters

Issue summary	Issue number
Non-ASCII characters Resolved issue that caused the application to error when non-ASCII characters were logged.	LAE-8648

10. What's new in 3.1.1?

The following new features, enhancements and corrected issues apply to all editions of Dataverse Server and Dataverse Desktop:

⭐ N^EW   Open-source R node

⭐ N^EW   Split node Script-free configuration

⭐ N^EW   Create Split node from data viewer

⭐ N^EW   BRD File node

⭐ N^EW   Output Excel node

⭐ N^EW   Append Excel and Output Excel Java heap space

⭐ N^EW   XLSM support

⭐ N^EW   Improved data viewer performance

⭐ N^EW   Improved canvas performance

✔ F^IX   Cat, BRD File and Output BRD File nodes

✔ F^IX   Excel File node

✔ F^IX   JDBC nodes

✔ F^IX   Output Excel node

✔ F^IX   QVD File node

✔ F^IX   Insert input field

✔ F^IX   Turkish locale

The following enhancement applies only to Dataverse Server:

⭐ N^EW   Scheduler user role

10.1 New features and enhancements

Dataverse Server and Dataverse Desktop

Feature	Description
Open-source R node	The R node is available to download from the product downloads page of the Lavastorm website: http://www.lavastorm.com/product-downloads/ The R library node enables Dataverse to integrate with an R environment that is running Rserve. **Note:** R and the RServe client are not distributed by Lavastorm. The R node communicates with these programs to execute R scripts. The machine hosting the R environment **must** have sufficient available RAM to process the data. **Disclaimer** Open-source R is available under separate open source software license terms and is not part of Dataverse. As such, open-source R is not within the scope of your license for Dataverse. Open-source R is not supported, maintained, or warranted in any way by Lavastorm. Download and use of open-source R is solely at your own discretion and subject to the free open source license terms applicable to open-source R.
Split node Script-free configuration	The Split node has been enhanced to allow you to split your data by setting criteria in an easy-to-use grid, as an alternative to using Script.
Create Split node from data viewer	You can now use filters that you have created in the data viewer to add a pre-configured Split node to your data flow.
BRD File node	You can now import multiple BRD files using a single BRD File node by feeding in the names of the files that you want to import from a field on an input pin.
Output Excel node	You can now combine data from multiple inputs into a single Excel worksheet.
Append Excel and Output Excel Java heap space	The maximum heap size on the Append Excel and Output Excel nodes has been increased to 2GB. This will help to prevent these nodes from running out of memory when certain property options are selected, for example when **Preserve All** is selected on the **ExistingDataPreservation** property on the Append Excel node.
XLSM support	The Excel File and Append Excel nodes now support XLSM files.

Feature	Description
Improved data viewer performance	The time taken for the data viewer to filter large data sets has been greatly reduced.
Improved canvas performance	The responsiveness of the canvas has been improved, for example when opening a data flow or drilling into composites.

Dataverse Server only

Feature	Description
Scheduler user role	The new "Scheduler" user role gives users access to all "End User" features, plus the ability to schedule data flows.

10.2 Corrected issues

Issue summary	Issue number
Cat, BRD File and Output BRD File nodes	
Resolved an issue that caused the BRD File and Output BRD File nodes to produce "unsupported type specification" warnings.	LAE-8161
Resolved an issue that caused the Cat node to produce an "execution terminated" error.	LAE-7629
Excel File node	
Resolved issue where the Excel File node misread dates from formulas by placing them in the wrong century.	LAE-8509
The Excel File node has a new node property called **TrustedSource** which allows you to specify whether you trust the input data, allowing you to force the Excel File node to run successfully when the source is trusted, even if a zip bomb is detected.	LAE-8454

Issue summary	Issue number
JDBC nodes	
The JDBC Store and JDBC Execute nodes can now load NULLS for all data types using the Postgres JDBC driver.	LAE-8528
Resolved issue that prevented the JDBC Store node accepting Unicode input data. Although this issue has been resolved, there is an ambiguity in the JDBC specification as to how to bind string data, since multiple methods exist on the `PreparedStatement` object. To allow for this ambiguity, a new property called **UnicodeBinding** has been added to the JDBC Query, JDBC Execute and JDBC Store nodes, allowing you to specify how the JDBC node binds Unicode values. The default value is recommended for all JDBC drivers unless you experience an error related to loading Unicode data types.	LAE-8526
Previously, when storing data from a Dataverse "time" field into a database using the JDBC Store node, the **DefaultDate** property added a date to the fields, regardless of the target database type. This issue has been resolved to prevent a date being added when storing time fields into string types in a database.	LAE-8614
The JDBC Query node can now be used successfully with a Snowflake cloud database.	LAE-7846
The JDBC Query **DefaultToUnicode** property now defaults to **True** meaning that string fields default to Unicode type.	LAE-8619
Output Excel node	
When you run the Output Excel node, if there are any invalid pin names, rather than causing the node to fail, the names are changed to remove invalid characters and a warning notifies you of this change.	LAE-7540
Resolved issue that led to the Output Excel node producing larger files when the data contained empty cells.	LAE-7438
Removed ability to add additional outputs to the Output Excel node. The Output Excel node is not designed to output data to another node, rather it is designed to output data directly to an external file.	LAE-7486

