

EPAM Systems, RD Dep., RD Dep.

MTN.NIX.05.Zabbix.Basics

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. Basics

Testing Infrastructure:

Vagrantfile to spin up 2 VMs (virtualbox):

- zabbix server, provisioned by Vagrant provisioner
- Zabbix agents on both VMs, provisioned by Vagrant provisioner

Configure zabbix to work on the server directly without /zabbix

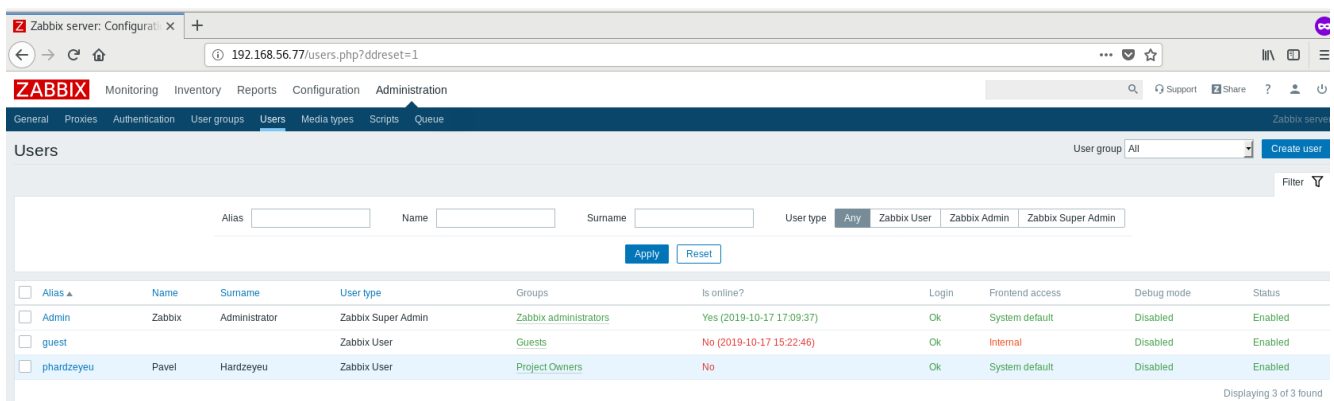
<http://zabbix-server/zabbix> -> <http://zabbix-server>

Task:

You should install and configure Zabbix server and agents.

1. Using Zabbix UI:

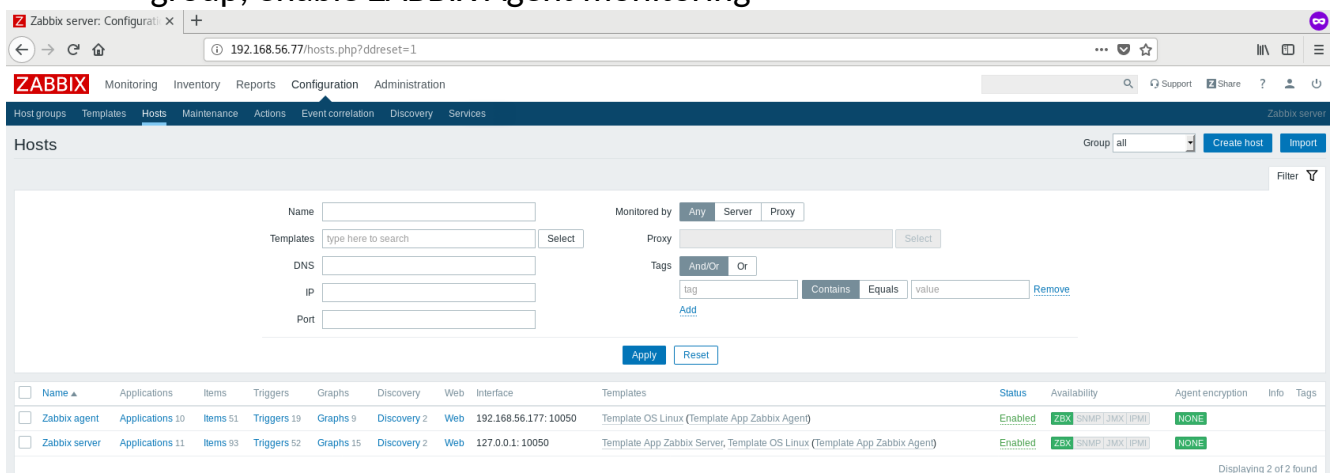
- Create User group “Project Owners”
- Create User (example “Siarhei Beliakou”), assign user to “Project Owners”, set email



The screenshot shows the Zabbix Users page. At the top, there are tabs for Monitoring, Inventory, Reports, Configuration, and Administration. The Users tab is active. Below the tabs, there are search filters for Alias, Name, Surname, and User type. A table lists existing users: Admin (Zabbix Super Admin), guest (Zabbix User), and phardzeyu (Zabbix User). The phardzeyu user is assigned to the Project Owners group.

