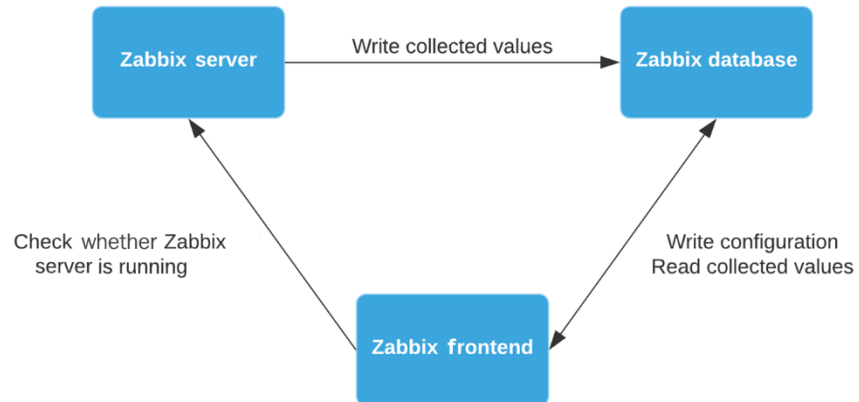


Chapter 1: Getting Started with Zabbix and User Management.





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

Check of pre-requisites

	Current value	Required	
PHP version	7.2.11	7.2.0	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/Amsterdam		OK
PHP databases support	MySQL		OK
PHP bcmath	on		OK
PHP mbstring	on		OK

Back

Next step



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

Configure DB connection

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

Database type

Database host

Database port 0 - use default port

Database name

User

Password

TLS encryption

Back

Next step



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

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).

Host	<input type="text" value="localhost"/>
Port	<input type="text" value="10051"/>
Name	<input type="text" value="lar-book-centos"/>

[Back](#) [Next step](#)



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

Pre-installation summary

Please check configuration parameters. If all is correct, press "Next step" button, or "Back" button to change configuration parameters.

Database type	MySQL
Database server	localhost
Database port	default
Database name	zabbix
Database user	zabbix
Database password	*****
TLS encryption	false
Zabbix server	localhost
Zabbix server port	10051
Zabbix server name	lar-book-centos

[Back](#) [Next step](#)



Install

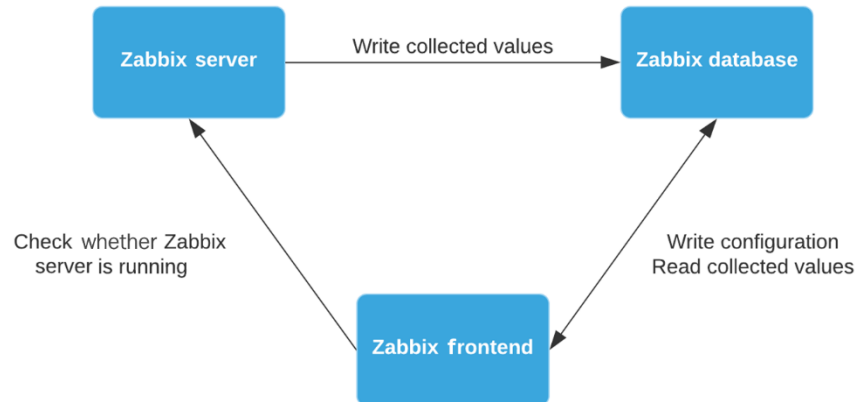
- Welcome
- Check of pre-requisites
- Configure DB connection
- Zabbix server details
- Pre-installation summary
- Install

Congratulations! You have successfully installed Zabbix frontend.

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

Back

Finish



ZABBIX

Username

Password

Remember me for 30 days

Sign in

ZABBIX << >>
for book-clients

All dashboards / Global view Edit dashboard

System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	145	1 / 0 / 144
Number of items (enabled/disabled/not supported)	112	106 / 0 / 6
Number of triggers (enabled/disabled [problem/ok])	60	60 / 0 [0 / 60]
Number of users (online)	2	1
Required server performance, new values per second	1.49	

1 Available	0 Not available	0 Unknown	1 Total		
0 Disaster	0 High	0 Average	0 Warning	0 Information	0 Not classified

Problems

Time	Info	Host	Problem - Severity	Duration	Ack	Actions	Tags
No data found.							

Favourite maps

No maps added.

Favourite graphs

No graphs added.

- Monitoring
- Dashboard
- Problems
- Hosts
- Overview
- Latest data
- Screens
- Maps
- Discovery
- Services
- Inventory
- Reports
- Configuration
- Administration
- Support
- Share
- Help
- User settings
- Sign out

System information



Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled)	17	17 / 0
Number of templates	150	
Number of items (enabled/disabled/not supported)	764	707 / 4 / 53
Number of triggers (enabled/disabled [problem/ok])	367	363 / 4 [15 / 348]
Number of users (online)	10	1
Required server performance, new values per second	9.32	





Problems

Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
10:49:37		Zabbix server	Zabbix agent is not available (for 3m)	37s	No		

Edit widget



Type **Problems** ▾

Show header

Name

Refresh interval **Default (1 minute)** ▾

Show **Recent problems** Problems History

Host groups **Select**

Exclude host groups **Select**

Hosts **Select**

Problem

Severity Not classified Warning High
 Information Average Disaster

Tags **And/Or** Or

Contains Equals [Remove](#)

[Add](#)

Show tags **None** 1 2 3

Tag name **Full** Shortened None

Tag display priority

Show operational data **None** Separately With problem name

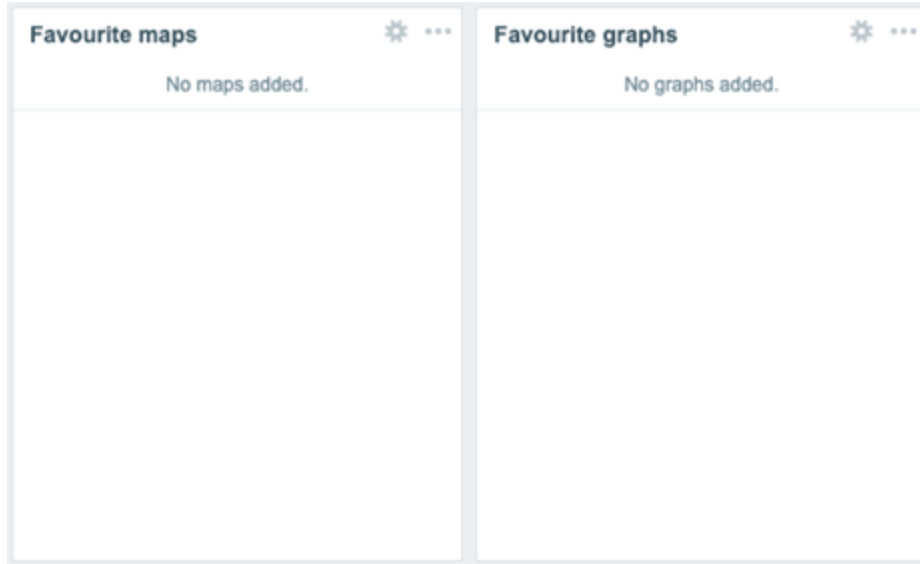
Show suppressed problems

Show unacknowledged only

Sort entries by **Time (descending)** ▾

Show timeline

* Show lines



ZABBIX for book-centra

Global view Edit dashboard

All dashboards / Global view

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	145	1 / 0 / 144
Number of items (enabled/disabled/not supported)	112	106 / 0 / 6
Number of triggers (enabled/disabled [problem/ok])	60	60 / 0 [0 / 60]
Number of users (online)	2	1
Required server performance, new values per second	1.49	

1 Available	0 Not available	0 Unknown	1 Total		
0 Disaster	0 High	0 Average	0 Warning	0 Information	0 Not classified

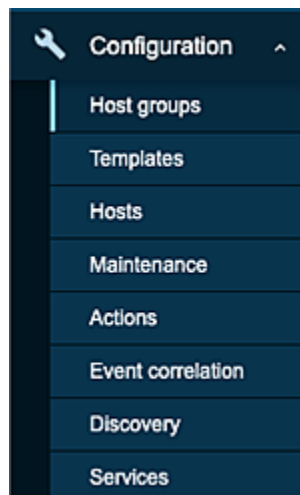
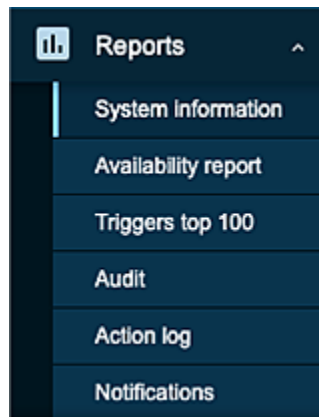
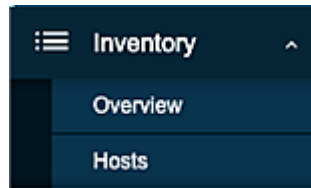
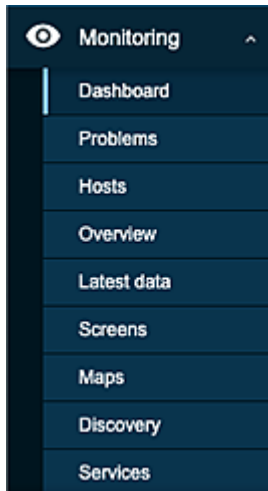
Problems

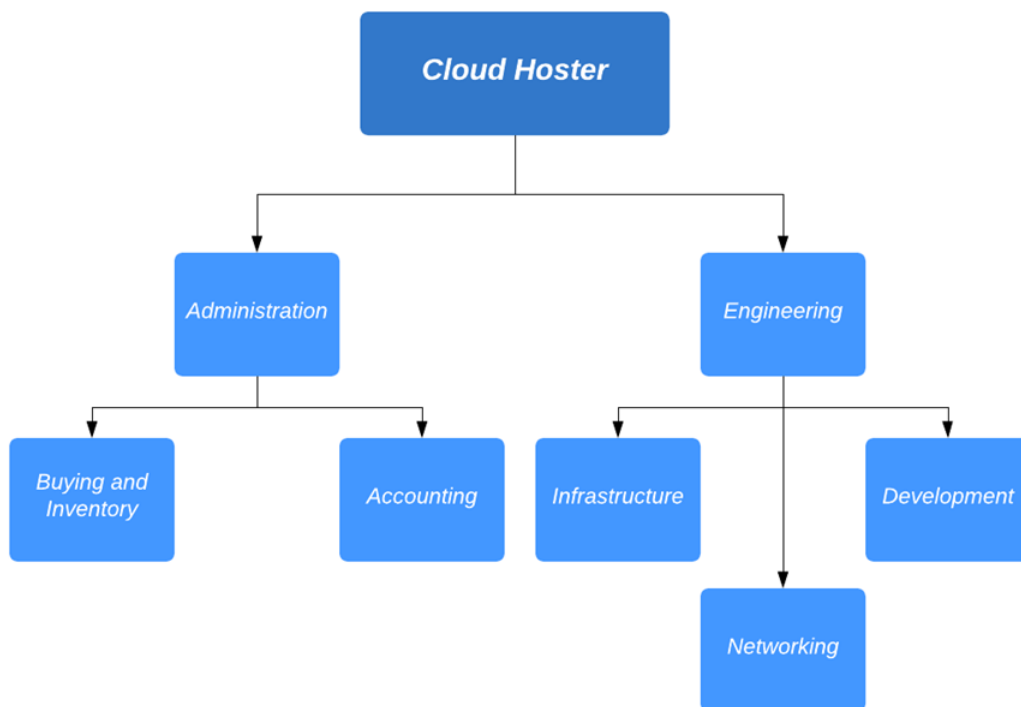
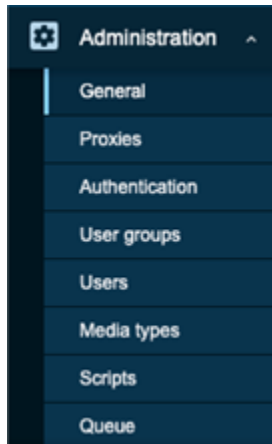
Time	Info	Host	Problem - Severity	Duration	Ack	Actions	Tags
No data found.							

Favourite maps
No maps added.

Favourite graphs
No graphs added.

Support, Share, Help, User settings, Sign out





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 1	guest	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 1	Admin (Zabbix Administrator)	System default	Disabled	Enabled

0 selected

Displaying 5 of 5 found

Group name

Users

Frontend access

Enabled

Debug mode

Permissions Host group Permissions

All groups None

Templates/Network devices

Include subgroups

[Add](#)

<input type="checkbox"/> Name ▲	#	Members
<input type="checkbox"/> Disabled	Users 1	guest
<input type="checkbox"/> Enabled debug mode	Users	
<input type="checkbox"/> Guests	Users 1	guest
<input type="checkbox"/> Networking	Users	
<input type="checkbox"/> No access to the frontend	Users	
<input type="checkbox"/> Zabbix administrators	Users 1	Admin (Zabbix Administrator)

User group **Permissions** Tag filter

Permissions

Host group	Permissions
All groups	None
Linux servers	<input checked="" type="button" value="Read-write"/> <input type="button" value="Read"/> <input type="button" value="Deny"/> <input type="button" value="None"/>

type here to search

Include subgroups

[Add](#)

User group **Permissions** Tag filter

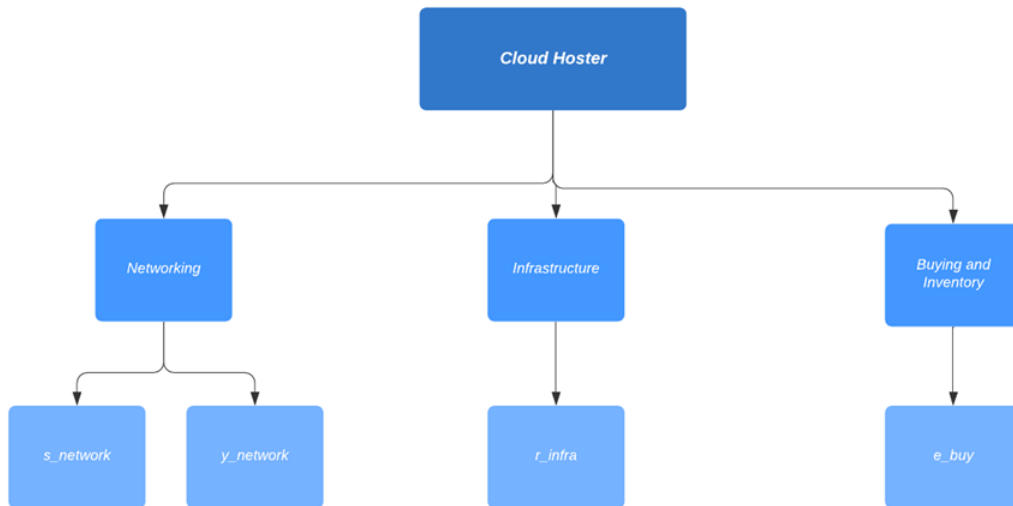
Permissions

Host group	Permissions
All groups	None
Linux servers	<input type="button" value="Read-write"/> <input checked="" type="button" value="Read"/> <input type="button" value="Deny"/> <input type="button" value="None"/>
Templates/Network devices	<input type="button" value="Read-write"/> <input checked="" type="button" value="Read"/> <input type="button" value="Deny"/> <input type="button" value="None"/>

type here to search

Include subgroups

[Add](#)



Users

User group: All Create user

Filter

Alias: Name: Last Name: User type: Any Zabbix User Zabbix Admin Zabbix Super Admin

Apply Reset

<input type="checkbox"/>	Alias	Name	Last Name	User type	Groups	Is online?	Login	Frontend access	Debug mode	Status
<input type="checkbox"/>	Admin	Zabbix	Administrator	Zabbix Super Admin	Zabbix administrators	Yes (01/25/2021 11:58:57 AM)	Ok	System default	Disabled	Enabled
<input type="checkbox"/>	guest			Zabbix User	Disabled, Guests	No (01/25/2021 11:34:04 AM)	Ok	Internal	Disabled	Disabled

0 selected Unlock Delete Displaying 2 of 2 found

User Media Permissions

*** Alias**

Name

Surname

*** Groups** Networking Select

*** Password**

*** Password (once again)**

Password is not mandatory for non internal authentication type.

Language

Theme

Auto-login

Auto-logout 15m

*** Refresh**

*** Rows per page**

URL (after login)

Add Cancel

Permissions

User type

Permissions

Permissions can be assigned for user groups only.

Add Cancel

User type	Description
Zabbix User	The Zabbix User has access to the Monitoring, Inventory and Reporting menu's. The user has no access to any resources by default. Any permissions to host groups must be explicitly assigned.
Zabbix Admin	The Zabbix Admin has access to the Monitoring, Inventory, Reporting and Configuration menus. The user has no access to any host groups by default. Any permissions to host groups must be explicitly given.
Zabbix Super Admin	The Zabbix Super Admin has access to everything meaning the Monitoring, Inventory, Reporting, Configuration and Administration menus. The user has a read-write access to all host groups. Permissions cannot be revoked by denying access to specific host groups.

Permissions

User type

Permissions	Host group	Permissions
	All groups	None
	Templates/Network devices	Read-write

Permissions can be assigned for user groups only.

* Alias

Name

Surname


* Groups
type here to search

Select

* Password 

* Password (once again) 

Password is not mandatory for non internal authentication type.

Language 

Theme 

Auto-login

Auto-logout

* Refresh

* Rows per page

URL (after login)

Add

Cancel

User Media Permissions

* Alias

Name

Surname

* Groups ✕
type here to search

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

Language ▼

Theme ▼

Auto-login

Auto-logout

* Refresh

* Rows per page

URL (after login)

Users | All users (Preview)

Opensource ICT Solutions B.V. - Azure Active Directory

+ New user
 + New guest user
 📄 Bulk operations ▼
🔄 Refresh
 🔑 Reset password
 🔗 Multi-Factor Authentication

👤 All users (Preview)
 👤 Deleted users (Preview)
 🔑 Password reset
 ⚙️ User settings
 🔧 Diagnose and solve problems

Activity

🔍 Search users ➕ Add filters

7 users found

	Name	User principal name	User type
<input type="checkbox"/>	s_network	S_network@zabbix-training.com	Member

s_network

s_network@zabbix-training.com



User Sign-ins

Group memberships

1

Only global administrators, security administrators, security readers, and report readers can view sign-ins. [More info](#)

Creation time

30/06/2020, 10:46:18

Identity

Name

s_network

User Principal Name

s_network@zabbix-training.com

First name

S

User type

Member

Last name

Network

1

Basic SAML Configuration

 Edit

Identifier (Entity ID)	https://tra [redacted]
Reply URL (Assertion Consumer Service URL)	https://tra [redacted]
Sign on URL	Optional
Relay State	Optional
Logout Url	https://tra [redacted]

2

User Attributes & Claims


 Edit

name	user.userprincipalname
Alias	user.userprincipalname
Unique User Identifier	user.userprincipalname

3

SAML Signing Certificate

 Edit

Status	Active
Thumbprint	264919052 [redacted]
Expiration	6/20/2023, 10:29:59 AM
Notification Email	[redacted]
App Federation Metadata Url	<input type="text" value="https://login.microsoftonline.com/cd47a40f-38da-..."/> 
Certificate (Base64)	Download
Certificate (Raw)	Download
Federation Metadata XML	Download

4

Set up Zabbix

You'll need to configure the application to link with Azure AD.

Login URL	<input type="text" value="https://login.microsoftonline.com/[redacted]"/> 
Azure AD Identifier	<input type="text" value="https://sts.windows.net/[redacted]"/> 
Logout URL	<input type="text" value="https://login.microsoftonline.com/common/[redacted]"/> 

[View step-by-step instructions](#)

5

Test single sign-on with Zabbix

Test to see if single sign-on is working. Users will need to be added to Users and groups before they can sign in.

[Test](#)

Enable SAML authentication

* IdP entity ID

* SSO service URL

SLO service URL

* Username attribute

* SP entity ID

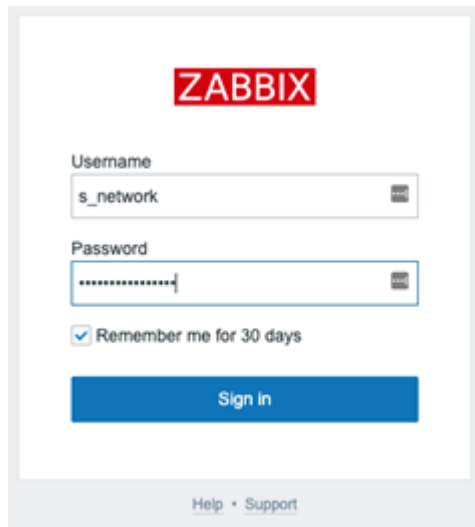
SP name ID format

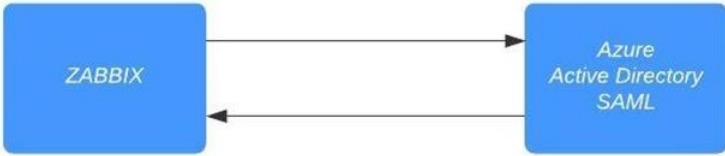
- Sign Messages
 Assertions
 AuthN requests
 Logout requests
 Logout responses

- Encrypt Name ID
 Assertions

Case sensitive login

Update





Chapter 2: Setting Up Zabbix Monitoring.

