

3 Installation from sources

You can get the very latest version of Zabbix by compiling it from the sources.

A step-by-step tutorial for installing Zabbix from the sources is provided here.

1 Installing Zabbix daemons

1 Download the source archive

Go to the [Zabbix download page](#) and download the source archive. Once downloaded, extract the sources, by running:

```
$ tar -zxvf zabbix-4.0.0.tar.gz
```

Enter the correct Zabbix version in the command. It must match the name of the downloaded archive.

2 Create user account

For all of the Zabbix daemon processes, an unprivileged user is required. If a Zabbix daemon is started from an unprivileged user account, it will run as that user.

However, if a daemon is started from a 'root' account, it will switch to a 'zabbix' user account, which must be present. To create such a user account (in its own group, "zabbix"),

on a RedHat-based system, run:

```
groupadd --system zabbix  
useradd --system -g zabbix -d /usr/lib/zabbix -s /sbin/nologin -c "Zabbix  
Monitoring System" zabbix
```

on a Debian-based system, run:

```
addgroup --system --quiet zabbix  
adduser --quiet --system --disabled-login --ingroup zabbix --home  
/var/lib/zabbix --no-create-home zabbix
```

Zabbix processes do not need a home directory, which is why we do not recommend creating it. However, if you are using some functionality that requires it (e. g. store MySQL credentials in `$HOME/.my.cnf`) you are free to create it using the following commands.

On RedHat-based systems, run:

```
mkdir -m u=rwx,g=rwx,o= -p /usr/lib/zabbix  
chown zabbix:zabbix /usr/lib/zabbix
```

On Debian-based systems, run:

```
mkdir -m u=rwx,g=rwx,o= -p /var/lib/zabbix
chown zabbix:zabbix /var/lib/zabbix
```

A separate user account is not required for Zabbix frontend installation.

If Zabbix [server](#) and [agent](#) are run on the same machine it is recommended to use a different user for running the server than for running the agent. Otherwise, if both are run as the same user, the agent can access the server configuration file and any Admin level user in Zabbix can quite easily retrieve, for example, the database password.

Running Zabbix as root, bin, or any other account with special rights is a security risk.

3 Create Zabbix database

For Zabbix [server](#) and [proxy](#) daemons, as well as Zabbix frontend, a database is required. It is not needed to run Zabbix [agent](#).

SQL [scripts are provided](#) for creating database schema and inserting the dataset. Zabbix proxy database needs only the schema while Zabbix server database requires also the dataset on top of the schema.

Having created a Zabbix database, proceed to the following steps of compiling Zabbix.

4 Configure the sources

When configuring the sources for a Zabbix server or proxy, you must specify the database type to be used. Only one database type can be compiled with a server or proxy process at a time.

To see all of the supported configuration options, inside the extracted Zabbix source directory run:

```
./configure --help
```

To configure the sources for a Zabbix server and agent, you may run something like:

```
./configure --enable-server --enable-agent --with-mysql --enable-ipv6 --
with-net-snmp --with-libcurl --with-libxml2
```

For virtual machine monitoring `--with-libcurl` and `--with-libxml2` configuration options are required; `--with-libcurl` is also required for SMTP authentication and `web.page.*` Zabbix agent [items](#). Note that cURL 7.20.0 or higher is [required](#) with the `--with-libcurl` configuration option. Since version 3.4.0, Zabbix will always compile with the PCRE library; installing it is not optional. `--with-libpcre=[DIR]` only allows pointing to a specific base install directory, instead of searching through a number of common places for the libpcre files.

To configure the sources for a Zabbix server (with PostgreSQL etc.), you may run:

```
./configure --enable-server --with-postgresql --with-net-snmp
```

To configure the sources for a Zabbix proxy (with SQLite etc.), you may run:

```
./configure --prefix=/usr --enable-proxy --with-net-snmp --with-sqlite3 --with-ssh2
```

To configure the sources for a Zabbix agent, you may run:

```
./configure --enable-agent
```

You may use the `--enable-static` flag to statically link libraries. If you plan to distribute compiled binaries among different servers, you must use this flag to make these binaries work without required libraries. Note that `--enable-static` [does not work under Solaris](#).

Using `--enable-static` option is not recommended when building server.

In order to build the server statically you must have a static version of every external library needed. There is no strict check for that in `configure` script.