Issue summary	Issue number
QVD File node Resolved issue that caused the QVD File node to incorrectly output data as 0.	LAE-7225
Insert input field Resolved field name case issue that caused all items listed in the **Input Fields** menu to be converted to lower case.	LAE-7296
Turkish locale Resolved issues that prevented the application from working successfully on a Turkish installation and when using Turkish characters.	LAE-8193 LAE-8197

11. What's new in 3.1.0?

This release introduces the first editions of Dataverse Server, supporting the installation of Dataverse on a single Windows or Linux server for use by multiple remote client users. For more information about our Dataverse product options, please visit http://www.yourdataverse.com/product/#features.

If you are an existing Dataverse Professional Desktop or Dataverse Power Desktop user and you are upgrading, you must request a new license by emailing license@lavastorm.com and providing your current license key.

11.1 What's new in Dataverse Server?

⭐ NEW   Dataverse REST APIs

⭐ NEW   Sharing documents

⭐ NEW   LDAP/AD integration

⭐ NEW   Create and manage local users and groups

⭐ NEW   Upload / Download data

⭐ NEW   Disable collection of usage data

⭐ NEW   Backup and restore

⭐ NEW   Close multiple data viewer tabs

✔ FIX   Copy and paste data viewer cell content

✔ FIX   Applying filters from the data viewer

✔ FIX   Opening imported data flows

11.2 What's new in Dataverse Desktop?

⭐ NEW   Disable collection of usage data

⭐ NEW   Backup and restore

⭐ NEW   Close multiple data viewer tabs

✔ FIX   Copy and paste data viewer cell content

✔ FIX   Applying filters from the data viewer

✔ FIX   Opening imported data flows

11.3 New features and enhancements

Dataverse Server only

Feature	Description
Dataverse REST APIs	The Dataverse Server product includes built in REST APIs that provide access to Dataverse via third party applications, allowing you to log in and out of the application and create and manage scheduled runs of your data flows through the APIs. You can access the Dataverse API documentation from the following location: http://<domain>:<http-port>/docs/dist/api/index.html For example: http://dataverse.example.com:8080/docs/dist/api/index.html
Sharing documents	To easily share data flows or library nodes with other users, you can move documents from the **My Documents** collection to the **Public Documents** collection.
LDAP/AD integration	Users with the role of Administrator can integrate Dataverse with a source LDAP/Active Directory system. By importing LDAP/AD users and groups to Dataverse, these users can sign in to Dataverse with their existing credentials, and user authentication can be centrally controlled, without the need to maintain a local administrator user.
Create and manage local users and groups	Administrators can create and manage local users and groups through the Directory. Local and imported users can be combined into a local group.
Upload / Download data	You can upload data files to the server and download data files from the server for use with the Input Connector and Output Connector nodes.

Dataverse Server and Dataverse Desktop

Feature	Description
Disable collection of usage data	If you have a paid Dataverse license, you now have the option to disable the collection of usage data.
Backup and restore	By default, a daily backup file is now created. If you want to restore your system to an earlier state, you can now choose a backup file during installation. You can also edit the backup file settings, for example to modify the time when the daily backup file is created or change the directory where the backup files are stored.

Feature	Description
Close multiple data viewer tabs	You can now close multiple or all data viewer tabs in one click from the data viewer menus.