Hosts

Host Templates IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups
type here to search

* Interfaces

Type	IP address	DNS name	Connect to	Port	Default
Agent	<input type="text" value="10.16.16.153"/>	<input type="text"/>	<input checked="" type="radio"/> IP <input type="radio"/> DNS	<input type="text" value="10050"/>	<input checked="" type="radio"/> Remove

[Add](#)

Description

Monitored by proxy

Enabled

Hosts

Host Templates IPMI Tags Macros Inventory Encryption

Linked templates

Name	Action
------	--------

Link new templates
type here to search

Status	Availability	Agent encryption
Enabled	<input checked="" type="checkbox"/> ZBX <input type="checkbox"/> SNMP <input type="checkbox"/> JMX <input type="checkbox"/> IPMI	<input checked="" type="checkbox"/> NONE

Latest data Filter

Host groups Name

Hosts Show items without data

Application Show details

<input type="checkbox"/> Host	Name	Last check	Last value	Change	
<input type="checkbox"/> lar-book-agent	CPU (9 items)				
<input type="checkbox"/>	Number of CPUs	2020-08-10 15:02:01	1		Graph
<input type="checkbox"/>	Interrupts per second	2020-08-10 15:26:57	128.9833	+1.1333	Graph
<input type="checkbox"/>	Load average (15m avg)	2020-08-10 15:26:58	0		Graph
<input type="checkbox"/>	Load average (1m avg)	2020-08-10 15:26:59	0		Graph
<input type="checkbox"/>	Load average (5m avg)	2020-08-10 15:27:00	0		Graph
<input type="checkbox"/>	Context switches per second	2020-08-10 15:27:02	262.3003	+12.2173	Graph
<input type="checkbox"/>	CPU guest time	2020-08-10 15:27:03	0 %		Graph
<input type="checkbox"/>	CPU guest nice time	2020-08-10 15:27:04	0 %		Graph
<input type="checkbox"/>	CPU idle time	2020-08-10 15:27:05	99.2823 %	-0.1666 %	Graph
<input type="checkbox"/> lar-book-agent	Disk vda (6 items)				

Hosts

All hosts / **lar-book-agent_passive** Enabled ZBX SNMP JMX IPMI Applications 15 Items 66 Triggers 26 Graphs 14

Host Templates IPMI Tags Macros Inventory Encryption

* Host name

Hosts

Host Templates IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups
type here to search

* Interfaces	Type	IP address	DNS name	Connect to	Port	Default
Agent		<input type="text" value="10.16.16.153"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="10050"/>	<input checked="" type="radio"/> Remove

[Add](#)

Description

Monitored by proxy

Enabled

Hosts

Host Templates IPMI Tags Macros Inventory Encryption

Linked templates

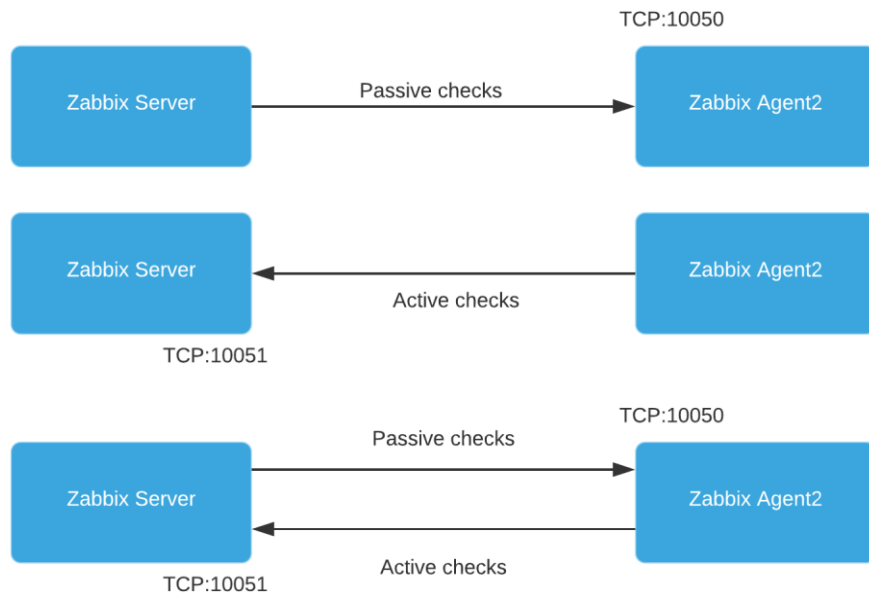
Name	Action
------	--------

Link new templates

Template OS Linux by Zabbix agent active ✕
type here to search

Select

Add Cancel



Hosts

All hosts / lar-book-agent_snmp Enabled ZBX SNMP JMX IPMI Applications 6 Items 26 Triggers 10 Graphs 5 Discovery rules 5 Web scenarios

Host Templates IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups
type here to search

* Interfaces

Type	IP address	DNS name	Connect to	Port	Default
SNMP	10.16.16.153		IP DNS	161	<input checked="" type="radio"/> Remove

* SNMP version

Context name

Security name

Security level

Authentication protocol

Authentication passphrase

Privacy protocol

Privacy passphrase

Use bulk requests

[Add](#)

Description

Monitored by proxy

Enabled

Host Templates IPMI Tags Macros Inventory Encryption

Linked templates

Name	Action
------	--------

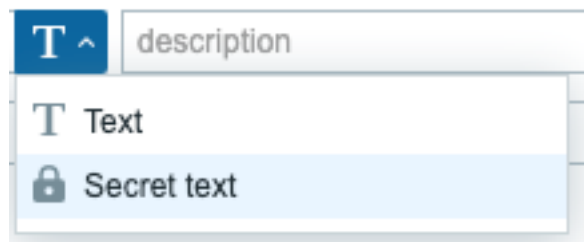
Link new templates

type here to search

Macros ▼

Macro	Value		Description	
<input data-bbox="467 317 771 352" type="text" value="{SNMP_COMMUNITY}"/>	<input data-bbox="784 317 1015 352" type="text" value="public"/>	<input data-bbox="1024 317 1073 352" type="button" value="T"/>	<input data-bbox="1089 317 1328 352" type="text" value="description"/>	Remove
<input data-bbox="467 369 771 405" type="text" value="{SNMPV3_USER}"/>	<input data-bbox="784 369 1015 405" type="text" value="snmpv3user"/>	<input data-bbox="1024 369 1073 405" type="button" value="T"/>	<input data-bbox="1089 369 1328 405" type="text" value="description"/>	Remove
<input data-bbox="467 422 771 457" type="text" value="{SNMPV3_AUTH}"/>	<input data-bbox="784 422 1015 457" type="text" value="my_authpass"/>	<input data-bbox="1024 422 1073 457" type="button" value="T"/>	<input data-bbox="1089 422 1328 457" type="text" value="description"/>	Remove
<input data-bbox="467 474 771 510" type="text" value="{SNMPV3_PRIV}"/>	<input data-bbox="784 474 1015 510" type="text" value="my_privpass"/>	<input data-bbox="1024 474 1073 510" type="button" value="T"/>	<input data-bbox="1089 474 1328 510" type="text" value="description"/>	Remove

[Add](#)



Latest data

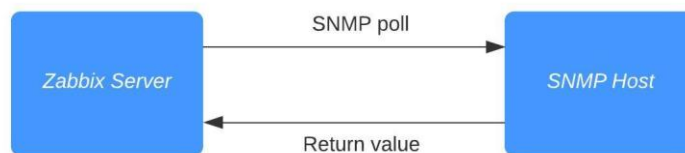
Filter ▼

Host groups

Hosts Show items without data

Application Show details

<input type="checkbox"/>	Host	Name	Last check ▲	Last value	Change	
<input type="checkbox"/>	lar-book-agent_snmp	CPU (17 items)				
<input type="checkbox"/>		Context switches per second	2020-08-12 10:46:07	264.8843	+19.0206	Graph
<input type="checkbox"/>		CPU guest nice time <input type="checkbox"/>	2020-08-12 10:46:07	0 %		Graph
<input type="checkbox"/>		CPU guest time <input type="checkbox"/>	2020-08-12 10:46:07	0 %		Graph
<input type="checkbox"/>		CPU idle time <input type="checkbox"/>	2020-08-12 10:46:07	98.8664 %	-0.05056 %	Graph
<input type="checkbox"/>		CPU interrupt time <input type="checkbox"/>	2020-08-12 10:46:07	0.1329 %	-0.0000009664 %	Graph
<input type="checkbox"/>		CPU lowlat time <input type="checkbox"/>	2020-08-12 10:46:07	0 %		Graph
<input type="checkbox"/>		CPU nice time <input type="checkbox"/>	2020-08-12 10:46:07	0 %		Graph



Items

All hosts / lar-book-agent_simple Enabled ZBX SNMP JMX IPMI Applications **Items** Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

* Name

Type

* Key

* Host interface

User name

Password

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value

New application

Applications

Latest data

Filter

Host groups Name

Hosts Show items without data

Application Show details

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼ lar-book-agent_simple	TCP Services (1 item)			
<input type="checkbox"/>	Check if port 22 is available	2020-07-01 15:09:51	Up (1)	Graph

Displaying 1 of 1 found

Items

All hosts / lar-book-agent_simple Enabled ZBX SNMP JMX IPMI Applications 1 Items 1 Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

* Name

Type

* Key

Type of information

* History storage period

Allowed hosts

New application

Applications

- None-
- TCP Services

Populates host inventory field

Description

Enabled

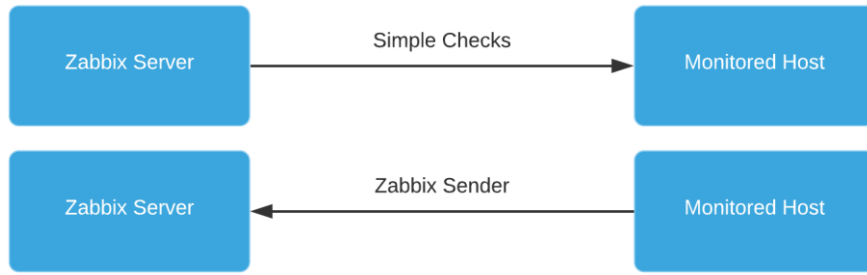
Filter

Host groups Name

Hosts Show items without data

Application Show details

<input type="checkbox"/>	Host	Name ▲	Last check	Last value	Change
▼	lar-book-agent_simple	TCP Services (1 Item)			
<input type="checkbox"/>		Check if port 22 is available	2021-01-25 21:23:51	Up (1)	Graph



<input type="checkbox"/>	Wizard	Name	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
<input type="checkbox"/>	...	Template Module Linux memory by Zabbix agent: Memory utilization	Triggers 1	vm.memory.size[pavailable]	1m	7d	365d	Zabbix agent	Memory	Enabled	
<input type="checkbox"/>	...	Template Module Linux memory by Zabbix agent: Available memory	Triggers 1	vm.memory.size[available]	1m	7d	365d	Zabbix agent	Memory	Enabled	
<input type="checkbox"/>	...	Template Module Linux memory by Zabbix agent: Total memory	Triggers 1	vm.memory.size[total]	1m	7d	365d	Zabbix agent	Memory	Enabled	

Item **Preprocessing**

* Name

Type

* Key

* Formula

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value

New application

Applications

- None-
- CPU
- Disk sda
- Filesystem /
- Filesystem /boot
- Filesystems
- General
- Interface ens192
- Inventory
- Memory

Latest data

Filter

Host groups
 Name

Hosts
 Show items without data

Application
 Show details

<input type="checkbox"/> Host	Name	Last check	Last value	Change	
lar-book-agent_passive Memory (4 items)					
<input type="checkbox"/>	Available memory	2020-07-02 09:41:57	1.34 GB	-1.45 MB	Graph
<input type="checkbox"/>	Average memory used over 15 minutes	2020-07-02 09:40:54	24.9022 %	+0.004349 %	Graph
<input type="checkbox"/>	Memory utilization	2020-07-02 09:41:58	24.9654 %	+0.07742 %	Graph
<input type="checkbox"/>	Total memory	2020-07-02 09:41:59	1.78 GB		Graph

0 selected
Displaying 4 of 4 found

Item Preprocessing

* Name

Type

* Key

* Formula

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

New application

- Applications
- None
 - CPU
 - Disk sda
 - Filesystem /
 - Filesystem /boot
 - Filesystems
 - General
 - Interface ens192
 - Inventory
 - Memory

* Name ⓘ

Type

* Key

* Master item

Type of information

* History storage period

New application

Applications

- None-
- CPU
- Database
- Disk sda
- Filesystem /
- Filesystem /boot
- Filesystems
- General
- Interface ens192
- Inventory

Populates host inventory field

Description

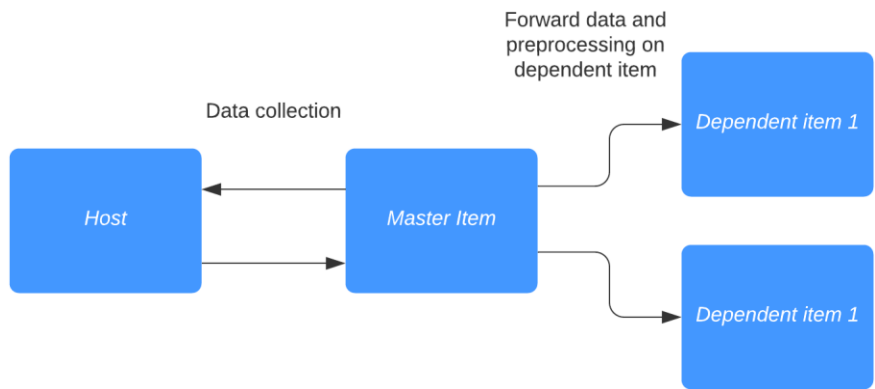
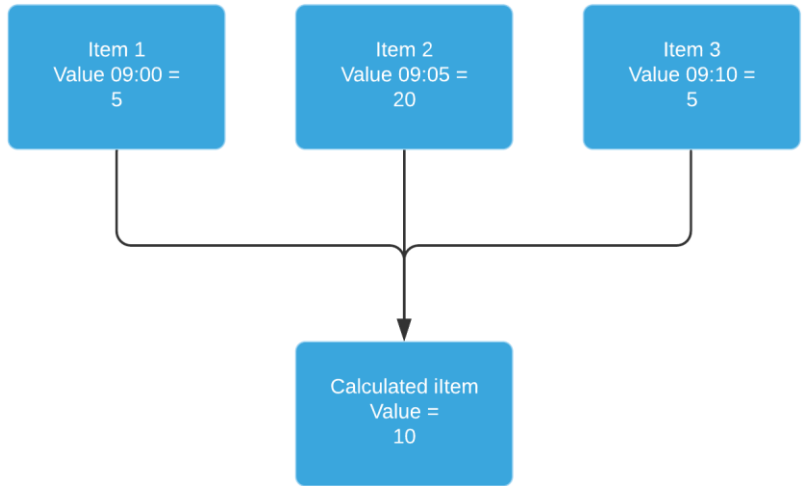
Enabled

Preprocessing steps

Name	Parameters	Custom on fail	Actions
1: Regular expression	Aborted_clients/s+(ld+)	<input type="checkbox"/>	Test Remove

[Add](#)

☐	MariaDB database aborted clients	2020-07-03 13:44:59	146	History
☐	Show database status	2020-07-03 13:44:59	Variable_name Value Aborted_clients 1...	History



Item Preprocessing

* Name

Type

* Key

* Host interface

Type of information

* Update interval

Custom intervals

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

* History storage period

Latest data Filter

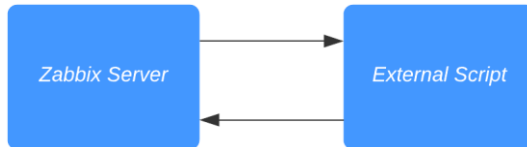
Host groups Name

Hosts Show items without data

Application Show details

Host	Name	Last check	Last value	Change
lar-book-centos	- other - (1 item)			
<input type="checkbox"/>	External check to Echo variable and return it as value	2020-07-08 11:46:05	Test	History

0 selected



Host **Templates** IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups

* Interfaces	Type	IP address	DNS name	Connect to	Port	Default
JMX		<input type="text" value="10.16.16.155"/>	<input type="text"/>	<input checked="" type="radio"/> IP <input type="radio"/> DNS	<input type="text" value="12345"/>	<input checked="" type="radio"/> Remove

[Add](#)

Description

Monitored by proxy

Enabled

Host **Templates** IPMI Tags Macros Inventory Encryption

Linked templates

Name	Action
Template App Apache Tomcat JMX	Unlink Unlink and clear

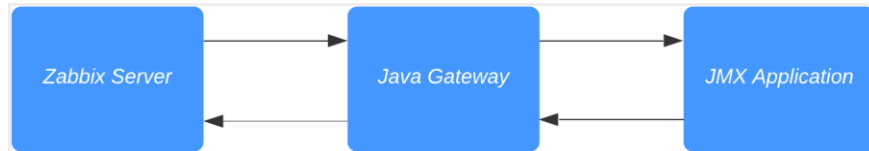
Link new templates

lar-book-jmx

10.16.16.155: 12345

ZBX SNMP **JMX** IPMI

Name	Last check ▲	Last value
http-8080 (1 Item)		
http-8080 gzip compression	2020-07-08 10:32:17	off
Tomcat (1 Item)		
Tomcat version	2020-07-08 10:32:17	Apache Tomcat/7.0.76



Item Preprocessing

* Name ⓘ

Type

* Key

User name

Password ⓘ

* SQL query

Type of information

Units

* Update interval

Custom intervals

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


[Add](#)

* History storage period

* Trend storage period

Show value

New application

Filter 

Host groups Name

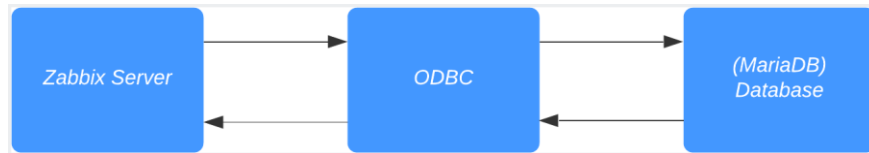
Hosts Show items without data

Application Show details

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼ <u>lar-book-centos</u>	Database (1 item)			
<input type="checkbox"/>	MariaDB database aborted clients	2021-01-25 21:27:00	43	History

Displaying 1 of 1 found

0 selected



* Name

Type

* Key

* URL

Query fields

Name	Value
name	value

[Add](#) [Remove](#)

Request type

Timeout

Request body type

Request body

Headers

Name	Value
name	value

[Add](#) [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

* Update interval

Custom intervals

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

[Add](#)

* History storage period

Enable trapping


New application

Item Preprocessing

Preprocessing steps	Name	Parameters	Custom on fail	Actions
1:	<input type="text" value="Regular expression"/>	<input type="text" value="Total Page Visits: (d+)"/> <input type="text" value="1"/>	<input type="checkbox"/>	Test Remove

[Add](#) [Update](#) [Clone](#) [Execute now](#) [Test](#) [Clear history and trends](#) [Delete](#) [Cancel](#)

[Test all steps](#)

Filter 

Host groups

Hosts Name

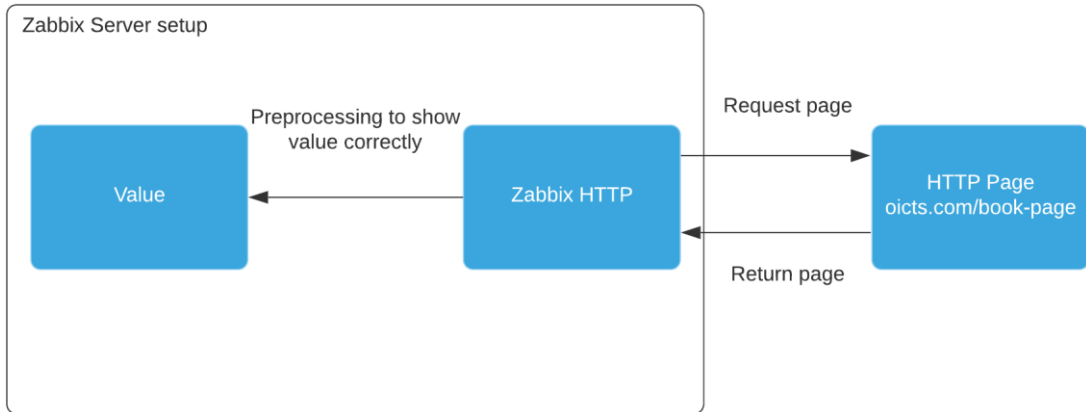
Application Show items without data

Show details

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
▼ lar-book-centos	- other - (1 Item)			
<input type="checkbox"/>	External check to Echo variable and return it as value	2021-01-25 21:28:05	Test	History

0 selected

Displaying 1 of 1 found



* Name

Type

* Key

* Host interface

Type of information

* Update interval

Custom intervals

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

[Add](#)


* History storage period

New application

Applications

- Interface ens192
- Inventory
- Memory
- Monitoring agent
- Network interfaces**
- Security
- Status
- Storage
- Zabbix raw items
- Zabbix server

Status Info


Not supported 

Unknown metric system.run

```
### Option: AllowKey
# Allow execution of item keys matching pattern.
# Multiple keys matching rules may be defined in combination with DenyKey.
# Key pattern is wildcard expression, which support "*" character to match any
# number of any characters in certain position. It might be used in both key name and
# key arguments.
# Parameters are processed one by one according their appearance order.
# If no AllowKey or DenyKey rules defined, all keys are allowed.
#
# Mandatory: no
AllowKey=system.run[*]
```

Timestamp	Value
2020-12-08 11:47:24	<pre>ens192: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 inet 10.16.16.152 netmask 255.255.255.0 broadcast 10.16.16.255 inet6 fe80::c462:d30e:b24a:b31d prefixlen 64 scopeid 0x20<link> ether 00:0c:29:5e:c8:2c txqueuelen 1000 (Ethernet) RX packets 128297172 bytes 24030338556 (22.3 GiB) RX errors 0 dropped 783 overruns 0 frame 0 TX packets 134639844 bytes 42556882891 (39.6 GiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0</pre>

Item [Preprocessing](#)

* Name 

Type

* Key

* Host interface

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

New application

Applications

- Disk sda
- Filesystem /
- Filesystem /boot
- Filesystems
- General
- Interface ens192
- Inventory
- Memory
- Monitoring agent
- Network interfaces**

Name	Parameters	Custom on fail
1: <input type="text" value="Regular expression"/>	<input type="text" value="RX.*(bytes)\s+(\d+)"/>	<input type="text" value="12"/> <input checked="" type="checkbox"/>

Custom on fail

[Add](#)

Name	Parameters	Custom on fail
1: Regular expression	RX.*(bytes)\s+(\d+)	<input checked="" type="checkbox"/>
Custom on fail Discard value Set value to Set error to		
2: Discard unchanged		<input type="checkbox"/>

[Add](#)

Name ▲	Last check	Last value
Network interfaces (1 Item)		
Total RX traffic in bytes for ens192	2020-12-08 13:47:24	22.43 GB

Timestamp	Value
2020-12-08 11:47:24	<pre> ens192: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 inet 10.16.16.152 netmask 255.255.255.0 broadcast 10.16.16.255 inet6 fe80::c462:d30e:b24a:b31d prefixlen 64 scopeid 0x20<link> ether 00:0c:29:5e:c8:2c txqueuelen 1000 (Ethernet) RX packets 128297172 bytes 24030338556 (22.3 GiB) RX errors 0 dropped 783 overruns 0 frame 0 TX packets 134639844 bytes 42556882891 (39.6 GiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0 </pre>

Name	Parameters	Custom on fail
1: Regular expression	RX.*(bytes)\s+(\d+)	<input checked="" type="checkbox"/>
Custom on fail Discard value Set value to Set error to		
2: Discard unchanged		<input type="checkbox"/>

[Add](#)

Chapter 3: Working with Triggers and Alerts.

