



User parameters

UserParameter allows to run a check that does not come predefined with Zabbix:

- ⚡ Shell commands
- ⚡ Custom scripts

All commands are executed from the OS user which is used to run agent:

- ⚡ The user must have enough permissions to execute the command or script
- ⚡ The return value of the command is the standard output together with the standard error

UserParameter must be configured for every agent where they will be used:

- ⚡ Directly in zabbix_agentd.conf file
- ⚡ Included from zabbix_agentd.d directory (recommended)

```
### Option: UserParameter
#       User-defined parameter to monitor. There can be several user-defined parameters.
#
UserParameter=mykey,echo 1
```

More than one UserParameter can be defined per agent:

- ⚡ Multiple include files can be specified with different sets of parameters
- ⚡ All keys per agent must be unique or Zabbix agent will exit with the error message:

```
ERROR: cannot add user parameter "mysql.qps,mysqladmin status : key "mysql.qps" already exists
```

Working directory for commands can be specified using UserParameterDir:

- ⚡ UserParameter commands can be specified using the relative ./ prefix

```
### Option: UserParameterDir
#       When executing UserParameter commands the agent will change the working directory to the one
#       specified in the UserParameterDir option.
UserParameterDir=/home/zabbix/workingdir
```

- ⚡ Example: a script is located at /home/zabbix/workdir/myscript.sh

```
UserParameter=mykey,./myscript.sh
```

RELOAD LIST OF USER PARAMETERS

Zabbix agent will be able to use the new item key only after it is loaded into configuration

To reload the list of user parameters two methods are available:

⚡ Restart Zabbix agent to re-read the entire configuration file:

```
# systemctl restart zabbix-agent
```

⚡ Use Zabbix agent runtime command `userparameter_reload`:

- ✓ Works for both Agent and Agent2
- ✓ Only user parameters are affected, other configuration changes are ignored
- ✓ Not supported for zabbix_agentd on OpenBSD, NetBSD and Windows


```
# zabbix_agentd -R userparameter_reload
zabbix_agentd [1651700]: command sent successfully
```


A user parameter has the following syntax: **UserParameter**=**key**,**command**

- ⚡ The key will be used by the item, any unique key name can be entered
- ⚡ The command will be executed when the key is requested

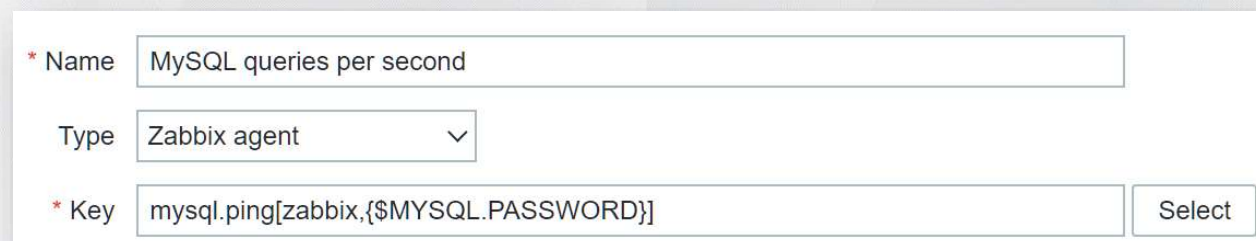
UserParameter can be **simple** or **flexible**:

- ⚡ Simple: **UserParameter**=**mysql.qps**,**mysqladmin status | cut -f9 -d":"**



A screenshot of the Zabbix User Parameter configuration form for a simple syntax. It contains three fields: 'Name' with the value 'MySQL queries per second', 'Type' with a dropdown menu set to 'Zabbix agent', and 'Key' with the value 'mysql.qps'. A 'Select' button is located to the right of the 'Key' field.

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



A screenshot of the Zabbix User Parameter configuration form for a flexible syntax. It contains three fields: 'Name' with the value 'MySQL queries per second', 'Type' with a dropdown menu set to 'Zabbix agent', and 'Key' with the value 'mysql.ping[zabbix,{ \$MYSQL.PASSWORD}]'. A 'Select' button is located to the right of the 'Key' field.

Certain symbols can not be passed **as arguments** by default:

⚡ \ ' " ` * ? [] { } ~ \$! & ; () < > | # @

⚡ Additionally, newline characters are not allowed

```
### Option: UnsafeUserParameters
```


```
# Allow all characters to be passed in arguments to user-defined parameters.
```

```
# The following characters and newline characters are not allowed:
```

```
# \ ' " ` * ? [ ] { } ~ $ ! & ; ( ) < > | # @
```

```
# Range: 0-1
```

```
UnsafeUserParameters=1
```



A screenshot of the Zabbix configuration interface for a user parameter. The form has three main fields: 'Name' with the value 'MySQL ping', 'Type' with a dropdown menu showing 'Zabbix agent', and 'Key' with the value 'mysql.ping[zabbix,"pa\$\$word"]'. There is a 'Select' button next to the key field. A blue arrow points from the key field down to a warning message.

⚠ Special characters "\, ', ", ` , *, ?, [], { }, ~, \$, !, &, ;, (), <, >, |, #, @, 0x0a" are not allowed in the parameters. ✕

Slow UserParameters can delay other metric collection:

- ⚡ They will respect timeouts defined in the server and agent configuration
- ⚡ When used as a passive check:
 - ✓ Pollers will become busy waiting for new values, more pollers may be needed
 - ✓ More passive agent processes may be needed, because some will be utilized for long time



- ⚡ When used as an active check:
 - ✓ C-based active agent has **only one data collector** process - slow checks will delay other metrics
 - ✓ Agent 2 is not affected by this



PRACTICAL SETUP

- 1) Add a simple user parameter:
 - ✓ Name: MySQL Uptime (simple)
 - ✓ Key: mysql.uptime.s
 - ✓ Command line: `mysqladmin -uzabbix -pP455w0RD status 2>/dev/null | awk '{print $2}'`
- 2) Restart Zabbix agent
- 3) Add a new item to Training-VM-XX host to monitor this user parameter
- 4) Add a flexible user parameter:
 - ✓ Name: MySQL Uptime (flexible)
 - ✓ Key: mysql.uptime.f[*]
 - ✓ Command line: `mysqladmin -u$1 -p$2 status 2>/dev/null | awk '{print $$2}'`
- 5) Add the user parameter to Zabbix agent without restarting it
- 6) Add a new item to Training-VM-XX host to monitor this user parameter
 - ✓ Use macros to specify the username
 - ✓ Use secret macro to specify the password
- 7) Make sure both items are receiving data