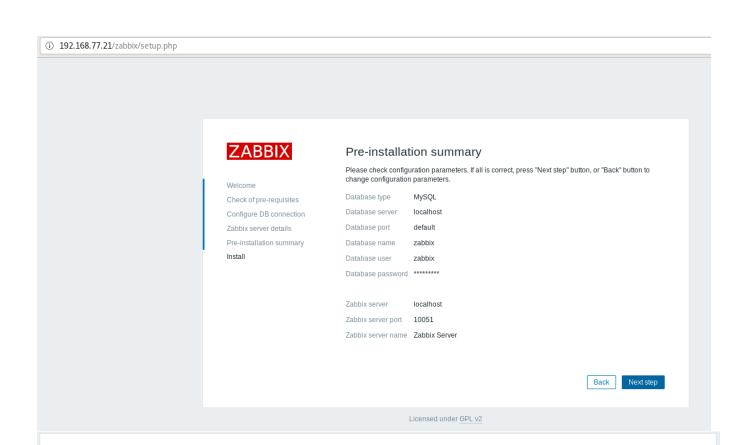Vagrantfile to spin up 2 VMs (virtualbox):

- o zabbix server, provisioned by Vagrant provisioner
- o 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

You should install and configure Zabbix server and agents.

ZABBIX

Pre-installation summary

Please check configuration parameters. If all is correct, press "Next step" button, or "Back" button to change configuration parameters.

Welcome
Check of pre-requisites
Configure DB connection
Zabbix server details
Pre-installation summary
Install

Database type	MySQL
Database server	localhost
Database port	default
Database name	zabbix
Database user	zabbix
Database password	*********
Zabbix server	localhost
Zabbix server port	10051
Zabbix server name	Zabbix Server

Back   Next step

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ZABBIX

Install

Welcome
Check of pre-requisites
Configure DB connection
Zabbix server details
Pre-installation summary
Install

Congratulations! You have successfully installed Zabbix frontend.

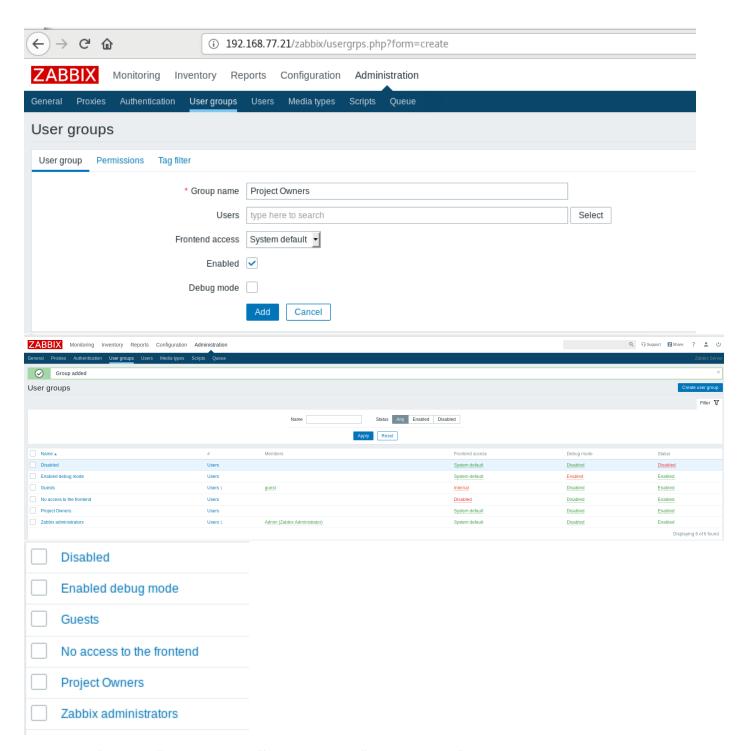Configuration file "/etc/zabbix/web/zabbix.conf.php" created.

