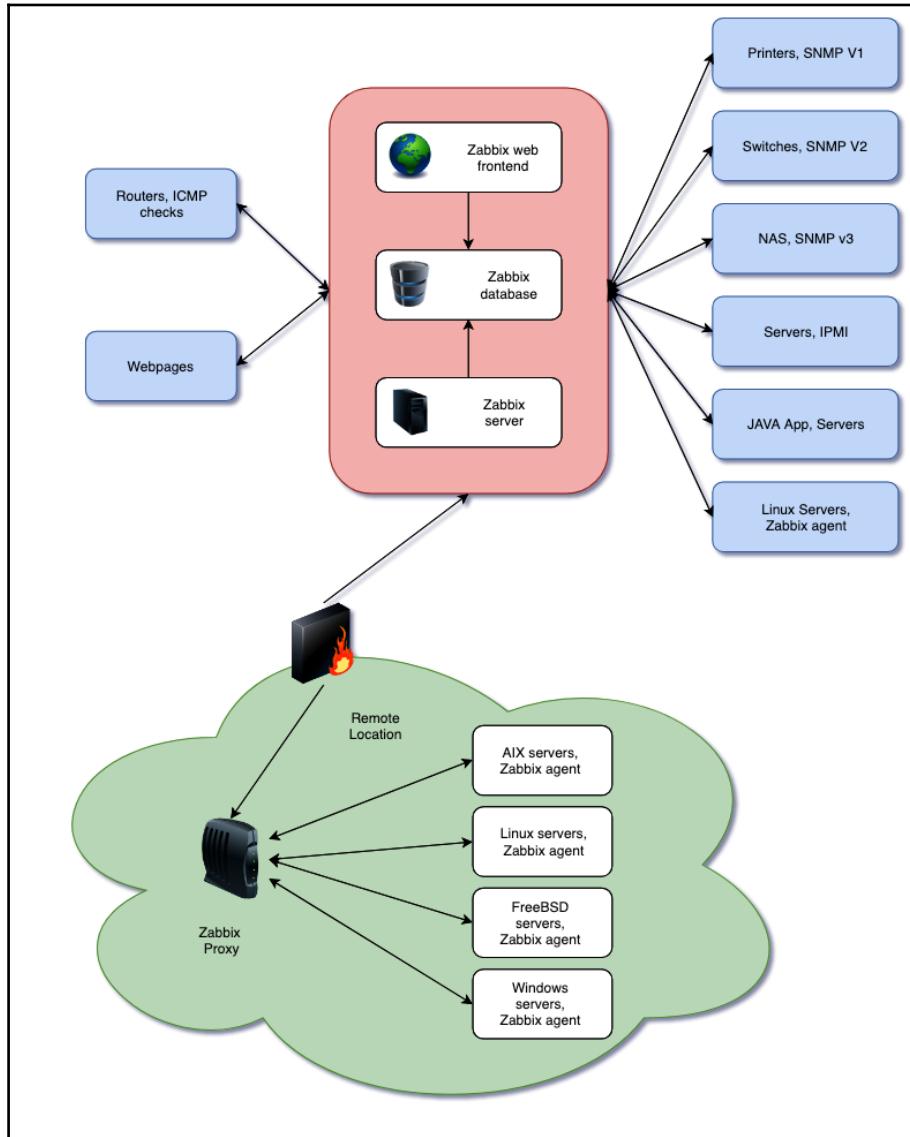
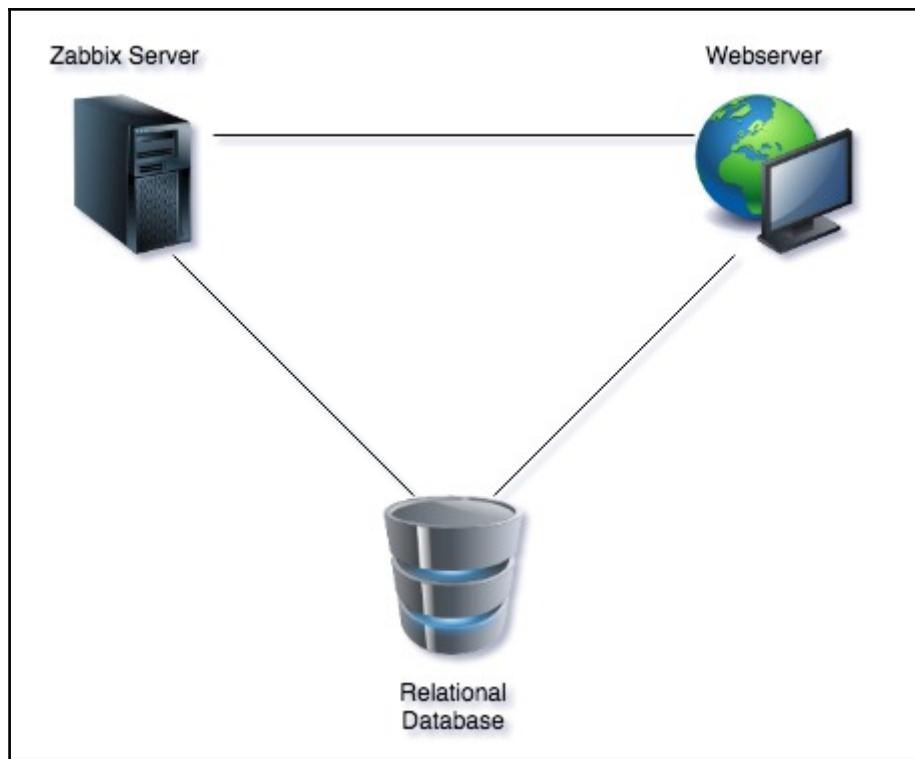


Chapter 1: Getting Started with Zabbix





ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Dashboard

All dashboards / Dashboard

Favourite graphs	Favourite screens	Favourite maps
No graphs added.	No screens added.	No maps added.
Updated: 10:20:49	Updated: 10:20:48	Updated: 10:20:49

Problems

Time	Recovery time	Status	Info	Host	Problem + Severity	Duration	Ack	Actions
10:08:33	10:18:33	RESOLVED		Zabbix server	Zabbix server has just been restarted	10m	No	

1 of 1 problem is shown Updated: 10:20:49

Web monitoring			Discovery status			
Host group ▲	Ok	Failed	Unknown	Discovery rule	Up	Down
No data found.			No data found.			

ZABBIX

Welcome
Check of pre-requisites
Configure DB connection
Zabbix server details
Pre-installation summary
Install

Welcome to

Zabbix 4.0

[Cancel](#)

[Back](#)

[Next step](#)

ZABBIX

Check of pre-requisites

Welcome
Check of pre-requisites
Configure DB connection
Zabbix server details
Pre-installation summary
Install

		Current value	Required	
	PHP version	5.4.16	5.4.0	OK
	PHP option "memory_limit"	128M	128M	OK
	PHP option "post_max_size"	16M	16M	OK
	PHP option "upload_max_filesize"	2M	2M	OK
	PHP option "max_execution_time"	300	300	OK
	PHP option "max_input_time"	300	300	OK
	PHP option "date.timezone"	Europe/Riga		OK
	PHP databases support	MySQL		OK
	PHP bcmath	on		OK
	PHP mbstring	on		OK

[Cancel](#)

[Back](#)

[Next step](#)

ZABBIX

Configure DB connection

Please create database manually, and set the configuration parameters for connection to this database.
Press "Next step" button when done.

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Database type

Database host

Database port 0 - use default port

Database name

User

Password

[Back](#)

[Next step](#)

ZABBIX

Zabbix server details

Please enter the host name or host IP address and port number of the Zabbix server, as well as the name of the installation (optional).

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Host

Port

Name

[Cancel](#)

[Back](#)

[Next step](#)

ZABBIX

Pre-installation summary

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Database type MySQL

Database server localhost

Database port default

Database name zabbix

Database user zabbix

Database password *****

Zabbix server localhost

Zabbix server port 10051

Zabbix server name

[Cancel](#)

[Back](#)

[Next step](#)

ZABBIX

Install

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Details

Cannot create the configuration file.

Unable to create the configuration file.

Alternatively, you can install it manually:

1. [Download the configuration file](#)
2. Save it as "/srv/www/htdocs/zabbix/conf/zabbix.conf.php"



Install

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Congratulations! You have successfully installed Zabbix frontend.

Configuration file "/etc/zabbix/web/zabbix.conf.php" created.

[Cancel](#)

[Back](#)

[Finish](#)

ZABBIX

Username

Password

Remember me for 30 days

Sign in

or [sign in as guest](#)

Dashboard

[All dashboards](#) / Dashboard**Favourite graphs**

No graphs added.

Updated: 13:43:43

Favourite screens

No screens added.

Updated: 13:43:43

Favourite maps

No maps added.

Updated: 13:43:43

Problems

Time ▾	Recovery time	Status	Info	Host	Problem ▾ Severity	Duration	Ack	Actions
--------	---------------	--------	------	------	--------------------	----------	-----	---------

No data found.

0 of 0 problems are shown Updated: 13:45:44

Web monitoring

Host group ▲	Ok	Failed	Unknown
--------------	----	--------	---------

No data found.

Discovery status

Discovery rule	Up	Down
----------------	----	------

No data found.

Updated: 13:45:45

Updated: 13:45:45



System information		...	
Parameter	Value	Details	
Zabbix server is running	Yes	localhost:10051	
Number of hosts (enabled/disabled/templates)	91	7	/ 0 / 84
Number of items (enabled/disabled/not supported)	76	76	/ 0 / 0
Number of triggers (enabled/disabled [problem/ok])	24	24	/ 0 [8 / 16]
Number of users (online)	4	2	
Required server performance, new values per second	5.04		

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Hosts

Group all

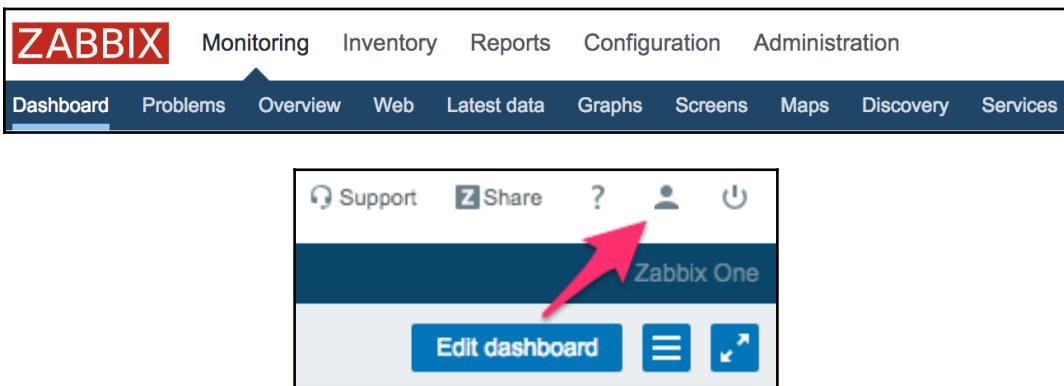
Name DNS
Monitored by Any Server Proxy IP
Port

Name ▲ Applications Items Triggers Graphs Discovery Web Interface Templates Status Availability Agent encryption Info

<input type="checkbox"/> Zabbix server	Applications 11	Items 68	Triggers 46	Graphs 11	Discovery 2	Web	127.0.0.1:10050	Template App Zabbix Server, Template OS Linux (Template App Zabbix Agent)	Disabled	ZBX SNMP JMX IPMI	NONE
--	-----------------	----------	-------------	-----------	-------------	-----	-----------------	---	----------	-------------------	-------------

Displaying 1 of 1 found

Chapter2: Getting Your First Notification



User profile: Zabbix Administrator

User Media Messaging

Password

[Change password](#)

Language

English (en_GB)

Theme

System default

Auto-login



Auto-logout



15m

* Refresh

30s

* Rows per page

50

URL (after login)

[Update](#)

[Cancel](#)

User profile: Zabbix Administrator

User Media Messaging

Frontend messaging

Message timeout

Play sound

Trigger severity	<input checked="" type="checkbox"/> Recovery	<input type="button" value="alarm_ok"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> Not classified	<input type="button" value="no_sound"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> Information	<input type="button" value="alarm_information"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> Warning	<input type="button" value="alarm_warning"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> Average	<input type="button" value="alarm_average"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> High	<input type="button" value="alarm_high"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
	<input checked="" type="checkbox"/> Disaster	<input type="button" value="alarm_disaster"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>

Show suppressed problems

User profile: Zabbix Administrator

User Media **Messaging**

Frontend messaging

Message timeout

Play sound

Trigger severity Recovery

Not classified

Information

Warning

Average

High

Disaster

Zabbix server

Applications 3

Items 8

Triggers 1

Graphs 1

Discovery

Web

127.0.0.1: [Template App Zabbix Server](#), [Template OS Linux](#) Disabled ZBX SNMP JMX IPMI NONE
10050 ([Template App Zabbix Agent](#))

Items											Create item					
All hosts / Zabbix server		Disabled	ZBX	SNMP	JMX	IPMI	Applications 11				Items 68	Triggers 46	Graphs 11	Discovery rules 2	Web scenarios	Filter
	Wizard	Name					Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info	
<input type="checkbox"/>	Template App Zabbix Agent: Agent ping	Template App Zabbix Agent: Agent ping					Triggers 1	agent.ping	1m	1w	365d	Zabbix agent	Zabbix agent	Enabled		
<input type="checkbox"/>	Template OS Linux: Available memory	Template OS Linux: Available memory					Triggers 1	vm.memory.size[available]	1m	1w	365d	Zabbix agent	Memory	Enabled		
<input type="checkbox"/>	Template OS Linux: Checksum of /etc/passwd	Template OS Linux: Checksum of /etc/passwd					Triggers 1	vfs.file_cksum[/etc/passwd]	1h	1w	365d	Zabbix agent	Security	Enabled		
<input type="checkbox"/>	Template OS Linux: Context switches per second	Template OS Linux: Context switches per second						system.cpu.switches	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		
<input type="checkbox"/>	Template OS Linux: CPU system time	Template OS Linux: CPU system time						system.cpu.util[,system]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		
<input type="checkbox"/>	Template OS Linux: CPU user time	Template OS Linux: CPU user time						system.cpu.util[,user]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		
<input type="checkbox"/>	Template OS Linux: CPU steal time	Template OS Linux: CPU steal time						system.cpu.util[,steal]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		
<input type="checkbox"/>	Template OS Linux: CPU softirq time	Template OS Linux: CPU softirq time						system.cpu.util[,softirq]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		
<input type="checkbox"/>	Template OS Linux: CPU interrupt time	Template OS Linux: CPU interrupt time						system.cpu.util[,interrupt]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled		

System information			
Parameter	Value	Details	
Zabbix server is running	Yes	localhost:10051	
Number of hosts (enabled/disabled/templates)	91	7 / 0 / 84	
Number of items (enabled/disabled/not supported)	76	76 / 0 / 0	
Number of triggers (en	Only items assigned to enabled hosts are counted 3 / 16		
Number of users (online)	4	1	
Required server performance, new values per second	5.04		

Hosts

Host Templates IPMI Macros Host inventory Encryption

* Host name: A test host
Visible name:
* Groups: Linux servers 

* At least one interface must exist.

Agent interfaces	IP address	DNS name	Connect to	Port	Default
127.0.0.1			IP	DNS	10050 <input checked="" type="radio"/> Remove <input type="button" value="Add"/>



Items

All hosts / A test host Enabled ZBX SNMP JMX IPMI Applications Items Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

* Name: CPU Load
Type: Zabbix agent
* Key: system.cpu.load
* Host interface: 127.0.0.1 : 10050
Type of information: Numeric (float)
Units:
* Update interval: 30s

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services Zabbix One

Latest data

Host groups: type here to search Select Name:

Hosts: A test host Show items without data Application: Select Show details

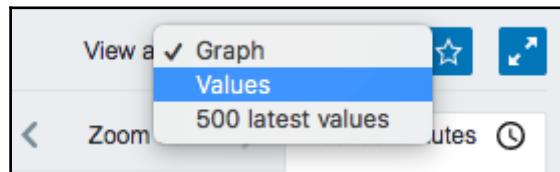
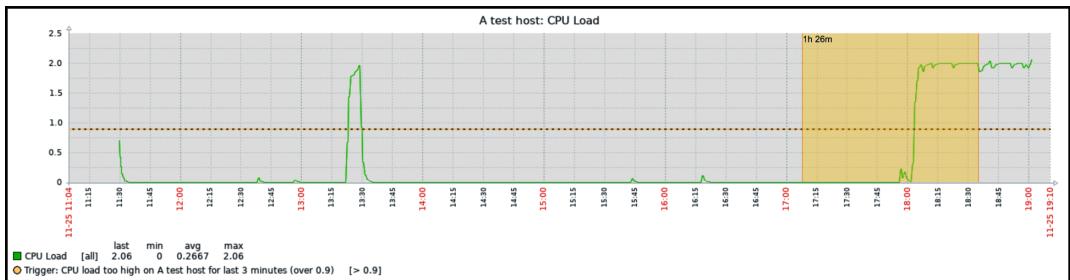
Apply **Reset**

Host	Name ▲	Last check	Last value	Change
A test host	- other - (1 item)			
	CPU Load	2018-08-12 11:00:22	0.34	-0.23
				Graph



From: now-15m To: now Apply

Last 2 days	Yesterday	Today	Last 5 minutes
Last 7 days	Day before yesterday	Today so far	Last 15 minutes
Last 30 days	This day last week	This week	Last 30 minutes
Last 3 months	Previous week	This week so far	Last 1 hour
Last 6 months	Previous month	This month	Last 3 hours
Last 1 year	Previous year	This month so far	Last 6 hours
Last 2 years		This year	Last 12 hours
		This year so far	Last 1 day



Trigger Dependencies

* Name: CPU load too high on A test host for last 3 minutes

Severity: Not classified Information Warning Average High Disaster

* Expression:

Add

Condition

* Item: A test host: CPU Load Select

Function: Average value of a period T is > N

Last of (T): 180 Time: ▾

Time shift: Time

* N: 1

Insert Cancel

Overview

Show: Recent problems Problems Any (arrow)

Acknowledge status: Any

Minimum trigger severity: Not classified

Age less than: 14 days

Name:

Application: Select

Host inventory: Type: Remove

Show hosts in maintenance:

Apply Reset

Triggers

CPU load too high on A test host for last 3 minutes

A test host

Media type

Options

* Name

Type

Email

* SMTP server

localhost

SMTP server port

25

* SMTP helo

localhost

* SMTP email

zabbix@localhost

Connection security

None

STARTTLS

SSL/TLS

Authentication

None

Username and password

Enabled



Add

Cancel

Media

Type Email

* Send to [Remove](#)

[Remove](#)

[Add](#)

* When active

Use if severity Not classified
 Information
 Warning
 Average
 High
 Disaster

Enabled

[Add](#) [Cancel](#)

Actions

Action Operations Recovery operations Update operations

* Name

Conditions Action [Remove](#)

New condition [Select](#)

[Add](#)

Enabled

* At least one operation, recovery operation or update operation must exist.

[Add](#) [Cancel](#)

Action Operations Recovery operations Update operations

Default subject

Default message
Problem has been resolved at {EVENT.RECOVERY.TIME} on {EVENT.RECOVERY.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}

Operations Details Action

Operation details

Operation type

* At least one user or user group must be selected.

Send to User groups

User group	Action
Add	

Send to Users

User	Action
Admin (Zabbix Administrator)	Remove

[Add](#)

Send only to

Default message

[Add](#) [Cancel](#)

* At least one operation, recovery operation or update operation must exist.

[Add](#) [Cancel](#)

Actions

Action Operations Recovery operations Update operations

* Default operation step duration:

Default subject: Problem: {EVENT.NAME}

Default message:

```
Problem started at {EVENT.TIME} on {EVENT.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}
{TRIGGER.URL}
```

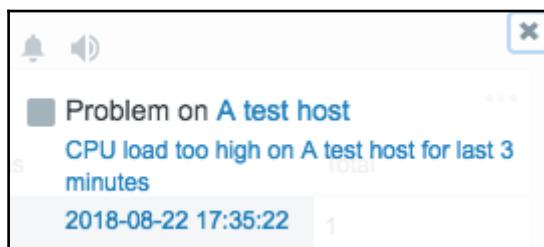
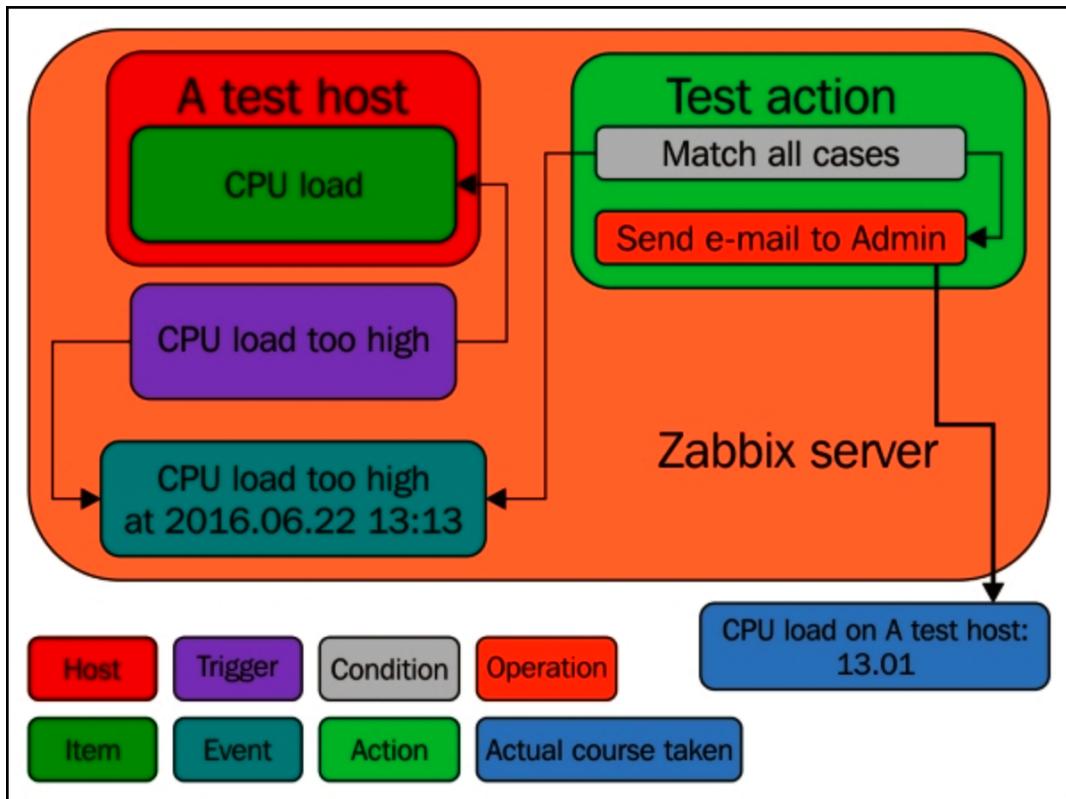
Pause operations while in maintenance:

Operations	Steps	Details	Start in	Duration	Action
Operation details	Steps: <input type="text" value="1"/> - <input type="text" value="1"/> (0 - infinitely)	Step duration: <input type="text" value="0"/> (0 - use action default)			
	Operation type: Send message	* At least one user or user group must be selected.			
Send to User groups	User group	Action			
	Add				
Send to Users	User	Action			
	Admin (Zabbix Administrator)	Remove			
	Add				
Send only to	- All -				
Default message	<input checked="" type="checkbox"/>				
Conditions	Label	Name	Action		
	New				

Add Cancel

* At least one operation, recovery operation or update operation must exist.

Add Cancel



User profile: Zabbix Administrator

User Media **Messaging**

Frontend messaging

Message timeout

Play sound

Trigger severity

<input checked="" type="checkbox"/> Recovery	<input type="button" value="alarm_ok"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> Not classified	<input type="button" value="no_sound"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> Information	<input type="button" value="alarm_information"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> Warning	<input type="button" value="alarm_warning"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> Average	<input type="button" value="alarm_average"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> High	<input type="button" value="alarm_high"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>
<input checked="" type="checkbox"/> Disaster	<input type="button" value="alarm_disaster"/>	<input type="button" value="Play"/>	<input type="button" value="Stop"/>

Show suppressed problems

Problems								
Time	Recovery time	Status	Info	Host	Problem + Severity	Duration	Ack	Actions
17:35:22	17:44:22	RESOLVED		A test host	CPU load too high on A test host for last 3 minutes	9m	No	
Problems by severity								
Time	User/Recipient	Action						
2018-08-22 17:44:24	Admin (Zabbix Administrator)							
2018-08-22 17:44:22								
2018-08-22 17:35:22								

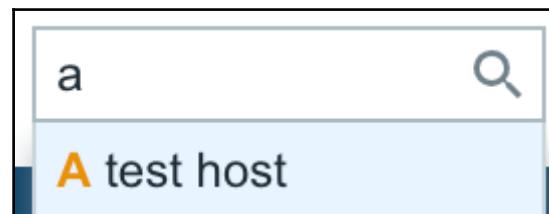
✓ Zabbix agent

- Zabbix agent (active)
- Simple check
- SNMPv1 agent
- SNMPv2 agent
- SNMPv3 agent
- SNMP trap
- Zabbix internal
- Zabbix trapper
- Zabbix aggregate
- External check
- Database monitor
- HTTP agent
- IPMI agent
- SSH agent
- TELNET agent
- JMX agent
- Calculated
- Dependent item

Item Preprocessing

Preprocessing steps	Name	Parameters	Action
	Regular expression	pattern output	Remove
	Regular expression	pattern output	Remove
	Text		
✓ Regular expression			
Trim			
Right trim			
Left trim			
Structured data			
XML XPath			
JSON Path			
Arithmetic			
Custom multiplier			
Change			
Simple change			
Change per second			
Numerical systems			
Boolean to decimal			
Octal to decimal			
Hexadecimal to decimal			

Now Clear history and trends Delete Cancel



Search: A test host

Hosts

Host	IP	DNS	Latest data	Problems	Graphs	Screens	Web	Applications	Items
A test host	192.168.1.29		Latest data	Problems	Graphs	Screens	Web	Applications 1	Items 36

Host groups

Host group	Latest data	Problems	Graphs	Web
No data found.				

Templates

Template	Applications	Items	Triggers	Graphs	Screens
No data found.					

