



Webinar

Zabbix Frontend Scripting

all our microphones are muted

ask your questions in Q&A, not in the Chat

use Chat for discussion, networking or applause



1

Using scripts to automate tasks

Frontend Scripting

Why to use Scripts:

- › Using automatic or manual operations on the server or monitored systems


Executing:

- › Manual actions
- › Automatic tasks and recovery actions

Script storage:

- › Administration -> scripts
- › Since ZABBIX version 6.0

Frontend Scripting



Scripts Create script

Scope
Any
Action operation
Manual host action
Manual event action

Filter

Apply
Reset

<input type="checkbox"/>	Name ▲	Scope	Used in actions	Type	Execute on	Commands	User group	Host group	Host access
<input type="checkbox"/>	change Macro	Action operation	makro set	Webhook			All	All	Read
<input type="checkbox"/>	Detect operating system	Manual host action		Script	Server (proxy)	<code>sudo /usr/bin/nmap -O {HOST.CONN}</code>	Zabbix administrators	All	Read
<input type="checkbox"/>	JIRA Create Task	Manual event action		Webhook			All	All	Read
<input type="checkbox"/>	Ping	Manual host action		Script	Server (proxy)	<code>ping -c 3 {HOST.CONN}; case \$? in [01]) true;; *) false;; esac</code>	All	All	Read
<input type="checkbox"/>	Repair DNS NAME from Hostname	Manual host action		Webhook			All	All	Write
<input type="checkbox"/>	restart windows	Manual host action		Script	Agent	<code>shutdown -r -t 0</code>	All	LAB/Extend	Read
<input type="checkbox"/>	Set Macro	Action operation		Webhook			All	All	Read
<input type="checkbox"/>	Traceroute	Manual host action		Script	Server (proxy)	<code>/bin/traceroute {HOST.CONN}</code>	All	All	Read
<input type="checkbox"/>	User workflow	Action operation		Webhook			All	All	Read

0 selected Delete
Displaying 9 of 9 found

LAB

Monitoring

Services

Inventory

Reports

Configuration

Administration

- General
- Proxies
- Authentication
- User groups
- User roles
- Users
- Media types
- Scripts
- Queue

Administration -> scripts

Execution Scope:

- › Action operation
- › Manual host action
- › Manual event action

Name	<input type="text"/>	Scope	<input checked="" type="radio"/> Any	<input type="radio"/> Action operation	<input type="radio"/> Manual host action	<input type="radio"/> Manual event action
<input type="button" value="Apply"/> <input type="button" value="Reset"/>						

Manual Event Action

- ▶ Supported Macros
- ▶ https://www.zabbix.com/documentation/current/en/manual/appendix/macros/supported_by_location
- ▶ MACROS differs in different Zabbix versions

{EVENT.NAME}	→ Trigger-based notifications and commands → Problem update notifications and commands → Service-based notifications and commands → Service update notifications and commands → Service recovery notifications and commands → Internal notifications → Manual event action scripts	<i>Name of the problem event that triggered an action.</i> Supported since 4.0.0.
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Manual Host Action

- ▶ Supported Macros
- ▶ https://www.zabbix.com/documentation/current/en/manual/appendix/macros/supported_by_location
- ▶ MACROS differs in different Zabbix versions

{HOST.NAME}	→ Trigger-based notifications and commands → Problem update notifications and commands → Internal notifications	<i>Visible host name.</i> This macro may be used with a numeric index e.g. {HOST.NAME<1-9>} to point to the first, second, third, etc. host in a trigger expression. See indexed macros .
	→ Manual host action scripts (including confirmation text) → Manual event action scripts (including confirmation text) → Description of item value widget	