* Name

Operational data

Severity

* Expression

[Expression constructor](#)

OK event generation

PROBLEM event generation mode

OK event closes


Allow manual close

URL

Description

Enabled

Host	Problem • Severity
<u>lar-book-agent_simple</u>	<u>Port 22 (SSH) down on lar-book-agent_simple</u>

* Name 

Operational data

Severity

* Problem expression

[Expression constructor](#)

OK event generation

* Recovery expression

[Expression constructor](#)

PROBLEM event generation mode

OK event closes

Allow manual close

URL

Description

Enabled

* Name

Operational data

Severity

* Expression

```
{lar-book-agent_passive:net.if.in["ens192",dropped].change()}>=50  
  
or  
  
{lar-book-agent_passive:net.if.out["ens192",dropped].change()}>=50
```

[Expression constructor](#)

OK event generation

PROBLEM event generation mode

OK event closes

Allow manual close

URL

Description

Enabled

* Expression

```
{lar-book-agent_simple:net.tcp.service[ssh,,22].last()}=0
```

This is our host | This is our item key | Our Trigger Function | Our value

* Name

Type

* Key

* Host interface

User name

Password

Type of information

Units

* Update interval

* Problem expression

This is our host	This is our item key	Our trigger function	Our value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

`{lar-book-agent_simple:https_value_oicts.change()}>=50`

* Recovery expression

This is our host	This is our item key	Our trigger function	Our value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

`{lar-book-agent_simple:https_value_oicts.change()}<=40`

* Expression

Our statement between items →

This is our host	This is our item key	Our trigger Function	Our Value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

`(lar-book-agent_passive:net.if.in["ens192",dropped].change())>=50`

or

`(lar-book-agent_passive:net.if.out["ens192",dropped].change())>=50`

The same host in this case	Our second item key	Our second trigger function	Our second value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Trigger actions

Name	Conditions	Operations	Status
<input type="checkbox"/> Report problems to Zabbix administrators		Send message to user groups: Zabbix administrators via all media	Disabled

Displaying 1 of 1 found

0 selected

Actions

Action Operations

* Name

Conditions

Label	Name	Action
Add		

Enabled

* At least one operation must exist.

Actions

Action Operations

* Default operation step duration

Pause operations for suppressed problems

Operations

Steps	Details	Start in	Duration	Action
Add				

Recovery operations

Details	Action
Add	

Update operations

Details	Action
Add	

* At least one operation must exist.

Operation details



Operation type

Steps - (0 - infinitely)

Step duration  (0 - use action default)

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

Send to User groups	User group	Action
	Zabbix administrators	Remove
	Networking	Remove
	Add	

Send to Users	User	Action
	Add	

Send only to

Custom message

Conditions	Label	Name	Action
	Add		

Operation details



Operation type

Custom message



Operation details

Operation type

Default media type

Custom message

Add

Cancel

<input type="checkbox"/> Name ▲	Type	Status
<input type="checkbox"/> Discord	Webhook	Enabled
<input type="checkbox"/> Email	Email	Enabled
<input type="checkbox"/> Email (HTML)	Email	Enabled
<input type="checkbox"/> Jira	Webhook	Enabled
<input type="checkbox"/> Jira ServiceDesk	Webhook	Enabled
<input type="checkbox"/> Jira with CustomFields	Webhook	Enabled
<input type="checkbox"/> Mattermost	Webhook	Enabled
<input type="checkbox"/> MS Teams	Webhook	Enabled
<input type="checkbox"/> Opsgenie	Webhook	Enabled
<input type="checkbox"/> PagerDuty	Webhook	Enabled
<input type="checkbox"/> Pushover	Webhook	Enabled
<input type="checkbox"/> Redmine	Webhook	Enabled
<input type="checkbox"/> ServiceNow	Webhook	Enabled
<input type="checkbox"/> SIGNAL4	Webhook	Enabled
<input type="checkbox"/> Slack	Webhook	Enabled
<input type="checkbox"/> SMS	SMS	Enabled
<input type="checkbox"/> Telegram	Webhook	Enabled
<input type="checkbox"/> Zammad	Webhook	Enabled
<input type="checkbox"/> Zendesk	Webhook	Enabled

Media types

Media type Message templates Options

* Name

Type ▼

* SMTP server

SMTP server port

* SMTP helo

* SMTP email

Connection security

SSL verify peer

SSL verify host

Authentication

Username

Password

Message format

Description

Enabled

Message template ✕

Message type

Subject

Message

Users

User	Media	Permissions
	Media	Type Add
		Send to
		When active
		Use if severity
		Status
		Action

Media ✕

Type

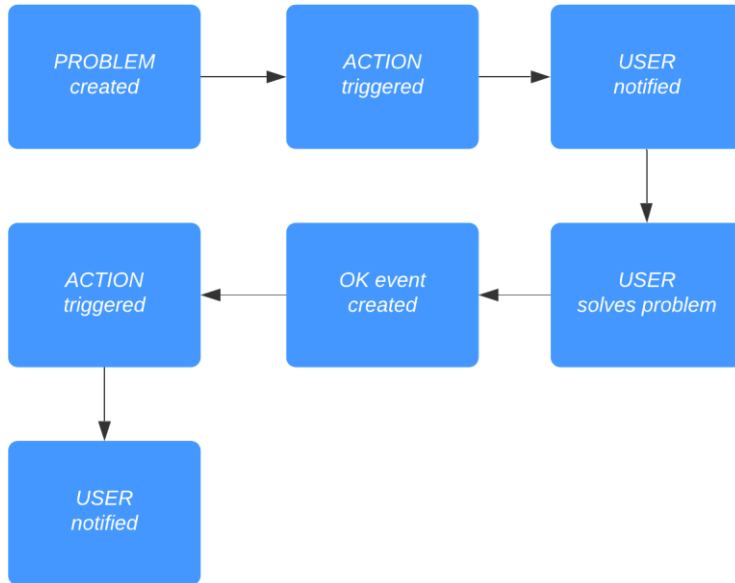
* Send to [Remove](#)

[Add](#)

* When active

- Use if severity
- Not classified
 - Information
 - Warning
 - Average
 - High
 - Disaster

Enabled



Trigger Tags Dependencies

* Name

Operational data

Severity Not classified Information Warning Average High Disaster

* Expression 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

Allow manual close

URL

Description

Enabled

Update Clone Delete Cancel

* Name

Trigger tags		Inherited and trigger tags	
Name	Value	Action	
Service	SSH	Remove	
Add			
Update		Clone	Delete
Cancel			

Message template ✕

Message type

Subject

Message

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

Message template ✕

Message type

Subject

Message

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

Service unreachable: Port 22 (SSH)

Service unreachable: Port 3306 (MYSQL)








Service unreachable: Port 443 (HTTPS)

Host	Problem • Severity	Duration	Ack	Actions	Tags
<u>lar-book-agent_simple</u>	<u>Service unreachable: Port 22 (SSH)</u>	27s	No	4	Service: SSH ...

GUI

- GUI
- Autoregistration
- Housekeeping
- Images
- Icon mapping
- Regular expressions
- Macros
- Value mapping
- Working time
- Trigger severities
- Trigger displaying options
- Modules
- Other

Trigger severities ▼

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

* Not classified	Unlisted 	 97AAB3
* Information	P5	 7499FF
* Warning	P4	 FFC859
* Average	P3	 FFA059
* High	P2	 E97659
* Disaster	P1	 E45959

Chapter 4: Building Your Own Structured Templates.

Templates

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

* Template name

Visible name

* Groups

Description

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

* Template name

Visible name

* Groups

Description

- Name ▲

- Template App Apache by HTTP

- Template App Apache by Zabbix agent

- Template App Apache Tomcat JMX

- Template App Docker

- Template App Elasticsearch Cluster by HTTP

- Template App FTP Service

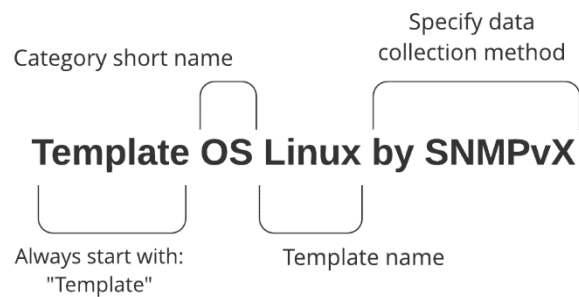
- Template App Generic Java JMX

- Template App HAProxy by HTTP

- Template App HAProxy by Zabbix agent

- Template App HTTP Service

- Template App HTTPS Service



Applications Create application

[All templates](#) / [Template OS Linux by SNMPvX](#) / [Applications](#) / [Items](#) / [Triggers](#) / [Graphs](#) / [Screens](#) / [Discovery rules](#) / [Web scenarios](#) Filter

Host groups Select

Hosts Select

Apply Reset

<input type="checkbox"/>	Application ▲	Items
No data found.		
Displaying 0 of 0 found		

0 selected Enable Disable Delete

Applications

[All templates](#) / [Template OS Linux by SNMPvX](#) **Applications** [Items](#) [Triggers](#) [Graphs](#) [Screens](#) [Discovery rules](#) [Web scenarios](#)

* Name

Add

Cancel

<input type="checkbox"/>	Application ▲	Items
<input type="checkbox"/>	General	Items
<input type="checkbox"/>	Zabbix raw items	Items

Displaying 2 of 2 found

Latest data

<input type="checkbox"/> Host	Name
▶ lar-book-agent_snmp	CPU (17 Items)
▶ lar-book-agent_snmp	Filesystem / (2 Items)
▶ lar-book-agent_snmp	Filesystem /boot (3 Items)
▶ lar-book-agent_snmp	Filesystem /boot/efi (3 Items)
▶ lar-book-agent_snmp	General (5 Items)
▶ lar-book-agent_snmp	Interface ens192() (10 Items)
▶ lar-book-agent_snmp	Memory (6 Items)
▶ lar-book-agent_snmp	Status (4 Items)

```
[larcorba@lar-book-centos ~]$ snmpwalk -On -v2c -c public 10.16.16.153
.1.3.6.1.2.1.1.1.0 = STRING: Linux lar-book-agent 4.18.0-193.6.3.el8_2.x86_64 #1 SMP Wed Jun 10 11:09:32 UTC 2020 x86_64
.1.3.6.1.2.1.1.2.0 = OID: .1.3.6.1.4.1.8072.3.2.10
.1.3.6.1.2.1.1.3.0 = Timeticks: (568102251) 65 days, 18:03:42.51
.1.3.6.1.2.1.1.4.0 = STRING: Root <root@localhost> (configure /etc/snmp/snmp.local.conf)
.1.3.6.1.2.1.1.5.0 = STRING: lar-book-agent
.1.3.6.1.2.1.1.6.0 = STRING: Unknown (edit /etc/snmp/snmpd.conf)
.1.3.6.1.2.1.1.8.0 = Timeticks: (1) 0:00:00.01
.1.3.6.1.2.1.1.9.1.2.1 = OID: .1.3.6.1.6.3.10.3.1.1
.1.3.6.1.2.1.1.9.1.2.2 = OID: .1.3.6.1.6.3.11.3.1.1
.1.3.6.1.2.1.1.9.1.2.3 = OID: .1.3.6.1.6.3.15.2.1.1
.1.3.6.1.2.1.1.9.1.2.4 = OID: .1.3.6.1.6.3.1
.1.3.6.1.2.1.1.9.1.2.5 = OID: .1.3.6.1.6.3.16.2.2.1
.1.3.6.1.2.1.1.9.1.2.6 = OID: .1.3.6.1.2.1.49
.1.3.6.1.2.1.1.9.1.2.7 = OID: .1.3.6.1.2.1.4
.1.3.6.1.2.1.1.9.1.2.8 = OID: .1.3.6.1.2.1.50
.1.3.6.1.2.1.1.9.1.2.9 = OID: .1.3.6.1.6.3.13.3.1.3
.1.3.6.1.2.1.1.9.1.2.10 = OID: .1.3.6.1.2.1.92
.1.3.6.1.2.1.1.9.1.3.1 = STRING: The SNMP Management Architecture MIB.
.1.3.6.1.2.1.1.9.1.3.2 = STRING: The MIB for Message Processing and Dispatching.
.1.3.6.1.2.1.1.9.1.3.3 = STRING: The management information definitions for the SNMP User-based Security Model.
.1.3.6.1.2.1.1.9.1.3.4 = STRING: The MIB module for SNMPv2 entities
.1.3.6.1.2.1.1.9.1.3.5 = STRING: View-based Access Control Model for SNMP.
.1.3.6.1.2.1.1.9.1.3.6 = STRING: The MIB module for managing TCP implementations
.1.3.6.1.2.1.1.9.1.3.7 = STRING: The MIB module for managing IP and ICMP implementations
.1.3.6.1.2.1.1.9.1.3.8 = STRING: The MIB module for managing UDP implementations
.1.3.6.1.2.1.1.9.1.3.9 = STRING: The MIB modules for managing SNMP Notification, plus filtering.
.1.3.6.1.2.1.1.9.1.3.10 = STRING: The MIB module for logging SNMP Notifications.
```

```
[larcorba@lar-book-centos ~]$ snmptranslate .1.3.6.1.2.1.1.5.0
SNMPv2-MIB::sysName.0
```

* Name

Type

* Key

* SNMP OID

Type of information

* Update interval

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

* History storage period

Show value [show value mappings](#)

New application

- Applications
- None-
 - General**
 - Zabbix raw items

Populates host inventory field

Description

Enabled

* Host name

Visible name

* Groups
type here to search

* Interfaces

Type	IP address	DNS name	Connect to	Port	Default
SNMP	<input type="text" value="10.16.16.153"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="161"/>	<input checked="" type="radio"/> Remove

* SNMP version

* SNMP community

Use bulk requests

[Add](#)

Description

[Host](#) [Templates](#) [IPMI](#) [Tags](#) [Macros](#) [Inventory](#) [Encryption](#)

Linked templates

Name	Action
------	--------

Link new templates
type here to search

Name **Last check ▲** **Last value**

General (1 Item)

System hostname **2020-09-04 10:24:35** **lar-book-agent**

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

* Name

Operational data

Severity

* Expression

[Expression constructor](#)

Time ▾

Info

Host

Problem • Severity

11:13:21

lar-book-templated_snmp

Hostname has changed

Macros

Template macros Inherited and template macros

Macro	Value	Description
{\$HOSTPREFIX}	lar-	The prefix we want every hostname to contain

Add

Update Clone Full clone Delete Delete and clear Cancel

Trigger Tags Dependencies

* Name Hostname does not contain prefix

Operational data

Severity Not classified Information Warning Average High Disaster

* Expression {Template OS Linux by SNMPvX:sys.Name.str({\$HOSTPREFIX},1)}=0 Add

Expression constructor

Host

Problem • Severity

lar-book-templated_snmp

Hostname does not contain prefix

Trigger Tags Dependencies

* Name Hostname does not match Zabbix hostname

Operational data

Severity Not classified Information Warning Average High Disaster

* Expression {Template OS Linux by SNMPvX:sys.Name.str({HOST.HOST},1)}=0 Add

Expression constructor

Host

Problem • Severity

lar-book-templated_snmp

Hostname does not match Zabbix hostname

Host macros **Inherited and host macros**

Macro	Value	Description
{\$HOSTPREFIX}	dev-	Override template macro

[Add](#)

Macro	Effective value	Template value	Global value (configure)
{\$HOSTPREFIX}	dev-	Remove ← Template OS Linux by SNMPvX: "lar-"	
Override template macro			

Host **Templates** IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups
type here to search

Discovery rules

All templates / Template OS Linux by SNMPvX Applications 2 Items 1 Triggers 3 Graphs Screens **Discovery rules** Web scenarios

Discovery rule **Preprocessing** LLD macros Filters Overrides

* Name

Type **Zabbix agent**

* Key

* Update interval

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

[Add](#)

* Keep lost resources period

Description

Enabled

* Name

Type

* Key

* SNMP OID

* Update interval

Custom intervals

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

[Add](#)

* Keep lost resources period

Description

OID: 1.3.6.1.2.1.2
MIB: IF-MIB

Discovery of Network interfaces on Linux host systems.

Enabled

Item prototypes

All templates / Template OS Linux by SNMPvX Discovery list / Discover Network interfaces Item prototypes Trigger prototypes Graph prototypes Host prototypes

Item prototype Preprocessing

* Name

Type

* Key

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

* Name

Type

* Key

* SNMP OID

Type of information

Units

* Update interval

Custom intervals

Type	Interval	Period	Action
<input checked="" type="checkbox"/> Flexible	<input style="width: 60px;" type="text" value="50s"/>	<input style="width: 100px;" type="text" value="1-7,00:00-24:00"/>	<input style="width: 50px;" type="button" value="Remove"/>

[Add](#)

* History storage period Do not keep history Storage period

* Trend storage period Do not keep trends Storage period

Show value [show value mappings](#)

New application

Applications

-None-

General

Zabbix raw items

New application prototype

Item prototype Preprocessing

* Name

Type

* Key

* SNMP OID

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value

New application

Applications

- None-
- General
- Zabbix raw items

New application prototype

Application prototypes

- None-
- Interface {#IFNAME}

Trigger prototype Tags Dependencies

* Name

Operational data


Severity


* Expression

[Expression constructor](#)

* Key


* SNMP OID

* Name 

Type 

* Key

* SNMP OID

<input type="checkbox"/> Host	Name	Last check 	Last value
lar-book-templated_snmp General (1 Item)			
<input type="checkbox"/>	System hostname	2020-09-05 11:30:11	lar-book-agent-t
lar-book-templated_snmp Interface ens192 (2 Items)			
<input type="checkbox"/>	Interface ens192: Admin status	2020-09-05 11:51:11	up (1)
<input type="checkbox"/>	Interface ens192: Operational status	2020-09-05 11:51:11	up (1)
lar-book-templated_snmp Interface lo (2 Items)			
<input type="checkbox"/>	Interface lo: Admin status	2020-09-05 11:51:11	up (1)
<input type="checkbox"/>	Interface lo: Operational status	2020-09-05 11:51:11	up (1)

Warning **OK** [Discover Network interfaces: Interface ens192: Link is down](#)

Warning **OK** [Discover Network interfaces: Interface lo: Link is down](#)


* Name

Operational data


Severity

* Expression


[Expression constructor](#)


* Template name 

Visible name

* Groups 
type here to search


Description

* Name 

Type 

* Key

* SNMP OID


Type of information 

Units

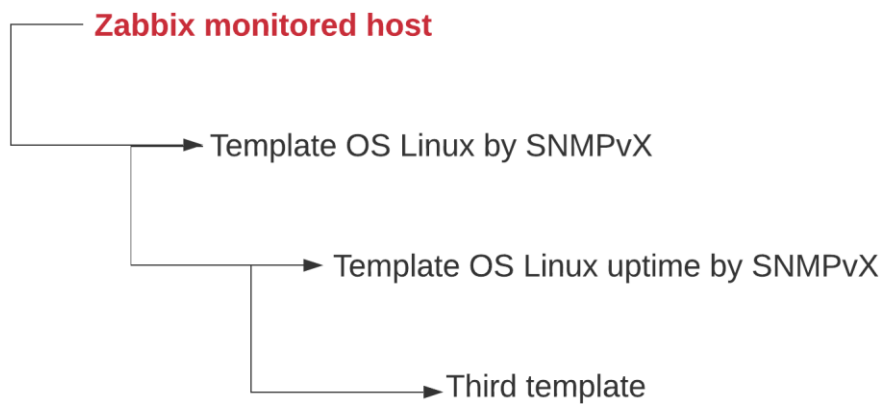
* Update interval

Linked templates

Name	Action
------	--------

Link new templates 
type here to search

<input type="checkbox"/>	Wizard	Name
<input type="checkbox"/>		Discover Network interfaces : Interface lo: Admin status
<input type="checkbox"/>		Discover Network interfaces : Interface ens192: Admin status
<input type="checkbox"/>		Discover Network interfaces : Interface lo: Operational status
<input type="checkbox"/>		Discover Network interfaces : Interface ens192: Operational status
<input type="checkbox"/>	...	Template OS Linux uptime by SNMPvX : System Uptime
<input type="checkbox"/>	...	Template OS Linux by SNMPvX : System hostname



Chapter 5: Visualizing Data, Inventory, and Reporting.

