Jedox 7.0 SR2

What's new

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What's new

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1 What's New in Jedox Version 7.0 SR2

This document gives an overview of the new features, enhancements, and fixes in Jedox 7.0 SR2, which is currently available for download at http://www.jedox.com.

We are committed to keeping newer versions compatible with previous versions, especially solutions built with previous versions. Any changes in the software that would require a change in a solution built with the software will be announced during the ramp-up phase before the change goes into effect.

1.1 Jedox OLAP

1.1.1 GPUs with Compute Capability 2.0 and 2.1 are deprecated

GPUs with Compute Capability 2.0 and 2.1 are deprecated with SR2 and support will be dropped in 7.1.

1.2 Jedox Web General

1.2.1 Rule formula tree is collapsed by default

The formula tree of the Source in the Advanced Rule Editor will be collapsed by default from the second level onwards.
With the buttons (1) and (2) you can collapse resp. expand all source lines.
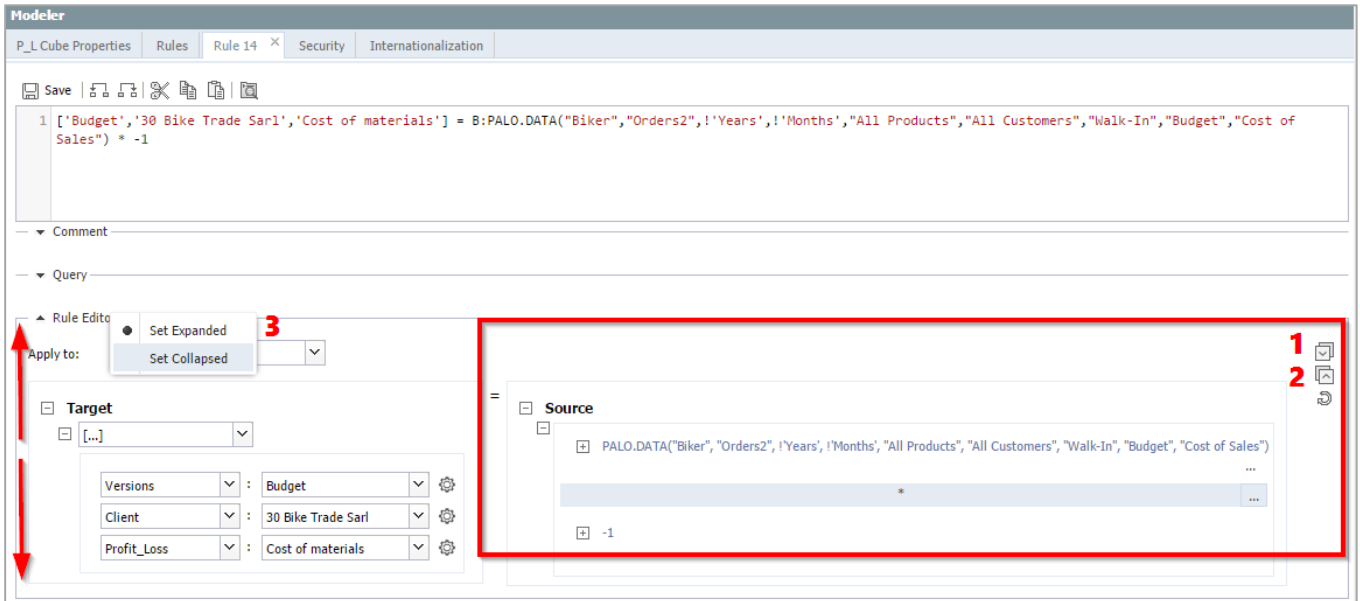
Additionally, users can now control whether the Advanced Rule Editor panel should be collapsed or expanded by default, via right button click (3) on the panel label 'Rule Editor'.

1.3 Jedox Web Spreadsheets

1.3.1 Shortcut CTRL + DEL available

In Jedox Web Spreadsheets you can use Ctrl+ Del in one cell with a PALO.DATA formula to write the value "0" in a numeric cell or an empty string in a string cell without deleting the existing formula. On consolidated numeric cells, the whole cube slice will be cleared.
In the "Report" mode of Jedox Web, you need on unlocked cells only the DEL key to receive the same result.

1.3.2 Zero values can be splashed with #00

On cubes where the zero value storage is enabled, users can now use the #00 input to splash zero values explicitly.

1.4 Jedox Integrator

1.4.1 Data-Driven Modeling in SSO environment

In order to use „Data Driven Modeling" in an environment with Windows Single Sign On it's necessary to create a global OLAP connection which is used in the Integrator project. To be automatically detected and used, the connection has to be called "localhost_sso".

1.5 Jedox Excel Add-in

1.5.1 Two new functions are exposed to Excel Add-in COM interface

The functions RebuildView() and SaveAsSnapshot() are exposed anew to Excel Add-in COM interface.

1.6 Setup

1.6.1 Linux Setup includes Java installation package

Java is now delivered with Linux Setup. Therefore it is neither necessary to install Java before the Jedox installation nor to have an Internet connection.

1.7 Fixed Issues from Version 7.0 SR1

The following issues (features, tweaks, and bugs) reported in Jedox 7.0 SR1 have been fixed/implemented in Jedox 7.0 SR2. The development team thanks those customers and partners who have reported issues.

Component	Tickets	Resolved
OLAP Server	205	205
SVS	1	1
Excel Add-in	17	17
Office Add-in	0	0
Client Libs	1	1
Integrator Server	19	19
Jedox Web	81	81
Jedox Mobile	31	31
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Demo content	3	3
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2 What's New in Jedox Version 7.0 SR1

This document gives an overview of the new features, enhancements, and fixes in Jedox 7.0 SR1, which is currently available for download at http://www.jedox.com.

We are committed to keeping newer versions compatible with previous versions, especially solutions built with previous versions. Any changes in the software that would require a change in a solution built with the software will be announced during the ramp-up phase before the change goes into effect.