11.4 Corrected issues

Issue summary	Issue number
Copy and paste data viewer cell content Resolved issue where additional quotation marks were added when copying and pasting cell data that contains spaces from the data viewer.	LAE-8259
Applying filters from the data viewer There is no longer a discrepancy between filters that are applied in the data viewer (case-insensitive) and the corresponding filter node that is applied to a data flow (previously case-sensitive). Both are now case-insensitive.	LAE-8270
Opening imported data flows Resolved index corruption issue that prevented exported data flows from opening after being imported into another instance of Dataverse.	LAE-8222

12. What's new in 3.0.5?

⭐ NEW	Create and maintain schedules	⭐ NEW	Override property values with blank
⭐ NEW	View scheduled runs	⭐ NEW	User preferences
⭐ NEW	Automatically purge runs	⭐ NEW	Loading screen
⭐ NEW	Sort node Script-free configuration	⭐ NEW	License details
⭐ NEW	Improved interactive performance	⭐ NEW	Error display
⭐ NEW	Optional input pin placeholder	✔ FIX	Record count tooltip
⭐ NEW	Properties panel layout	✔ FIX	Import LNA on non-English locale
⭐ NEW	Run property substitution	✔ FIX	Right-click menu

12.1 New features and enhancements

Automation services

Feature	Description
Create and maintain schedules	You can now save time by scheduling the automatic execution of your data flows. You can schedule your data flow to run monthly, daily, hourly or at minute intervals. 📄 **Note:** If you do not currently have access to the "Automation Services" functionality, and would like to upgrade, please visit http://www.yourdataverse.com/product/#features to learn more about our Dataverse Desktop options.
View scheduled runs	You can view a read-only copy of completed scheduled runs to inspect the results.
Automatically purge runs	To save system resources, you can configure the automatic purging of runs generated by schedules in Dataverse.

User experience enhancements

Feature	Description
Sort node Script-free configuration	The Sort node has been enhanced to allow you to sort your data by selecting fields from an easy-to-use grid, as an alternative to using Script.
Improved interactive performance	The responsiveness of the Designer when editing data flows has been greatly improved, for example when dragging nodes onto the canvas.
Optional input pin placeholder	Nodes that allow the creation of optional input pins now display a placeholder to make it easier to identify when a node can receive additional inputs.
Properties panel layout	When you add a node to the canvas, only property groups that contain mandatory properties, or properties that contain a value that you have edited, are expanded by default. This enables you to more quickly identify the relevant properties for configuration.
Run property substitution	There are three new run properties that are automatically created for every data flow (CurrentDate, CurrentTime and CurrentDateTime). These properties can be referenced via textual substitution to show the time and date that a data flow was triggered to run.
Override property values with blank	You can now override inherited or default property values with a blank value. It is then also possible to restore the inherited value from the library node.
User preferences	When working in the Designer, if you resize or collapse the side panels, this information is automatically stored within the application so that the display is the same when you reopen the data flow after returning to the Directory. Your preferences are also stored so that they are consistent when more than one browser application (Chrome, IE) is used with Dataverse.

Additional enhancements

Feature	Description
Loading screen	When you start Dataverse, a page is displayed in the browser window to indicate that the application is loading.
License details	You can now view information about your existing Dataverse license from the top right corner menu within the application.
Error display	Errors are now saved on the latest run of a data flow. This means that if you close and reopen a data flow, you will still be able to view the errors associated with the previous run.

12.2 Corrected issues

Issue summary	Issue number
Record count tooltip For data with large numbers of records, the record count displays an abbreviated form of the number, for example "112K" for "112,451". You can now view the full numerical value in a tooltip by hovering over the record count.	LAE-7808
Import LNA on non-English locale Resolved issue where the import of an .LNA file would fail on systems with a non-English locale e.g. "nl_NL". Data flows can now be imported on systems with non-English locales.	LAE-7811
Right-click menu Resolved issues that caused the right-click (context) menu to remain on the screen in some instances.	LAE-7261 LAE-7683

Note: The Simba Hive ODBC drivers are no longer shipped with Dataverse.

13. What's new in 3.0.4?

⭐ N^{EW}   New Filter node

⭐ N^{EW}   File picker

⭐ N^{EW}   Keyboard shortcuts

⭐ N^{EW}   Property group ordering

⭐ N^{EW}   Error display

⭐ N^{EW}   Data viewer menu options

⭐ N^{EW}   Data viewer multi-line fields

⭐ N^{EW}   Resize data viewer columns

⭐ N^{EW}   Amazon Redshift JDBC driver

⭐ N^{EW}   Start Dataverse processes on logon

✔ F^{IX}   JSON Data and XML Data nodes

✔ F^{IX}   Starting the web application

13.1 New features and enhancements

User experience enhancements

Feature	Description
New Filter node	The new Filter node allows you to easily filter data records without using Script.
File picker	When working with output connector nodes, the file picker now includes the option to enter a filename to create a new output file. Additionally, you can now use keyboard controls to navigate the file system when working with the file picker.
Keyboard shortcuts	The set of keyboard shortcuts has been extended to give you the option of opening and closing the Data Flow Designer side panels and the data viewer without using the mouse.
Property group ordering	Node property groups have been reordered to enable you to more efficiently configure nodes.

