



Jedox 2020.4

Technical Specifications



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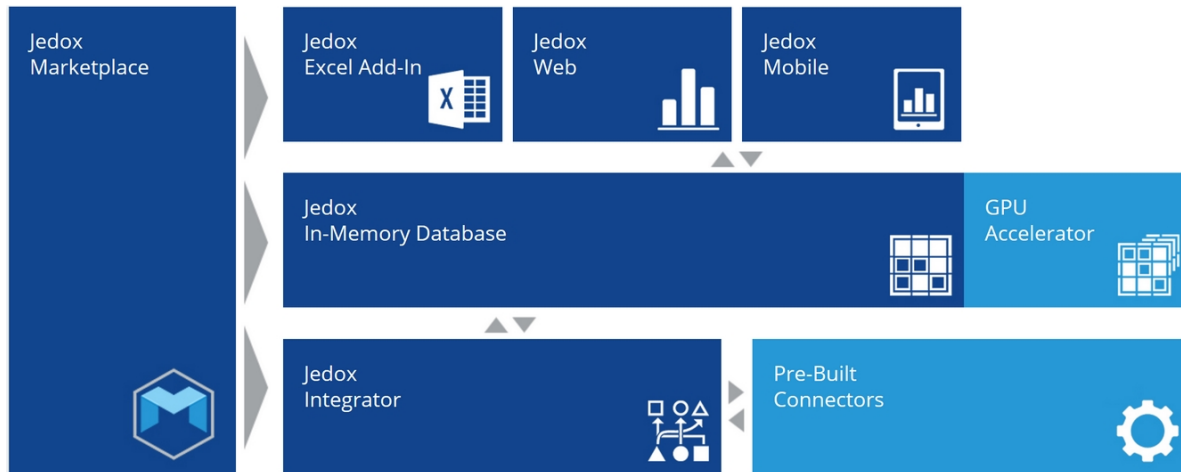
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Jedox Architecture

The diagram below displays an overview of the Jedox software architecture:



Jedox In-Memory DB (OLAP), a database completely loaded into the memory, providing high performance. The In-Memory DB is written in C++.

Jedox Excel Add-in can be installed on top of an already-existing Excel environment. Through its database function called **PALO.DATA**, it provides data modeling, data integration, and reporting. The Excel Add-in is written in C++ and C#(.NET).

Jedox Web is a web-based application for data analysis and modeling, reporting, 3rd party integration, and pre-built application models. Jedox Web is written in C++, Java, JavaScript, and PHP.

Jedox Integrator/ETL (Server and Client) is the integration tool of the Jedox Platform. It provides out-of-the-box connections with data extraction, transformation, and load. Jedox Integrator is written in Java.

Jedox Mobile is a mobile application that allows you to check real-time dashboards, reports, perform ad hoc data analysis or submit planning figures. Jedox Mobile is written in Swift on iOS and Java on Android.

Jedox Marketplace offers access to out-of-the-box application models and demos.

The GPU Accelerator provides added performance boost with extra calculation speed by leveraging the distributed computing power of server graphic cards in parallel GPU processing.

The pre-built connectors allow you to add Jedox on top of other enterprise systems such as SAP, Salesforce, Qlik or Tableau.

Component Communication

Excel Add-in

When it connects to the In-Memory DB, Excel sends requests via HTTP/s to the REST API of the In-Memory DB and receives the responses in CSV format. Many dialogs in Excel Add-in use the same dialogs as Jedox Web. A web browser based on Chromium is integrated into the Add-in.

Note: Excel Add-in must have a valid connection to a Jedox Web front-end server.

Jedox Web

When a web browser accesses Jedox Web, all the requests from the browser are made to the Jedox Web front-end server, such as Apache. Some of the requests trigger an action in the PHP part of the Jedox Web front-end Server. For example, many of the OLAP-based dialogs in spreadsheets operate like this. Other requests pass through Apache (sometimes directly, sometimes through PHP), which then serves as a proxy to other backend components, Core and RPC. In turn, these three components sometimes contact the two “backends”, Integrator and In-Memory DB.

Jedox Web needs an “internal” connection to the Jedox In-Memory DB because it uses it as a metadata storage. It also needs to carry out certain operations as a “super user” with similar rights to the OLAP “admin” user. Like all connections to the In-Memory DB, these connections are made to its REST API, by default on port 7777 (or 7778 if the In-Memory DB uses https).

