

EPAM Systems, RD Dep., RD Dep.

# MTN.NIX.05.Zabbix.Items

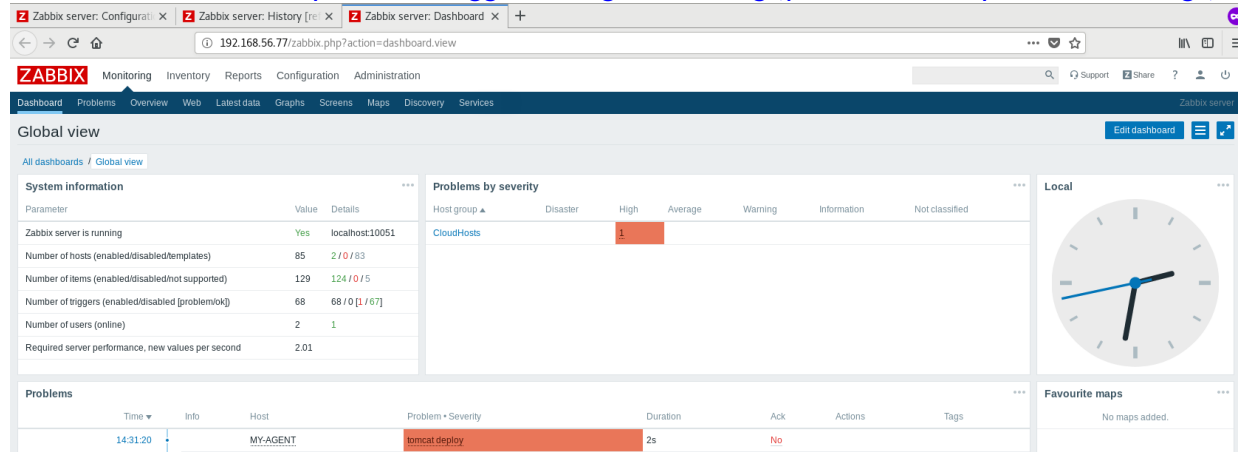
REVISION HISTORY					
Ver.	Description of Change	Author	Date	Approved	
				Name	Effective Date
1.0	Initial Version	Siarhei Beliakou	23/May/2017		

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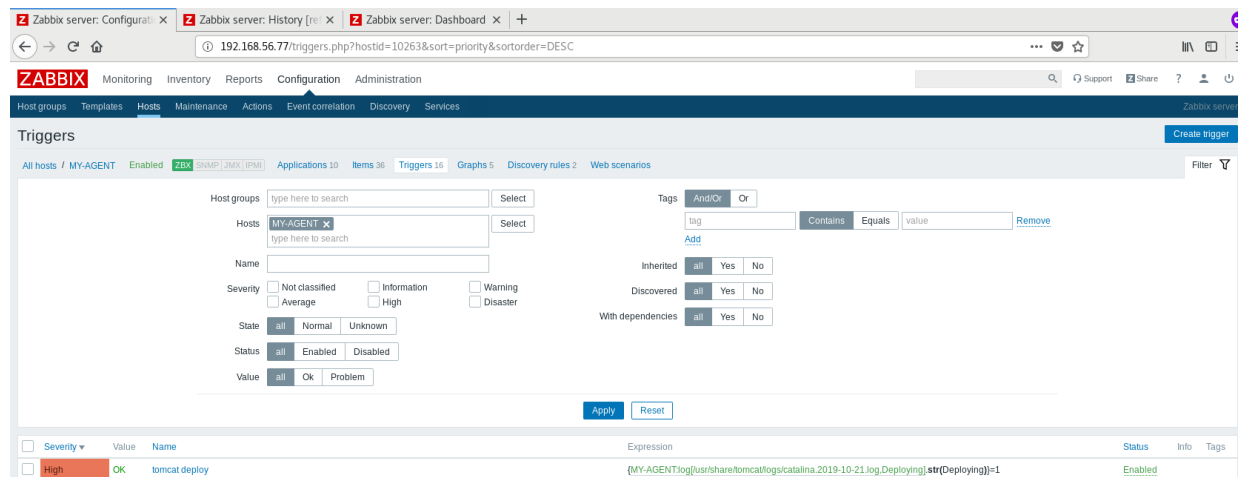
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## Task. Items