Feature	Description
Error display	The **Errors** panel now lists all errors and warnings within the same tab. Additionally, you can show or hide warnings and background issues. This new streamlined view of errors and warnings enables you to more quickly identify issues in your data flow.

Data viewer enhancements

Feature	Description
Data viewer menu options	In addition to working with the shortcut keys, you now have the option to **Copy** or **Select all** from the data viewer right-click menu.
Data viewer multi-line fields	Data viewer cells that contain multi-line data are now highlighted by an orange triangle in the top right corner of the cell. Hovering over the orange triangle displays a tooltip containing all of the cell data.
Resize data viewer columns	You can now resize the columns in the data viewer to enable you to better fit your data on the screen when viewing data with a large number of columns.

Additional enhancements

Feature	Description
Amazon Redshift JDBC driver	The Amazon Redshift JDBC driver is now included with your Dataverse installation, simplifying the process of connecting to an Amazon Redshift database.
Start Dataverse processes on logon	During installation, you can select **Start Dataverse on logon** to set the Dataverse processes to start automatically when you log on to Windows, enabling you to more quickly open and work with Dataverse after starting your machine.

13.2 Corrected issues

Issue summary	Issue number	
JSON Data and XML Data nodes Resolved a number of issues where the JSON Data and XML Data nodes were unable to handle certain XML/JSON file structures.	LAL-5160 LAE-7509 LAL-6616 LAL-6531 LAL-6238	LAL-5901 LAL-1937 LAL-1434 LAL-4953 LAE-7187
Starting the web application When Dataverse is launched, there is no longer a timing dependency between the initialization of the Dataverse processes. If you receive a "Sorry, we cannot contact the Dataverse server" error message, a suggested workaround is to relaunch Dataverse by clicking **Start Dataverse** from the Windows Start menu, or by double-clicking the desktop icon.	LAE-7771	

> **Note:** In addition to the base license needed to run Dataverse, there are two further node pack licenses that are required to run certain nodes: the Power R node pack license and the Statistical and Predictive Analytics node pack license. Please see the integrated help for details on separately licensed nodes.

14. What's new in 3.0.3?

★ NEW   Row striping

★ NEW   Copying data from the data viewer

★ NEW   Mandatory property notification

★ NEW   Open data viewer from output pin

★ NEW   User data location

★ NEW   Performance improvement

✓ FIX   Data viewer refresh

✓ FIX   JDBC Query node

✓ FIX   Missing license file error

14.1 New features and enhancements

Data viewer enhancements

Feature	Description
Row striping	Generally, each row in the data viewer is alternately striped. When you sort a column of data in the data viewer, the row shading changes in line with each value change. This enables you to easily spot changes in your data.
Copying data from the data viewer	You can select and copy horizontally or vertically touching cells, or entire rows or columns from the data viewer. You can then paste the selected data into an external editor such as Microsoft Excel.

User experience enhancements

Feature	Description
Mandatory property notification	The Properties panel now indicates how many remaining mandatory properties must be configured before the node can be successfully run. Clicking the notification automatically moves you through the remaining required properties to streamline the node configuration process.

Feature	Description
Open data viewer from output pin	As well as opening the data viewer by clicking the record count to the right of a node, clicking a green output pin now also opens the associated data in the data viewer.

Additional enhancements

Feature	Description
User data location	During installation, user-based folders are now created within the user's local AppData folder, for example C:\Users\<username>\AppData\Local\Dataverse.
	Storing user-based folders outside of the program installation directory means that all users can now make changes that were previously restricted to users with administrative rights e.g. adding a new license file, or adding custom JAR files.
Performance improvement	The responsiveness of the user interface when building data flows with a large number of nodes has been greatly improved.

14.2 Corrected issues

Issue summary	Issue number
Data viewer refresh When a node is re-run or its status is cleared, all open data viewer tabs containing data related to that node are closed. This ensures that outdated data is not displayed in the data viewer.	LAE-7249
JDBC Query node When the JDBC Query node is used to access SQL Server, Windows authentication mode is now supported.	LAE-7487
Missing license file error If you do not apply your license during installation, you will receive an appropriate error message when using the application. The error message has been improved to point to the integrated help topic that explains how to apply a license post-installation.	LAE-7290

Note: The Meta Check node has been removed from the product.

