

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):

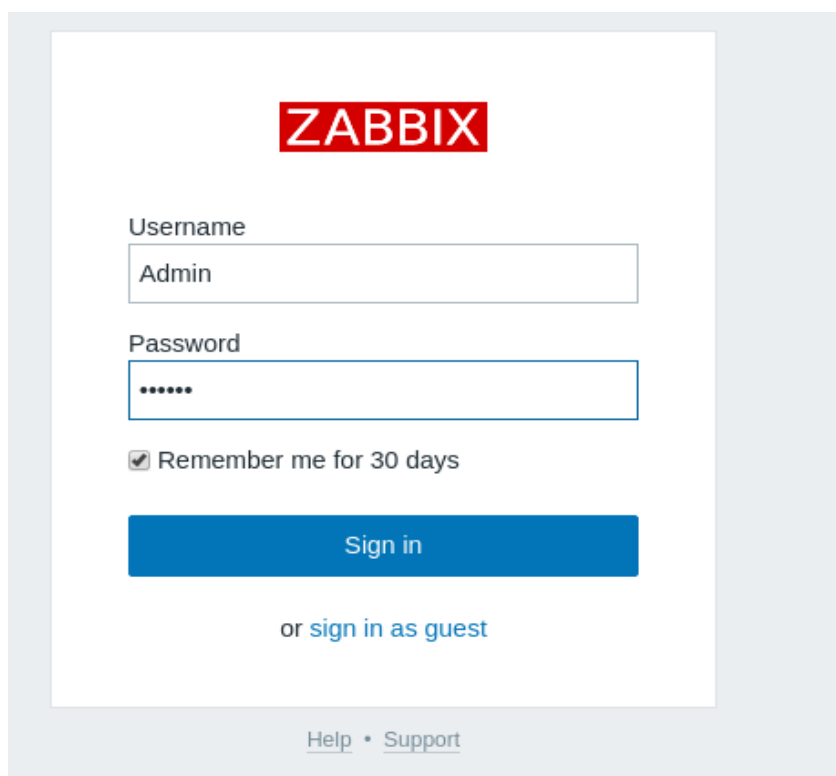
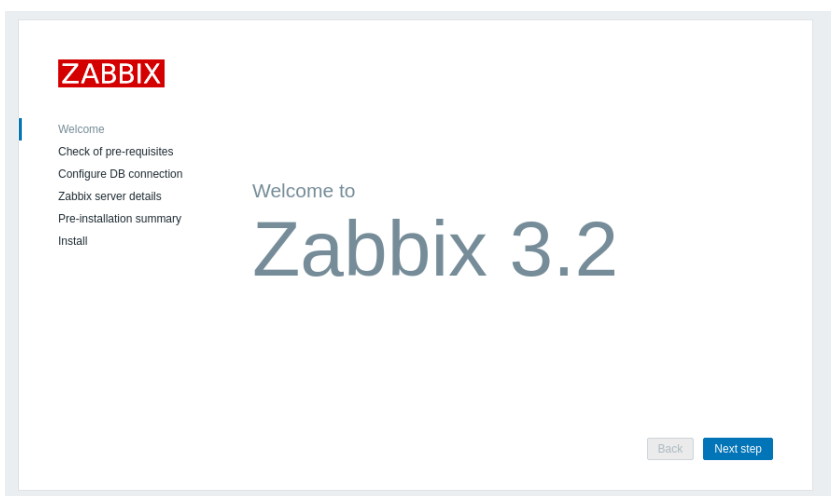
- zabbix server, provisioned by Vagrant provisioner
- Zabbix agents on both VMs, provisioned by Vagrant provisioner