Back   Finish

For superuser permissions log as Admin:

Using Zabbix GUI, create group Project Owners:

Administration tab -> User groups tab -> Create group button

ZABBIX   Monitoring   Inventory   Reports   Configuration   **Administration**

General   Proxies   Authentication   User groups   Users   Media types   Scripts   Queue

User groups

User group   Permissions   Tag filter

* Group name	Project Owners
Users	type here to search Select
Frontend access	System default ▾
Enabled	☑
Debug mode	☐

Add   Cancel

ZABBIX Monitoring Inventory Reports Configuration Administration   🔍 ⌂Support ⧉Share ? ▲ ⏻

General Proxies Authentication User groups Users Media types Scripts Queue   Zabbix Server

✓ Group added   ✕

User groups   Create user group

Filter ▽

Name	Status	Any	Enabled	Disabled

Apply   Reset

	Name ▲	#	Members	Frontend access	Debug mode	Status
☐	Disabled	Users		System default	Disabled	Disabled
☐	Enabled debug mode	Users		System default	Enabled	Enabled
☐	Guests	Users 1	guest	Internal	Disabled	Enabled
☐	No access to the frontend	Users		Disabled	Disabled	Enabled
☐	Project Owners	Users		System default	Disabled	Enabled
☐	Zabbix administrators	Users 1	Admin (Zabbix Administrator)	System default	Disabled	Enabled

Displaying 6 of 6 found

☐	Disabled
☐	Enabled debug mode
☐	Guests
☐	No access to the frontend
☐	Project Owners
☐	Zabbix administrators

Create User (example "Siarhei Beliakou"), assign user to "Project Owners", set email

ZABBIX   Monitoring   Inventory   Reports   Configuration   **Administration**

General   Proxies   Authentication   User groups   Users   Media types   Scripts   Queue

Users

User   Media   Permissions

* Alias	mmarkova
Name	Margarita
Surname	Markova
* Groups	Project Owners ✕ [Select]
	type here to search
* Password	••••••
* Password (once again)	••••••
	Password is not mandatory for non internal authentication type.
Language	English (en_GB) ▾
Theme	System default ▾
Auto-login	☐
Auto-logout	☐ 15m
* Refresh	30s
* Rows per page	50
URL (after login)	

[Add] [Cancel]

☐ Alias ▲	Name	Surname	User type	Groups	Is online?	Login	Frontend access	Debug mode	Status
☐ Admin	Zabbix	Administrator	Zabbix Super Admin	Zabbix administrators	Yes (2019-07-21 13:42:36)	Ok	System default	Disabled	Enabled
☐ guest			Zabbix User	Guests	No	Ok	Internal	Disabled	Enabled
☐ mmarkova	Margarita	Markova	Zabbix User	Project Owners	No	Ok	System default	Disabled	Enabled

☐ **mmarkova**	**Margarita**	**Markova**	**Zabbix User**		**Project Owners**

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
Add

Update Delete Cancel

Media

Type: Email

* Send to: marksuree@mail.ru Remove

Add

* When active: 1-7,00:00-24:00

Use if severity:
- ☑ Not classified
- ☑ Information
- ☑ Warning
- ☑ Average
- ☑ High
- ☑ Disaster

Enabled: ☑

Add Cancel

Media

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

Add

Update Delete Cancel

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

Monitoring   Inventory   Reports   Configuration   Administration

Host groups   Templates   Hosts   Maintenance   Actions   Event correlation   Discovery   Services

Host groups

* Group name	Project Hosts

Add   Cancel

✓ Group added

Host groups

Name   Project Hosts

Apply   Reset

☐ Name ▲	Hosts	Templates
☐ Project Hosts	Hosts	Templates

Host groups   Templates   Hosts   Maintenance   Actions   Event correlation   Discovery   Services

Hosts

Host   Templates   IPMI   Tags   Macros   Inventory   Encryption

* Host name	time-machine
Visible name	
* Groups	Project Hosts ✕ type here to search Select

* At least one interface must exist.

Agent interfaces

IP address	DNS name	Connect to	Port	Default
192.168.77.22		IP DNS	10050	● Remove

Add

SNMP interfaces   Add

JMX interfaces   Add

IPMI interfaces   Add

Description

Monitored by proxy   (no proxy)

Enabled   ✔

Add   Cancel

☐ Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface
☐ time-machine	Applications	Items	Triggers	Graphs	Discovery	Web	192.168.77.22: 10050
☐ Zabbix server	Applications 11	Items 79	Triggers 48	Graphs 11	Discovery 2	Web	127.0.0.1: 10050

Assign to this host template of Linux

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

✓ Application added ✕

Applications

Group [all ▼] Host [time-machine ▼] [Create application]

All hosts / time-machine Enabled ZBX SNMP JMX IPMI **Applications** 4 Items Triggers Graphs Discovery rules Web scenarios

☐ Application ▲	Items	Info
☐ CPU	Items	
☐ Filesystems	Items	
☐ Memory	Items	
☐ Network	Items	

Displaying 4 of 4 found

Items

All hosts / time-machine Enabled ZBX SNMP JMX IPMI Applications 4 **Items** Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

* Name [CPU Load]