Chapter 3: Monitoring with Zabbix Agents and Basic Protocols

Host Templates IPMI Macros Host inventory Encryption

Host name

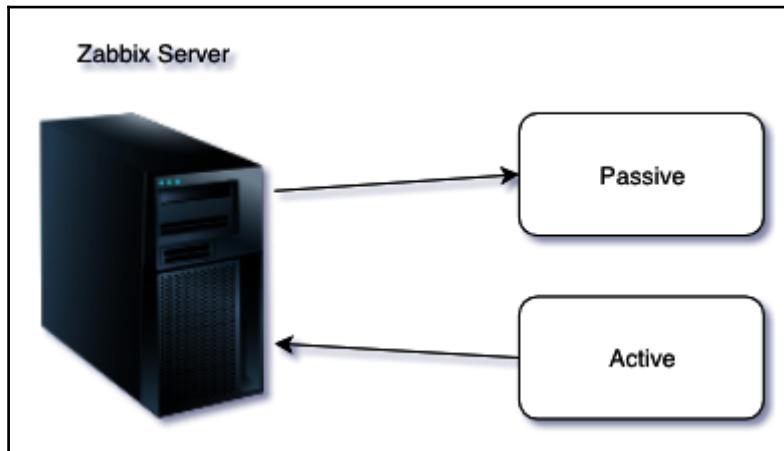
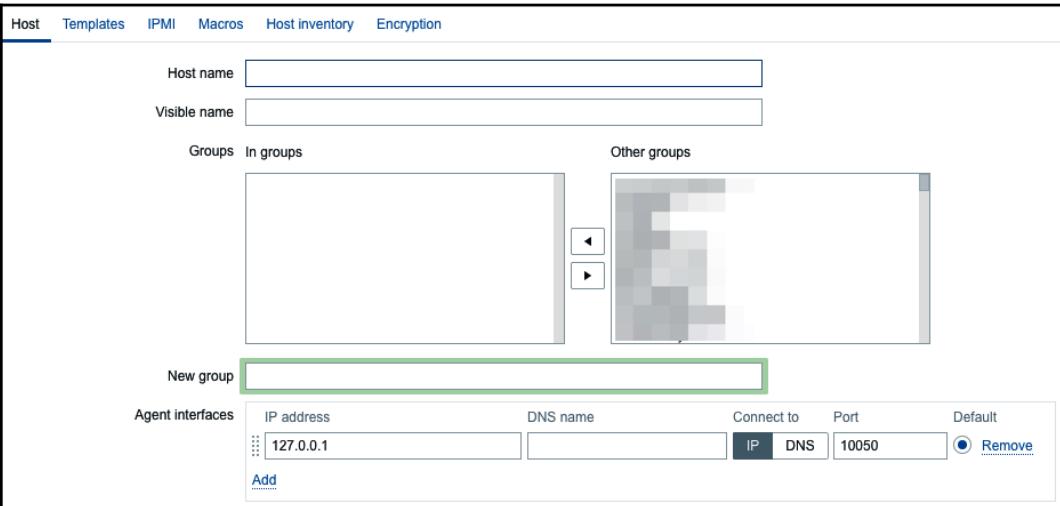
Visible name

Groups In groups Other groups

New group

Agent interfaces

IP address	DNS name	Connect to	Port	Default
127.0.0.1		IP	DNS	10050



Item Preprocessing

Name	Web server status												
Type	Zabbix agent												
Key	net.tcp.service[http,,80]												
Host interface	10.42.55.33 : 10050												
Type of information	Numeric (unsigned)												
Units													
Update interval	60												
Custom intervals	<table border="1"> <thead> <tr> <th>Type</th> <th>Interval</th> <th>Period</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Flexible</td> <td>50s</td> <td>1-7,00:00-24:00</td> <td>Remove</td> </tr> <tr> <td colspan="4">Add</td> </tr> </tbody> </table>	Type	Interval	Period	Action	Flexible	50s	1-7,00:00-24:00	Remove	Add			
Type	Interval	Period	Action										
Flexible	50s	1-7,00:00-24:00	Remove										
Add													
History storage period	7d												

Standard items

Key	Name	Type
agent.hostname	Agent host name. Returns string	Zabbix i
agent.ping	Agent availability check. Returns nothing - unavailable; 1 - available	
agent.version	Version of Zabbix agent. Returns string	
kernel.maxfiles	Maximum number of opened files supported by OS. Returns integer	
kernel.maxproc	Maximum number of processes supported by OS. Returns integer	
net.dns[<ip>,name,<type>,<timeout>,<count>,<protocol>]	Checks if DNS service is up. Returns 0 - DNS is down (server did not respond or DNS resolution failed); 1 - DNS is up	
net.dns.record[<ip>,name,<type>,<timeout>,<count>,<protocol>]	Performs a DNS query. Returns character string with the required type of information	



Screenshot of the Zabbix One interface showing the 'Hosts' list. A red arrow points to a warning message: "Get value from agent failed: cannot connect to [[192.168.1.100]:10050]: [113] No route to host".

Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status	Availability	Agent encryption	Info
Another host	Applications	Items 1	Triggers	Graphs	Discovery	Web	192.168.1.100: 10050		Enabled	ZBX	SNMP JMX IPMI	NONE
A test host	Applications	Items 1	Triggers 1	Graphs	Discovery	Web	127.0.0.1: 10050			Get value from agent failed: cannot connect to [[192.168.1.100]:10050]: [113] No route to host		

Displaying 2 of 2 found

Screenshot of the ZABBIX interface showing the 'Latest data' section. A red arrow points to the 'Host groups' search input field.

Name	Last check	Last value	Change
Another host	2018-09-15 12:19:54	0	Graph
A test host	2018-09-15 12:20:22	0.01	-0.01 Graph

Screenshot of a 'Details' modal window. It shows an error message: "Item with key \"net.tcp.service[http,,80]\" already exists on \"Another host\"." A red 'X' icon is in the top right corner.

A test host		- other - (2 Items)		
<input type="checkbox"/>	SSH server status	2018-12-12 18:26:45	1	Graph
<input type="checkbox"/>	Web server status	2018-12-12 18:26:22	Up (1)	Graph

Item Preprocessing

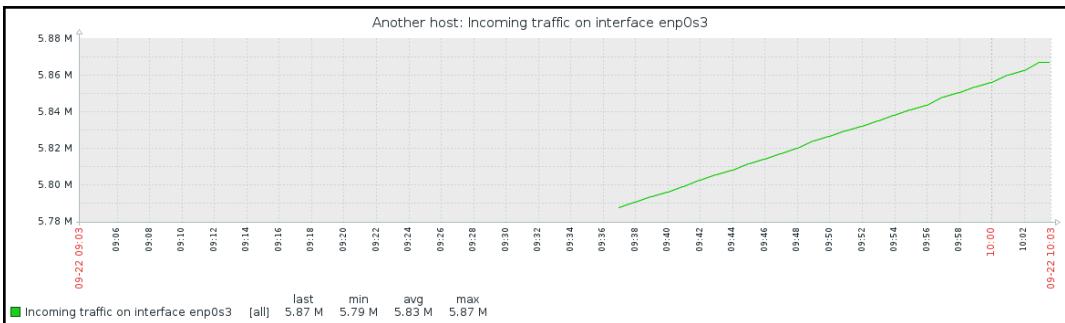
Name	<input type="text" value="Incoming traffic on interface \$1"/>
Type	<input type="text" value="Zabbix agent (active)"/> 
Key	<input type="text" value="net.if.in[if,<mode>]"/> 
Type of information	<input type="text" value="Numeric (unsigned)"/>
Units	<input type="text"/>
Update interval	<input type="text" value="60s"/>
History storage period	<input type="text" value="7d"/>

[net.if.in\[if,<mode>\]](#) Incoming traffic statistics on network interface. Returns integer

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
  link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
      valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
      valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
  link/ether 08:00:27:ca:63:71 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.14/24 brd 192.168.1.255 scope global dynamic enp0s3
      valid_lft 3133sec preferred_lft 3133sec
    inet6 fe80::a00:27ff:fea:6371/64 scope link
      valid_lft forever preferred_lft forever
```



<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼ <input type="checkbox"/> Another host	- other - (1 Item)			
<input type="checkbox"/> Incoming traffic on enp0s3		2018-12-12 18:31:40	239	+8
				Graph

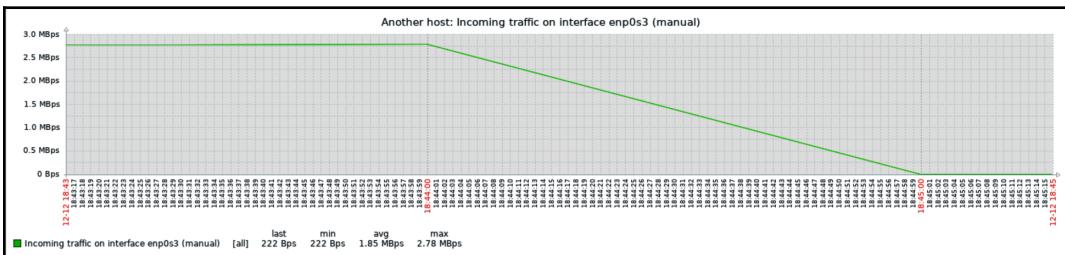
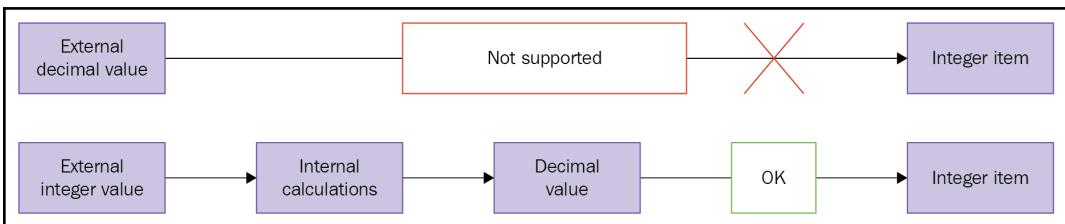


All hosts / Another host Enabled ZBX SNMP JMX IPMI Applications Items 3 Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

Preprocessing steps	Name	Parameters	Action
Change per second			Remove

Add Update Clone Check now Clear history and trends Delete Cancel



Timestamp	Value
2018-12-12 18:46:30	249
2018-12-12 18:46:00	216
2018-12-12 18:45:30	254
2018-12-12 18:45:00	222
2018-12-12 18:44:00	2917670
2018-12-12 18:43:30	2910581
2018-12-12 18:43:00	2902951
2018-12-12 18:42:30	2896697
2018-12-12 18:42:00	2889398

	Name ▲	Triggers	Key	Interval
<input checked="" type="checkbox"/>	... Incoming traffic on interface enp0s3		net.if.in[enp0s3]	60s
<input type="checkbox"/>	... SSH server status		net.tcp.service[ssh]	60s
<input type="checkbox"/>	... Web server status		net.tcp.service[http,,80]	60s

1 selected [Enable](#) [Disable](#) [Check now](#) [Clear history](#) [Copy](#) [Mass update](#) [Delete](#)

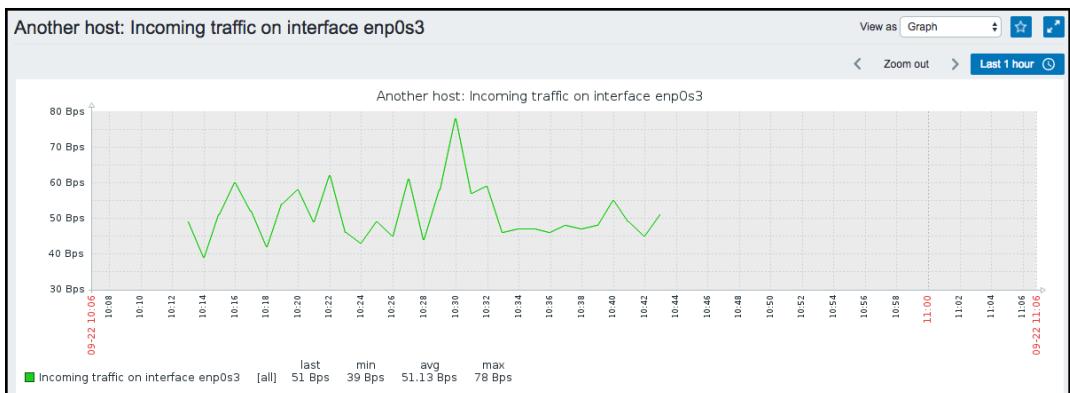
Latest data

Filter [Y](#)

Host groups	Linux servers	Select	Name
Hosts	type here to search	Select	Show items without data <input checked="" type="checkbox"/>
Application	type here to search	Select	Show details <input type="checkbox"/>

[Apply](#) [Reset](#)

Host	Name ▲	Last check	Last value	Change
Another host	- other - (3 items)	2018-09-22 13:10:55	92 Bps	+2 Bps
	Incoming traffic on interface enp0s3			Graph



All hosts / Another host Enabled ZBX SNMP JMX IPMI Applications 2 Items 22 Triggers 12 Graphs 6 Discovery rules 2 Web scenarios

Host group Select Type all Type of information all State all
 Host Select Update interval History Status all
 Application Select Trends Triggers all
 Name Key Template all
 Discovery all

Subfilter affects only filtered data

TYPES
 Calculated 1 Simple check 2 SNMP trap 3 Zabbix agent 16

TYPE OF INFORMATION
 Numeric (float) 2 Numeric (unsigned) 17 Text 3

TEMPLATE
 Not Templated items 3 Templated items 19

WITH TRIGGERS
 Without triggers 10 With triggers 12

DISCOVERY
 Discovered 3 Regular 19

HISTORY
 14d 1 3m 21

INTERVAL
 30s 14 1m 2 2m 2 10m 1

Apply Reset

Subfilter affects only filtered data

TYPES
 Calculated +4 Simple check +3 SNMP trap +7 SSH agent +1 Zabbix agent +34 Zabbix agent (active) 8 Zabbix aggregate +1 Zabbix trapper +1

TYPE OF INFORMATION
 Log 3 Numeric (float) 0 Numeric (unsigned) 5 Text 0

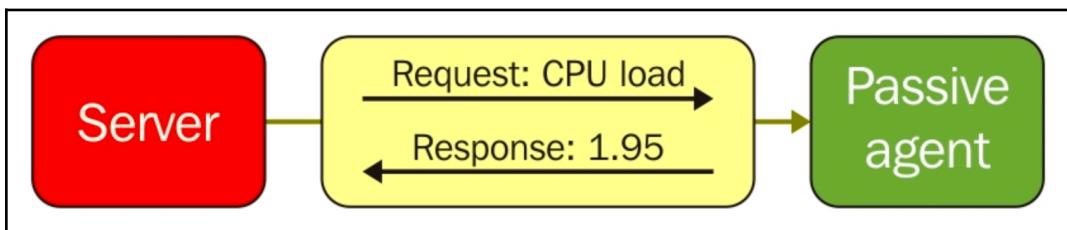
TEMPLATE
 Not Templated items 8 Templated items 0

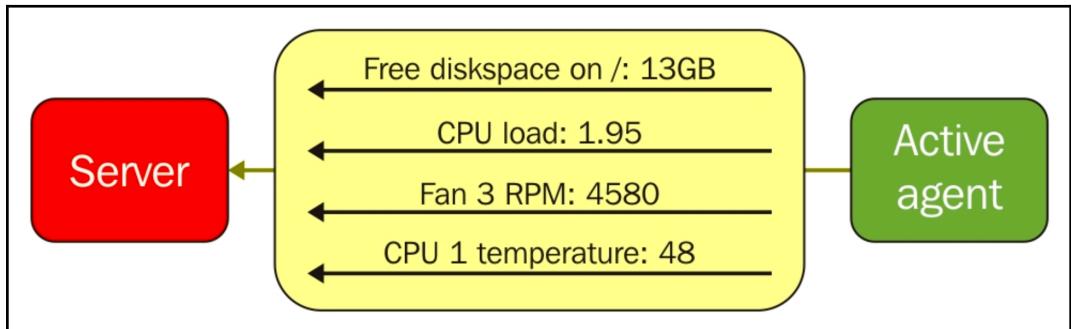
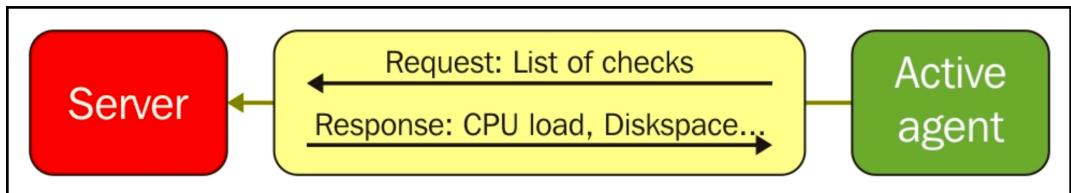
WITH TRIGGERS
 Without triggers 7 With triggers 1

DISCOVERY
 Discovered 0 Regular 8

HISTORY
 14d 0 3m 8

INTERVAL
 1s 3 2s 1 30s 4 1m 0 2m 0 3m 0 10m 0





A screenshot of a software interface showing a configuration dialog for a check. The dialog includes fields for 'Enabled' (checked), 'Name' (set to 'SMTP server status'), 'Type' (set to 'Simple check'), and 'Key' (set to 'net.tcp.service[smtp]'). It also features buttons for 'Update', 'Clone', 'Check now' (highlighted with a red arrow), 'Clear history and trends', 'Delete', and 'Cancel'.

A screenshot of a software interface showing a detailed configuration dialog for an SMTP server status check. The dialog includes fields for 'Name' (set to 'SMTP server status'), 'Type' (set to 'Simple check'), and 'Key' (set to 'net.tcp.service[smtp]'). A 'Select' button is also present next to the key field.

Item Preprocessing

Preprocessing steps	Name	Parameters	Action
Custom multiplier	1000		Remove

Add

Update Clone Delete Cancel