When you log in to Jedox Web, the front-end server uses the given login credentials to create a session in the In-Memory DB. The session lives at first in the PHP part of the front end and is used to fetch necessary metadata (such as file hierarchies) from the In-Memory DB called through the Jedox Web interface. It is, for example, used in some of the OLAP-based dialogs in spreadsheets.

Web spreadsheets are loaded, calculated, and saved in the Spreadsheet Server component. To provide spreadsheet content to the Jedox Web front end (and then your web browser), the Spreadsheet Server and the Jedox Web front end communicate via the AJP protocol, which is by default on port 8193. If a Web Spreadsheet shows data from the In-Memory DB (e.g. in a PALO.DATA formula), the Spreadsheet Server will fetch this data.

When you open the Integrator in Jedox Web, Apache proxies the requests made by the browser to the RPC servlet in Tomcat, using Tomcat's AJP interface port. Note that in Linux environments, the two back-end components RPC and Integrator are executed in two separate instances of the Tomcat server, which allows separate configuration and monitoring of the two components.

The integrated Scheduler loads all the defined scheduled tasks and the information of when to execute them. It is part of the RPC webapp/servlet in tomcat. When it performs Integrator tasks, it connects to the Integrator server the same way the Integrator UI does, via the Integrator SOAP API on HTTP. For Batch PDF / XLSX tasks, it contacts the Jedox Web frontend, for example Apache, via the HTTP of the frontend. For In-Memory Database (OLAP) tasks, it contacts the In-Memory Database via its HTTP interface, but it uses Apache and the Spreadsheet Server as a proxy.

Platform Support Guide for Jedox Software

Jedox software consists of the following components:

- Excel Add-in
- In-Memory DB
- Jedox Web
- Integrator
- 3rd Party Access

This guide defines the level of support that Jedox currently offers for running these components on various platforms. It is updated with each Jedox software release.

Support Terms

Supported:

Jedox has tested the current version with the platform, operating system, or browser.

Viable:

Jedox has not tested the current version with the platform, operating system, or browser. However, we believe that the platform is viable for the operation of our application. There are installations on this platform and they work correctly. Fixes may be provided if an update to a higher/newer version is not possible.

Unsupported:

The current version does not support the platform, operating system, or browser at all. The system will not run.

N/A:

Not available/not applicable.

Supported Platforms

Table 1: Jedox Excel Add-in, In-Memory DB, Jedox Web

OS	Jedox Excel Add-in ^{1) 2)}	In-Memory DB ³⁾	Jedox Web ²⁾
Windows Server 2019	supported	supported	supported
Windows Server 2016	viable	supported	supported
Windows Server 2012 R2	viable	supported	supported
Windows Server 2012	supported	supported	supported
Windows 10	supported	supported	supported
Windows 8.1	supported	supported	supported
SUSE LES 12 SP4 or newer	N/A	supported	supported

Debian 7 or newer	N/A	supported	supported
Red Hat / CentOS 7 or newer	N/A	supported	supported
Terminal Services	viable	N/A	N/A
Frameworks			
.NET 4.6.2	supported	N/A	N/A
Java 11	N/A	N/A	supported
PHP 7.0	N/A	N/A	supported
Client Spreadsheets			
Microsoft Excel 365 (Desktop)	supported ⁸⁾	N/A	viable ⁴⁾
Microsoft Excel 2019	supported ⁸⁾	N/A	viable ⁴⁾
Microsoft Excel 2016	supported ⁸⁾	N/A	viable ⁴⁾
Microsoft Excel 2013	supported	N/A	viable ⁴⁾
Client Browsers ⁶⁾			
Microsoft Edge	N/A	viable ⁵⁾	viable
Mozilla Firefox 54+ ⁹⁾	N/A	supported ⁵⁾	supported ⁹⁾
Google Chrome 54+	N/A	supported ⁵⁾	supported
Apple Safari 9+	N/A	supported ⁵⁾	viable
Databases			
Oracle	N/A	N/A	N/A
MS SQL Server	N/A	N/A	N/A
MS Access	N/A	N/A	viable
Jedox In-Memory DB	supported	N/A	supported