Type [Zabbix agent ▼]

* Key [system.cpu.load[<cpu>,<mode>]] [Select]

* Host interface [192.168.77.22 : 10050 ▼]

Type of information [Numeric (unsigned) ▼]

Units [ ]

* Update interval [30s]

Custom intervals

Type	Interval	Period	Action
Flexible Scheduling	50s	1-7,00:00-24:00	Remove

Add

* History storage period [90d]

* Trend storage period [365d]

Show value [As is ▼] show value mappings

New application [ ]

Applications
```
-None-
CPU
Filesystems
Memory
Network
```

Populates host inventory field [-None- ▼]

Items

Item   Preprocessing

* Name	Free space on filesystem
Type	Zabbix agent
* Key	vfs.fs.size[/,free[Select
* Host interface	192.168.77.22 : 10050
Type of information	Numeric (unsigned)
Units	
* Update interval	30s

Custom intervals

Type	Interval	Period	Action
Flexible Scheduling	50s	1-7,00:00-24:00	Remove

Add

* History storage period	90d
* Trend storage period	365d
Show value	As is show value mappings
New application	
Applications	-None- CPU Filesystems Memory Network
Populates host inventory field	-None-

Items

Item   Preprocessing

* Name	Memory Load
Type	Zabbix agent ▼
* Key	vm.memory.size[active] Select
* Host interface	192.168.77.22 : 10050 ▼
Type of information	Numeric (unsigned) ▼
Units	
* Update interval	30s

Custom intervals

Type	Interval	Period	Action
Flexible Scheduling	50s	1-7,00:00-24:00	Remove

Add

* History storage period	90d
* Trend storage period	365d
Show value	As is ▼ show value mappings
New application	
Applications	-None- CPU Filesystems Memory Network
Populates host inventory field	-None- ▼

Items

Item   Preprocessing

* Name	Network Load
Type	Zabbix agent
* Key	net.if.total[if,<mode>] Select
* Host interface	192.168.77.22 : 10050
Type of information	Numeric (unsigned)
Units	
* Update interval	30s

Custom intervals

Type	Interval	Period	Action
Flexible Scheduling	50s	1-7,00:00-24:00	Remove

Add

* History storage period	90d
* Trend storage period	365d
Show value	As is show value mappings
New application	
Applications	-None- CPU Filesystems Memory Network

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

Displaying 4 of 4 found

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

Triggers

Trigger   Tags   Dependencies

* Name	File missing
Severity	Not classified Information Warning Average **High** Disaster
* Problem expression	{Template OS Linux:vfs.file.exists[/opt/zabbix/monitor.file].min(10)}=0 **Add**

Expression constructor

OK event generation	Expression Recovery expression None
* Recovery expression	{Template OS Linux:vfs.file.exists[/opt/zabbix/monitor.file].avg(30)}=1 **Add**

Time ▼		Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
10:21:45		High		PROBLEM		Linux webserver-01 3.10.0-957.10.1.el7.x86_64 _1 SMP Mon Mar 18 15_06_45 UTC 2019 x86_64	File missing	22s	No		

Displaying 1 of 1 found

Time ▼		Severity	Recovery time	Status	Info	Host	Problem	Duration	Ack	Actions	Tags
10:21:45		High	10:23:45	RESOLVED		Linux webserver-01 3.10.0-957.10.1.el7.x86_64 _1 SMP Mon Mar 18 15_06_45 UTC 2019 x86_64	File missing	2m	No		

Displaying 1 of 1 found

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

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

Actions

Action   Operations

        * Name | Agent Autoregistration |

Conditions

Label	Name	Action
A	Host metadata contains *Linux*	Remove

New condition

   | Host metadata ▾ | contains ▾ | |

Add

Enabled   ☑

* At least one operation must exist.

[Add]   [Cancel]

Actions

Action   Operations

Default subject | Auto registration: {HOST.HOST} |

Default message
```
Host name: {HOST.HOST}
Host IP: {HOST.IP}
Agent port: {HOST.PORT}
```

Operations

Details	Action
Add to host groups: Project Hosts	Edit Remove
New	

* At least one operation must exist.

[Add]   [Cancel]

Actions

Event source [Auto registration ▾] [Create action]

Filter ▽

Name	[ ]	Status	[Any] [Enabled] [Disabled]	

[Apply] [Reset]

☐ Name ▲	Conditions	Operations	Status
☐ Agent Autoregistration	Host metadata contains *Linux*	**Add to host groups:** Project Hosts	Enabled

Displaying 1 of 1 found