```
[root@localhost ~]# ls -al /usr/sbin/fping  
-rwsr-xr-x. 1 root root 32960 Oct 26 2014 /usr/sbin/fping
```

Incoming traffic on interface enp0s8	2016-02-25 20:43:58	64 Bps
Incoming traffic on interface lo	2016-02-25 20:43:58	40 Bps

Overview

Group: all Type: Data Hosts location: Top

Filter

Application: Select

Show suppressed problems

Items Another host A test host

Apply Reset

3 selected

[Enable](#) [Disable](#) [Check now](#) [Clear history](#) [Copy](#) [Mass update](#) [Delete](#)

Type	<input type="checkbox"/>	Original
Host interface	<input type="checkbox"/>	Original
JMX endpoint	<input type="checkbox"/>	Original
URL	<input type="checkbox"/>	Original
Request body type	<input type="checkbox"/>	Original
Request body	<input type="checkbox"/>	Original
Headers	<input type="checkbox"/>	Original
SNMP community	<input type="checkbox"/>	Original
Context name	<input type="checkbox"/>	Original
Security name	<input type="checkbox"/>	Original
Security level	<input type="checkbox"/>	Original
Authentication protocol	<input type="checkbox"/>	Original
Authentication passphrase	<input type="checkbox"/>	Original
Privacy protocol	<input type="checkbox"/>	Original
Privacy passphrase	<input type="checkbox"/>	Original
Port	<input type="checkbox"/>	Original
Type of information	<input type="checkbox"/>	Original
Units	<input type="checkbox"/>	Original

Value mapping		
	Value mapping	Create value map Import
<input type="checkbox"/> Name ▲	Value map	Used in items
<input type="checkbox"/> APC Battery Replacement Status	1 ⇒ unknown 2 ⇒ notInstalled 3 ⇒ ok 4 ⇒ failed 5 ⇒ highTemperature 6 ⇒ replaceImmediately 7 ⇒ lowCapacity	
<input type="checkbox"/> APC Battery Status	1 ⇒ unknown 2 ⇒ batteryNormal 3 ⇒ batteryLow	
<input type="checkbox"/> Certificate expiry status	0 ⇒ Expires soon 1 ⇒ Does not expire yet	
<input type="checkbox"/> CISCO-ENVMON-MIB::CiscoEnvMonState	1 ⇒ normal 2 ⇒ warning 3 ⇒ critical 4 ⇒ shutdown 5 ⇒ notPresent 6 ⇒ notFunctioning	Yes

Web server status	2018-12-12 19:44:22	Up (1)
-------------------	---------------------	--------

ANOTHER HOST

0.62 ms

41 Bps

40 Bps

Down (0)

Up (1)

Up (1)

Custom intervals	Type	Interval	Period	Action
	Flexible	Scheduling	3600	6-7,00:00-24:00
Remove				
Add				

Custom intervals	Type	Interval	Period	Action
	Flexible	Scheduling	wd1h9	
Remove				
Add				

1 selected

[Enable](#) [Disable](#) [Check now](#) [Clear history](#) [Copy](#) [Mass update](#) [Delete](#)

* Target type

Group

* Target Another host
 A test host

ITEMS	ANOTHER HOST	A TEST HOST
CPU load	0	0.19
ICMP ping performance	0.76 ms	0.07 ms
Incoming traffic on interface enp0s8	53 Bps	859 Bps
Incoming traffic on interface lo	41 Bps	194 Bps
SMTP server status	Down (0)	Up (1)
SSH server status	Up (1)	Up (1)
Web server status	Up (1)	Up (1)

HISTORY

Last hour graph

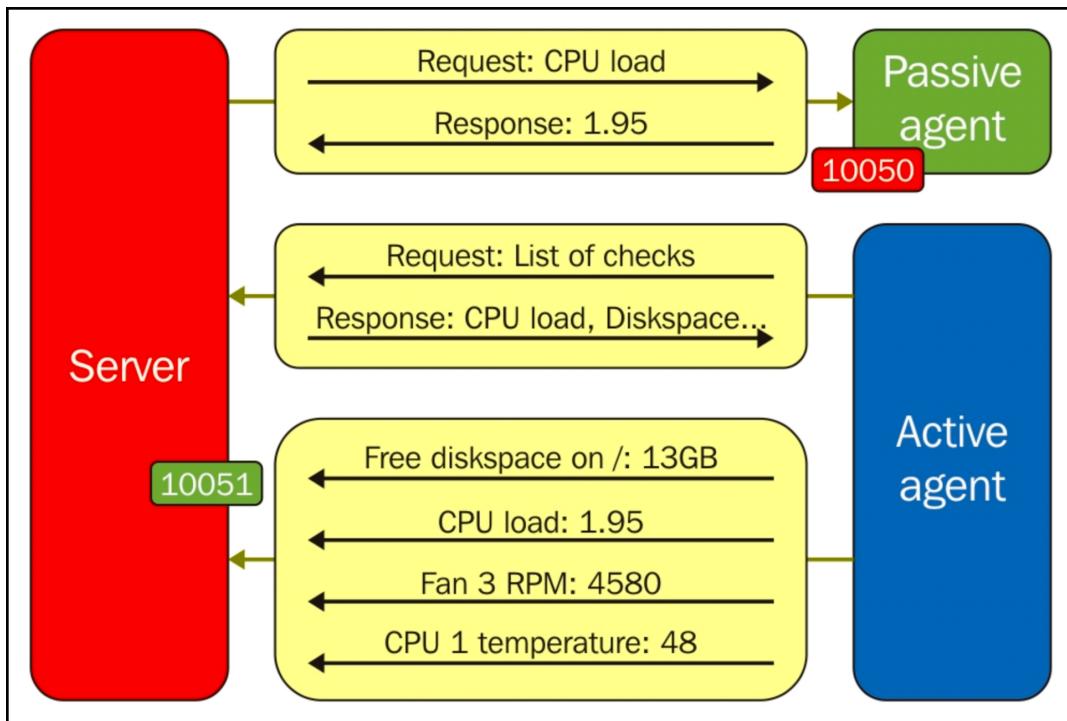
Last week graph

Last month graph

Latest values

HISTORY

Latest values



Chapter 4: Monitoring SNMP Devices

SNMPv2::sysDescr . 0

MIB OID UID

SNMP interfaces

127.0.0.1		IP	DNS	161	<input checked="" type="radio"/> Remove
<input checked="" type="checkbox"/> Use bulk requests					
Add					

TYPE	APPLICATIONS	STATUS	INFO
X			
snmp_parse_oid(): cannot parse OID "PowerNet-MIB::upsAdvIdentSerialNumber.0".			

Serial number	2016-03-16 22:27:40	XA123PO
---------------	---------------------	---------

2018-11-25 17:02:30	163 Bps	+31 Bps	Graph
---------------------	---------	---------	-----------------------

SNMP interfaces

127.0.0.1		IP	DNS	161	<input checked="" type="radio"/> Remove
<input checked="" type="checkbox"/> Use bulk requests					
Add					

Name	SNMP trap tests	
Type	SNMP trap	<input type="button" value="▼"/>
Key	snmptrap[test]	<input type="button" value="Select"/>
Host interface	192.168.56.11 : 161 <input type="button" value="▼"/>	
Type of information	Character <input type="button" value="▼"/>	

SNMP trap tests	2016-03-18 23:17:48	23:17:46 2016/03/18 PDU INF...
-----------------	---------------------	--------------------------------

SNMP trap fallback	2016-03-18 23:33:04	23:33:03 2016/03/18 PDU INF...
--------------------	---------------------	--------------------------------

SNMP trap tests	2016-03-18 23:17:48	23:17:46 2016/03/18 PDU INF...
-----------------	---------------------	--------------------------------

TIMESTAMP	VALUE
2016-03-18 23:33:04	23:33:03 2016/03/18 PDU INFO: community public receivedfrom UDP: [127.0.0.1]:54642->[127.0.0.1]:162 errorindex 0 errorstatus 0 requestid 108168159

TIMESTAMP	VALUE
	00:14:55 2016/03/19 PDU INFO:
	messageid 0
	transactionid 11
	requestid 973564866
	notificationtype INFORM
	version 1
	receivedfrom UDP: [127.0.0.1]:40852->[127.0.0.1]:162
2016-03-19 00:14:56	community public
	errorstatus 0
	errorindex 0
	VARBinds:
	DISMAN-EVENT-MIB::sysUpTimeInstance type=67 value=Timeticks: (3054527) 8:29:05.27
	SNMPv2-MIB::snmpTrapOID.0 type=6 value=OID: NET-SNMP-MIB::netSnmpExperimental
	NET-SNMP-MIB::netSnmpExperimental type=4 value=STRING: "some other trap"

 Details ▲ Cannot copy items ×

Cannot find host interface on "Another host" for item key "snmptrap.fallback".

Other configuration parameters

* Refresh unsupported items	<input type="text" value="600"/>
Group for discovered hosts	<input style="width: 150px; height: 20px; border: 1px solid #ccc; padding: 2px; font-size: 10px; border-radius: 5px; vertical-align: middle;" type="text" value="Discovered hosts"/>
Default host inventory mode	<input checked="" type="radio" value="Disabled"/> Disabled <input type="radio" value="Manual"/> Manual <input type="radio" value="Automatic"/> Automatic
User group for database down message	<input style="width: 150px; height: 20px; border: 1px solid #ccc; padding: 2px; font-size: 10px; border-radius: 5px; vertical-align: middle;" type="text" value="Zabbix administrators"/>
Log unmatched SNMP traps	<input checked="" type="checkbox"/>

Update

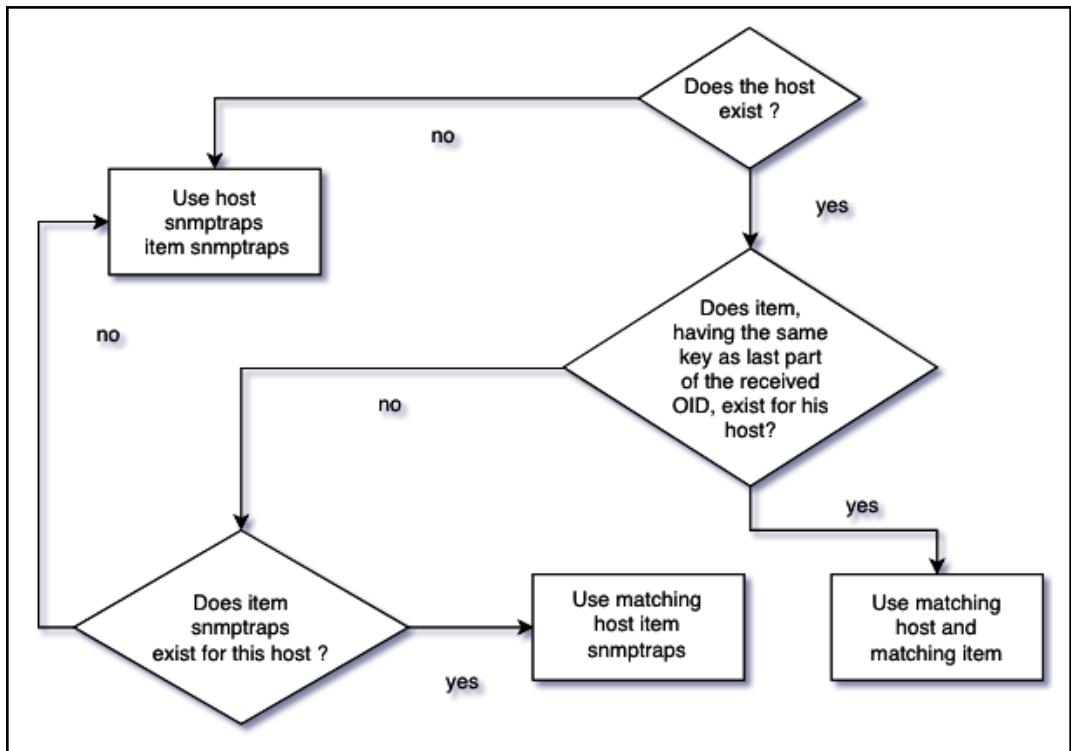
Received SNMP traps 2016-03-19 00:41:52 localhost "test" NET-SNMP-MI...

TIMESTAMP	VALUE
2016-03-19 00:41:52	localhost "test" NET-SNMP-MIB::netSnmpExperimental

TIMESTAMP	VALUE
2016-03-19 00:44:31	localhost "another" NET-SNMP-MIB::netSnmpExperimental
2016-03-19 00:41:52	localhost "test" NET-SNMP-MIB::netSnmpExperimental

TIMESTAMP	VALUE
2016-03-19 00:47:09	localhost "A Very Important Failure" NET-SNMP-MIB::netSnmpExperimental
2016-03-19 00:44:31	localhost "another" NET-SNMP-MIB::netSnmpExperimental
2016-03-19 00:41:52	localhost "test" NET-SNMP-MIB::netSnmpExperimental

<u>Another host</u>	- other - (1 Item)		
snmptraps	2016-03-19 11:35:34	192.168.56.11	"test" NET-SNM...



Experimental SNMP trap

2016-03-20 03:12:07

192.168.56.11 "test" NET-SNM...

Chapter 5: Managing Hosts, Users, and Permissions

The screenshot shows the Zabbix Administration interface under the 'Host groups' tab. At the top, there's a search bar, support links, and a share button. Below the header, there are tabs for 'Host groups', 'Templates', 'Hosts', 'Maintenance', 'Actions', 'Event correlation', 'Discovery', and 'Services'. A 'Create host group' button is located in the top right. The main area is titled 'Host groups' and contains a search bar with 'Name' and 'Apply'/'Reset' buttons. A table lists various host groups with columns for 'Name', 'Hosts', 'Templates', and 'Members'. The table includes entries like 'Discovered hosts', 'Hypervisors', 'Linux servers', 'Templates', 'Templates/Applications', 'Templates/Databases', 'Templates/Modules', 'Templates/Network devices', 'Templates/Operating systems', 'Templates/Server hardware', 'Templates/Virtualization', and 'Zabbix servers'. Each entry provides a brief description of the templates included. At the bottom right of the table, it says 'Displaying 13 of 13 found'.

The screenshot shows the Zabbix Administration interface under the 'Hosts' tab. At the top, there are tabs for 'Host groups', 'Templates', 'Hosts', 'Maintenance', 'Actions', 'Event correlation', 'Discovery', and 'Services'. Below the tabs, there are filters for 'All hosts / Another host', 'Enabled', and 'Status' (ZBX, SNMP, JMX, IPMI). There are also buttons for 'Applications', 'Items', 'Triggers', 'Graphs', 'Discovery rules', and 'Web scenarios'. The main area is titled 'Hosts' and contains a form for creating a new host. The form fields include 'Host name' (set to 'Another host'), 'Visible name' (empty), 'Groups' (set to 'Linux servers' and 'Linux servers/Test group'), and an 'Encryption' section. A note at the bottom states '* At least one interface must exist.'

<input type="checkbox"/> Linux servers	Hosts 2	Templates	Another host, A test host
<input type="checkbox"/> Linux servers/SNMP group	Hosts 1	Templates	<u>snmptrap</u>

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services Training VM z4

Hosts

Group: all 

Name: DNS:
Monitored by: Any Server Proxy IP:
Port:

Apply Reset

<input type="checkbox"/>	Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status	Availability	Agent encryption	Info
<input type="checkbox"/>	Another host	Applications 1	Items 1	Triggers	Graphs	Discovery	Web	192.168.1.24: 10050		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	A test host	Applications	Items	Triggers	Graphs	Discovery	Web	127.0.0.1: 10050		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	SNMP Device	Applications	Items	Triggers	Graphs	Discovery	Web	127.0.0.1: 10050		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	snmptrap	Applications	Items	Triggers	Graphs	Discovery	Web	127.0.0.1: 161		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	Zabbix server	Applications 11	Items 86	Triggers 50	Graphs 14	Discovery 2	Web	127.0.0.1: 10050	Template App Zabbix Server, Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX SNMP JMX IPMI	NONE	

Displaying 6 of 5 found

AVAILABILITY

ZBX SNMP JMX IPMI

ZBX SNMP JMX IPMI

ZBX SNMP JMX IPMI

Hosts

All hosts / A test host Enabled ZBX SNMP JMX IPMI Applications Items Triggers Graphs Discovery rules Web scenarios

Host Templates IPMI Macros Host inventory Encryption

Disabled Manual Automatic

Type

Screenshot of the Zabbix web interface showing the 'Hosts' configuration page under the 'Inventory' tab.

The 'Inventory' tab is selected. Under 'Inventory mode', 'Disabled' is selected. Under 'Type', 'snmp' is selected.

Screenshot of the Zabbix web interface showing the 'Host inventory overview' page.

Host count: 2

Type	Host count
test	2
snmp	2

Group dropdown: all (highlighted with a red arrow)

Grouping by: Type (highlighted with a red arrow)

Screenshot of the Zabbix web interface showing the 'Host inventory' page.

Group dropdown: all

Filter button (highlighted with a red arrow)

Table headers: Host, Group, Name, Type, OS, Serial number A, Tag, MAC address A

Host	Group	Name	Type	OS	Serial number A	Tag	MAC address A
SNMP Device	Discovered hosts		snmp				
snmptrap	Linux servers/SNMP group		snmp				

Displaying 2 of 2 found

Overview Hosts Training VM z4

Host inventory

Overview Details

Host name **SNMP Device**

Agent interfaces

IP address	DNS name	Connect to	Port	Default
127.0.0.1		IP DNS	10050	<input checked="" type="radio"/>

Monitoring Web Latest data Problems Graphs Screens

Configuration Host Applications Items Triggers Graphs Discovery Web

[Cancel](#)

ZABBIX Monitoring Inventory Reports Configuration Administration Training VM z4

Overview Hosts Host inventory Group all Filter

Field Type equals snmp

Apply Reset

Host	Group	Name	Type	OS	Serial number	Tag	MAC address
SNMP Device	Discovered hosts		snmp	Linux (http://www.kernel.org)			
snmptrap	Linux servers/SNMP group		snmp				

Displaying 2 of 2 found

Software application A ← The full OS Name

ZABBIX Monitoring Inventory Reports Configuration Administration

Overview Hosts

Host inventory

Overview Details

Type test

Software application A Linux localhost.localdomain 3.10.0-862.14.4.el7.x86_64 #1 SMP We

Cancel

Host inventory Group Linux servers

Field Software application A contains 3.10.0-862 Filter ▾

Apply Reset

Host	Group	Name	Type	OS	Serial number	Tag	MAC address
A test host	Linux servers, Linux servers/Test group		test				

Displaying 1 of 1 found

Maintenance periods

Maintenance Periods Hosts and groups

* Name Normal maintenance

Maintenance type With data collection No data collection

* Active since 2018-11-01 00:00

* Active till 2019-11-02 00:00

Description we keep data during this maintenance



Details ▲ Cannot add maintenance

At least one host group or host must be selected.

Maintenance periods

Maintenance Periods Hosts and groups

* Periods

Period type

Schedule

Period

Action

One time only

2018-11-01 12:47

1h

New

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Maintenance periods

Maintenance Periods Hosts and groups

* At least one host group or host must be selected.

Host groups Linux servers

Hosts A test host

Tags And/Or Or

tag Equals

Add

Add Cancel

Maintenance periods Group: Linux servers Create maintenance period

Filter

<input type="checkbox"/>	Name	State	Any	Active	Approaching	Expired	
<input type="checkbox"/>	Normal maintenance	With data collection	2018-11-01 00:00	2019-11-02 00:00	Active	we keep data during this maintenance	<input type="button" value="Edit"/>

Displaying 1 of 1 found

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services Training VM z4

Export to CSV Filter

Show Recent problems Problems History

Host inventory Type Select Remove

Add Host groups type here to search Select

Tags And/Or Or Add

Hosts A test host type here to search Select

tag Contains Equals value Remove

Application Select

Show tags None 1 2 3 Tag name Full Shortened None

Triggers type here to search Select

Tag display priority comma-separated list

Problem Select

Minimum severity Not classified

Show suppressed problems Show unacknowledged only

Age less than 14 days Compact view Show timeline

Show details Highlight whole row

Apply Reset

This screenshot shows the Zabbix 'Problems' screen. At the top, there are navigation links for Monitoring, Inventory, Reports, Configuration, and Administration. Below that is a header bar with Dashboard, Problems (which is selected), Overview, Web, Latest data, Graphs, Screens, Maps, Discovery, and Services. On the right of the header is a 'Training VM z4' entry. There are buttons for Export to CSV and Filter. The main area has tabs for Show (Recent problems, which is selected), Problems, and History. It includes search fields for Host groups, Hosts, Applications, Triggers, and Problems, along with dropdowns for Tags, Show tags, and Tag display priority. There are also checkboxes for Show suppressed problems, Show unacknowledged only, Compact view, Show timeline, Show details, and Highlight whole row. Below these are dropdowns for Minimum severity and Age less than. At the bottom are Apply and Reset buttons.

Time ▾ Severity Recovery time Status Info Host Problem

13:10:41 • Warning PROBLEM A test host CPU load too high on A test host for last 3 minutes

Normal maintenance [Maintenance with data collection] we keep data during this maintenance

0 selected Mass update

This screenshot shows the same Zabbix 'Problems' screen as the first one, but it focuses on a single problem. The problem is listed in the table with the following details: Time (13:10:41), Severity (Warning), Recovery time, Status, Info, Host (A test host), and Problem (CPU load too high on A test host for last 3 minutes). A red arrow points from the 'Info' column to a tooltip that reads: 'Normal maintenance [Maintenance with data collection] we keep data during this maintenance'. The table has columns for Time, Severity, Recovery time, Status, Info, Host, and Problem. At the bottom left are buttons for 0 selected and Mass update.

Edit widget

Type Problems

Name default

Refresh interval Default (1 minute)

Show Recent problems Problems History

Host groups type here to search

Select

Exclude host groups type here to search

Select

Hosts type here to search

Select

Problem

- Severity
- Not classified
 - Information
 - Warning
 - Average
 - High
 - Disaster

Tags And/Or Or

tag

Contains

Equals

value

Remove

Add

Show tags None 1 2 3

Tag name Full Shortened None

Tag display priority comma-separated list

Show suppressed problems



Show unacknowledged only

Sort entries by Time (descending)

Show timeline

* Show lines 25

Apply

Cancel

* Periods	Period type	Schedule	Period	Action
Maintenance period	Period type One time only * Date <input type="text" value="2018-11-03 10:18"/> * Maintenance period length <input type="text" value="0 Days 1 Hours 0 Minutes"/>			
	Add Cancel			
	Add Cancel			

<input type="checkbox"/>	Name ▲	Type	Active since	Active till	State	Description
<input type="checkbox"/>	Maintenance with all data dropped	No data collection	2018-11-03 00:00	2019-11-04 00:00	Active	
<input type="checkbox"/>	Normal maintenance	With data collection	2018-11-01 00:00	2019-11-02 00:00	Active	we keep data during this maintenance

Displaying 2 of 2 found

Status	Availability
In maintenance	
Enabled	

Maintenance Periods Hosts and groups

* Periods	Period type	Schedule	Period	Action
Maintenance period	Period type <input type="button" value="Daily"/>			
	* Every day(s) <input type="text" value="1"/>			
	At (hour:minute) <input type="text" value="12"/> : <input type="text" value="0"/>			
	* Maintenance period length <input type="text" value="0"/> Days <input type="text" value="1"/> Hours <input type="text" value="0"/> Minutes			
	Add Cancel			
	Add Cancel			

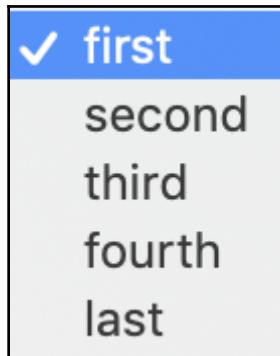
Maintenance Periods Hosts and groups

* Periods	Period type	Schedule	Period	Action
Maintenance period	Period type <input type="button" value="Weekly"/>			
	* Every week(s) <input type="text" value="1"/>			
	* Day of week <input type="checkbox"/> Monday			
	<input type="checkbox"/> Tuesday			
	<input type="checkbox"/> Wednesday			
	<input type="checkbox"/> Thursday			
	<input type="checkbox"/> Friday			
	<input type="checkbox"/> Saturday			
	<input type="checkbox"/> Sunday			
	At (hour:minute) <input type="text" value="12"/> : <input type="text" value="0"/>			
	* Maintenance period length <input type="text" value="0"/> Days <input type="text" value="1"/> Hours <input type="text" value="0"/> Minutes			
	Add Cancel			
	Add Cancel			

Maintenance Periods Hosts and groups

* Periods	Period type	Schedule	Period	Action
Maintenance period	Period type <input type="button" value="Monthly"/>			
	* Month <input type="checkbox"/> January <input type="checkbox"/> July <input type="checkbox"/> February <input type="checkbox"/> August <input type="checkbox"/> March <input type="checkbox"/> September <input type="checkbox"/> April <input type="checkbox"/> October <input type="checkbox"/> May <input type="checkbox"/> November <input type="checkbox"/> June <input type="checkbox"/> December			
	Date <input type="button" value="Day of month"/> <input type="button" value="Day of week"/>			
	* Day of week <input type="button" value="first"/>			
	<input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday <input type="checkbox"/> Sunday			
	At (hour:minute) <input type="text" value="12"/> : <input type="text" value="0"/>			
	* Maintenance period length <input type="text" value="0"/> Days <input type="button" value="1"/> Hours <input type="text" value="0"/> Minutes			
	Add Cancel			

[Add](#) [Cancel](#)



General Proxies Authentication User groups Users Media types Scripts Queue

Authentication

Authentication HTTP settings LDAP settings

Default authentication

Internal

LDAP

Update

Alias Name Surname User type Any Zabbix User Zabbix Admin Zabbix Super Admin

Apply

Reset

<input type="checkbox"/>	Alias	Name	Surname	User type	Groups	Is online?	Login	Frontend access	Debug mode	Status
<input type="checkbox"/>	Admin	Zabbix	Administrator	Zabbix Super Admin	Zabbix administrators	No	Ok	Internal	Disabled	Enabled

Users

User Media Permissions

* Alias monitoring_user

Name monitor

Surname user

* Groups Zabbix administrators

Select

type here to search

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

Language English (en_GB)

Theme System default

Auto-login

Auto-logout 15m

* Refresh 60s

* Rows per page 50

URL (after login) zabbix.php?action=problem.view

Add

Cancel

Password

Change password

✓ Zabbix User

Zabbix Admin

Zabbix Super Admin

General Proxies Authentication User groups Users Media types Scripts Queue

Users

User Media Permissions

User type Zabbix User

Permissions	Host group	Permissions
	All groups	None

Permissions can be assigned for user groups only.

Update

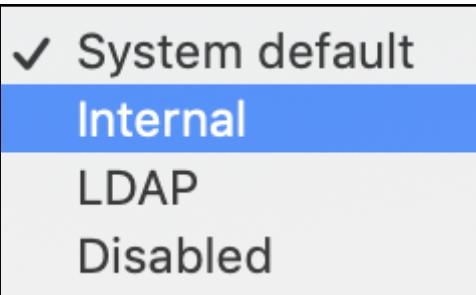
Delete

Cancel

User groups						Create user group
						Filter
Name		Status	Any	Enabled	Disabled	
<input type="checkbox"/>	Name ▲	#	Members	Frontend access	Debug mode	Status
<input type="checkbox"/>	Disabled	Users		System default	Disabled	Disabled
<input type="checkbox"/>	Enabled debug mode	Users		System default	Enabled	Enabled
<input type="checkbox"/>	Guests	Users 1 guest		Internal	Disabled	Enabled
<input type="checkbox"/>	No access to the frontend	Users		Disabled	Disabled	Enabled
<input type="checkbox"/>	Zabbix administrators	Users 2 Admin (Zabbix Administrator), monitoring_user (monitor user)		System default	Disabled	Enabled

Displaying 5 of 5 found

0 selected



User group	Permissions	Tag filter
	Permissions Host group: All groups Permissions: None	
	<input type="text" value="type here to search"/> <input type="button" value="Select"/> <input type="button" value="Read-write"/> <input type="button" value="Read"/> <input type="button" value="Deny"/> <input type="button" value="None"/> <input type="checkbox"/> Include subgroups	
	<input type="button" value="Add"/> <input type="button" value="Update"/> <input type="button" value="Delete"/> <input type="button" value="Cancel"/>	

General Proxies Authentication User groups Users Media types Scripts Queue Training VM z4

User groups

User group Permissions Tag filter

Permissions	Host group	Permissions
All groups	None	Read-write Read Deny None
Linux servers	Read-write Read Deny None	Read-write Read Deny None
Linux servers/SNMP group	Read-write Read Deny None	Read-write Read Deny None
Linux servers/Test group	Read-write Read Deny None	Read-write Read Deny None

type here to search Select Read-write Read Deny None
 Include subgroups
[Add](#)

Add Cancel

User Media Permissions

User type **Zabbix Admin**

Host groups Templates Hosts Maintenance Actions Discovery Services Training VM z4

Hosts

Name DNS
Monitored by Any Server Proxy IP
Port
 Apply Reset

Name Applications Items Triggers Graphs Discovery Web Interface Templates Status Availability Agent encryption Info
No data found.
Displaying 0 of 0 found

General Proxies Authentication User groups **Users** Media types Scripts Queue Training VM z4

User group All Create user Filter

Alias	Name	Surname	User type	Groups	Is online?	Login	Frontend access	Debug mode	Status
Admin	Zabbix	Administrator	Zabbix Super Admin	Zabbix administrators	Yes (2018-11-04 12:14:27)	Ok	System default	Disabled	Enabled
advanced_user	advanced	user	Zabbix Admin	Zabbix administrators	Yes (2018-11-04 12:11:20)	Ok	System default	Disabled	Enabled
guest			Zabbix User	Guests	Yes (2018-11-04 12:10:50)	Ok	Internal	Disabled	Enabled
monitoring_user	monitor	user	Zabbix User	Our users, Zabbix administrators	No (2018-11-04 12:10:30)	Ok	System default	Disabled	Enabled

Displaying 4 of 4 found

User groups

Name

Disabled

Enabled debug mode

Guests

No access to the frontend

Our users

Zabbix administrators

User groups

User group Permissions Tag filter

Permissions Host group All groups None

Linux servers Read-write Read Deny None

Linux servers/Important SNMP Hosts Read-write Read Deny None

Linux servers/SNMP group Read-write Read Deny None

Linux servers/Test group Read-write Read Deny None

type here to search Select Read-write Read Deny None

Include subgroups Add

Update Delete Cancel

Host group	Permissions
All groups	None
Linux servers	Read-write Read Deny None
Linux servers/Important SNMP Hosts	Read-write Read Deny None
Linux servers/SNMP group	Read-write Read Deny None
Linux servers/Test group	Read-write Read Deny None

User type	Zabbix User	Zabbix Admin	Zabbix Super Admin
Permissions	Read only	Full	Full
Read-Write	Read only	Read only	Full
Read only	None	None	Full
Deny			

Chapter 6: Detecting Problems with Triggers

Condition

* Item Another host: SMTP server status

Function last() - Last (most recent) T value

Last of (T)

Time shift

* Result = 0

Trigger Dependencies

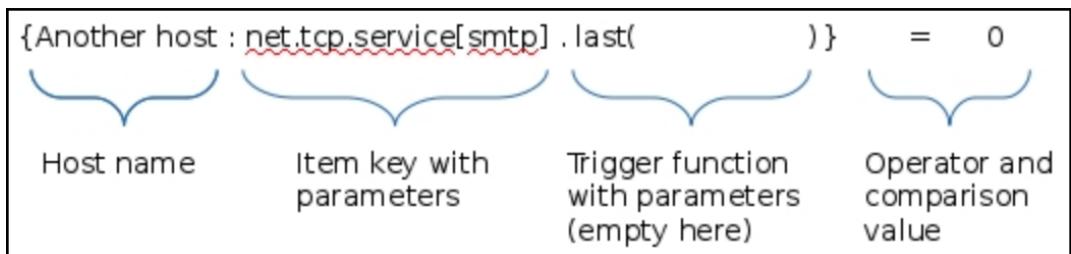
* Name	SMTP service is down				
Severity	Not classified	Information	Warning	Average	High
* Expression	{Another host:net.tcp.service[smtp].last()}=0				
Add					
Expression constructor					
OK event generation	Expression	Recovery expression	None		
PROBLEM event generation mode	Single	Multiple			
OK event closes	All problems	All problems if tag values match			
Tags	<input type="text" value="tag"/> <input type="text" value="value"/> Remove Add				
Allow manual close	<input type="checkbox"/>				
URL	<input type="text"/>				
Description	<input type="text"/>				
Enabled	<input checked="" type="checkbox"/>				
Add Cancel					

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services Training VM z4

Overview

<input type="button" value="Recent problems"/> <input type="button" value="Problems"/> <input checked="" type="button" value="Any"/>		<input type="button" value="Application"/> <input type="button" value="Select"/>
<input type="button" value="Acknowledge status"/> <input type="button" value="Any"/>		<input type="button" value="Host inventory"/> <input type="button" value="Type"/> <input type="button" value="Add"/>
<input type="button" value="Minimum trigger severity"/> <input type="button" value="Not classified"/>		<input type="button" value="Show suppressed problems"/> <input type="checkbox"/>
<input type="button" value="Age less than"/> <input type="button" value="14"/> days		<input type="button" value="Apply"/> <input type="button" value="Reset"/>
<input type="button" value="Name"/>		



Condition

* Item Select

Function

Last of (T) Count

Time shift Time

* Result

Trigger 

Dependencies	Name	Action
	Another host: SMTP service is down	Remove
	Add	

Severity	Value	Name ▲	Expression	Status	Info	Tags
Average	PROBLEM	SMTP service is down	{Another host:net.tcp.service[smtp].last()=0}	Enabled		
Average	OK	Web service is down Depends on: Another host: SMTP service is down	{Another host:net.tcp.service[http,,80].last()=0}	Enabled		

The screenshot shows the Zabbix 'Overview' page. At the top, there's a navigation bar with links like Dashboard, Problems, Overview, Web, Latest data, Graphs, Screens, Maps, Discovery, Services, and a 'Training VM z4' status indicator. Below the navigation is a search bar with dropdowns for 'Group' (set to 'all'), 'Type' (set to 'Triggers'), and 'Hosts location' (set to 'Top'). A red arrow points to the 'Type' dropdown.

Under the search bar, there are several filter options:

- Show dropdown with 'Recent problems', 'Problems', and 'Any' (which is selected, indicated by a red arrow).
- Acknowledge status dropdown with 'Any'.
- Minimum trigger severity dropdown with 'Not classified'.
- Age less than input field with '14 days'.
- Show suppressed problems checkbox.
- Name input field.

At the bottom of this section are 'Apply' and 'Reset' buttons.

Below this is a 'Triggers' section. It lists two triggers:

- 'SMTP service is down'
- {HOST.NAME} has just been restarted

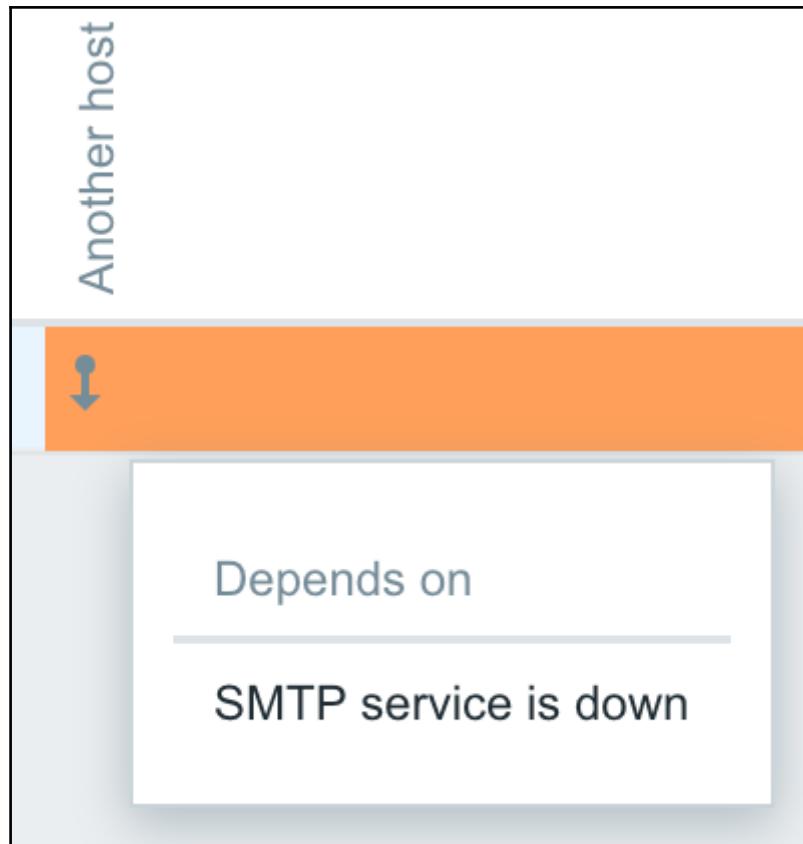
Each trigger entry consists of a small orange icon with a blue double-headed arrow, followed by the trigger name, and then a blue rectangular bar representing the host it monitors. Red arrows point to both the orange icons.

Another host



Dependent

Web service is down



The screenshot shows the navigation bar with "Triggers 12" highlighted in blue, indicated by a red arrow. Below the navigation bar is a table with the following data:

Severity	Value	Name ▲	Expression	Status	Info	Tags
<input type="checkbox"/> Average	PROBLEM	SMTP service is down Depends on: Another host: Testfile is missing	{Another host:net.tcp.service[smtp].last()}=0	Enabled		

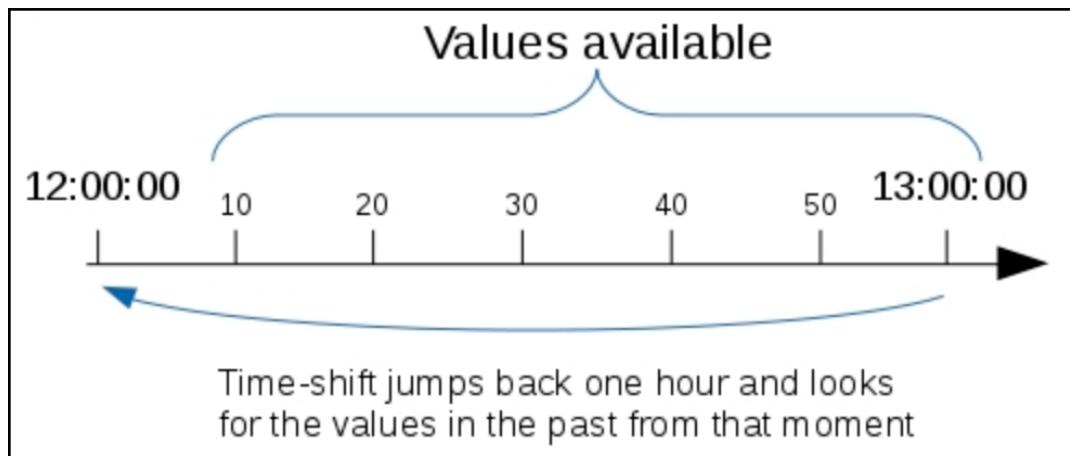
Web service is down



SMTP service is down



Testfile is missing



Trigger severities

Trigger severities

* Not classified	Not classified	 97AAB3
* Information	Information	 7499FF
* Warning	Warning	 FFC859
* Average	Average	 FFA059
* High	High	 E97659
* Disaster	Disaster	 E45959

Custom severity names affect all locales and require manual translation!

[Update](#)

[Reset defaults](#)

Trigger displaying options

Trigger displaying options ▾

Use custom event status colours



* Unacknowledged PROBLEM events CC0000 blinking

* Acknowledged PROBLEM events CC0000 blinking

* Unacknowledged RESOLVED events 009900 blinking

* Acknowledged RESOLVED events 009900 blinking

* Display OK triggers for

* On status change triggers blink for

[Update](#)

[Reset defaults](#)

Event details

Trigger details

Host	Another host
Trigger	SMTP service is down
Severity	Average
Problem expression	{Another host:net.tcp.service[smtp].last()=0}
Recovery expression	
Event generation	Normal
Allow manual close	No
Enabled	Yes

Event details

Event	SMTP service is down
Severity	Information
Time	2018-11-12 12:17:42
Acknowledged	No
Resolved by	Trigger
Tags	

Actions

Step	Time	User/Recipient	Action	Message/Command	Status	Info
1	2018-11-12 14:25:36	Admin (Zabbix Administrator)	Comment	will take care of the issue	OK	
2	2018-11-12 12:18:12		Comment		OK	
3	2018-11-12 12:17:42		Comment		OK	

Event list [previous 20]

Time	Recovery time	Status	Age	Duration	Ack	Actions
2018-11-12 12:17:42	2018-11-12 12:18:12	RESOLVED	2h 7m 54s	30s	No	Comment 1
2018-11-11 16:21:42	2018-11-11 16:38:42	RESOLVED	22h 3m 54s	17m	No	
2018-11-11 16:10:12	2018-11-11 16:11:12	RESOLVED	22h 15m 24s	1m	No	
2018-11-10 18:23:42	2018-11-11 16:05:12	RESOLVED	1d 20h 1m	21h 41m 30s	No	

- 1 - comments have been made. The number of comments is also displayed.
- ↑ - problem severity has been increased (e.g. Information → Warning)
- ↓ - problem severity has been decreased (e.g. Warning → Information)
- ↑↓ - problem severity has been changed, but returned to the original level (e.g. Warning → Information → Warning)
- - actions have been taken. The number of actions is also displayed.
- - actions have been taken, at least one is in progress. The number of actions is also displayed.
- - actions have been taken, at least one has failed. The number of actions is also displayed.

Triggers

[All hosts](#) / [Another host](#) [Enabled](#) [ZBX](#) [SNMP](#) [JMX](#) [IPMI](#) [Applications](#) 1 [Items](#) 6 [Triggers](#) 5 [Graphs](#) [Discovery rules](#) [Web scenarios](#)

[Trigger](#) [Dependencies](#)

* Name: Temperature in serverroom is to high

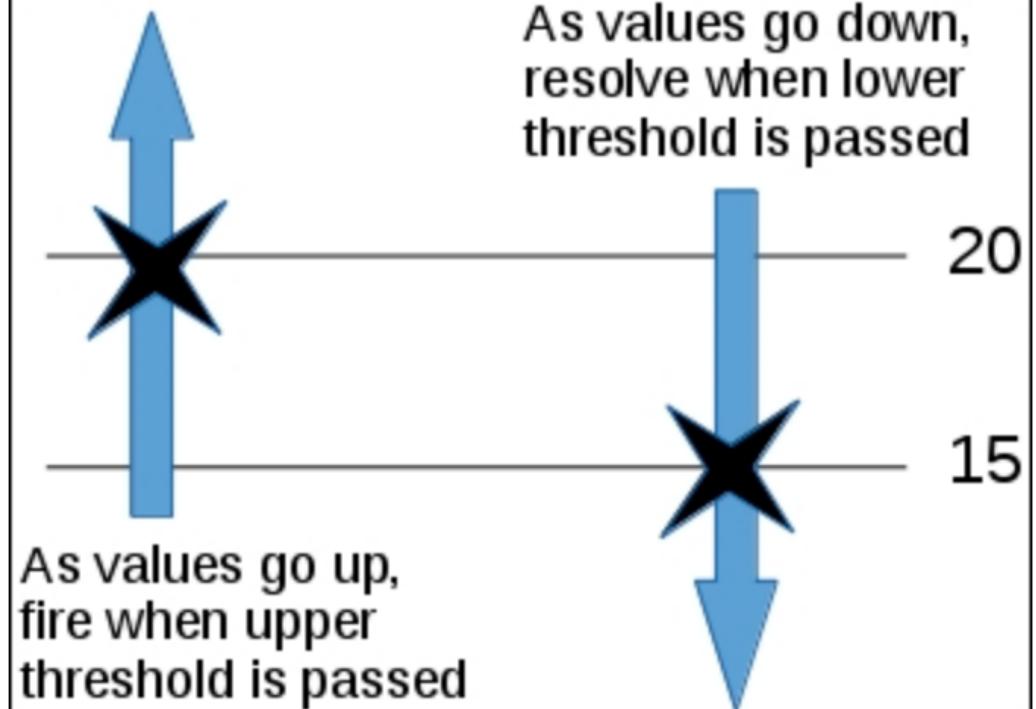
Severity: Not classified | Information | Warning | **Average** | High | Disaster

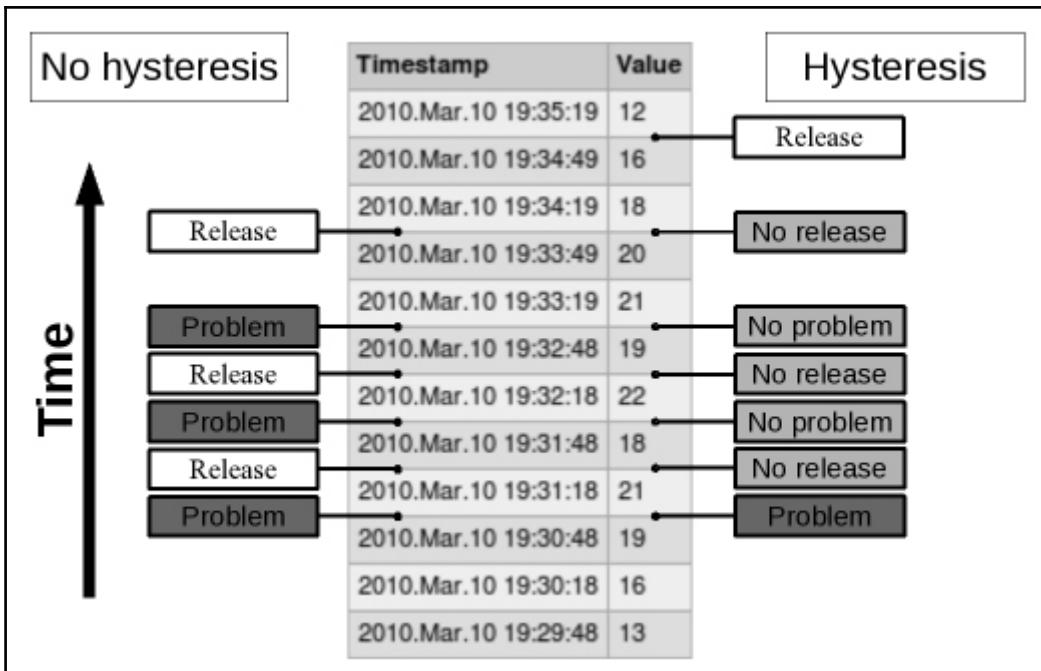
* Problem expression: server:temp.last(>20) [Add](#)

[Expression constructor](#)

OK event generation: Expression | Recovery expression | None

* Recovery expression: server:temp.last(<15) [Add](#)





Correlation Operations

* Name

* Conditions

Label	Name	Action
New condition	Old event tag	equals tag

Add

Description

Enabled

Add **Cancel**

Tags

Application	Ms SQL Server	Remove
-------------	---------------	------------------------

[Add](#)

Tags

Service	stopped	Remove
---------	---------	------------------------

[Add](#)

Correlation Operations

* Name

Type of calculation A and B

* Conditions

Label	Name	Action
A	Old event tag Application equals Ms SQL Server	Remove
B	New event tag Service equals stopped	Remove

New condition
[Add](#)

Description

Enabled

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Event correlation rules

Correlation

Operations

* Operations

Details

Close old events

Action

[Remove](#)

New operation

[Close old events ▲](#)

[Add](#)

[Update](#)

[Clone](#)

[Delete](#)

[Cancel](#)

Chapter 7: Acting upon Monitored Conditions

Actions

Action Operations Recovery operations Update operations

* Name: **SNMP Action**

Type of calculation: **And/Or** A and B

Conditions	Label	Name	Action
A	Problem is not suppressed		Remove
B	Trigger severity is greater than or equals <i>Not classified</i>		Remove

New condition:

Trigger severity: is greater than or equals Not classified

Add

Enabled:

* At least one operation, recovery operation or update operation must exist.

[Add](#) [Cancel](#)

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Actions

Action Operations Recovery operations Update operations

* Default operation step duration

Default subject Problem: {EVENT.NAME}

Default message Problem started at {EVENT.TIME} on {EVENT.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}
{TRIGGER.URL}

Pause operations for suppressed problems

Operations	Steps Details	Start in	Duration	Action
1	Send message to user groups: Our users via all media	Immediately	Default	Edit Remove

* At least one operation, recovery operation or update operation must exist.

[Add](#) [Cancel](#)

* Target type **Hosts**

Group **Linux servers**

* Target Another host
 A test host

Copy **Cancel**

Actions

Action Operations Recovery operations Update operations



* Name

Type of calculation

And/Or

▲ A and B
▼

Users

User Media Permissions



Media

Type
Add

Send to

When active

Use if severity

Status

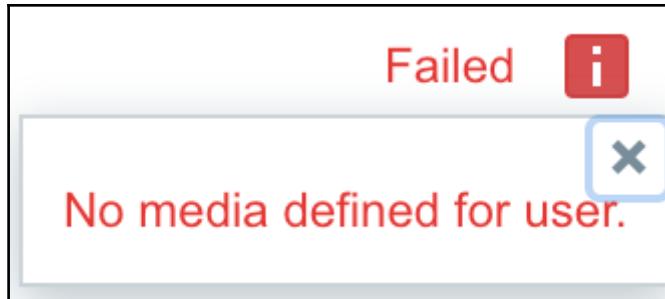
Action

Update

Delete

Cancel

RECIPIENT(S)	MESSAGE	STATUS	INFO
	<p>Subject: PROBLEM: SNMP trap has arrived on snmptraps</p> <p>Message: Trigger: SNMP trap has arrived on snmptraps Trigger status: PROBLEM Trigger severity: Information</p> <p>monitoring_user (monitoring user) Trigger URL: monitoring_user@company.tld</p> <p>Item values:</p> <ol style="list-style-type: none"> 1. Received SNMP traps (snmptraps:snmptraps): 192.168.56.11 "Critical Error" NET-SNMP-MIB::netSnmpExperimental 2. "UNKNOWN" ("UNKNOWN","UNKNOWN"): "UNKNOWN" 3. "UNKNOWN" ("UNKNOWN","UNKNOWN"): "UNKNOWN" <p>Original event ID: 374</p>	Sent	
advanced_user (advanced user)	<p>Subject: PROBLEM: SNMP trap has arrived on snmptraps</p> <p>Message: Trigger: SNMP trap has arrived on snmptraps Trigger status: PROBLEM Trigger severity: Information</p> <p>Trigger URL:</p> <p>Item values:</p> <ol style="list-style-type: none"> 1. Received SNMP traps (snmptraps:snmptraps): 192.168.56.11 "Critical Error" NET-SNMP-MIB::netSnmpExperimental 2. "UNKNOWN" ("UNKNOWN","UNKNOWN"): "UNKNOWN" 3. "UNKNOWN" ("UNKNOWN","UNKNOWN"): "UNKNOWN" <p>Original event ID: 374</p>	Not sent	x



Actions

Action Operations Recovery operations Update operations

* Default operation step duration

Default subject Problem: {EVENT.NAME}

Default message Problem started at {EVENT.TIME} on {EVENT.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}
{TRIGGER.URL}

Pause operations for suppressed problems

Operations Steps Details Start in Duration Action

	Steps	Details	Start in	Duration	Action
1	Send message to users:	Admin (Zabbix Administrator) via all media	Immediately	Default	Edit Remove
New					

* At least one operation, recovery operation or update operation must exist.

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Actions

Action Operations Recovery operations Update operations

* Default operation step duration 

Default subject Problem: {EVENT.NAME}

Default message Problem started at {EVENT.TIME} on {EVENT.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}
{TRIGGER.URL}

Pause operations for suppressed problems

Operations Steps Details Start in Duration Action

	Steps	Details	Start in	Duration	Action
1 - 6	Send message to users:	Admin (Zabbix Administrator) via all media	Immediately	60	Edit Remove
New					

* At least one operation, recovery operation or update operation must exist.

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Steps	<input type="text" value="9"/> - <input type="text" value="9"/>	(0 - infinitely)	
Step duration	<input type="text" value="0"/>		
Operation type	Send message <input type="button" value="▼"/>		
<p>* At least one user or user group must be selected.</p>			
Send to User groups	User group	Action	
	Add		
Send to Users	User	Action	
	monitoring_user (monitor user)	Remove	
	Add		
Send only to	<input type="button" value="- All -"/>		
Default message	<input type="checkbox"/>		
Subject	Problem: {EVENT.NAME}		
Message	Problem started at {EVENT.TIME} on {EVENT.DATE} Problem name: {EVENT.NAME} Host: {HOST.NAME} Severity: {EVENT.SEVERITY}		
	Original problem ID: {EVENT.ID}{TRIGGER.URL} <small>RECOMMENDED</small>		
Conditions	Label	Name	Action
	A	Event acknowledged equals Not Ack	Remove
	New		
Update Cancel			

Action Operations Recovery operations Update operations

* Default operation step duration: 30m

Default subject: Problem: {EVENT.NAME}

Default message:

```
Problem started at {EVENT.TIME} on {EVENT.DATE}
Problem name: {EVENT.NAME}
Host: {HOST.NAME}
Severity: {EVENT.SEVERITY}

Original problem ID: {EVENT.ID}
{TRIGGER.URL}
```

Pause operations for suppressed problems:

Operations	Steps Details	Start in	Duration	Action
2 - 6	Send message to users: Admin (Zabbix Administrator) via all media	00:30:00	60	Edit Remove
7 - 0	Send message to users: Admin (Zabbix Administrator) via all media	00:35:00	Default	Edit Remove
7	Send message to users: advanced_user (advanced user) via all media	00:35:00	Default	Edit Remove
9	Send message to users: monitoring_user (monitor user) via all media	01:35:00	Default	Edit Remove
New				

Before				After
STEPS DETAILS		START IN	DURATION (SEC)	
1 - 5	Send message to users: Admin (Zabbix Administrator) via all media	Immediately	60	
6 - 0	Send message to users: Admin (Zabbix Administrator) via all media	00:05:00	Default	
6	Send message to users: advanced_user (advanced user) via all media	00:05:00	Default	
9	Send message to users: monitoring_user (monitoring user) via all media	00:20:00	Default	

Media types

Media type

Options

* Name

Type

* Script name

Script parameters

Parameter

Action

{ALERT.MESSAGE}

Add

Enabled

Add

Cancel

Actions

Action Operations Recovery operations Update operations

* Name

Type of calculation

Conditions	Label	Name	Action
A	Host equals	Another host	Remove
B	Trigger name contains	Web service is down	Remove

New condition

[Add](#)

Enabled

* At least one operation, recovery operation or update operation must exist.

[Add](#) [Cancel](#)

SCRIPTS

Detect operating system

Management ➤

Ping

Top CPU using processes

Traceroute

GO TO

Host inventory

Latest data

Problems

Graphs

Host screens

Ping

```
ping -c 3 127.0.0.1; case $? in [01]) true;; *) false;; esac

PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data.
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.013 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.021 ms
64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.023 ms

--- 127.0.0.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 1999ms
rtt min/avg/max/mdev = 0.013/0.019/0.023/0.004 ms
```

[Cancel](#)

Scripts

[Create script](#)

Filter

Name

[Apply](#) [Reset](#)

<input type="checkbox"/> Name ▲	Type	Execute on	Commands	User group	Host group	Host access
<input type="checkbox"/> Detect operating system	Script	Server (proxy)	sudo /usr/bin/nmap -O {HOST.CONN}	Zabbix administrators	All	Read
<input type="checkbox"/> Ping	Script	Server (proxy)	ping -c 3 {HOST.CONN}; case \$? in [01]) true;; *) false;; esac	All	All	Read
<input type="checkbox"/> Traceroute	Script	Server (proxy)	/bin/traceroute {HOST.CONN}	All	All	Read

Displaying 3 of 3 found

```
sudo /usr/bin/nmap -O 192.168.1.29
```

```
Starting Nmap 6.40 ( http://nmap.org ) at 2018-12-15 12:16 CET
Nmap scan report for 192.168.1.29
Host is up (0.00034s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
MAC Address: 08:00:27:B2:77:88 (Cadmus Computer Systems)
```

Top CPU using processes

```
top -n 1 -b | grep -A 10 "^[ ]*PID"
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	128140	6720	4168	S	0.0	0.3	0:02.61	systemd
2	root	20	0		0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	20	0		0	0	S	0.0	0.0	0:00.19	ksoftirqd/0
5	root	0	-20		0	0	S	0.0	0.0	0:00.00	kworker/0:0H
7	root	rt	0		0	0	S	0.0	0.0	0:00.00	migration/0
8	root	20	0		0	0	S	0.0	0.0	0:00.00	rcu_bh
9	root	20	0		0	0	S	0.0	0.0	0:00.72	rcu_sched
10	root	0	-20		0	0	S	0.0	0.0	0:00.00	lru-add-dra+
11	root	rt	0		0	0	S	0.0	0.0	0:00.04	watchdog/0
13	root	20	0		0	0	S	0.0	0.0	0:00.00	kdevtmpfs

Cancel

Execution confirmation

Reboot this system?

Cancel

Execute

* Name	Management/Reboot	
Type	IPMI	Script
Execute on	Zabbix agent	Zabbix server (proxy)
Zabbix server		
* Commands	reboot	
Description		
User group	Zabbix administrators	
Host group	Selected	▼
	Linux servers <input type="button" value="X"/>	
	<input type="button" value="Select"/>	
Required host permissions	Read	Write
Enable confirmation	<input checked="" type="checkbox"/>	
Confirmation text	Reboot this system?	
	<input type="button" value="Test confirmation"/>	
	<input type="button" value="Add"/>	<input type="button" value="Cancel"/>

SCRIPTS

Detect operating system

Management ►

Reboot

Ping

Top CPU using processes

Traceroute

GO TO

Host inventory

Latest data

Problems

Graphs

Host screens

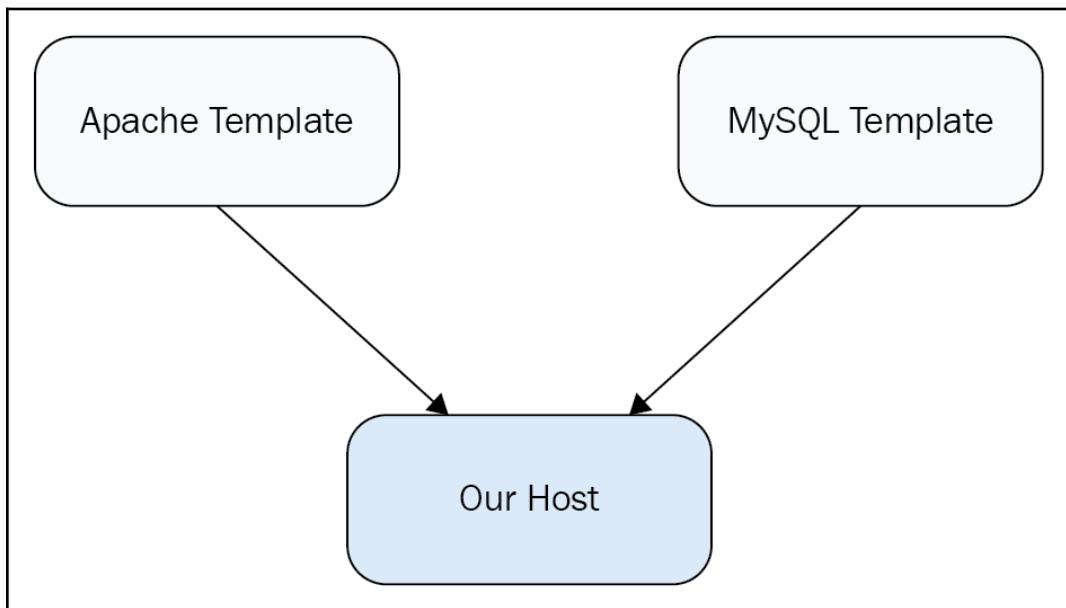
Operation details

Steps	1 - 1	(0 - infinitely)	
Step duration	0	(0 - use action default)	
Operation type	Remote command		
* Target list	Target	Action	
New			
Type	Global script		
* Script name	Management/Reboot		
Conditions	Label	Name	Action
New			
Update Cancel			

* At least one operation, recovery operation or update operation must exist.

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Chapter 8: Simplifying Complex Configurations with Templates



Template [Linked templates](#) Macros

* Template name

Visible name

* Groups [Select](#)

Description

[Update](#) [Clone](#) [Full clone](#) [Delete](#) [Delete and clear](#) [Cancel](#)

Items

All hosts / Another host

Enabled

ZBX

SNMP

JMX

IPMI

* Target type

Templates

Group

Custom templates

* Target



C_Template_Linux

Copy

Cancel

NAME ▲	TRIGGERS	KEY
CPU load	Triggers 1	system.cpu.load
Full OS name		system.uname
ICMP ping performance		icmppingsec
incoming traffic on interface		net.if.in[io]
incoming traffic on interface enp0s8		net.if.in[enp0s8]
SMTP server status	Triggers 1	net.tcp.service[smtp]
SNMP trap fallback	Triggers 1	snmptrap.fallback
SNMP trap tests		snmptrap[test]
SSH server status	Triggers 1	net.tcp.service[ssh]
Web server status	Triggers 1	net.tcp.service[http,80]
Zabbix agent version		agent.version

NAME ▲	TRIGGERS	KEY
CPU load		system.cpu.load
Experimental SNMP trap		netSnmpExperimental2
ICMP ping performance		icmppingsec
Incoming traffic on interface enp0s8		net.if.in[enp0s8]
Incoming traffic on interface lo		net.if.in[lo]
Local time	Triggers 1	system.localtime
SMTP server status	Triggers 1	nettcp.service[smtp]
SNMP trap fallback		snmptrapfallback
snmptraps	Triggers 1	snmptrap2
SNMP traps tests		snmptrap[test]
SSH server status		nettcp.service[ssh]
Testfile exists	Triggers 1	vfs.file.exists[smp.testfile]
Web server status	Triggers 1	nettcp.service[http,80]
Zabbix agent version		agentversion

Host Templates IPMI Macros Host inventory Encryption

Linked templates Name Action

Link new templates C_Template_Linux type here to search

Add

Update Clone Full clone Delete Cancel

Host Templates IPMI Macros Host inventory Encryption

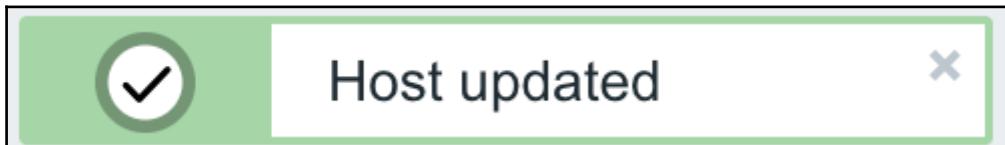
Linked templates Name Action

C_Template_Linux

Link new templates type here to search Select

Add

Update Clone Full clone Delete Cancel



<input type="checkbox"/>	...	Full OS Name	system.uname
<input type="checkbox"/>	...	C_Template_Linux: ICMP ping performance	icmppingsec
<input type="checkbox"/>	...	C_Template_Linux: Incoming traffic on interface enp0s3	net.if.in[enp0s3]

Item **Preprocessing**

Parent items **C_Template_Linux**

* Name **SMTP server status**

Type **Simple check**

* Key **net.tcp.service[smtp]**

* Host interface **192.168.1.29 : 10050**

User name

Password

* Type of information **Numeric (unsigned)**

Units

* Update interval **360s**

Custom intervals

Type	Interval	Period	Action
Flexible	Scheduling	50s	1-7,00:00-24:00

[Add](#)

* History storage period

14d

Warning

OK

C_Template_Linux: CPU load too high on A test host for last 3 minutes

Show Recent problems Problems History

Host groups type here to search Select

Hosts type here to search Select

Application Select

Triggers type here to search Select

Problem CPU

Minimum severity Not classified

[Template](#) [Linked templates](#) [Macros](#)

Template macros Inherited and template macros

Macro	Value
{\$CPU_LOAD_THRESHOLD}	⇒ 1

[Add](#) Update Clone Full clone Delete Delete and clear Cancel

[Host](#) [Templates](#) [IPMI](#) [Macros](#) [Host inventory](#) [Encryption](#)

Host macros Inherited and host macros

Macro	Effective value	Template value	Global value (configure)
{\$CPU_LOAD_THRESHOLD}	⇒ 1	Change ↲ C_Template_Linux: "1"	↳ "1"
{\$SNMP_COMMUNITY}	⇒ public	Change ↲ "public"	↳ "public"

[Add](#) Update Clone Full clone Delete Cancel

Time ▾		Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
13:26:27	□	Warning		PROBLEM	Another host	CPU load too high on Another host for last 3 minutes (over 1)	11s	No	• ↲	1	
13:25:11	□	Warning		PROBLEM	A test host	CPU load too high on A test host for last 3 minutes (over 0.9)	1m 27s	No	• ↲	1	

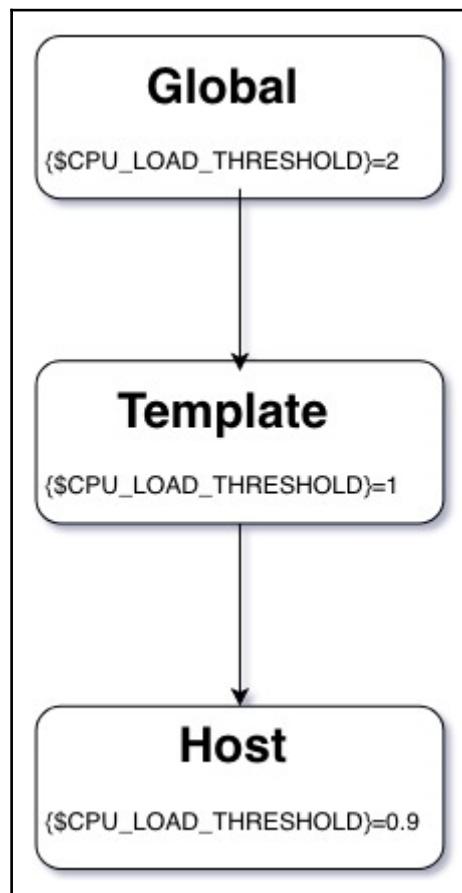
General Proxies Authentication User groups Users Media types Scripts Queue Training VM z4

Macros

Macros

Macro	Value
{\$SNMP_COMMUNITY}	public

Add Remove Update



Template [Linked templates](#) Macros

* Template name

Visible name

* Groups [Select](#)

Description

[Add](#) [Cancel](#)



Host [Templates](#) IPMI Inventory Encryption

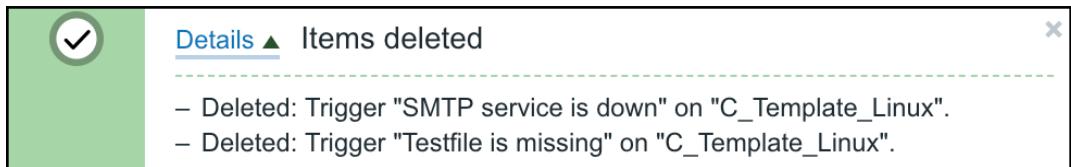
Link templates

[Select](#)

Replace

Clear when unlinking

[Update](#) [Cancel](#)



Host Templates IPMI Inventory Encryption

Link templates

C_Template_Email C_Template_Linux

type here to search

Replace
 Clear when unlinking

<input type="checkbox"/>	Name ▲	Applications	Items	Triggers	Graphs	Screens	Discovery	Web	Linked templates	Linked to
<input type="checkbox"/>	C_Template_Email	Applications	Items 2	Triggers 2	Graphs	Screens	Discovery	Web		Another host, A test host
<input type="checkbox"/>	C_Template_Linux	Applications	Items 11	Triggers 4	Graphs	Screens	Discovery	Web		Another host, A test host

Displaying 2 of 2 found

All hosts / A test host Enabled ZBX SNMP JMX IPMI Applications Items 14 Triggers 7 Graphs Discovery rules Web scenarios

Host Templates IPMI Macros Host inventory Encryption

Linked templates

Name	Action
C_Template_Email	Unlink Unlink and clear
C_Template_Linux	Unlink Unlink and clear

Link new templates

type here to search

Add

Details ▲ Host updated ×

– Unlinked: Item "SMTP server status" on "A test host".
– Unlinked: Item "Testfile exists" on "A test host".
– Templates "C_Template_Email" unlinked from hosts "A test host".

