2 Requirements

Hardware

Memory

Zabbix requires both physical and disk memory. 128 MB of physical memory and 256 MB of free disk space could be a good starting point. However, the amount of required disk memory obviously depends on the number of hosts and parameters that are being monitored. If you're planning to keep a long history of monitored parameters, you should be thinking of at least a couple of gigabytes to have enough space to store the history in the database. Each Zabbix daemon process requires several connections to a database server. Amount of memory allocated for the connection depends on configuration of the database engine.

The more physical memory you have, the faster the database (and therefore Zabbix) works!

CPU

Zabbix and especially Zabbix database may require significant CPU resources depending on number of monitored parameters and chosen database engine.

Other hardware

A serial communication port and a serial GSM modem are required for using SMS notification support in Zabbix. USB-to-serial converter will also work.

Examples of hardware configuration

The table provides several examples of hardware configurations:

Name	Platform	CPU/Memory	Database	Monitored hosts
Small	CentOS	Virtual Appliance	MySQL InnoDB	100
Medium	CentOS	2 CPU cores/2GB	MySQL InnoDB	500
Large	RedHat Enterprise Linux	4 CPU cores/8GB	RAID10 MySQL InnoDB or PostgreSQL	>1000
Very large	RedHat Enterprise Linux	8 CPU cores/16GB	Fast RAID10 MySQL InnoDB or PostgreSQL	>10000

Actual configuration depends on the number of active items and refresh rates very much (see database size section of this page for details). It is highly recommended to run the database on a separate box for large installations.

Supported platforms

Due to security requirements and mission-critical nature of monitoring server, UNIX is the only operating system that can consistently deliver the necessary performance, fault tolerance and

resilience. Zabbix operates on market leading versions.

Zabbix is tested on the following platforms:

- Linux
- IBM AIX
- FreeBSD
- NetBSD
- OpenBSD
- HP-UX
- Mac OS X
- Solaris
- Windows: all desktop and server versions since XP (Zabbix agent only)

Zabbix may work on other Unix-like operating systems as well.
Zabbix disables core dumps if compiled with encryption and does not start if system does not allow disabling of core dumps.

Software

Zabbix is built around a modern Apache web server, leading database engines, and PHP scripting language.

Database management system

Software	Version	Comments
MySQL	5.0.3 - 8.0.x	Required if MySQL is used as Zabbix backend database. InnoDB engine is required. MariaDB also works with Zabbix. We recommend using the MariaDB Connector/C library for building server/proxy regardless of whether you use a MySQL or MariaDB database server.
Oracle	10g or later	Required if Oracle is used as Zabbix backend database.
PostgreSQL	8.1 or later	Required if PostgreSQL is used as Zabbix backend database. It is suggested to use at least PostgreSQL 8.3, which introduced much better VACUUM performance.
IBM DB2	9.7 or later	Required if IBM DB2 is used as Zabbix backend database.
SQLite	3.3.5 or later	SQLite is only supported with Zabbix proxies. Required if SQLite is used as Zabbix proxy database.

IBM DB2 support is experimental!

Frontend

The following software is required to run Zabbix frontend:

Software	Version	Comments
Apache	1.3.12 or later	
PHP	5.4.0 or later	

Software	Version	Comments
PHP extensions:		
gd	2.0 or later	PHP GD extension must support PNG images (*--with-png-dir*), JPEG (*--with-jpeg-dir*) images and FreeType 2 (*--with-freetype-dir*).
bcmath		php-bcmath (*--enable-bcmath*)
ctype		php-ctype (*--enable-ctype*)
libXML	2.6.15 or later	php-xml or php5-dom, if provided as a separate package by the distributor.
xmlreader		php-xmlreader, if provided as a separate package by the distributor.
xmlwriter		php-xmlwriter, if provided as a separate package by the distributor.
session		php-session, if provided as a separate package by the distributor.
sockets		php-net-socket (*--enable-sockets*). Required for user script support.
mbstring		php-mbstring (*--enable-mbstring*)
gettext		php-gettext (*--with-gettext*). Required for translations to work.
ldap		php-ldap. Required only if LDAP authentication is used in the frontend.
ibm_db2		Required if IBM DB2 is used as Zabbix backend database.
mysqli		Required if MySQL is used as Zabbix backend database.
oci8		Required if Oracle is used as Zabbix backend database.
pgsql		Required if PostgreSQL is used as Zabbix backend database.