Create item and develop custom trigger for log monitoring (you can use httpd or tomcat logs)



The screenshot shows the Zabbix Global view dashboard. The top navigation bar includes links for Monitoring, Inventory, Reports, Configuration, and Administration. The main content area is divided into several sections: System information, Problems by severity, Local clock, and Favourite maps. The System information section displays various parameters such as Zabbix server status, number of hosts, items, triggers, and users. The Problems by severity section shows a list of problems, with one problem highlighted in red. The Local clock section displays a large analog clock. The Favourite maps section shows no maps added.



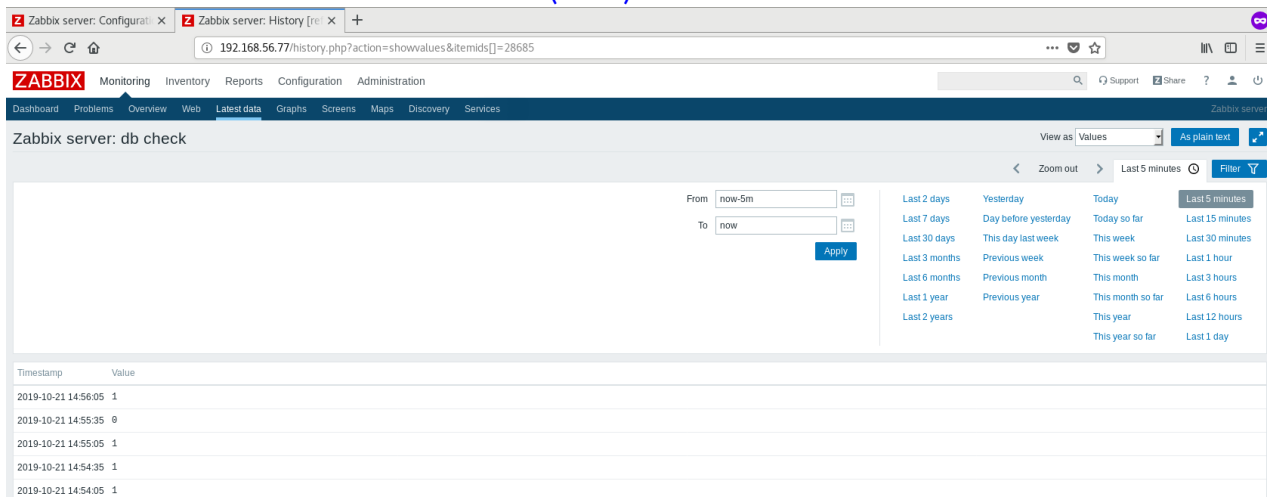
The screenshot shows the Zabbix Triggers configuration page. The top navigation bar includes links for Host groups, Templates, Hosts, Maintenance, Actions, Event correlation, Discovery, and Services. The main content area is divided into several sections: Host groups, Hosts, Name, Severity, State, Status, Value, Tags, and Inherited. The Host groups section shows a search bar and a dropdown menu. The Hosts section shows a search bar and a dropdown menu. The Name section shows a text input field. The Severity section shows radio buttons for Not classified, Average, High, Warning, and Disaster. The State section shows radio buttons for all, Normal, and Unknown. The Status section shows radio buttons for all, Enabled, and Disabled. The Value section shows radio buttons for all, Ok, and Problem. The Tags section shows a search bar and a dropdown menu. The Inherited section shows radio buttons for all, Yes, and No. The bottom section shows a list of triggers, with one trigger highlighted in red.