Alias	Name	Surname	User type	Groups	Is online?	Login	Frontend access	Debug mode	Status
Admin	Zabbix	Administrator	Zabbix Super Admin	Zabbix administrators	Yes (2019-10-17 17:09:37)	Ok	System default	Disabled	Enabled
guest			Zabbix User	Guests	No (2019-10-17 15:22:46)	Ok	Internal	Disabled	Enabled
phardzeyu	Pavel	Hardzeyeu	Zabbix User	Project Owners	No	Ok	System default	Disabled	Enabled

- Add 2nd VM to zabbix: create Host group (“Project Hosts”), create Host in this group, enable ZABBIX Agent monitoring



The screenshot shows the Zabbix Hosts page. At the top, there are tabs for Monitoring, Inventory, Reports, Configuration, and Administration. The Configuration tab is active, and the Hosts sub-tab is selected. Below the tabs, there are search filters for Group and Name. A form for creating a new host is visible, with fields for Name, Templates, DNS, IP, Port, Monitored by, Proxy, and Tags. A table lists existing hosts: Zabbix agent and Zabbix server. The Zabbix agent host is assigned to the Project Hosts group.

Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status	Availability	Agent encryption	Info	Tags	
Zabbix agent	Applications 10	Items 51	Triggers 19	Graphs 9	Discovery 2	Web	192.168.56.177:10050	Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX	SNMP	JMX	IPMI	NONE
Zabbix server	Applications 11	Items 93	Triggers 52	Graphs 15	Discovery 2	Web	127.0.0.1:10050	Template App Zabbix Server, Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX	SNMP	JMX	IPMI	NONE

- Assign to this host template of Linux
- Create custom checks (CPU Load, Memory load, Free space on file systems, Network load)

Zabbix server: Configurati...

192.168.56.77/items.php

Hosts: Select

Update interval:

History:

Status:

Application: Select

Triggers:

Name:

Template:

Key:

Discovery:

Apply Reset

Subfilter affects only filtered data

APPLICATIONS

CPU 16 Filesystems 10 General 5 Memory 6 Network interfaces 5 OS 6 Performance 15 Processes 2 Security 2 Zabbix agent 3

TYPE OF INFORMATION

Character 4 Numeric (float) 18 Numeric (unsigned) 29

STATUS

Disabled 47 Enabled 4

TEMPLATE

Inherited items 34 Not inherited items 17

WITH TRIGGERS

Without triggers 32 With triggers 19

DISCOVERY

Discovered 13 Regular 38

HISTORY

7d 47 3m 4

INTERVAL

30s 4 1m 34 10m 2 1h 11

<input type="checkbox"/> Wizard	Name	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
<input type="checkbox"/>	CPU load		system.cpu.load	30s	90d	365d	Zabbix agent	CPU	Enabled	
<input type="checkbox"/>	Network load		net.if.total[eth1]	30s	90d	365d	Zabbix agent	Network interfaces	Enabled	
<input type="checkbox"/>	Free space on file system		vfs.fs.size[/,free]	30s	90d	365d	Zabbix agent	Filesystems	Enabled	
<input type="checkbox"/>	Memory load		vm.memory.size[active]	30s	90d	365d	Zabbix agent	Memory	Enabled	

Zabbix server: Latest data

192.168.56.77/latest.php?ddreset=1

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Latest data

Filter

Host groups: Select

Hosts: Select

Application: Select

Name:

Show items without data: ☒

Show details: ☐

Apply Reset

<input type="checkbox"/> Host	Name	Last check	Last value	Change
<input type="checkbox"/>	Zabbix agent			
<input type="checkbox"/>	CPU (1 item)			
<input type="checkbox"/>	CPU load	2019-10-17 17:19:47	0.74	+0.74 Graph
<input type="checkbox"/>	Filesystems (1 item)			
<input type="checkbox"/>	Free space on file system	2019-10-17 17:19:19	16764125184	Graph
<input type="checkbox"/>	Memory (1 item)			
<input type="checkbox"/>	Memory load	2019-10-17 17:19:18	315998208	+81920 Graph
<input type="checkbox"/>	Network interfaces (1 item)			
<input type="checkbox"/>	Network load	2019-10-17 17:19:22	792 bps	+24 bps Graph

- Create trigger with Severity HIGH, check if it works (Problem/Recovery)