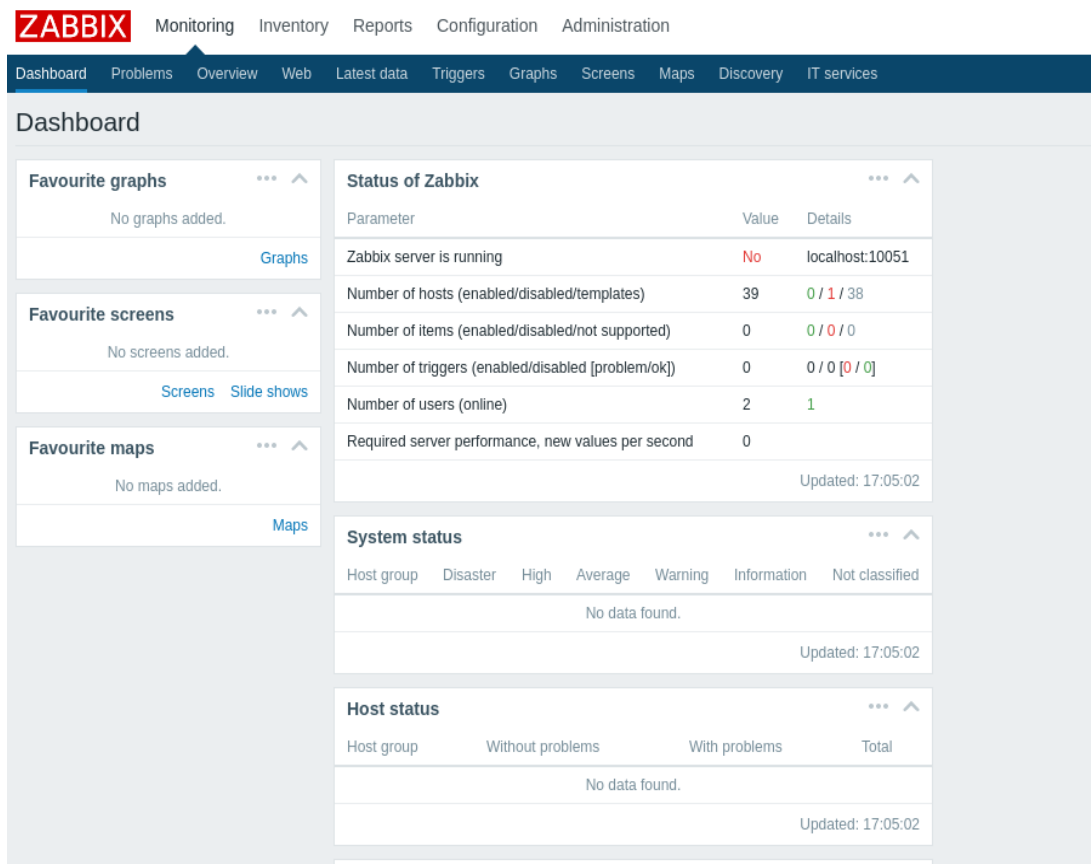
Configure zabbix to work on the server directly without /zabbix

<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"
- User, assign user to "Project Owners", set email

### Users

User Media Permissions

Alias:

Name:

Surname:

Groups:  [Select](#)  
type here to search

Password: [Change password](#)

Language:

Theme:

Auto-login: ☐

Auto-logout (min 90 seconds):

Refresh (in seconds):

Rows per page:

URL (after login):

[Update](#) [Delete](#) [Cancel](#)

**ZABBIX** Monitoring Inventory Reports Configuration Administration

General Proxies Authentication User groups **Users** Media types Scripts Queue

### Users

User Media Permissions

Media	Type	Send to	When active	Use if severity	Status	Action
	Email	cender99a@gmail.com	1-7,00:00-24:00	NIWAHD	Enabled	<a href="#">Edit</a> <a href="#">Remove</a>

[Add](#)

[Update](#) [Delete](#) [Cancel](#)

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

### Hosts

All hosts / **vm02** Enabled **ZBX** SNMP JMX IPMI Applications 10 Items 46 Triggers 19 Graphs 9 Discovery rules 2 Web scenarios

Host Templates IPMI Macros Host inventory Encryption

Host name:

Visible name:

Groups

In groups

Project Hosts

Other groups

Discovered hosts

Hypervisors

Linux servers

Templates

Virtual machines

Zabbix servers

New group:

Agent interfaces

IP address	DNS name	Connect to	Port	Default
<input type="text" value="172.33.33.22"/>	<input type="text"/>	<input checked="" type="radio"/> IP <input type="radio"/> DNS	<input type="text" value="10050"/>	<input checked="" type="radio"/> Remove

[Add](#)

- Assign to this host template of Linux

### Hosts

All hosts / **vm02** Enabled **ZBX** SNMP JMX IPMI Applications 10 Items 46 Triggers 19 Graphs 9 Discovery rules 2 Web scenarios

Host **Templates** IPMI Macros Host inventory Encryption

Linked templates

Name	Action
Template OS Linux	<a href="#">Unlink</a> <a href="#">Unlink and clear</a>

Link new templates

[Select](#)

[Add](#)

[Update](#) [Clone](#) [Full clone](#) [Delete](#) [Cancel](#)

Hosts Group: all [Create host](#)

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Filter ▲

Name  DNS  IP  Port

[Apply](#) [Reset](#)

---

Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status	Availability	Agent encryption
vm02	Applications 10	Items 46	Triggers 19	Graphs 9	Discovery 2	Web	172.33.33.22: 10050	Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX <a href="#">SNMP</a> <a href="#">JMX</a> <a href="#">IPMI</a>	NONE

- Create custom checks (CPU Load, Memory load, Free space on file systems, Network load)
- Create trigger with Severity HIGH, check if it works (Problem/Recovery)
- Create Action to inform “Project Owners” if HIGH triggers happen

Triggers

[All hosts](#) / [vm02](#) [Enabled](#) [ZBX](#) [SNMP](#) [JMX](#) [IPMI](#) [Applications 10](#) [Items 46](#) [Triggers 19](#) [Graphs 9](#) [Discovery rules 2](#) [Web scenarios](#)

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[Trigger](#) [Dependencies](#)

---

Name

Severity [Not classified](#) [Information](#) [Warning](#) [Average](#) [High](#) [Disaster](#)

Expression  [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](#)