Table 2: Integrator, 3rd Party Access

OS	Jedox Integrator ²⁾ 7)	Jedox 3rd Party Access
Windows Server 2019	supported	supported

Windows Server 2016	supported	supported
Windows Server 2012 R2	supported	supported
Windows Server 2012	supported	viable
Windows 10	supported	supported
Windows 8.1	supported	supported
SUSE LES 12 SP4 or newer	supported	N/A
Debian 7 or newer	supported	N/A
Red Hat / CentOS 7 or newer	supported	N/A
Terminal Services	N/A	viable
Frameworks		
.NET 4.6.2	N/A	N/A
Java 11	supported	N/A
PHP 7.0	N/A	N/A
Client Spreadsheets		
Microsoft Excel 365 (Desktop)	see "Systems Supported by Jedox Integrator" on page 23	supported ⁸⁾
Microsoft Excel 2019	see "Systems Supported by Jedox Integrator" on page 23	supported ⁸⁾
Microsoft Excel 2016	see "Systems Supported by Jedox Integrator" on page 23	supported ⁸⁾
Microsoft Excel 2013	see "Systems Supported by Jedox Integrator" on page 23	supported
Client Browsers ⁶⁾		
Microsoft Edge	viable	N/A
Mozilla Firefox 54+ ⁹⁾	supported	N/A
Google Chrome 54+	supported	N/A
Apple Safari 9+	viable	N/A
Databases		

Oracle	see "Systems Supported by Jedox Integrator" on page 23	N/A
MS SQL Server	see "Systems Supported by Jedox Integrator" on page 23	N/A
MS Access	see "Systems Supported by Jedox Integrator" on page 23	N/A
Jedox In-Memory DB	see "Systems Supported by Jedox Integrator" on page 23	supported

Virtualized Environments

Jedox products support virtual platforms. However, compared with a real hardware constellation, performance degradation is more likely to occur. The difference in performance must be checked in each individual case, since this depends on the application and on the given virtual platform.

Jedox is used productively by customers on most common virtualized host systems, and in terms of functionality, there are no VM-vendor-specific issues known. If high performance is of critical concern, it is generally recommended to use physical machines.

Jedox internally focuses testing on environments virtualized by VMWare ESXi. However, in support terms, all of the following virtualized environments are considered viable:

- VMware virtualized environments
- Hyper-V
- Oracle VM VirtualBox

Notes

- 1) The compatibility of Jedox Excel Add-in with other Add-ins for MS Excel / Office cannot be guaranteed, and in specific cases, incompatibilities may occur.
- 2) Jedox Excel Add-in and Jedox Web / Jedox Integrator support only the default zoom factor of 100% in display settings. Other zoom factors in Excel or browser settings may cause display errors.
- 3) The support levels for Jedox In-Memory DB also apply for Jedox Supervision Server.
- 4) Import of Microsoft Excel XLSX files to Jedox Spreadsheet.
- 5) Jedox In-Memory DB API documentation.
- 6) Various browsers have varying performance for JavaScript-based web applications. Several performance benchmarks (Kraken, Octane, Peacekeeper etc.) show these differences in detail, giving an indication of the browsers' capabilities in rendering web applications such as Jedox.
- 7) The support levels for Jedox Integrator apply also for Jedox SAP Connector.
- 8) For Office 365 subscriptions, Jedox supports only the desktop applications listed above, on the Semi-Annual Channel. Support for updates in the Monthly Channel cannot be guaranteed but is viable. The Jedox Office Add-ins cannot be used in "Office Online".
- 9) To speed up performance in Firefox, de-select the option for smooth scrolling in the advanced options.

Jedox Cloud Hardware Specifications

Jedox Cloud features all Jedox software components in a high-performance hardware environment. Your requirements are only a computer or mobile device with fast internet performance and a browser that supports Jedox software.

The Jedox Cloud instance based on Azure infrastructure comes in three different flavors: Essential, Professional (small, medium, and large), and Performance. Listed below are details on hardware used within each offering.

