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		

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

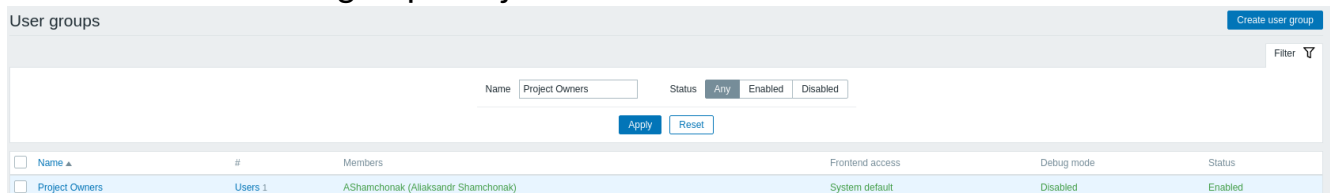Configure zabbix to work on the server directly without /zabbix
http://zabbix-server/zabbix -> http://zabbix-server

Task:
 You should install and configure Zabbix server and agents.
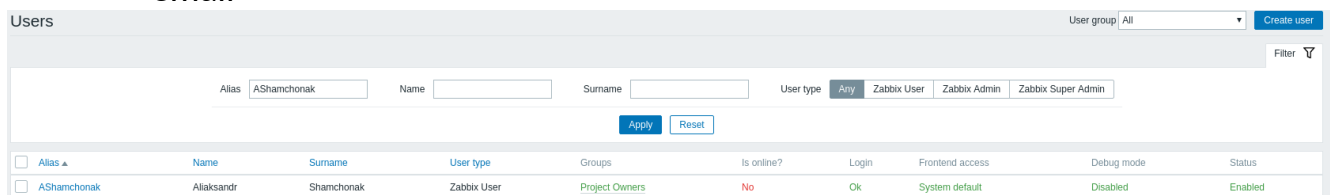
1. **Using Zabbix UI:**
   - Create User group "Project Owners"
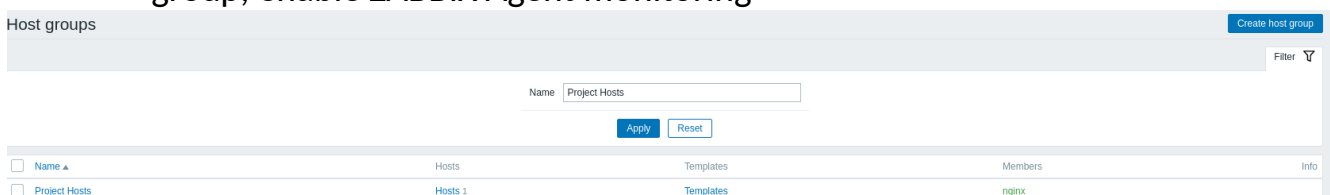
   - Create User (example "Siarhei Beliakou"), assign user to "Project Owners", set email
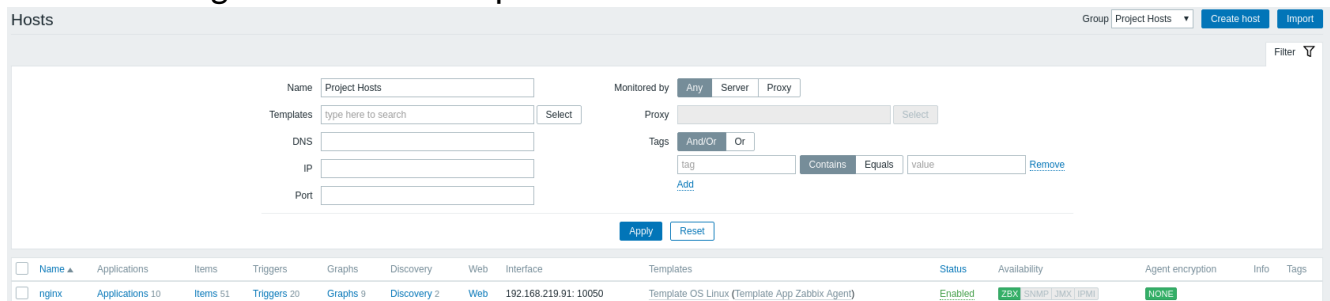

   - Add 2nd VM to zabbix: create Host group ("Project Hosts"), create Host in this group, enable ZABBIX Agent monitoring

   - Assign to this host template of Linux

   - Create custom checks (CPU Load, Memory load, Free space on file systems, Network load)

	Wizard	Name	Triggers	Key	Interval ▲	History	Trends	Type	Applications	Status	Info
☐	•••	Network load		net.if.total[eth1,bytes]	30s	90d	365d	Zabbix agent		Enabled	
☐	•••	CPU Load	Triggers 1	system.cpu.load[,avg5]	30s	90d	365d	Zabbix agent		Enabled	
☐	•••	Free space on file systems		vfs.fs.size[/,free]	30s	90d	365d	Zabbix agent		Enabled	
☐	•••	Memory load		vm.memory.size[active]	30s	90d	365d	Zabbix agent		Enabled	

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

	Severity ▼	Value	Name	Expression	Status	Info	Tags
☐	High	PROBLEM	CPU load too high	{nginx:system.cpu.load[,avg5].**last**(,180)}>1	Enabled		

ZABBIX Monitoring Inventory Reports

Dashboard Problems Overview Web Latest data Graphs Screens Maps Services

Global view

All dashboards / Global view

System information

Parameter	Value	Details
Zabbix server is running	Yes	
Number of hosts (enabled/disabled/templates)	86	2 / 1 / 83
Number of items (enabled/disabled/not supported)	131	52 / 79 / 0
Number of triggers (enabled/disabled [problem/ok])	68	20 / 48 [1 / 19]
Number of users (online)	3	3

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
23:49:19		nginx	CPU load too high	2m 14s	No		

Time	User/Recipient	Action	Message/Command	Status	Info
2019-06-27 23:49:21	AShamchonak (Aliaksandr Shamchonak)			Sent	
2019-06-27 23:49:19					

Local — No maps added.

