

> Item object

The following objects are directly related to the `item` API.

Item

Web items cannot be directly created, updated or deleted via the Zabbix API.

The item object has the following properties.

Property	Type	Description
<code>itemid</code>	string	(<i>readonly</i>) ID of the item.
delay (required)	string	Update interval of the item. Accepts seconds or a time unit with suffix (30s,1m,2h,1d). Optionally one or more custom intervals can be specified either as flexible intervals or scheduling. Multiple intervals are separated by a semicolon. User macros may be used. A single macro has to fill the whole field. Multiple macros in a field or macros mixed with text are not supported. Flexible intervals may be written as two macros separated by a forward slash (e.g. <code>{FLEX_INTERVAL}/{FLEX_PERIOD}</code>). Optional for Zabbix trapper or dependent items.
hostid (required)	string	ID of the host or template that the item belongs to. For update operations this field is <i>readonly</i> .
interfaceid (required)	string	ID of the item's host interface. Not required for template items. Optional for internal, active agent, trapper, aggregate, calculated, dependent and database monitor items.
key_ (required)	string	Item key.
name (required)	string	Name of the item.

Property	Type	Description
type (required)	integer	Type of the item. Possible values: 0 - Zabbix agent; 1 - SNMPv1 agent; 2 - Zabbix trapper; 3 - simple check; 4 - SNMPv2 agent; 5 - Zabbix internal; 6 - SNMPv3 agent; 7 - Zabbix agent (active); 8 - Zabbix aggregate; 9 - web item; 10 - external check; 11 - database monitor; 12 - IPMI agent; 13 - SSH agent; 14 - TELNET agent; 15 - calculated; 16 - JMX agent; 17 - SNMP trap; 18 - Dependent item; 19 - HTTP agent;
url (required)	string	URL string, required only for HTTP agent item type. Supports user macros, {HOST.IP}, {HOST.CONN}, {HOST.DNS}, {HOST.HOST}, {HOST.NAME}, {ITEM.ID}, {ITEM.KEY}.
value_type (required)	integer	Type of information of the item. Possible values: 0 - numeric float; 1 - character; 2 - log; 3 - numeric unsigned; 4 - text.
allow_traps	integer	HTTP agent item field. Allow to populate value as in trapper item type also. 0 - (<i>default</i>) Do not allow to accept incoming data. 1 - Allow to accept incoming data.
authtype	integer	Used only by SSH agent items or HTTP agent items. SSH agent authentication method possible values: 0 - (<i>default</i>) password; 1 - public key. HTTP agent authentication method possible values: 0 - (<i>default</i>) none 1 - basic 2 - NTLM
description	string	Description of the item.
error	string	(<i>readonly</i>) Error text if there are problems updating the item.

Property	Type	Description
flags	integer	<i>(readonly)</i> Origin of the item. Possible values: 0 - a plain item; 4 - a discovered item.
follow_redirects	integer	HTTP agent item field. Follow response redirects while pooling data. 0 - Do not follow redirects. 1 - <i>(default)</i> Follow redirects.
headers	object	HTTP agent item field. Object with HTTP(S) request headers, where header name is used as key and header value as value. Example: { "User-Agent": "Zabbix" }
history	string	A time unit of how long the history data should be stored. Also accepts user macro. Default: 90d.
http_proxy	string	HTTP agent item field. HTTP(S) proxy connection string.
inventory_link	integer	ID of the host inventory field that is populated by the item. Refer to the host inventory page for a list of supported host inventory fields and their IDs. Default: 0.
ipmi_sensor	string	IPMI sensor. Used only by IPMI items.
jmx_endpoint	string	JMX agent custom connection string. Default value: service:jmx:rmi:///jndi/rmi://{HOST.CONN}:{HOST.PORT}/jmxrmi
lastclock	timestamp	<i>(readonly)</i> Time when the item was last updated. This property will only return a value for the period configured in ZBX_HISTORY_PERIOD .
lastns	integer	<i>(readonly)</i> Nanoseconds when the item was last updated. This property will only return a value for the period configured in ZBX_HISTORY_PERIOD .
lastvalue	string	<i>(readonly)</i> Last value of the item. This property will only return a value for the period configured in ZBX_HISTORY_PERIOD .
logtimefmt	string	Format of the time in log entries. Used only by log items.
master_itemid	integer	Master item ID. Recursion up to 3 dependent items and maximum count of dependent items equal to 999 are allowed. Required by dependent items.
mtime	timestamp	Time when the monitored log file was last updated. Used only by log items.