<input type="checkbox"/>	...	Testfile exists	Triggers 1	vfs.file.exists[/tmp/testfile]
<input type="checkbox"/>	...	C_Template_Linux: Web server status	Triggers 1	net.tcp.service[http,,80]
<input type="checkbox"/>	...	C_Template_Linux: Zabbix agent version		agent.version

Details ▲ Host updated ×

– Deleted: Trigger "SMTP service is down" on "A test host".
– Deleted: Trigger "Testfile is missing" on "A test host".
– Templates "C_Template_Email" unlinked from hosts "A test host".

<input type="checkbox"/>	Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates
<input type="checkbox"/>	Another host	Applications 1	Items 13	Triggers 7	Graphs	Discovery	Web	192.168.1.25: 10050	C_Template_Email, C_Template_Linux
<input type="checkbox"/>	A test host	Applications	Items 12	Triggers 5	Graphs	Discovery	Web	192.168.1.29: 10050	C_Template_Linux

Host Templates IPMI Inventory Encryption

Link templates

type here to search

Replace
 Clear when unlinking

Template Linked templates Macros

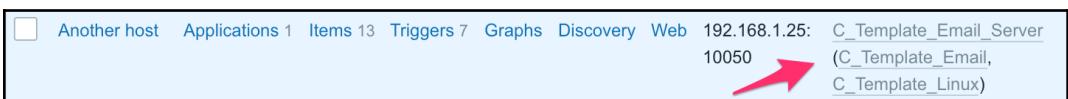
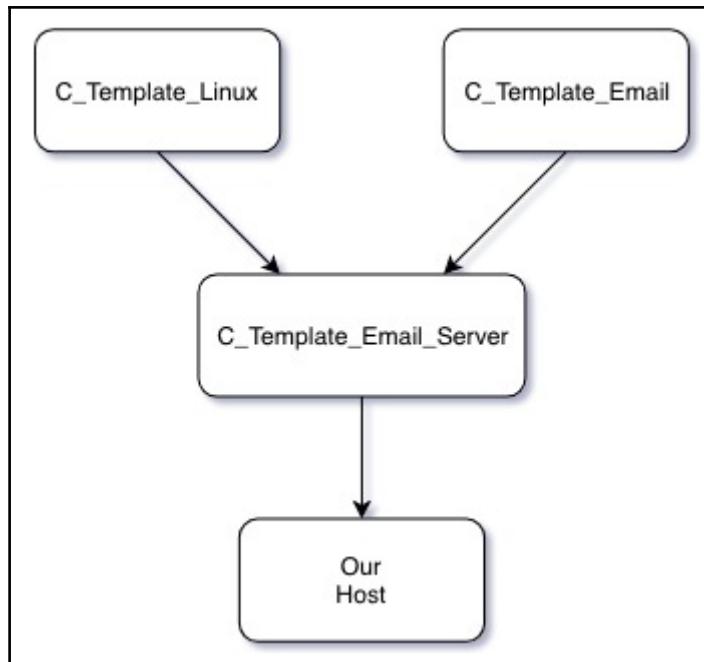
Linked templates

Name	Action
C_Template_Email	Unlink
C_Template_Linux	Unlink

Link new templates

type here to search

[Add](#)



Chapter 9: Visualizing Data with Screens and Slideshows

Edit dashboard  

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	89	5 / 0 / 84
Number of items (enabled/disabled/not supported)	67	67 / 0 / 0
Number of triggers (enabled/disabled [problem/ok])	20	20 / 0 [6 / 14]
Number of users (online)	4	1
Required server performance, new values per second	5.07	

  Save changes Cancel

Dashboard properties

* Owner

Admin (Zabbix Administrator) 

Select

* Name

Global view

Apply

Cancel

Add widget

Type

Action log



Name

default

Refresh interval

Default (1 minute)



Sort entries by

Time (descending)



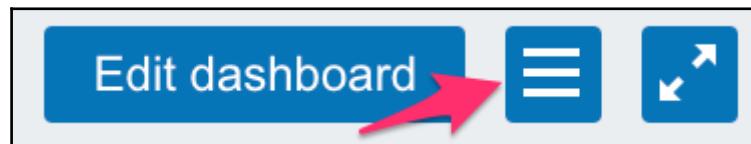
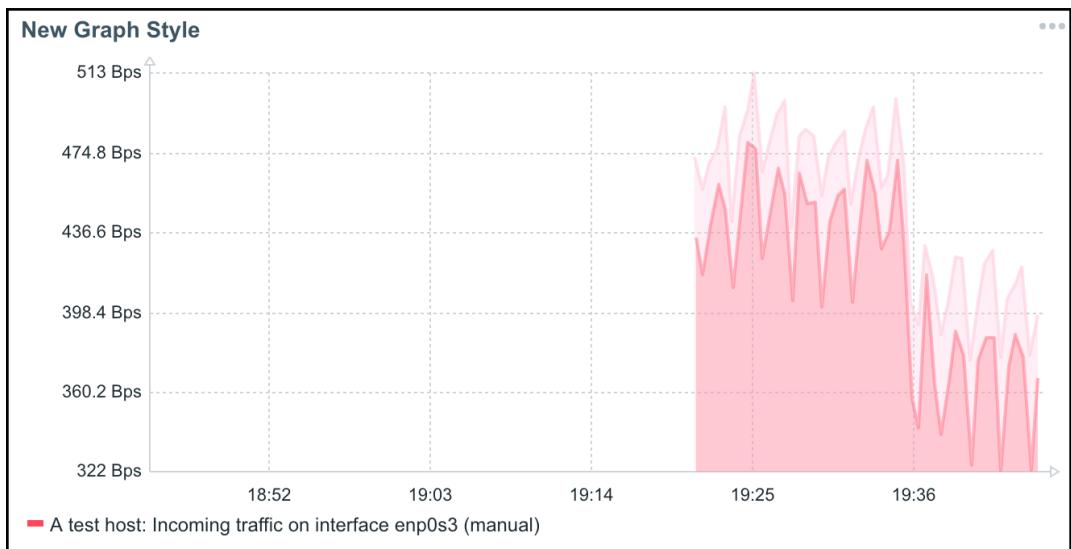
* Show lines

25

Add

✓ Action log

- Clock
- Data overview
- Discovery status
- Favourite graphs
- Favourite maps
- Favourite screens
- Graph
- Graph (classic)
- Map
- Map navigation tree
- Plain text
- Problem hosts
- Problems
- Problems by severity
- System information
- Trigger overview
- URL
- Web monitoring



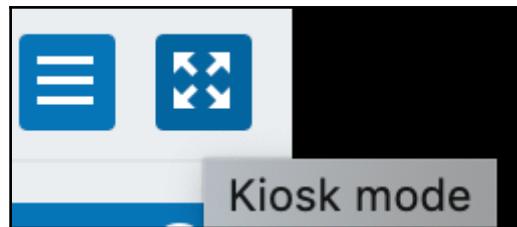
Dashboard sharing

Type Private Public

List of user group shares	User groups	Permissions	Action
	Add		

List of user shares	Users	Permissions	Action
	Add		

Update Cancel



Screens

Screen Sharing

* Owner

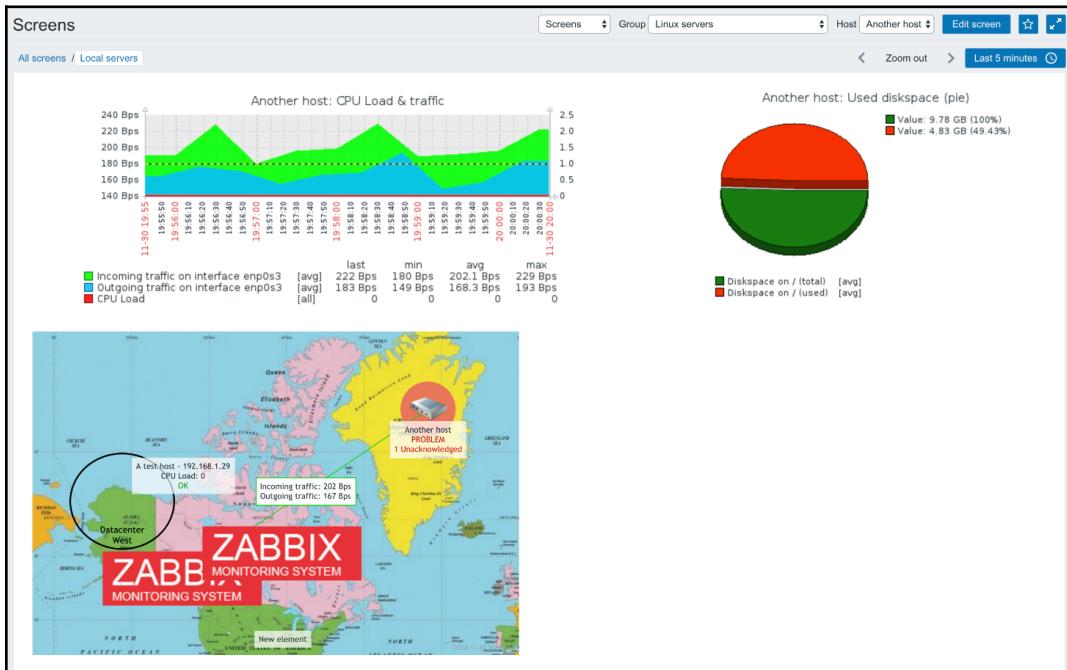
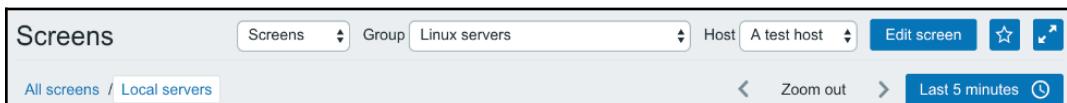
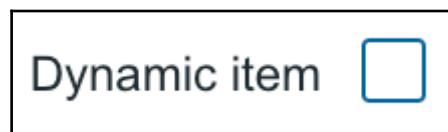
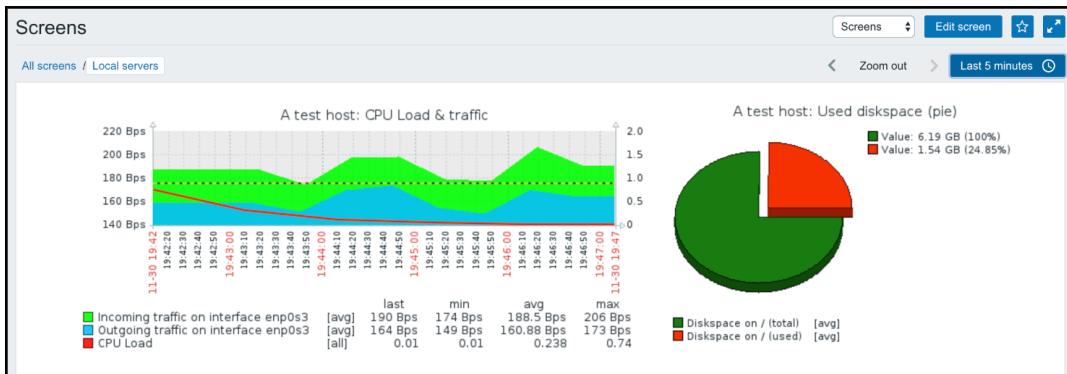
* Name

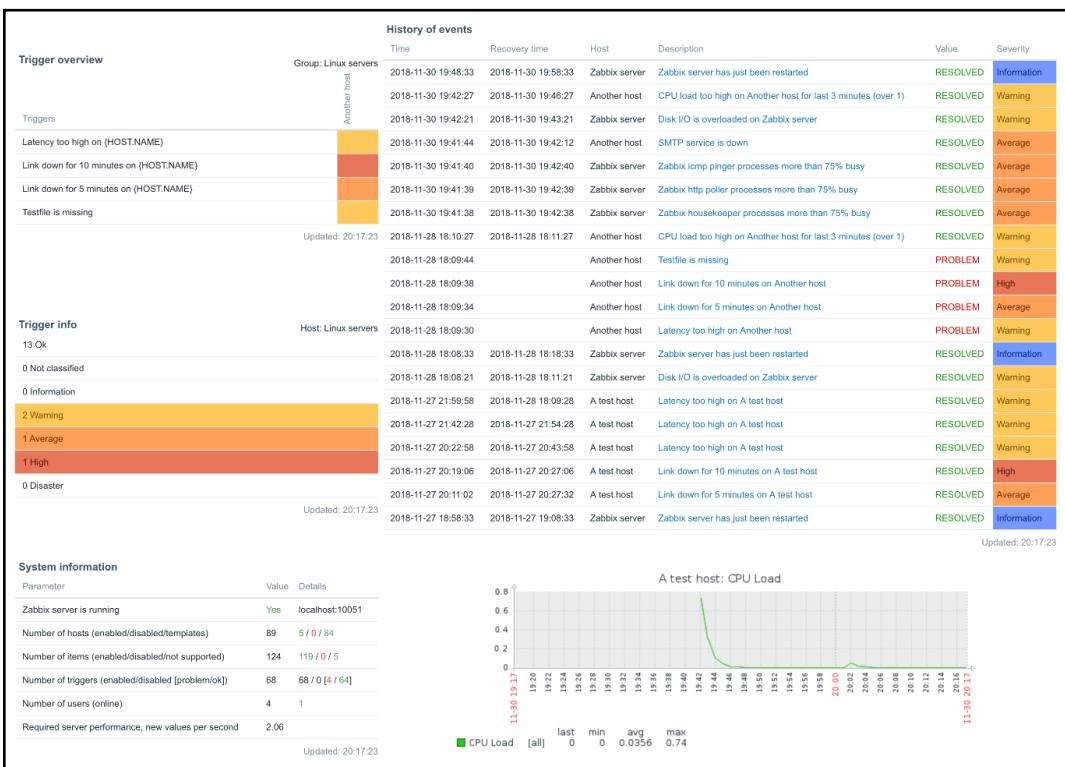
* Columns

* Rows

Screens: Local servers







- Action log
- Clock
- Data overview
- Graph
- Graph prototype
- ✓ History of events
- Host group issues
- Host info
- Host issues
- Map
- Plain text
- Problems by severity
- Screen
- Simple graph
- Simple graph prototype
- System information
- Trigger info
- Trigger overview
- URL

Clock
✓ Graph
Graph prototype
Plain text
Simple graph
Simple graph prototype
URL



SCRIPTS

Detect operating system

Management ►

Ping

Top CPU using processes

Traceroute

GO TO

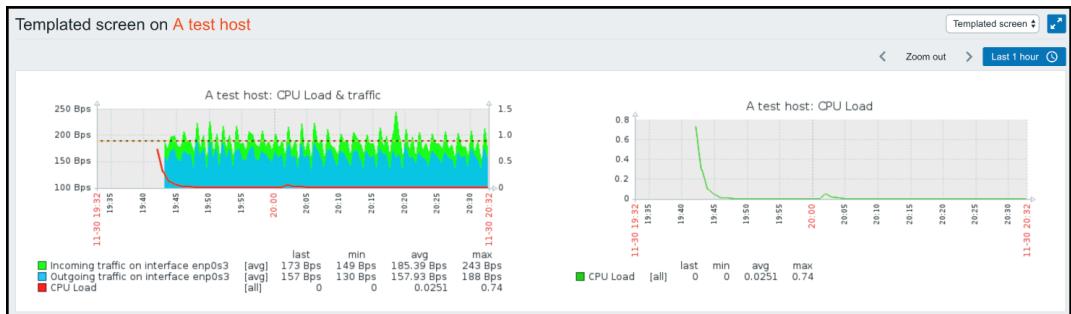
Host inventory

Latest data

Problems

Graphs

Host screens



Slide shows

Slide Sharing

* Owner Select

* Name

* Default delay

* Slides

Screen	Delay	Action
1: Local servers	<input type="text" value="default"/>	Remove
2: Experimental screen	<input type="text" value="5s"/>	Remove

[Add](#)

Update Clone Delete Cancel

Slide shows

Group

Host

Edit slide show



REFRESH INTERVAL MULTIPLIER

x0.25

x0.5

x1

x1.5

x2

x3

x4

x5

Auto-login

Auto-logout 15m

* Refresh 60s

* Rows per page 50

Chapter 10: Advanced Item Monitoring

Item **Preprocessing**

* Name

Type

* Key

Type of information

* Update interval

* History storage period

<input type="checkbox"/>	First logfile	2018-12-01 11:09:29	2018-08-13 13:03:05 third ...
--------------------------	---------------	---------------------	-------------------------------

Timestamp	Local time	Value
2018-12-01 11:09:29	2018-08-13 13:03:05	third log entry
2018-12-01 11:09:29	2018-08-13 13:02:04	second log entry
2018-12-01 11:09:29	2018-08-13 13:01:03	a log entry

<input type="checkbox"/>	Second logfile	2018-12-01 11:42:08	2018-12-1 10:34:05 fourth...
--------------------------	----------------	---------------------	------------------------------

Timestamp	Local time	Value
2018-12-01 11:56:27	2018-12-1 10:54:05	sixth log entry - now with an error
2018-12-01 11:42:08	2018-12-1 10:34:05	fourth log entry

Timestamp	Local time	Value
2018-12-01 12:04:54	2018-12-1 11:05:05	eleventh log entry - warning 613
2018-12-01 12:03:57	2018-12-1 11:02:05	eighth log entry - just an error
2018-12-01 11:56:27	2018-12-1 10:54:05	sixth log entry - now with an error
2018-12-01 11:42:08	2018-12-1 10:34:05	fourth log entry

Timestamp	Local time	Value
2018-12-01 12:48:01	2018-12-1 03:00:00	rotated second
2018-12-01 12:46:03	2018-12-1 03:00:00	rotated first

PROBLEM event generation mode

Single

Multiple

Allow manual close



Trigger Dependencies

* Name: Warning on errors in logfile1

Severity: Not classified | Information | **Warning** | Average | High | Disaster

* Problem expression: {A test host:log[/tmp/zabbix_logmon/logfile1].str(error)}=1 Add

Expression constructor

OK event generation: Expression | Recovery expression | None

* Recovery expression: {A test host:log[/tmp/zabbix_logmon/logfile1].str(ok)}=1 Add

Show: Recent problems | Problems | History

Host groups: type here to search | Select

Hosts: A test host | Select

Application:

Triggers: type here to search | Select

Problem:

Host inventory: Type: Remove | Add

Tags: And/Or: Or | tag: Contains: Equals: value: Remove | Add

Show tags: None | 1 | 2 | 3 | Tag name: Full | Shortened | None

Tag display priority: comma-separated list

Show suppressed problems: Show unacknowledged only:

Compact view: Show timeline:

Show details: Highlight whole row:

Minimum severity: Not classified |

Age less than: 14 days

Time	Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
13:04:42	<input type="checkbox"/> Warning	13:09:32	RESOLVED		A test host	warning on errors	4m 50s	No	3	

OK event generation: Expression | Recovery expression | None

PROBLEM event generation mode: Single | Multiple

OK event closes: All problems | **All problems if tag values match**

* Tag for matching:

Tags: log | {{ITEM.VALUE}.regsub(ok)} | Remove | Add

Timestamp	Local time	Value
2018-12-01 13:23:29		15445
2018-12-01 13:23:29		5445
2018-12-01 13:23:29		445

Item Preprocessing

Preprocessing steps	Name	Parameters	Action
<input type="button" value="::"/>	Regular expression	<input type="text" value="pattern"/> <input type="text" value="output"/>	<input type="button" value="Remove"/>
<input type="button" value="Add"/>			
<input type="button" value="Update"/> <input type="button" value="Clone"/> <input type="button" value="Check now"/> <input type="button" value="Clear history and trends"/> <input type="button" value="Delete"/> <input type="button" value="Cancel"/>			

Log time format

Timestamp	Local time	Value
2018-12-01 17:40:51	2018-12-01 17:40:13	2018-12-01 16:40:13 a timestamped log entry
2018-12-01 13:09:32		ok

A test host: Second logfile

View as: Values

Items list: A test host: Second logfile

Value:

Selected: Show selected

Timestamp Local time Value

2018-12-01 12:04:54	2018-12-1 11:05:05	eleventh log entry - warning 613
2018-12-01 12:03:57	2018-12-1 11:02:05	eighth log entry - just an error
2018-12-01 11:56:27	2018-12-1 10:54:05	sixth log entry - now with an error

Items list: A test host: Second logfile

Value:

Selected: as Red
as Green
as Blue

 Diskspace on / (free) 2018-12-01 18:02:43 4.65 GB

Diskspace on / (total) 2018-12-01 18:02:20 6.19 GB

Diskspace on / (used) 2018-12-01 18:02:24 1.54 GB

▼	Host	Name ▲	Last check	Last value	Change	
▼	A test host	cpu (2 items)				
		Average system load for both servers	2018-12-01 18:13:44	0.81	+0.64	<input type="button" value="Graph"/>
		CPU Load	2018-12-01 18:13:11	1.62	+0.64	<input type="button" value="Graph"/>
▼	Another host	cpu (1 item)				
		CPU Load	2018-12-01 18:13:27	0		<input type="button" value="Graph"/>

Item Preprocessing

* Name

Type ▼

* Key Select

Type of information ▼

Units

* Update interval

<input type="checkbox"/>	Host	Name ▲	Last check	Last value	Change	
▼	Another host	- other - (1 item)				
		CPU Load	2018-12-02 13:18:27	0.87	+0.51	Graph
▼	A test host	- other - (3 items)				
		Average system load for both servers	2018-12-02 13:18:14	0.9	+0.49	Graph
		Average system load for Linux servers	2018-12-02 13:18:15	0.9	+0.49	Graph
		CPU Load	2018-12-02 13:18:11	1.43	+0.98	Graph

<input type="checkbox"/>	Open connections	2018-12-02 13:38:53	28	Graph
--------------------------	------------------	---------------------	----	-----------------------

<input type="checkbox"/>	Open connections	2018-12-02 13:45:05	28
<input type="checkbox"/>	Open connections in ESTABLISHED state	2018-12-02 13:45:05	1
<input type="checkbox"/>	Open connections in TIME_WAIT state	2018-12-02 13:45:05	27

Item **Preprocessing** 

* Name MySQL \$1 queries per second

Type Zabbix agent (active) 

* Key mysql.queries[select] 

Type of information Numeric (float) 

Units qps

* Update interval 30s

* History storage period 90d

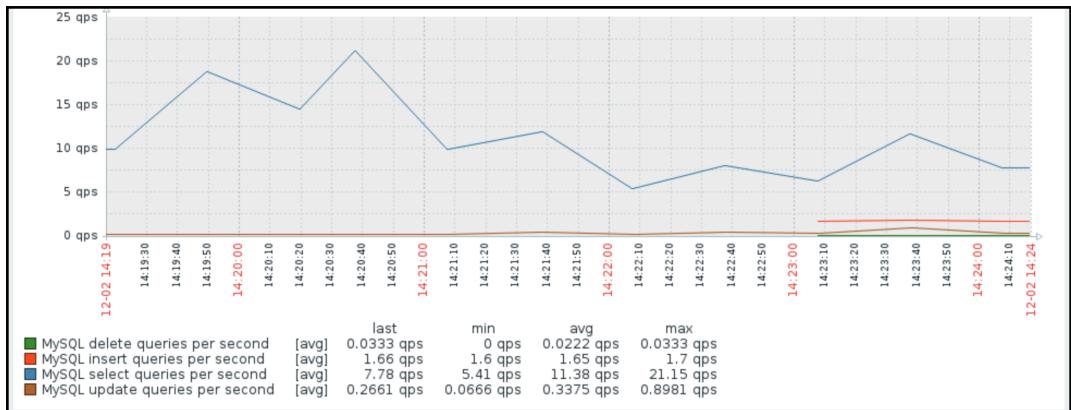
* Trend storage period 365d

Show value As is  [show value mappings](#)