Item Preprocessing

* Name Incoming ICMP messages

Type SNMP agent

* Key icmp.In.Msgs [Select](#)

* SNMP OID .1.3.6.1.2.1.5.1.0

Type of information Numeric (unsigned)

Units

* Update interval 10

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

* History storage period Do not keep history Storage period 90d

* Trend storage period Do not keep trends Storage period 365d

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

New application ICMP

Graph Preview

* Name

* Width 900

* Height 200

Graph type Normal

Show legend

Show working time

Show triggers

Percentile line (left)

Percentile line (right)

Y axis MIN value Calculated

Y axis MAX value Calculated

* Items	Name	Function	Draw style	Y axis side	Colour	Action
Add						

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

* Name

* Width

* Height

Graph type

Show legend

Show working time

Show triggers

Percentile line (left)

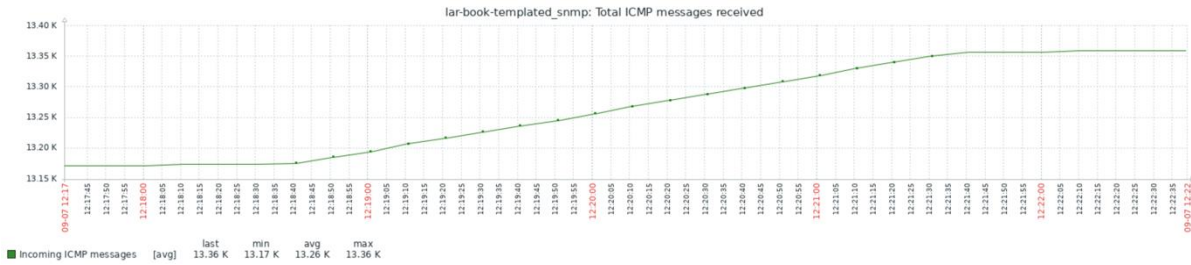
Percentile line (right)

Y axis MIN value

Y axis MAX value

Name	Function	Draw style	Y axis side	Colour	Action
1: Template OS Linux by SNMPvX: Incoming ICMP messages	avg	Line	Left	1A7C11	Remove

[Add](#)



* Name

Type

* Key

* SNMP OID

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

New application

Applications

- None-
- General
- ICMP
- Zabbix raw items

New application prototype

Application prototypes

- None-
- Interface {#IFNAME}

Item prototype **Preprocessing**

Preprocessing steps	Name	Parameters	Custom on fail	Actions
1:	Change per second	<input type="text"/>	<input type="checkbox"/>	Test Remove
2:	Custom multiplier	<input type="text" value="8"/>	<input type="checkbox"/>	Test Remove

[Add](#)

[Test all steps](#)

* Name

* Width

* Height

Graph type

Show legend

Show working time

Show triggers

Percentile line (left)

Percentile line (right)

Y axis MIN value

Y axis MAX value


Name	Function	Draw style	Y axis side	Colour	Action
1: Template OS Linux by SNMPvX: Interface (#IFNAME): Incoming Bits	avg	Line	Left	1A7C11	Remove

[Add](#) [Add prototype](#)

Discover



Item prototype Preprocessing

* Name 

Type

* Key

* SNMP OID

Type of information

Units

* Update interval

Custom intervals

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

New application

Applications

- None-
- General
- ICMP
- Zabbix raw items

New application prototype

Application prototypes

- None-
- Interface {#IFNAME}

Item prototype Preprocessing


Preprocessing steps	Name	Parameters
1:	<input type="text" value="Change per second"/>	
2:	<input type="text" value="Custom multiplier"/>	<input type="text" value="8"/>

[Add](#)

Maps

All maps / Local network

Local network



Map [Sharing](#)

* Owner:

* Name:

* Width:

* Height:

Background image: ▾

Automatic icon mapping: ▾ [show icon mappings](#)

Icon highlight:

Mark elements on trigger status change:

Display problems:

Advanced labels:

Map element label type: ▾

Map element label location: ▾

Problem display: ▾

Minimum severity:

Show suppressed problems:

URLs	Name	URL	Element	Action
	<input type="text"/>	<input type="text"/>	<input type="text" value="Host"/> ▾	Remove

[Add](#)



Map element

Type

Label

Label location

Icons

Coordinates X Y

Name	URL	Action
<input type="text"/>	<input type="text"/>	Remove

[Add](#)

Map element

Type

Label

Label location

* Host

Application

Automatic icon selection

Icons

Default	<input type="text" value="Rackmountable_2U_server_3D_(128)"/>
Problem	<input type="text" value="Default"/>
Maintenance	<input type="text" value="Default"/>
Disabled	<input type="text" value="Default"/>

Coordinates X Y

Name	URL	Action
<input type="text"/>	<input type="text"/>	Remove

[Add](#)

Map element

Type

Label

Label location

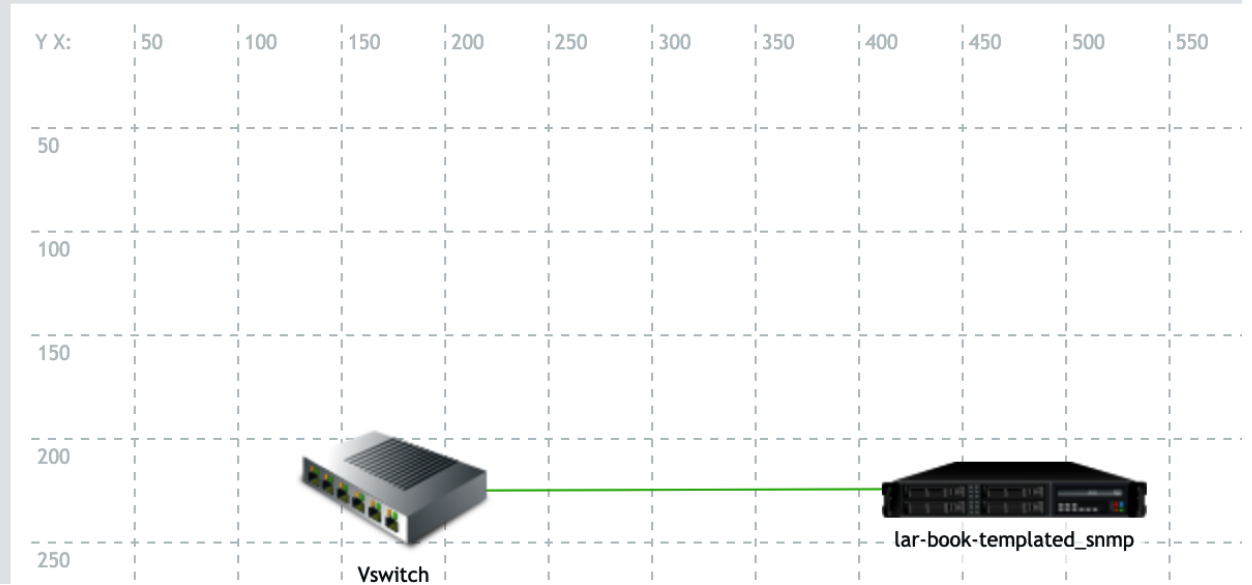
Icons

Coordinates X Y

Name	URL	Action
<input type="text"/>	<input type="text"/>	Remove

[Add](#)

Map element: [Add](#) / [Remove](#) Shape: [Add](#) / [Remove](#) Link: [Add](#) / [Remove](#) Expand macros: [Off](#) Grid: [Shown](#) / [On](#)



Links	Element name	Link indicators	Action
	Switch_(96)		Edit

Links	Element name	Link indicators	Action
	Server_(96)		Edit

Label: IN: {lar-book-templated_snmp:discover.if.In.Octets.[2].last()}
 OUT: {lar-book-templated_snmp:discover.if.Out.Octets.[2].last()}

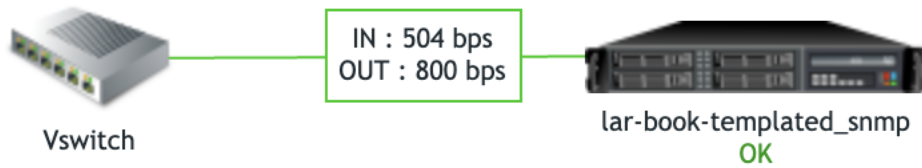
Connect to: Server_(96) ▼

Type (OK): Line ▼

Colour (OK): 00CC00

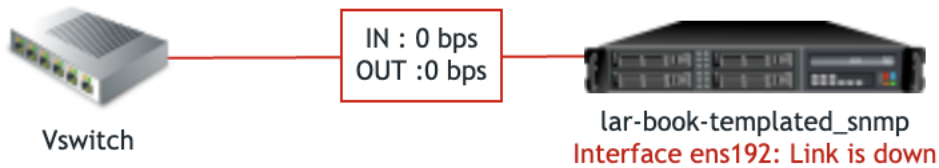
Link indicators	Trigger	Type	Colour	Action
	Add			

Link indicators	Trigger	Type	Colour	Action
	lar-book-templated_snmp: Interface ens192: Link is down	Line ▼	DD0000	Remove
	Add			



Label Text	Zabbix host	Host item key	Value we want

IN : {lar-book-templated_snmp:discover.if.In.Octets.[2].last(0)}
 OUT : {lar-book-templated_snmp:discover.if.Out.Octets.[2].last(0)}



Dashboard properties

* Owner: Admin (Zabbix Administrator) ✕ Select


* Name: Linux Servers

Apply Cancel

Linux Servers

[+ Add widget](#) [Paste widget](#) [Save changes](#) [Cancel](#)

All dashboards


Add a new widget

Add widget



Type Problems Show header

Name

Refresh interval Default (1 minute)

Show Recent problems Problems History

Host groups
type here to search

Exclude host groups

Hosts

Problem

Severity Not classified Warning High
 Information Average Disaster

Tags And/Or Or

Contains Equals [Remove](#)

[Add](#)

Show tags None 1 2 3

Tag name Full Shortened None

Tag display priority

Show operational data None Separately With problem name

Show suppressed problems

Show unacknowledged only

Sort entries by Time (descending)

Show timeline

* Show lines

Linux hosts

+ Add widget
 ↩ Paste widget
 💾 Save changes
 ✖ Cancel

Unacknowledged Problems

Time	Info	Host	Problem - Severity	Duration	Ack	Actions
2020-09-04 11:41:57		lar-book-agent	Zabbix agent is not available (or nodata for 30m)	3d 3h 20m	No	🔧
2020-09-04 11:26:54		lar-book-agent	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	3d 3h 35m	No	🔧
2020-09-04 11:26:38		lar-book-agent_passive	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	3d 3h 35m	No	🔧
2020-09-04 11:17:00		lar-book-agent_passive	Zabbix agent is not available (for 3m)	3d 3h 45m	No	🔧

Our Linux host traffic

Our Linux host map

Add widget

Type: Show header

Name:

Refresh interval:

Source type:

* Map: Select

Add Cancel

Add widget

Type:

Name:

Refresh interval:

Data set
Displaying options
Time period
Axes
Legend
Problems
Overrides

Data set: ■ Select

host pattern

Base colour: ■

Draw:

Width:

Point size:

Transparency:

Fill:

+ Add new data set

Interface ens192: Incoming Bits Select

item pattern

Missing data:

Y-axis:

Time shift:

Aggregation function:

Aggregation interval:

Aggregate:

Data set Displaying options Time period Axes Legend Problems Overrides

Data set ■

■

host pattern item pattern

Base colour

Missing data

Draw

Y-axis

Width 1

Time shift

Point size 3

Aggregation function

Transparency 5

Aggregation interval

Fill 3

Aggregate

Linux hosts + Add widget Paste widget Save changes Cancel

All dashboards

Unacknowledged Problems

Time	Info	Host	Problem - Severity	Duration	Ack	Actions
2020-09-04 11:41:57		lar-book-agent	Zabbix agent is not available (for nodata for 30m)	3d 3h 20m	No	<input type="button" value="↓"/> <input type="button" value="↑"/>
2020-09-04 11:26:54		lar-book-agent	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	3d 3h 35m	No	<input type="button" value="↓"/> <input type="button" value="↑"/>
2020-09-04 11:26:38		lar-book-agent_passive	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	3d 3h 35m	No	<input type="button" value="↓"/> <input type="button" value="↑"/>
2020-09-04 11:17:00		lar-book-agent_passive	Zabbix agent is not available (for 3m)	3d 3h 45m	No	<input type="button" value="↓"/> <input type="button" value="↑"/>

Our Linux host traffic

Our Linux host map

Other configuration parameters

* Refresh unsupported items

Group for discovered hosts

Default host inventory mode

User group for database down message

Log unmatched SNMP traps

Populates host inventory field

Name ▼

Host ▲	Group	Name
lar-book-templated_snmp	Linux servers	lar-book-agent-t

System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	153	7 / 0 / 146
Number of items (enabled/disabled/not supported)	357	318 / 1 / 38
Number of triggers (enabled/disabled [problem/ok])	152	151 / 1 [7 / 144]
Number of users (online)	6	1
Required server performance, new values per second	4.54	

Availability report

Mode By host ▼

◀ Zoom out ▶
Last 30 days
Filter

Host	Name	Problems	Ok	Graph
lar-book-agent_passive	Zabbix agent is not available (for 3m)	10.6665%	89.3335%	Show
lar-book-agent_simple	lar-book-agent_simple - Port 22 (SSH) down	89.3331%	10.6669%	Show
lar-book-agent_simple	More than 50 visitors on lar-book-agent_simple in the last 10 minutes		100.0000%	Show

100 busiest triggers

◀ Zoom out ▶
Last 30 days
Filter

Host	Trigger	Severity	Number of status changes
lar-book-centos	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	Warning	8
lar-book-agent_passive	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	Warning	7
lar-book-agent	sda: Disk read/write request responses are too high (read > 20 ms for 15m or write > 20 ms for 15m)	Warning	7

Time	User	IP	Resource	Action	ID	Description	Details
2020-09-07 15:39:35	Admin	10.16.16.1	Configuration of Zabbix	Update	0	Refresh unsupported items "10m"; Group for discovered hosts "Discovered hosts"; User group for database down message "Zabbi...	
2020-09-07 15:39:14	Admin	10.16.16.1	Configuration of Zabbix	Update	0	Refresh unsupported items "10m"; Group for discovered hosts "Discovered hosts"; User group for database down message "Zabbi...	
2020-09-07 15:34:29	Admin	10.16.16.1	Dashboard	Add	3	Linux hosts	

Action log

◀ Zoom out ▶
Last 30 days
Filter

Time	Action	Type	Recipient	Message	Status	Info
2020-09-07 14:27:42	Action to notify our book reader of a problem		Admin (Zabbix Administrator)	Subject:	Failed	!
				Message:		
2020-09-05 12:30:12	Action to notify our book reader of a problem		Admin (Zabbix Administrator)	Subject:	Failed	!
				Message:		

Chapter 6: Using Discovery for Automatic Creation.

Discovery rules

*** Name**

Discovery by proxy

*** IP range**

*** Update interval**

*** Checks**

Type	Actions
Zabbix agent "agent.hostname"	Edit Remove
Add	

Device uniqueness criteria IP address
 Zabbix agent "agent.hostname"

Host name DNS name
 IP address
 Zabbix agent "agent.hostname"

Visible name Host name
 DNS name
 IP address
 Zabbix agent "agent.hostname"

Enabled

Discovery actions ▾

- Trigger actions
- Discovery actions**
- Autoregistration actions
- Internal actions

* Name

Type of calculation A and B and C

Conditions	Label	Name	Action
	A	Received value contains <i>Inx</i>	Remove
	B	Discovery status equals <i>Up</i>	Remove
	C	Service type equals <i>Zabbix agent</i>	Remove
	Add		

Enabled

* At least one operation must exist.

Operations	Details	Action
	Add host	Edit Remove
	Add to host groups: Linux servers	Edit Remove
	Link to templates: Template OS Linux by Zabbix agent	Edit Remove
	Add	

* At least one operation must exist.

* Group name

* Name

Type of calculation A and B and C

Conditions	Label	Name	Action
	A	Received value contains <i>win</i>	Remove
	B	Discovery status equals <i>Up</i>	Remove
	C	Service type equals <i>Zabbix agent</i>	Remove
	Add		

Enabled

* At least one operation must exist.

Operations	Details	Action
	Add host	Edit Remove
	Add to host groups: Windows servers	Edit Remove
	Link to templates: Template OS Windows by Zabbix agent	Edit Remove
	Add	

* At least one operation must exist.

Status of discovery

Discovery rule

Discovered device ▲	Monitored host	Uptime/Downtime	Zabbix agent: agent.hostname
Discover Zabbix Agent hosts (2 devices)			
10.16.16.156	lar-book-disc-lnx	4 days, 03:33:23	4d 3h 33m
10.16.16.157	lar-book-disc-win	5 days, 00:02:37	5d 2m

[lar-book-disc-lnx](#) Applications 14 Items 58 Triggers 25 Graphs 11 Discovery 3 Web 10.16.16.156:10050

[lar-book-disc-win](#) Applications 14 Items 99 Triggers 71 Graphs 9 Discovery 4 Web 10.16.16.157:10050

* Name

Discovery by proxy ▼

* IP range

* Update interval

Discovery check



Check type

* Port range

Add

Cancel

Discovery check



Check type

* Port range

* SNMP community

* SNMP OID

Update

Cancel

Discovery check



Check type

* Port range

* SNMP community

* SNMP OID

Add

Cancel

* Checks

Type	Actions
SNMPv2 agent ".1.3.6.1.2.1.1.5.0"	Edit Remove
Add	

Device uniqueness criteria

IP address
 SNMPv2 agent ".1.3.6.1.2.1.1.5.0"

Host name

DNS name
 IP address
 SNMPv2 agent ".1.3.6.1.2.1.1.5.0"

Visible name

Host name
 DNS name
 IP address
 SNMPv2 agent ".1.3.6.1.2.1.1.5.0"

Enabled

[Action](#) [Operations](#)

* Name

Type of calculation A and B and C

Conditions	Label	Name	Action
	A	Received value contains <i>vmlinux</i>	Remove
	B	Discovery status equals <i>Up</i>	Remove
	C	Service type equals <i>SNMPv2 agent</i>	Remove
Add			

Enabled

* At least one operation must exist.

[Action](#) [Operations](#)

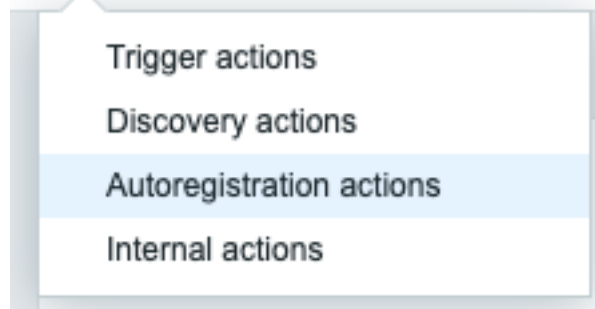
Operations

Details	Action
Add host	Edit Remove
Add to host groups: Linux servers	Edit Remove
Link to templates: Template OS Linux by SNMPvX	Edit Remove
Add	

* At least one operation must exist.

