

# The Action Simulator revisited

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Volker Fröhlich

# Who I am

- Volker Fröhlich — volter on IRC
- System administrator at geizhals.at
- Fedora package maintainer
- Openstreetmap mapper
- Some frontend patches



# Wait, I have seen this before!

Picture taken from "12 Angry Men"



MEDICAL  
UNIVERSITY  
OF VIENNA

Why On Earth  
Was I Not Notified?!

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Retrofitting Zabbix With An Action Simulator

# 2013 Video



hello everybody my name is Coco  
foolish

# The Action Simulator is telling you ...

- Which actions apply to an event
- Which operations will take place and when
- What was not considered and why

## Why you want the Action Simulator

- Peace of mind
- Don't ridicule yourself
- 2.0, 2.2, **now for 3.0**, eventually!

# Why is this even necessary?

- People rely on Zabbix actions
- No reliable way to know what will happen
- Zabbix is complex and abstract at times
- ZBXNEXT-97 — Testing an action in the frontend

## Action audit log

- Hindsight
- Only helps with operations

# How does it work?

- A frontend implementation of the server code
- API method
- It will not actually do anything!
- Button in trigger list, showing a table

<input type="checkbox"/>	SEVERITY	NAME ▲	EXPRESSION	STATUS	INFO	ACTIONS
<input type="checkbox"/>	Warning	Template OS Linux: <a href="#">/etc/passwd</a> has been changed on {HOST.NAME}	<a href="#">{Zabbix server:vfs.file.cksum}</a>	Disabled		<a href="#">?</a>
<input type="checkbox"/>	Information	Template OS Linux: Configured max number of opened files is too low on {HOST.NAME}	<a href="#">{Zabbix server:kernel.maxfiles}</a>	Enabled		<a href="#">?</a>
<input type="checkbox"/>	Information	Template OS Linux: Configured max number of processes is too low on {HOST.NAME}	<a href="#">{Zabbix server:kernel.maxproc}</a>	Enabled		<a href="#">?</a>

- Event details
- Notifications
- Remote commands
- Action and condition matches

Trigger details

Hosts

Zabbix server

Trigger

Host name of zabbix\_agentd was changed on Zabbix server

Severity

Information

Status

☒ Problem
 ☐ OK

Assume maintenance

☐

Respect acknowledgement

☐

Temporal settings

Status changed at

2016

-

09

-

05

:

02

:

00

⋮

Acknowledged at

2016

-

09

-

05

:

01

:

59

⋮

Resolved at

2016

-

09

-

05

:

04

:

00

⋮

Re-evaluate

Close

Messages

ACTION

TIME PASSED

TIME

STEP

STEP CONFIG

OPERATION

TYPE

RECIPIENT

INFO

Expression-based conditions

0

2016-09-05 02:00:00

1

1

To user

Any

Admin (Zabbix Administrator)

✖

Report problems to Zabbix administrators

0

2016-09-05 02:00:00

1

1

To user group: Zabbix administrators

Any

Admin (Zabbix Administrator)

✖

Remote commands

ACTION

TIME PASSED

TIME

STEP

STEP CONFIG

OPERATION

COMMAND

TYPE

Fire a remote action

0

2016-09-05 02:00:00

1

1

Run remote commands on current host

/root/my\_script

SSH

Action condition matches

MATCH

LABEL

CONDITION TYPE

TRIGGER VALUE

OPERATOR

CONDITION VALUE

FALSE

An action with AND/OR

A and B and C and D

TRUE

A

Maintenance status

not in

is

not in

TRUE

B

Template

Template OS Linux ⇒ Template App Zabbix Agent

=

Template App Zabbix Agent

TRUE

C

Trigger value

PROBLEM

=

PROBLEM

FALSE

D

Trigger name

Host name of zabbix\_agentd was changed on Zabbix server

like

whatever

TRUE

Expression-based conditions

A and B or C or D

TRUE

A

Maintenance status

not in

is

not in

TRUE

B

Trigger value

PROBLEM

=

PROBLEM

FALSE

C

Trigger name

Host name of zabbix\_agentd was changed on Zabbix server

like

whatever

FALSE

D

Trigger name

Host name of zabbix\_agentd was changed on Zabbix server

like

tragedy



# The Action Simulator allows you to ...

## Spot and solve configuration issues

- Wrong action conditons
- Missing permissions
- Missing media settings
- Duplicate messages

## Assure yourself or create a list of operations

- In particular after changing something
- Answer a notification inquiry

# Wrong conditions: Inadvertent miss

- Host name of zabbix\_agentd was changed on {HOST.NAME}
- 4 and-connected conditions
- Typo in a string match

