

## 8 Internal checks

### 1 Overview

Internal checks allow to monitor the internal processes of Zabbix. In other words, you can monitor what goes on with Zabbix server or Zabbix proxy.

Internal checks are calculated:

- on Zabbix server - if the host is monitored by server
- on Zabbix proxy - if the host is monitored by proxy

Internal checks are processed by server or proxy regardless of host maintenance status (since Zabbix 2.4.0).

To use this item, choose the **Zabbix internal** item type.

Internal checks are processed by Zabbix pollers.

### 2 Supported checks

- Parameters without angle brackets are constants - for example, 'host' and 'available' in `zabbix[host,<type>,available]`. Use them in the item key *as is*.
- Values for items and item parameters that are “not supported on proxy” can only be gathered if the host is monitored by server. And vice versa, values “not supported on server” can only be gathered if the host is monitored by proxy.

		Key	
▲	Description	Return value	Comments
<b>zabbix[boottime]</b>			
	Startup time of Zabbix server or Zabbix proxy process in seconds.	Integer.	
<b>zabbix[history]</b>			
	Number of values stored in table HISTORY	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! <i>(not supported on proxy)</i>
<b>zabbix[history_log]</b>			
	Number of values stored in table HISTORY_LOG	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! This item is supported starting with Zabbix <b>1.8.3</b> . <i>(not supported on proxy)</i>
<b>zabbix[history_str]</b>			
	Number of values stored in table HISTORY_STR	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! <i>(not supported on proxy)</i>
<b>zabbix[history_text]</b>			
	Number of values stored in table HISTORY_TEXT	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! This item is supported starting with Zabbix <b>1.8.3</b> . <i>(not supported on proxy)</i>
<b>zabbix[history_uint]</b>			

			Key
▲	Description	Return value	Comments
	Number of values stored in table HISTORY_UINT	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! This item is supported starting with Zabbix <b>1.8.3</b> . ( <i>not supported on proxy</i> )
<b>zabbix[host,,items]</b>			
	Number of enabled items (supported and not supported) on the host.	Integer.	This item is supported starting with Zabbix <b>3.0.0</b> .
<b>zabbix[host,,items_unsupported]</b>			
	Number of enabled unsupported items on the host.	Integer.	This item is supported starting with Zabbix <b>3.0.0</b> .
<b>zabbix[host,,maintenance]</b>			
	Returns current maintenance status of a host.	0 - host in normal state, 1 - host in maintenance with data collection, 2 - host in maintenance without data collection.	This item is always processed by Zabbix server regardless of host location (on server or proxy). The proxy will not receive this item with configuration data. The second parameter must be empty and is reserved for future use. This item is supported starting with Zabbix <b>2.4.0</b> .
<b>zabbix[host,&lt;type&gt;,available]</b>			
	Returns availability of a particular type of checks on the host. The value of this item corresponds to availability icons in the host list.	0 - not available, 1 - available, 2 - unknown.	Valid types are: <b>agent, snmp, ipmi, jmx</b> . The item value is calculated according to configuration parameters regarding host <a href="#">unreachability/unavailability</a> . This item is supported starting with Zabbix <b>2.0.0</b> .
<b>zabbix[hosts]</b>			
	Number of monitored hosts	Integer.	This item is supported starting with Zabbix <b>2.2.0</b> .
<b>zabbix[items]</b>			
	Number of enabled items (supported and not supported)	Integer.	
<b>zabbix[items_unsupported]</b>			
	Number of not supported items	Integer.	
<b>zabbix[java,,&lt;param&gt;]</b>			
	Returns information associated with Zabbix Java gateway.	If <param> is <b>ping</b> , "1" is returned. Can be used to check Java gateway availability using nodata() trigger function.  If <param> is <b>version</b> , version of Java gateway is returned. Example: "2.0.0".	Valid values for <param> are: <i>ping, version</i>  Second parameter must be empty and is reserved for future use.  This item is supported starting with Zabbix <b>2.0.0</b> .
<b>zabbix[process,&lt;type&gt;,&lt;mode&gt;,&lt;state&gt;]</b>			