Discovered device ▲	Monitored host	Uptime/Downtime	SNMPv2 agent: .1.3.6.1.2.1.1.5.0	SNMPv2 agent: .1.3.6.1.2.1.25.1.4.0
Discover Linux SNMPv2 Agent hosts (3 devices)				
10.16.16.152 (lar-book-centos)	lar-book-centos_2	5 days, 18:25:21	5d 18h 25m	
10.16.16.153	lar-book-agent_passive	5 days, 18:25:19	5d 18h 25m	5d 18h 25m
10.16.16.158	lar-book-disc-snmp	23:48:48	23h 48m 48s	3m 28s

Discovery actions ▾



Action **Operations**


* Name

Conditions	Label	Name	Action
	Add		

Enabled

* At least one operation must exist.

New condition

Type 

Operator

Value

Add

Cancel

Action Operations

* Name

Conditions	Label	Name	Action
	A	Host name contains <i>lar-book-lnx</i>	Remove
	Add		

Enabled

* At least one operation must exist.

Add

Cancel

Operation details ✕

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
Add	

Send only to - All - ▼

Custom message

Add Cancel

Operation details

Operation type Add host ▼

Add Cancel

Operation details ✕

Operation type Add to host group ▼

* Host groups

Linux servers ✕ type here to search	Select
---	---

Add Cancel

Operation details ✕

Operation type

* Templates

type here to search

Select

Add

Cancel

Action Operations

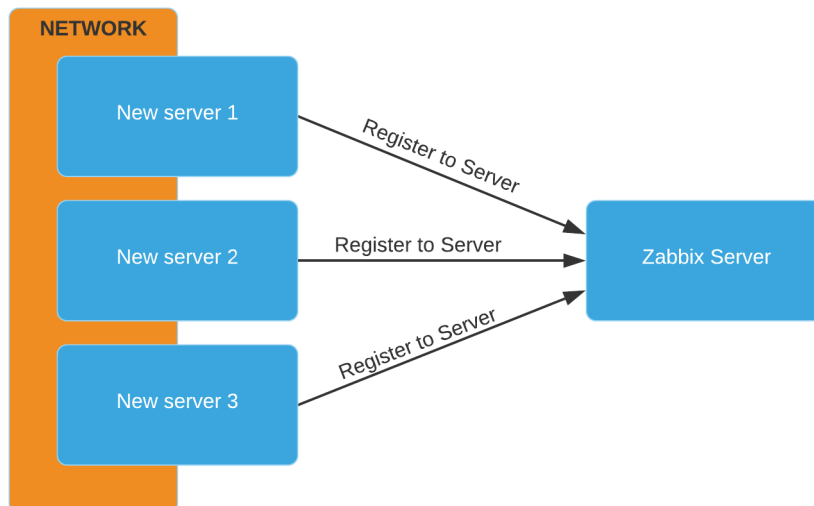
Operations	Details	Action
	Add host	Edit Remove
	Add to host groups: Linux servers	Edit Remove
	Link to templates: Template OS Linux by Zabbix agent active	Edit Remove
	Add	

* At least one operation must exist.

Add

Cancel

lar-book-lnx-agent-auto Applications 15 Items 65 Triggers 26 Graphs 14 Discovery 3 Web 10.16.16.159:10050

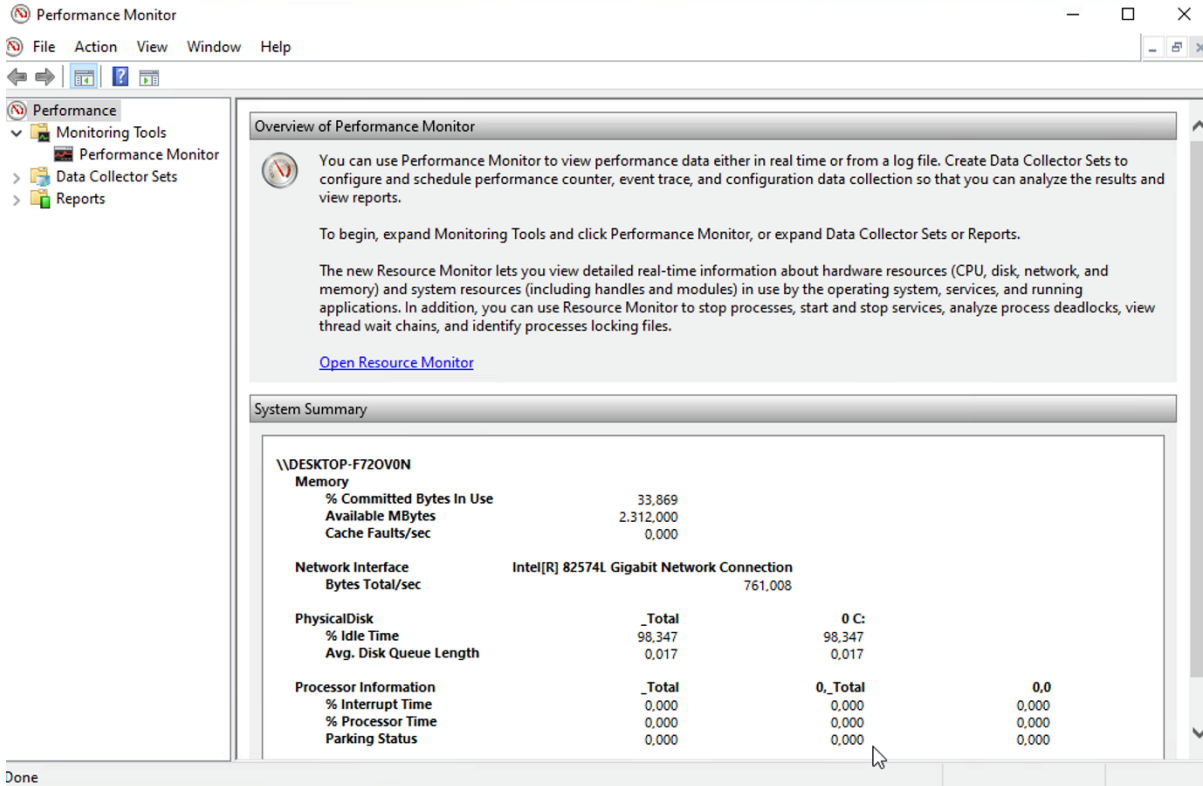
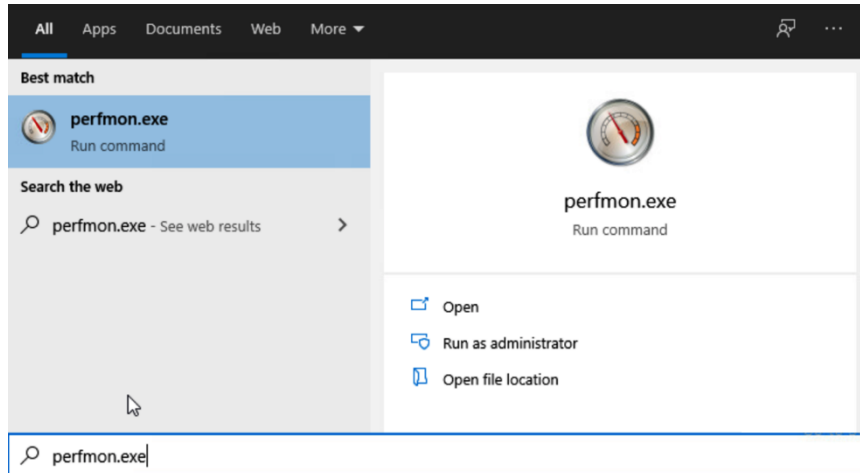


* Template name

Visible name

* Groups

Description



* Name

Type

* Key

* Update interval

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

[Add](#)

* Keep lost resources period

Description

Enabled

* Name

Type

* Key

Type of information

Units

* Update interval

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

[Add](#)

* History storage period

* Trend storage period

Show value [show value mappings](#)

New application

Linked templates	Name	Action
<input type="checkbox"/>	Template OS Windows by Zabbix agent	Unlink Unlink and clear

Link new templates

Host groups

Hosts

Application

Name ▲	Last check	Last value	Change
Counter Processor (3 Items)			
CPU 0 - C1 time	2020-09-26 10:19:28	96.2951 %	-0.87 %
CPU 1 - C1 time	2020-09-26 10:19:29	99.5613 %	+0.21 %
CPU _Total - C1 time	2020-09-26 10:19:30	97.4105 %	-1.7093 %

Add Counters

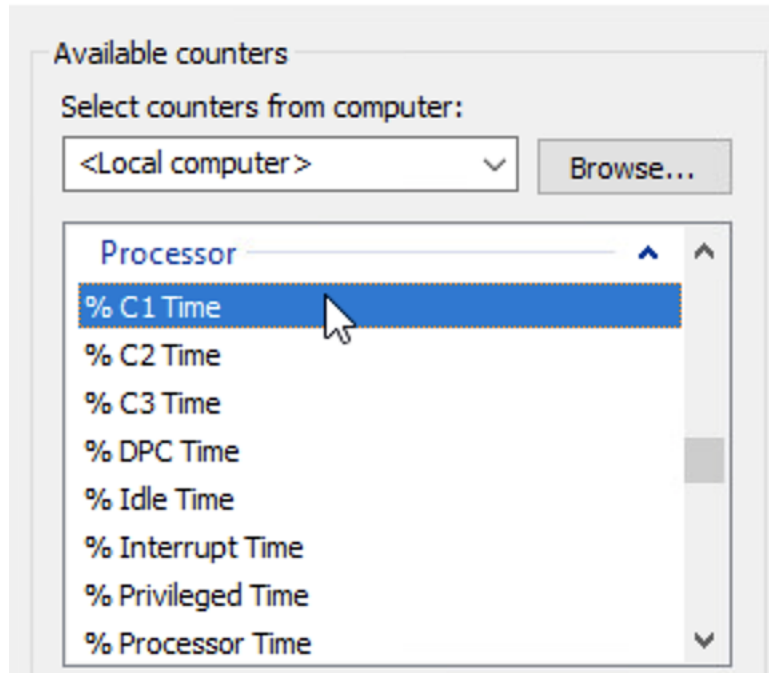
Available counters

Select counters from computer:

- Processor ▼ ▲
- Processor Information ▼
- RAS ▼
- RAS Port ▼

<input type="checkbox"/>	Wizard	Name ▲	Key
<input type="checkbox"/>	...	CPU {#INSTANCE} - C1 time	perf_counter["\Processor({#INSTANCE})\% C1 Time"]

Add Counters



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

* Template name

Visible name

* Groups

Description

[Discovery rule](#) [Preprocessing](#) [LLD macros](#) [Filters](#) [Overrides](#)

* Name

Type

* Key

* JMX endpoint

User name

Password

* Update interval

Custom intervals

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

[Add](#) [Remove](#)

* Keep lost resources period

* Name

Type

* Key

* JMX endpoint

User name

Password

Type of information

* Update interval

Custom intervals

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

[Add](#)

* History storage period

Show value

New application

Linked templates

Name	Action
Template App Apache Tomcat JMX	Unlink Unlink and clear

Link new templates

Host groups

Hosts

Application

Name ▲	Last check	Last value
Memory Pool (6 Items)		
MemoryPool Code Cache - Memory type	2020-09-27 11:25:10	NON_HEAP
MemoryPool Compressed Class Space - Memory type	2020-09-27 11:25:10	NON_HEAP
MemoryPool Eden Space - Memory type	2020-09-27 11:25:10	HEAP
MemoryPool Metaspace - Memory type	2020-09-27 11:25:10	NON_HEAP
MemoryPool Survivor Space - Memory type	2020-09-27 11:25:10	HEAP
MemoryPool Tenured Gen - Memory type	2020-09-27 11:25:10	HEAP

Name	Triggers	Key
Discover JMX object MemoryPool: MemoryPool Metaspace - Memory type		jmx["java.lang:type=MemoryPool,name=Metaspace",Type]
Discover JMX object MemoryPool: MemoryPool Tenured Gen - Memory type		jmx["java.lang:type=MemoryPool,name=Tenured Gen",Type]
Discover JMX object MemoryPool: MemoryPool Eden Space - Memory type		jmx["java.lang:type=MemoryPool,name=Eden Space",Type]
Discover JMX object MemoryPool: MemoryPool Survivor Space - Memory type		jmx["java.lang:type=MemoryPool,name=Survivor Space",Type]
Discover JMX object MemoryPool: MemoryPool Compressed Class Space - Memory type		jmx["java.lang:type=MemoryPool,name=Compressed Class Space",Type]
Discover JMX object MemoryPool: MemoryPool Code Cache - Memory type		jmx["java.lang:type=MemoryPool,name=Code Cache",Type]

Chapter 7: Setting Up Zabbix Proxies.

Proxies

Create proxy

Filter

Name Mode **Any** Active Passive

Apply Reset

<input type="checkbox"/> Name ▲	Mode	Encryption	Compression	Last seen (age)	Host count	Item count	Required performance (vps)	Hosts
No data found.								

0 selected Enable hosts Disable hosts Delete

Displaying 0 of 0 found

Proxy Encryption

* Proxy name

Proxy mode **Active** Passive

* Interface

IP address	DNS name	Connect to	Port
<input type="text" value="10.16.16.161"/>	<input type="text"/>	IP DNS	<input type="text" value="10051"/>

Description

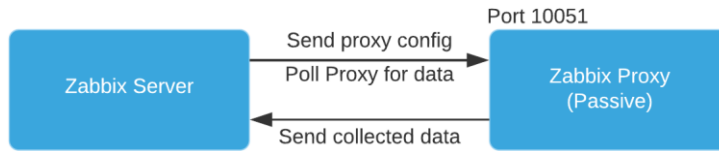
Proxy Encryption

Connections to proxy **No encryption** PSK Certificate

Connections from proxy No encryption
 PSK
 Certificate

Add Cancel

<input type="checkbox"/> Name ▼	Mode	Encryption	Compression	Last seen (age)
<input type="checkbox"/> lar-book-proxy-passive	Passive	NONE	ON	28s



Proxies

Create proxy

Filter

Name Mode **Any** Active Passive

<input type="checkbox"/> Name ▲	Mode	Encryption	Compression	Last seen (age)	Host count	Item count	Required performance (vps)	Hosts
No data found.								

0 selected

Displaying 0 of 0 found

Proxy Encryption

Proxy name

Proxy mode **Active** Passive

Proxy address

Description

Proxy Encryption

Connections to proxy

-

Connections from proxy No encryption

- PSK
 Certificate

<input type="checkbox"/> Name ▲	Mode	Encryption	Compression	Last seen (age)
<input type="checkbox"/> lar-book-proxy-active	Active	NONE	ON	1s

```
### Option: ConfigFrequency
#   How often proxy retrieves configuration data from Zabbix Server in seconds.
#   For a proxy in the passive mode this parameter will be ignored.
#
# Mandatory: no
# Range: 1-3600*24*7
# Default:
# ConfigFrequency=3600
```



Description

Monitored by proxy lar-book-proxy-passive ▾

Enabled

- Update
- Clone
- Full clone
- Delete
- Cancel

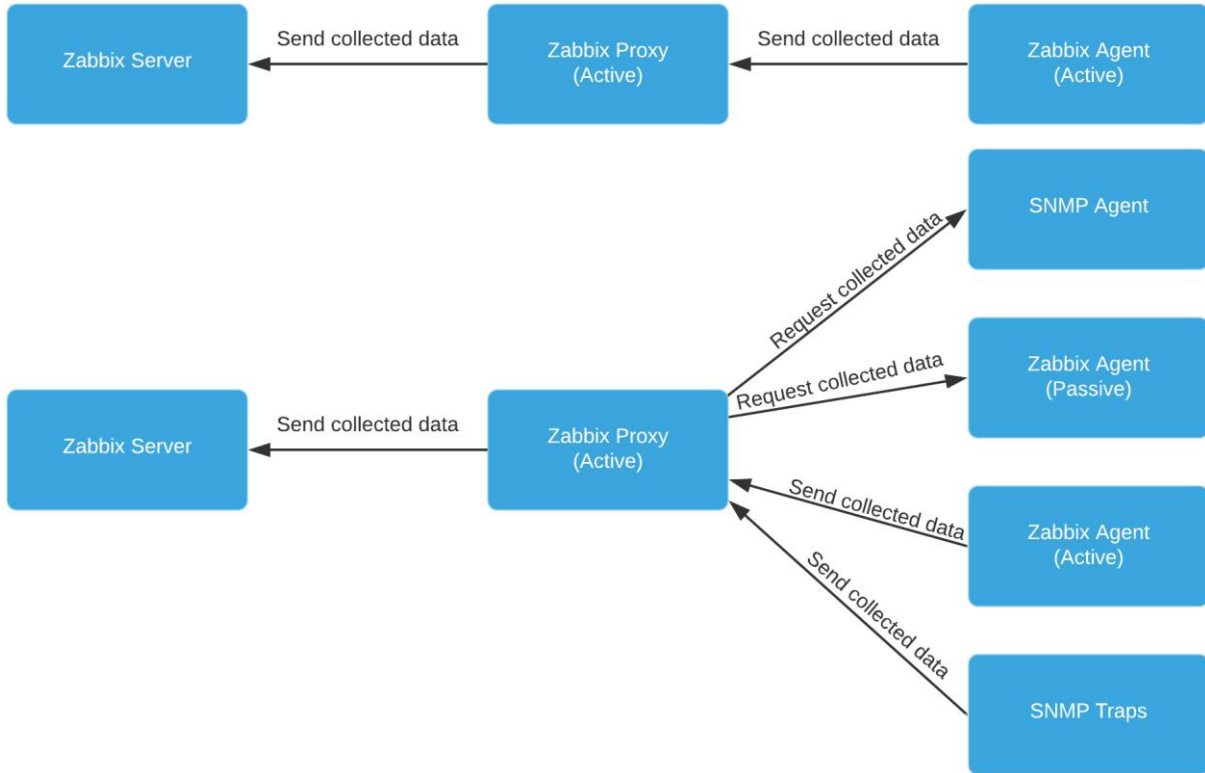
Description

Monitored by proxy lar-book-proxy-active ▾

Enabled

- Update
- Clone
- Full clone
- Delete
- Cancel





* Name

Discovery by proxy

* IP range

<input type="checkbox"/>	lar-book-disc-lnx_2	Applications 11	Items 42	Triggers 14	Graphs 8	Discovery 3	Web	10.16.16.156: 10050	lar-book-proxy-active
<input type="checkbox"/>	lar-book-disc-win_2	Applications 11	Items 31	Triggers 12	Graphs 5	Discovery 4	Web	10.16.16.157: 10050	lar-book-proxy-active

- [lar-book-disc-lnx_2](#)
Applications 11
Items 42
Triggers 14
Graphs 8
Discovery 3
Web
10.16.16.156:
10050
lar-book-proxy-active

- [lar-book-disc-win_2](#)
Applications 11
Items 31
Triggers 12
Graphs 5
Discovery 4
Web
10.16.16.157:
10050
lar-book-proxy-active

* Host name

Visible name

* Groups
type here to search

* Interfaces	Type	IP address	DNS name	Connect to	Port	Default
Agent		<input type="text" value="127.0.0.1"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="10050"/>	<input checked="" type="radio"/> <input type="button" value="Remove"/>

[Add](#)

Description

Monitored by proxy ▼

Enabled

[Host](#) [Templates](#) [IPMI](#) [Tags](#) [Macros](#) [Inventory](#) [Encryption](#)

Linked templates

Name	Action
------	--------

Link new templates
type here to search

Host groups Name

Hosts Show items without data

Application Show details

Number of processed values per second	2020-10-02 16:02:31	3.9818	+0.551
Utilization of configuration syncer internal processes, in %	2020-10-02 16:02:59	0.2532 %	-0.02142 %

* Host name

Visible name

* Groups ✕
type here to search

* Interfaces	Type	IP address	DNS name	Connect to	Port	Default
	Agent	<input type="text" value="10.16.16.160"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="10050"/>	<input checked="" type="radio"/> Remove

[Add](#)

Description

Monitored by proxy

Enabled

Linked templates	Name	Action
------------------	------	--------

Link new templates ✕
 ✕
type here to search

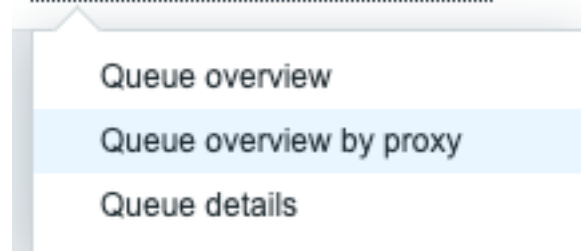
Host macros

Macro	Value
<input type="text" value="{\\$ADDRESS}"/>	<input type="text" value="10.16.16.160"/> <input type="button" value="T"/>
<input type="text" value="{\\$PORT}"/>	<input type="text" value="10051"/> <input type="button" value="T"/>

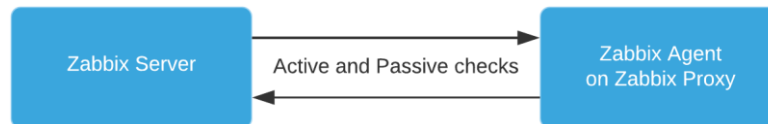
[Add](#)

Zabbix stats ?		
Zabbix stats queue	2020-10-05 10:55:41	37
Zabbix stats queue over 10m	2020-10-05 10:55:11	0


Queue overview ▾






Proxy	5 seconds	10 seconds	30 seconds
lar-book-proxy-active	0	0	0
lar-book-proxy-passive	0	0	0




Chapter 8: Integrating Zabbix with External Services.

lar-book 


🕒 Search lar-book ? 