Zabbix may work on previous versions of Apache, MySQL, Oracle, and PostgreSQL as well.

For other fonts than the default DejaVu, PHP function imagerotate might be required. If it is missing, these fonts might be rendered incorrectly when a graph is displayed. This function is only available if PHP is compiled with bundled GD, which is not the case in Debian and other distributions.

Web browser on client side

Cookies and Java Script must be enabled.

Latest versions of Google Chrome, Mozilla Firefox, Microsoft Internet Explorer and Opera are supported. Other browsers (Apple Safari, Konqueror) may work with Zabbix as well.

The same origin policy for IFrames is implemented, which means that Zabbix cannot be placed in frames on a different domain.

Still, pages placed into a Zabbix frame will have access to Zabbix frontend (through JavaScript) if the page that is placed in the frame and Zabbix frontend are on the same domain. A page like `http://secure-zabbix.com/cms/page.html`, if placed into screens or dashboards on `http://secure-zabbix.com/zabbix/`, will have full JS access to Zabbix.

Server

Mandatory requirements are needed always. Optional requirements are needed for the support of the specific function.

Requirement	Status	Description
libpcre	Mandatory	PCRE library is required for [Perl Compatible Regular Expression](#) (PCRE) support. The naming may differ depending on the GNU/Linux distribution, for example 'libpcre3' or 'libpcre1'. Note that you need exactly PCRE (v8.x); PCRE2 (v10.x) library is not used.
libevent		Required for bulk metric support and IPMI monitoring. Version 1.4 or higher. Note that for Zabbix proxy this requirement is optional; it is needed for IPMI monitoring support.
libpthread		Required for mutex and read-write lock support.
zlib		Required for compression support.
OpenIPMI	Optional	Required for IPMI support.
libssh2 or *libssh*		Required for [SSH checks](#). Version 1.0 or higher (libssh2); 0.6.0 or higher (libssh). libssh is supported since Zabbix 4.0.18.
fping		Required for [ICMP ping items](#).
libcurl		Required for web monitoring, VMware monitoring, SMTP authentication, ⬚web.page.* Zabbix agent [items](#), HTTP agent items and Elasticsearch (if used). Version 7.28.0 or higher is recommended. Libcurl version requirements: - SMTP authentication: version 7.20.0 or higher - Elasticsearch: version 7.28.0 or higher
libiksemel		Required for Jabber support.
libxml2		Required for VMware monitoring and XML XPath preprocessing.
net-snmp		Required for SNMP support.
GnuTLS, *OpenSSL*, *LibreSSL* or *mbed TLS*		Required when using [encryption](#).

Agent

Requirement	Status	Description
libpcre	Mandatory	PCRE library is required for [Perl Compatible Regular Expression](#) (PCRE) support. The naming may differ depending on the GNU/Linux distribution, for example 'libpcre3' or 'libpcre1'. Note that you need exactly PCRE (v8.x); PCRE2 (v10.x) library is not used.
GnuTLS, *OpenSSL*, *LibreSSL* or *mbed TLS*	Optional	Required when using [encryption](#). On Microsoft Windows systems OpenSSL 1.1.1 or later is required.

Java gateway

If you obtained Zabbix from the source repository or an archive, then the necessary dependencies are already included in the source tree.

If you obtained Zabbix from your distribution's package, then the necessary dependencies are already provided by the packaging system.

In both cases above, the software is ready to be used and no additional downloads are necessary.

If, however, you wish to provide your versions of these dependencies (for instance, if you are preparing a package for some Linux distribution), below is the list of library versions that Java gateway is known to work with. Zabbix may work with other versions of these libraries, too.

The following table lists JAR files that are currently bundled with Java gateway in the original code:

Library	License	Website	Comments
logback-core-0.9.27.jar	EPL 1.0, LGPL 2.1	http://logback.qos.ch/	Tested with 0.9.27, 1.0.13, and 1.1.1.
logback-classic-0.9.27.jar	EPL 1.0, LGPL 2.1	http://logback.qos.ch/	Tested with 0.9.27, 1.0.13, and 1.1.1.
slf4j-api-1.6.1.jar	MIT License	http://www.slf4j.org/	Tested with 1.6.1, 1.6.6, and 1.7.6.
android-json-4.3_r3.1.jar	Apache License 2.0	https://android.googlesource.com/platform/libcore/+/master/json	Tested with 2.3.3_r1.1 and 4.3_r3.1. See src/zabbix_java/lib/README for instructions on creating a JAR file.

