

EPAM Systems, RD Dep.**MTN.NIX.Zabbix_Tools**

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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Task. Zabbix Tools

Testing Infrastructure:

Vagrantfile to spin up 2 VMs (virtualbox):

- zabbix server, provisioned by Vagrant provisioner
- Linux VM with zabbix agent, script for registration on zabbix server, all provisioned by Vagrant provisioner

Task:

1. Configure the agent for replying to the specific server in passive and active mode.

We install zabbix_sender (see in script) and configure trapper item "trap.testkey" for host "komarov-zabag" on Zabbix server:

The screenshot shows the Zabbix web interface for configuring a new item. The browser address bar shows the URL: 192.168.56.223/items.php?form=update&hostid=10263&itemid=28697. The Zabbix logo is visible in the top left. The main navigation bar includes: Monitoring, Inventory, Reports, Configuration, Administration. The sub-navigation bar includes: Host groups, Templates, Hosts, Maintenance, Actions, Event correlation, Discovery, Services. The main content area is titled 'Items' and shows a list of items for the host 'komarov-zabag'. The 'trap.testkey' item is selected, and its configuration is displayed in a form. The form fields are: Name: trap.testkey, Type: Zabbix trapper, Key: trap.testkey, Type of information: Text, History storage period: Do not keep history, Storage period: 90d, Allowed hosts: (empty), New application: (empty), Applications: (list of applications including None, CPU, Filesystems, General, Memory, Network interfaces, OS, Performance, Processes, Security), Populates host inventory field: -None-, Description: (empty text area). The 'Enabled' checkbox is checked. At the bottom of the form are buttons: Update, Clone, Check now, Clear history and trends, Delete, and Cancel. The footer of the page shows 'Zabbix 4.2.7. © 2001-2019, Zabbix SIA'.

2. Use zabbix_sender to send data to server manually (use zabbix_sender with key -vv for maximal verbosity).

```
[root@komarov-zabag ~]# clear

[root@komarov-zabag ~]# zabbix_sender -z 192.168.56.223 -s 192.168.56.227 -k trap.testkey -o "Simple text to trap.key" -vv
zabbix_sender [13808]: DEBUG: answer [{"response":"success","info":"processed: 1; failed: 0; total: 1; seconds spent: 0.000230"}]
Response from "192.168.56.223:10051": "processed: 1; failed: 0; total: 1; seconds spent: 0.000230"
sent: 1; skipped: 0; total: 1
[root@komarov-zabag ~]# zabbix_sender -z 192.168.56.223 -s 192.168.56.227 -k trap.testkey -o "Simple text to trap.key" -vv
zabbix_sender [13813]: DEBUG: answer [{"response":"success","info":"processed: 1; failed: 0; total: 1; seconds spent: 0.000969"}]
Response from "192.168.56.223:10051": "processed: 1; failed: 0; total: 1; seconds spent: 0.000969"
sent: 1; skipped: 0; total: 1
[root@komarov-zabag ~]#
```

see it on server:

The screenshot shows the Zabbix 4.2.7 web interface. The top navigation bar includes links for Monitoring, Inventory, Reports, Configuration, and Administration. The 'Latest data' page is active, showing a table of monitoring data. The table has columns for Host, Name, Last check, Last value, and Change. The data row shows the host 'komarov-zabag' with the item 'trap.testkey', last checked on 2019-10-19 19:57:38, with a value of 'Simple text to trap key'.

Host	Name	Last check	Last value	Change
komarov-zabag	trap.testkey	2019-10-19 19:57:38	Simple text to trap key	

3. Use `zabbix_get` as data receiver and examine zabbix agent sending's.
First of all let's see on server what info we will ask:

Zabbix Egor Server: Configura: x

Ненадежный | 192.168.56.223/items.php?filter_set=1&filter_hostids%5B0%5D=10263

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1m 35 10m 2 1h 11

Wizard	Name	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
***	Template OS Linux: Available memory	Triggers 1	vm.memory.size[available]	1m	1w	365d	Zabbix agent	Memory	Enabled	
***	Template OS Linux: Checksum of /etc/passwd	Triggers 1	vfs.file.cksum[/etc/passwd]	1h	1w	365d	Zabbix agent	Security	Enabled	
***	Template OS Linux: Context switches per second		system.cpu.switches	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU guest nice time		system.cpu.usr[guest_nice]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU guest time		system.cpu.usr[guest]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU idle time		system.cpu.usr[idle]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU interrupt time		system.cpu.usr[interrupt]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU iowait time	Triggers 1	system.cpu.usr[iowait]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU nice time		system.cpu.usr[nice]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU sorting time		system.cpu.usr[sorting]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU steal time		system.cpu.usr[steal]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU system time		system.cpu.usr[system]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: CPU user time		system.cpu.usr[user]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
	Mounted filesystem discovery: Free disk space on /		vfs.fs.size[/,free]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Free disk space on / (percentage)	Triggers 1	vfs.fs.size[/,pfree]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Free disk space on /boot		vfs.fs.size[/boot,free]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Free disk space on /boot (percentage)	Triggers 1	vfs.fs.size[/boot,pfree]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Free inodes on / (percentage)	Triggers 1	vfs.fs.inode[/,pfree]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Free inodes on /boot (percentage)	Triggers 1	vfs.fs.inode[/boot,pfree]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
***	Template OS Linux: Free swap space		system.swap.size[,free]	1m	1w	365d	Zabbix agent	Memory	Enabled	
***	Template OS Linux: Free swap space in %	Triggers 1	system.swap.size[,pfree]	1m	1w	365d	Zabbix agent	Memory	Enabled	
***	Template OS Linux: Host boot time		system.boottime	10m	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template OS Linux: Host local time		system.localtime	1m	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template OS Linux: Host name	Triggers 1	system.hostname	1h	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template App Zabbix Agent: Host name of Zabbix agent running	Triggers 1	agent.hostname	1h	1w	365d	Zabbix agent	Zabbix agent	Enabled	
	Network interface discovery: Incoming network traffic on eth0		net.if.in[eth0]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
	Network interface discovery: Incoming network traffic on eth1		net.if.in[eth1]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
***	Template OS Linux: Interrupts per second		system.cpu.intr	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: Maximum number of opened files	Triggers 1	kernel.maxfiles	1h	1w	365d	Zabbix agent	OS	Enabled	