## Task:

Assuming we have 2 servers (VMs) – ZabbixServer and Tomcat,  
Configure:

### 1. Simple checks:

- Zabbix Server WEB availability (80) (I did it in previous lab)
- Zabbix DB is available (3306)



The screenshot shows the Zabbix Latest data page for item 28685. The top navigation bar includes links for Monitoring, Inventory, Reports, Configuration, and Administration. The main content area is divided into several sections: Zabbix server: db check, View as, As plain text, Zoom out, Last 5 minutes, Filter, and a table of data. The table has two columns: Timestamp and Value. The data shows a series of values (1, 0, 1, 1, 1) over time.

Zabbix server: Configuration | Zabbix server: History | 192.168.56.77/items.php?form=update&hostid=10084&itemid=28685

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

### Items

All hosts / Zabbix server Enabled 258 [SNMP][JMX][IPMI] Applications 11 Items 94 Triggers 52 Graphs 15 Discovery rules 2 Web scenarios

Item Preprocessing

\* Name: db check

Type: Simple check

\* Key: net.tcp.service[http\_3306] Select

\* Host interface: 127.0.0.1:10050

User name: Password:

Type of information: Text

\* Update interval: 30s

Custom intervals: Type Interval Period Action

- Tomcat availability (80, 8080)
- Tomcat Server is available by ssh (22)

## 2. Calculated Checks:

- CPU Load per Core (1, 5, 15min)

Zabbix server: Latest data | 192.168.56.77/latest.php?hostids[]=10263&application=CPU&select=&show\_without\_data=1&filter\_set=1

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

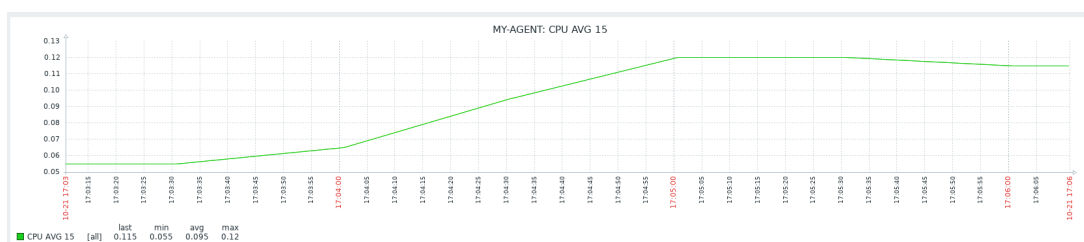
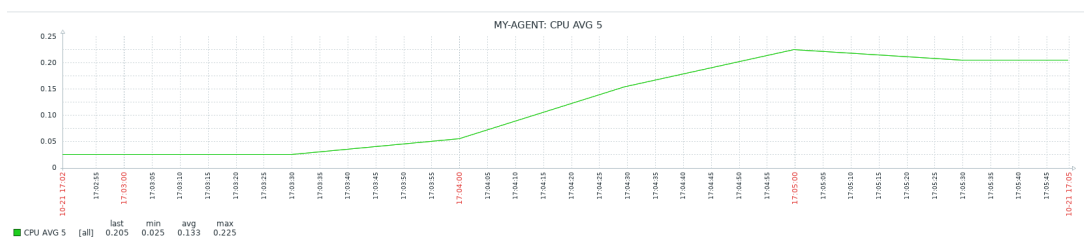
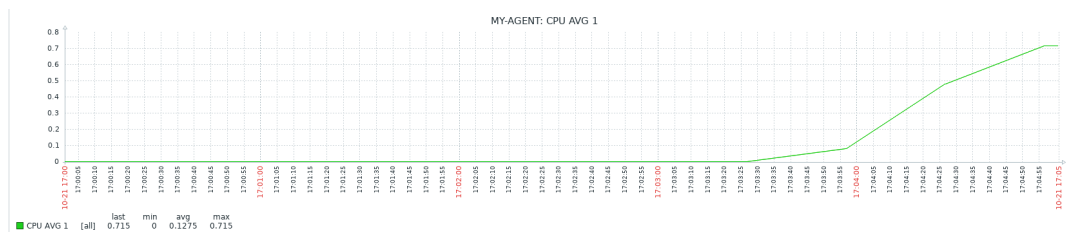
### Latest data