If `./configure` fails due to missing libraries or some other circumstance, please take a look at the `config.log` file for more detailed error description. For example, if we have missing `libssl`, the error message may be misleading:

```
checking for main in -lmysqlclient... no
configure: error: Not found mysqlclient library
```

But, if we look at `config.log`, it has a more detailed description for configuration failure:

```
/usr/bin/ld: cannot find -lssl
/usr/bin/ld: cannot find -lcrypto
```

Command-line utilities `zabbix_get` and `zabbix_sender` are compiled if `--enable-agent` option is used. Add optional path to the MySQL configuration file `--with-mysql=/<path_to_the_file>/mysql_config` to select the desired MySQL client library when there is a need to use one that is not located in the default location.

It is useful when there are several versions of MySQL installed or MariaDB installed alongside MySQL on the same system.

Use `--with-ibm-db2` flag to specify location of the CLI API.

Use `--with-oracle` flag to specify location of the OCI API.

For encryption support see [Compiling Zabbix with encryption support](#).

See also: [known issues](#) with compiling Zabbix agent on HP-UX.

5 Make and install everything

If installing from git, it is required to run first:

```
$ make dbschema
```

```
make install
```

This step should be run as a user with sufficient permissions (commonly 'root', or by using `sudo`).

Running `make install` will by default install the daemon binaries (`zabbix_server`, `zabbix_agentd`, `zabbix_proxy`) in `/usr/local/sbin` and the client binaries (`zabbix_get`, `zabbix_sender`) in `/usr/local/bin`.

To specify a different location than `/usr/local`, use a `--prefix` key in the previous step of configuring sources, for example `--prefix=/home/zabbix`. In this case daemon binaries will be installed under `<prefix>/sbin`, while utilities under `<prefix>/bin`. Man pages will be installed under `<prefix>/share`.

6 Review and edit configuration files

- edit the Zabbix agent configuration file **`/usr/local/etc/zabbix_agentd.conf`**

You need to configure this file for every host with `zabbix_agentd` installed.

You must specify the Zabbix server **IP address** in the file. Connections from other hosts will be denied.

- edit the Zabbix server configuration file **`/usr/local/etc/zabbix_server.conf`**

You must specify the database name, user and password (if using any).

The rest of the parameters will suit you with their defaults if you have a small installation (up to ten monitored hosts). You should change the default parameters if you want to maximize the performance of Zabbix server (or proxy) though. See the [performance tuning](#) section for more details.

- if you have installed a Zabbix proxy, edit the proxy configuration file **`/usr/local/etc/zabbix_proxy.conf`**

You must specify the server IP address and proxy hostname (must be known to the server), as well as the database name, user and password (if using any).

With SQLite the full path to database file must be specified; DB user and password are not required.

7 Start up the daemons

Run `zabbix_server` on the server side.

```
shell> zabbix_server
```

Make sure that your system allows allocation of 36MB (or a bit more) of shared memory, otherwise the server may not start and you will see "Cannot allocate shared memory for <type of cache>." in the server log file. This may happen on FreeBSD, Solaris 8.

See the "[See also](#)" section at the bottom of this page to find out how to configure shared memory.

Run `zabbix_agentd` on all the monitored machines.

```
shell> zabbix_agentd
```

Make sure that your system allows allocation of 2MB of shared memory, otherwise the agent may not start and you will see "Cannot allocate shared memory for collector." in the agent log file. This may happen on Solaris 8.

If you have installed Zabbix proxy, run `zabbix_proxy`.

```
shell> zabbix_proxy
```

2 Installing Zabbix web interface

Copying PHP files

Zabbix frontend is written in PHP, so to run it a PHP supported webserver is needed. Installation is done by simply copying the PHP files from `frontends/php` to the webserver HTML documents directory.

Common locations of HTML documents directories for Apache web servers include:

- `/usr/local/apache2/htdocs` (default directory when installing Apache from source)
- `/srv/www/htdocs` (OpenSUSE, SLES)
- `/var/www/html` (Debian, Ubuntu, Fedora, RHEL, CentOS)

It is suggested to use a subdirectory instead of the HTML root. To create a subdirectory and copy Zabbix frontend files into it, execute the following commands, replacing the actual directory:

```
mkdir <htdocs>/zabbix
cd frontends/php
cp -a . <htdocs>/zabbix
```

If installing from git and planning to use any other language than English, you must generate translation files. To do so, run:

```
locale/make_mo.sh
```

`msgfmt` utility from `gettext` package is required.

Additionally, to use any other language than English, its locale should be installed on the web server. See the "[See also](#)" section in the "User profile" page to find out how to install it if required.

In Zabbix 4.0.8 (only) the web server user requires *write* permissions to the `assets` directory.