Key		
▲	Description	Return value
	<p>Time a particular Zabbix process or a group of processes (identified by &lt;type&gt; and &lt;mode&gt;) spent in &lt;state&gt; in percentage. It is calculated for the last minute only.</p> <p>If &lt;mode&gt; is Zabbix process number that is not running (for example, with 5 pollers running &lt;mode&gt; is specified to be 6), such an item will turn into unsupported state. Minimum and maximum refers to the usage percentage for a single process. So if in a group of 3 pollers usage percentages per process were 2, 18 and 66, min would return 2 and max would return 66.</p> <p>Processes report what they are doing in shared memory and the self-monitoring process summarizes that data each second. State changes (busy/idle) are registered upon change - thus a process that becomes busy registers as such and doesn't change or update the state until it becomes idle. This ensures that even fully hung processes will be correctly registered as 100% busy. Currently, "busy" means "not sleeping", but in the future additional states might be introduced - waiting for locks, performing database queries, etc.</p> <p>On Linux and most other systems, resolution is 1/100 of a second.</p>	<p>Percentage of time. Float.</p>
		<p>The following process types are currently supported:</p> <ul style="list-style-type: none"> <li><b>alerter</b> - process for sending notifications (<i>not supported on proxy</i>)</li> <li><b>configuration syncer</b> - process for managing in-memory cache of configuration data</li> <li><b>data sender</b> - proxy data sender (<i>not supported on server</i>)</li> <li><b>db watchdog</b> - sender of a warning message in case DB is not available (<i>not supported on proxy</i>)</li> <li><b>discoverer</b> - process for discovery of devices</li> <li><b>escalator</b> - process for escalation of actions (<i>not supported on proxy</i>)</li> <li><b>heartbeat sender</b> - proxy heartbeat sender (<i>not supported on server</i>)</li> <li><b>history syncer</b> - history DB writer</li> <li><b>housekeeper</b> - process for removal of old historical data</li> <li><b>http poller</b> - web monitoring poller</li> <li><b>icmp pinger</b> - poller for icmping checks</li> <li><b>ipmi poller</b> - poller for IPMI checks</li> <li><b>java poller</b> - poller for Java checks</li> <li><b>poller</b> - normal poller for passive checks</li> <li><b>proxy poller</b> - poller for passive proxies (<i>not supported on proxy</i>)</li> <li><b>self-monitoring</b> - process for collecting internal server statistics</li> <li><b>snmp trapper</b> - trapper for SNMP traps</li> <li><b>timer</b> - process for evaluation of time-related trigger functions and maintenances (<i>not supported on proxy</i>)</li> <li><b>trapper</b> - trapper for active checks, traps, proxy communication</li> <li><b>unreachable poller</b> - poller for unreachable devices</li> <li><b>vmware collector</b> - VMware data collector responsible for data gathering from VMware services</li> </ul> <p>Note: You can also see these process types in a server log file.</p> <p>Valid modes are:</p> <ul style="list-style-type: none"> <li><b>avg</b> - average value for all processes of a given type (default)</li> <li><b>count</b> - returns number of forks for a given process type, &lt;state&gt; should not be specified</li> <li><b>max</b> - maximum value</li> <li><b>min</b> - minimum value</li> <li><b>&lt;process number&gt;</b> - process number (between 1 and the number of pre-forked instances). For example, if 4 trappers are running, the value is between 1 and 4.</li> </ul> <p>Valid states are:</p> <ul style="list-style-type: none"> <li><b>busy</b> - process is in busy state, for example, processing request (default).</li> <li><b>idle</b> - process is in idle state doing nothing.</li> </ul> <p>Examples:</p> <ul style="list-style-type: none"> <li>⇒ zabbix[process,poller,avg,busy] → average time of poller processes spent doing something during the last minute</li> <li>⇒ zabbix[process,"icmp pinger",max,busy] → maximum time spent doing something by any ICMP pinger process during the last minute</li> <li>⇒ zabbix[process,"history syncer",2,busy] → time spent doing something by history syncer number 2 during the last minute</li> <li>⇒ zabbix[process,trapper,count] → amount of currently running trapper processes</li> </ul> <p>This item is supported starting with Zabbix <b>1.8.5</b>.</p>