Host groups: type here to search Select Name: type here to search

Hosts: MY-AGENT-X type here to search Show items without data: ☒ Show details: ☐

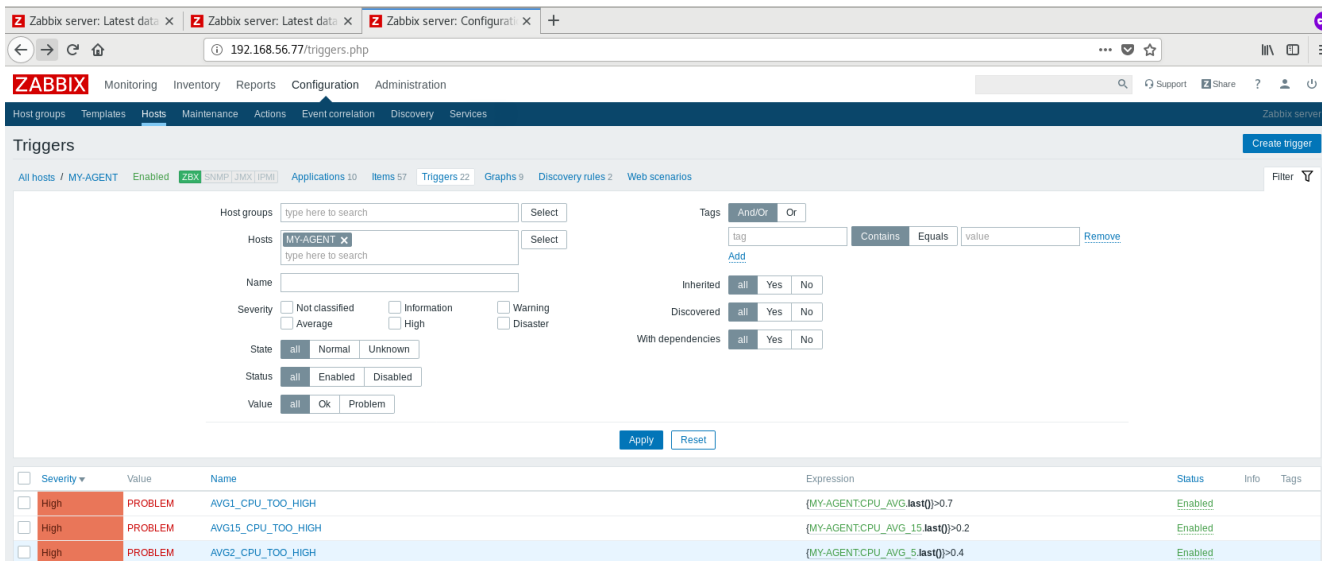
Application: CPU Select Apply Reset

<input type="checkbox"/> Host	Name	Last check	Last value	Change
<input checked="" type="checkbox"/> MY-AGENT	CPU (22 items)			
<input checked="" type="checkbox"/>	CPU AVG 15	2019-10-21 17:04:01	0.065	+0.01 Graph
<input checked="" type="checkbox"/>	CPU AVG 5	2019-10-21 17:04:00	0.055	+0.03 Graph
<input type="checkbox"/>	CPU load 15	2019-10-21 17:03:59	0.13	+0.02 Graph
<input type="checkbox"/>	CPU load 5	2019-10-21 17:03:58	0.11	+0.06 Graph
<input checked="" type="checkbox"/>	CPU AVG 1	2019-10-21 17:03:57	0.08	+0.08 Graph