Java gateway compiles and runs with Java 1.6 and above. It is recommended that those who provide a precompiled version of the gateway for others use Java 1.6 for compilation, so that it runs on all versions of Java up to the latest one.

Database size

Zabbix configuration data require a fixed amount of disk space and do not grow much.

Zabbix database size mainly depends on these variables, which define the amount of stored historical data:

- Number of processed values per second

This is the average number of new values Zabbix server receives every second. For example, if we have 3000 items for monitoring with refresh rate of 60 seconds, the number of values per second is calculated as 3000/60 = **50**.

It means that 50 new values are added to Zabbix database every second.

- Housekeeper settings for history

Zabbix keeps values for a fixed period of time, normally several weeks or months. Each new value requires a certain amount of disk space for data and index.

So, if we would like to keep 30 days of history and we receive 50 values per second, total number of values will be around (**30***24*3600)* **50** = 129.600.000, or about 130M of values.

Depending on the database engine used, type of received values (floats, integers, strings, log files, etc), the disk space for keeping a single value may vary from 40 bytes to hundreds of bytes. Normally it is around 90 bytes per value for numeric items[2]. In our case, it means that 130M of values will require 130M * 90 bytes = **10.9GB** of disk space.

The size of text/log item values is impossible to predict exactly, but you may expect around 500 bytes

per value.

- Housekeeper setting for trends

Zabbix keeps a 1-hour max/min/avg/count set of values for each item in the table **trends**. The data is used for trending and long period graphs. The one hour period can not be customised.

Zabbix database, depending on database type, requires about 90 bytes per each total. Suppose we would like to keep trend data for 5 years. Values for 3000 items will require 3000*24*365* **90** = **2.2GB** per year, or **11GB** for 5 years.

- Housekeeper settings for events

Each Zabbix event requires approximately 250 bytes of disk space[1]. It is hard to estimate the number of events generated by Zabbix daily. In the worst case scenario, we may assume that Zabbix generates one event per second.

For each recovered event an event_recovery record is created. Normally most of events will be recovered so we can assume one event_recovery record per event. That means additional 80 bytes per event.

Optionally events can have tags, each tag record requiring approximately 100 bytes of disk space[1]. The number of tags per event (#tags) depends on configuration. So each will need an additional #tags * 100 bytes of disk space.

It means that if we want to keep 3 years of events, this would require 3*365*24*3600* (250+80+#tags*100) = **~30GB**+#tags*100B disk space[2].

[1] More when having non-ASCII event names, tags and values.

[2] The size approximations are based on MySQL and might be different for other databases.

The table contains formulas that can be used to calculate the disk space required for Zabbix system:

Parameter	Formula for required disk space (in bytes)
Zabbix configuration	Fixed size. Normally 10MB or less.
History	days*(items/refresh rate)*24*3600*bytes items : number of items days : number of days to keep history refresh rate : average refresh rate of items bytes : number of bytes required to keep single value, depends on database engine, normally ~90 bytes.
Trends	days*(items/3600)*24*3600*bytes items : number of items days : number of days to keep history bytes : number of bytes required to keep single trend, depends on database engine, normally ~90 bytes.

Parameter	Formula for required disk space (in bytes)
Events	days*events*24*3600*bytes events : number of event per second. One (1) event per second in worst case scenario. days : number of days to keep history bytes : number of bytes required to keep single trend, depends on database engine, normally ~330 + average number of tags per event * 100 bytes.

So, the total required disk space can be calculated as:

Configuration + History + Trends + Events

The disk space will NOT be used immediately after Zabbix installation. Database size will grow then it will stop growing at some point, which depends on housekeeper settings.

Time synchronisation

It is very important to have precise system time on server with Zabbix running. ntpd is the most popular daemon that synchronizes the host's time with the time of other machines. It's strongly recommended to maintain synchronised system time on all systems Zabbix components are running on.