2.1 Jedox OLAP

2.1.1 New reading commands for database scripts

The following reading commands are now available:
CELL_VALUE(), CUBE_DIMENSIONS(), CUBE_EXISTS(), CUBE_DIMENSIONS_COUNT(), DATABASE_CUBES(), DATABASE_DIMENSIONS(), DATABASE_EXISTS(), DIMENSION_CUBES(), DIMENSION_EXISTS(), DIMENSION_SIZE(), SERVER_DATABASES(), ELEMENT_EXISTS(), ELEMENT_CHILDREN(), DIMENSION_ELEMENTS(), and DIMENSION_DFILTER().

2.1.2 New command CUBE_CHANGE_LAYOUT

To prevent confusion and unused parameters for each of the cube/create cases, there is now one simple CUBE_CREATE command and a new CUBE_CHANGE_LAYOUT command for layout changes.
The CUBE_CREATE command was changed (minus 2 parameters), but old journals can be still processed, because OLAP recognizes the journal version.

2.1.3 Conditional operations with IF for database scripts

Now code with IF clauses can be executed in database scripts and the logical functions AND, OR, and NOT can be used in IF statements.

2.1.4 New string functions for database scripts

The functions LEFT(), RIGHT(), CONCAT(), and SUBSTR() have been added for database scripts.

2.1.5 Syntax highlighting in Script Editor

As of Version 7.0 SR1 syntax highlighting in Script Editor is supported.

2.1.6 New Jedox / PALO functions

4 new functions have been implemented to check if OLAP object exists.
- PALO.DATABASE_EXISTS()
- PALO.CUBE_EXISTS()
- PALO.DIMENSION_EXISTS()
- PALO.EEXISTS() (checks if element exists)

They work in Jedox Spreadsheets as well as in Excel spreadsheets, but they are only displayed in the function wizard of Excel. In Jedox function wizard they will be implemented in next Jedox version.

2.1.7 Extended $_JEDOX variable with information about internal olap instance

As of Jedox Version 7.0 SR1 the variable $_JEDOX can also deliver OLAP server interface and port of internal OLAP instance (the entries in config.php) for usage in macros.

2.1.8 New rule query type "Initial months"

A new query type for template rules called "Initial months" is available. The query returns a list of the first month elements for all years in a time dimension; either January or, if a fiscal year is configured, the first month of the fiscal years.

2.2 Jedox Web General

2.2.1 Modeler shows loading databases and unloadable databases

The Modeler in Web will now display databases, which are still loading during startup of OLAP server, in the database list with a specific icon. If a database couldn't be loaded due to some error, it will also be shown with a specific icon / message.

2.2.2 Configurable page size in Modeler element grid

The page size of long element lists in the elements grid in Modeler now can be configured. The default page size is 50.
To configure the page size, the setting "tree_paging_pagesize" in the group "Control" in Jedox Web Administration – Settings can be used. The setting will also be used for paging in other contexts, for example comboboxes in Web reports.
The setting "tree_paging_threshold" is deprecated as of 7.0 SR1 and will be ignored.

2.2.3 Dimension Upload Wizard will automatically detect a single column source data

In dimension upload, when using a file that only contains a single column of data, the Dimension Upload Wizard will automatically detect this content, set the type to "Full Hierarchy", and assign the column to the "base" hierarchy level.
Usage of the Parent child format is not permitted on single column source data.

2.2.4 Warning message for invalid column assignments in Dimension Upload

In the Dimension Upload dialog, the minimum required column mappings are now enforced. If the user didn't assign the minimum required column mappings, a popup message will be shown when clicking the "Next" button.

2.2.5 Configurable display of stack traces in Apache Tomcat RPC backend error messages

The display of stack traces in UI error messages in the Apache Tomcat RPC backend components is turned off by default. It can be enabled by adding the setting "exception.print_stack_trace=true" in file <Jedox Suite Install_path>\tomcat\webapps\rpc\WEB-INF\classes\rpc.properties.

2.2.6 Copy/paste capabilities in Modeler have been extended

Now you can copy elements from modeler and paste either in another dimension in Modeler, or e.g. in Excel sheet. Re-ordering of the elements is now supported.

2.2.7 Template info and state info of rules are preserved during exports / imports

When exporting and importing rules with Modeler, their states active/inactive are now preserved. After reimporting the rule has the same status as when it was exported. Furthermore, exports and imports of rules contain the info of used templates. This information is saved in two additional columns of an export file. These additional columns are the reason that rule exports of former Jedox Versions cannot be imported in Jedox Version 7.0 SR1.

2.2.8 Rule Editor has now also element picker for right-side fields of a rule

As of 7.0 SR1, there is also an element picker for right-side fields of a rule.

2.2.9 Dimension hierarchy expands automatically after consolidating elements

When adding elements to an additional parent in modeler, the elements will now be automatically shown at their new place in the dimension hierarchy after being added to that parent element.

2.2.10 Extended capabilities of Web Advanced Rule Editor

As of SR1, Web Advanced Rule Editor adds support for element lists on left side of rule, i.e. rules like ['Months':{'Jan','Feb','Mar'}] = …

2.2.11 Changed behavior of entries 'Major Unit' and 'Minor Unit' for charts

The entries 'Major Unit' and 'Minor Unit' in the dialog "Format axis" (context menu command of axe y) must be greater than or equal to 0.005. These values are rounded to 2 decimal places. As of version 7.0 SR1 the entry will be reset to "Auto" if the entered value is smaller than 0.005.

2.3 Jedox Web Spreadsheets

2.3.1 Keyboard shortcut to rebuild views

As of Jedox version 7.0 SR1 the shortcut CTRL + Q rebuilds views.

2.3.2 New widget functions parent.startWait() and parent.stopWait()

In some scenarios, a widget can need too long time to be shown properly in a PDF. In such a case, the functions parent.startWait() and parent.stopWait() can be used to cause the PDF renderer to wait until the widget is fully rendered from the widget code itself.

2.4 Jedox Integrator

2.4.1 ATTN: Licensing Changes

As of Jedox 7.0 SR1, connection types Tableau and Salesforce require appropriate feature set inside the license in order to be able to use these connection types.

2.4.2 New connection type Power BI

With this component, a connection can be established to the business analytics service Power BI provided by Microsoft. Power BI feature set is required inside license to be able to use this connection type.

