

1 Database creation

Overview

A Zabbix database must be created during the installation of Zabbix server or proxy.

This section provides instructions for creating a Zabbix database. A separate set of instructions is available for each supported database.

`schema.sql`, `images.sql` and `data.sql` files are located in the `database` subdirectory of Zabbix sources. If Zabbix was installed from distribution packages, refer to the distribution documentation. For a Zabbix proxy database, **only** `schema.sql` should be imported (no `images.sql` nor `data.sql`)

UTF-8 is the only encoding supported by Zabbix. It is known to work without any security flaws. Users should be aware that there are known security issues if using some of the other encodings.

MySQL

Character set `utf8` and `utf8_bin` collation is required for Zabbix server to work properly with MySQL database.

```
shell> mysql -uroot -p<password>
mysql> create database zabbix character set utf8 collate utf8_bin;
mysql> create user 'zabbix'@'localhost' identified by '<password>';
mysql> grant all privileges on zabbix.* to 'zabbix'@'localhost';
mysql> quit;
```

If you are installing from Zabbix packages, stop here and continue with instructions for [Debian/Ubuntu](#) or [RHEL/CentOS](#) to import the data into the database.

If you are installing Zabbix from sources, proceed to import the data into the database:

```
shell> cd database/mysql
shell> mysql -uzabbix -p<password> zabbix < schema.sql
# stop here if you are creating database for Zabbix proxy
shell> mysql -uzabbix -p<password> zabbix < images.sql
shell> mysql -uzabbix -p<password> zabbix < data.sql
```

PostgreSQL

You need to have database user with permissions to create database objects. The following shell command will create user `zabbix`. Specify password when prompted and repeat password (note, you may first be asked for `sudo` password):

```
shell> sudo -u postgres createuser --pwprompt zabbix
```

Now we will set up the database `zabbix` (last parameter) with the previously created user as the

owner (-O zabbix).

```
shell> sudo -u postgres createdb -O zabbix -E Unicode -T template0 zabbix
```

If you are installing from Zabbix packages, stop here and continue with instructions for [Debian/Ubuntu](#) or [RHEL/CentOS](#) to import the initial schema and data into the database.

If you are installing Zabbix from sources, proceed to import the initial schema and data (assuming you are in the root directory of Zabbix sources):

```
shell> cd database/postgresql
shell> cat schema.sql | sudo -u zabbix psql zabbix
# stop here if you are creating database for Zabbix proxy
shell> cat images.sql | sudo -u zabbix psql zabbix
shell> cat data.sql | sudo -u zabbix psql zabbix
```

The above commands are provided as an example that will work in most of GNU/Linux installations. You can use different commands, e. g. "psql -U <username>" depending on how your system/database are configured. If you have troubles setting up the database please consult your Database administrator.

TimescaleDB

Currently TimescaleDB is not supported by Zabbix proxy.

We assume that TimescaleDB extension has been already installed in the database (see [installation instructions](#)).

TimescaleDB extension must also be enabled for the specific DB by executing:

```
echo "CREATE EXTENSION IF NOT EXISTS timescaledb CASCADE;" | sudo -u postgres psql zabbix
```

Running this command requires database administrator privileges.

The `timescaledb.sql` script is located in `database/postgresql`. The script must be run after the regular PostgreSQL database has been created with initial schema/data (see section above):

```
cat timescaledb.sql | sudo -u zabbix psql zabbix
```

*Note that the `timescaledb.sql` script sets the following housekeeping parameters (from *Administration* → *General* → *Housekeeping*):*

- Override item history period
- Override item trend period

In order to use partitioned housekeeping for history and trends both these options must be enabled. It's possible to use TimescaleDB partitioning only for trends (by setting *Override item trend period*) or only for history (*Override item history period*).

You may want to run the `timescaledb-tune` tool provided by TimescaleDB to optimize PostgreSQL configuration parameters in your `postgresql.conf`.

Oracle

We assume that a *zabbix* database user with *password* password exists and has permissions to create database objects in ORCL service located on the *host* Oracle database server with a *user* shell user having write access to */tmp* directory. Zabbix requires a Unicode database character set and a UTF8 national character set. Check current settings:

```
sqlplus> select parameter,value from v$nls_parameters where  
parameter='NLS_CHARACTERSET' or parameter='NLS_NCHAR_CHARACTERSET';
```

If you are creating a database for Zabbix server you need to have images from Zabbix sources on the host where Oracle is running. Copy them to a directory */tmp/zabbix_images* on the Oracle host:

```
shell> cd /path/to/zabbix-sources  
shell> ssh user@oracle_host "mkdir /tmp/zabbix_images"  
shell> scp -r misc/images/png_modern user@oracle_host:/tmp/zabbix_images/
```

Now prepare the database:

```
shell> cd /path/to/zabbix-sources/database/oracle  
shell> sqlplus zabbix/password@oracle_host/ORCL  
sqlplus> @schema.sql  
# stop here if you are creating database for Zabbix proxy  
sqlplus> @images.sql  
sqlplus> @data.sql
```

Please set the initialization parameter `CURSOR_SHARING=FORCE` for best performance.

Now the temporary directory can be removed:

```
shell> ssh user@oracle_host "rm -rf /tmp/zabbix_images"
```

IBM DB2

```
shell> db2 "create database zabbix using codeset utf-8 territory us pagesize  
32768"  
shell> cd database/ibm_db2  
shell> db2batch -d zabbix -f schema.sql  
# stop here if you are creating database for Zabbix proxy  
shell> db2batch -d zabbix -f images.sql  
shell> db2batch -d zabbix -f data.sql -l ';;'
```

It is important to set UTF-8 locale for Zabbix server, Zabbix proxy and the web server running Zabbix frontend. Otherwise text information from Zabbix will be interpreted by IBM DB2 server as non-UTF-8 and will be additionally converted on the way from Zabbix to the database and back. The database will store corrupted non-ASCII characters.

Zabbix frontend uses `OFFSET` and `LIMIT` clauses in SQL queries. For this to work, IBM DB2 server must have `DB2_COMPATIBILITY_VECTOR` variable be set to 3. Run the following command before

starting the database server:

```
shell> db2set DB2_COMPATIBILITY_VECTOR=3
```

SQLite

Using SQLite is supported for **Zabbix proxy** only!

If using SQLite with Zabbix proxy, database will be automatically created if it does not exist.

```
shell> cd database/sqlite3  
shell> sqlite3 /var/lib/sqlite/zabbix.db < schema.sql
```

Return to the [installation section](#).

From:
<https://www.zabbix.com/documentation/current/> - **Zabbix Documentation 4.4**

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https://www.zabbix.com/documentation/current/manual/appendix/install/db_scripts

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