Zabbix server: Dashboard

192.168.56.77/zabbix.php?action=dashboard.view&dashboardid=1

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

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)	144	91 / 47 / 6
Number of triggers (enabled/disabled (problem/ok))	72	53 / 19 [1 / 52]
Number of users (online)	3	1
Required server performance, new values per second	1.62	

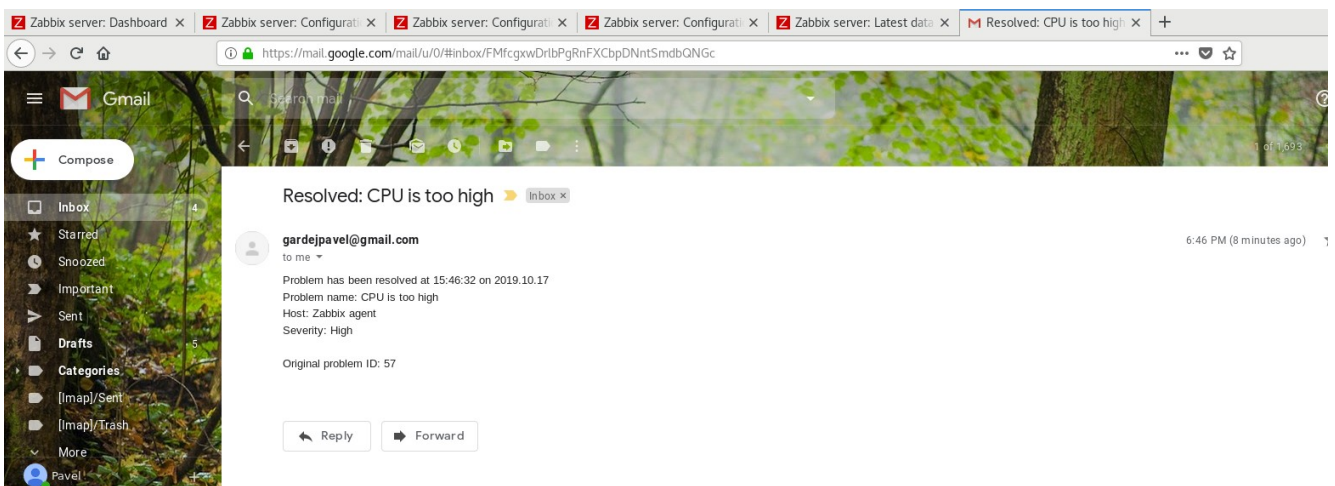
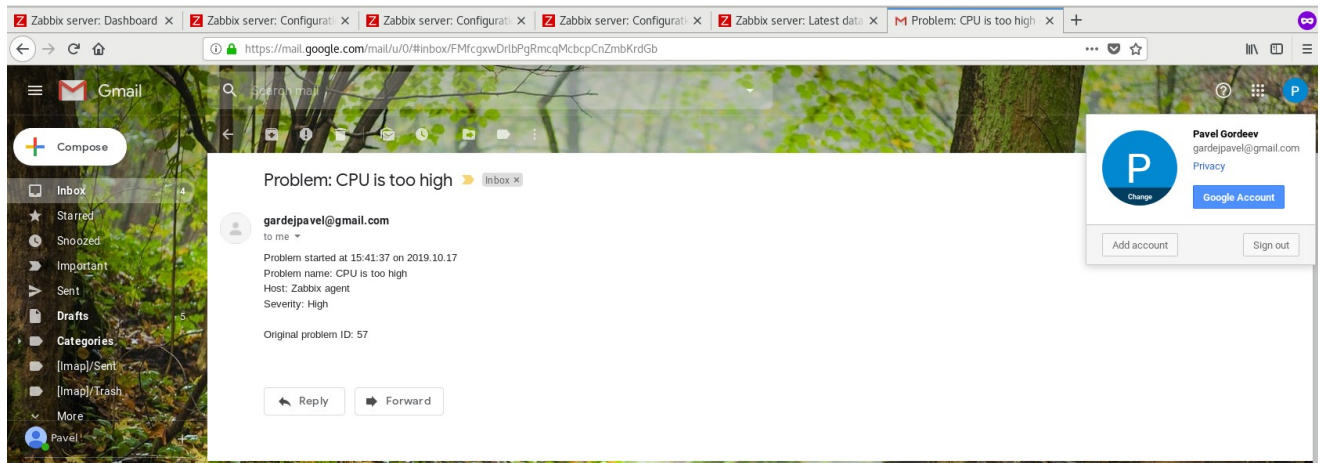
Problems by severity

Host group	Disaster	High	Average	Warning	Information	Not classified
Project Hosts		1				