Capacity guide for Jedox Cloud

Number of users	Minimum	Recommended
10-50	Essential	Business / Professional S
50-200	Business / Professional M	Business / Professional L
200-500+	Performance	Ask for details

Hardware specifications

	Essential	Business / Professional S	Business / Professional M	Business / Professional L	Performance / Performance GPU
vCPUs	Up to 4	Up to 8	Up to 16	Up to 32	Up to 64 vCPUs 1 V100 GPU
RAM	Up to 32 GB	Up to 64 GB	Up to 128 GB RAM	Up to 256 GB	Up to 432 GB RAM 112 GB RAM
Storage	Up to 512 GB	Up to 512 GB	Up to 512 GB	Up to 512 GB	Up to 512 GB
Snapshot storage	Up to 512 GB	Up to 512 GB	Up to 512 GB	Up to 512 GB	Up to 512 GB

Jedox Production Cloud instances are based on the latest generation of AMD's EPYC™ processor in a multi-threaded configuration, increasing options for running most memory-optimized workloads.

You can buy additional hardware storage with an increment of 100 GB.

Note: exact hardware details may be subject to regional availability of Azure infrastructure services. The focus of Jedox's provisioning practice is to deliver a reliable, premium-quality service with fast application response times, not to guarantee a particular hardware configuration.

Hardware Requirements

Jedox Cloud

In Jedox Cloud, all Jedox software modules are accessible in a high-performance hardware environment. Users require only a computer or mobile device with fast internet performance and a browser that supports Jedox software.

Jedox On-Premises

The Jedox software suite includes

- In-Memory DB (including all Jedox server components)
- Jedox Web Server and Spreadsheet Server
- Excel Add-in client
- Jedox Web client
- GPU Accelerator²

Overall, the performance depends on the size of the database and / or the complexity of the data model (e.g. rules used). Furthermore, the number and the size of the Web Spreadsheets and Web Reports plays an important role for the performance. Finally, the number of all potential named users who are using the systems at the same time (*concurrent sessions*) has a major impact on hardware requirements.

For these reasons, the following hardware recommendations are limited to the *basic use* of our software products. Please contact one of our experienced consultants to determine whether your desired data analysis corresponds to this level of use. If not, then your hardware requirements may be higher.

For larger applications, we recommend clustering Jedox processes across several machines. For more than 500 concurrent sessions, a prior consultation with one of our consultants is required.

Jedox products also support virtual platforms; however, compared with a real hardware constellation, performance degradation is more likely to occur. The difference in performance must be checked in each individual case, since this depends on the application and on the given virtual platform.

First server machine

The first server machine must run all Jedox server components.¹

Concurrent sessions	Resource	Minimum	Recommended
10-50	CPU	Intel Xeon (4 Cores)	Intel Xeon (16 Cores)
	RAM	16 GB	64 GB
	HDD	100 GB	200 GB

50-200	CPU	Intel Xeon (16 Cores)	2 x Intel Xeon (10 Cores)
	RAM	64 GB	128 GB
	HDD	200 GB	400 GB
200-500	CPU	2 x Intel Xeon (10 Cores)	2 x Intel Xeon (20 Cores)
	RAM	128 GB	128 GB
	HDD	400GB	1000 GB

Jedox GPU Accelerator

The GPU Accelerator must be licensed in addition to your Jedox software. The GPU card recommended below is only required for licensed GPU users.

Jedox GPU Accelerator	Resource	Minimum ³	Recommended ³
	GPU³	NVIDIA Tesla K80	NVIDIA Tesla P100 or V100

Additional server machine(s)

Additional machines are optional. Each additional server machine must be running Jedox Web Server and Jedox Spreadsheet Server.

Number of sessions	Resource	Minimum	Recommended
for 10-50 concurrent sessions	CPU	Intel Xeon (4 Cores)	Intel Xeon (8 Cores)
	RAM	16 GB	32 GB
	HDD	100 GB	200 GB
for 50-200 concurrent sessions	CPU	Intel Xeon (16 cores)	2 x Intel Xeon (10 Cores)
	RAM	64 GB	128 GB
	HDD	200 GB	200 GB
for 200-500 concurrent sessions	CPU	2x Intel Xeon (10 Cores)	2 x Cluster Nodes with Intel Xeon (16 Cores)
	RAM	128 GB	128 GB
	HDD	200 GB	200 GB

Client Machines

Jedox Excel Client	Resource	Minimum	Recommended
	CPU	Core i3 (2 Cores)	Core i7 (4 Cores)
	RAM	1 GB	4 GB
	HDD	1 GB	2 GB

Jedox Web Client	Resource	Minimum	Recommended
	CPU	Core i3 (2 Cores)	Core i7 (4 Cores)
	RAM	1 GB	4 GB
	HDD	1 GB	2 GB

1) Jedox server components are:

- In-Memory DB Server (service name: JedoxSuiteMolapService),
- Web Server (service name: JedoxSuiteHttpdService),
- Spreadsheet Server (service name: JedoxSuiteCoreService),
- Integrator Server (service name: JedoxSuiteTomcatService).