2.4.3 New load type PowerBI

With this load type, data can be written into datasets of the business analytics service Power BI provided by Microsoft.

2.4.4 New connection type Qlik

With this component, a connection can be established to the business intelligence & visualization software Qlik Sense. Qlik feature set is required inside license to be able to use this connection type.

2.4.5 New load type Qlik

With this load type, files can be uploaded to applications of a Qlik Sense Server. Additionally, a reload of Qlik Sense application Qlik Sense can be triggered.

2.4.6 Enhancements for Cube Extract

The result can now be filtered on the cube value of the returned cells.

2.4.7 Enhancements for TableJoin Transform

For this transform can now be set a join condition and an additional setting for the output columns.

2.4.8 Enhancements for JSON Load

A more flexible JSON output structure can be achieved by defining a JSON template.

2.4.9 Enhancements for Wizard Dialogs

As of Jedox 7.0 SR1, all wizard dialogs allow for searching components, switching between grid/list view, and showing description in tooltip for selected component. Furthermore, it is possible to create new component only if one item is selected/focused in the list. Also, name of the item is dynamically set based on component type.

2.5 Jedox Excel Add-in

2.5.1 Modeler in Excel stores location

The Modeler opened in Jedox Excel Add-In now will store the last used location (database, dimension, or cube) and automatically open that location next time the Modeler is used.

2.5.2 Easier change of the connection to Jedox Web server

The connection to Jedox Web server which is used in the Web-based dialogs in Jedox Excel Add-in (Modeler, Publish, and Edit Jedox Spreadsheet) can now be changed from the dialog window, by right-clicking the Window title bar and selecting the new connection from the context menu. Previously, the used connection for Jedox Web dialogs could only be changed via the "Jedox Wizard" dialog.

2.5.3 Change of keyboard shortcut to rebuild views

As of Jedox version 7.0 SR1 the shortcut to rebuild views is CTRL + Shift + Q. In former versions, the shortcut to rebuild views was CTRL + Q. This change was necessary because Microsoft Excel uses Ctrl + Q to display quick analysis options for selected cells.

2.6 Jedox Web Sandbox

As of Version 7.0 SR1, Jedox Web Sandbox will only allow one running instance of sandbox client by default. This can be overridden by starting JedoxWebSandbox.exe with command line parameter /x, for example JedoxWebSandbox.exe /x.

2.7 Jedox Mobile

2.7.1 1Password integration

Users can now use their credentials stored in the 1Password app to create new accounts (iOS).

2.7.2 3D-Touch access to accounts

Access to the accounts is now possible directly by using 3D-Touch on the app icon (iOS).

2.7.3 Touch-ID support

Another security feature to prevent unauthorized access to the account and its credentials.

2.7.4 Improvement: Ad-hoc Charts

Ad-Hoc charts are now equally distributed and pie chart labels are now printed outside the pie for better readability.

2.7.5 Improvement: Auto-Check in Account Creation Wizard can be disabled

Users can now disable the automatic check for valid credentials in order to circumvent problems with a limited number of false retries before an account gets deactivated for security reasons.

2.7.6 Various bugfixes

- Session handling
- Theme does not get reset
- Report not opened in landscape mode
- Search bar hidden after login
- Message "unexpected error occurred" when enabling airplane mode
- Get a default read element instead of word "All" if no filter exists

2.8 Setup

The dialog "Supervision Server Options" with the checkmark „Enable Drilldown", which was received only in a new Windows installation, moved to the dialog box "Final Options".

2.9 Technical Health

In Jedox 7.0 SR1 following components were updated:

Apache: 2.4.25
PHP (Apache):   7.0.16

2.10 Fixed Issues from Version 7.0

The following issues (features, tweaks, and bugs) reported in Jedox 7.0 have been fixed/implemented in Jedox 7.0 SR1. The development team thanks those customers and partners who have reported issues.

Component	Tickets	Resolved
OLAP Server	574	574
SVS	2	2
Excel Add-in	43	43
Office Add-in	1	1
Client Libs	17	17
Integrator Server	72	72
Jedox Web	589	589
Jedox Mobile	9	9
Jedox Cloud	84	84
Demo content	49	49
Documentation	74	74
Setup	20	20
Models	116	116

3 What's New in Jedox Version 7.0

3.1 Jedox OLAP

3.1.1 ATTN breaking change: changed storage location of MDX settings

The storage location of MDX settings for the measure and time dimension has been moved from the #_CONFIGURATION cube to the #_#_CUBE_ cube. Existing settings will not be migrated and must be reapplied.

3.1.2 ATTN breaking change: additional dimension added to attribute cubes

To support implicit internationalization of databases, all attribute cubes are automatically extended with a third dimension called #_LANGUAGE. By default, the new dimension only contains a single element named ~. This element denotes the default language, and contains all previously stored attribute values. Any read or write request made to an attribute cube that omits the new #_LANGUAGE dimension will read from/written to the default ~ element.

3.1.3 ATTN breaking change: null output constant in rules

Due to the changes for storing zero values (see below), the output behavior of 0 values in rules has changed, such as when 0 is returned as part of an IF() expression. In these scenarios, 0 is now treated like any other value and returned as an existing cell value, regardless of whether the "Store Zero Values" option is defined for the cube or not. It is also returned in exports where the "Ignore empty cells" option is set.

To achieve behavior similar to previous versions, a new constant value, NULL, can be used in these rules instead. Additionally, in Cube Extracts with Jedox Integrator, rule-calculated cells with value 0 can be filtered with the new "Exclude Empty and Zero" option.

Please note that returning 0 instead of NULL as value in rules may influence query performance.

3.1.4 Storing zero values

OLAP cubes can now explicitly store zero, or "0" as a cell value. In previous versions, OLAP did not distinguish between cells containing 0 and cells that are empty; however, in some scenarios, storing a 0 as value is required.

Storing zero values can be turned on and off for each cube in the cube properties in Modeler. By default, the option is turned off.

3.1.5 Flexible cube layout

The layout (dimension structure) of a cube is now flexible and can be changed after the cube has been created, or filled, without losing data. Dimensions can be added, removed, or reordered. Depending on the type of change, the dimensions may be required to have a Default Read Element, or Default Write Element assigned (see below). The change can also be carried out in a new cube, while the old cube is left in place for compatibility reasons with existing reports. In that case, the cube is automatically configured by the OLAP Server to be read-only.