Property	Type	Description
output_format	integer	HTTP agent item field. Should response converted to JSON. 0 - (default) Store raw. 1 - Convert to JSON.
params	string	Additional parameters depending on the type of the item: - executed script for SSH and Telnet items; - SQL query for database monitor items; - formula for calculated items.
password	string	Password for authentication. Used by simple check, SSH, Telnet, database monitor, JMX and HTTP agent items. When used by JMX, username should also be specified together with password or both properties should be left blank.
port	string	Port monitored by the item. Used only by SNMP items.
post_type	integer	HTTP agent item field. Type of post data body stored in posts property. 0 - (default) Raw data. 2 - JSON data. 3 - XML data.
posts	string	HTTP agent item field. HTTP(S) request body data. Used with post_type.
prevvalue	string	(readonly) Previous value of the item. This property will only return a value for the period configured in ZBX_HISTORY_PERIOD .
privatekey	string	Name of the private key file.
publickey	string	Name of the public key file.
query_fields	array	HTTP agent item field. Query parameters. Array of objects with 'key': 'value' pairs, where value can be empty string.
request_method	integer	HTTP agent item field. Type of request method. 0 - (default) GET 1 - POST 2 - PUT 3 - HEAD
retrieve_mode	integer	HTTP agent item field. What part of response should be stored. 0 - (default) Body. 1 - Headers. 2 - Both body and headers will be stored. For request_method HEAD only 1 is allowed value.
snmp_community	string	SNMP community. Used only by SNMPv1 and SNMPv2 items.
snmp_oid	string	SNMP OID.
snmpv3_authpassphrase	string	SNMPv3 auth passphrase. Used only by SNMPv3 items.
snmpv3_authprotocol	integer	SNMPv3 authentication protocol. Used only by SNMPv3 items. Possible values: 0 - (default) MD5; 1 - SHA.
snmpv3_contextname	string	SNMPv3 context name. Used only by SNMPv3 items.

Property	Type	Description
snmpv3_privpassphrase	string	SNMPv3 priv passphrase. Used only by SNMPv3 items.
snmpv3_privprotocol	integer	SNMPv3 privacy protocol. Used only by SNMPv3 items. Possible values: 0 - (default) DES; 1 - AES.
snmpv3_securitylevel	integer	SNMPv3 security level. Used only by SNMPv3 items. Possible values: 0 - noAuthNoPriv; 1 - authNoPriv; 2 - authPriv.
snmpv3_securityname	string	SNMPv3 security name. Used only by SNMPv3 items.
ssl_cert_file	string	HTTP agent item field. Public SSL Key file path.
ssl_key_file	string	HTTP agent item field. Private SSL Key file path.
ssl_key_password	string	HTTP agent item field. Password for SSL Key file.
state	integer	(readonly) State of the item. Possible values: 0 - (default) normal; 1 - not supported.
status	integer	Status of the item. Possible values: 0 - (default) enabled item; 1 - disabled item.
status_codes	string	HTTP agent item field. Ranges of required HTTP status codes separated by commas. Also supports user macros as part of comma separated list. Example: 200,200-{\$M},{M},200-400
templateid	string	(readonly) ID of the parent template item. <i>Hint:</i> Use the <code>hostid</code> property to specify the template that the item belongs to.
timeout	string	HTTP agent item field. Item data polling request timeout. Support user macros. default: 3s maximum value: 60s
trapper_hosts	string	Allowed hosts. Used by trapper items or HTTP agent items.
trends	string	A time unit of how long the trends data should be stored. Also accepts user macro. Default: 365d.
units	string	Value units.
username	string	Username for authentication. Used by simple check, SSH, Telnet, database monitor, JMX and HTTP agent items. Required by SSH and Telnet items. When used by JMX, password should also be specified together with username or both properties should be left blank.