Key			
▲	Description	Return value	Comments
<b>zabbix[proxy,&lt;name&gt;,&lt;param&gt;]</b>			
	Access to Zabbix proxy related information.	Integer.	<p>&lt;name&gt; - proxy name List of supported parameters (&lt;param&gt;): lastaccess - timestamp of last heart beat message received from proxy</p> <p>Example: ⇒ zabbix[proxy,"Germany",lastaccess]</p> <p><b>fuzzytime()</b> <a href="#">trigger function</a> can be used to check availability of proxies. Starting with Zabbix 2.4.0 this item is always processed by Zabbix server regardless of host location (on server or proxy).</p>
<b>zabbix[proxy_history]</b>			
	Number of values in proxy history table waiting to be sent to the server	Integer.	This item is supported starting with Zabbix <b>2.2.0</b> . <i>(not supported on server)</i>
<b>zabbix[queue,&lt;from&gt;,&lt;to&gt;]</b>			
	Number of monitored items in the queue which are delayed at least by <from> seconds but less than by <to> seconds.	Integer.	<p>&lt;from&gt; - default: 6 seconds &lt;to&gt; - default: infinity <a href="#">Time-unit symbols</a> (s,m,h,d,w) are supported for these parameters. Parameters from and to are supported starting with Zabbix <b>1.8.3</b>.</p>
<b>zabbix[rcache,&lt;cache&gt;,&lt;mode&gt;]</b>			
	Availability statistics of Zabbix configuration cache.	Integer (for size); float (for percentage).	<p>Cache: <b>buffer</b> Mode: <b>total</b> - total size of buffer <b>free</b> - size of free buffer <b>pfree</b> - percentage of free buffer <b>used</b> - size of used buffer</p>
<b>zabbix[requiredperformance]</b>			
	Required performance of the Zabbix server or Zabbix proxy, in new values per second expected.	Float.	Approximately correlates with "Required server performance, new values per second" in <a href="#">Reports → Status of Zabbix</a> . This item is supported starting with Zabbix <b>1.6.2</b> .
<b>zabbix[trends]</b>			
	Number of values stored in table TRENDS	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! <i>(not supported on proxy)</i>
<b>zabbix[trends_uint]</b>			
	Number of values stored in table TRENDS_UINT	Integer.	Do not use if MySQL InnoDB, Oracle or PostgreSQL is used! This item is supported starting with Zabbix <b>1.8.3</b> . <i>(not supported on proxy)</i>
<b>zabbix[triggers]</b>			
	Number of enabled triggers in Zabbix database, with all items enabled on enabled hosts.	Integer.	<i>(not supported on proxy)</i>
<b>zabbix[uptime]</b>			
	Uptime of Zabbix server or Zabbix proxy process in seconds.	Integer.	
<b>zabbix[vcache,buffer,&lt;mode&gt;]</b>			
	Availability statistics of Zabbix value cache.	Integer (for size); float (for percentage).	<p>Mode: <b>total</b> - total size of buffer <b>free</b> - size of free buffer <b>pfree</b> - percentage of free buffer <b>used</b> - size of used buffer <b>pusd</b> - percentage of used buffer</p> <p>This item is supported starting with Zabbix <b>2.2.0</b>. <i>(not supported on proxy)</i></p>
<b>zabbix[vcache,cache,&lt;parameter&gt;]</b>			

Key			
▲	Description	Return value	Comments
	Effectiveness statistics of Zabbix value cache.	Integer.  With the <b>mode</b> parameter: 0 - normal mode, 1 - low memory mode	Parameter: <b>requests</b> - total number of requests <b>hits</b> - number of cache hits (history values taken from the cache) <b>misses</b> - number of cache misses (history values taken from the database) <b>mode</b> - value cache operating mode This item is supported starting with Zabbix <b>2.2.0</b> and the <b>mode</b> parameter starting with Zabbix <b>3.0.0</b> . <i>(not supported on proxy)</i>  You may use this key with a <i>Delta (speed per second)</i> store value in order to get values per second statistics.
<b>zabbix[vmware,buffer,&lt;mode&gt;]</b>			
	Availability statistics of Zabbix vmware cache.	Integer (for size); float (for percentage).	Mode: <b>total</b> - total size of buffer <b>free</b> - size of free buffer <b>pfree</b> - percentage of free buffer <b>used</b> - size of used buffer <b>puused</b> - percentage of used buffer  This item is supported starting with Zabbix <b>2.2.0</b> .
<b>zabbix[wcache,&lt;cache&gt;,&lt;mode&gt;]</b>			
	Statistics and availability of Zabbix write cache.		Specifying <cache> is mandatory.

		Key			
▲	Description	Return value	Comments		
Cache	Mode				
	values	all <i>(default)</i>	Total number of values processed by Zabbix server or Zabbix proxy, except unsupported items.	Integer.	Counter. You may use this key with a <i>Delta</i> ( <i>speed per second</i> ) store value in order to get values per second statistics.
		float	Number of processed float values.	Integer.	Counter.
		uint	Number of processed unsigned integer values.	Integer.	Counter.
		str	Number of processed character/string values.	Integer.	Counter.
		log	Number of processed log values.	Integer.	Counter.
		text	Number of processed text values.	Integer.	Counter.
not supported		Number of times item processing resulted in item becoming unsupported or keeping that state.	Integer.	Counter. <i>Not supported</i> mode is supported starting with Zabbix <b>1.8.6</b> .	
history	pfree <i>(default)</i>	Percentage of free history buffer.	Float.	History cache is used to store item values. A low number indicates performance problems on the database side.	
	free	Size of free history buffer.	Integer.		
	total	Total size of history buffer.	Integer.		
	used	Size of used history buffer.	Integer.		
index	pfree <i>(default)</i>	Percentage of free history index buffer.	Float.	History index cache is used to index values stored in history cache. <i>Index</i> cache is supported starting with Zabbix <b>3.0.0</b> .	
	free	Size of free history index history buffer.	Integer.		
	total	Total size of history index history buffer.	Integer.		
	used	Size of used history index history buffer.	Integer.		
trend	pfree <i>(default)</i>	Percentage of free trend cache.	Float.	Trend cache stores aggregate for the current hour for all items that receive data. <i>(not supported on proxy)</i>	
	free	Size of free trend buffer.	Integer.		<i>(not supported on proxy)</i>
	total	Total size of trend buffer.	Integer.		<i>(not supported on proxy)</i>
	used	Size of used trend buffer.	Integer.		<i>(not supported on proxy)</i>

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