Manual Action restriction

- ▶ Selected Host Groups
- ▶ Selected User Group

Host group

User group

Required host permissions

Confirmation

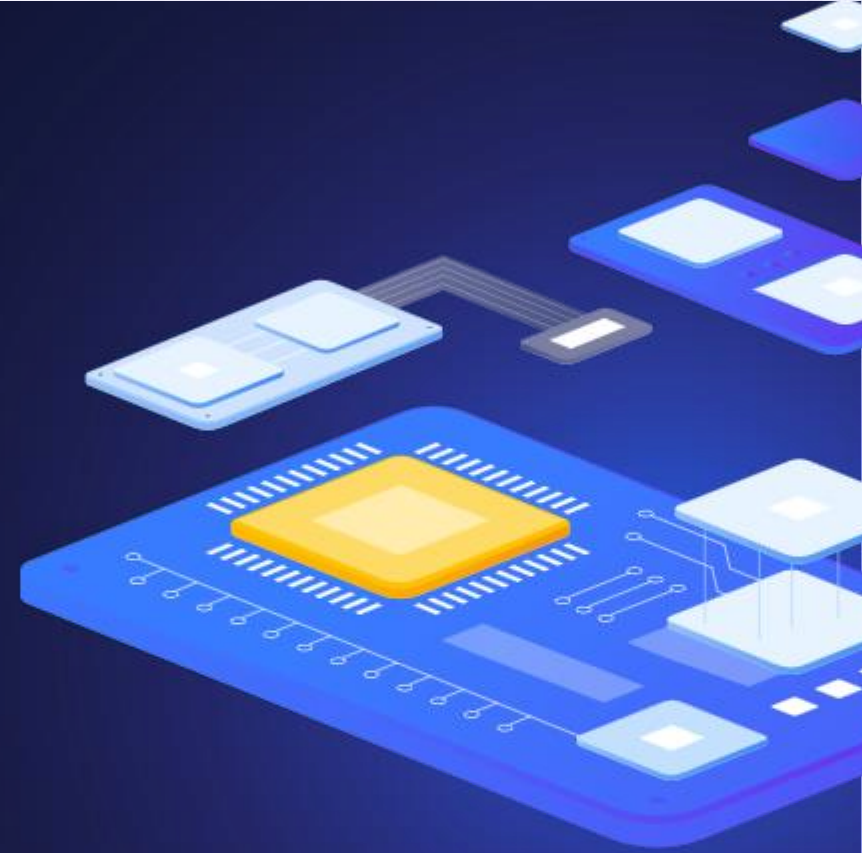
- › Safety confirmation dialog

Enable confirmation

Confirmation text

2

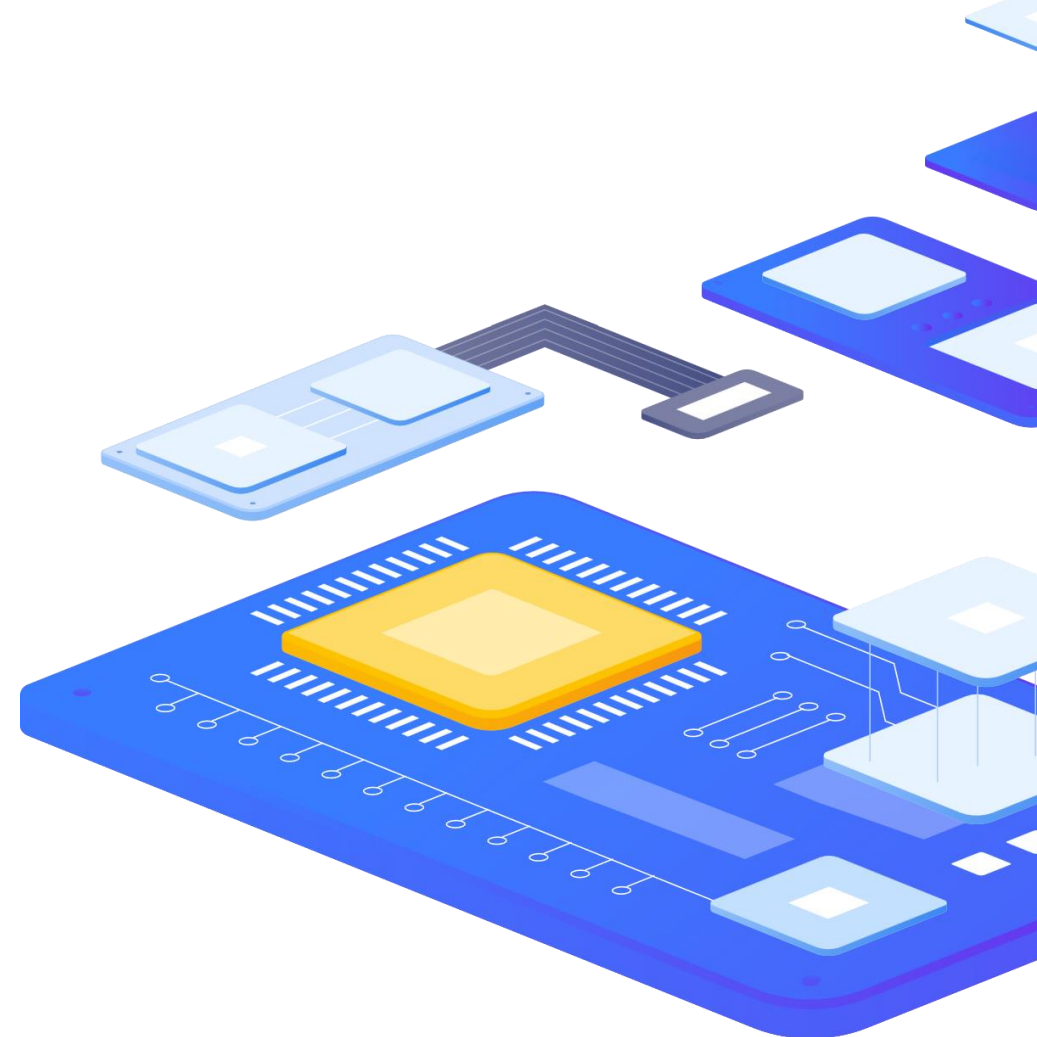
Typy skriptů



Frontend Scripting

Webhook

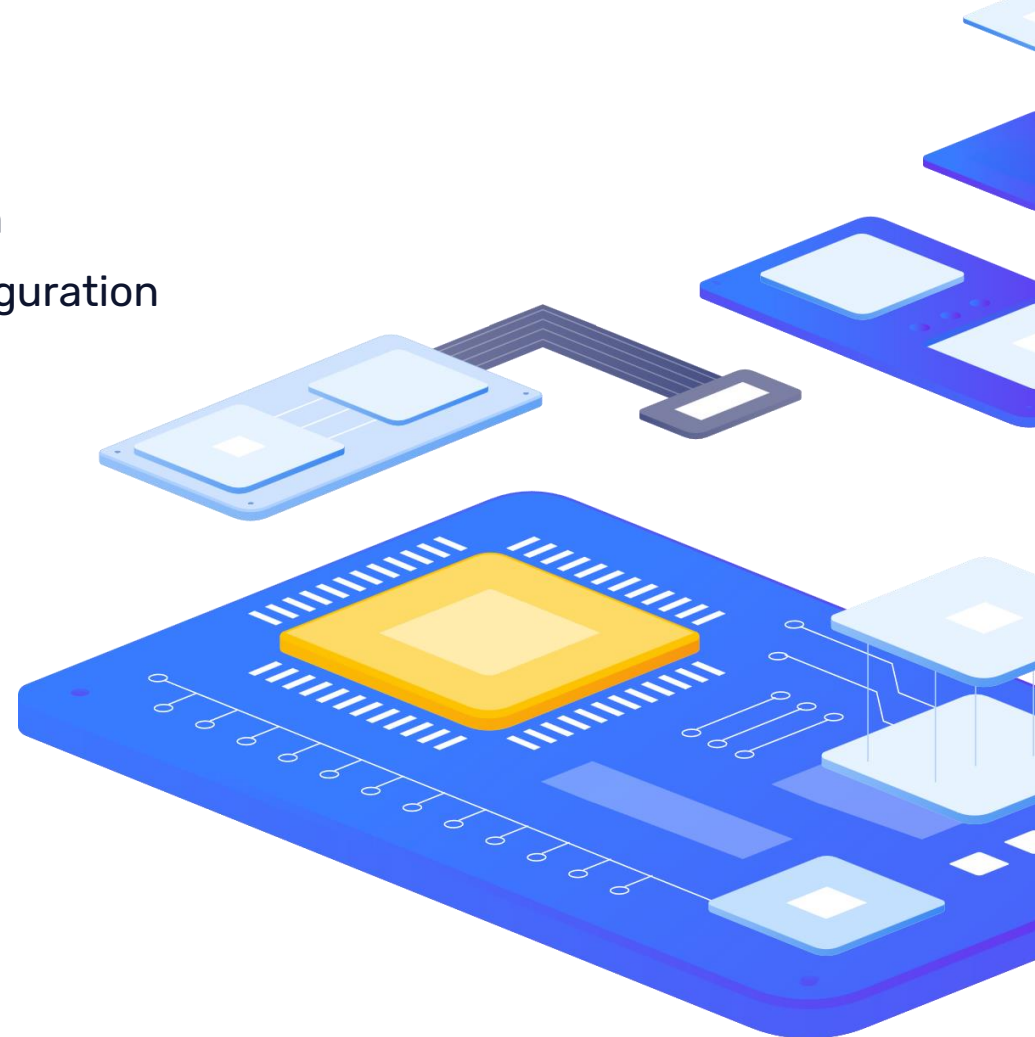
- › Running on Zabbix Server
- › Javascript
 - › `HttpRequest()`
- › Targets:
 - › Communication with external systems:
 - › Ticketing systems (Jira, request Tracker, OTRS, ...)
 - › Automatization (AWX)
 - › Inventory systems (CMDB)
 - › ZABBIX server callback



