

## Task. Items

### Task:

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

- Simple checks:
  - Zabbix Server WEB availability (80)

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 78 Triggers 47 Graphs 14 Discovery rules 2 Wel

Name	ServerWebAvailability		
Type	Simple check ▼		
Key	net.tcp.service[http]	Select	
Host interface	127.0.0.1 : 10050 ▼		
User name	<input type="text"/>		
Password	<input type="password"/>		
Type of information	Numeric (unsigned) ▼		
Data type	Decimal ▼		
Units	<input type="text"/>		
Use custom multiplier	<input type="checkbox"/>	<input type="text" value="1"/>	
Update interval (in sec)	<input type="text" value="3"/>		

- Zabbix DB is available (3306)

Name	DBavailability		
Type	Simple check ▼		
Key	net.tcp.service[http,,3306]	Select	
Host interface	127.0.0.1 : 10050 ▼		
User name	<input type="text"/>		
Password	<input type="password"/>		
Type of information	Numeric (unsigned) ▼		
Data type	Decimal ▼		
Units	<input type="text"/>		
Use custom multiplier	<input type="checkbox"/>	<input type="text" value="1"/>	
Update interval (in sec)	<input type="text" value="3"/>		

- Tomcat availability (80, 8080)

Name	<input type="text" value="TomcatAvailability80"/>		
Type	<input type="text" value="Simple check"/>		
Key	<input type="text" value="net.tcp.service[http,192.168.33.12,80]"/>	<input type="button" value="Select"/>	
Host interface	<input type="text" value="127.0.0.1 : 10050"/>		
User name	<input type="text"/>		
Password	<input type="text"/>		
Type of information	<input type="text" value="Numeric (unsigned)"/>		
Data type	<input type="text" value="Decimal"/>		
Units	<input type="text"/>		
Use custom multiplier	<input type="checkbox"/>	<input type="text" value="1"/>	
Update interval (in sec)	<input type="text" value="3"/>		

Name	<input type="text" value="TomcatAvailability8080"/>		
Type	<input type="text" value="Simple check"/>		
Key	<input type="text" value="net.tcp.service[tcp,192.168.33.12,8080]"/>	<input type="button" value="Select"/>	
Host interface	<input type="text" value="127.0.0.1 : 10050"/>		
User name	<input type="text"/>		
Password	<input type="text"/>		
Type of information	<input type="text" value="Numeric (unsigned)"/>		
Data type	<input type="text" value="Decimal"/>		
Units	<input type="text"/>		
Use custom multiplier	<input type="checkbox"/>	<input type="text" value="1"/>	

- Tomcat Server is available by ssh (22)

Name	SSHavailability		
Type	Simple check ▼		
Key	net.tcp.service[ssh]		Select
Host interface	127.0.0.1 : 10050 ▼		
User name	<input type="text"/>		
Password	<input type="text"/>		
Type of information	Numeric (unsigned) ▼		
Data type	Decimal ▼		
Units	<input type="text"/>		
Use custom multiplier	<input type="checkbox"/>	<input type="text" value="1"/>	
Update interval (in sec)	<input type="text" value="3"/>		



## 2. Calculated Checks:

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

Name

Type

Key

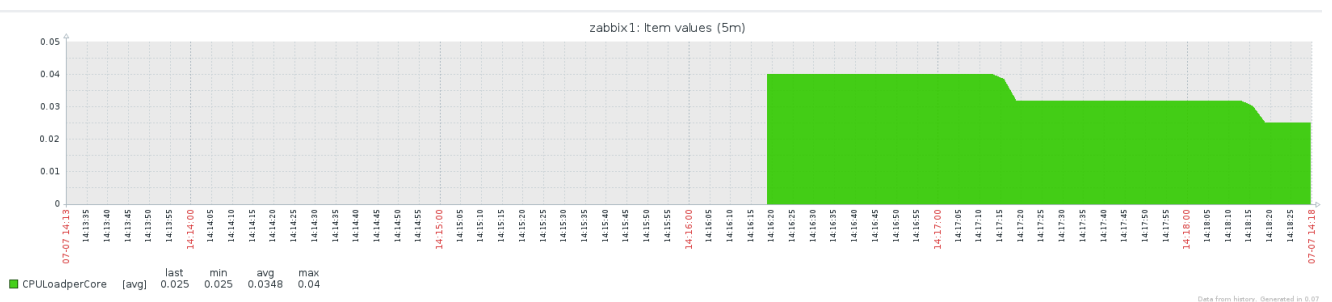
Formula

Type of information

Units

Use custom multiplier ☐

Update interval (in sec)