New application MySQL

<input type="checkbox"/>	MySQL select queries per second	2018-12-02 14:18:20	9.76 qps	-1.65 qps
--------------------------	---------------------------------	---------------------	----------	-----------

<input type="checkbox"/>	... MySQL select queries per second	mysql.queries[select]
<input type="checkbox"/>	... MySQL update queries per second	mysql.queries[update]
<input type="checkbox"/>	... MySQL insert queries per second	mysql.queries[insert]
<input type="checkbox"/>	... MySQL delete queries per second	mysql.queries[delete]



Certificate expiry time on www.google.com 2018-12-02 14:49:54 2019-01-30 10:59:00

Value mapping

Value mapping

* Name: Certificate expiry status

* Mappings

Value	Mapped to	Action
0	Expires soon	Remove
1	Does not expire yet	Remove

Add

[Add](#) [Cancel](#)

Amount of persons in the room 2018-12-02 15:03:41 2 +1

Allowed hosts 192.168.1.23

Item Preprocessing

* Name Users logged in (SSH)

Type SSH agent

* Key ssh.run[system.users]

Select

* Host interface 192.168.1.29 : 10050

Authentication method

Password

* User name zabbixtest

Password zabbix

* Executed script who | wc -l



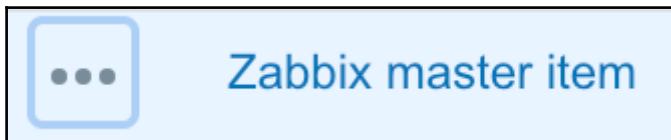
Zabbix master item

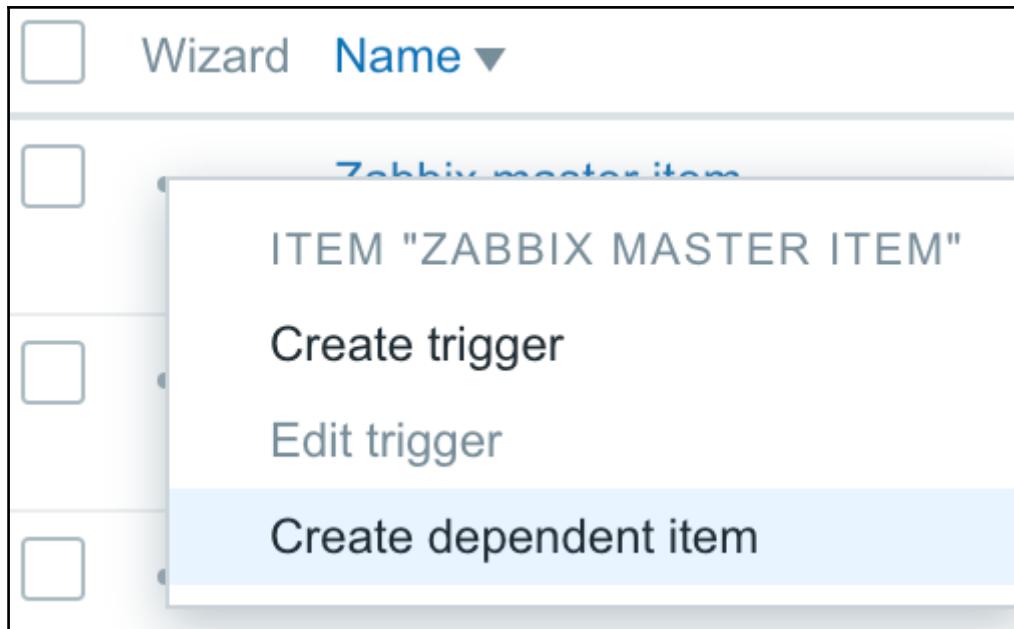
2018-12-02 16:12:03

Aborted_clients 0 Abo...

History

Timestamp	Value
2018-12-02 16:14:03	Aborted_clients 0
	Aborted_connects 2
	Access_denied_errors 0
	Aria_pagecache_blocks_not_flushed 0
	Aria_pagecache_blocks_unused 15737
	Aria_pagecache_blocks_used 1
	Aria_pagecache_read_requests 80
	Aria_pagecache_reads 0
	Aria_pagecache_write_requests 24
	Aria_pagecache_writes 0
	Aria_transaction_log_syncs 0
	Binlog_commits 0
	Binlog_group_commits 0
	Binlog_snapshot_file
	Binlog_snapshot_position 0





Item [Preprocessing](#)

* Name	Innodb_deadlocks
Type	Dependent item
* Key	Innodb.deadlocks
* Master item	A test host: Zabbix master item X
Type of information	Character
* History storage period	90d
Show value	As is
New application	MySQL-Dependent

[show value mappings](#)

Item Preprocessing

Preprocessing steps	Name	Parameters	Action
<input type="button" value="Regular expression"/>	Innodb_deadlocks\s(\d.)	\1	Remove
Add			
Update		Clone	Check now
		Clear history and trends	Delete
Cancel			

<input type="checkbox"/> Wizard	Name ▾	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
<input type="checkbox"/>	*** Zabbix master item		mysql.dependent	30s	90d		Zabbix agent (active)	MySQL-Master	Enabled	
<input type="checkbox"/>	*** Zabbix master item: Innodb_deadlocks		Innodb.deadlocks		90d		Dependent item	MySQL-Dependent	Enabled	
<input type="checkbox"/>	*** Zabbix master item: Aborted_clients		Aborted.clients		90d		Dependent item	MySQL-Dependent	Enabled	

Name ▾	Last check	Last value
MySQL-Dependent (2 Items)		
Aborted_clients	2018-12-02 16:47:06	0
Innodb_deadlocks	2018-12-02 16:47:06	0

Text

Regular expression

Trim

Right trim

Left trim

Structured data

XML XPath

JSON Path

Arithmetic

Custom multiplier

Change

Simple change

✓ Change per second

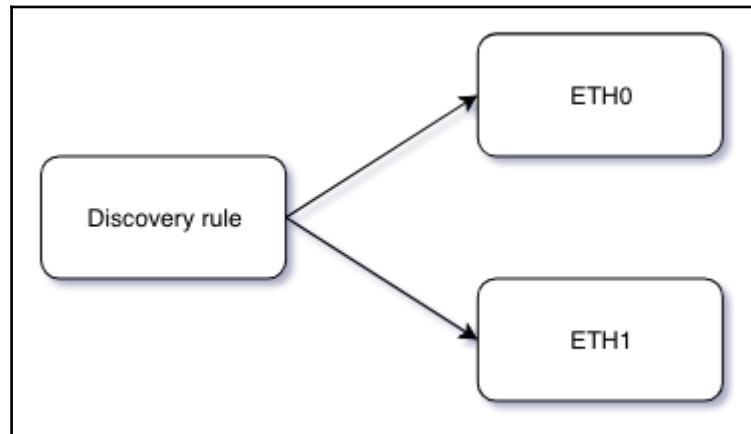
Numeral systems

Boolean to decimal

Octal to decimal

Hexadecimal to decimal

Chapter 11: Automating Configuration



Discovery rule	Filters
<p>* Name <input type="text" value="Interface discovery"/></p> <p>Type <input type="text" value="Zabbix agent"/></p> <p>* Key <input type="text" value="net.if.discovery"/></p> <p>* Update interval <input type="text" value="120s"/></p>	

Item prototype Preprocessing



* Name Incoming traffic on \$1

Type Zabbix agent

* Key net.if.in[{#IFNAME}]

Type of information Numeric (unsigned)

Units Bps

Key	Interval	Type	Status	Info
net.if.discovery	120s	Zabbix agent	Enabled	i Cannot create item: item with the same key "net.if.in[enp0s3]" already exists. Cannot create item: item with the same key "net.if.in[lo]" already exists.

* Name Incoming traffic on interface \$1 (manual)

Type Zabbix agent

* Key net.if.in[enp0s3,]

DISCOVERY									
Discovered 4 Regular +31									
INTERVAL									
1s 0 2s 0 30s 4 1m 0 2m 0 3m 0									
<input type="checkbox"/>	Wizard	Name	Triggers	Key	Interval	History	Trends	Type	Applications
<input type="checkbox"/>	***	Interface discovery: Outgoing traffic on enp0s3		net.if.out[enp0s3]	30s	90d	365d	Zabbix agent	Enabled
<input type="checkbox"/>	***	Interface discovery: Outgoing traffic on lo		net.if.out[lo]	30s	90d	365d	Zabbix agent	Enabled
<input type="checkbox"/>	***	Interface discovery: Incoming traffic on lo		net.if.in[lo]	30s	90d	365d	Zabbix agent	Enabled
<input type="checkbox"/>	***	Interface discovery: Incoming traffic on enp0s3		net.if.in[enp0s3]	30s	90d	365d	Zabbix agent	Enabled

Displaying 4 of 4 found

Trigger prototype	Dependencies
<input type="checkbox"/> * Name Incoming traffic too high for {#IFNAME} on {HOST.NAME}.	Severity: Not classified Information Warning Average High Disaster
<input type="checkbox"/> * Expression {C_Template_Linux.net.if.in[{#IFNAME}].last()}>5K	<input type="button" value="Add"/>

<input type="checkbox"/>	Warning	OK	Interface discovery: Incoming traffic too high for lo on {HOST.NAME}. {A test host:net.if.in[lo].last()}>5K	Enabled
<input type="checkbox"/>	Warning	OK	Interface discovery: Outgoing traffic too high for enp0s3 on {HOST.NAME}. {A test host:net.if.out[enp0s3].last()}>5K	Enabled
<input type="checkbox"/>	Warning	OK	Interface discovery: Outgoing traffic too high for lo on {HOST.NAME}. {A test host:net.if.out[lo].last()}>5K	Enabled
<input type="checkbox"/>	Warning	OK	Interface discovery: Incoming traffic too high for enp0s3 on {HOST.NAME}. {A test host:net.if.in[enp0s3].last()}>5K	Enabled

* Items	Name	Function	Draw style	Y axis side	Colour	Action
<input type="checkbox"/>	1: C_Template_Linux: Incoming traffic on {#IFNAME}	avg	Gradient line	Left	 	Remove
<input type="checkbox"/>	2: C_Template_Linux: Outgoing traffic on {#IFNAME}	avg	Gradient line	Left	 	Remove
Add Add prototype						
<input type="button" value="Add"/> <input type="button" value="Cancel"/>						

<input type="checkbox"/>	Interface discovery: Traffic on enp0s3	900	200	Normal
<input type="checkbox"/>	Interface discovery: Traffic on lo	900	200	Normal

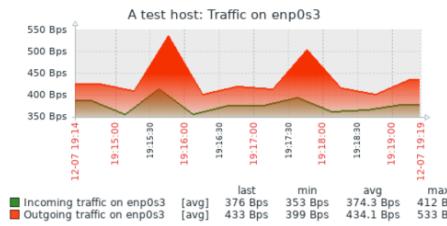
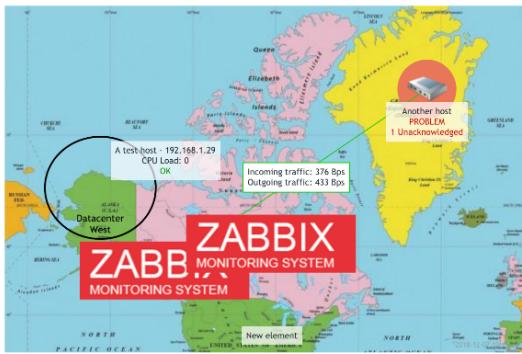
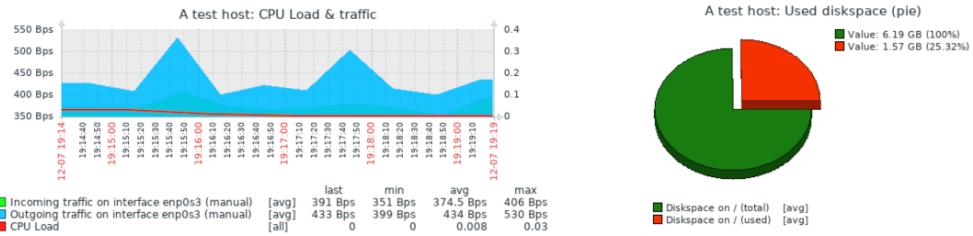
Filters	Label Macro	Regular expression	Action
<input type="checkbox"/>	A {#IFNAME}	matches @Network interfaces for discovery	Remove
Add			
<input type="button" value="Update"/> <input type="button" value="Clone"/> <input type="button" value="Delete"/> <input type="button" value="Cancel"/>			

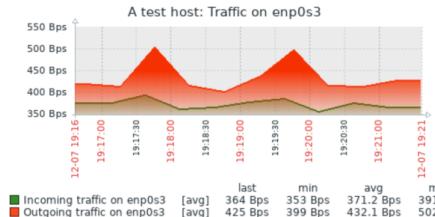
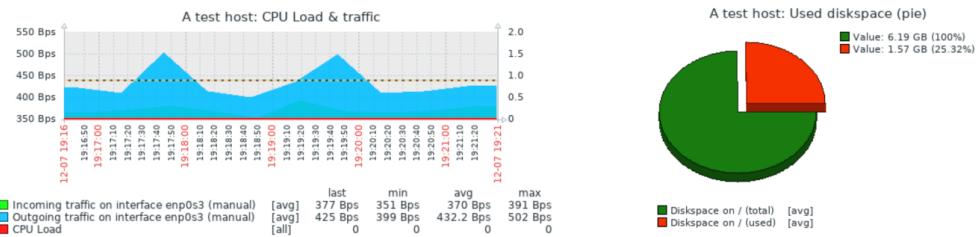
<input type="checkbox"/>	Network interfaces for discovery	1 » ^[Ss]ystem\$	[Result is FALSE]
		2 » ^[L]o[0-9.]*\$	[Result is FALSE]
		3 » ^NULL[0-9.]*\$	[Result is FALSE]
		4 » ^(In)?[L]oop[Bb]ack[0-9._]*\$	[Result is FALSE]
		5 » ^Software Loopback Interface	[Result is FALSE]
		6 » ^Nu[0-9.]*\$	[Result is FALSE]

<input type="checkbox"/>	***	Interface discovery: Total traffic on lo over last 10 minutes	calc.net.if.total.10m[lo]	600s	90d	365d	Calculated	Enabled		
<input type="checkbox"/>	***	C_Template_Linux: SSH server status	Triggers 1 net.tcp.service[ssh]					The item is not discovered anymore and will be deleted in 29d 23h 51m (on 2019-01-04 at 21:19)		

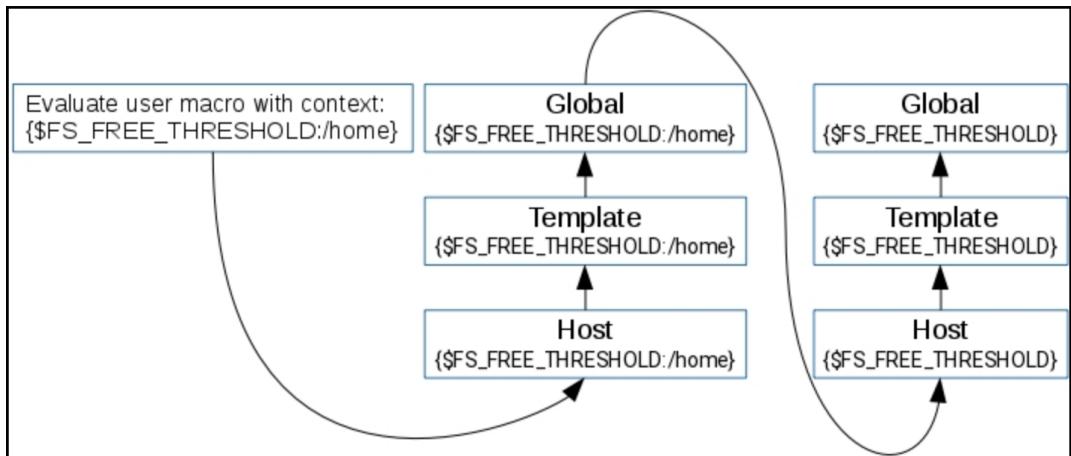
* Keep lost resources period 30d

<input type="checkbox"/>	***	Filesystem discovery: Free space on /boot	vfs.fs.size[/boot,free]	30s	90d	365d	Zabbix agent	Enabled
<input type="checkbox"/>	***	Filesystem discovery: Free space on /	vfs.fs.size[/,free]	30s	90d	365d	Zabbix agent	Enabled





- Action log
- Clock
- Data overview
- Graph
- Graph prototype
- History of events
- Host group issues
- Host info
- Host issues
- Map
- Plain text
- Problems by severity
- Screen
- Simple graph
- ✓ Simple graph prototype
- System information
- Trigger info
- Trigger overview
- URL



Discovery rule [Filters](#)

* Name	<input type="text" value="SNMP interface discovery"/>
Type	<input type="text" value="SNMPv2 agent"/>
* Key	<input type="text" value="snmp.interface.discovery"/>
* Host interface	<input type="text" value="192.168.1.25 : 161"/>
* SNMP OID	<input type="text" value="discovery[{#IFDESCR}, IF-MIB::ifDescr]"/>
* SNMP community	<input type="text" value="public"/>
Port	<input type="text"/>
* Update interval	<input type="text" value="120s"/>

Item prototype

Preprocessing

* Name Incoming traffic on interface \$1 (SNMP LLD)

Type SNMPv2 agent

* Key lld.ifInOctets[#{#IFDESCR}]

Select

* Host interface 192.168.1.29 : 161

* SNMP OID IF-MIB::ifInOctets.{#SNMPINDEX}

* SNMP community public

Port

Type of information Numeric (unsigned)

Units Bps

* Update interval 30s

SNMP interface discovery: Incoming traffic on interface enp0s3 (SNMP LLD) lld.ifInOctets[enp0s3]

SNMP interface discovery: Incoming traffic on interface lo (SNMP LLD) lld.ifInOctets[lo]

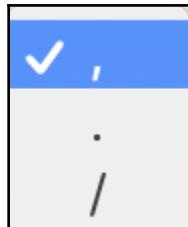
SNMP interface discovery: Incoming traffic on interface enp0s8 (SNMP LLD) lld.ifInOctets[enp0s8]

MySQL database discovery: Database information_schema size mysql.db.size[information_schema]

MySQL database discovery: Database zabbix size mysql.db.size[zabbix]

NAME ▲	LAST CHECK	LAST VALUE
MySQL (6 Items)		
Database information_schema size	2016-05-11 10:45:42	144 KB
Database zabbix size	2016-05-11 10:45:42	77.89 MB

✓ Character string included
 Any character string included
 Character string not included
 Result is TRUE
 Result is FALSE



Expressions	Test
* Name <input type="text" value="Exclude loopback"/>	
* Expressions	Expression type <input type="button" value="Result is FALSE"/> Expression <input type="text" value="^lo\$"/> Delimiter <input type="checkbox"/> Case sensitive <input type="button" value="Remove"/>
Add	

Expressions **Test**

Test string

Test expressions

Result	Expression type	Expression	Result
Character string included	A	TRUE	
Result is TRUE	^[0-9]	TRUE	
Result is FALSE	[0-9]\$	FALSE	
Combined result			FALSE

Add **Cancel**

<input type="checkbox"/> File systems for discovery	1 » ^(btrfs ext2 ext3 ext4 jfs reiser xfs ffs ufs jfs fs2 vxf ufs refs ntfs fat32 zfs)\$ [Result is TRUE]
<input type="checkbox"/> Network interfaces for discovery	1 » ^Nu[0-9.]\$ [Result is FALSE] 2 » ^[Ss]ystem\$ [Result is FALSE] 3 » ^[L]o[0-9.]\$ [Result is FALSE] 4 » ^NULL[0-9.]\$ [Result is FALSE] 5 » ^(In)?[L]oop[Bb]ack[0-9_]\$ [Result is FALSE] 6 » ^Software Loopback Interface [Result is FALSE]
<input type="checkbox"/> Storage devices for SNMP discovery	1 » ^(Physical memory Virtual memory Memory buffers Cached memory Swap space)\$ [Result is FALSE]
<input type="checkbox"/> Windows service names for discovery	1 » ^(MMCSS gupdate SysmonLog clr_optimization_v2.0.50727_32 clr_optimization_v4.0.30319_32)\$ [Result is FALSE]
<input type="checkbox"/> Windows service startup states for discovery	1 » ^(automatic automatic delayed)\$ [Result is TRUE]

Discovery rules

* Name A test discovery

Discovery by proxy

No proxy

* IP range 192.168.0.1-254

* Update interval

2m

* Checks

New

Check type

ICMP ping

Add Cancel

Device uniqueness criteria

IP address

Enabled



Add

Cancel

Status of discovery

Discovery rule all

Discovered device ▲

Monitored host

Uptime/Downtime

ICMP ping

A test discovery (4 devices)

192.168.1.18

00:02:42

2m 42s

192.168.1.23 (zabbixserver)

snmptraps

00:00:30

30s

192.168.1.25

Another host

00:00:26

26s

192.168.1.29

A test host

00:00:16

16s

* Checks

FTP

[Edit](#) [Remove](#)

ICMP ping

[Edit](#) [Remove](#)

SMTP

[Edit](#) [Remove](#)

[New](#)

Discovered device ▲	Monitored host	Uptime/Downtime	ICMP ping	SMTP
A test discovery (4 devices)				
192.168.1.18		00:15:31	15m 31s	
192.168.1.23 (zabbixserver)	snmptraps	00:13:19	13m 19s	
192.168.1.25	Another host	00:13:15	13m 15s	2m 30s

Discovered device ▲	Monitored host	Uptime/Downtime	ICMP ping	SMTP
A test discovery (4 devices)				
192.168.1.18		00:31:03	31m 3s	
192.168.1.23 (localhost)	snmptraps	00:28:51	28m 51s	10s
192.168.1.25	Another host	00:28:47	28m 47s	18m 2s
192.168.1.29	A test host	00:28:37	28m 37s	

- Discovery check
- Discovery object
- Discovery rule
- Discovery status
- ✓ Host IP**
- Proxy
- Received value
- Service port
- Service type
- Uptime/Downtime

Action Operations

Default subject	Discovery: {DISCOVERY.DEVICE.STATUS} {DISCOVERY.DEVICE.IPADDRESS}	
Default message	Discovery rule: {DISCOVERY.RULE.NAME} Device IP: {DISCOVERY.DEVICE.IPADDRESS} Device DNS: {DISCOVERY.DEVICE.DNS} Device status: {DISCOVERY.DEVICE.STATUS} Device uptime: {DISCOVERY.DEVICE.UPTIME}	
Operations	Details Add to host groups: Linux servers New	Action Edit Remove
* At least one operation must exist.		
Update Clone Delete Cancel		

* Groups

Discovered hosts 

Linux servers 

Select

type here to search

✓ Send message

Remote command

Add host

Remove host

Add to host group

Remove from host group

Link to template

Unlink from template

Enable host

Disable host

Set host inventory mode

Device uniqueness criteria

IP address

Zabbix agent "system.uname"

Host metadata

✓ Host name

Proxy

Chapter 12: Monitoring Web Pages

Step of web scenario

* Name

* URL

Query fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Post type Raw data

Raw post

Variables

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Headers

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Follow redirects

Retrieve only headers

* Timeout

Required string

Required status codes

Step of web scenario

* Name

* URL

Query fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Post type Form data Raw data

Post fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Variables

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Headers

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

[Add](#)

Follow redirects

Retrieve only headers

* Timeout

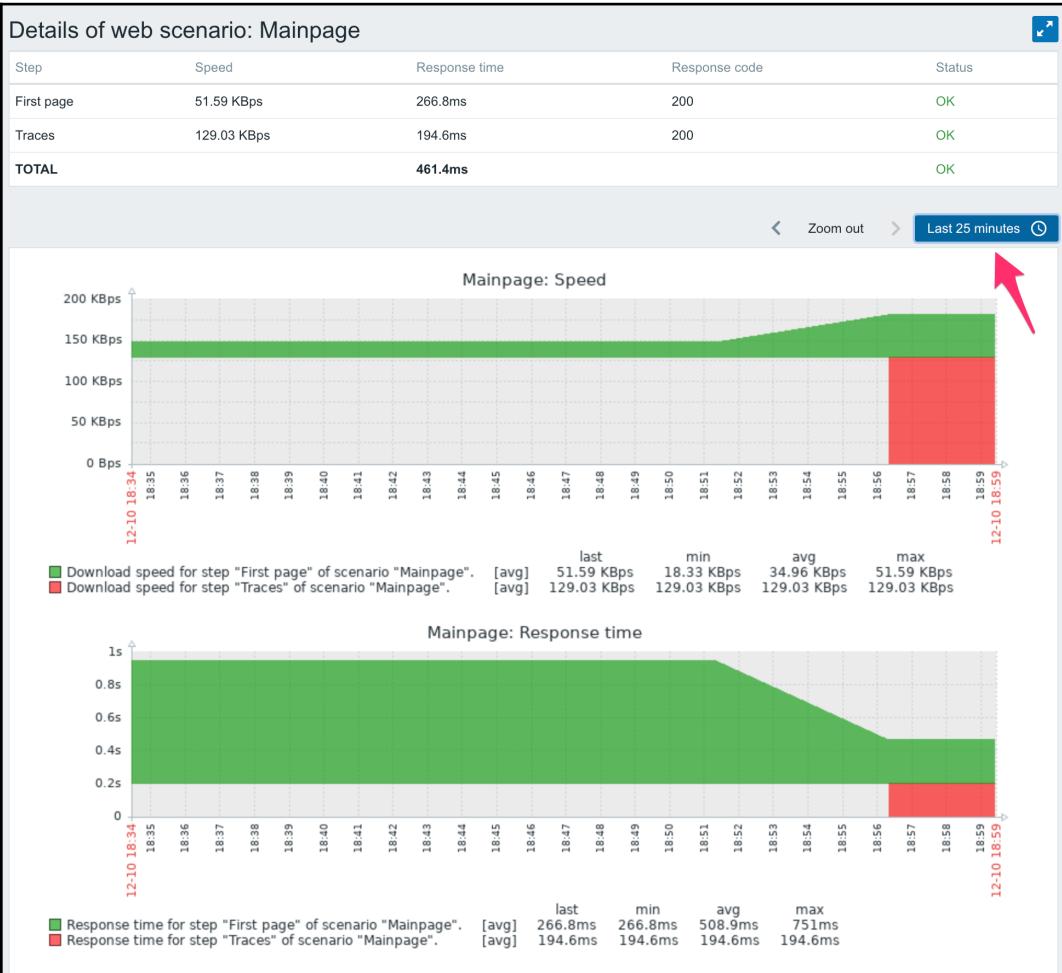
Required string

Required status codes

Web monitoring

Host	Name ▲	Number of steps	Last check	Status
OpenStreetMap	Mainpage	2	2018-12-10 18:56:22	OK

Displaying 1 of 1 found



Host	Name ▲	Last check	Last value	Change	
OpenStreetMap	Webpage (9 Items)				
	Download speed for scenario "Mainpage".	2018-12-10 19:01:22	103.01 KBps	+12.7 KBps	Graph
	Download speed for step "First page" of scenario "Mainpage".	2018-12-10 19:01:22	52.11 KBps	+532 Bps	Graph
	Download speed for step "Traces" of scenario "Mainpage".	2018-12-10 19:01:22	153.92 KBps	+24.88 KBps	Graph
	Failed step of scenario "Mainpage".	2018-12-10 19:01:22	0		Graph
	Last error message of scenario "Mainpage".				Hist...
	Response code for step "First page" of scenario "Mainpage".	2018-12-10 19:01:22	200		Graph
	Response code for step "Traces" of scenario "Mainpage".	2018-12-10 19:01:22	200		Graph
	Response time for step "First page" of scenario "Mainpage".	2018-12-10 19:01:22	264.1ms		Graph
	Response time for step "Traces" of scenario "Mainpage".	2018-12-10 19:01:22	163.6ms	- 30ms	Graph

Internet Explorer
Internet Explorer 11.0
Internet Explorer 10.0
Internet Explorer 9.0
Internet Explorer 8.0
Internet Explorer 7.0
Internet Explorer 6.0

Mozilla Firefox

Firefox 33.0 (Windows)
Firefox 33.0 (Linux)
Firefox 33.0 (Mac)

Google Chrome

Chrome 38.0 (Windows)
Chrome 38.0 (Linux)
Chrome 38.0 (Mac)
Chromium 37.0 (Linux)

Opera

Opera 25.0 (Windows)
Opera 25.0 (Mac)
Opera 12.16 (Linux)
Opera Mobile 12.02
Opera Mini 9.80

Safari

Safari 7.0.6 (Mac)
Safari 5.1.7 (Windows)
Safari 6.0 (iPad)
Safari 5.0.2 (iPhone)

Others

- ✓ Zabbix
- Konqueror 4.14.2
- Lynx 2.8.8rel.2
- Links 2.8
- Android Webkit Browser 4.4.4
- Googlebot 2.1
- other ...