3.1.6   Flexible data formulas

In order to support flexible cube layouts, formulas that retrieve cube data (mainly the PALO.DATA*() functions) have been enhanced to support changes to the dimension order. When setting a PALO.DATA*() formula, the user can now not only specify element names, but also specify the dimension to which a certain element belongs, using the new PALO.EL() expressions. If these expressions are used, the formula is no longer reliant on a specific order of dimensions. Additionally, if a Default Read Element is defined on a dimension, that dimension doesn't have to be specified at all in the PALO.DATA*() formula, which will read data from the Default Read Element in that case.

3.1.7   Default elements in dimensions

For every dimension, you can now define five types of default elements, which are used in various scenarios. Available default types are: Total, NA, Read, Write, and Parent.

3.1.8   ATTN breaking change: behavior if empty coordinate is passed to PALO.DATA*()

In previous versions, if a cell coordinate passed to a PALO.DATA*() function was an empty string, or reference to an empty cell, the PALO.DATA*() formula would return an empty string itself. This behavior is changed in version 7. Because passing an empty coordinate value can now result in a valid request (by using automatic lookup to Default Read Elements), the formula will now either return the value of the cell at the Default Read Element, if such a default is defined. If the dimension does not have a defined default read element, the behavior is the same as before; an empty value will be shown.

3.1.9   Rule templates

Jedox OLAP now supports creating rule templates. In a rule template, some parts of the rule definition are parameterized based on a set of predefined queries to the OLAP Server. Depending on the result of the defined query, OLAP then generates rule instances at various points during the life cycle of a database model, in which the parameters of the template are filled with real values.

3.1.10 Host memory option for GPU Accelerator

This feature allows for accelerating cubes that are larger than available GPU RAM. Cube data physically resides in conventional RAM on the host (CPU) and is transferred to device memory whenever it is required for processing. The option can be switched on by adding parameter "gpu-data-storage R".

Note that a conversion of the cube to GPU format is still necessary and requires additional available RAM (just as it used to require GPU RAM).

3.1.11 Viable support for non-Tesla GPUs for GPU Accelerator

For testing purposes viable support for non-Tesla GPUs is granted. The check for Tesla GPUs in the setup process has been removed, such that the GPU Accelerator can be run and tested on much cheaper hardware, e.g. on NVIDIA GeForce cards.

However, when it comes to production, only Tesla GPUs are supported, as they are designed for 24/7 server usage and provide error correction as well as built-in double-precision support.

Please note that a graphics card driver with CUDA 8 support is required for usage of the GPU Accelerator.

3.1.12 New journal content format

The content and handling of journal files in OLAP Server databases, used for data recovery in case of irregular shutdown, has changed. There is now only one journal (.log) file per database.

The .archived files, which contain previous changes in the journal files, are now written at the same time as the journal files (i.e., as a request is executed, not on shutdown). The creation of archived files can be turned off by setting the new "no-archives" switch parameter in the palo.ini configuration file.

3.1.13 Initial database rights for new groups

You can now define database access rights for a new group that will be created later in the database. The rights can be defined in the "Properties" page of a database in Modeler.

3.1.14 Activation of argument subfunction in PALO.ESELECT()

If the argument subfunction is 0 or empty, a double-click on a cell with function PALO.ESELECT() opens the Choose Element dialog. If the argument subfunction is 1, a double-click on a cell with function PALO.ESELECT() opens the function's editing mode.

3.2 Jedox Web General

3.2.1 Changed panel names

The names of navigation panels have been changed to better reflect the usage scenario for each panel. The new names are:

- **Reports** (previously Report Manager)
- **Report Designer** (previously File Manager)
- **Modeler** (previously OLAP Manager)
- **Integrator** (previously Integration Manager)
- **Scheduler** (previously Task Manager)
- **Administration** (previously System Manager)

There are also two new panels: **My Models** and **Marketplace** (see screenshot below).
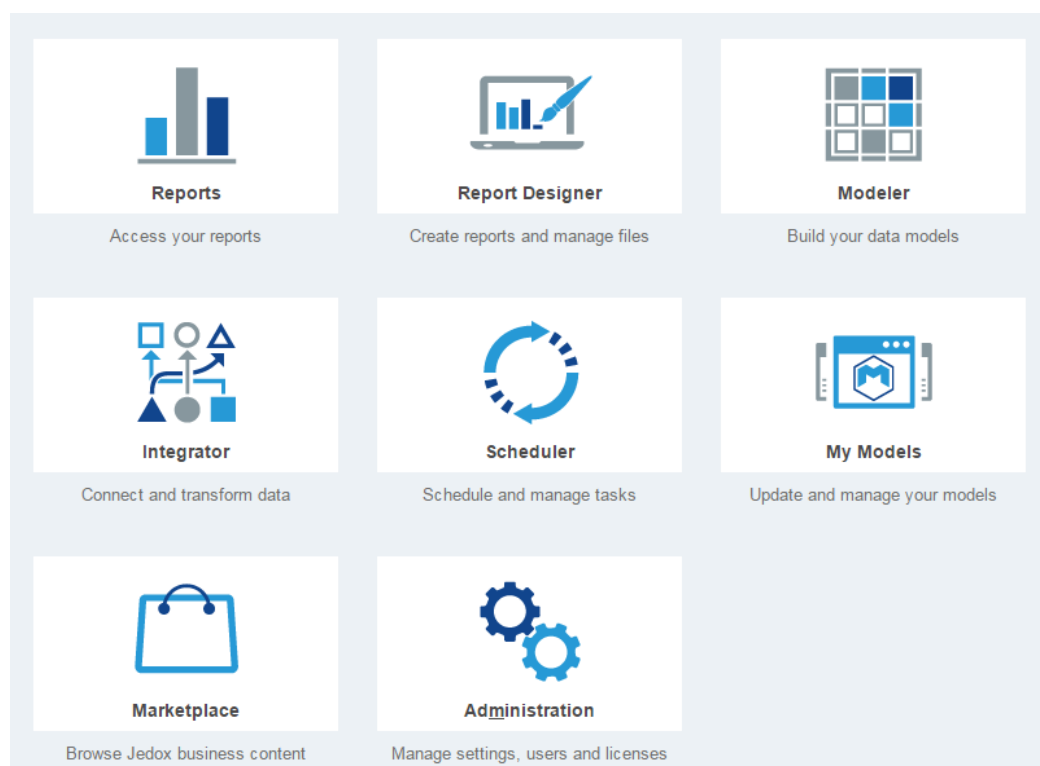
3.2.2 Marketplace and Jedox Models

Jedox Marketplace is a new component in Jedox Web. In the Marketplace, Models are available for download installation on the local system. Updates for models are also provided through the Marketplace.To display the Marketplace in Jedox Web and to install models, both the client and the Jedox Web server require access to the internet.