Property	Type	Description
valuemapid	string	ID of the associated value map.
verify_host	integer	HTTP agent item field. Validate host name in URL is in Common Name field or a Subject Alternate Name field of host certificate. 0 - (default) Do not validate. 1 - Validate.
verify_peer	integer	HTTP agent item field. Validate is host certificate authentic. 0 - (default) Do not validate. 1 - Validate.

Item preprocessing

The item preprocessing object has the following properties.

Property	Type	Description
type (required)	integer	The preprocessing option type. Possible values: 1 - Custom multiplier; 2 - Right trim; 3 - Left trim; 4 - Trim; 5 - Regular expression matching; 6 - Boolean to decimal; 7 - Octal to decimal; 8 - Hexadecimal to decimal; 9 - Simple change; 10 - Change per second; 11 - XML XPath; 12 - JSONPath; 13 - In range; 14 - Matches regular expression; 15 - Does not match regular expression; 16 - Check for error in JSON; 17 - Check for error in XML; 18 - Check for error using regular expression; 19 - Discard unchanged; 20 - Discard unchanged with heartbeat; 21 - JavaScript; 22 - Prometheus pattern; 23 - Prometheus to JSON.
params (required)	string	Additional parameters used by preprocessing option. Multiple parameters are separated by LF (\n) character.
error_handler (required)	integer	Action type used in case of preprocessing step failure. Possible values: 0 - Error message is set by Zabbix server; 1 - Discard value; 2 - Set custom value; 3 - Set custom error message.

Property	Type	Description
error_handler_params (required)	string	Error handler parameters. Used with error_handler. Must be empty, if error_handler is 0 or 1. Can be empty if, error_handler is 2. Cannot be empty, if error_handler is 3.

The following parameters and error handlers are supported for each preprocessing type.

Preprocessing type	Name	Parameter 1	Parameter 2	Supported error handlers
1	Custom multiplier	number ^{1,6}		0, 1, 2, 3
2	Right trim	list of characters ²		
3	Left trim	list of characters ²		
4	Trim	list of characters ²		
5	Regular expression	pattern ³	output ²	0, 1, 2, 3
6	Boolean to decimal			0, 1, 2, 3
7	Octal to decimal			0, 1, 2, 3
8	Hexadecimal to decimal			0, 1, 2, 3
9	Simple change			0, 1, 2, 3
10	Change per second			0, 1, 2, 3
11	XML XPath	path ⁴		0, 1, 2, 3
12	JSONPath	path ⁴		0, 1, 2, 3
13	In range	min ^{1,6}	max ^{1,6}	0, 1, 2, 3
14	Matches regular expression	pattern ³		0, 1, 2, 3
15	Does not match regular expression	pattern ³		0, 1, 2, 3
16	Check for error in JSON	path ⁴		
17	Check for error in XML	path ⁴		
18	Check for error using regular expression	pattern ³	output ²	
19	Discard unchanged			
20	Discard unchanged with heartbeat	seconds ^{5,6}		
21	JavaScript	script ²		
22	Prometheus pattern	pattern ^{6,7}	output ^{6,8}	0, 1, 2, 3
23	Prometheus to JSON	pattern ^{6,7}		0, 1, 2, 3

¹ integer or floating-point number

² string

³ regular expression

⁴ JSONPath or XML XPath

⁵ positive integer (with support of time suffixes, e.g. 30s, 1m, 2h, 1d)

⁶ user macro

⁷ Prometheus pattern following the syntax: <metric name>{<label name>=<label value>“, ...} == <value>. Each Prometheus pattern component (metric, label name, label value and metric value) can be user macro.

⁸ Prometheus output following the syntax: <label name>.

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