Outlook — Search

Problem: CPU load too high

Shemchenok@tut.by
Thu 6/27/2019 11:49 PM
Aliaksandr Shamchonak

Problem started at 20:49:19 on 2019.06.27 Problem name: CPU load too high Host: nginx Severity: High Original problem ID: 66

Shemchenok@tut.by
Problem: CPU load too h... 11:49 PM
Problem started at 20:49:19 on 2019.06.2...

Shemchenok@tut.by
Test subject 9:28 PM
This is the test message from Zabbix

- Create Action to inform "Project Owners" if HIGH triggers happen

Users

User Media Permissions

Media	Type	Send to	When active	Use if severity	Status	Action
	Email	Aliaksandr_Shamchonak@epam.com	1-7,00:00-24:00	N I W A H D	Enabled	Edit Remove

Add

Media types

Create media type

Name		Status		
		Any Enabled Disabled		

Apply Reset

	Name ▲	Type	Status	Used in actions	Details	Action
☐	Email	Email	Enabled		SMTP server: "smtp.yandex.ru", SMTP helo: "tut.by", SMTP email: "Shemchenok@tut.by"	Test

For both VMs use vagrant box "sbeliakou/centos"

2. **Using Zabbix UI:**
   - Configure "Network discovery" so that, 2nd VM will be joined to Zabbix (group "Project Hosts", Template "Template OS Linux")

Actions

Event source Discovery ▼ | Create action

Filter ▼

Name [ ] Status [Any] Enabled Disabled

Apply | Reset

Name ▲	Conditions	Operations	Status
Auto discovery. Linux servers.	Received value contains *Linux* Discovery status equals *Up* Service type equals *Zabbix agent*	**Add to host groups:** Linux servers, Project Hosts **Link to templates:** Template OS Linux	Enabled
Remove Lost Server	Discovery status equals *Down*	**Remove host**	Enabled

Actions

Event source Auto registration ▼ | Create action

Filter ▼

Name [ ] Status [Any] Enabled Disabled

Apply | Reset

Name ▲	Conditions	Operations	Status
Active Agent Registration	Host metadata contains *Linux*	**Add to host groups:** Project Hosts **Link to templates:** Template OS Linux	Enabled

Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status	Availability	Agent encryption	Info	Tags
192.168.219.91	Applications 10	Items 34	Triggers 15	Graphs 5	Discovery 2	Web	192.168.219.91: 10050	Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX SNMP JMX IPMI	NONE		

For both VMs use vagrant box "sbeliakou/centos"

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:

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

	zabbixsender	Applications	Items 1	Triggers	Graphs	Discovery	Web	192.168.219.91: 10050			Enabled	ZBX SNMP JMX IPMI	NONE

	Wizard	Name		Triggers	Key	Interval ▲	History	Trends	Type	Applications	Status	Info
	•••	Zabbix sender test number			testnum		90d	365d	Zabbix trapper		Enabled	

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

```
[vagrant@nginx ~]$ zabbix_sender -z 192.168.219.90 -p 10051 -s "zabbixsender" -k testnum -o 50 -vv
zabbix_sender [4375]: DEBUG: answer [{"response":"success","info":"processed: 1; failed: 0; total: 1; seconds spent: 0.000035"}]
Response from "192.168.219.90:10051": "processed: 1; failed: 0; total: 1; seconds spent: 0.000035"
sent: 1; skipped: 0; total: 1
```


zabbixsender: Zabbix sender test number

| Zabbix sender test number [all] | last 50 | min 1 | avg 98.25 | max 516 |
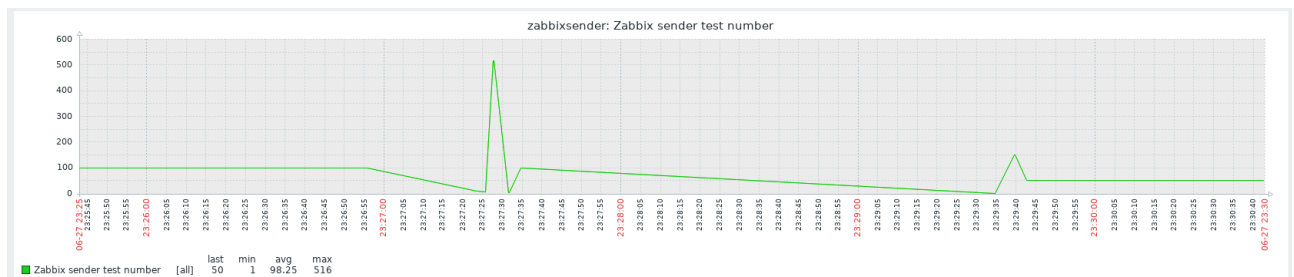
Use zabbix_get as data receiver and examine zabbix agent sending's.

```
[root@zabbix ~]# zabbix_get -s 192.168.219.91 -p 10050 -k 'system.cpu.load[,avg5]'
2.220000
```