Frontend Scripting

Script

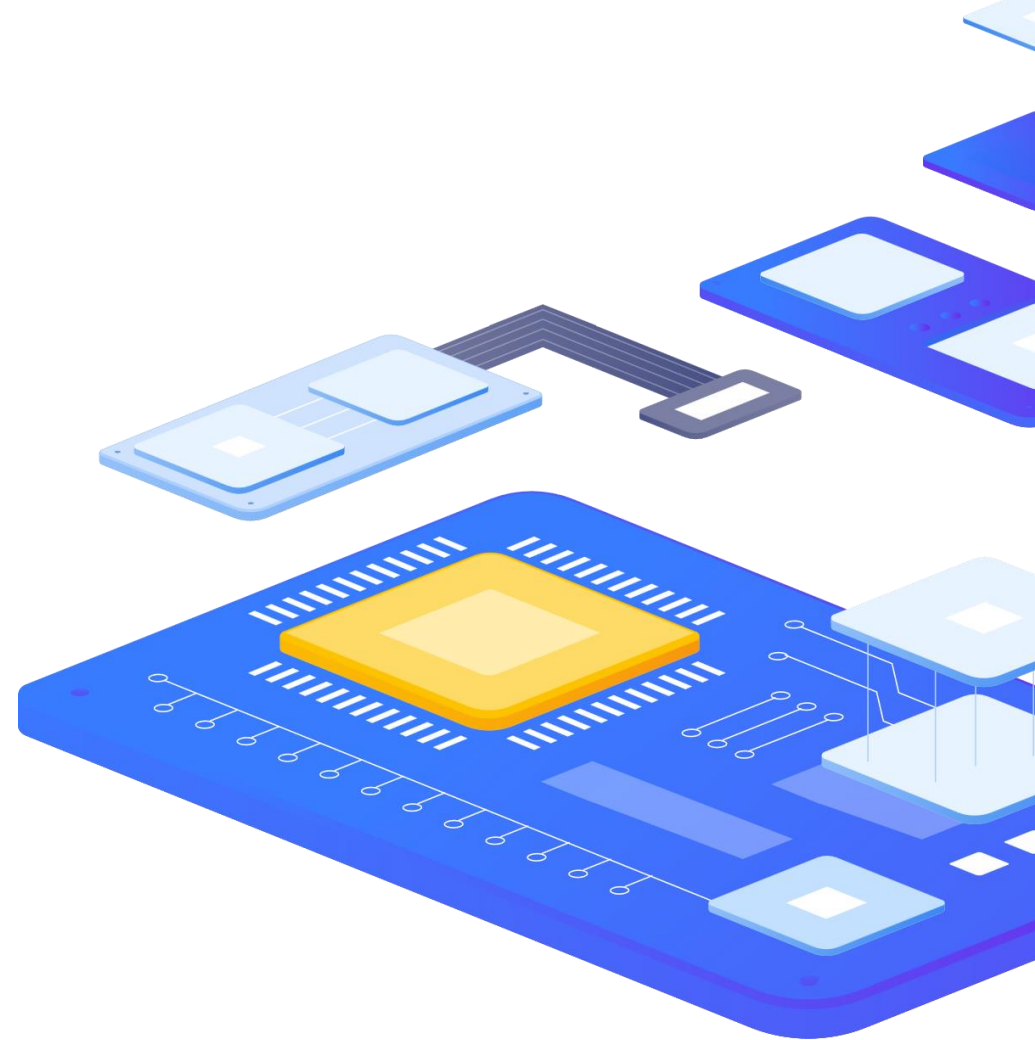
- › Run on server, proxy or agent
- › adding an `AllowKey=system.run[*]` parameter in agent configuration
- › setting the `EnableRemoteCommands` parameter to '1' in proxy configuration
- › Target systems:
 - › Linux - bash script or command
 - › Windows - cmd command or script
- › wait / nowait status



Frontend Scripting

SSH / Telnet

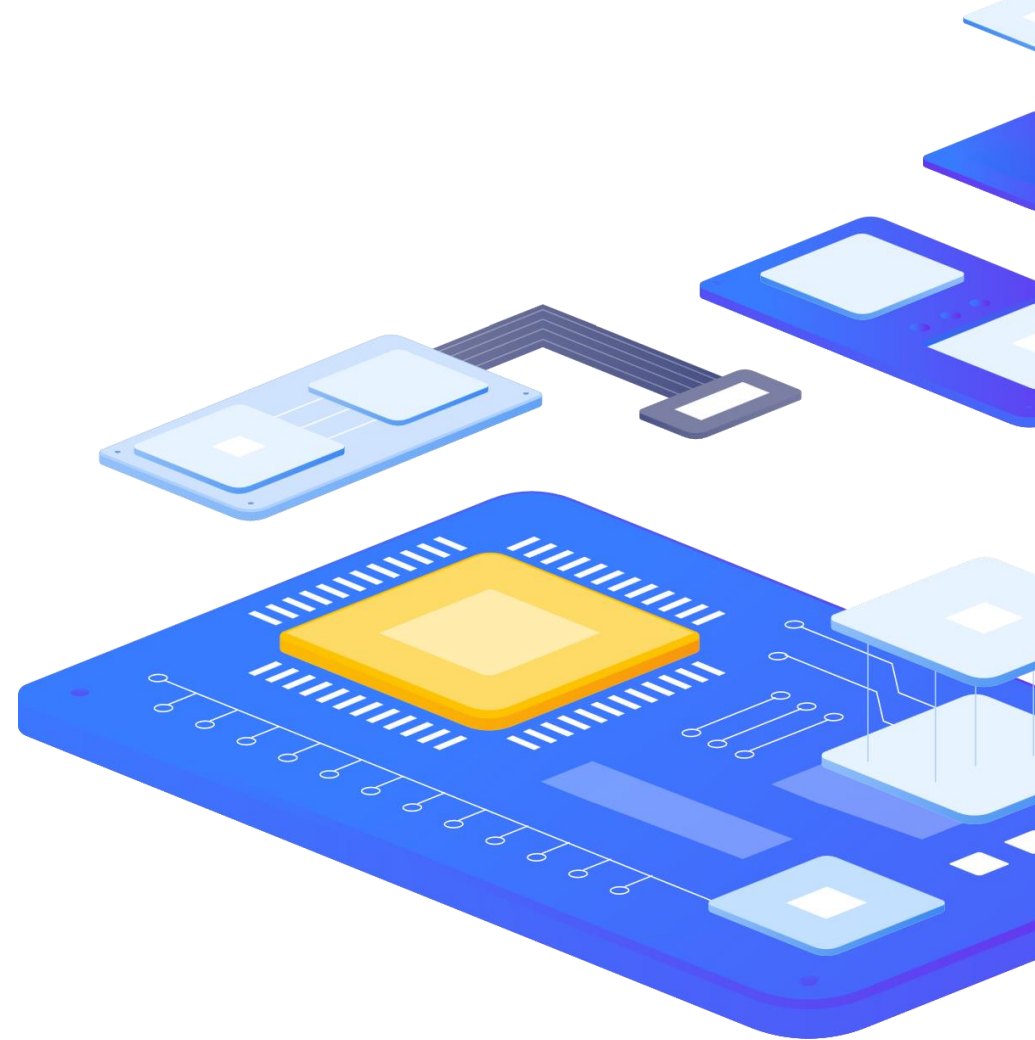
- › Remote command execution using the ssh protocol
- › Password or key based authentication
- › Calls to devices without zabbix agents (switches, disk arrays, ...)