3.2.3 Redesign of Modeler

The Modeler, which is used to design databases, has been completely redesigned and enhanced with additional functionality.

The panel on the left now lists databases and their dimensions and cubes in a hierarchical structure.

3.2.4 Modeler: object properties

For every database, as well as for specific dimensions and cubes, the user can now access the properties on a dedicated page in the Modeler. Besides general information about the object, the user can also change settings here. For example,the properties page of a dimension allows the user to create and manage attributes, create or edit stored subsets, or change default element settings (see also section 1.1.6 above).

3.2.5 Modeler: internationalization

Jedox 7.0 offers support for internationalizing an OLAP database. The designer can define a default language for a database (for example, English) and specify several additional languages the database supports (for example, French, or German). Translated values can be stored for most database object names. In some scenarios, localized object names can be retrieved specifically.

3.2.6 Modeler: context menu commands for single database objects

By right-clicking on a single element, e.g. a database, a dimension, or a cube, you can see corresponding context-menu commands, as illustrated in the screenshot below:
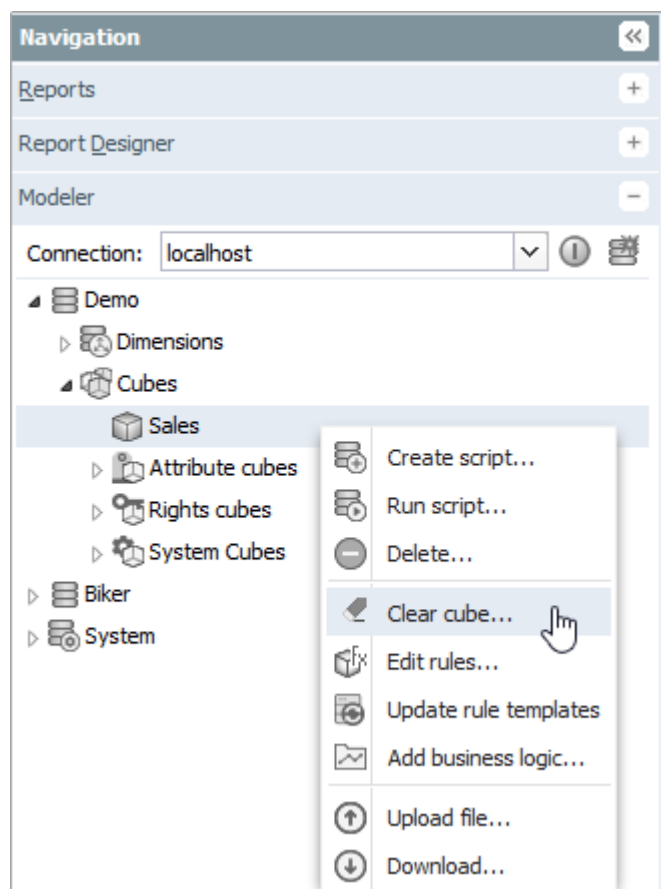
Context menu for the Sales cube in the Demo database

3.2.7 Modeler: cube and dimension interfaces

Dimension and cube interfaces provide an easy way for the user to upload data into a cube or dimension, or download data from it, once or repeatedly. The interfaces can use various file-based sources (e.g. CSV or XLSX files). The interface for uploading/downloading dimensional data is called from the Modeler via the context menu of a specific dimension or a specific cube. The process can be executed once, or it can be retained as an Integrator job and also be scheduled as a repeating task.

3.2.8 Modeler: element grid

The elements of a dimension are shown in the new Elements Grid. By default, the grid will show elements in hierarchical mode, allowing the user to browse the consolidation structure of the dimension. A "flat" display mode is also available. The element type, parents, weight, and attribute values are shown for each element, and the grid can be searched. You can also sort and filter the grid, for example, you can filter based on specific attribute values.

3.2.9 Modeler: pasting elements

Elements can be copied from a spreadsheet (MS Excel or Jedox Web spreadsheet) and pasted into the Modeler. Both a single column of elements and the "parent-child" format in the source are supported.

3.2.10 Modeler: database script integration

Database scripts for OLAP databases can be generated as well as executed from the Modeler. To generate a script for an object (database, cube, or dimension), right-click the object in the tree and select

"Create script...". The script can be downloaded or stored in Jedox Web Report Designer. To run a script, select "Run Script..." from the context menu, and select a script from the Report Designer.

3.2.11 Modeler: display drillthrough information

If a specific cube is connected to external drillthrough data, information about the drillthrough data source (such as Schema and Table for persisted drillthrough, Integrator Extract for direct drillthrough, or number of rows) can now be viewed in the Cube Properties page in Modeler.

3.2.12 Modeler: Advanced Rule Editor

The new Modeler includes an Advanced Rule Editor, which allows UI-driven creation and editing of OLAP rules (similar to the Advanced Rule Editor of Jedox Excel Add-in in previous versions). The Advanced Rule Editor also supports creating and editing rule templates.

3.2.13 Modeler: templates and business logic

Dimensions and cubes can be created using templates. Templates provide predefined contents for the objects, such as Version elements or a Month dimension. Additionally, business logic can be added to cubes, enabling sophisticated, rule-based calculation for certain standard datasets.

3.2.14 Script integration in Report Designer

Report Designer offers native support for database scripts. Files with "script" type can be created and edited in Report Designer. Executing a script can be done via context menu of the script file. Before execution, the user will be prompted to define values for script variables (if the script contains variables).