Action condition matches					
MATCH	LABEL	CONDITION TYPE	TRIGGER VALUE	OPERATOR	CONDITION VALUE
FALSE	This action should apply, we think! A and B and C and D				
TRUE	A	Maintenance status	not in	is	not in
TRUE	B	Template	Template OS Linux ⇒ Template App Zabbix Agent	=	Template App Zabbix Agent
TRUE	C	Trigger value	PROBLEM	=	PROBLEM
FALSE	D	Trigger name	Host name of zabbix_agentd was changed on Zabbix server	like	ya zabbix_agentd

# Wrong conditions: Inadvertent match

- Host name of zabbix\_agentd was changed on {HOST.NAME}
- Expression
- Template assigned through inheritance

Action condition matches						^
MATCH	LABEL	CONDITION TYPE	TRIGGER VALUE	OPERATOR	CONDITION VALUE	
TRUE	This action should NOT apply, we think! A and B or ((C or D) and E)					
TRUE	A	Maintenance status	not in	is	not in	
TRUE	B	Trigger value	PROBLEM	=	PROBLEM	
FALSE	C	Trigger name	Host name of zabbix_agentd was changed on Zabbix server	like	whatever	
FALSE	D	Application	Zabbix agent, Configuration	=	My weird app	
TRUE	E	Template	Template OS Linux ⇒ Template App Zabbix Agent	=	Template App Zabbix Agent	
DISABLED	Site availability					

# Permissions, media settings and duplicates

Messages <span>^</span>								
ACTION	TIME PASSED	TIME	STEP	STEP CONFIG	OPERATION	TYPE	RECIPIENT	INFO
A generic action	0	2016-09-06 02:29:00	1	1	To user group: Zabbix administrators	Email	<b>Admin (Zabbix Administrator)</b> zabbix-admin@example.com	
A generic action	0	2016-09-06 02:29:00	1	1	To user group: Another Group	Email	<b>User A (John Doe)</b>	✖
A generic action	0	2016-09-06 02:29:00	1	1	To user group: Another Group	Email	<b>User B (Frank Blank)</b> user_b@example.com	✖
A generic action	0	2016-09-06 02:29:00	1	1	To user	Email	<b>User A (John Doe)</b>	✖

OPERATION	TYPE	RECIPIENT	INFO
To user group: Zabbix administrators	Email	<b>Admin (Zabbix Administrator)</b> zabbix-admin@example.com	
To user group: Another Group	Email	<b>User A (John Doe)</b>	✖
To user group: Another Group	Email	<b>User B (Frank Blank)</b> user_b@example.com	✖
To user	Email	<b>User A (John Doe)</b>	✖

Media type not  
defined for user

Host permissions

Media type not  
defined for user

# What is new?

## First version for 3.0 — **5.1.4**

- June 2016
- Limited, but working

## New release — **5.2.0**

- Supports expression-based conditions

AND/OR:        A and (B or C or D)

Expression: A and (B or C and D)

# What is new? (continued)

- Display the conditions in a more legible way
- Better for colour blind people

Site availability	And/Or	Maintenance status	-	not in	0
Site availability	And/Or	Trigger value	1	=	1
Site availability	And/Or	Trigger severity	1	>=	1
Site availability	And/Or	Host group	2, 14	=	18

FALSE	Site availability A and B and C and D				
TRUE	A	Maintenance status	not in	is	not in
TRUE	B	Trigger value	PROBLEM	=	PROBLEM
TRUE	C	Trigger severity	Information	>=	Information
FALSE	D	Host group	Linux servers, Zabbix servers	=	Virtual machines

# What is new? (continued)

- Make the tables more on point
- Button for disabled triggers in list ⇒ "What if?"

OPERATION	TYPE	RECIPIENT	INFO
To user	Email	<b>Admin (Zabbix Administrator)</b> zabbix-admin@example.com	
To user group: Zabbix administrators	Email	<b>Admin (Zabbix Administrator)</b> zabbix-admin@example.com	

# But it still remains a hack!

- Important to have
- Code duplication, performance
- 3.2 introduces changes again
- Rumours about the API leaving the frontend



# References

- Thanks to *Mikhail "bios" Okhotin*
- [http://www.zabbix.org/wiki/Docs/action\\_simulator](http://www.zabbix.org/wiki/Docs/action_simulator)
- [http://www.geofrogger.net/actionsim/action\\_sim.txt](http://www.geofrogger.net/actionsim/action_sim.txt)
- volter on Freenode IRC
- #zabbix, #zabbix-de
- volker.froehlich@geizhals.at