Problems

Time	Info	Host	Problem • Severity	Duration	Ack	Actions	Tags
18:41:37		Zabbix agent	CPU is too high	2m 9s	No		

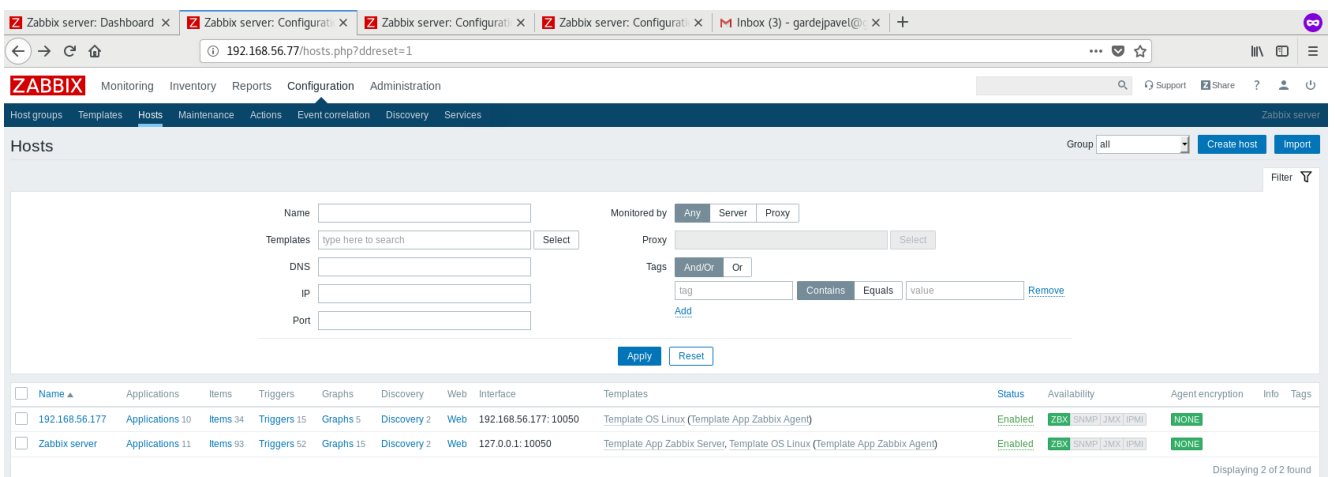
- Create Action to inform “Project Owners” if HIGH triggers happen
Loaded VM2 with stress –cpu 2



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

2. Using Zabbix UI:

- Configure “Network discovery” so that, 2nd VM will be joined to Zabbix (group “Project Hosts”, Template “Template OS Linux”)



Browser tabs: Zabbix server: Status of discovery, Zabbix server: Configuration, Zabbix server: Configuration, Zabbix server: Configuration, Inbox (3) - gardejpavel@...
 Address bar: 192.168.56.77/zabbix.php?action=discovery.view&ddreset=1

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps **Discovery** Services

Status of discovery

Discovery rule

Discovered device	Monitored host	Uptime/Downtime	Zabbix agent system.uptime
Zabbix agent 2 (1 device)			
192.168.56.177	192.168.56.177	00:04:31	4m 31s

Browser tabs: Zabbix server: Dashboard, Zabbix server: Configuration, Zabbix server: Configuration, Zabbix server: Configuration, Inbox (3) - gardejpavel@...
 Address bar: 192.168.56.77/actionconf.php?form=update&actionid=8

ZABBIX Monitoring Inventory Reports **Configuration** Administration

Host groups Templates Hosts Maintenance Actions **Event correlation** Discovery Services

Actions

Action Operations

Name:

Type of calculation: A and B

Label	Name	Action
A	Discovery status equals Up	Remove
B	Service type equals Zabbix agent	Remove

New condition: equals [Add](#)

Enabled: ☒

* At least one operation must exist.

Browser tabs: Zabbix server: Dashboard, Zabbix server: Configuration, Zabbix server: Configuration, Zabbix server: Configuration, Inbox (3) - gardejpavel@...
 Address bar: 192.168.56.77/discoveryconf.php?form=update&druleid=2

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates Hosts Maintenance Actions Event correlation **Discovery** Services

Discovery rules

Name:

Discovery by proxy:

IP range:

Update interval:

Checks: [Edit](#) [Remove](#) [New](#)

Device uniqueness criteria: ☒ IP address ☐ Zabbix agent "system.uptime"

Host name: ☐ DNS name ☒ IP address ☐ Zabbix agent "system.uptime"

Visible name: ☒ Host name ☐ DNS name ☐ IP address ☐ Zabbix agent "system.uptime"

Enabled: ☒

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