To increase performance, you can use one or more additional servers, each running Jedox Web Server and Jedox Spreadsheet Server. In this case, we recommend that you do not reduce the power of the first server machine.

Supervision Server and Jedox SAP Connector do not have exclusive hardware requirements.

2) CPU specifications are sample data, equivalent processors are also possible. Memory data means free memory.

3) The Jedox GPU Accelerator can utilize CUDA-capable NVIDIA graphics cards as massively parallel co-processors for speeding up OLAP aggregations. Thus Jedox applications may achieve significant performance improvement. Note that on-premises use of the Jedox GPU Accelerator requires a separate Jedox license, as well as additional GPU card.

4) Compute capability 3.0 or higher. For more details see <https://developer.nvidia.com/cuda-gpus>.

5) Virtual Network Interfaces are not supported.

Screen Resolution

Jedox Web spreadsheets dialogs fully support the required minimum display resolution of 1366x768 pixels.

Software Requirements

Here you will find the software requirements for the following Jedox software:

- Jedox server components [1\)](#)
- Excel Add-in
- SAP Connector

Note: Jedox shouldn't be installed on an NFS System (Network File System), because the JedoxSuiteHttpService doesn't work correctly on this file system.

Jedox server components		
OS (only 64-bit versions)	MS Windows ²⁾ Windows Server 2019 Windows Server 2016 Windows Server 2012 7) Windows Server 2012 R2 Windows 10 Windows 8.1	Linux Kernel 3.17 or higher Red Hat EL 6 / CentOS 7 or newer SUSE LES 12 SP4 or newer Debian 7 or newer
Java⁴⁾	Java 11. Open JDK 11 is shipped with the Windows Setup	Java 11. Open JDK 11 is shipped with Jedox Linux Setup
Supported Web Browser	see "Platform Support Guide for Jedox Software" on page 7	
Excel Add-in		
MS Excel (32- and 64-bit versions)	2013/2016/2019	
SAP Connector		
Connector	SAP Java Connector (JCo) version 3.0 or higher	

¹⁾ Jedox Server Components are:

- In-Memory DB (formerly called OLAP Server – servicename: JedoxSuiteMolapService)
- Web Server (servicename: JedoxSuiteHttpdService)
- Spreadsheet Server (servicename: JedoxSuiteCoreService)
- Integrator Server (servicename: JedoxSuiteTomcatService).

For these Jedox components, the latest versions of all following Visual Studio runtime packages need to be installed: 2013 and 2017. Jedox Setup installs Visual Studio components automatically if not executed in silent mode. If you want to install VCredist manually, you can obtain the VCredist packages from <https://support.microsoft.com/en-us/kb/2977003>.

Jedox also needs .NET Framework (Client Profile) 4.6.2. If it does not exist, Jedox Setup asks for the permission to download and install .NET Framework.

2) Windows Installer 3.1 or higher must be installed. All Windows operating systems (except Windows 10) require a specific update to run the VC Redist Installer. It can be downloaded from <https://support.microsoft.com/en-us/kb/2999226>.

3) For proper exporting of reports to PDF files, on Linux the 32-bit versions of the following libraries have to be installed, even if the system itself is 64-bit:

- GNU C library (glibc)
- GNU Standard C++ library (libstdc++)
- Fontconfig

4) Java is needed for Apache Tomcat, which is used for the components Integrator and RPC. Jedox uses the 64-bit version. The Jedox Setup includes Open JDK 11.

5) To see the Jedox menu in Excel 2010/2013/2016/2019, you must first install the MS Office VBA components

6) SAP JCo is available from SAP AG at the SAP Service Marketplace.

7) Windows Server 2012 does not support Jedox GPU Accelerator.

Limits of Jedox Software Components

Limits of Jedox In-Memory DB

The Jedox In-Memory DB has technical limitations for the size of objects, such as the number of elements in a dimension, or the number of dimensions in a cube. These limits are listed below. Please note that these are technical limitations, not recommended values.