3.2.15 Settings Manager: settings scoped to a specific model

Settings Manager offers support for settings that are scoped to a specific model. Settings for a model can be created; in spreadsheets, they can be retrieved by specifying the model's unique name as a new, optional, second parameter of the CONFIG.GET() spreadsheet function.

3.2.16 Ability to save Performance Monitor settings

The selected series in Jedox Web Performance Monitor can now be saved. Saved series settings will automatically be used the next time the user opens Performance Monitor.

3.2.17 New locale en_UK

A new locale for United Kingdom (en_UK) is introduced. The locale uses similar translations as the en_US locale, but different format codes, symbols, etc.

3.2.18 Spreadsheet Server log file rotation

The Spreadsheet Server (core) component of Jedox Web now supports optional file rotation for its log file.

3.2.19 Keyboard handling for grid controls

In grid controls (e.g. the list of functions in FieldTransforms of Integrator UI, or in the element grid in Modeler), an active input is confirmed with the Enter key. An additional press of the Enter key will create a new row.

3.2.20 New location for SVS management controls

The SVS Management controls, where Supervision Server can be restarted / Stopped via the Jedox Web UI, is now located in the Connection Manager, in the "Administration" panel in Jedox Web.

3.2.21 Locale definition for OLAP user session

When logging on to Jedox Web, the user's locale (that is, the language that is defined for that user in the Jedox Web Options dialog) is sent to the OLAP Server. This is relevant for internationalized databases; for example, the user will be shown the localized version of attribute values (if they're defined) based on this locale.

3.2.22 Locale display in Session Manager

In the Session Manager in the Administration panel, the locale used by a specific session can be shown by selecting the Locale column in the column header menu.

3.3 Jedox Web Spreadsheets

3.3.1 "List" form element

A new form element type, "List", is available in Jedox Web spreadsheets. Lists are similar to DynaRanges or comboboxes in that they can be sourced by a formula, a subset, or ODBC data. However, the list control also optionally allows selection of multiple items, which are then returned in an array. The list control can be shown constantly, or shown as an expandable/collapsible field.

3.3.2 Ability to define and use styles for cells

You can now define styles (colors, number formats, etc.) for a spreadsheet, and use the style on several cells in the spreadsheet. Any change of the style will then be reflected in all the cells where it is used.

If a spreadsheet has another spreadsheet defined as a resource, all styles that are defined in the resource are automatically inherited by the spreadsheet and can be used there.

3.3.3 Support for additional *IFS() functions

Support for additional *IFS() functions from MS Excel has been added. IFS functions allow you to check against several criteria and then perform a calculation on all cells matching the criteria. The following functions from MS Excel have been added: SUMIFS(), AVERAGEIFS(), COUNTIFS(), MINIFS(), and MAXIFS(). Additionally, the following functions have been added: PRODUCTIFS(), STDEVIFS(), STDEVPIFS(), VARIFS(), and VARPIFS().

3.3.4 Support for "Web" spreadsheet functions

Three spreadsheet functions have been added that allow you to query and parse XML data from web services: WEBSERVICE(), FILTERXML(), and ENCODEURL().

3.3.5 Changed keyboard shortcut for inserting line breaks in IE11

The keyboard shortcut for inserting a line break in a cell in Internet Explorer has been changed. The shortcut now is CTRL +ALT + Enter. The old shortcut, CTRL + Enter, is now used for deactivating array formulas (similar to other browsers).

3.3.6 Support for activerange() macro function in Reports mode

The activerange() macro function, which returns the address of the currently selected cell, now also works in Reports Mode.

3.3.7 Ability to exclude specified elements in XLSX exports

A new configuration option allows users to disable the inclusion of specified elements when exporting XLSX files, XLSX Snapshot files, and XLSX OLAP Snapshot files. The following elements can be excluded from the exported file: charts, images, Jedox Views, page setups, and split or frozen panes.

The exclusion is defined in the ooxml_config.xml configuration file of Jedox Web Spreadsheet Server (core).

3.4 Jedox Integrator

3.4.1 New connection type "Rest"

A generic connector for extraction from REST-based web services is now available.

3.4.2 Enhancements for SOAP web services

The implementation of SOAP-based web services has changed by using Apache CXF instead of Apache Axis2 framework. This should lead to the support of a wider range of services.

3.4.3 Enhancements in Calendar extract

There are new time-to-date modes: "timeToDateCompact", "timeFromDateCompact", as well as "rolling", which allows the user to define rolling months.

3.4.4 Definition of output structure in Cube extract

The output structure of the Cube extract can now be altered, including renaming, reordering, and omitting of dimension columns. If a cube dimension is omitted, the values are read from the Default Read Element of the dimension.

3.4.5 TableDenormalization with dynamical measure list

In transform type TableDenormalization, the list of measures can now be retrieved dynamically by an arbitrary source, which allows the definition of more generic transform processes. The list of measures can still be retrieved statically in the transform, as in previous versions.

3.4.6 Sorting in transform TreeView

Tree-based sources can now be sorted by using the transform type TreeView.

3.4.7 New function type "LookupInterval"

This new function allows a mapping for values that are contained in dynamical intervals of a source.

3.4.8 New function type "Switch"

This new function allows the definition of a complex condition to determine the function value. It should avoid the use of script-based functions (Groovy or JavaScript), which contain mainly IF and CASE statements.

3.4.9 New load type "Excel"

Jedox Integrator can now load data into files for Microsoft Excel (.xlsx files). For the load, various options for configuration are available, such as worksheet name, start cell for the output, or load mode. You either create new files or load data into existing files.

3.4.10 Load files to Jedox Report Designer

For the file-based load types File, Xml, Json, and Excel it is now possible to write files to the Jedox Report Designer. The folder and filename can be selected in the component editor.

3.4.11 Load files to WebDAV Servers

For the file-based load types, Jedox Integrator can now write to web servers that support the WebDAV protocol.

3.4.12 Cube load with dimension default elements

The functionality to handle missing elements has been extended with new options "mapToDefaultWrite" and "mapToDefaultParent", which use the default elements of the dimension.