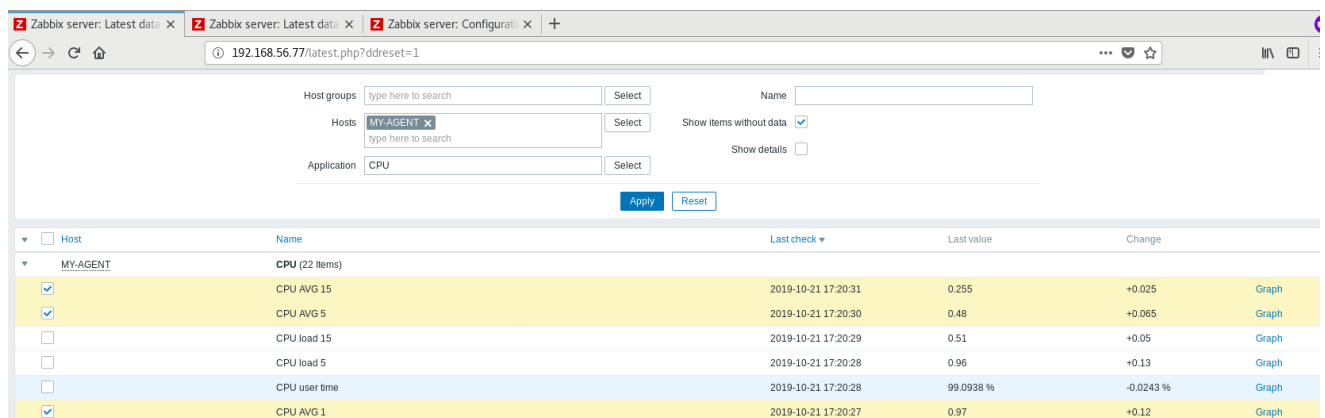
`last("system.cpu.load[,avg1"])/last("system.cpu.num")`

last("system.cpu.load[,avg5]"/last("system.cpu.num")  
last("system.cpu.load[,avg15]"/last("system.cpu.num")



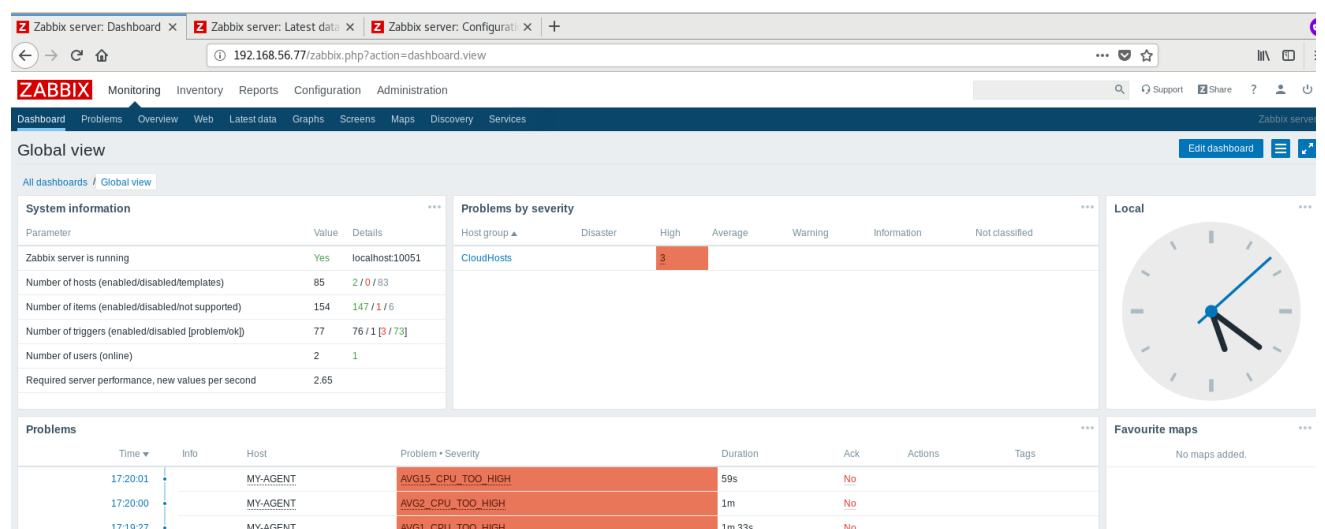
The screenshot shows the Zabbix Triggers configuration page. The top navigation bar includes Monitoring, Inventory, Reports, Configuration, and Administration. The main content area has tabs for Host groups, Templates, Hosts, Maintenance, Actions, Event correlation, Discovery, and Services. The Triggers tab is active, showing a list of triggers. The configuration form on the left includes fields for Host groups (MY-AGENT), Name, Severity (High), State (Normal), Status (Enabled), and Value (Problem). The expression field contains the formula: `([MY-AGENT.CPU_AVG_15.last()])>0.7`. The right side of the form has checkboxes for Inherited, Discovered, and With dependencies, all set to Yes. The bottom table lists three triggers: AVG1\_CPU\_TOO\_HIGH, AVG15\_CPU\_TOO\_HIGH, and AVG2\_CPU\_TOO\_HIGH, all with a status of Enabled.