- The number of objects with ID is limited by a 4-byte-long unsigned integer. (This corresponds to $2^{32} = 4,294,967,296$ objects).
- The number of numeric values in a cube is limited to 60 billion (guaranteed - can be expected to be 400 billion due to data compression).
- The length of all string values together in a cube is limited to 4,294,967,296 characters (including terminating zeros).
- The length of all element names together in a dimension is limited to 4,294,967,296 characters (including terminating zeros).

	Max value ¹⁾
Users	
Number of user groups	2^{32}
Number of users	2^{32}
Number of users per group	2^{32}
Number of groups per user	2^{32}
Number of characters in a user name/description	2^{32}
Number of characters in a user password	2^{32}
Number of characters in a group name/description	2^{32}
Number of concurrent connected users	64 K

	Max value ⁽¹⁾
Server / database	
Memory usage for one database (64-bit Windows OS)	64 GB ⁽²⁾

Memory usage for one database (64-bit Linux OS)	64 GB ⁽²⁾
Number of databases on one server	2 ⁶⁴ (3)
Number of dimensions in one database	2 ⁶⁴ (3)
Number of cubes in one database	2 ⁶⁴ (3)

	Max value ¹⁾
Cube	
Number of dimensions in a cube	250 / 30 ⁽⁴⁾
How often can a dimension be used in a cube	1
Number of characters in cube name/description	2 ³²
Number of characters in text cells	2 ³²
Number of rules in a cube	2 ³²
Number of markers in a cube	2 ³²
Length of a rule	2 ³²
Length of a marker	2 ³²
Length of a rule description	2 ³²
Number of characters in cell notes	2 ³²
Number of values in a cube	2 ³²
Limitations for values to be stored in a cube cell: <ul style="list-style-type: none"> • DBL_MAX: 1.7976931348623157e+308 • -1 * DBL_MAX: -1.7976931348623157e+308 • (-1 * DBL_MAX) - 0.001: -1.7976931348623157e+308 • (-1 * DBL_MAX) - 100.0: -1.7976931348623157e+308 Cube values are stored in double-precision floating point format.	

	Max value ¹⁾
Dimension	
Number of elements in one dimension	2^{32} (5)
Number of children for one parent	2^{32}
Number of parents for one child	2^{32}
Number of consolidations in one dimension	2^{32}
Number of consolidation levels	2^{32}
Number of factors in a consolidation	2^{32}
Number of factors in a dimension	2^{32}
Number of dimensions	2^{32}
Number of characters in dimension name/description	2^{32}
Number of characters in element name	2^{32}
Sum of the length of element names for a cell address	2^{32}

	Max value ¹⁾
Subsets	
Number of elements in a subset	2^{32} (6)
Number of stored subsets (public and private)	2^{32}
Number of characters in a subset name	2^{32}

	Max value ¹⁾
Attributes	
Number of attribute tables per database	2 ³²
Number of attribute tables per dimension	1
Number of characters in an attribute field	2 ³²
Number of characters in a text field of an attribute table	2 ³²
Number of fields within an attribute table	2 ³²

File sizes
Maximum .bin, .csv, and .archive file size is limited only by the maximum file size of the underlying file system.
Journal .log files are split into chunks of 100,000,000 bytes each. Practical maximum .log file size is limited only by the maximum amount of files per directory of the underlying file system.

Limits of Jedox Web

Parameter	Max. value
Memory usage Web Server	
- on 64-bit Windows OS	64 GB
- on 64-bit Linux OS	64 GB
Memory usage Spreadsheet Server	
- on 64-bit Windows OS	64 GB
- on 64-bit Linux OS	64 GB

Size of Jedox Spreadsheets	
Number of Rows	65536
Number of Columns	256

Limits of the Jedox Integrator

	Max. value
Memory usage	
- on 64-bit Windows OS	64 GB
- on 64-bit Linux OS	64 GB
Number of characters for names	
- for project names	120
- for component names	128
- for a column name	128
Number of columns in an extract or transform	
	1012

