

EPAM Systems, RD Dep., RD Dep.

MTN.NIX.05.Zabbix.Java

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. Java Monitoring with Java

Task:

You should install and configure Zabbix server and agents.

Testing Infrastructure:

Vagrantfile to spin up 2 VMs (virtualbox):

- zabbix server, provisioned by Vagrant provisioner
- Zabbix agents on both VMs, provisioned by Vagrant provisioner
- Install Tomcat 7 on 2nd VM

Tasks:

1. Configure Zabbix to examine Java parameters via Java Gateway

The screenshot displays the Zabbix web interface for configuring a new host. The browser address bar shows the URL `192.168.56.111/latest.php?ddreset=1`. The interface is organized into a tree view on the left and a configuration table on the right.

Tree View (Left):

- Operating system architecture
- Software installed
- LinuxVM** (Expanded)
 - Memory (6 items)
 - Monitoring agent (3 items)
 - Security (1 item)
 - Status (2 items)
 - Zabbix raw items (3 items)
 - other - (2 items)

Configuration Table (Right):

Item Name	Host	Value	Unit	Graph
Operating system architecture	LinuxVM	x86_64		
Software installed	LinuxVM	[rpm] GeolIP-1.5.0-13.el7.x86_64, Ne...		
Available memory	LinuxVM	1.43 GB	-300 KB	Graph
Free swap space	LinuxVM	2 GB		Graph
Free swap space in %	LinuxVM	100 %		Graph
Memory utilization	LinuxVM	20.4564 %	+0.016 %	Graph
Total memory	LinuxVM	1.79 GB		Graph
Total swap space	LinuxVM	2 GB		Graph
Host name of Zabbix agent running	LinuxVM	LinuxVM		History
Version of Zabbix agent running	LinuxVM	4.4.0		History
Zabbix agent ping	LinuxVM	Up (1)		Graph
Checksum of /etc/passwd	LinuxVM	3812553281		History
System uptime	LinuxVM	03:51:21	+00:00:30	Graph
Zabbix agent availability	LinuxVM	available (1)		Graph
Get /proc/diskstats	LinuxVM	{values}["sda","8","0","sda","16867"...		History
sda: Disk read time (rate)	LinuxVM	0		Graph
sda: Disk write time (rate)	LinuxVM	0		Graph
JAVA_NAME	LinuxVM	OpenJDK 64-Bit Server VM		History
My_data	LinuxVM	Hello		History

At the bottom of the interface, there is a status bar indicating "Zabbix 4.4.0. © 2001–2019, Zabbix SIA".

2. Configure triggers to alert once these parameters changed.

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

Applications Places Google Chrome

192.168.56.111/latest.php?ddreset=1

LinuxVM Memory (6 items)

Available memory	2019-10-19 23:03:07	1.43 GB	-188 KB	Graph
Free swap space	2019-10-19 23:02:59	2 GB		Graph
Free swap space in %	2019-10-19 23:03:00	100 %		Graph
Memory utilization	2019-10-19 23:03:08	20.1975 %	+0.01 %	Graph
Total memory	2019-10-19 23:03:09	1.79 GB		Graph
Total swap space	2019-10-19 23:03:01	2 GB		Graph

LinuxVM Monitoring agent (3 items)

Host name of Zabbix agent running	2019-10-19 20:22:30	LinuxVM		History
Version of Zabbix agent running	2019-10-19 20:22:32	4.4.0		History
Zabbix agent ping	2019-10-19 23:03:11	Up (1)		Graph

LinuxVM Security (1 item)

Checksum of /etc/passwd	2019-10-19 22:23:05	3812553281		History
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LinuxVM Status (2 items)

System uptime	2019-10-19 23:03:33	04:25:52	+00:00:30	Graph
Zabbix agent availability	2019-10-19 23:03:10	available (1)		Graph

LinuxVM Zabbix raw items (3 items)

Get /proc/diskstats	2019-10-19 23:03:06	["values":["sda","8","0","sda","16867"...		History
sda: Disk read time (rate)	2019-10-19 23:03:06	0		Graph
sda: Disk write time (rate)	2019-10-19 23:03:06	0.0001		Graph

LinuxVM - other - (3 items)

JAVA_HEAP	2019-10-19 23:03:03	38.8 Mb		Graph
JAVA_NAME	2019-10-19 23:03:03	OpenJDK 64-Bit Server VM		History
My_data	2019-10-19 19:21:33	Hello		History

0 selected Display stacked graph Display graph

Zabbix 4.4.0. © 2001–2019, Zabbix SIA

tomcat-catalin...jar tomcat-catalin...jar catalina-jmx-re...jar 2.1_Zabbix_J...pdf sample.war 1.2_Zabbix_...docx Show all

Telegram Web - Mo... Zabbix server: Latest ... [testik] [Oracle VM VirtualBox... vagrant@agent~] [Pictures] [*agent.sh (~/.testik) ... testik testik 1 / 4

Applications Places Google Chrome

192.168.56.111/zabbix.php?action=problem.view&ddreset=1

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Problems

Export to CSV

Filter

Time	Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
20:10:35	Average		PROBLEM		Zabbix server	Zabbix discoverer processes more than 75% busy	2h 57m 57s	Yes		