#general ☆
Add a topic  2 [+ Add](#) 

 **You're looking at the #general channel**
This is the one channel that will always include everyone. It's a great spot for announcements and team-wide conversations.









[+ Add teammates](#)

Today ▾

 **nathanliefting** 12:08 PM
joined #general.

 **nathanliefting** [Edit your profile](#) 12:09 PM
Hi

Send a message to #general

 | **B** *I*        Aa @ 😊 📎 ➤

Create a channel



Channels are where your team communicates. They're best when organized around a topic – #marketing, for example.

Name

Description (optional)

What's this channel about?

Make private

When a channel is set to private, it can only be viewed or joined by invitation.



[Learn more](#)

Create

Add people

#dasda



- Add all members of **lar-book**
- Add specific people

Search by name or email

Only admins can see this setting



Automatically add anyone who joins **lar-book**

Done

Your Apps

Build something amazing.

Use our APIs to build an app that makes people's working lives better. You can create an app that's just for your workspace or create a public Slack App to list in the App Directory, where anyone on Slack can discover it.

Create an App


Create a Slack App



App Name

Don't worry; you'll be able to change this later.

Development Slack Workspace

 lar-book



Your app belongs to this workspace—leaving this workspace will remove your ability to manage this app. Unfortunately, this can't be changed later.

By creating a Web API Application, you agree to the [Slack API Terms of Service](#).

Cancel

Create App

Building Apps for Slack

Create an app that's just for your workspace (or build one that can be used by any workspace) by following the steps below.

Add features and functionality

Choose and configure the tools you'll need to create your app (or review all [our documentation](#)).

Incoming Webhooks

Post messages from external sources into Slack.

Interactive Components

Add components like buttons and select menus to your app's interface, and create an interactive experience for users.

Slash Commands

Allow users to perform app actions by typing commands in Slack.

Event Subscriptions

Make it easy for your app to respond to activity in Slack.

Bots

Allow users to interact with your app through channels and conversations. ✨

Permissions

Configure permissions to allow your app to interact with the Slack API.

Scopes

A Slack app's capabilities and permissions are governed by the [scopes](#) it requests.

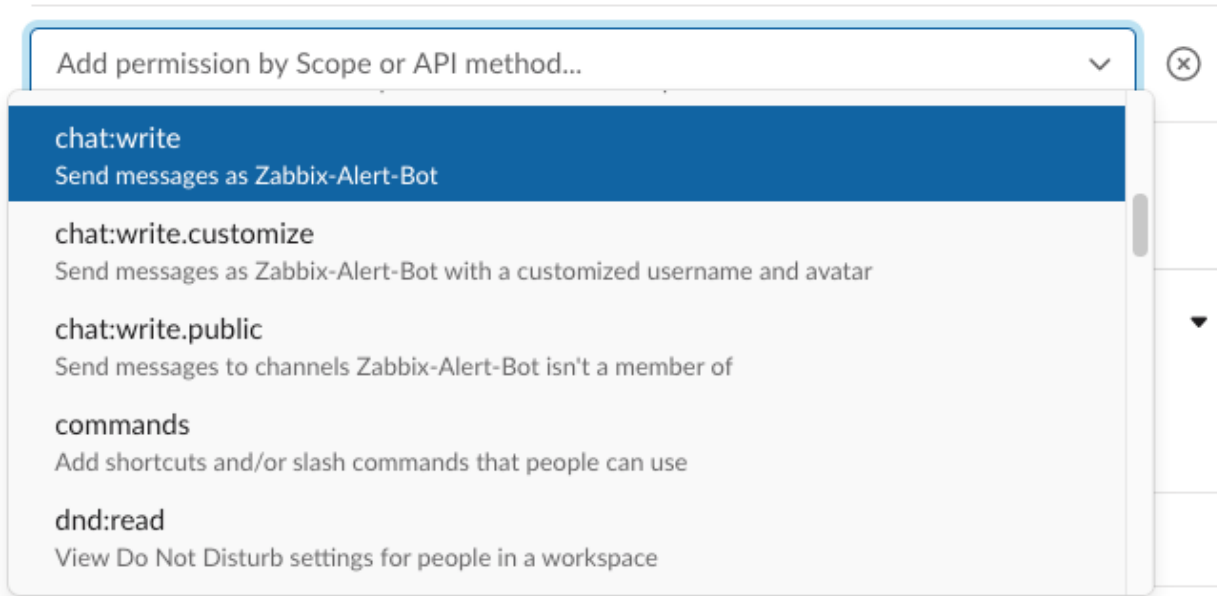
Bot Token Scopes

Scopes that govern what your app can access.

OAuth Scope	Description
-------------	-------------

You haven't added any OAuth Scopes for your Bot token.

Add an OAuth Scope



OAuth Tokens & Redirect URLs

These [OAuth Tokens](#) will be automatically generated when you finish connecting the app to your workspace. You'll use these tokens to authenticate your app.

[Install App to Workspace](#)

OAuth Tokens & Redirect URLs

Tokens for Your Workspace

These tokens were automatically generated when you installed the app to your team. You can use these to authenticate your app. [Learn more.](#)

Bot User OAuth Access Token

xoxb-1412888539396- [REDACTED] [Copy](#)

[Reinstall App](#)

This is the very beginning of the #zabbix-notifications channel
You created this channel on October 5th. [Add description](#)

 Add people

 Connect an app

Add apps to # zabbix-notifications

[View App Directory](#)

Q Search by name or category (e.g. productivity, sales)

In your workspace (1)

 Zabbix-Alert-Bot [Add](#)

Name Slack

Type Webhook

Parameters	Name	Value	Action
	bot_token	xoxb-1412888539396- 	Remove
	channel	{ALERT.SENDTO}	Remove
	event_date	{EVENT.DATE}	Remove
	event_id	{EVENT.ID}	Remove

Message type	Template	Actions
Problem	Problem started at {EVENT.TIME} on {EVENT.DATE} Pro...	Edit Remove
Problem recovery	Problem has been resolved at {EVENT.RECOVERY.TIME}...	Edit Remove
Problem update	{USER.FULLNAME} {EVENT.UPDATE.ACTION} problem...	Edit Remove
Add		

User group **Permissions** Tag filter

* Group name

Users

Frontend access

Enabled

Debug mode

Host group	Permissions
All groups	Read

Include subgroups

[Add](#)

User **Media** Permissions

* Alias

Name

Surname

* Groups

* Password

* Password (once again)

Media



Type

* Send to

* When active

Use if severity Not classified

Information

Warning

Average

High

Disaster

Enabled

Add

Cancel

[Add](#)

[Update](#)

Action Operations

* Default operation step duration

Pause operations for suppressed problems

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

Recovery operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
	Add	

Update operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
	Add	

* At least one operation must exist.

Add

Cancel



Zabbix-Alert-Bot APP 3:51 PM

PROBLEM: lar-book-agent_passive has been restarted (uptime < 10m)

Host	lar-book-agent_passive [10.16.16.153]	Event time	2020.10.07 15:51:23
Severity	Warning	Opdata	00:00:24
Event tags	None	Trigger description	The host uptime is less than 10 minutes

[Open in Zabbix](#)

Media

Type	Send to	When active	Use if severity	Status	Action
Slack	#zabbix-notifications	1-7,00:00-24:00	N I W A H D	Enabled	Edit Remove
Add					

Problem created in Zabbix



Your teams



Opensource ICT Solutions B.V.



General

Hide

Manage team

Add channel

Add member

Leave the team

Get link to team

Manage tags

Create a channel for "Opensource ICT Solutions B.V." team

Channel name

Zabbix-notifications



Description (optional)

This channel is for all of our important Zabbix Notifications.

Privacy

Standard – Accessible to everyone on the team



Cancel

Add

Your teams




Opensource ICT Solutions B.V.



General


Zabbix-notifications



 Channel notifications >

 Pin


 Hide


 Manage channel

 Get email address

 Get link to channel

 Edit this channel

 Connectors

 Delete this channel

Connectors for "Zabbix-notifications" channel in "Opensource ICT Solutions B.V." team ×

Keep your group current with content and updates from other services.

zabbix



Search Results

Sort by: Popularity ▾

MANAGE

Configured

My Accounts



Zabbix Webhook

Integrate Zabbix with Microsoft Teams by using this connector

Add

The following ways to set up Zabbix web hook connector are available:

- Import [preconfigured Microsoft teams media type XML](#) into Zabbix
- Copy the following web hook URL to Microsoft teams web hook settings in Zabbix:

<https://outlook.office.com/webhook/11b4a23a-> Copy

host_ip	{HOST.IP}	Remove
host_name	{HOST.NAME}	Remove
teams_endpoint	https://outlook.office.com/webhook/	Remove
trigger_description	{TRIGGER.DESCRPTION}	Remove

User group [Permissions](#) [Tag filter](#)

* Group name

Users Select

Frontend access

Enabled

Debug mode

Add Cancel

Host group	Permissions
All groups	Read

Select Read-write Read Deny None

Include subgroups

[Add](#)

Add Cancel

* Alias

Name

Surname

* Groups
type here to search

* Password

* Password (once again)

Media

Type

* Send to

* When active

Use if severity Not classified
 Information
 Warning
 Average
 High
 Disaster

Enabled

Add

* Default operation step duration

Pause operations for suppressed problems

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

Recovery operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
Add		

Update operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
Add		

* At least one operation must exist.



Zabbix Webhook 11:43

Problem: lar-book-disc-lnx has been restarted (uptime < 10m)

On lar-book-disc-lnx [10.16.16.156]

The host uptime is less than 10 minutes

Event time 11:42:59 2020.10.08

Severity Warning

Operational data 00:00:40

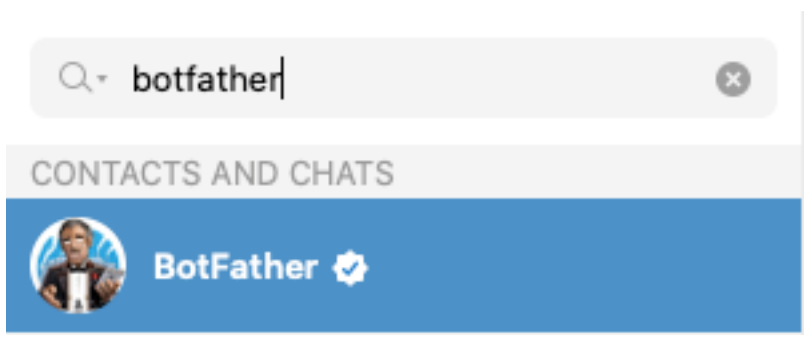
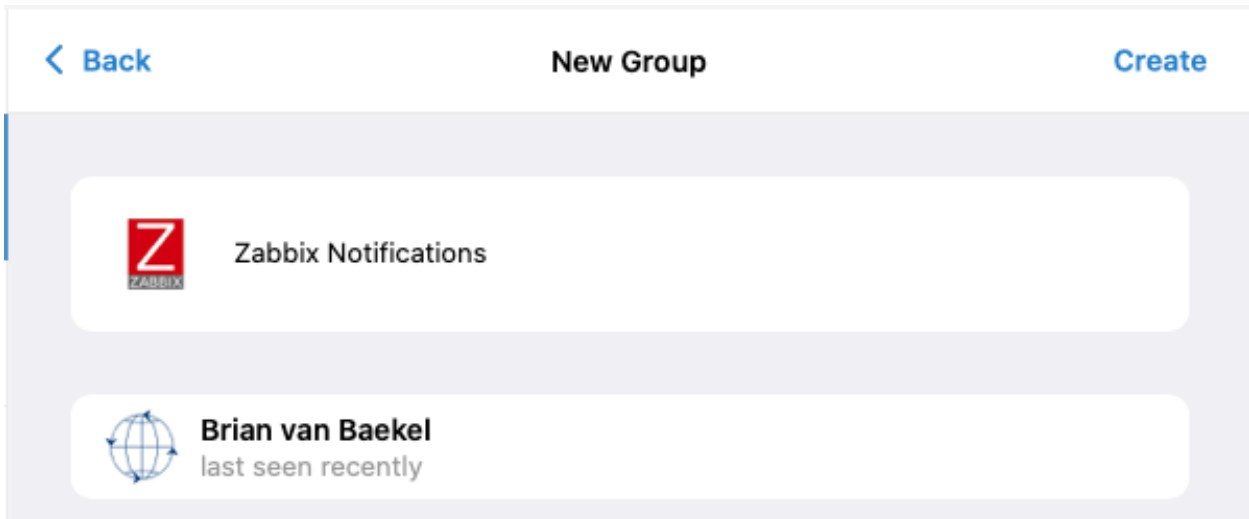
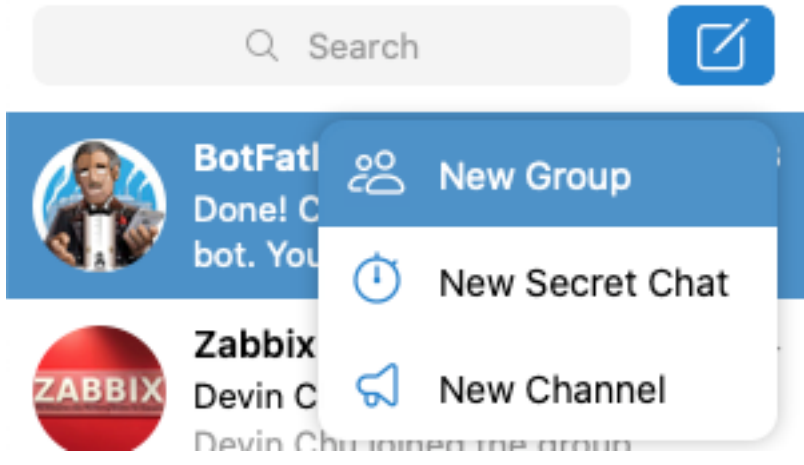
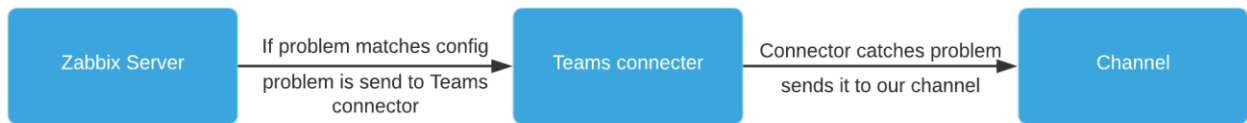
[Event Info](#)

← Reply

Media

Type	Send to	When active	Use if severity	Status	Action
MS Teams	#	1-7,00:00-24:00	N I W A H D	Enabled	Edit Remove
Add					

Problem created in Zabbix





BotFather

bot



BotFather

13:06

I can help you create and manage Telegram bots. If you're new to the Bot API, please [see the manual](#).

You can control me by sending these commands:

[/newbot](#) - create a new bot

[/mybots](#) - edit your bots **[beta]**

Edit Bots

[/setname](#) - change a bot's name

[/setdescription](#) - change bot description

[/setabouttext](#) - change bot about info

[/setuserpic](#) - change bot profile photo

[/setcommands](#) - change the list of commands

[/deletebot](#) - delete a bot

Bot Settings

[/token](#) - generate authorization token

[/revoke](#) - revoke bot access token

[/setinline](#) - toggle [inline mode](#)

[/setinlinegeo](#) - toggle inline [location requests](#)

[/setinlinefeedback](#) - change [inline feedback](#) settings

[/setjoingroups](#) - can your bot be added to groups?

[/setprivacy](#) - toggle [privacy mode](#) in groups

Games

[/mygames](#) - edit your [games](#) **[beta]**

[/newgame](#) - create a new [game](#)

[/listgames](#) - get a list of your games

[/editgame](#) - edit a game

[/deletegame](#) - delete an existing game



Write a message...





Larcorba
/newbot

✓ 13:10



BotFather

13:10

Alright, a new bot. How are we going to call it? Please choose a name for your bot.



Write a message...



Larcorba

zabbix-notfication-bot

✓ 13:11



BotFather

13:11

Good. Now let's choose a username for your bot. It must end in `bot`. Like this, for example: TetrisBot or tetris_bot.



Larcorba

lar_zbx_notfication_bot

edited ✓ 13:13



BotFather

13:13

Done! Congratulations on your new bot. You will find it at t.me/lar_zbx_notfication_bot. You can now add a description, about section and profile picture for your bot, see [/help](#) for a list of commands. By the way, when you've finished creating your cool bot, ping our Bot Support if you want a better username for it. Just make sure the bot is fully operational before you do this.

Use this token to access the HTTP API:

1286

Keep your token **secure** and **store it safely**, it can be used by anyone to control your bot.

For a description of the Bot API, see this page: <https://core.telegram.org/bots/api>



Zabbix Notifications

2 members



Add



Unmute



Leave



Add Members

@lar_zbx_notification_bot

GLOBAL SEARCH



zabbix-notfication-bot
bot

Parameters

Name	Value	Action
Message	{ALERT.MESSAGE}	Remove
ParseMode		Remove
Subject	{ALERT.SUBJECT}	Remove
To	{ALERT.SENDTO}	Remove
Token	1286 [REDACTED] AGO [REDACTED]	Remove

[Add](#)



Add Members

myidbot

GLOBAL SEARCH



IDBot
bot

User group Permissions Tag filter

* Group name

Users

Frontend access

Enabled

Debug mode

Host group	Permissions
All groups	Read

Include subgroups

[Add](#)



Larcorba
/getgroupid@myidbot

✓ 13:47



IDBot
| **Larcorba**
| /getgroupid@myidbot
-4063 [REDACTED]

13:47

* Alias

Name

Surname

* Groups
type here to search

Select

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

Media

Type

* Send to

* When active

Use if severity Not classified
 Information
 Warning
 Average
 High
 Disaster

Enabled

* Default operation step duration

Pause operations for suppressed problems

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

Recovery operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
Add		

Update operations	Details	Action
	Send message to user groups: External Services via all media	Edit Remove
Add		

* At least one operation must exist.



Zabbix Notifications

4 members



zabbix-notification-bot

13:55

Problem: lar-book-disc-lnx has been restarted (uptime < 10m)
 Problem started at 13:55:07 on 2020.10.08
 Problem name: lar-book-disc-lnx has been restarted (uptime < 10m)
 Host: lar-book-disc-lnx
 Severity: Warning
 Operational data: 00:00:43
 Original problem ID: 19848

Media	Type	Send to	When active	Use if severity	Status	Action
	Telegram	-406 [REDACTED]	1-7,00:00-24:00	N I W A H D	Enabled	Edit Remove
Add						

Problem created in Zabbix



Contact methods

Email

☎ nathan@oicts.nl

[+ Add email](#)

SMS

☎ 31-631 [REDACTED]

[+ Add phone number](#)

Voice

☎ 31-6310 [REDACTED]

[+ Add phone number](#)

Add team

i Do you want to add more users to your account? Invite them from [users](#) page.

Name

Consultancy



Description

This is our consultancy team

Add member(s)

Nathan Liefting

admin



Brian van Baekel

admin





Search for users..

Cancel

Add

Integration list

Group list by 



Settings

Name:

API Key: 

Enabled: 

Send Via OEC: 

* Group name

Users

Frontend access

Enabled

Debug mode

Permissions

Host group	Permissions
All groups	Read

Include subgroups

[Add](#)

* Name

Conditions

Label	Name	Action
A	Trigger severity is greater than or equals <i>Warning</i>	Remove

[Add](#)

Enabled

* At least one operation must exist.