Severity	Value	Name	Expression	Status	Info	Tags
High	PROBLEM	AVG1_CPU_TOO_HIGH	<code>([MY-AGENT.CPU_AVG_15.last()])&gt;0.7</code>	Enabled		
High	PROBLEM	AVG15_CPU_TOO_HIGH	<code>([MY-AGENT.CPU_AVG_15.last()])&gt;0.2</code>	Enabled		
High	PROBLEM	AVG2_CPU_TOO_HIGH	<code>([MY-AGENT.CPU_AVG_5.last()])&gt;0.4</code>	Enabled		



The screenshot shows the Zabbix Latest data page. The top navigation bar is the same as the previous screenshot. The main content area has tabs for Host groups, Templates, Hosts, Maintenance, Actions, Event correlation, Discovery, and Services. The Latest data tab is active, showing a list of latest data items. The configuration form on the left includes fields for Host groups (MY-AGENT), Name, Application (CPU), and Show items without data (checked). The bottom table lists the latest data items for the CPU application, including CPU AVG 15, CPU AVG 5, CPU load 15, CPU load 5, CPU user time, and CPU AVG 1, all with a status of Enabled.

Host	Name	Last check	Last value	Change
MY-AGENT	CPU (22 items)			
	CPU AVG 15	2019-10-21 17:20:31	0.255	+0.025
	CPU AVG 5	2019-10-21 17:20:30	0.48	+0.065
	CPU load 15	2019-10-21 17:20:29	0.51	+0.05
	CPU load 5	2019-10-21 17:20:28	0.96	+0.13
	CPU user time	2019-10-21 17:20:28	99.0938 %	-0.0243 %
	CPU AVG 1	2019-10-21 17:20:27	0.97	+0.12



The screenshot shows the Zabbix Dashboard. The top navigation bar is the same as the previous screenshots. The main content area has tabs for Dashboard, Problems, Overview, Web, Latest data, Graphs, Screens, Maps, Discovery, and Services. The Dashboard tab is active, showing a global view of the system. The left sidebar contains System information, Problems by severity, and Local. The main content area displays a table of system information, a table of problems by severity, and a table of problems. The system information table shows that the Zabbix server is running, with 85 hosts, 154 items, 77 triggers, and 2 users online. The problems by severity table shows 3 high severity problems. The problems table shows a list of problems, including AVG15\_CPU\_TOO\_HIGH, AVG2\_CPU\_TOO\_HIGH, and AVG1\_CPU\_TOO\_HIGH, all with a status of No.