Installing frontend

Step 1

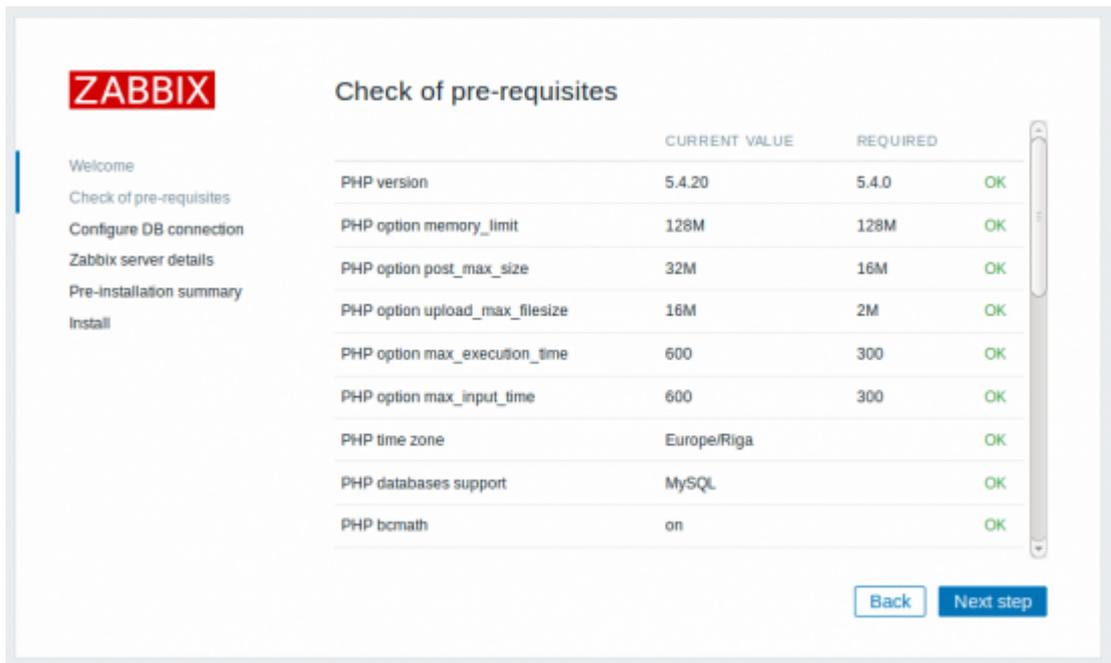
In your browser, open Zabbix URL: `http://<server_ip_or_name>/zabbix`

You should see the first screen of the frontend installation wizard.



Step 2

Make sure that all software prerequisites are met.



Pre-requisite	Minimum value	Description
PHP version	5.4.0	
PHP memory_limit option	128MB	In php.ini: memory_limit = 128M
PHP post_max_size option	16MB	In php.ini: post_max_size = 16M
PHP upload_max_filesize option	2MB	In php.ini: upload_max_filesize = 2M

Pre-requisite	Minimum value	Description
<i>PHP max_execution_time option</i>	300 seconds (values 0 and -1 are allowed)	In php.ini: max_execution_time = 300
<i>PHP max_input_time option</i>	300 seconds (values 0 and -1 are allowed)	In php.ini: max_input_time = 300
<i>PHP session.auto_start option</i>	must be disabled	In php.ini: session.auto_start = 0
<i>Database support</i>	One of: MySQL, Oracle, PostgreSQL, IBM DB2	One of the following modules must be installed: mysql, oci8, pgsql, ibm_db2
<i>bcmath</i>		php-bcmath
<i>mbstring</i>		php-mbstring
<i>PHP mbstring.func_overload option</i>	must be disabled	In php.ini: mbstring.func_overload = 0
<i>PHP always_populate_raw_post_data option</i>	must be disabled	Required only for PHP versions 5.6.0 or newer. In php.ini: always_populate_raw_post_data = -1
<i>sockets</i>		php-net-socket. Required for user script support.
<i>gd</i>	2.0 or higher	php-gd. PHP GD extension must support PNG images (<i>--with-png-dir</i>), JPEG (<i>--with-jpeg-dir</i>) images and FreeType 2 (<i>--with-freetype-dir</i>).
<i>libxml</i>	2.6.15	php-xml or php5-dom
<i>xmlwriter</i>		php-xmlwriter
<i>xmlreader</i>		php-xmlreader
<i>ctype</i>		php-ctype
<i>session</i>		php-session
<i>gettext</i>		php-gettext Since Zabbix 2.2.1, the PHP gettext extension is not a mandatory requirement for installing Zabbix. If gettext is not installed, the frontend will work as usual, however, the translations will not be available.