Frontend Scripting

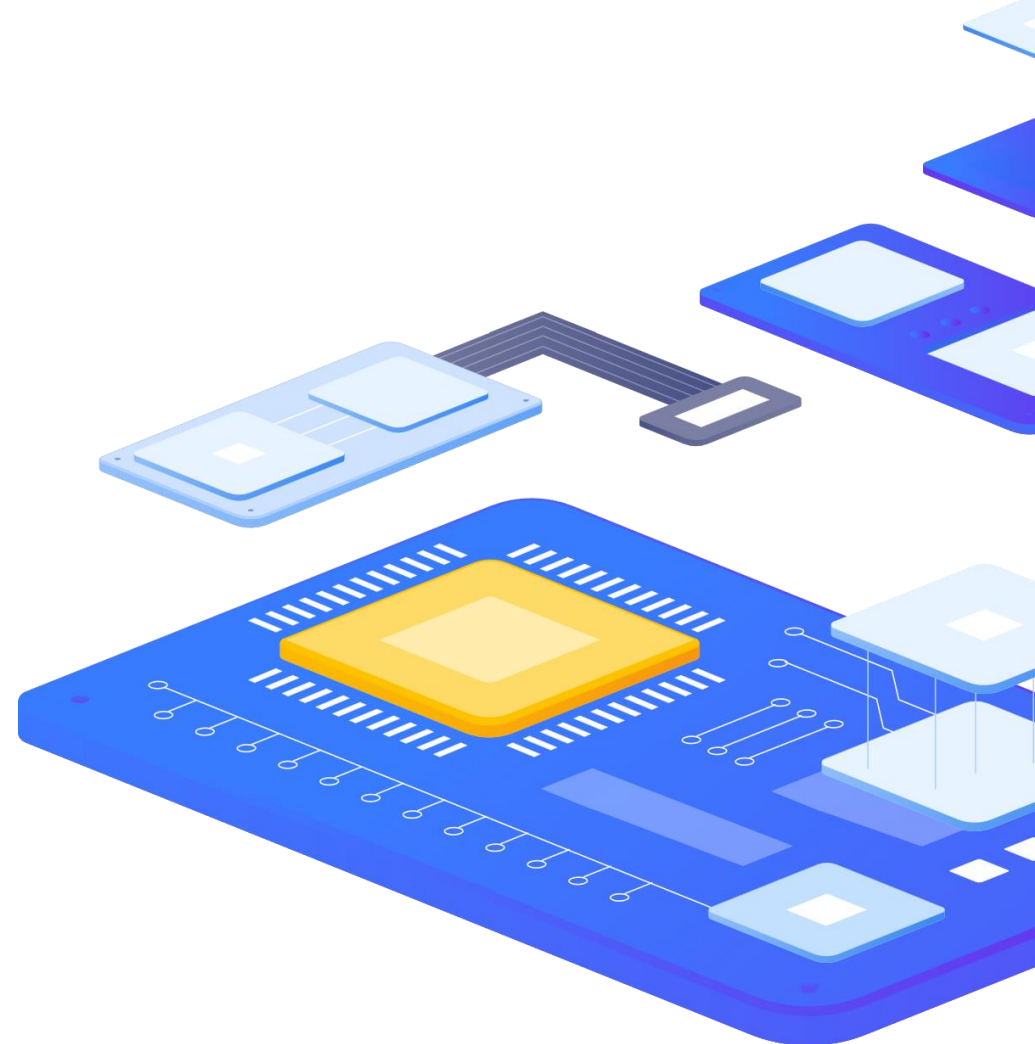
IPMI

- › Remote command execution using the IPMI protocol
- › Calls to hardware devices (iDrac, iLo, ..)



Cíl spuštění

- › Execute on:
 - › Zabbix agent
 - › Zabbix server (proxy)
 - › Zabbix server



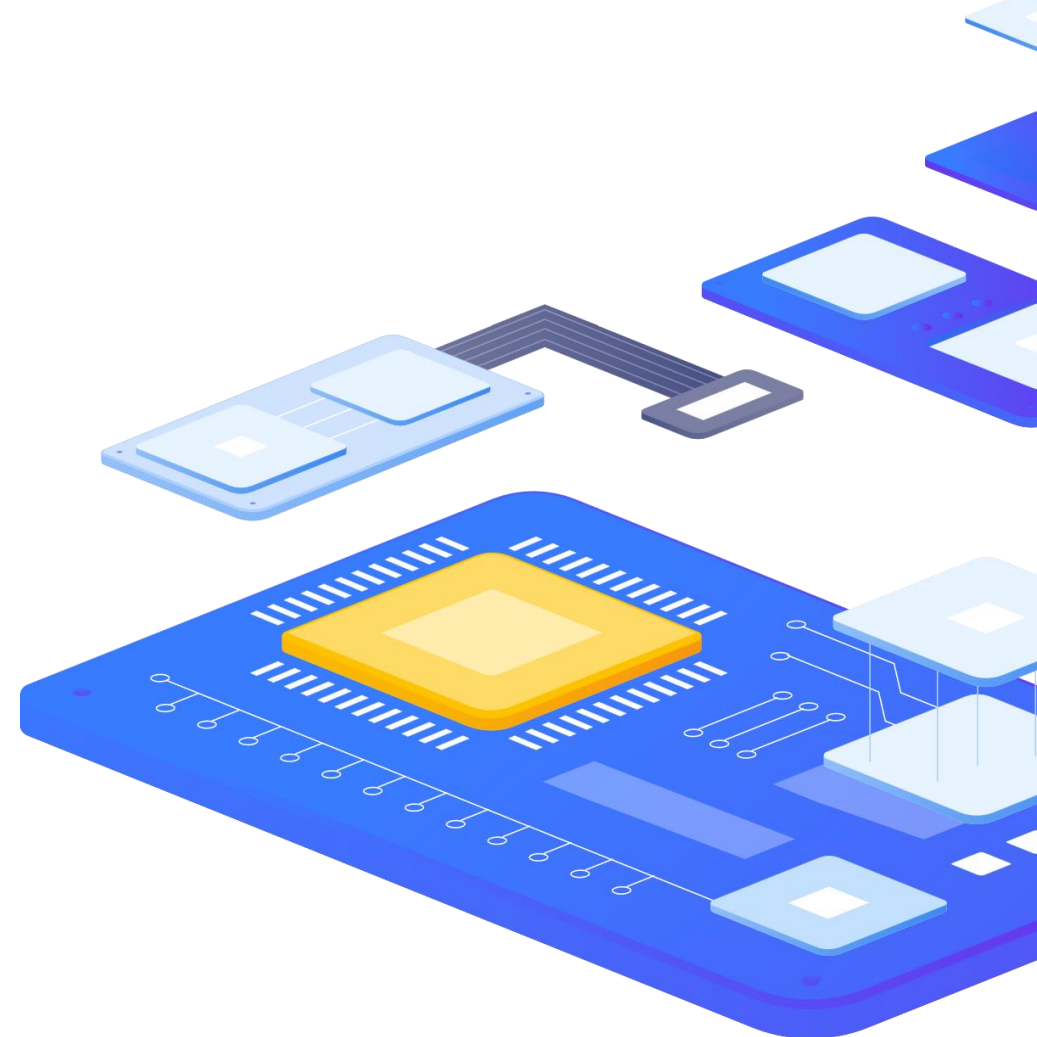
Zabbix agent configuration

ZABBIX version > 5.0

- › AllowKey=system.run[shutdown -r -t 0]
- › AllowKey =system.run[shutdown -r -t 0,*]
- › DenyKey =system.run[*]
- › wait / nowait type
 - › wait: manual Actions, Item checks
 - › nowait: Action operation
- › Examples:
 - › AllowKey = system.run[shutdown -r -t 0]
 - › AllowKey = system.run[shutdown -r -t 0,wait]
 - › AllowKey = system.run[shutdown -r -t 0,nowait]
 - › AllowKey = system.run[shutdown -r -t 0,*]
- › Agent user rights on system?