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	85	2 / 0 / 83
Number of items (enabled/disabled/not supported)	154	147 / 1 / 6
Number of triggers (enabled/disabled (problem/ok))	77	76 / 1 / 3 / 73
Number of users (online)	2	1
Required server performance, new values per second	2.65	

Host group	Disaster	High	Average	Warning	Information	Not classified
CloudHosts		3				

Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
17:20:01		MY-AGENT	AVG15_CPU_TOO_HIGH	59s	No		
17:20:00		MY-AGENT	AVG2_CPU_TOO_HIGH	1m	No		
17:19:27		MY-AGENT	AVG1_CPU_TOO_HIGH	1m 33s	No		

3. Internal Checks:
- How many items are enabled

Zabbix server: Configurati... Zabbix server: Latest data... Zabbix server: Dashboard... +

192.168.56.77/latest.php?ddreset=1&sort=lastclock&sortorder=DESC

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

### Latest data

Filter

Host groups: type here to search Select Name: type here to search

Hosts: Zabbix server X type here to search Select Show items without data: ☒

Application: Zabbix server Select Show details: ☐

Apply Reset

<input type="checkbox"/> Host	Name	Last check	Last value	Change
<input checked="" type="checkbox"/> Zabbix server	<b>Zabbix server (48 items)</b>			
<input type="checkbox"/>	Zabbix value cache operating mode	2019-10-21 15:35:22	Normal (0)	<a href="#">Graph</a>
<input checked="" type="checkbox"/>	Servers are being monitored	2019-10-21 15:35:21	2	<a href="#">Graph</a>

Zabbix server: Configurati... Zabbix server: Latest data... Zabbix server: Dashboard... +

192.168.56.77/zabbix.php?action=dashboard.view

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

### 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/templates)	85	2 / 0 / 83
Number of items (enabled/disabled/not supported)	145	139 / 1 / 5
Number of triggers (enabled/disabled (problem/vok))	73	72 / 1 / 1 / 71
Number of users (online)	2	1
Required server performance, new values per second	2.35	

#### Problems by severity

Host group	Disaster	High	Average	Warning	Information	Not classified
Zabbix servers		1				

#### Local



#### Problems

Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
15:25:00		Zabbix server	Few items on zabbix server available	2m 24s	No		

#### Favourite maps

No maps added.

- How many Servers are being monitored

Zabbix server: Configurati... Zabbix server: Latest data... Zabbix server: Dashboard... +

192.168.56.77/latest.php?ddreset=1&sort=lastclock&sortorder=DESC

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

### Latest data

Filter

Host groups: type here to search Select Name: type here to search

Hosts: Zabbix server X type here to search Select Show items without data: ☒

Application: Zabbix server Select Show details: ☐

Apply Reset

<input type="checkbox"/> Host	Name	Last check	Last value	Change
<input checked="" type="checkbox"/> Zabbix server	<b>Zabbix server (48 items)</b>			
<input type="checkbox"/>	Zabbix value cache operating mode	2019-10-21 15:35:22	Normal (0)	<a href="#">Graph</a>
<input checked="" type="checkbox"/>	Servers are being monitored	2019-10-21 15:35:21	2	<a href="#">Graph</a>

Zabbix server: Dashboard x

192.168.56.77/zabbix.php?action=dashboard.view

**ZABBIX** Monitoring Inventory Reports Configuration Administration

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

### Global view

[All dashboards](#) / [Global view](#)


#### System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	85	2 / 0 / 83
Number of items (enabled/disabled/not supported)	146	140 / 1 / 5
Number of triggers (enabled/disabled [problem/ok])	74	73 / 1 / 0 / 73
Number of users (online)	2	1
Required server performance, new values per second	2.38	

#### Problems by severity

Host group	Disaster	High	Average	Warning	Information	Not classified
Zabbix servers					1	

#### Local



#### Problems

Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
15:41:21		Zabbix server	All servers are not monitored	7s	No		

#### Favourite maps

No maps added.

Create triggers for every check