## 3. Internal Checks:

- How many items are enabled

### Items

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 84

Name

Type

Key

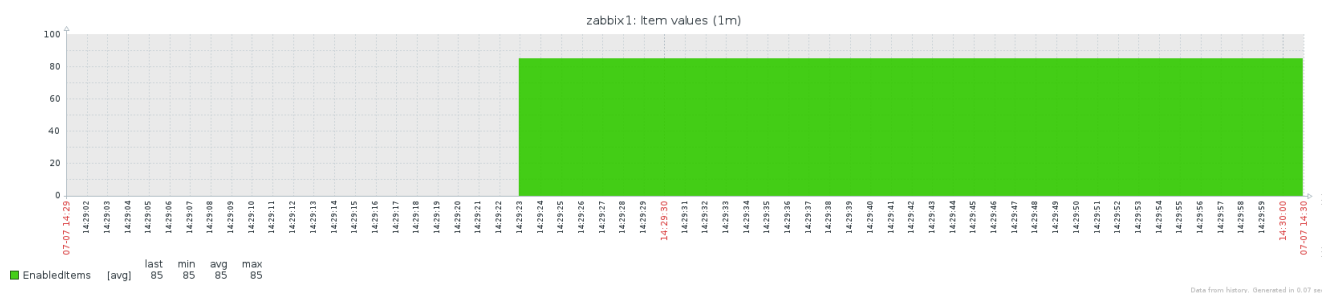
Type of information

Data type

Units

Use custom multiplier ☐

Update interval (in sec)



- How many Servers are being monitored

Name

Type

Key

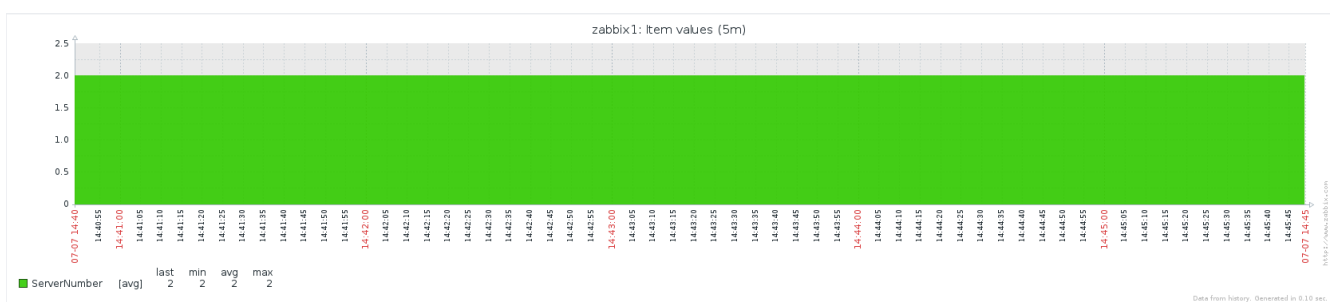
Type of information

Data type

Units

Use custom multiplier ☐

Update interval (in sec)



## Create triggers for every check

### Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 47 Graphs 14 Discovery rules 1

Trigger Dependencies

Name ServerWebAvailability

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1:net.tcp.service[http].last()}=0

Add

### Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 48 Graphs 14 Discovery rules 1

Trigger Dependencies

Name DBavailability

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1:net.tcp.service[http,,3306].last()}=0

Add

### Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 49 Graphs 14 Discovery rules 1

Trigger Dependencies

Name TomcatAvailability8080

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1:net.tcp.service[tcp,192.168.33.12,8080].last()}=0

Add

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 50 Graphs 14 Discovery r

Trigger Dependencies

Name TomcatAvailability80

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.net.tcp.service[http,192.168.33.12,80].last()}=0

Add

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 51 Graphs 14 Discovery

Trigger Dependencies

Name SSHAvailability

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.net.tcp.service[ssh].last()}=0

Add

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 52 Graphs 14 Discovery

Trigger Dependencies

Name CPULoadperCore

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.cpu.loadsum.last()}=66

Add

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 53 Graphs 14 Discovery rules 1

Trigger Dependencies

Name EnabledItems

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.zabbix[host,,items].last()}=86