ZABBIX version < 5.0

- › EnableRemoteCommands



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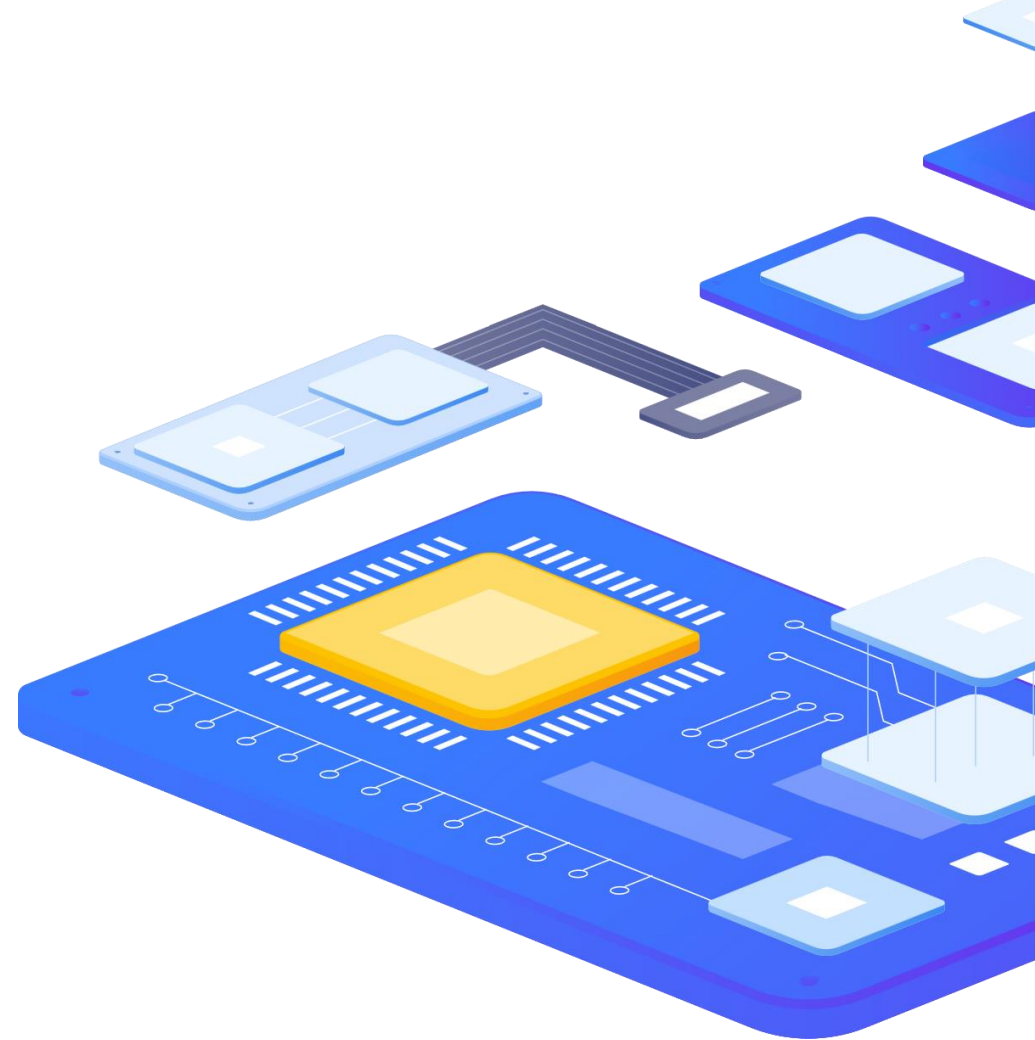
Scripts in Items and Script type preprocessing



Frontend Scripting

Item Scripts

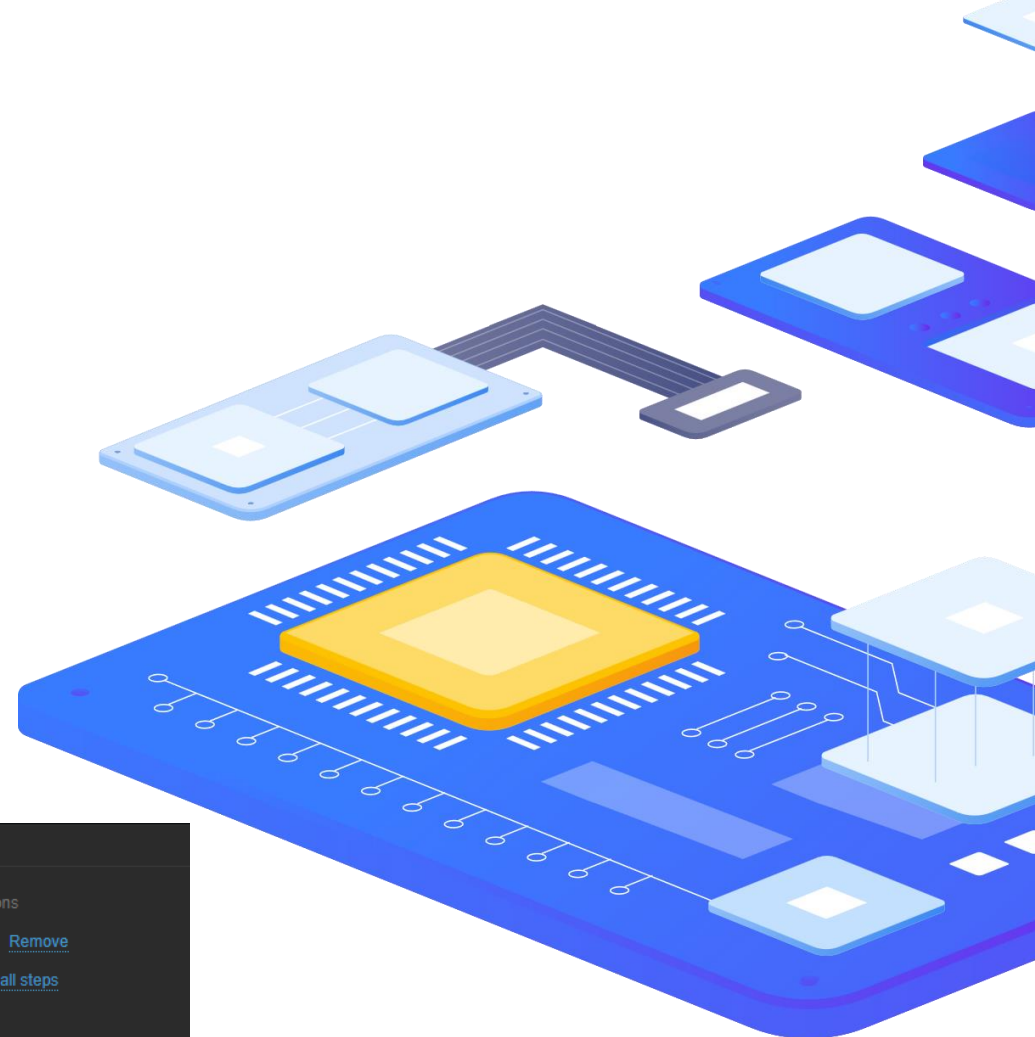
- › ZABBIX agent
- › SSH agent
- › telnet agent
- › IPMI agent
- › External check
- › Script