15. What's new in 3.0.2?

⭐ N^EW   [File picker](#)

⭐ N^EW   [Keyboard shortcuts](#)

⭐ N^EW   [Rename nodes](#)

⭐ N^EW   [Toggle Fullscreen](#)

⭐ N^EW   [Database drivers](#)

⭐ N^EW   [Add filters and sorts from the data viewer](#)

⭐ N^EW   [Sample data flows](#)

⭐ N^EW   [Starting and stopping application processes](#)

✔ F^IX   [Data viewer display](#)

✔ F^IX   [DB Execute node](#)

✔ F^IX   [DB Store node](#)

✔ F^IX   [Error messaging](#)

✔ F^IX   [Script property](#)

15.1 New features and enhancements

User experience enhancements

Feature	Description
File picker	When working with the input connector and output connector nodes, you can now browse to the files that you want to import by using a file picker. This removes the need to type the file path, enabling you to more quickly configure the node to import or export data.
Keyboard shortcuts	The set of Dataverse keyboard shortcuts has been extended to allow you to interact with dialog boxes by using the **Enter** and **Esc** keys.
Rename nodes	Nodes can now be renamed directly from the canvas.

Feature	Description
Toggle Fullscreen	There is a new toggle button in the top right corner of the screen that allows you to quickly swap to and from a fullscreen view. Additionally, you can now use the F11 keyboard shortcut to toggle the Script property field to be fullscreen or to return it to its normal size.

Database connection enhancements

Feature	Description
Database drivers	The process of connecting to some common databases has been simplified, as the following drivers are now included with your Dataverse installation: • MariaDB • MS Access • Oracle • Postgres • SQL Server

Additional enhancements

Feature	Description
Add filters and sorts from the data viewer	If you have filtered or sorted data in the data viewer, you can now add these filters and sorts to your data flow. This allows you to quickly build your data flow without needing to use Script to configure nodes to filter or sort data.
Sample data flows	Sample data flows are now included as part of your installation, so you do not need to download them from the help.
Starting and stopping application processes	You can now start and stop the application processes directly from the Windows Start menu.

15.2 Corrected issues

Issue summary	Issue number
Data viewer display Resolved data viewer display issue where the content in cells that contained empty strings was misaligned.	LAE-7329
DB Execute node It is now possible to define multiple outputs on the DB Execute node.	LAE-7319
DB Store node The DB Store node has been enhanced to support Unicode data when the **LoadMethod** property is set to **optimized**.	LAE-7122
The performance of the DB Store node has been greatly improved when the **LoadMethod** property is set to **insert**.	LAE-7153
Resolved issue where the DB Store node did not honor the option set in the **ExtraFieldBehavior** property. Previously, independent of the value that was set in the **ExtraFieldBehavior** property, the node behaved as if the property were set to **log**.	LAE-7221
Error messaging The property validation error messaging has been improved.	LAE-7210
Script property When configuring a node Script property, previously when you inserted multiple emit statements, the text became increasingly indented and it was not possible to remove the extra characters. This issue has now been fixed.	LAE-7321

16. 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. We recommend that you visit the Dataverse Forum. If your query has not been discussed previously in the forums, you can create a new topic and receive answers from our Dataverse experts. Alternatively, you can log a ticket by emailing support at help@lavastorm.com.

16.1 Third parties

The following table lists third party known issues and limitations:

Feature	Description
Apache	The Spark SQL Query node has highlighted some Apache issues in the following scenarios: • Selecting a field with binary type fails with the exception "UnresolvedUnionException: Not in union ["bytes","null"]". This is already raised on Apache JIRA: https://issues.apache.org/jira/browse/AVRO-1401 • Describe operation returns 3 fields (col_name, col_type, comment) however the comment field is handled as not "nullable" but returns a NULL value. 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.
Avro	The Avro 1.7.7 specification lists some supported metadata constraints. Specifically, it places restrictions on the names of fields, as follows: • The field names must start with [A-Za-z_] • The field names must only contain [A-Za-z0-9_] 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 Dataverse nodes, these fields will need to be converted to string data types.

Feature	Description
Hadoop Hive Cluster	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. For example, if the **DataOutputMode** property is set to **Field**, due to the automatic base64 encoding, the encoded result will be visible instead of the contents. To view the contents, set the **DataOutputFieldEncoding** property to **None**. However, this is not always possible due to invalid characters in the original file; in this case, the workaround is to set the **DataOutputMode** to **File** and then import the data using one of the input connector nodes.

16.2 Web application

The following table lists Dataverse known issues and limitations:

Feature	Description
Data viewer	A sample of up to the first 1000 records of node data can be displayed in the data viewer. 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).
Composite library nodes created in previous versions	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: 1. Open the data flow and select all nodes. 2. Choose **Apply Auto-Fixes**. 3. Save the data flow, then return to the Directory before reopening the data flow.
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 **F1** then searching for the relevant topic.
Logistic Regression node	The Logistic Regression node does not support Unicode for categorical data.

Dataverse