Additionally, there is a new option, "Cube layout change mode", which defines the behavior if the source columns and the cube layout don't match. It allows writing to a default element for missing source columns and the automatic change of the cube layout before the data is loaded.

3.4.13 New load type "JedoxDatabase"

This load performs different general actions on a Jedox OLAP database. For the 7.0 release, there are 2 actions: saving all Jedox cubes and the database to disk, and generating the rule instances for all rule templates of a database. More actions will follow in upcoming releases.

3.4.14 Handling of zero values

As OLAP cubes can now explicitly store zeros, the handling of NULL, empty, and zero values has also been changed in Jedox 7.0 to reflect this change. Especially in cube extract, the option "Skip empty" now offers (among other things) the possibility to filter out empty cells while keeping cells with a zero value.

3.4.15 Language-dependent attributes in dimension extract and load

The dimension extract retrieves language-dependent attributes if the option readAttributes is set to "allLanguages". The dimension load is able to write these attribute values to the dimension.

3.4.16 Further changes

- Tree Formats: the new format FHWA (full hierarchy with weights and attributes) is available.

- Logging: the name of the component in which a warning or an error occurred is now part of the log message, so that the origin of an issue can be more easily tracked.

- Parallel job execution: if several single and parallel jobs are executed at the same time, the parallel jobs will now get executed first, independent of the order in which they were started. Moreover, a parallel job can now be included in a single job.

- Drillthrough: in Cube load, it is no longer possible to use "Insert" mode in combination with drillthrough, as it lead in many cases to inconsistencies between cube and drillthrough data.

- Template rules: handling for rule templates and rule instances has been added to Rule extract and Rule load.

3.5 Jedox Excel Add-in

3.5.1 Redesign of Modeler

The Modeler, which is used to design databases, has been completely redesigned and enhanced with additional functionality. More info in section 1.2 above.

In Jedox Excel Add-in, the Modeler is now loaded as a web dialog, using a connection from the defined "Jedox Web" connections.

3.5.2 GPU Accelerator Advisor

The GPU Accelerator Advisor is a new feature in Jedox 7.0 Excel Add-in.It is a cube-level check for compatibility with Jedox GPU Accelerator and can be started in the Modeler submenu of Jedox Ribbon.

The result of the check is a usage recommendation level that reflects the expected speedup potential of the Jedox GPU Accelerator on the specified cube, and it is highly recommended. Along with this result, the graphical overview displays the most important cube features that were taken into account for the evaluation, as well as their respective evaluated values:
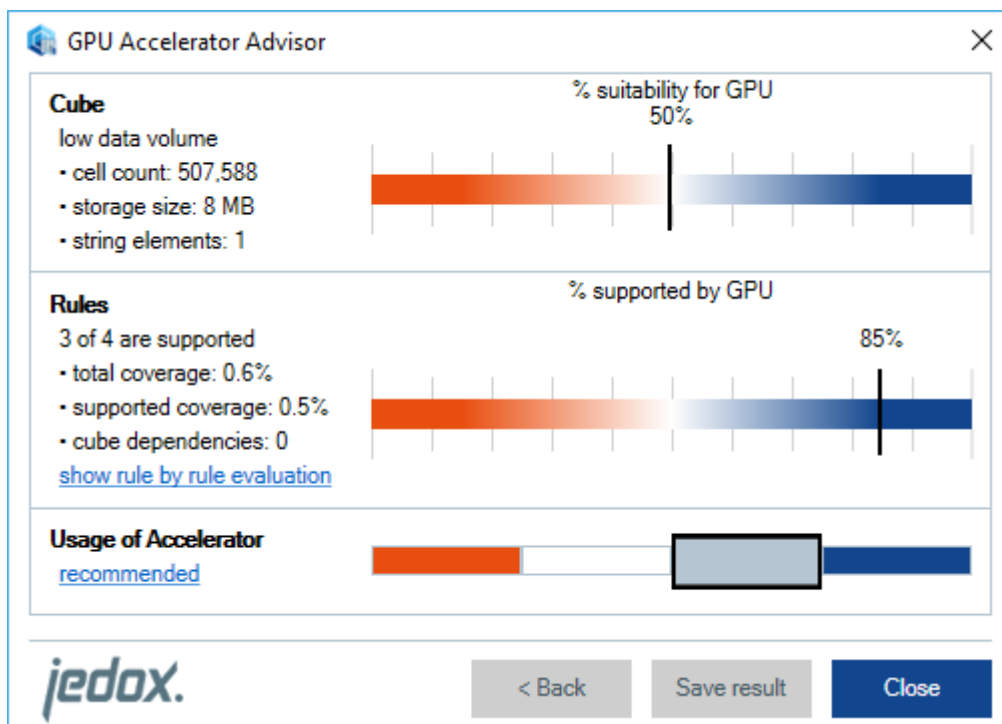
3.5.3 Pasting PALO.SERVER_SUBSET() formula

When working with stored Subsets (private or global) in the Subset editor, the user can now paste the subset as either a PALO.SUBSET(), or as PALO.SERVER_SUBSET formula. The latter can be pasted by holding the CTRL key while clicking the "Paste" button. The PALO.SERVER_SUBSET() formula will automatically update the result on next calculation if the stored subset definition has changed.

3.5.4 Display of descriptions as tooltips

Descriptions for cubes and dimensions are now available as mouse-over tooltips in the Paste View dialog.These descriptions can be localized in the "Internationalization" tab of the new Modeler. If the corresponding description is empty, the default mouse-over tooltip is shown.

3.5.5 In-place editing of ESELECT/ENAME formulas

On cells containing an ESELECT or ENAME formula, the user can now type in the name of an element from the respective dimension. This will not overwrite the formula; instead, the Element will be set as part of the formula, and, if the user opens the element picker on the cell with double-click, the element will be preselected. Please note that this feature is not supported in undetached Views.

3.5.6 New option "Enforce stored subset definition" in Select Elements dialog

This option is only active if you use a stored subset for a Jedox View. It prevents overriding options of a stored subset (e.g. the alphabetic order) during the creation of a View. If this option is set, the subset will be shown in the View exactly as it was saved. However, the user will then not be able to expand/collapse elements in the view axis where the subset is used.