Operation details

Operation type

Steps - (0 - infinitely)

Step duration  (0 - use action default)

* Target list

Current host

Host

Select

Host group

Select

Type

Execute on Zabbix agent Zabbix server (proxy) Zabbix server

* Commands

```
triggerSeverity='{TRIGGER.SEVERITY}' -  
triggerDescription='{TRIGGER.DESCRPTION}' -  
triggerUrl='{TRIGGER.URL}' -triggerValue='{TRIGGER.VALUE}' -  
-triggerHostGroupName='{TRIGGER.HOSTGROUP.NAME}' -  
hostName='{HOST.NAME}' -ipAddress='{IPADDRESS}' -  
eventId='{EVENT.ID}' -date='{DATE}' -time='{TIME}' -  
itemKey='{ITEM.KEY}' -itemValue='{ITEM.VALUE}' -  
recoveryEventStatus='{EVENT.RECOVERY.STATUS}'
```

Conditions

Label	Name	Action
Add		

Add

Cancel

Operations	Steps	Details	Start in	Duration	Action
	1	Run remote commands on current host	Immediately	Default	Edit Remove
		Add			

Recovery operations	Details	Action
	Run remote commands on current host	Edit Remove
	Add	

Update operations	Details	Action
	Run remote commands on current host	Edit Remove
	Add	

```
{
  "apiKey": "a0ce55e2-[REDACTED]",
  "baseUrl": "https://api.eu.opsgenie.com",
  "logLevel": "DEBUG",
  "globalArgs": {},
  "globalFlags": {
    "command_url": "http://localhost/zabbix/api_jsonrpc.php",
    "user": "Admin",
    "password": "[REDACTED]"
  },
}
```

#1716 P3 [Zabbix] lar-book-disc-lnx has been restarted (uptime < 10m)

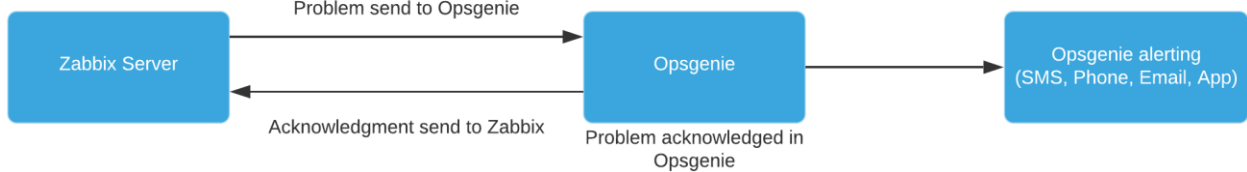
x1 Consultancy

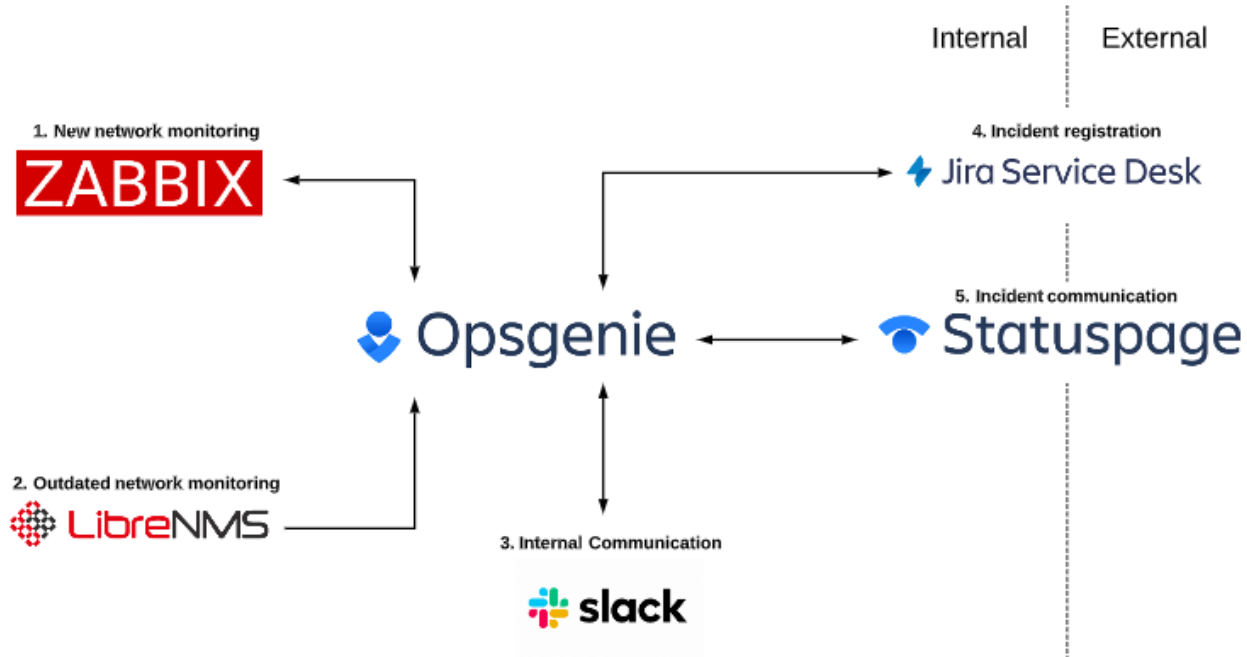
Nathan Liefing ACK'ED

Close UnAck ...

Oct 8, 2020 4:15 PM (GMT+02:00)

Problem created in Zabbix





Chapter 9: Extending Zabbix Functionality with Custom Scripts and the Zabbix API.

User group **Permissions** Tag filter

* Group name

Users

Frontend access

Enabled

Debug mode

Permissions

Host group	Permissions
All groups	Read-write

Include subgroups

[Add](#)

User **Media** **Permissions**

* Alias

Name

Surname

* Groups

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

User type

Permissions	Host group	Permissions
	<i>All groups</i>	Read-write

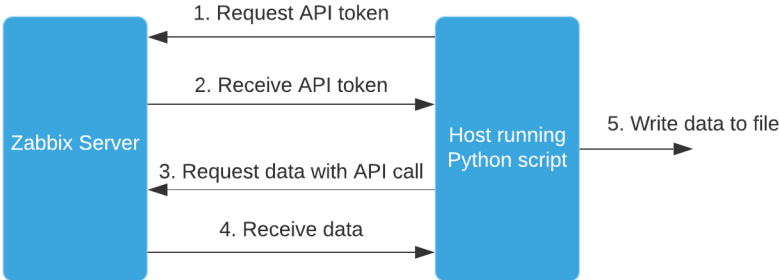
Permissions can be assigned for user groups only.

#Add new code below here

#Add new code above here

```
[root@lar-book-proxy-active ~]# cat /home/results
lar-book-centos 127.0.0.1
lar-book-agent_passive 10.16.16.153
lar-book-agent_passive 10.16.16.153
lar-book-agent 10.16.16.153
lar-book-agent_simple 10.16.16.153
lar-book-jmx 10.16.16.155
lar-book-centos_2 10.16.16.152
lar-book-disc-snmp 10.16.16.158
lar-book-agent_snmp 10.16.16.153
lar-book-proxy-active 10.16.16.160
lar-book-proxy-active_remotely 10.16.16.160
lar-book-lnx-agent-auto 10.16.16.159
lar-book-disc-lnx 10.16.16.156
lar-book-disc-win 10.16.16.157
```

```
payload = {
  "jsonrpc": "2.0",
  "method": "host.get",
  "params": {
    "output": [
      "hostid",
      "host"
    ],
    "selectInterfaces": [
      "interfaceid",
      "ip",
      "main"
    ]
  },
  "id": 2,
  "auth": api_token
}
```



User group Permissions Tag filter

* Group name

Users

Frontend access

Enabled

Debug mode

Permissions	Host group	Permissions
	All groups	Read-write

type here to search

Include subgroups

[Add](#)

[User](#) [Media](#) [Permissions](#)

* Alias

Name

Surname

* Groups
type here to search

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

User type

Permissions	Host group	Permissions
	All groups	Read-write

Permissions can be assigned for user groups only.

```
[root@lar-book-jump ~]# python3 host_pull_zabbix.py
cfe1c89195a020c5b4f3c3f2737a8
```

```
api_token = "cfe1c89195a020c5b4f3c3f2737a8"
```

```
#If you do not have a API token yet, use the following line to aquire it.
#Once printed, copy the token and paste it in the variable below.

#print(get_api_token(zabbix_url))

api_token = "cfe1c89195a020c5b4f3c3f2737a8"

#once the API token has been set, comment the print line again and uncomment the folloing lines.

zabbix_hosts = get_hosts(api_token,zabbix_url)
generate_host_file(zabbix_hosts,"/etc/hosts")
```

```
#For Debian based hosts
f.write('''127.0.0.1 localhost\n\n''')

#For RHEL based hosts
# f.write('''127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
#::1 localhost localhost.localdomain localhost6 localhost6.localdomain6\n\n''')

# The following lines are desirable for IPv6 capable hosts
f.write('''::1 localhost ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters\n\n\n''')
```

```
#For Debian based hosts
#f.write('''127.0.0.1 localhost\n\n''')

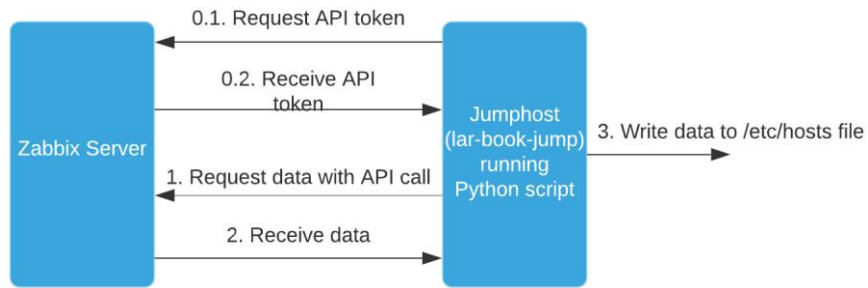
#For RHEL based hosts
f.write('''127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6\n\n''')

# The following lines are desirable for IPv6 capable hosts
f.write('''::1 localhost ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters\n\n\n''')
```

```
[root@lar-book-jump ~]# cat /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6

::1 localhost ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters

lar-book-centos 127.0.0.1
lar-book-agent_passive 10.16.16.153
lar-book-agent_passive 10.16.16.153
lar-book-agent 10.16.16.153
```



User group Permissions Tag filter

* Group name

Users

Frontend access

Enabled

Debug mode

Host group	Permissions
All groups	Read-write

Include subgroups

[Add](#)

User Media Permissions

* Alias

Name

Surname

* Groups

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

User type

Host group	Permissions
All groups	Read-write

Permissions can be assigned for user groups only.

* Name

Type IPMI Script

Execute on Zabbix agent Zabbix server (proxy) Zabbix server

* Commands

```
python3 /etc/zabbix/frontendscripts/maintenance.py create  
'{HOST.HOST}' 3600
```

Description

User group

Host group

Required host permissions Read Write

Enable confirmation

Confirmation text

* Name

Type IPMI Script

Execute on Zabbix agent Zabbix server (proxy) Zabbix server

* Commands

```
python3 /etc/zabbix/frontendscripts/maintenance.py create  
'{HOST.HOST}' 86400
```

Description

User group

Host group

Required host permissions Read Write

Enable confirmation

Confirmation text

* Name

Type IPMI Script

Execute on Zabbix agent Zabbix server (proxy) Zabbix server

* Commands

```
python3 /etc/zabbix/frontendscripts/maintenance.py delete
'{HOST.HOST}' 0
```

Description

User group

Host group

Required host permissions Read Write

Enable confirmation

Confirmation text

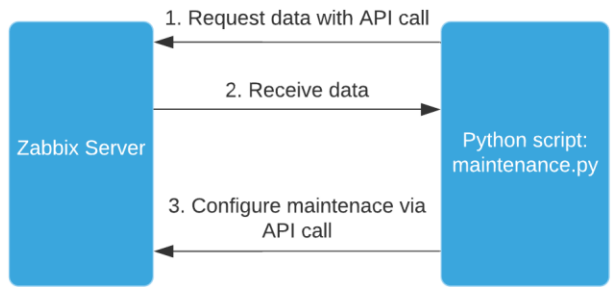
Name ▲	Interface	Availability
lar-book-agent	10.16.16.153: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.153: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.153: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.153: 161	ZBX SNMP JMX
lar-book-agent	127.0.0.1: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.152: 161	ZBX SNMP JMX
lar-book-agent	10.16.16.156: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.158: 161	ZBX SNMP JMX
lar-book-agent	10.16.16.157: 10050	ZBX SNMP JMX
lar-book-agent	10.16.16.159: 10050	ZBX SNMP JMX

- HOST
- Inventory
- Latest data
- Problems
- Graphs
- Screens
- Web
- Configuration
- SCRIPTS
- Detect operating system
- Maintenance ▶
 - Create ▶
 - 1 hour
 - 24 hour
 - Delete
- Ping
- Traceroute

Execution confirmation

Click execute to create a maintenance period of 1 hour for lar-book-agent

Name ▲	Type	Active since	Active till	State	Description
Maintenance period for: lar-book-agent	With data collection	2020-10-28 16:21	2020-10-28 17:21	Active	This maintenance period is created by a script.



* Group name

Users

Frontend access

Enabled

Debug mode

Permissions

Host group	Permissions
All groups	Read-write

Include subgroups

[Add](#)

* Alias

Name

Surname

* Groups

* Password

* Password (once again)

Password is not mandatory for non internal authentication type.

User type

Permissions

Host group	Permissions
All groups	Read-write

Permissions can be assigned for user groups only.

* Name

Type

Execute on

* Commands

```
python3 /etc/zabbix/frontendscripts/enable_disable-host.py
enable '{HOST.HOST}'
```

Description

User group

Host group

Required host permissions

Enable confirmation

Confirmation text

* Name

Type

Execute on

* Commands

```
python3 /etc/zabbix/frontendscripts/enable_disable-host.py
disable '{HOST.HOST}'
```

Description

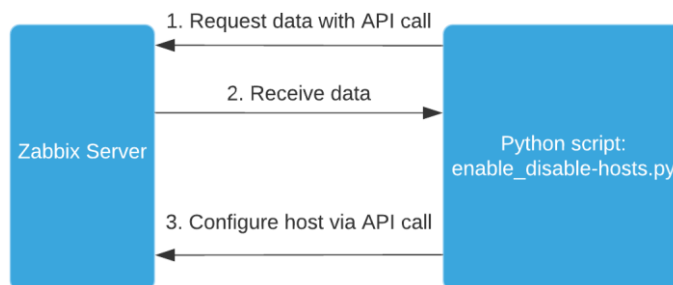
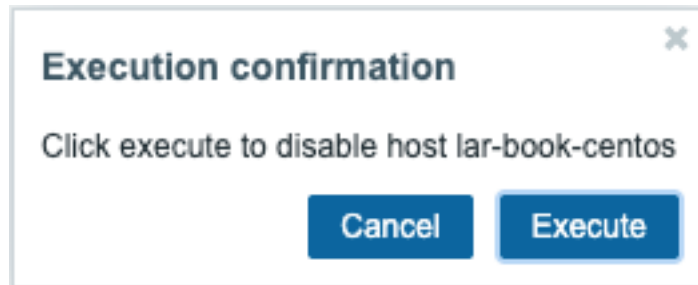
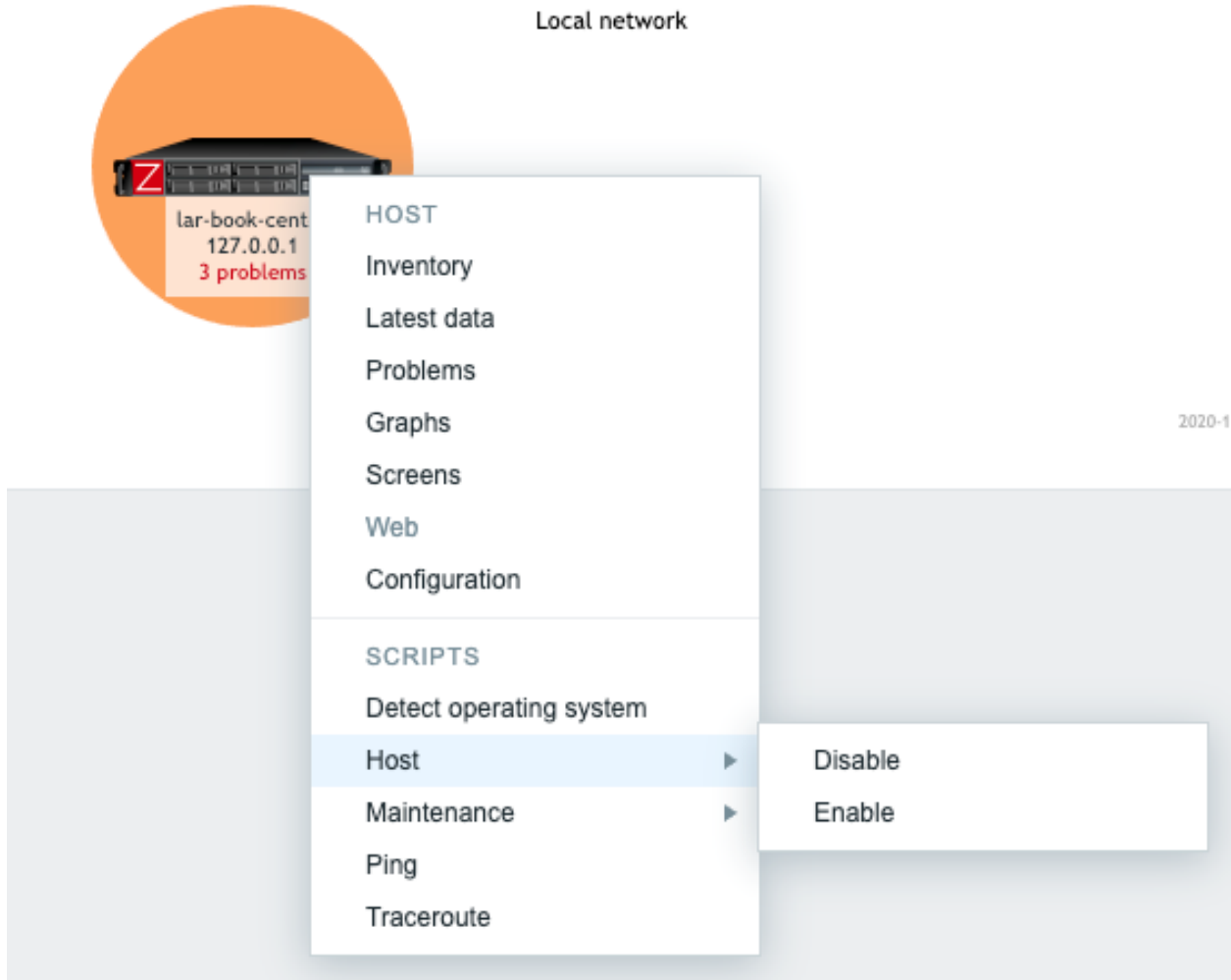
User group

Host group

Required host permissions

Enable confirmation

Confirmation text



Chapter 10: Maintaining Your Zabbix Setup.

Maintenance **Periods** Hosts and groups

* Name

Maintenance type With data collection No data collection

* Active since

* Active till

Description

Maintenance period

Period type

* Every week(s)

* Day of week Monday Thursday Saturday
 Tuesday Friday Sunday
 Wednesday

At (hour:minute) :

* Maintenance period length Days Hours Minutes

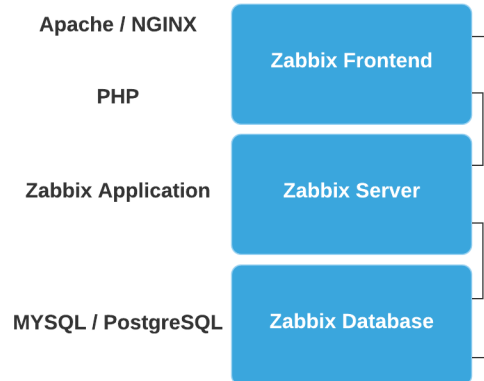
* Periods	Period type	Schedule	Period	Action
	Weekly	At 22:00 Tuesday of every week	6h	Edit Remove
	Add			

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

Host groups
type here to search

Hosts

Tags



Database error

The Zabbix database version does not match current requirements. Your database version: 5000000. Required version: 4000000. Please contact your system administrator.

ZABBIX << < > >>
lar-book-zbx4

Monitoring

- Dashboard
- Problems
- Hosts
- Overview
- Latest data
- Screens
- Maps
- Discovery
- Services

Inventory

- Reports
- Configuration
- Administration

Support

- Share
- Help
- User settings
- Sign out

Global view Edit dashboard

All dashboards / Global view


System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled)	1	1 / 0
Number of templates	91	
Number of items (enabled/disabled/not supported)	88	82 / 0 / 6
Number of triggers (enabled/disabled [problem/ok])	50	50 / 0 [0 / 50]
Number of users (online)	2	1

Problems by severity

Host group	Disaster	High	Average	Warning	Information	Not classified
No data found.						

Local



Problems


Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
No data found.							

Favourite maps

No maps added.

Favourite graphs

No graphs added.



Database error

The Zabbix database version does not match current requirements. Your database version: 4030046. Required version: 5000000. Please contact your system administrator.

Retry

ZABBIX lar-book-zbx4

Global view Edit dashboard

All dashboards / Global view

Monitoring

- Dashboard
- Problems
- Hosts
- Overview
- Latest data
- Screens
- Maps
- Discovery
- Services

Inventory

- Reports
- Configuration
- Administration

Support

Share

Help


User settings

Sign out

System information		
Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled)	1	1 / 0
Number of templates	91	
Number of items (enabled/disabled/not supported)	88	82 / 0 / 6
Number of triggers (enabled/disabled problem/ok)	50	50 / 0 [0 / 50]
Number of users (online)	?	1

Problems by severity						
Host group	Disaster	High	Average	Warning	Information	Not classified
No data found.						