HTTP proxy

http://[user[:password]@]proxy.example.com[:port]

Condition

* Item OpenStreetMap: Failed step of scenario "Mainpage".

Select

Function last() - Last (most recent) T value

Last of (T)

Count

Time shift

Time

* Result

<> ▲ 0

Insert

Cancel

Scenario Steps Authentication

* Name

Application

New application

* Update interval

* Attempts

Agent

HTTP proxy

Variables

Name	Value	Remove
{user}	⇒ Admin	<input type="button" value="Remove"/>
{password}	⇒ zabbix	<input type="button" value="Remove"/>

[Add](#)

Headers

Name	Value	Remove
name	⇒ value	<input type="button" value="Remove"/>

[Add](#)

Enabled

Step of web scenario

* Name	Log in									
* URL	http://192.168.1.23/zabbix/index.php	<input type="button" value="Parse"/>								
Query fields	<table border="1"><thead><tr><th>Name</th><th>Value</th></tr></thead><tbody><tr><td>name</td><td>value</td></tr></tbody></table> <input type="button" value="Add"/> <input type="button" value="Remove"/>		Name	Value	name	value				
Name	Value									
name	value									
Post type	<input checked="" type="radio"/> Form data	<input type="radio"/> Raw data								
Post fields	<table border="1"><thead><tr><th>Name</th><th>Value</th></tr></thead><tbody><tr><td>name</td><td>{user}</td></tr><tr><td>password</td><td>{password}</td></tr><tr><td>enter</td><td>Sign in</td></tr></tbody></table> <input type="button" value="Add"/> <input type="button" value="Remove"/> <input type="button" value="Remove"/> <input type="button" value="Remove"/>		Name	Value	name	{user}	password	{password}	enter	Sign in
Name	Value									
name	{user}									
password	{password}									
enter	Sign in									
Variables	<table border="1"><thead><tr><th>Name</th><th>Value</th></tr></thead><tbody><tr><td>{sid}</td><td>regex:name="csrf-token" content="([0-9a-f]{32})"</td></tr></tbody></table> <input type="button" value="Add"/> <input type="button" value="Remove"/>		Name	Value	{sid}	regex:name="csrf-token" content="([0-9a-f]{32})"				
Name	Value									
{sid}	regex:name="csrf-token" content="([0-9a-f]{32})"									
Headers	<table border="1"><thead><tr><th>Name</th><th>Value</th></tr></thead><tbody><tr><td>name</td><td>value</td></tr></tbody></table> <input type="button" value="Add"/> <input type="button" value="Remove"/>		Name	Value	name	value				
Name	Value									
name	value									
Follow redirects	<input checked="" type="checkbox"/>									
Retrieve only headers	<input type="checkbox"/>									
* Timeout	15s									
Required string										
Required status codes	200									
<input type="button" value="Update"/> <input type="button" value="Cancel"/>										

Step of web scenario

* Name Parse

* URL Parse

Query fields

Name	Value	Remove
reconnect	1	Remove
sid	{sid}	Remove

[Add](#)

Post type Form data Raw data

Post fields

Name	Value	Remove
name	value	Remove

[Add](#)

Variables

Name	Value	Remove
name	value	Remove

[Add](#)

Headers

Name	Value	Remove
name	value	Remove

[Add](#)

Follow redirects

Retrieve only headers

* Timeout

Required string

Required status codes

Update Cancel

Details of web scenario: Zabbix frontend

Step	Speed	Response time	Response code	Status
First page	82.56 Kbps	41.5ms	200	OK
Log in	267.48 Kbps	103.1ms	200	OK
Check login	274.71 Kbps	100.4ms	200	OK
Log Out	84.04 Kbps	41.1ms	200	OK
Check logout	84.23 Kbps	40.7ms	200	OK
TOTAL		326.8ms		OK

Zabbix frontend: Speed

This chart displays the download speeds for each step of the scenario. The total speed remains relatively constant around 326.8 Kbps. The steps are color-coded: First page (light blue), Log in (light green), Check login (light purple), Log Out (light red), and Check logout (light orange). The x-axis shows time from 12:46:50 to 12:48:50, and the y-axis shows speed from 0 to 800 Kbps.

Step	last	min	avg	max
Download speed for step "First page" of scenario "Zabbix frontend".	[avg] 82.56 KBps	50.23 KBps	66.4 KBps	82.56 KBps
Download speed for step "Log in" of scenario "Zabbix frontend".	[avg] 267.48 KBps	248.28 KBps	257.88 KBps	267.48 KBps
Download speed for step "Check login" of scenario "Zabbix frontend".	[avg] 274.71 KBps	267.56 KBps	271.13 KBps	274.71 KBps
Download speed for step "Log Out" of scenario "Zabbix frontend".	[avg] 84.04 KBps	79.24 KBps	81.64 KBps	84.04 KBps
Download speed for step "Check logout" of scenario "Zabbix frontend".	[avg] 84.23 KBps	83.15 KBps	83.69 KBps	84.23 KBps

Zabbix frontend: Response time

This chart displays the response times for each step of the scenario. The total response time fluctuates between 300ms and 400ms. The steps are color-coded: First page (light blue), Log in (light green), Check login (light purple), Log Out (light red), and Check logout (light orange). The x-axis shows time from 12:46:50 to 12:51:30, and the y-axis shows response time from 0 to 400ms.

Step	last	min	avg	max
Response time for step "First page" of scenario "Zabbix frontend".	[avg] 41.5ms	41.5ms	54.63ms	69.2ms
Response time for step "Log in" of scenario "Zabbix frontend".	[avg] 103.1ms	103.1ms	107.1ms	111.1ms
Response time for step "Check login" of scenario "Zabbix frontend".	[avg] 100.4ms	100.4ms	101.75ms	103.1ms
Response time for step "Log Out" of scenario "Zabbix frontend".	[avg] 41.1ms	41.1ms	42.35ms	43.6ms
Response time for step "Check logout" of scenario "Zabbix frontend".	[avg] 40.7ms	40.7ms	40.95ms	41.2ms

Scenario Steps Authentication

HTTP authentication None

SSL verify peer

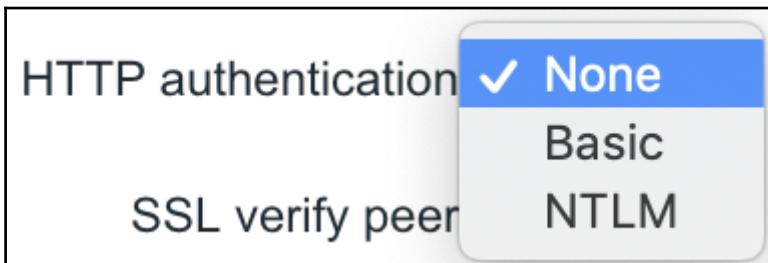
SSL verify host

SSL certificate file

SSL key file

SSL key password

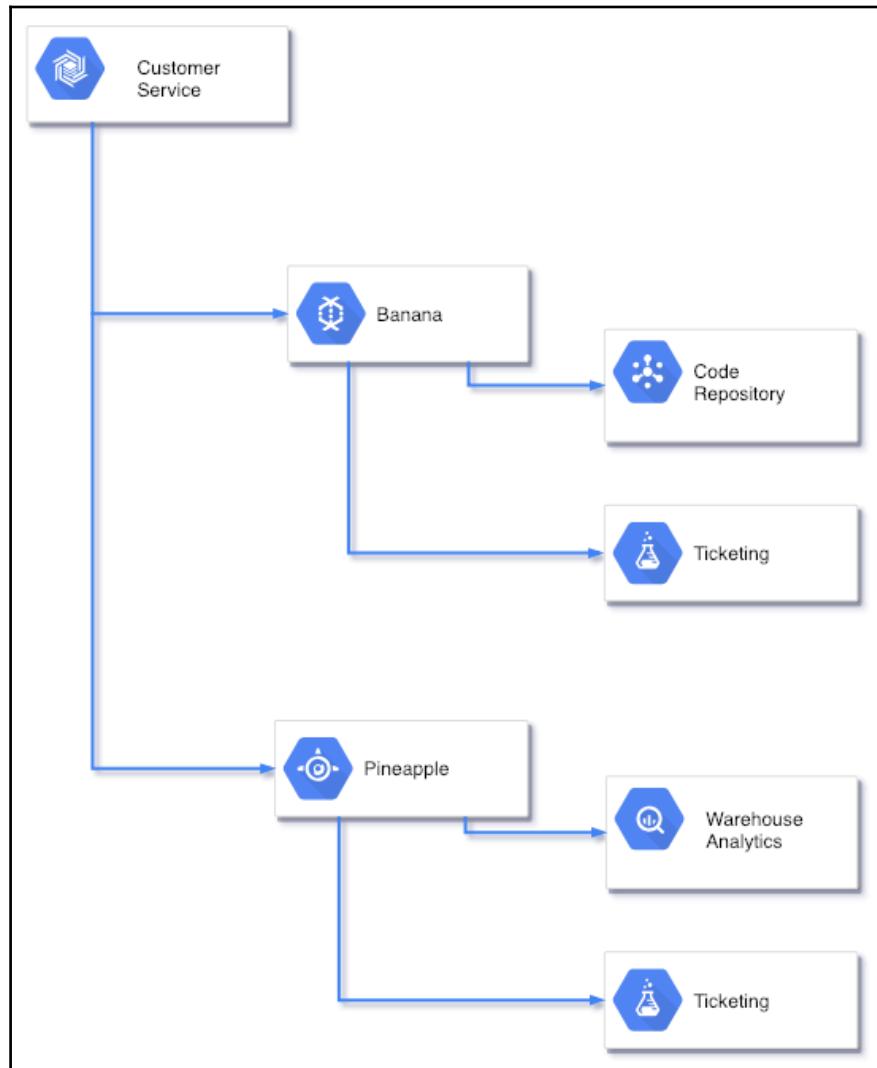
Update Clone Clear history and trends Delete Cancel



<input type="checkbox"/>	Zabbix main page	2018-12-16 14:01:08	HTTP/1.1 200 OK ...	Hist...
<input type="checkbox"/>	Zabbix remembers me for	2018-12-16 14:01:10	30	Hist...
<input type="checkbox"/>	Zabbox main page load time	2018-12-16 14:01:09	61.4ms	+10ms Graph

▼	<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼	A test host	OSM (1 item)			
	<input type="checkbox"/>	OpenStreetMap main page	2018-12-16 14:20:11	HTTP/1.1 200 OK ...	Hist...

Chapter 13: High-Level Business Service Monitoring

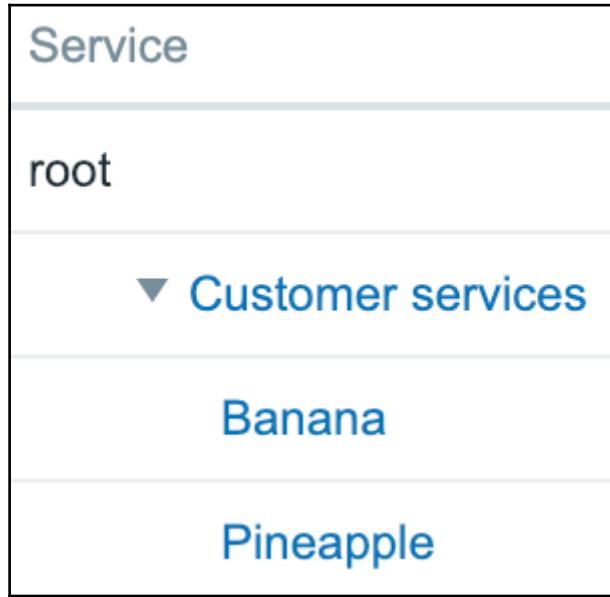


All hosts / IT services		Enabled	ZBX	SNMP	JMX	IPMI	Applications 1	Items 3	Triggers 3	Graphs	Discovery rules	Web scenarios	Filter
<input type="checkbox"/>	Wizard	Name ▲	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info		
<input type="checkbox"/>	***	Code repository service	Triggers 1	code_repo	90d	365d	Zabbix trapper	IT services	Enabled				
<input type="checkbox"/>	***	Ticketing service	Triggers 1	ticketing	90d	365d	Zabbix trapper	IT services	Enabled				
<input type="checkbox"/>	***	Warehouse analytics service	Triggers 1	warehouse_analytics	90d	365d	Zabbix trapper	IT services	Enabled				

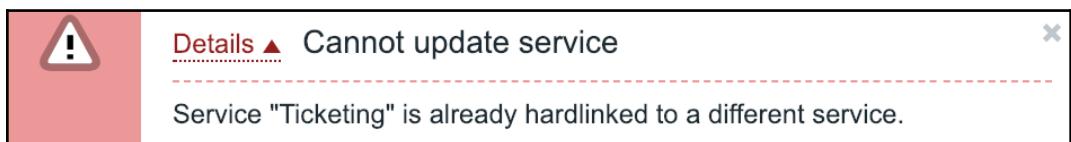
Displaying 3 of 3 found

	Severity	Value	Name ▲	Expression	Status	Info	Tags
<input type="checkbox"/>	High	OK	Code repository down	{IT services:code_repo.last()}=0	Enabled		
<input type="checkbox"/>	High	OK	Ticketing down	{IT services:ticketing.last()}=0	Enabled		
<input type="checkbox"/>	High	OK	Warehouse analytics down	{IT services:warehouse_analytics.last()}=0	Enabled		

Displaying 3 of 3 found



Service	Dependencies	Time
<p>* Name <input type="text" value="Code repository"/></p> <p>* Parent service <input type="text" value="Banana"/> <input type="button" value="Change"/></p> <p>Status calculation algorithm <input type="button" value="Problem, if at least one child has a problem"/></p> <p>Calculate SLA, acceptable SLA (in %) <input checked="" type="checkbox"/> <input type="text" value="99.9000"/></p> <p>Trigger <input type="text" value="IT services: Code repository down"/> <input type="button" value="Select"/></p> <p>* Sort order (0->999) <input type="text" value="0"/></p>	<input type="button" value="Update"/> <input type="button" value="Delete"/> <input type="button" value="Cancel"/>	



Service	Action	Status calculation	Trigger
root	Add child		
Customer services	Add child	Problem, if at least one child has a problem	
Banana	Add child	Problem, if at least one child has a problem	
Code repository	Add child Delete	Problem, if at least one child has a problem	Code repository down
Ticketing	Add child Delete	Problem, if at least one child has a problem	Ticketing down
Pineapple	Add child	Problem, if at least one child has a problem	
Ticketing	Add child Delete	Problem, if at least one child has a problem	Ticketing down
Warehouse analytics	Add child Delete	Problem, if at least one child has a problem	Warehouse analytics down

Service	Status	Reason	Problem time	SLA / Acceptable SLA
root				
▼ Customer services	OK			
▼ Banana	OK		<div style="width: 80%;"><div style="width: 100%;">1.1905</div></div>	98.8095 / 99.9000
Code repository - Code repository down	OK		<div style="width: 80%;"><div style="width: 100%;">1.1905</div></div>	98.8095 / 99.9000
Ticketing - Ticketing down	OK		<div style="width: 100%;">0.0000</div>	100.0000 / 99.9000
▼ Pineapple	OK		<div style="width: 100%;">0.0000</div>	100.0000 / 99.9000
Ticketing - Ticketing down	OK		<div style="width: 100%;">0.0000</div>	100.0000 / 99.9000
Warehouse analytics - Warehouse analytics down	OK		<div style="width: 100%;">0.0000</div>	100.0000 / 99.9000

80%

100%

1.1905

98.8095 / 99.9000

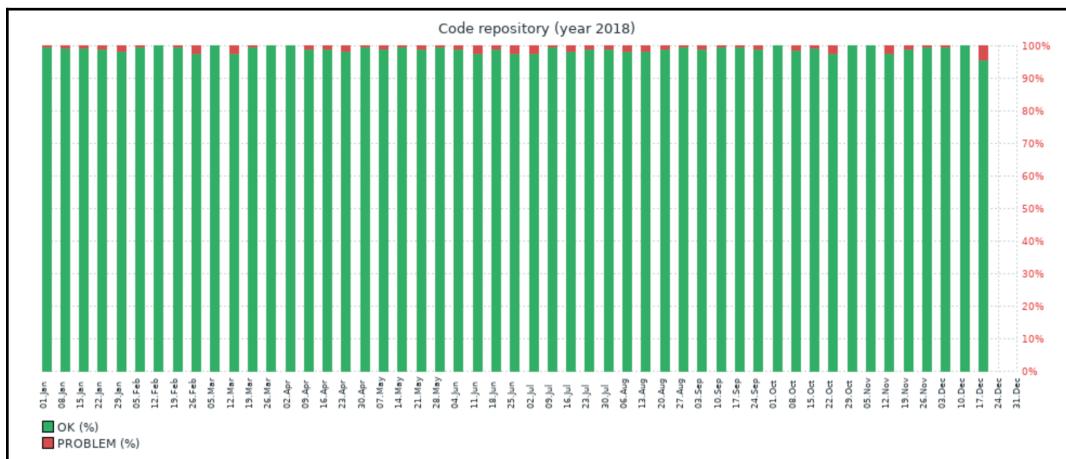
Only the last 20% of the indicator is displayed.

Today
This week
This month
This year
Last 24 hours
✓ Last 7 days
Last 30 days
Last 365 days

Service availability report: Banana

Period **Yearly** 

Year	Ok	Problems	Downtime	SLA	Acceptable SLA
2018	344d 5h 34m	7d 16h 0m		97.8213	99.9000
2017	364d 18h 0m	0d 6h 0m		99.9315	99.9000
2016	366d 0h 0m			100.0000	99.9000
2015	365d 0h 0m			100.0000	99.9000
2014	365d 0h 0m			100.0000	99.9000
2013	365d 0h 0m			100.0000	99.9000



New service time

Period type One-time downtime

Note short description

* From 2018-12-18 00:00



* Till 2018-12-19 00:00



Add

Update

Delete

Cancel

New service time

Period type Downtime

* From Sunday Time hh : mm

* Till Sunday Time hh : mm

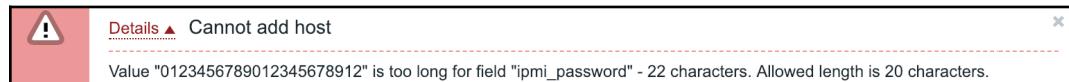
Add

Update

Delete

Cancel

Chapter 14: Monitoring IPMI Devices



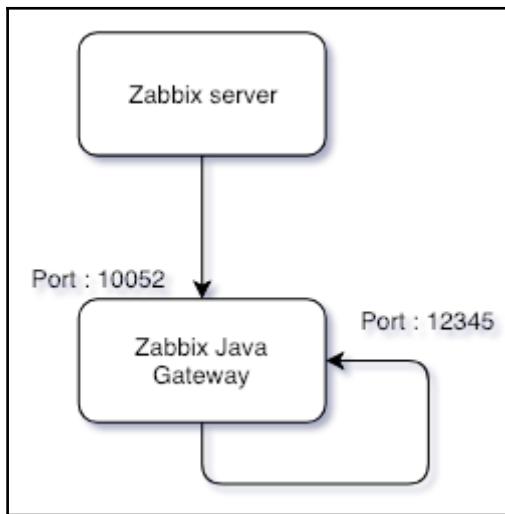
NAME ▲	LAST CHECK	LAST VALUE
- other - (1 Item)		
System Fan 2	2016-05-18 12:26:49	3348 RPM

Chapter 15: Monitoring Java Applications

JMX interfaces

<input type="text" value="127.0.0.1"/>	<input type="text"/>	<input checked="" type="radio"/> IP	<input type="radio"/> DNS	<input type="text" value="12345"/>	<input checked="" type="radio"/> Remove
--	----------------------	-------------------------------------	---------------------------	------------------------------------	---

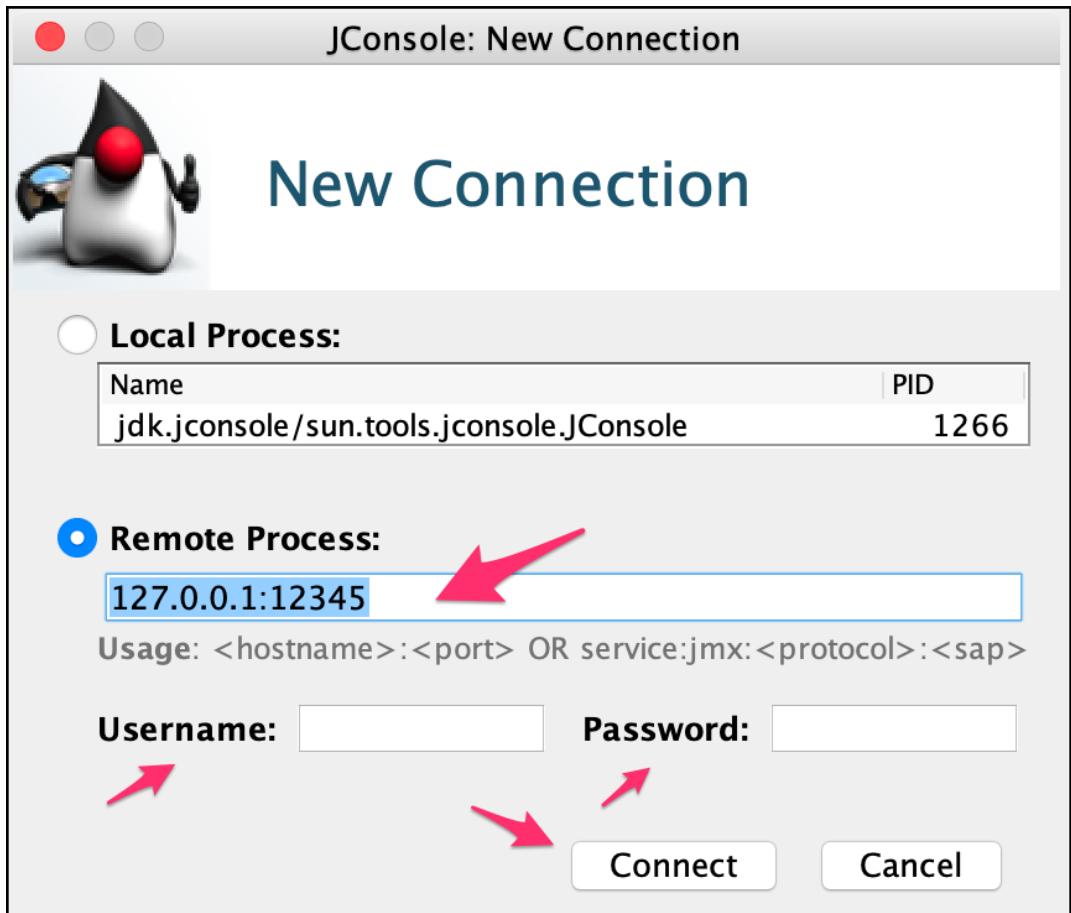
[Add](#)

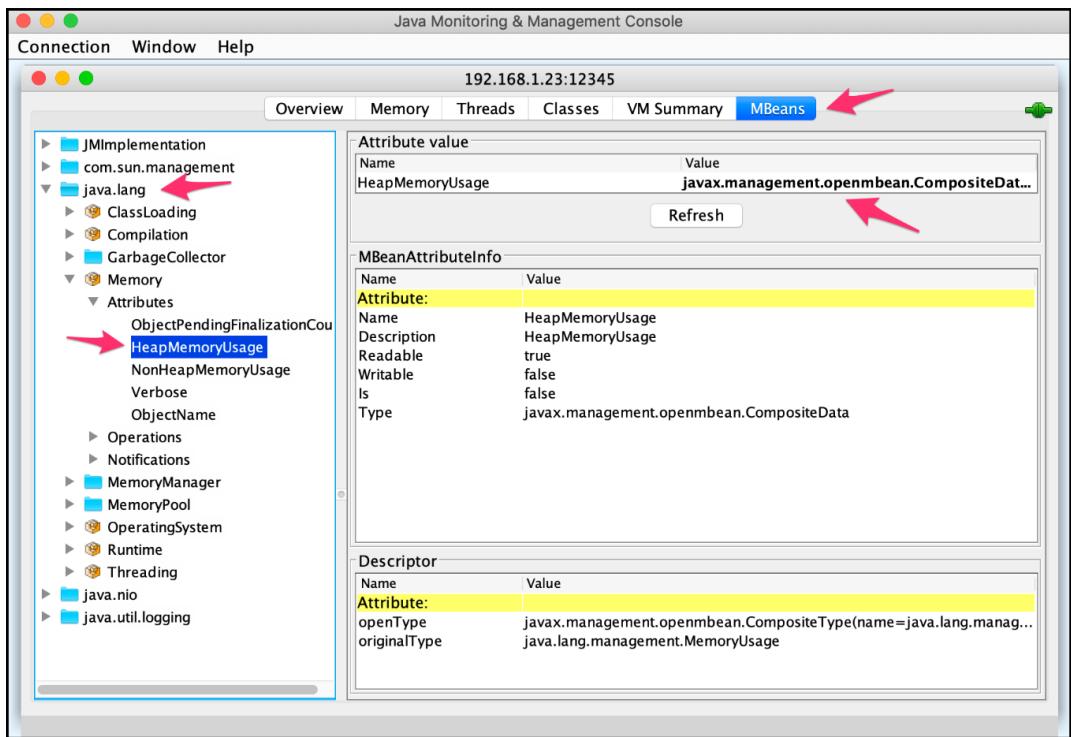


JMX interfaces

<input type="text" value="127.0.0.1"/>	<input type="text"/>	<input checked="" type="radio"/> IP	<input type="radio"/> DNS	<input type="text" value="12345"/>	<input checked="" type="radio"/> Remove
--	----------------------	-------------------------------------	---------------------------	------------------------------------	---

[Add](#)





Screenshot of the JConsole interface showing the MBeans tab for the host 192.168.1.23:12345. The left pane displays a tree view of MBeans, and the right pane shows detailed attribute values.

