4 User parameters

Overview

Sometimes you may want to run an agent check that does not come predefined with Zabbix. This is where user parameters come to help.

You may write a command that retrieves the data you need and include it in the user parameter in the agent configuration file ('UserParameter' configuration parameter).

A user parameter has the following syntax:

```
UserParameter=<key>,<command>
```

As you can see, a user parameter also contains a key. The key will be necessary when configuring an item. Enter a key of your choice that will be easy to reference (it must be unique within a host). Restart the agent.

Then, when configuring an item, enter the key to reference the command from the user parameter you want executed.

User parameters are commands executed by Zabbix agent. Up to 512KB of data can be returned. **/bin/sh** is used as a command line interpreter under UNIX operating systems. This way you can enhance the functionality of Zabbix agents.

See a step-by-step tutorial on making use of user parameters.

Examples of simple user parameters

A simple command:

```
UserParameter=ping,echo 1
```

The agent will always return '1' for an item with 'ping' key.

A more complex example:

```
UserParameter=mysql.ping,mysqladmin -uroot ping|grep -c alive
```

The agent will return '1', if MySQL server is alive, '0' - otherwise.

Flexible user parameters

Flexible user parameters accept parameters with the key. This way a flexible user parameter can be the basis for creating several items.

Flexible user parameters have the following syntax:

```
UserParameter=key[*],command
```

Parameter	Description
Key	Unique item key. The [*] defines that this key accepts parameters within the brackets. Parameters are given when configuring the item.
Command	Command to be executed to evaluate value of the key. Use positional references $1...$9 to refer to the respective parameter in the item key. Zabbix parses the parameters enclosed in [ ] of the item key and substitutes $1,...,$9 in the command accordingly. $0 will be substituted by the original command (prior to expansion of $0,...,$9) to be run.

To use positional references unaltered, specify double dollar sign - for example, awk '{print $$2}'. In this case $$2 will actually turn into $2 when executing the command.

Note that positional references with the $ sign are interpreted by Zabbix agent regardless of whether they are enclosed between double (“) or single (') quotes.
Unless UnsafeUserParameters agent daemon configuration option is enabled, it is not allowed to pass flexible parameters containing these symbols: \ ' ” ` * ? [ ] { } ~ $! & ; ( ) < > | # @. Additionally, newline is not allowed either.

Example 1

Something very simple:

```
UserParameter=ping[*],echo $1
```

We may define unlimited number of items for monitoring all having format ping[something].

- ping[0] - will always return '0'
- ping[aaa] - will always return 'aaa'

Example 2

Let's add more sense!

```
UserParameter=mysql.ping[*],mysqladmin -u$1 -p$2 ping | grep -c alive
```

This parameter can be used for monitoring availability of MySQL database. We can pass user name and password:

```
mysql.ping[zabbix,our_password]
```

Example 3

How many lines matching a regular expression in a file?

```
UserParameter=wc[*],grep -c "$2" $1
```

This parameter can be used to calculate number of lines in a file.

```
wc[/etc/passwd,root]
wc[/etc/services,zabbix]
```

Command result

The return value of the command is standard output together with standard error.

A text (character, log or text type of information) item will not become unsupported in case of standard error output.

User parameters that return text (character, log, text type of information) can return whitespace. In case of invalid result item will become unsupported.