- 1) The maximum level applies to the sum of individual values as specified at the beginning.
- 2) The data storage needs approximately 10-15 bytes for a numeric value. A sample database with a realistic dimension with 1.3 million elements needs about 305 MB.
- 3) The practical limit for databases is constrained by the available RAM, disk space, and the Operating System. A high amount of databases can impact the performance of individual requests. It is recommended to keep the number of databases below 100 as maximum.
- 4) The number is technically limited by the processing limitations of the PALO.DATA functions to 250 dimensions, but it is strongly recommended not to use more than 30 dimensions in a cube.
- 5) Tested with 13 million elements.
- 6) In Jedox Web, the maximum result size of subsets, such as in ComboBoxes, is limited to 65,336 elements by default. This limit can be changed by adding a new entry `max_result_size` in the file `..\core\palo_config.xml` under the section `<palo_configuration>`. For example: `<max_result_size>256000</max_result_size>`.

Systems Supported by Jedox Integrator

Relational databases

Databases	JDBC driver version	Supported DB versions	Driver class	JDBC URL prefix	Read/write
Apache Derby	10.14.2.0	10.14.2.0	Embedded: org.apache.derby.jdbc.EmbeddedDriver Server: org.apache.derby.jdbc.ClientDriver	Embedded: derby Server: derby	R/W
DB2	11.1	11.1	com.ibm.db2.jcc.DB2Driver	db2	Read only
H2	1.4.200	1.4.200	org.h2.Driver	h2:mem	R/W
HSQLDB	2.3.3	2.3.3	Embedded: org.hsqldb.jdbcDriver Server: org.hsqldb.jdbcDriver	Embedded: hsqldb:file Server: hsqldb:hsqldb	R/W
MariaDB	2.5	5.5, 10.0, 10.2 and 10.3	org.mariadb.jdbc.Driver	mysql	R/W
MS SQL Server	7.2.0 jre11	2008 R2, 2012, 2014, 2016, 2017	com.microsoft.sqlserver.jdbc.SQLServerDriver	sqlserver	R/W
My SQL	2.5	5.5 and later	org.mariadb.jdbc.Driver	mysql	R/W
Oracle	12.1.0.1	from 11.1.0 to 12.1.0	oracle.jdbc.driver.OracleDriver	oracle:thin	R/W
PostgreSQL	42.2.4	from 8.2	org.postgresql.Driver	postgresql	R/W
SAP HANA	2.4.51	2.0	com.sap.db.jdbc.Driver	sap	R/W
SAP MaxDB	Deprecated				Read only
SQLite	3.8.11.2	3.8.11.2	org.sqlite.JDBC	sqlite	R/W

The Integrator Server can also read data from databases that aren't listed here, if a JDBC driver or an ODBC driver is available for the database. To connect to another version of a database for which a JDBC driver is shipped by Jedox, it is necessary to replace that JDBC driver's jar file with the required version's jar file.

For a list of supported SAP systems to which Jedox Integrator can connect, please see the article SAP Components Supported by Jedox SAP Connector.

File-based data sources

File type	Read/Write	Comment
CSV files	R/W	Comma-separated values
JSON files	R/W	
XML files	R/W	
QVX files	Write only	QlikView data eXchange format
File directories	Read only	
Microsoft Excel	R/W	2013, 2016, 2019
Microsoft Access	R/W	2013, 2016 Note: parallel access is not possible due to restrictions of Microsoft Access Driver.
HYPER files	Write only	Proprietary file format of Tableau Software (Tableau data extract)

Data services and protocols

LDAP Server	Read only	
HTTP, HTTPS	Read only	
FTP	R/W	
SOAP Web Services	Read only	Generic SOAP-based Web Services, SSL is supported
REST-based Web Services	Read only	HTTP-Methods GET, POST; Basic Authentication, OAuth2 with client credentials; SSL
WebDAV	R/W	

Other systems

Jedox In-Memory DB	R/W	Jedox In-Memory DB 5.0 or higher
Lucanet	Read only	
Mongo DB	Read only	
Salesforce	R/W	
Microsoft Power BI	Write only	
Tableau Server	Write only	
Qlik Sense Server	R/W	Qlik Sense April 2019; Qlik Sense Server version: 13.12.1
Microsoft One Drive	R/W	
Apache Hive		JDBC driver version 2.3.7
Hadoop HDFS	R/W	Supported distribution: Hortonworks Data Platform (HDP) 2.6.4
Apache Groovy	(Script engine)	Groovy version 2.4.13