Displaying 1 of 1 found

0 selected Mass update

Zabbix 4.4.0. © 2001–2019, Zabbix SIA

tomcat-catalin...jar tomcat-catalin...jar catalina-jmx-re...jar 2.1_Zabbix_J...pdf sample.war 1.2_Zabbix_...docx Show all

Telegram Web - Mo... Zabbix server: Proble... [testik] [Oracle VM VirtualBox... [vagrant@agent~] [Pictures] [*agent.sh (~/.testik) ... testik testik 1 / 4

Applications Places Google Chrome

192.168.56.111/triggers.php?form=update&triggerid=16630

ZABBIX

Monitoring Inventory Reports Configuration Administration

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Triggers

All hosts / LinuxVM Enabled ZBX SNMP JMX JMI Applications 16 Items 77 Triggers 30 Graphs 15 Discovery rules 3 Web scenarios

Trigger Tags Dependencies

Name: JAVA_TR

Operational data:

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

Expression: {LinuxVM:jmx["java.lang:type=Memory",HeapMemoryUsage.committed].last()}>30 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

Zabbix 4.4.0. © 2001–2019, Zabbix SIA

2.2_Zabbix_....docx 2.2_Zabbix_W....pdf 2.1_Zabbix_....docx tomcat-catalin...jar tomcat-catalin...jar catalina-jmx-re...jar Show all

Telegram Web - Mozilla Firefox Zabbix server: Configuration of trigg... [Oracle VM VirtualBox Manager] vagrant@server:~ 1 / 4

Applications Places Google Chrome

192.168.56.111/latest.php?ddreset=1

Software	Issued	Value	Unit	Delta	History
LinuxVM Memory (6 items)					
Available memory	2019-10-19 23:12:07	1.42 GB	-7.2 MB	Graph	
Free swap space	2019-10-19 23:11:59	2 GB		Graph	
Free swap space in %	2019-10-19 23:12:00	100 %		Graph	
Memory utilization	2019-10-19 23:12:08	20.8119 %	+0.3914 %	Graph	
Total memory	2019-10-19 23:12:09	1.79 GB		Graph	
Total swap space	2019-10-19 23:12:01	2 GB		Graph	
LinuxVM Monitoring agent (3 items)					
Host name of Zabbix agent running	2019-10-19 20:22:30	LinuxVM		History	
Version of Zabbix agent running	2019-10-19 20:22:32	4.4.0		History	
Zabbix agent ping	2019-10-19 23:12:11	Up (1)		Graph	
LinuxVM Security (1 item)					
Checksum of /etc/passwd	2019-10-19 22:23:05	3812553281		History	
LinuxVM Status (2 items)					
System uptime	2019-10-19 23:12:03	04:34:21	+00:00:30	Graph	
Zabbix agent availability	2019-10-19 23:12:10	available (1)		Graph	
LinuxVM Zabbix raw items (3 items)					
Get /proc/diskstats	2019-10-19 23:12:06	["values":["sda","8","0","sda","16867"]...		History	
sda: Disk read time (rate)	2019-10-19 23:12:06	0		Graph	
sda: Disk write time (rate)	2019-10-19 23:12:06	0.0028	+0.0028	Graph	
LinuxVM - other - (3 items)					
JAVA_HEAP	2019-10-19 23:12:03	52.95 Mb	+14.16 Mb	Graph	
JAVA_NAME	2019-10-19 23:12:03	OpenJDK 64-Bit Server VM		History	
My_data	2019-10-19 19:21:33	Hello		History	

0 selected Display stacked graph Display graph

Zabbix 4.4.0. © 2001–2019, Zabbix SIA

tomcat-catalin...jar tomcat-catalin...jar catalina-jmx-re...jar 2.1_Zabbix_J....pdf sample.war 1.2_Zabbix_....docx Show all

[Telegram Web - Mo... Zabbix server: Latest ... [testik] [Oracle VM VirtualBox... vagrant@agent:~ [Pictures] [*agent.sh (-/testik) ... testik testik 1 / 4

Applications Places Google Chrome

Поиск 2.1 Zabi 2.1 Con Mul 3 П zabi zabi repl zabi 2 C 2 A 2 Д 1 C zabi 14 4 Ji Java tom 2 x JAV San + - x

Not secure 192.168.56.111/zabbix.php?action=problem.view&ddreset=1

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Problems [Export to CSV](#)

Filter

Time	Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
23:09:03	High		PROBLEM		LinuxVM	JAVA_TR	3m 25s	No		
23:00										
20:10:35	Average		PROBLEM		Zabbix server	Zabbix discoverer processes more than 75% busy	3h 1m 53s	Yes		

0 selected [Mass update](#)

Displaying 2 of 2 found

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tomcat-catalin...jar tomcat-catalin...jar catalina-jmx-re...jar 2.1_Zabbix_J...pdf sample.war 1.2_Zabbix_....docx Show all x

[Telegram Web - Mo... Zabbix server: Proble... [testik] [Oracle VM VirtualBox... [vagrant@agent~] [Pictures] [*agent.sh (~/.testik) ... testik testik 1 / 4