Note that this option is not yet implemented in the Select Elements dialog of Jedox Web.

3.5.7 New place to start Supervision Server Script Editor

As of Jedox 7.0, the Supervision Server Script Editor can be started in the Modeler submenu of the Jedox Ribbon.

3.5.8 Locale definition for Olap user session

When logging in to Olap from Excel, the user's locale (that is, the language he has defined for the Jedox Excel Add-In in the Options dialog) is sent to Olap Server. This is relevant for internationalized databases; the user will be shown e.g. the localized version of attribute values (if they're defined) based on this locale

3.6 Jedox Supervision

3.6.1 SSO in "authentication" mode

It is now possible to use single sign-on in "authentication" mode. In this mode, the assignment of user accounts to user groups is managed with Jedox; SSO is only used to authenticate the user, and groups from the AD/LDAP environment are not used. To use this mode, the new palo.ini key "windows-sso-authentication" can be used. Additionally, a new event, "OnWindowsUserAuthenticate" is available for use in Supervision Server scripts.

3.7 Jedox Mobile

3.7.1 Dialogs for combobox, datepicker, list controls

When reports are viewed on a mobile device, the combobox, datepicker, and list controls will now display a popup dialog for selection, optimized for display on mobile.

3.7.2 Redesign of Login screen

The login screen, shown when the user opens the Jedox Mobile app, has been redesigned on both iOS and Android. It is now possible to add multiple custom accounts to various servers (such as production or test servers).

3.7.3 Automatic download of documents for offline usage

PDF documents that are made available in the Jedox Mobile app will now be automatically downloaded to the device. Downloaded documents can be viewed in the app even if the device is not online. If there's a change in a document on the server, the app will automatically download the changed version the next time it connects to the server.

3.7.4 Encryption of data stored on device

Data downloaded to the device, such as the PDF documents described above, is stored encrypted on the device.

3.7.5 Backend version displayed in Settings dialog

The version of the backend server is now displayed in the Settings dialog, along with the version of the Jedox Mobile app.

3.7.6 iOS: global app settings

The settings for enabling visible touch feedback ("presentation mode") and for sending crash reports have been moved to the global app menu in iOS settings.

3.7.7 iOS: support for split screen

The Jedox Mobile app can be used in "split screen" mode on iOS devices that support usage of split screen.

3.7.8 Android: moving reports into folders

In the Android app, reports can now be moved into existing folders. To move a report, tap and hold its icon, then drag it onto the target folder. The report will be moved into the folder in the source hierarchy in Jedox Web.
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3.8 Setup and Packaging

3.8.1 Windows Setup: new installation mode

The Windows Setup now offers only two installation modes during new installations. Besides the "Advanced" mode, there now is a "Default" mode, which installs both Jedox Excel Add-in and Jedox Web on the local machine with default settings.

The Supervision Server is now a mandatory component and will be always installed. The checkbox to select this component has been removed from advanced setup dialogs. The "GPU Accelerator" checkbox has moved from the components dialog to the last setup dialog "Final options". This checkbox is only enabled if the setup has detected a supported GPU on the target system.

3.8.2 Linux setup: installation of SAP components

The Linux setup supports optional installation of SAP connector. When running the setup, the user will be queried for the location of the .jar file for SAPJCo.

3.8.3 Linux setup: Tomcat executed within chroot environment

The Tomcat component of Jedox, which runs Jedox Integrator, PDF module, and other servlets, is now executed within the chroot ("change root"/"jail") environment of a Jedox installation on Linux.

3.8.4 Linux setup: changed integration of init scripts

The integration of the Jedox process management script (jedox-suite.sh) in RedHat/CentOS systems has been changed. When installing, a copy of the jedox-suite.sh script is created in /etc/init.d, and added as a disabled service ("off"). Any subsequent parallel installation in a different location will overwrite the existing script copy in init.d.

3.9 Cloud

With Jedox Cloud 7 you can move planning confidently to the cloud – at your own pace. A new administrator dashboard and greater enterprise controls make it incredibly easy to manage your cloud instance. The enhanced cloud offering in Jedox 7.0 provides you with best-in-class cloud integration, security, maintenance, scalability, and monitoring for highest standards.

3.9.1 Simplified backup

Initiate backups directly within your Jedox cloud instance. 100 GB of additional geo-redundant disk space is reserved for daily backups or self-service asynchronous backups. The backup history is limited only by disk space, and the cloud system can be restored from backups upon request.

3.9.2 SFTP support

With Jedox 7.0, cloud users have direct access to data and logs via SFTP (Secure File Transfer Protocol). The access is further protected with the help of a dedicated, key-based logon.

3.9.3 Support for Microsoft Azure in-country cloud service

Jedox is one of the first partners for Microsoft's in-country "German Cloud" services for enhanced protection against data leakage and more speed.

3.9.4 Encryption

With this feature, your data gets encrypted prior to going into storage and decrypts prior to retrieval. The whole encryption and decryption process, as well as the key management, are completely transparent. All images are AES-256 (Advanced Encryption Standard) encrypted with a separate key unique to every customer.

3.9.5 Monitoring

Cloud users now have the ability to report on quarterly level service availability. The status of all services is checked every minute to ensure that the SLA is met and excluded with one-minute granularity.

3.10 Technical Health

In Jedox 7.0 following target platforms have been added to the supported list:

- Firefox 50, Chrome 54
- iOS: 10
- Android: 7
- Tomcat: 8.0.15
- Apache: 2.4.23
- PHP SVS/SSS: 5.6.20
- Apache: 7.0.13

3.11 Fixed Issues from Version 6.0 SR3

The following issues (features, tweaks and bugs) reported in Jedox 6.0 SR3 have been fixed/implemented in Jedox 7.0. The development team thanks those customers and partners who have reported issues.

Component	Tickets	Resolved
OLAP Server	349	349
SVS	8	8
Excel Add-in	104	104
Office Add-in	3	3
Client Libs	60	60
Integrator Server	220	220
Jedox Web	882	882
Jedox Mobile	75	75
Jedox Cloud	28	28
Demo content	9	9
Documentation	103	103
Setup	109	109
Models	192	192