

## 2 Agent

### Overview

Zabbix agent is deployed on a monitoring target to actively monitor local resources and applications (hard drives, memory, processor statistics etc).

The agent gathers operational information locally and reports data to Zabbix server for further processing. In case of failures (such as a hard disk running full or a crashed service process), Zabbix server can actively alert the administrators of the particular machine that reported the failure.

Zabbix agents are extremely efficient because of use of native system calls for gathering statistical information.

### Passive and active checks

Zabbix agents can perform passive and active checks.

In a [passive check](#) the agent responds to a data request. Zabbix server (or proxy) asks for data, for example, CPU load, and Zabbix agent sends back the result.

[Active checks](#) require more complex processing. The agent must first retrieve a list of items from Zabbix server for independent processing. Then it will periodically send new values to the server.

Whether to perform passive or active checks is configured by selecting the respective monitoring [item type](#). Zabbix agent processes items of type 'Zabbix agent' or 'Zabbix agent (active)'.

### Supported platforms

Zabbix agent is supported for:

- Linux
- IBM AIX
- FreeBSD
- NetBSD
- OpenBSD
- HP-UX
- Mac OS X
- Solaris: 9, 10, 11
- Windows: all desktop and server versions since XP

### Agent on UNIX-like systems

Zabbix agent on UNIX-like systems is run on the host being monitored.

## Installation

See the [package installation](#) section for instructions on how to install Zabbix agent as package.

Alternatively see instructions for [manual installation](#) if you do not want to use packages.

In general, 32bit Zabbix agents will work on 64bit systems, but may fail in some cases.

### If installed as package

Zabbix agent runs as a daemon process. The agent can be started by executing:

```
shell> service zabbix-agent start
```

This will work on most of GNU/Linux systems. On other systems you may need to run:

```
shell> /etc/init.d/zabbix-agent start
```

Similarly, for stopping/restarting/viewing status of Zabbix agent, use the following commands:

```
shell> service zabbix-agent stop
shell> service zabbix-agent restart
shell> service zabbix-agent status
```

### Start up manually

If the above does not work you have to start it manually. Find the path to the `zabbix_agentd` binary and execute:

```
shell> zabbix_agentd
```

## Agent on Windows systems

Zabbix agent on Windows runs as a Windows service.

### Preparation

Zabbix agent is distributed as a zip archive. After you download the archive you need to unpack it. Choose any folder to store Zabbix agent and the configuration file, e. g.

```
C:\zabbix
```

Copy `bin\win64\zabbix_agentd.exe` and `conf\zabbix_agentd.win.conf` files to `c:\zabbix`.

Edit the `c:\zabbix\zabbix_agentd.win.conf` file to your needs, making sure to specify a correct "Hostname" parameter.

## Installation

After this is done use the following command to install Zabbix agent as Windows service:

```
C:\> c:\zabbix\zabbix_agentd.exe -c c:\zabbix\zabbix_agentd.win.conf -i
```

Now you should be able to configure “Zabbix agent” service normally as any other Windows service.

See [more details](#) on installing and running Zabbix agent on Windows.

## Other agent options

It is possible to run multiple instances of the agent on a host. A single instance can use the default configuration file or a configuration file specified in the command line. In case of multiple instances each agent instance must have its own configuration file (one of the instances can use the default configuration file).

The following command line parameters can be used with Zabbix agent:

Parameter	Description
<b>UNIX and Windows agent</b>	
-c --config <config-file>	Path to the configuration file. You may use this option to specify a configuration file that is not the default one. On UNIX, default is /usr/local/etc/zabbix_agentd.conf or as set by <a href="#">compile-time</a> variables --sysconfdir or --prefix On Windows, default is c:\zabbix_agentd.conf
-p --print	Print known items and exit. <i>Note:</i> To return <a href="#">user parameter</a> results as well, you must specify the configuration file (if it is not in the default location).
-t --test <item key>	Test specified item and exit. <i>Note:</i> To return <a href="#">user parameter</a> results as well, you must specify the configuration file (if it is not in the default location).
-h --help	Display help information
-V --version	Display version number
<b>UNIX agent only</b>	
-R --runtime-control <option>	Perform administrative functions. See <a href="#">runtime control</a> .
<b>Windows agent only</b>	
-m --multiple-agents	Use multiple agent instances (with -i,-d,-s,-x functions). To distinguish service names of instances, each service name will include the Hostname value from the specified configuration file.
<b>Windows agent only (functions)</b>	
-i --install	Install Zabbix Windows agent as service
-d --uninstall	Uninstall Zabbix Windows agent service
-s --start	Start Zabbix Windows agent service
-x --stop	Stop Zabbix Windows agent service

Specific **examples** of using command line parameters:

- printing all built-in agent items with values
- testing a user parameter with "mysql.ping" key defined in the specified configuration file
- installing a "Zabbix Agent" service for Windows using the default path to configuration file c:\zabbix\_agentd.conf
- installing a "Zabbix Agent [Hostname]" service for Windows using the configuration file zabbix\_agentd.conf located in the same folder as agent executable and make the service name unique by extending it by Hostname value from the config file

```
shell> zabbix_agentd --print
shell> zabbix_agentd -t "mysql.ping" -c /etc/zabbix/zabbix_agentd.conf
shell> zabbix_agentd.exe -i
shell> zabbix_agentd.exe -i -m -c zabbix_agentd.conf
```

### Runtime control

With runtime control options you may change the log level of agent processes.

Option	Description	Target
log_level_increase[=<target>]	Increase log level. If target is not specified, all processes are affected.	Target can be specified as: <b>process type</b> - all processes of specified type (e.g., listener) See all <a href="#">agent process types</a> . <b>process type,N</b> - process type and number (e.g., listener,3) <b>pid</b> - process identifier (1 to 65535). For larger values specify target as 'process-type,N'.
log_level_decrease[=<target>]	Decrease log level. If target is not specified, all processes are affected.	

Examples:

- increasing log level of all processes
- increasing log level of the third listener process
- increasing log level of process with PID 1234
- decreasing log level of all active check processes

```
shell> zabbix_agentd -R log_level_increase
shell> zabbix_agentd -R log_level_increase=listener,3
shell> zabbix_agentd -R log_level_increase=1234
shell> zabbix_agentd -R log_level_decrease="active checks"
```

Runtime control is not supported on OpenBSD, NetBSD and Windows.

### Agent process types

- active checks - process for performing active checks
- collector - process for data collection
- listener - process for listening to passive checks

The agent log file can be used to observe these process types.

## Process user

Zabbix agent on UNIX is designed to run as a non-root user. It will run as whatever non-root user it is started as. So you can run agent as any non-root user without any issues.

If you will try to run it as 'root', it will switch to a hardcoded 'zabbix' user, which must be present on your system. You can only run agent as 'root' if you modify the 'AllowRoot' parameter in the agent configuration file accordingly.

## Configuration file

For details on configuring Zabbix agent see the configuration file options for [zabbix\\_agentd](#) or [Windows agent](#).

## Locale

Note that the agent requires a UTF-8 locale so that some textual agent items can return the expected content. Most modern Unix-like systems have a UTF-8 locale as default, however, there are some systems where that may need to be set specifically.

## Exit code

Before version 2.2 Zabbix agent returned 0 in case of successful exit and 255 in case of failure. Starting from version 2.2 and higher Zabbix agent returns 0 in case of successful exit and 1 in case of failure.

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