MBeans Tab:

- Overview
- Memory
- Threads
- Classes
- VM Summary
- MBeans

Tree View (Left):

- JImplementation
- com.sun.management
- java.lang
 - ClassLoader
 - Compilation
 - GarbageCollector
 - Memory
 - Attributes
 - ObjectPendingFinalizationCount
 - HeapMemoryUsage**
 - NonHeapMemoryUsage
 - Verbose
 - ObjectName
 - Operations
 - Notifications
 - MemoryManager
 - MemoryPool
 - OperatingSystem
 - Runtime
 - Threading
- java.nio
- java.util.logging

Attribute Value (Right):

HeapMemoryUsage

Name	Value
committed	32571392
init	33554432
max	506855424
used	10119224

MBeanAttributeInfo

Name	Value
Attribute:	
Name	HeapMemoryUsage
Description	HeapMemoryUsage
Readable	true
Writable	false
Is	false
Type	javax.management.openmbean.CompositeData

Descriptor

Name	Value
Attribute:	
openType	javax.management.openmbean.CompositeType(name=java.lang.management.MemoryUsage,items=(i...)
originalType	java.lang.management.MemoryUsage

Discovery rule**Filters**

* Name

Type 

* Key

* Host interface 

* JMX endpoint

User name

Password

* Update interval

Custom intervals	Type	Interval	Period	Action
	<input checked="" type="radio"/> Flexible <input type="radio"/> Scheduling	<input type="text" value="50s"/>	<input type="text" value="1-7,00:00-24:00"/>	Remove
	Add			

* Keep lost resources period

Description

Enabled

[Add](#)

[Cancel](#)

Item prototype **Preprocessing**

* Name

Type

* Key

* Host interface

* JMX endpoint

User name

Password

Type of information

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼ <input type="checkbox"/> Zabbix Java gateway	java.lang:type=GarbageCollector,name=Copy,ObjectName (1 item)			
<input type="checkbox"/>	java.gc.java.lang:type=GarbageCollector,name=Copy-CollectionCount	2018-12-22 15:00:16	21	<input type="button" value="Graph"/>
▼ <input type="checkbox"/> Zabbix Java gateway	java.lang:type=GarbageCollector,name=MarkSweepCompact,ObjectName (1 item)			
<input type="checkbox"/>	java.gc.java.lang:type=GarbageCollector,name=MarkSweepCompact-Col...	2018-12-22 15:00:16	3	<input type="button" value="Graph"/>

Chapter 16: Monitoring VMware

NAME ▲	LAST CHECK	LAST VALUE
CPU (5 Items)		
CPU cores	2015-11-02 10:49:58	4
CPU frequency	2015-11-02 10:49:56	2.53 GHz
CPU model	2015-11-02 10:49:57	Intel(R) Xeon(R) CPU
CPU threads	2015-11-02 10:49:59	8
CPU usage	2015-11-02 10:59:51	61 MHz
Datastore (2 Items)		
Average read latency of the datastore datastore1	2015-11-02 10:59:44	0
Average write latency of the datastore datastore1	2015-11-02 10:59:45	0

NAME ▲	LAST CHECK	LAST VALUE
CPU (2 Items)		
CPU usage	2015-11-02 11:17:14	10 MHz
Number of virtual CPUs	2015-11-02 11:17:13	1
Disks (4 Items)		
Average number of kilobytes read from the disk Hard disk 1	2015-11-02 11:16:50	0 Bps
Average number of kilobytes written to the disk Hard disk 1	2015-11-02 11:16:52	1 KBps
Average number of reads from the disk Hard disk 1	2015-11-02 11:16:51	0
Average number of writes to the disk Hard disk 1	2015-11-02 11:16:53	0
Filesystems (4 Items)		
Free disk space on /	2015-11-02 11:16:54	2.64 GB
Free disk space on / (percentage)	2015-11-02 11:16:55	68.03 %
Total disk space on /		
Used disk space on /	2015-11-02 11:16:57	1.24 GB

<input type="checkbox"/>	Wizard	Name ▲	Triggers	Key	Interval
<input type="checkbox"/>	...	Event log		vmware.eventlog[{\$URL}]	1m
<input type="checkbox"/>	...	Full name		vmware.fullname[{\$URL}]	1h
<input type="checkbox"/>	...	Version		vmware.version[{\$URL}]	1h

Host Groups Templates Host inventory Encryption

* Host name

Visible name

Create enabled

Host Groups Templates Host inventory Encryption

* Groups Select
type here to search

Group prototypes Remove
 Remove

Add

Host Groups Templates Host inventory Encryption

* Host name

Visible name

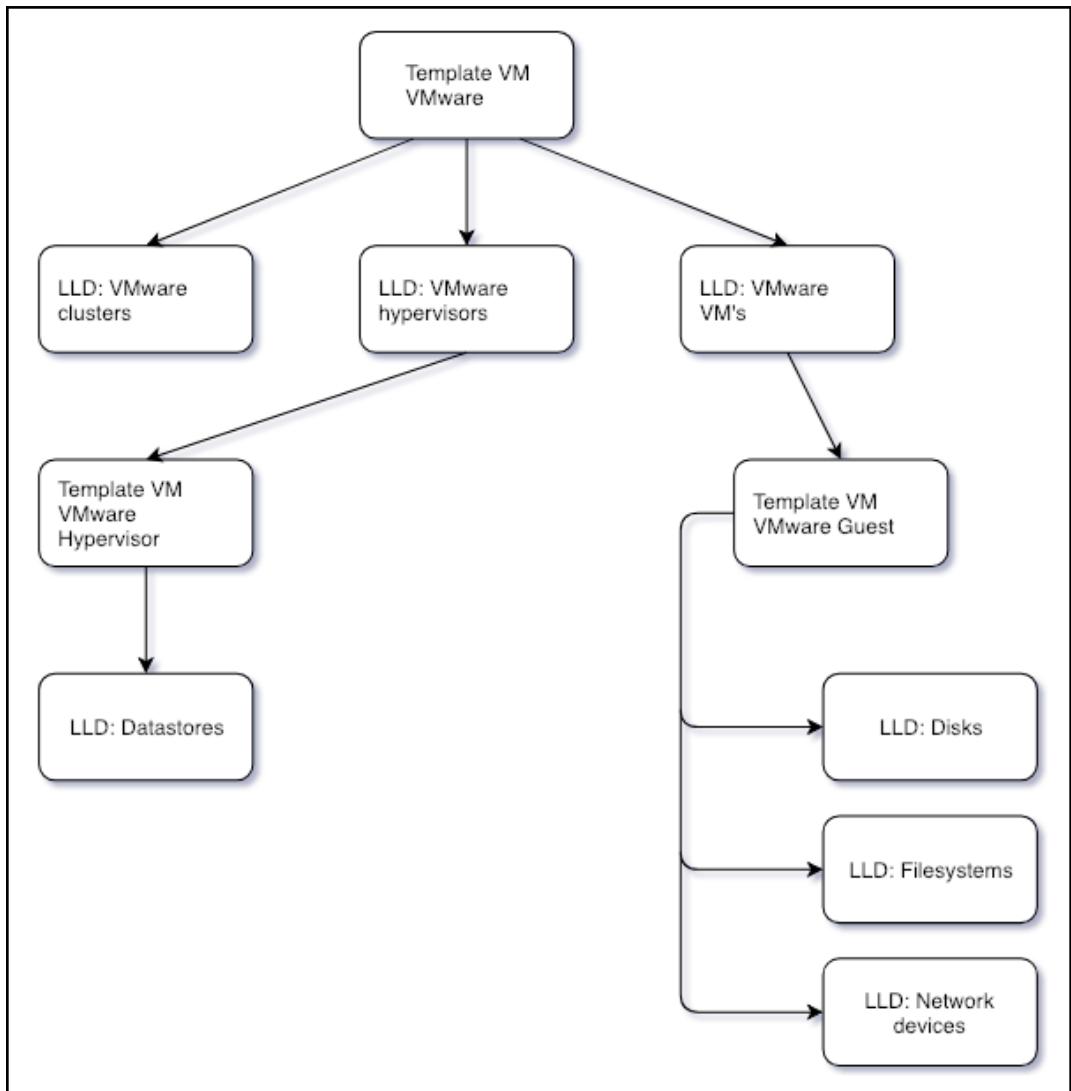
Create enabled

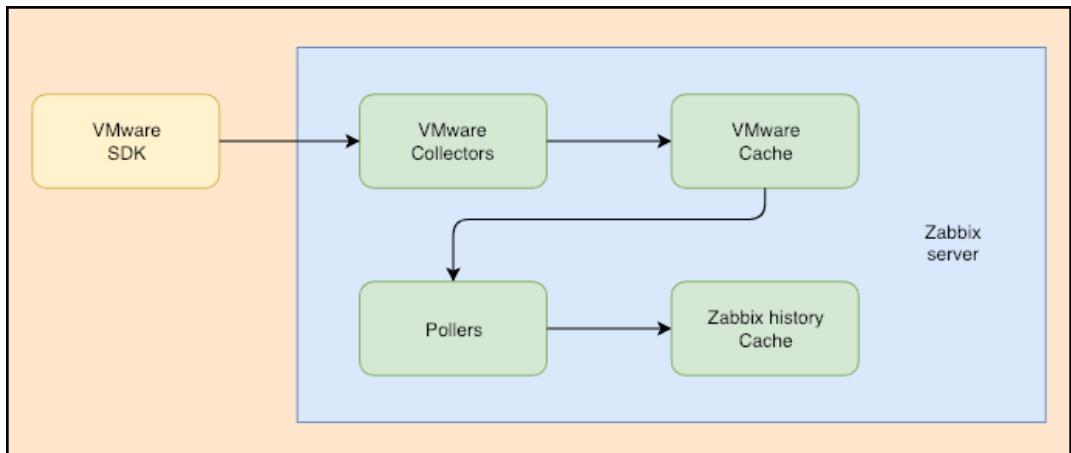
HOST

A test virtual machine
(ca2642f7-345c-40ee-b8f6-75341cc8c84c)

{#HV.NAME}

{#CLUSTER.NAME} (vm)





Chapter 17: Using Proxies to Monitor Remote Locations

Proxies

Proxy Encryption

* Proxy name |

Proxy mode Active Passive

Proxy address

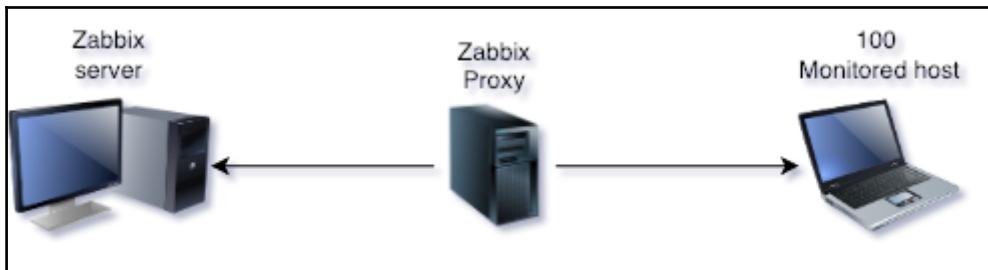
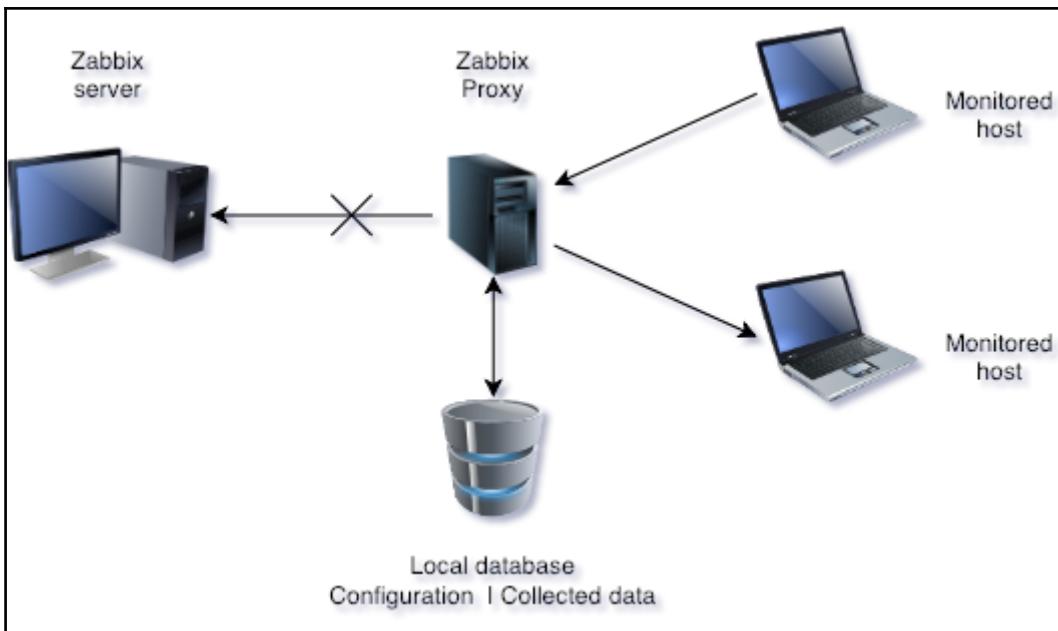
Description

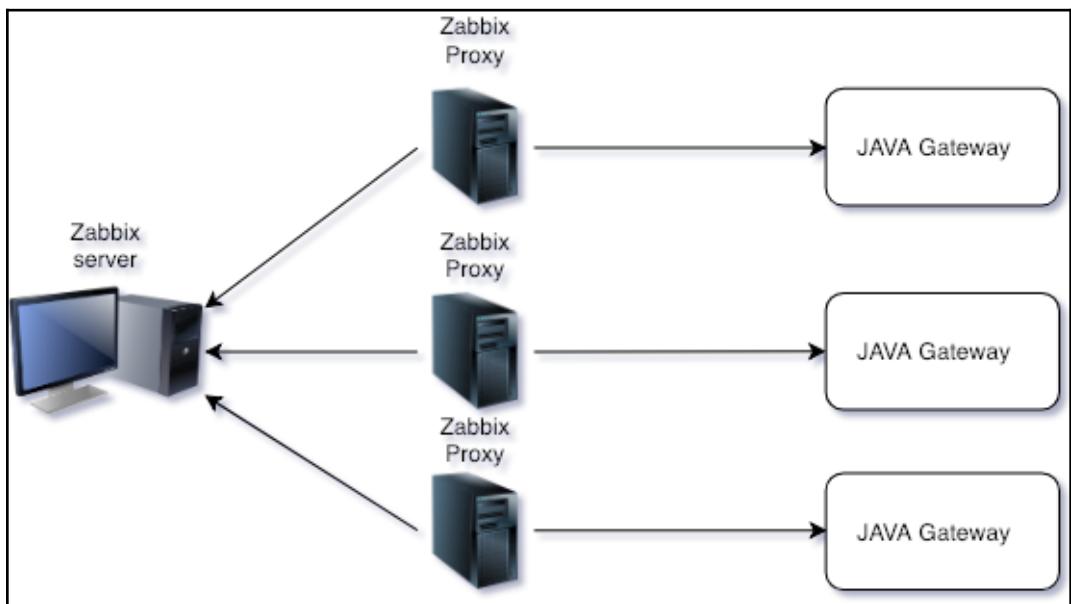
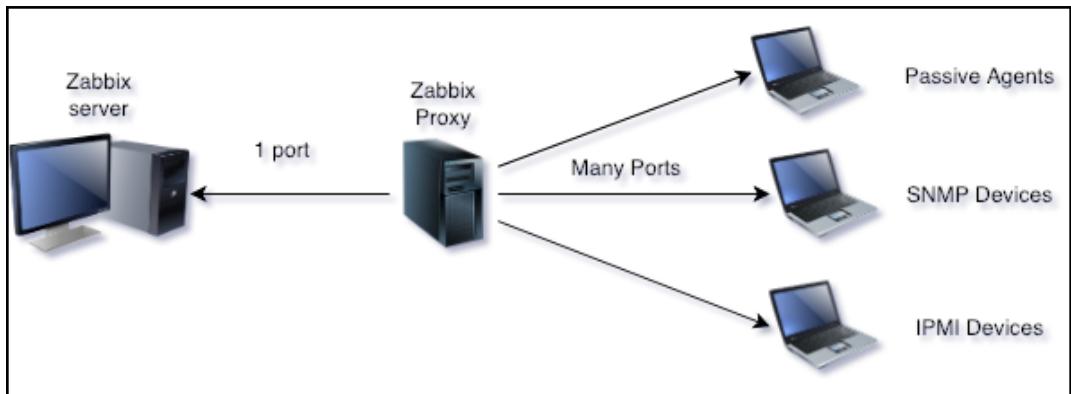
Add Cancel

Monitored by proxy First proxy ▲

<input type="checkbox"/> Name ▲	Mode	Encryption	Compression	Last seen (age)	Host count	Item count	Required performance (vps)	Hosts
<input type="checkbox"/> First proxy	Active	NONE	ON	2s	0	0	0	Displaying 1 of 1 found

<input type="checkbox"/>	Name ▲
<input type="checkbox"/>	First proxy: Another host

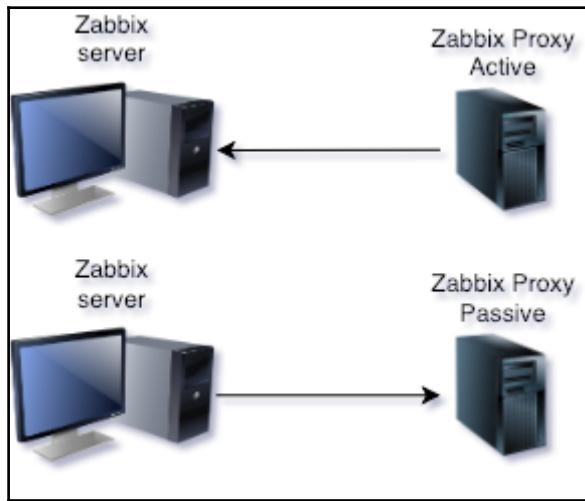




Execute on	Zabbix agent	Zabbix server (proxy)	Zabbix server
------------	--------------	-----------------------	---------------

<input type="checkbox"/> Host	Name ▲	Last check	Last value
▼ <input type="checkbox"/> Another host	- other - (1 Item)		
<input type="checkbox"/>	First proxy: last access	2018-12-28 15:03:17	2018-12-28 15:03:16

<input type="checkbox"/> Host	Name ▲	Last check	Last value
▼ Another host	proxy (1 Item)		
	First proxy: buffer size	2018-12-28 15:12:18	1



Proxy	Encryption								
* Proxy name	<input type="text" value="First proxy"/>								
Proxy mode	<input checked="" type="radio"/> Active <input type="radio"/> Passive								
* Interface	<table border="1"> <tr> <td>IP address</td> <td>DNS name</td> <td>Connect to</td> <td>Port</td> </tr> <tr> <td><input type="text" value="192.168.1.23"/></td> <td><input type="text" value="localhost"/></td> <td><input checked="" type="radio"/> IP <input type="radio"/> DNS</td> <td><input type="text" value="10051"/></td> </tr> </table>	IP address	DNS name	Connect to	Port	<input type="text" value="192.168.1.23"/>	<input type="text" value="localhost"/>	<input checked="" type="radio"/> IP <input type="radio"/> DNS	<input type="text" value="10051"/>
IP address	DNS name	Connect to	Port						
<input type="text" value="192.168.1.23"/>	<input type="text" value="localhost"/>	<input checked="" type="radio"/> IP <input type="radio"/> DNS	<input type="text" value="10051"/>						
Description	<input type="text"/>								
<input type="button" value="Update"/> <input type="button" value="Clone"/> <input type="button" value="Delete"/> <input type="button" value="Cancel"/>									

Chapter 18: Encrypting Zabbix Traffic

Host Templates IPMI Macros Host inventory **Encryption**

Connections to host

Connections from host No encryption PSK Certificate

* PSK identity

* PSK

Enabled

Enabled

Chapter 19: Working Closely with Data

A test host: CPU Load

View as Values As plain text

Zoom out 2018-11-25 17:07:35 – 2018-11-25 18:34:19

Timestamp	CPU Load
2018-11-25 18:34:11	2
2018-11-25 18:33:11	2
2018-11-25 18:32:11	2

A test host: CPU Load

View as Values As plain text

From now-1h To now Apply

Last 2 days Yesterday Today Last 5 minutes
Last 7 days Day before yesterday Today so far Last 15 minutes
Last 30 days This day last week This week Last 30 minutes
Last 3 months Previous week This week so far Last 1 hour
Last 6 months Previous month This month Last 3 hours
Last 1 year Previous year This month so far Last 6 hours
Last 2 years This year Last 12 hours
This year so far Last 1 day

Timestamp	CPU Load
2018-12-30 13:27:11	0.01
2018-12-30 13:26:11	0.02
2018-12-30 13:25:11	0.05

```
+-----+-----+-----+-----+-----+-----+
| userid | alias | name   | surname    | passwd          | url   |
+-----+-----+-----+-----+-----+-----+
|      1 | Admin | Zabbix | Administrator | 5fce1b3e34b520afeffb37ce08c7cd66 |      |
|      2 | guest |        |             | d41d8cd98f00b204e9800998ecf8427e |      |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

A test host: Incoming traffic on enp0s3

```
2018-12-30 14:18:39 1546172319 453
2018-12-30 14:18:09 1546172289 395
2018-12-30 14:17:39 1546172259 393
2018-12-30 14:17:09 1546172229 399
```



Imported successfully



[C_Template_Email: POP3 server status](#) net.tcp.service[pop3]

Item **Preprocessing**

* Name

Type

* Key

* URL

Query fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

Request type

Timeout

Request body type

Request body

```
{ "jsonrpc": "2.0", "method": "apiinfo.version", "params": [], "id": 1 }
```

Headers

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

Required status codes

Follow redirects

Retrieve mode

Convert to JSON

HTTP proxy

HTTP authentication

SSL verify peer

SSL verify host

SSL certificate file

SSL key file

SSL key password

* Host interface

Type of information

Item Preprocessing				
Preprocessing steps	Name	Parameters	Action	
	<input type="button" value="JSON Path"/> ▼	<input type="text" value="\$result"/>		Remove

Host	Name ▲	Last check	Last value	Change
▼ A test host	- other - (1 Item)			
	Check Zabbix API Version	2018-12-30 15:37:58	4.0.2	Hist...

Mapping things	foo ⇒ bar
	this ⇒ that

Chapter 20: Zabbix Maintenance

System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	95	11 / 0 / 84
Number of items (enabled/disabled/not supported)	115	114 / 0 / 1
Number of triggers (enabled/disabled [problem/ok])	31	31 / 0 [9 / 22]
Number of users (online)	4	2
Required server performance, new values per second	5.86	

Item **Preprocessing**

* Name	Expected NVPS								
Type	Zabbix internal								
* Key	<input type="text" value="zabbix[requiredperformance]"/> Select								
Type of information	Numeric (float)								
Units	NVPS								
* Update interval	30s								
Custom intervals	<table border="1"> <thead> <tr> <th>Type</th> <th>Interval</th> <th>Period</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Flexible</td> <td>Scheduling</td> <td>50s</td> <td>1-7,00:00-24:00 Remove</td> </tr> </tbody> </table> Add	Type	Interval	Period	Action	Flexible	Scheduling	50s	1-7,00:00-24:00 Remove
Type	Interval	Period	Action						
Flexible	Scheduling	50s	1-7,00:00-24:00 Remove						
* History storage period	90d								
* Trend storage period	365d								
Show value	As is show value mappings								
New application	Zabbix performance								

▼	A test host	Zabbix performance (1 Item)
<input type="checkbox"/>	Expected NVPS	2018-12-31 14:29:32 5.89 NVPS

▼	A test host	Zabbix performance (2 Items)
<input type="checkbox"/>	Expected NVPS	2018-12-31 14:42:32 5.92 NVPS
<input type="checkbox"/>	Real NVPS	2018-12-31 14:42:33 2.8 NVPS

▼	<input type="checkbox"/> Host	Name ▲	Last check	Last value
▼	A test host	- other - (1 Item)		
	<input type="checkbox"/>	Zabbix server uptime	2018-12-31 14:45:34	00:27:38

A test host	- other - (1 Item)
	Zabbix configuration cache, % free 2018-12-31 14:48:05 96.17 %

A test host	Zabbix process busy rates (1 Item)
	Zabbix busy process poller rate 2018-12-31 14:53:36 0.58 %

Templates							
Template	Applications	Items	Triggers	Graphs	Screens	Discovery	Web
Template App Zabbix Agent	Applications 1	Items 3	Triggers 3	Graphs	Screens	Discovery	Web
Template App Zabbix Proxy	Applications 1	Items 31	Triggers 23	Graphs 4	Screens 1	Discovery	Web
Template App Zabbix Server	Applications 1	Items 42	Triggers 31	Graphs 6	Screens 1	Discovery	Web

Displaying 3 of 3 found

A test host	- other - (1 Item)
	Amount of unsupported items 2018-12-31 15:03:07 14

A test host	- other - (1 Item)
	Unsupported item count 2018-12-31 15:07:30 0

New condition	Event type <input type="button" value="▼"/> equals <input not="" state"="" supported"="" type="button" value="Item in "/> <input type="button" value="▼"/>
	Add

<input type="checkbox"/> Report not supported items	Event type equals <i>Item in "not supported" state</i>	Send message to user groups: Zabbix administrators via all media	Disabled
<input type="checkbox"/> Report not supported low level discovery rules	Event type equals <i>Low-level discovery rule in "not supported" state</i>	Send message to user groups: Zabbix administrators via all media	Disabled
<input type="checkbox"/> Report unknown triggers	Event type equals <i>Trigger in "unknown" state</i>	Send message to user groups: Zabbix administrators via all media	Disabled

Events and alerts

Enable internal housekeeping

* Trigger data storage period

* Internal data storage period

* Network discovery data storage period

* Auto-registration data storage period

Time	User	IP	Resource	Action	ID	Description	Details
2018-10-13 11:36:03	Admin	192.168.1.18	User	Login	0		
2018-10-13 11:36:02	guest	192.168.1.18	User	Login	0		
2018-10-13 11:35:57	guest	192.168.1.18	User	Logout	0		
2018-10-13 11:34:25	guest	192.168.1.18	User	Login	0		

Zoom out 2018-10-12 16:03:21 – 2018-10-15 16:03:21 Filter 

User Select

Action

Resource

	Newer	Agent	Proxy	Server
Older				
Agent		Y	Y	
Proxy	N			N
Server	N	N		