Optional pre-requisites may also be present in the list. A failed optional prerequisite is displayed in orange and has a *Warning* status. With a failed optional pre-requisite, the setup may continue.

If there is a need to change the Apache user or user group, permissions to the session folder must be verified. Otherwise Zabbix setup may be unable to continue.

Step 3

Enter details for connecting to the database. Zabbix database must already be created.

ZABBIX

Configure DB connection

Please create database manually, and set the configuration parameters for connection to this database. Press "Next step" button when done.

Database type:

Database host:

Database port: 0 - use default port

Database name:

User:

Password:

Step 4

Enter Zabbix server details.

ZABBIX

Zabbix server details

Please enter the host name or host IP address and port number of the Zabbix server, as well as the name of the installation (optional).

Host:

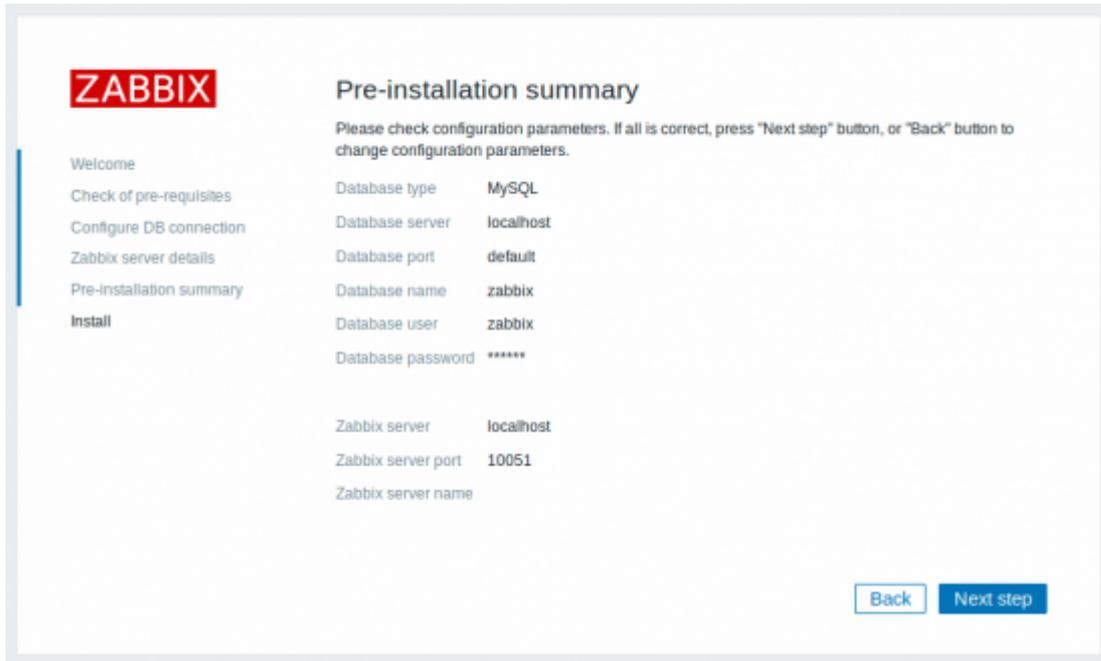
Port:

Name:

Entering a name for Zabbix server is optional, however, if submitted, it will be displayed in the menu bar and page titles.