Add

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 86 Triggers 55 Graphs 14 Discovery rules 2

Trigger Dependencies

Name ServerNumber

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.zabbix[hosts].last()}=2

Add

**After stop/start httpd+Tomcat:**

<input type="checkbox"/> Severity	Status	Info	Time ▼	Age	Ack	Host	Name
<input type="checkbox"/> High	OK		2018-07-07 15:23:07	20s	No 1	zabbix1	TomcatAvailability8080
<input type="checkbox"/> Warning	OK		2018-07-07 15:22:38	49s	No 2	zabbix1	ServerWebAvailability
<input type="checkbox"/> Information	PROBLEM		2018-07-07 15:19:39	3m 48s	No 1	zabbix1	ServerNumber
<input type="checkbox"/> Information	PROBLEM		2018-07-07 15:16:38	6m 49s	No 1	zabbix1	EnabledItems
<input type="checkbox"/> High	PROBLEM		2018-07-07 15:07:35	15m 52s	No 1	zabbix1	TomcatAvailability80



## Task:

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

### Items

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 87 Triggers 55 Graphs 14 Discovery rules 2 We

Name TomcatLogs

Type Zabbix agent (active) ▼

Key log[/usr/local/tomcat/apache-tomcat-7.0.88/logs/catalina.2018-07-07.log,INFO] Select

Type of information Log ▼

Update interval (in sec) 1

History storage period (in days) 30

### After stop/start tomcat:

Timestamp	Local time	Value
2018-07-07 16:36:22		INFO: Server startup in 767 ms
2018-07-07 16:36:22		INFO: Starting ProtocolHandler ["ajp-bio-8009"]
2018-07-07 16:36:22		INFO: Starting ProtocolHandler ["http-bio-8080"]
2018-07-07 16:36:22		INFO: Deployment of web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/manager has finished in 41 ms
2018-07-07 16:36:22		INFO: Deploying web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/manager
2018-07-07 16:36:22		INFO: Deployment of web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/host-manager has finished in 93 ms
2018-07-07 16:36:22		INFO: Deploying web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/host-manager
2018-07-07 16:36:22		INFO: Deployment of web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/examples has finished in 198 ms
2018-07-07 16:36:21		INFO: Deploying web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/examples
2018-07-07 16:36:21		INFO: Deployment of web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/docs has finished in 40 ms
2018-07-07 16:36:21		INFO: Deploying web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/docs
2018-07-07 16:36:21		INFO: Deployment of web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/ROOT has finished in 31 ms
2018-07-07 16:36:21		INFO: Deploying web application directory /usr/local/tomcat/apache-tomcat-7.0.88/webapps/ROOT
2018-07-07 16:36:21		INFO: Deployment of web application archive /usr/local/tomcat/apache-tomcat-7.0.88/webapps/clusterjsp.war has finished in 270 ms
2018-07-07 16:36:21		INFO: Deploying web application archive /usr/local/tomcat/apache-tomcat-7.0.88/webapps/clusterjsp.war
2018-07-07 16:36:21		INFO: Starting Servlet Engine: Apache Tomcat/7.0.88
2018-07-07 16:36:21		INFO: Starting service catalina
2018-07-07 16:36:21		INFO: The JMX Remote Listener has configured the registry on port 8097 and the server on port 8098 for the Platform server
2018-07-07 16:36:21		INFO: Initialization processed in 388 ms
2018-07-07 16:36:21		INFO: Initializing ProtocolHandler ["ajp-bio-8009"]
2018-07-07 16:36:21		INFO: Initializing ProtocolHandler ["http-bio-8080"]

2. Create a trigger for errors in log file monitored by that item

## Triggers

All hosts / zabbix1 Enabled ZBX SNMP JMX IPMI Applications 11 Items 87 Triggers 55 Graphs 14 Discovery rules 2 V

Trigger Dependencies

Name TomcatErrorLog

Severity Not classified Information Warning Average High Disaster

Expression {zabbix1.log[/usr/local/tomcat/apache-tomcat-7.0.88/logs/catalina.2018-07-07.log,INFO].change()}<=0

Add

[Expression constructor](#)

**After crashing Tomcat shutdown.sh:**

<input type="checkbox"/> Severity	Status	Info	Time ▼	Age	Ack	Host	Name
<input type="checkbox"/> Warning			2018-07-07 16:47:17	3m 4s	No 1	zabbix1	TomcatErrorLog