Preprocessing

Custom Script

- › Javascript



Item Tags Preprocessing 1

Preprocessing steps	Name	Parameters	Custom on fail	Actions
1:	JavaScript	// Program pro opravu DNS hostname...	<input type="checkbox"/>	Test Remove
Add Test all steps				
Type of information	Numeric (unsigned)			
Add Test Cancel				

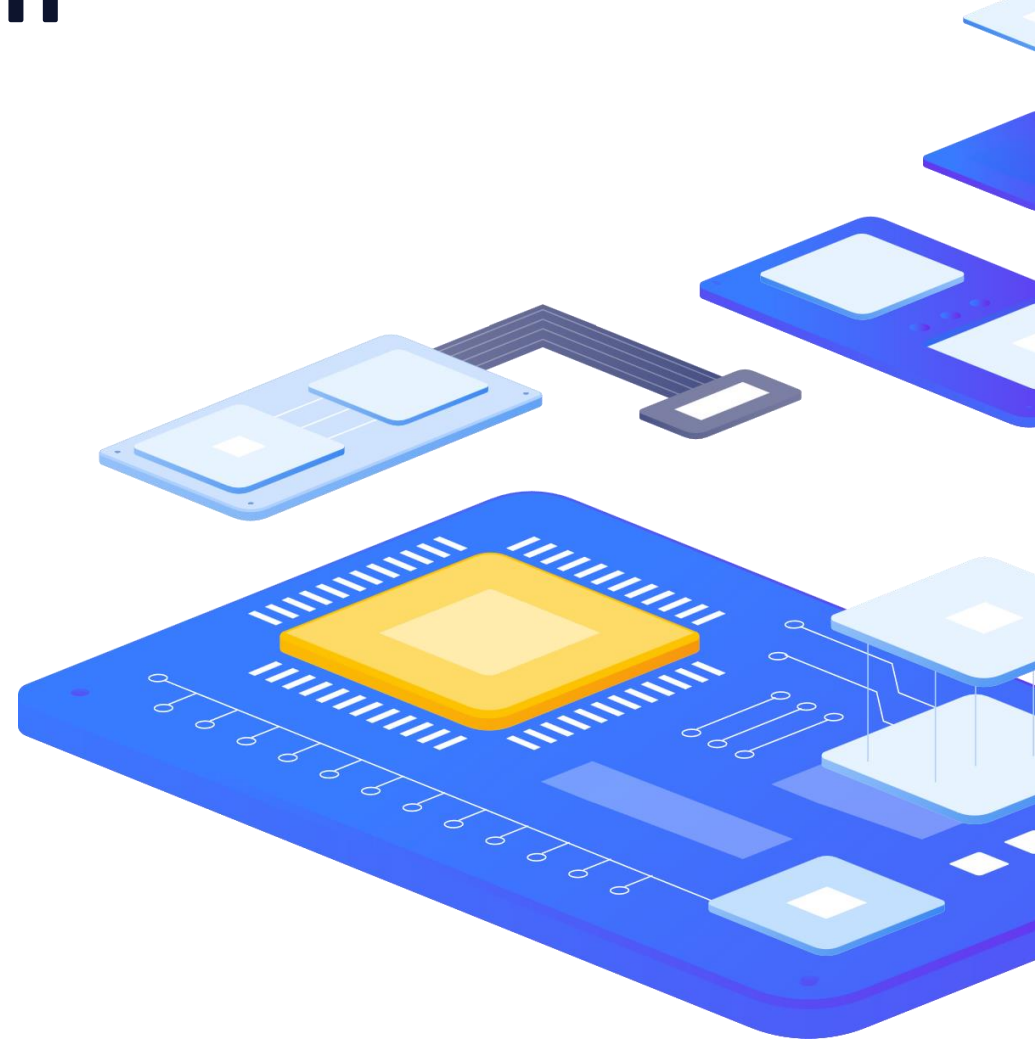
4

Ukázky



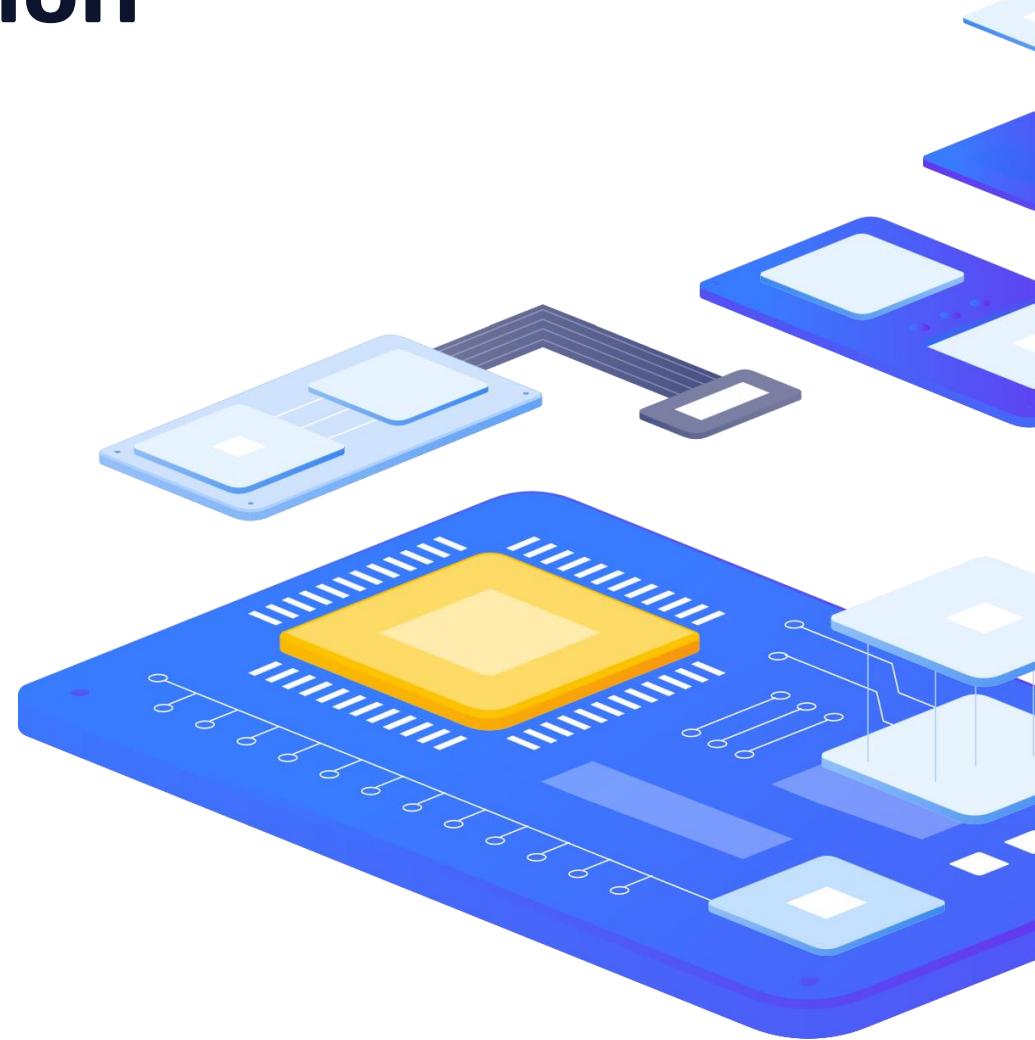
Example 1 - Manual Host action

- › Problem:
 - › Manually start and stop httpd service
- › Solution:
 - › Create Host script – stop httpd service
 - › Create Host script – start httpd service



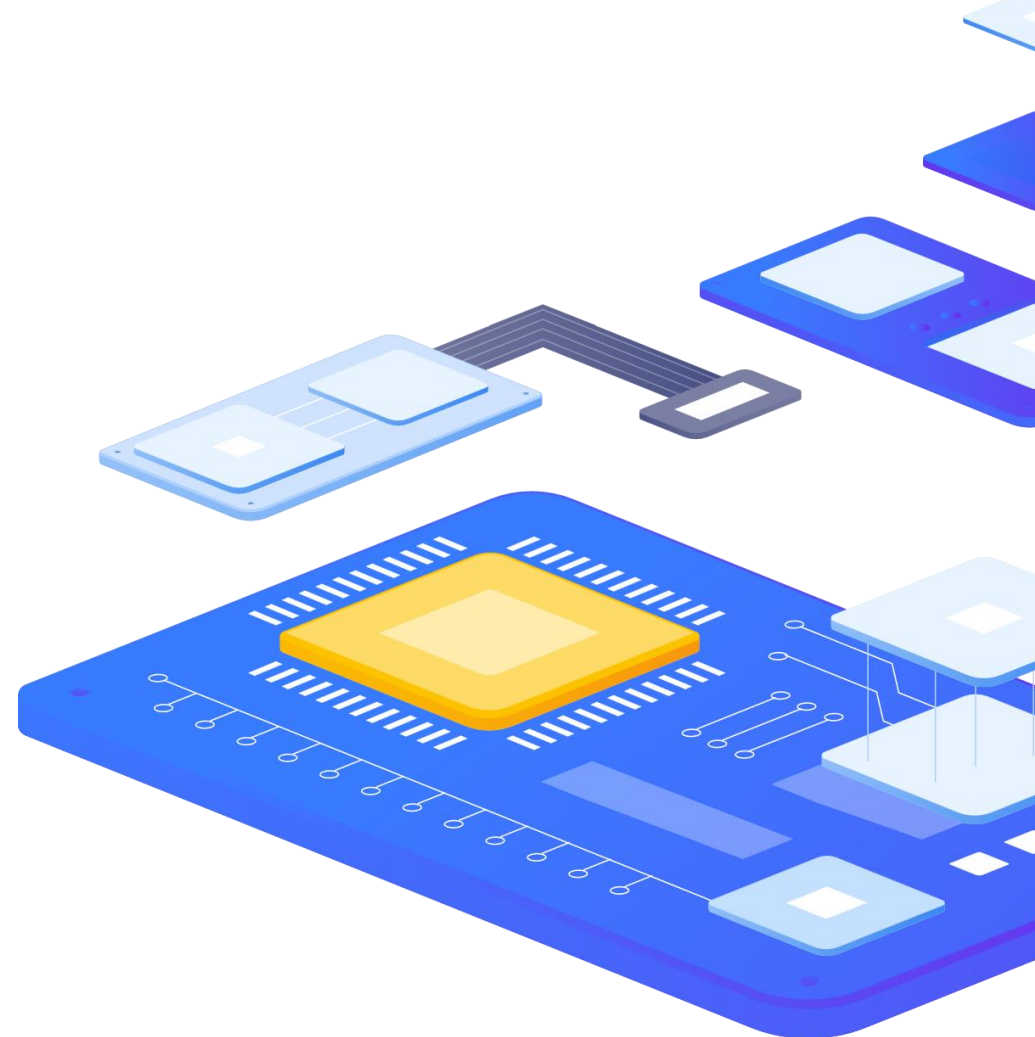
Example 2 – Manual Event action

- › Problem:
 - › Manually start powered off workstation
- › Solution:
 - › Create Event script – Wake on LAN



Example 3 – Action operation

- › Problem:
 - › Automatically start stopped service
- › Solution:
 - › Create Trigger - Httpd service not running
 - › Create Action - Execute script
 - › Create Script - Start service