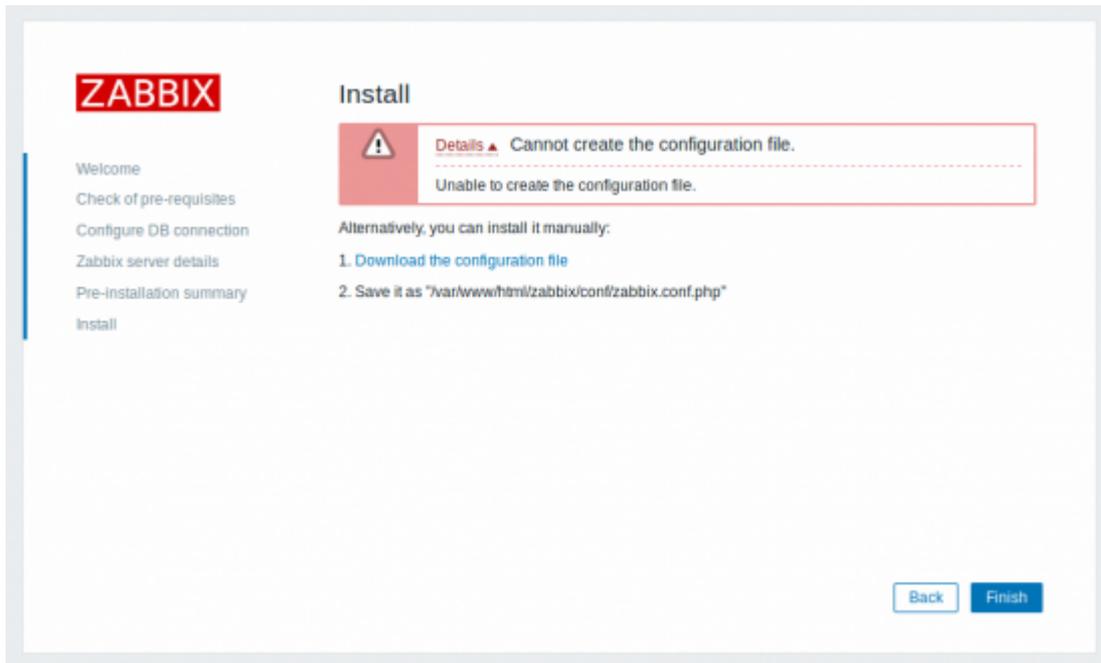
Step 5

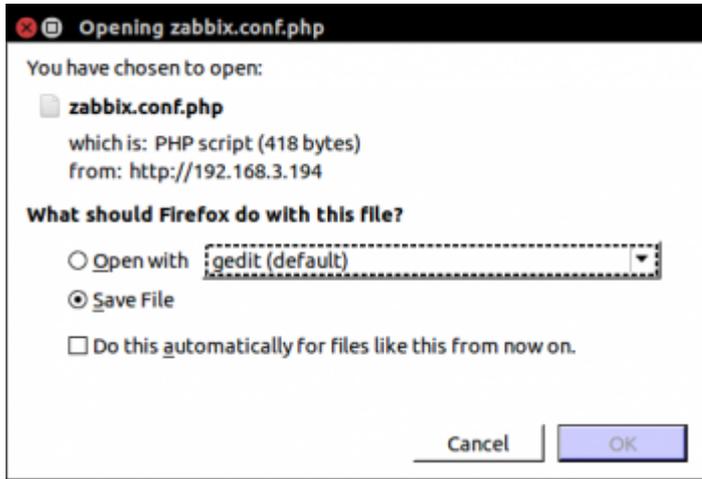
Review a summary of settings.



Step 6

Download the configuration file and place it under conf/ in the webserver HTML documents subdirectory where you copied Zabbix PHP files to.