Local



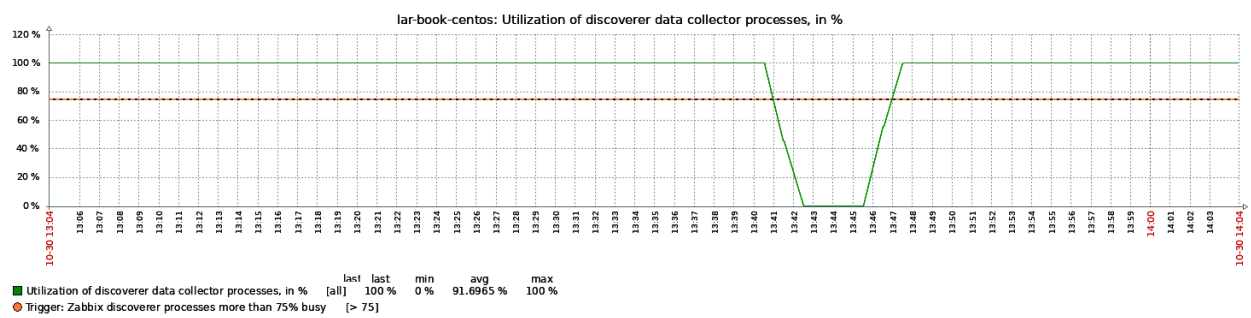
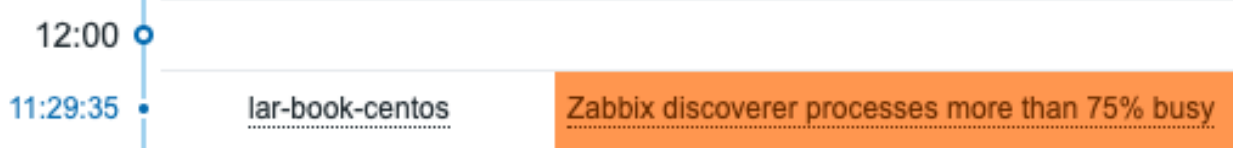
Problems							
Time	Info	Host	Problem · Severity	Duration	Ack	Actions	Tags
No data found.							

Favourite maps

No maps added.

Favourite graphs

No graphs added.

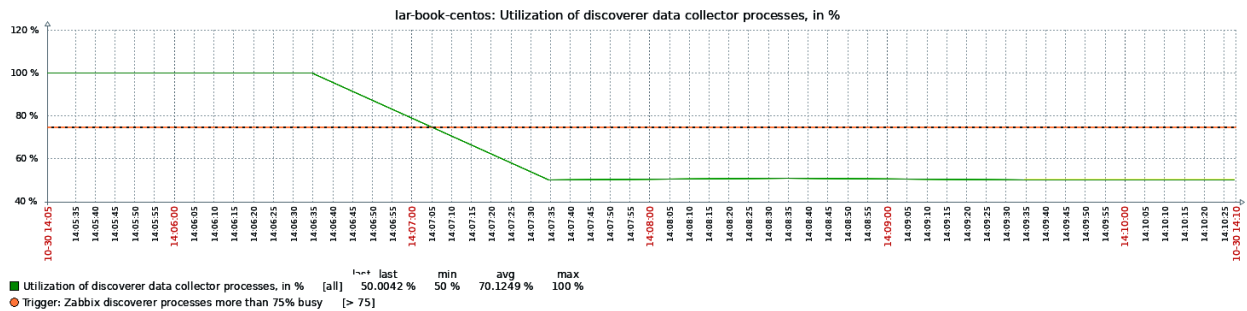


```
### Option: StartDiscoverers
#   Number of pre-forked instances of discoverers.
#
# Mandatory: no
# Range: 0-250
# Default:
# StartDiscoverers=1
```

```

### Option: StartDiscoverers
#       Number of pre-forked instances of discoverers.
#
# Mandatory: no
# Range: 0-250
# Default:
# StartDiscoverers=1
StartDiscoverers=2

```



Host	Problem • Severity
lar-book-centos	Zabbix housekeeper processes more than 75% busy

```

### Option: HousekeepingFrequency
#       How often Zabbix will perform housekeeping procedure (in hours).
#       Housekeeping is removing outdated information from the database.
#       To prevent Housekeeper from being overloaded, no more than 4 times HousekeepingFrequency
#       hours of outdated information are deleted in one housekeeping cycle, for each item.
#       To lower load on server startup housekeeping is postponed for 30 minutes after server start.
#       With HousekeepingFrequency=0 the housekeeper can be only executed using the runtime control option.
#       In this case the period of outdated information deleted in one housekeeping cycle is 4 times the
#       period since the last housekeeping cycle, but not less than 4 hours and not greater than 4 days.
#
# Mandatory: no
# Range: 0-24
# Default:
# HousekeepingFrequency=1

```

```

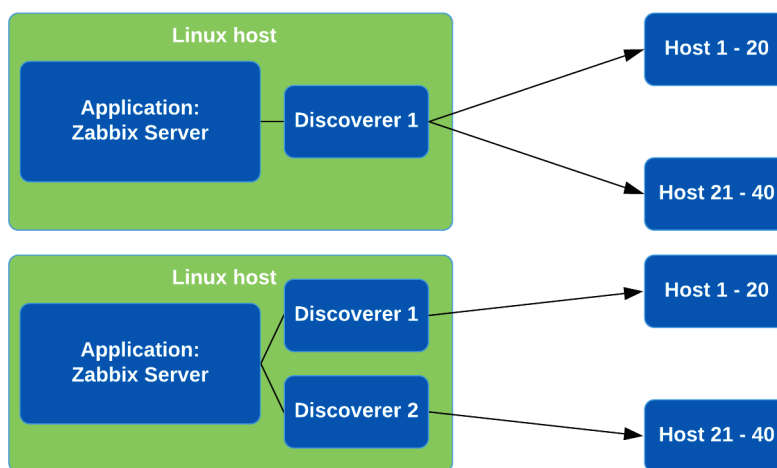
### Option: MaxHousekeeperDelete
#       The table "housekeeper" contains "tasks" for housekeeping procedure in the format:
#       [housekeeperid], [tablename], [field], [value].
#       No more than 'MaxHousekeeperDelete' rows (corresponding to [tablename], [field], [value])
#       will be deleted per one task in one housekeeping cycle.
#       If set to 0 then no limit is used at all. In this case you must know what you are doing!
#
# Mandatory: no
# Range: 0-1000000
# Default:
# MaxHousekeeperDelete=5000

```

```
[root@lar-book-centos ~]# perl mysqltuner.pl
>> MySQLTuner 1.7.19 - Major Hayden <major@mhtx.net>
>> Bug reports, feature requests, and downloads at http://mysqltuner.pl/
>> Run with '--help' for additional options and output filtering

[--] Skipped version check for MySQLTuner script
Please enter your MySQL administrative login: root
Please enter your MySQL administrative password: [OK] Currently running supported MySQL version 10.3.17-MariaDB
```

```
Variables to adjust:
*** MySQL's maximum memory usage is dangerously high ***
*** Add RAM before increasing MySQL buffer variables ***
query_cache_size (=0)
query_cache_type (=0)
query_cache_limit (> 1M, or use smaller result sets)
join_buffer_size (> 256.0K, or always use indexes with JOINS)
performance_schema = ON enable PFS
innodb_buffer_pool_size (>= 2.9G) if possible.
innodb_log_file_size should be (=16M) if possible, so InnoDB total log files size equals to 25% of buffer pool size.
```



History

Enable internal housekeeping

Override item history period

* Data storage period 90d

Trends

Enable internal housekeeping

Override item trend period

* Data storage period 365d

* History storage period

Do not keep history	Storage period	1w
---------------------	----------------	----

* Trend storage period

Do not keep trends	Storage period	365d
--------------------	----------------	------

Chapter 11: Advanced Zabbix Database Management.

```
MariaDB [zabbix]> SELECT FROM_UNIXTIME(MIN(clock)) FROM `history`;  
+-----+  
| FROM_UNIXTIME(MIN(clock)) |  
+-----+  
| 2020-11-05 11:27:03      |  
+-----+  
1 row in set (0.007 sec)
```

```
MariaDB [zabbix]> SELECT FROM_UNIXTIME(MIN(clock)) FROM `history_log`;  
+-----+  
| FROM_UNIXTIME(MIN(clock)) |  
+-----+  
| NULL                        |  
+-----+  
1 row in set (0.000 sec)
```

```
MariaDB [zabbix]> ALTER TABLE `history` PARTITION BY RANGE ( clock)  
-> (PARTITION p2020_11_05 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-06 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_06 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-07 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_07 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-08 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_08 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-09 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_09 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-10 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_10 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-11 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_11_11 VALUES LESS THAN (UNIX_TIMESTAMP("2020-11-12 00:00:00")) ENGINE = InnoDB);  
Stage: 1 of 2 'Copy to tmp table' 10.2% of stage done  
Stage: 2 of 2 'Enabling keys' 0% of stage done  
Query OK, 9853 rows affected (3.618 sec)  
Records: 9853 Duplicates: 0 Warnings: 0
```

```
MariaDB [zabbix]> ALTER TABLE `trends` PARTITION BY RANGE ( clock)  
-> (PARTITION p2020_11 VALUES LESS THAN (UNIX_TIMESTAMP("2020-12-01 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2020_12 VALUES LESS THAN (UNIX_TIMESTAMP("2021-01-01 00:00:00")) ENGINE = InnoDB,  
-> PARTITION p2021_01 VALUES LESS THAN (UNIX_TIMESTAMP("2021-02-01 00:00:00")) ENGINE = InnoDB);  
Stage: 2 of 2 'Enabling keys' 0% of stage done  
Query OK, 194 rows affected (1.398 sec)  
Records: 194 Duplicates: 0 Warnings: 0
```

```
my $db_schema = 'zabbix';
my $dsn = 'DBI:mysql:'. $db_schema. ':mysql_socket=/var/lib/mysql/mysql.sock';
my $db_user_name = 'zabbix';
my $db_password = 'password';
my $tables = { 'history' => { 'period' => 'day', 'keep_history' => '30'},
               'history_log' => { 'period' => 'day', 'keep_history' => '30'},
               'history_str' => { 'period' => 'day', 'keep_history' => '30'},
               'history_text' => { 'period' => 'day', 'keep_history' => '30'},
               'history_uint' => { 'period' => 'day', 'keep_history' => '30'},
               'trends' => { 'period' => 'month', 'keep_history' => '12'},
               'trends_uint' => { 'period' => 'month', 'keep_history' => '12'},
```

```
Nov 05 15:29:12 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_02)
Nov 05 15:29:12 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_02 VALUES le
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_03)
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_03 VALUES le
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_04)
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_04 VALUES le
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_05)
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_05 VALUES le
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_06)
Nov 05 15:29:13 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_06 VALUES le
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_07)
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_07 VALUES le
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_08)
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_08 VALUES le
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: Creating a partition for trends_uint table (p2021_09)
Nov 05 15:29:14 lar-book-mysql-mgmt mysql_zbx_part[9027]: ALTER TABLE zabbix.trends_uint ADD PARTITION (PARTITION p2021_09 VALUES le
[root@lar-book-mysql-mgmt ~]#
```


GUI ▾

GUI

Autoregistration

Housekeeping

Images

Icon mapping

Regular expressions

Macros

Value mapping

Working time

Trigger severities

Trigger displaying options

Modules

Other

History

Enable internal housekeeping

Override item history period

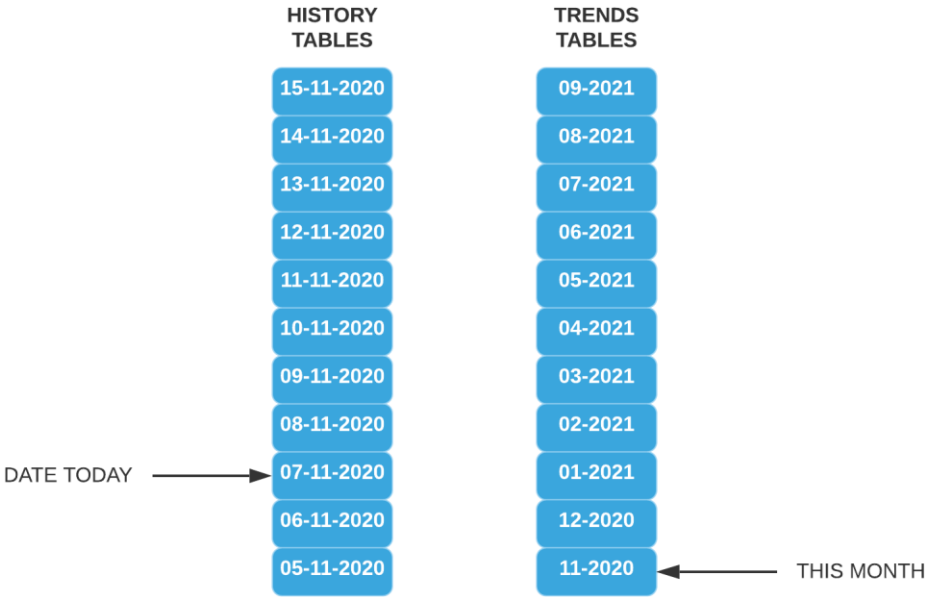
* Data storage period 90d

Trends

Enable internal housekeeping

Override item trend period

* Data storage period 365d



History

Enable internal housekeeping

Override item history period

* Data storage period

Trends

Enable internal housekeeping

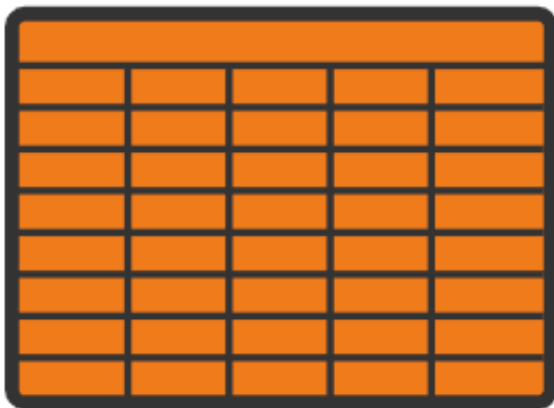
Override item trend period

* Data storage period

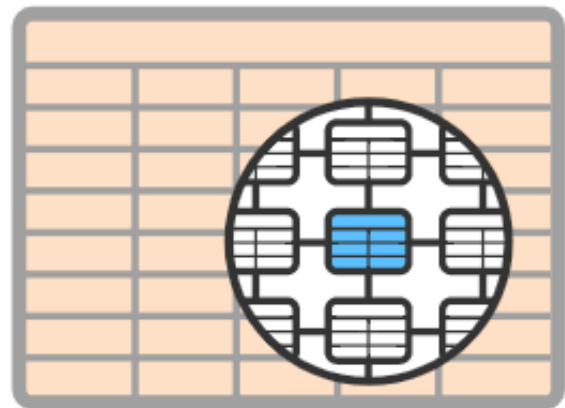
History and trends compression

Enable compression

* Compress records older than



Hypertable



Chunk

```

[ req_distinguished_name ]
countryName           = Country Name (2 letter code)
countryName_default  = NL
countryName_min       = 2
countryName_max       = 2

stateOrProvinceName  = State or Province Name (full name)
stateOrProvinceName_default = Noord-Holland

localityName          = Locality Name (eg, city)
localityName_default  = Amsterdam

0.organizationName    = Organization Name (eg, company)
0.organizationName_default = Opensource ICT Solutions

# we can do this but it is not needed normally :-)
#1.organizationName   = Second Organization Name (eg, company)
#1.organizationName_default = World Wide Web Pty Ltd

organizationalUnitName = Organizational Unit Name (eg, section)
organizationalUnitName_default = Opensource ICT Solutions

commonName            = Common Name (eg, your name or your server's hostname)
commonName_max        = 64

emailAddress          = Email Address
emailAddress_max      = 64

```

```

Generating a RSA private key
.....++++
.....++++
writing new private key to '/etc/pki/CA/private/cakey.pem'
Enter PEM pass phrase:

```



```

Country Name (2 letter code) [NL]:
State or Province Name (full name) [Noord-Holland]:
Locality Name (eg, city) [Amsterdam]:
Organization Name (eg, company) [Opensource ICT Solutions]:
Organizational Unit Name (eg, section) [Opensource ICT Solutions]:
Common Name (eg, your name or your server's hostname) []:Root CA
Email Address []:nathan@oicts.nl

```

Country Name (2 letter code) [NL]:
State or Province Name (full name) [Noord-Holland]:
Locality Name (eg, city) [Amsterdam]:
Organization Name (eg, company) [Opensource ICT Solutions]:
Organizational Unit Name (eg, section) [Opensource ICT Solutions]:
Common Name (eg, your name or your server's hostname) []:lar-book-secure-zbx
Email Address []:nathan@oicts.nl

Country Name (2 letter code) [NL]:
State or Province Name (full name) [Noord-Holland]:
Locality Name (eg, city) [Amsterdam]:
Organization Name (eg, company) [Opensource ICT Solutions]:
Organizational Unit Name (eg, section) [Opensource ICT Solutions]:
Common Name (eg, your name or your server's hostname) []:lar-book-secure-db
Email Address []:nathan@oicts.nl


Database type	MySQL ▾
Database host	lar-book-secure-db 
Database port	0 <small>0 - use default port</small>
Database name	zabbix
User	zabbix
Password 

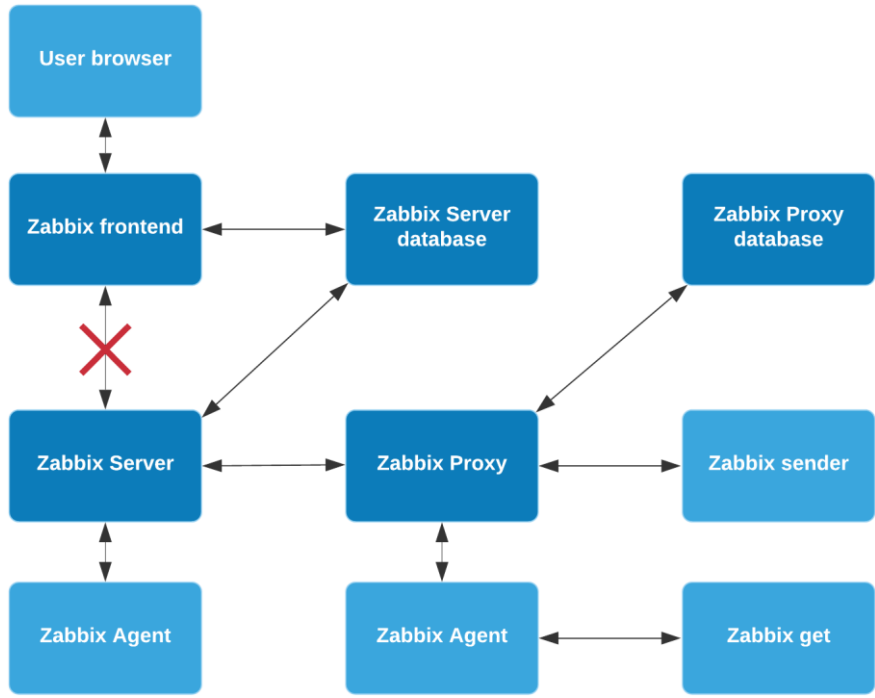
Database TLS encryption

Verify database certificate

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).

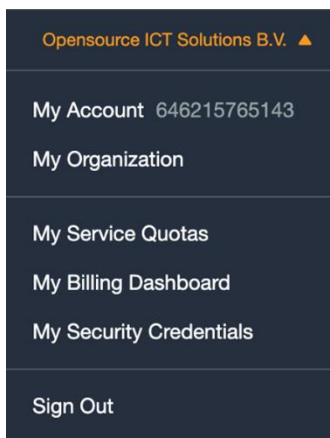
Host	localhost 
Port	10051
Name	lar-book-secure-zbx



Chapter 12: Bringing Zabbix to the Cloud with Zabbix Cloud Integration.

```
[root@zbx-home ~]# curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left     Speed
100 33.5M  100 33.5M    0     0  9061k      0  0:00:03  0:00:03  --:--:--  9059k
[root@zbx-home ~]#
```

```
[root@zbx-home ~]# ./aws/install
You can now run: /usr/local/bin/aws --version
```



Your Security Credentials

Use this page to manage the credentials for your AWS account. To manage credentials for AWS Identity and Access Management (IAM) users, use the [IAM Console](#).

To learn more about the types of AWS credentials and how they're used, see [AWS Security Credentials](#) in AWS General Reference.

▲ Password

▲ Multi-factor authentication (MFA)

▼ Access keys (access key ID and secret access key)

Use access keys to make programmatic calls to AWS from the AWS CLI, Tools for PowerShell, the AWS SDKs, or direct AWS API calls. You can have a maximum of two access keys (active or inactive) at a time. [Learn more](#)

Created	Access Key ID	Last Used	Last Used Region	Last Used Service	Status	Actions
---------	---------------	-----------	------------------	-------------------	--------	---------

Create New Access Key

Root user access keys provide unrestricted access to your entire AWS account. If you need long-term access keys, we recommend creating a new IAM user with limited permissions and generating access keys for that user instead. [Learn more](#)

▲ CloudFront key pairs

▲ X.509 certificate

▲ Account identifiers

Create Access Key

✔ Your access key (access key ID and secret access key) has been created successfully.

Download your key file now, which contains your new access key ID and secret access key. If you do not download the key file now, you will not be able to retrieve your secret access key again.

To help protect your security, store your secret access key securely and do not share it.

▼ Hide Access Key

Access Key ID: AKI

Secret Access Key: RP

Download Key File Close

```
[zabbix@zbx-home ~]$ aws configure
AWS Access Key ID [*****TPOA]: AK
AWS Secret Access Key [*****5EoP]
Default region name [eu-central-1]:
Default output format [json]:
[zabbix@zbx-home ~]$
```