Zabbix Egor Server: Configura: x

Ненадежный | 192.168.56.223/items.php?filter_set=1&filter_hostids%5B0%5D=10263

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***	Template OS Linux: Host local time		system.localtime	1m	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template OS Linux: Host name	Triggers 1	system.hostname	1h	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template App Zabbix Agent: Host name of Zabbix agent running	Triggers 1	agent.hostname	1h	1w	365d	Zabbix agent	Zabbix agent	Enabled	
	Network interface discovery: Incoming network traffic on eth0		net.if.in[eth0]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
	Network interface discovery: Incoming network traffic on eth1		net.if.in[eth1]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
***	Template OS Linux: Interrupts per second		system.cpu.intr	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: Maximum number of opened files	Triggers 1	kernel.maxfiles	1h	1w	365d	Zabbix agent	OS	Enabled	
***	Template OS Linux: Maximum number of processes	Triggers 1	kernel.maxproc	1h	1w	365d	Zabbix agent	OS	Enabled	
***	Template OS Linux: Number of logged in users		system.users.num	1m	1w	365d	Zabbix agent	OS, Security	Enabled	
***	Template OS Linux: Number of processes	Triggers 1	proc.num[]	1m	1w	365d	Zabbix agent	Processes	Enabled	
***	Template OS Linux: Number of running processes	Triggers 1	proc.num[,run]	1m	1w	365d	Zabbix agent	Processes	Enabled	
	Network interface discovery: Outgoing network traffic on eth0		net.if.out[eth0]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
	Network interface discovery: Outgoing network traffic on eth1		net.if.out[eth1]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled	
***	Template OS Linux: Processor load (1 min average per core)	Triggers 1	system.cpu.load[percpu,avg1]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: Processor load (5 min average per core)		system.cpu.load[percpu,avg5]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: Processor load (15 min average per core)		system.cpu.load[percpu,avg15]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled	
***	Template OS Linux: System information	Triggers 1	system.uptime	1h	1w	365d	Zabbix agent	General, OS	Enabled	
***	Template OS Linux: System uptime	Triggers 1	system.uptime	10m	1w	365d	Zabbix agent	General, OS	Enabled	
	Mounted filesystem discovery: Total disk space on /		vfs.fs.size[/,total]	1h	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Total disk space on /boot		vfs.fs.size[/boot,total]	1h	1w	365d	Zabbix agent	Filesystems	Enabled	
***	Template OS Linux: Total memory		vm.memory.size[total]	1h	1w	365d	Zabbix agent	Memory	Enabled	
***	Template OS Linux: Total swap space		system.swap.size[,total]	1h	1w	365d	Zabbix agent	Memory	Enabled	
***	trap testkey		trap.testkey	90d			Zabbix trapper		Enabled	
	Mounted filesystem discovery: Used disk space on /		vfs.fs.size[/,used]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
	Mounted filesystem discovery: Used disk space on /boot		vfs.fs.size[/boot,used]	1m	1w	365d	Zabbix agent	Filesystems	Enabled	
***	Template App Zabbix Agent: Version of Zabbix agent running	Triggers 1	agent.version	1h	1w	365d	Zabbix agent	Zabbix agent	Enabled	
***	Template App Zabbix Agent: Zabbix agent ping	Triggers 1	agent.ping	1m	1w	365d	Zabbix agent	Zabbix agent	Enabled	

0 selected Enable Disable Check now Clear history Copy Mass update Delete

Zabbix 4.2.7. © 2001–2019, Zabbix SIA

Displaying 49 of 49 found

and ask:

```
Com — root@komarov-zabsrv:~ — ssh -p 2222 root@127.0.0.1 — 130x24
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.cpu.switches"
392728
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.uptime"
2512
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "agent.version"
4.2.7
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.boottime"
1571501471
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.uptime"
2544
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.uname"
Linux komarov-zabag 3.10.0-957.27.2.el7.x86_64 #1 SMP Mon Jul 29 17:46:05 UTC 2019 x86_64
[root@komarov-zabsrv ~]# zabbix_get -s 192.168.56.227 -k "system.localtime"
1571504028
[root@komarov-zabsrv ~]#
```

For both VMs use vagrant box “sbeliakou/centos-7.3-x86_64-minimal”