Tags   [Remove](#)

[Add](#)

Allow manual close ☐

URL

Description

Enabled ☒

[Add](#) [Cancel](#)

## Actions

Action Operations Recovery operations

Name Report problems

Type of calculation And/Or (A or B) and C

Label	Name	Action
A	Trigger severity = Disaster	<a href="#">Remove</a>
B	Trigger severity = High	<a href="#">Remove</a>
C	Maintenance status not in maintenance	<a href="#">Remove</a>

New condition Maintenance status not in maintenance

[Add](#)Enabled ☒[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Name	Conditions	Operations	Status
<a href="#">Report problems</a>	Maintenance status not in maintenance Trigger severity = High Trigger severity = Disaster	Send message to users: p10r (Piotr Luney) via all media Send message to user groups: Zabbix administrators via all media	Enabled

## Media types

Name Email

Type Email

SMTP server smtp.gmail.com

SMTP server port 587

SMTP helo company.com

SMTP email cender99a@gmail.com

Connection security None STARTTLS SSL/TLS

SSL verify peer ☐SSL verify host ☐

Authentication None Username and password

Username cender99a

Password .....

Enabled ☒[Update](#) [Clone](#) [Delete](#) [Cancel](#)

Last 20 issues						
Host	Issue	Last change	Age	Info	Ack	Actions
vm02	VM_Triger_Memorysize	2019-06-28 10:08:25	1m 8s		No	Done 1

## PROBLEM: VM\_Triger\_Memorysize Входящие x



**cender99a@gmail.com**

кому: я ▾

Trigger: VM\_Triger\_Memorysize

Trigger status: PROBLEM

Trigger severity: High

Trigger URL:

Item values:

1. Available memory (vm02:vm.memory.size[available]): 1.34 GB

## 2. Using Zabbix UI:

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

---

Name

Discovery by proxy

IP range

Delay (in sec)

Checks 

Zabbix agent "system.uname" [Edit](#) [Remove](#)

  
[New](#)

Device uniqueness criteria 

☒ IP address  
☐ Zabbix agent "system.uname"

Enabled ☒

Name

Type of calculation And/Or A and B and C and D

Conditions	Label	Name	Action
	A	Received value like <i>Linux</i>	<a href="#">Remove</a>
	B	Discovery status = <i>Up</i>	<a href="#">Remove</a>
	C	Service type = <i>Zabbix agent</i>	<a href="#">Remove</a>
	D	Host IP = 172.33.33.1-127,172.33.33.254	<a href="#">Remove</a>

New condition Host IP = 192.168.0.1-127,192.168.2.1  
[Add](#)

Enabled ☒

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

## Actions

Action Operations

Default subject

Default message

Operations Details Action  
**Add to host groups:** Discovered hosts, Project Hosts  
[New](#) [Edit](#) [Remove](#)

[Update](#) [Clone](#) [Delete](#) [Cancel](#)



## Status of discovery

Discovered device ▲

Monitored host

Local network (1 device)

172.33.33.22

172.33.33.22

## Hosts

Name

DNS

<input type="checkbox"/> Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface
<input type="checkbox"/> 172.33.33.22	Applications 10	Items 33	Triggers 15	Graphs 5	Discovery 2	Web	172.33.33.22: 10050

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

Create item on zabbix server

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Host groups Templates **Hosts** Maintenance Actions Event correlation Discovery IT services

### Items

All hosts / 172.33.33.22 Enabled **ZBX** SNMP JMX IPMI Applications 10 **Items 33** Triggers 15 Graphs 5

Name

Type

Key

Type of information

History storage period (in days)

Allowed hosts

On agent use

command

**`zabbix_sender -z 172.33.33.11 -s "172.33.33.22" -k 123 -o "Sent Info" -vv`**

```
[root@zabbix02 vagrant]# zabbix_sender -z 172.33.33.11 -s "172.33.33.22" -k 123 -o "Sent Info" -vv
zabbix_sender [4850]: DEBUG: answer [{"response":"success","info":"processed: 1; failed: 0; total: 1; seconds spent: 0.000028"}]
info from server: "processed: 1; failed: 0; total: 1; seconds spent: 0.000028"
sent: 1; skipped: 0; total: 1
```

And see information on server

**ZABBIX** Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web **Latest data** Triggers Graphs Screens Maps Discovery IT services

### Latest data

Filter ▲

Host groups   Name

Hosts   Show items without data ☒

Application   Show details ☐

<input type="checkbox"/> Name ▲	Last check	Last value
- other - (1 item)		
<input type="checkbox"/> Sender info	2019-06-28 14:08:04	Sent Info

Use zabbix\_get as data receiver

```
[root@zabbix01 vagrant]# zabbix_get -s 172.33.33.22 -p 10050 -k 'system.cpu.load[all,avg1]'  
0.000000  
[root@zabbix01 vagrant]# zabbix_get -s 172.33.33.22 -p 10050 -k 'system.cpu.load[all,avg1]'  
0.480000  
[root@zabbix01 vagrant]#
```