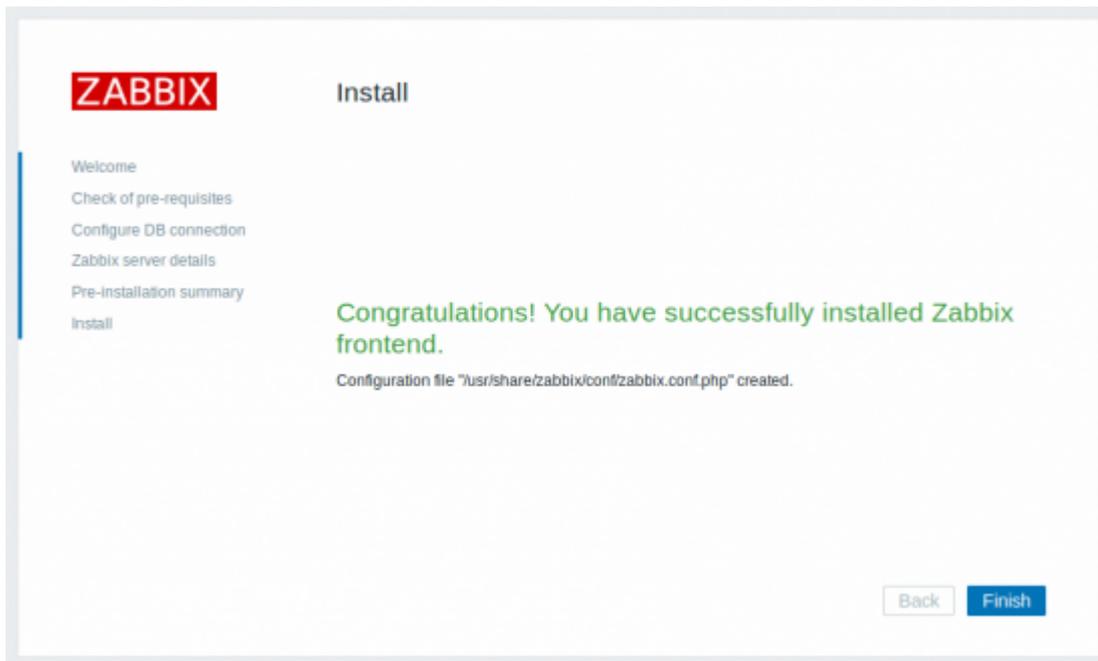




Providing the webserver user has write access to conf/ directory the configuration file would be saved automatically and it would be possible to proceed to the next step right away.

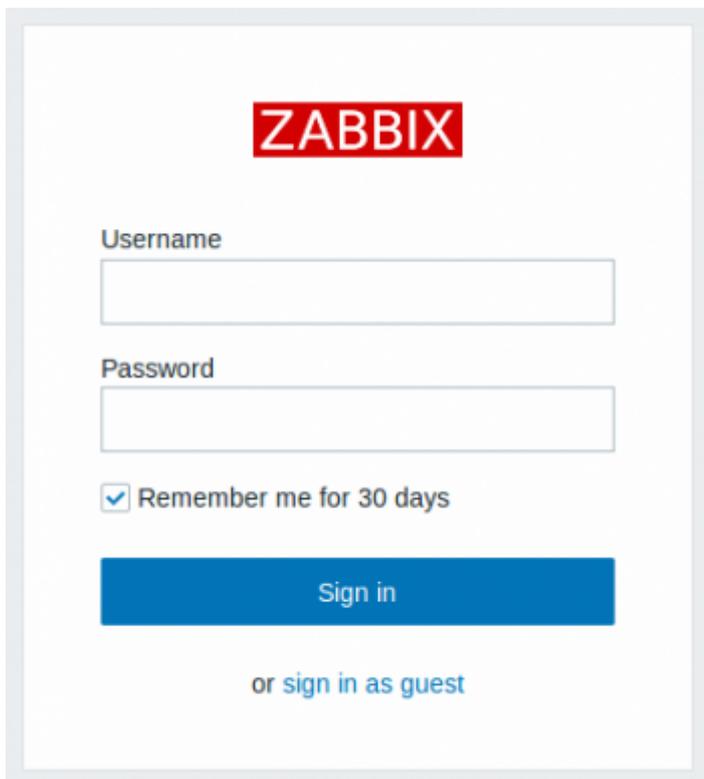
Step 7

Finish the installation.



Step 8

Zabbix frontend is ready! The default user name is **Admin**, password **zabbix**.

The image shows a Zabbix login interface. At the top center is the ZABBIX logo in white text on a red rectangular background. Below the logo are two input fields: the first is labeled 'Username' and the second is labeled 'Password'. Under the password field is a checkbox with a checkmark, labeled 'Remember me for 30 days'. Below these elements is a blue rectangular button with the text 'Sign in' in white. At the bottom of the form, the text 'or sign in as guest' is displayed in a smaller, blue font.

Proceed to [getting started with Zabbix](#).

3 Installing Java gateway

It is required to install Java gateway only if you want to monitor JMX applications. Java gateway is lightweight and does not require a database.

To install from sources, first [download](#) and extract the source archive.

To compile Java gateway, run the `./configure` script with `--enable-java` option. It is advisable that you specify the `--prefix` option to request installation path other than the default `/usr/local`, because installing Java gateway will create a whole directory tree, not just a single executable.

```
$ ./configure --enable-java --prefix=$PREFIX
```

To compile and package Java gateway into a JAR file, run `make`. Note that for this step you will need `javac` and `jar` executables in your path.

```
$ make
```

Now you have a `zabbix-java-gateway-$VERSION.jar` file in `src/zabbix_java/bin`. If you are comfortable with running Java gateway from `src/zabbix_java` in the distribution directory, then you can proceed to instructions for configuring and running [Java gateway](#). Otherwise, make sure you have enough privileges and run `make install`.

```
$ make install
```

Proceed to [setup](#) for more details on configuring and running Java gateway.

See also

1. [How to configure shared memory for Zabbix daemons](#)

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<https://www.zabbix.com/documentation/4.0/> - **Zabbix Documentation 4.0**

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<https://www.zabbix.com/documentation/4.0/manual/installation/install>

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