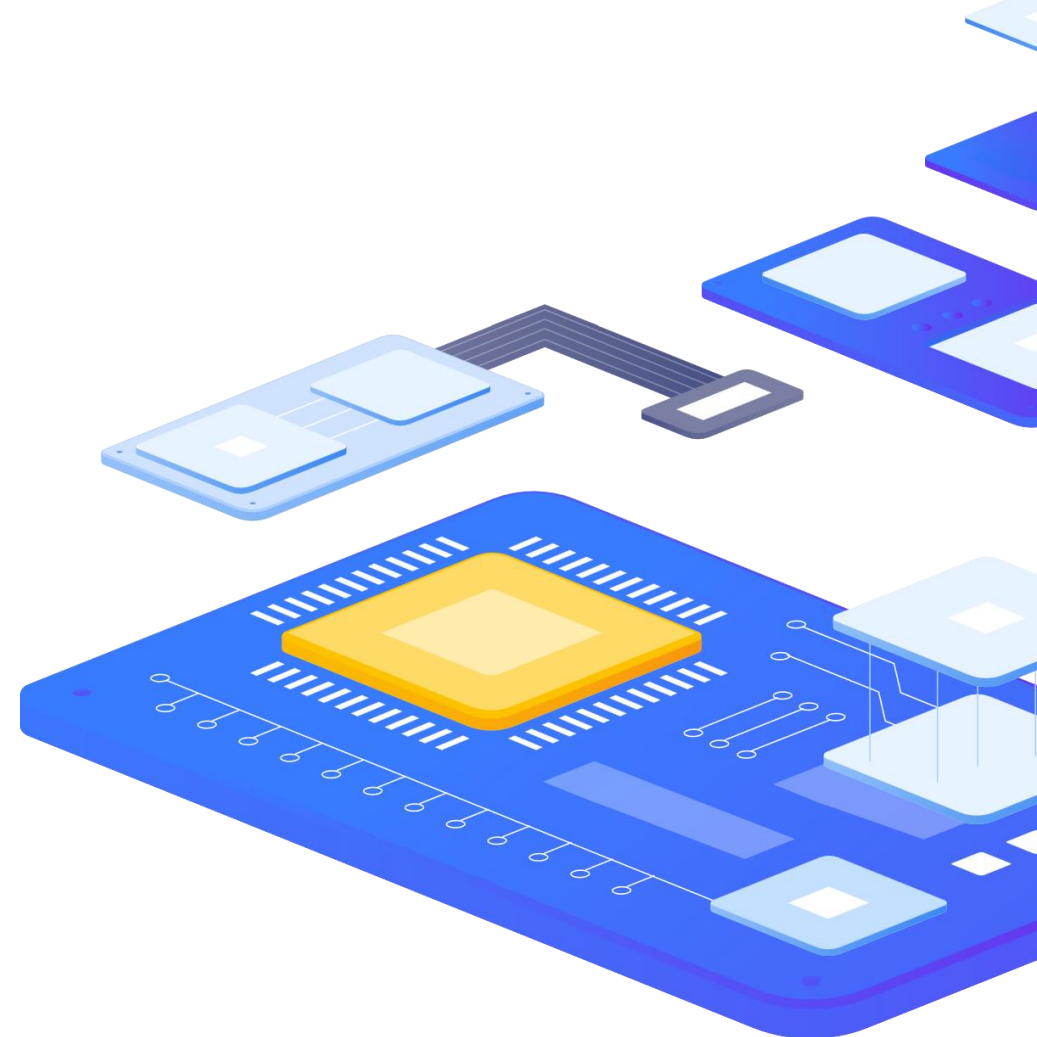
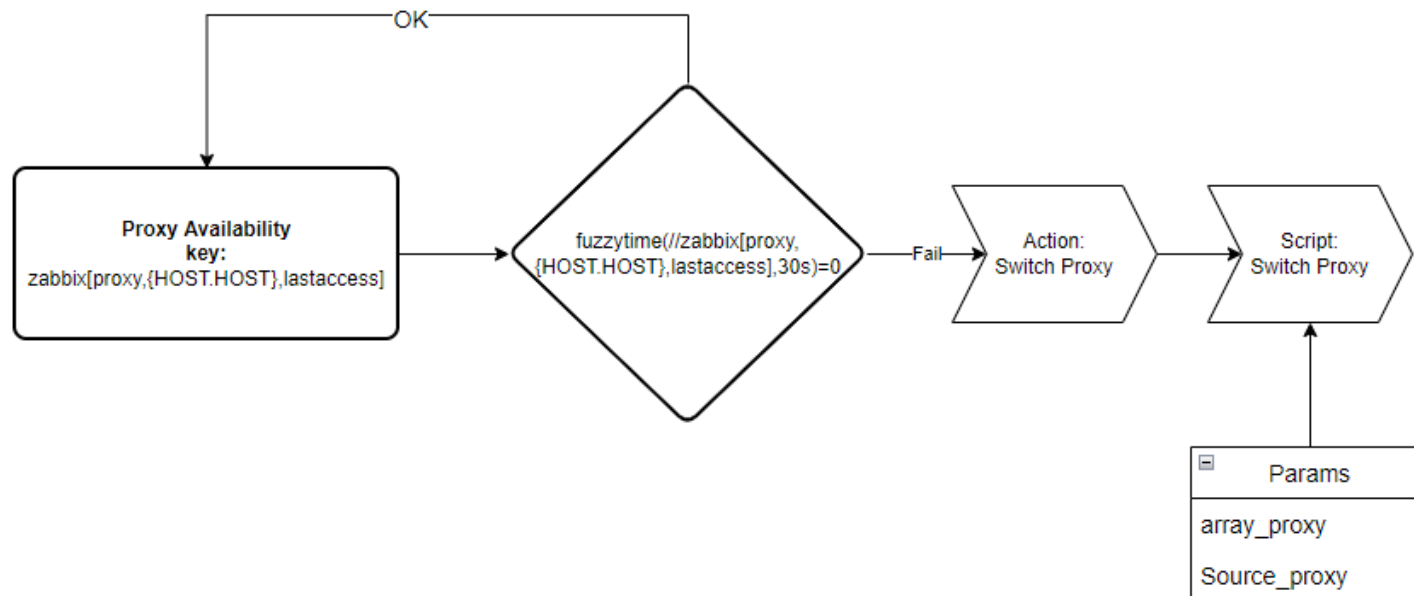
Example 4 – DNS HOST Name settings

- › Problem:
 - › Agent autoregistration changes Workstation interface settings
 - › Dynamic ipaddresses
- › Solution:
 - › Change host interface setting based on hostname



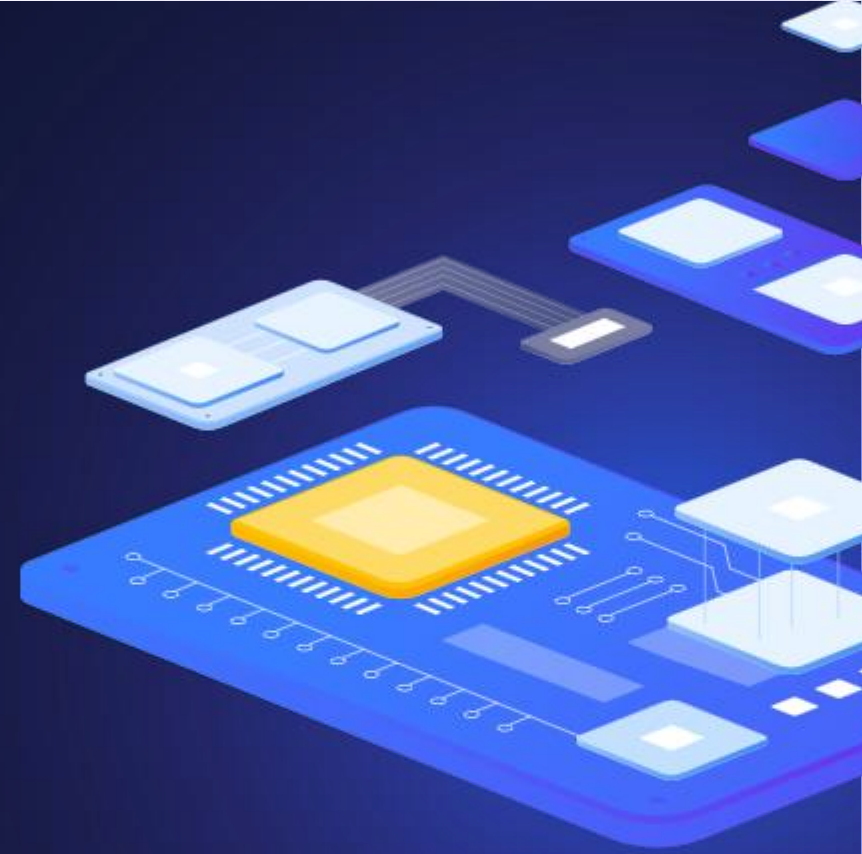
Example 5 – Proxy failover

- › Problem:
 - › HA for ZABBIX proxy needed by customer for SNMP devices
- › Solution:
 - › Use two ZABBIX proxies as „Cluster“
 - › Script for Failover based on availability of proxy





Questions?



Why You Need Monitoring

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