



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

- › Alerts -> scripts
- › Since ZABBIX version 6.4

Frontend Scripting

initMAX LAB
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"/>	AB Add host to hostgroup	Action operation	AB ad to maintenance	Webhook			All	All	Read
<input type="checkbox"/>	AB Add host to hostgroup 2	Action operation	AB ad to maintenance	Webhook			All	All	Read
<input type="checkbox"/>	change Macro	Action operation	makro set	Webhook			All	All	Read
<input type="checkbox"/>	Close Event Script	Action operation		Script	Server	<pre>url=\${ZABBIX_WEB_URL_API} auth=\${API.KEY} # acknowledge and close event curl -sk -X POST -H "Content-Type: application/json" -d " { \"jsonrpc\": \"2.0\", \"method\": \"event.acknowledge\", \"params\": { \"eventid\": \"{EVENT.ID}\", \"action\": 1, \"message\": \"Problem auto-resolved.\" }, \"auth\": \"\${auth}\", \"id\": 1 }\" \$url</pre>	All	All	Read
<input type="checkbox"/>	Close Event webhook	Action operation	Close EventLog Problems , close master , O2 - posun makra SNMP	Webhook			All	All	Read

- LAB
-
- Dashboards
- Monitoring
- Services
- Inventory
- Reports
- Data collection
- Alerts
 - Actions
 - Media types
 - Scripts
- Users
- Administration

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}	<ul style="list-style-type: none">→ 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
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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.ID}	<ul style="list-style-type: none">→ Trigger-based notifications and commands→ Problem update notifications and commands→ Internal notifications→ Map element labels, map URL names and values→ URL field of dynamic URL dashboard widget→ Trigger URLs→ Tag names and values→ Manual event action scripts→ Manual host action scripts (only for type URL, including confirmation text)→ Manual event action scripts (only for type URL, including confirmation text)→ Description of <i>Item value</i> and <i>Gauge</i> widget
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Manual Action restriction

- ▶ Selected Host Groups
- ▶ Selected User Group

Host group

User group

Required host permissions Read Write

Confirmation – 6.x

- › Safety confirmafion dialog

Enable confirmation

Confirmation text

Zabbix 7.0 – Advanced Configuration

- › User input
 - › String
 - › Dropdown
- › Input validation rule
- › Safety confirmation dialog

Advanced configuration

Enable user input

* Input prompt

Input type String Dropdown

Default input string

* Input validation rule

Enable confirmation

* Confirmation text

Advanced configuration

Enable user input

* Input prompt

Input type String Dropdown

* Dropdown options

Enable confirmation

Confirmation text

2

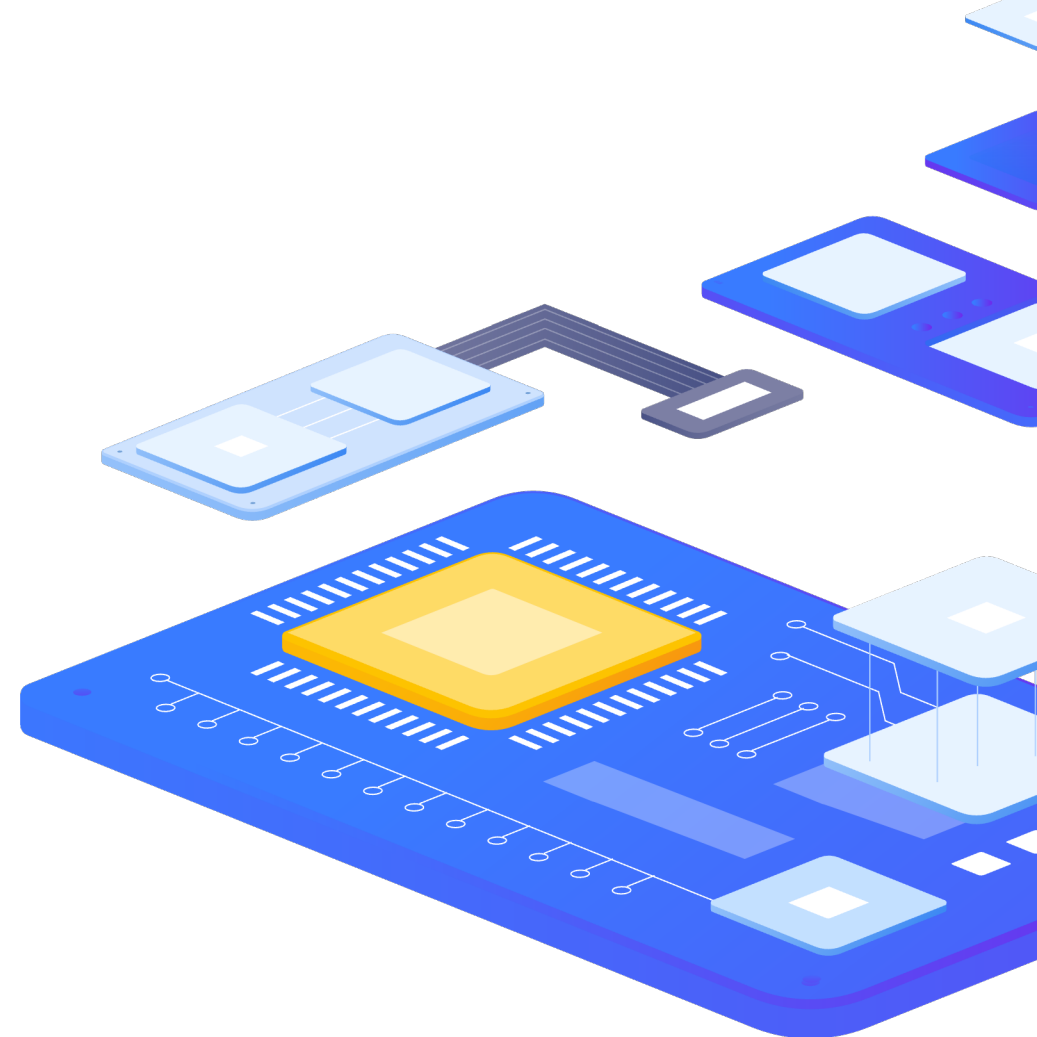
Typy skriptů



Frontend Scripting

Webhook

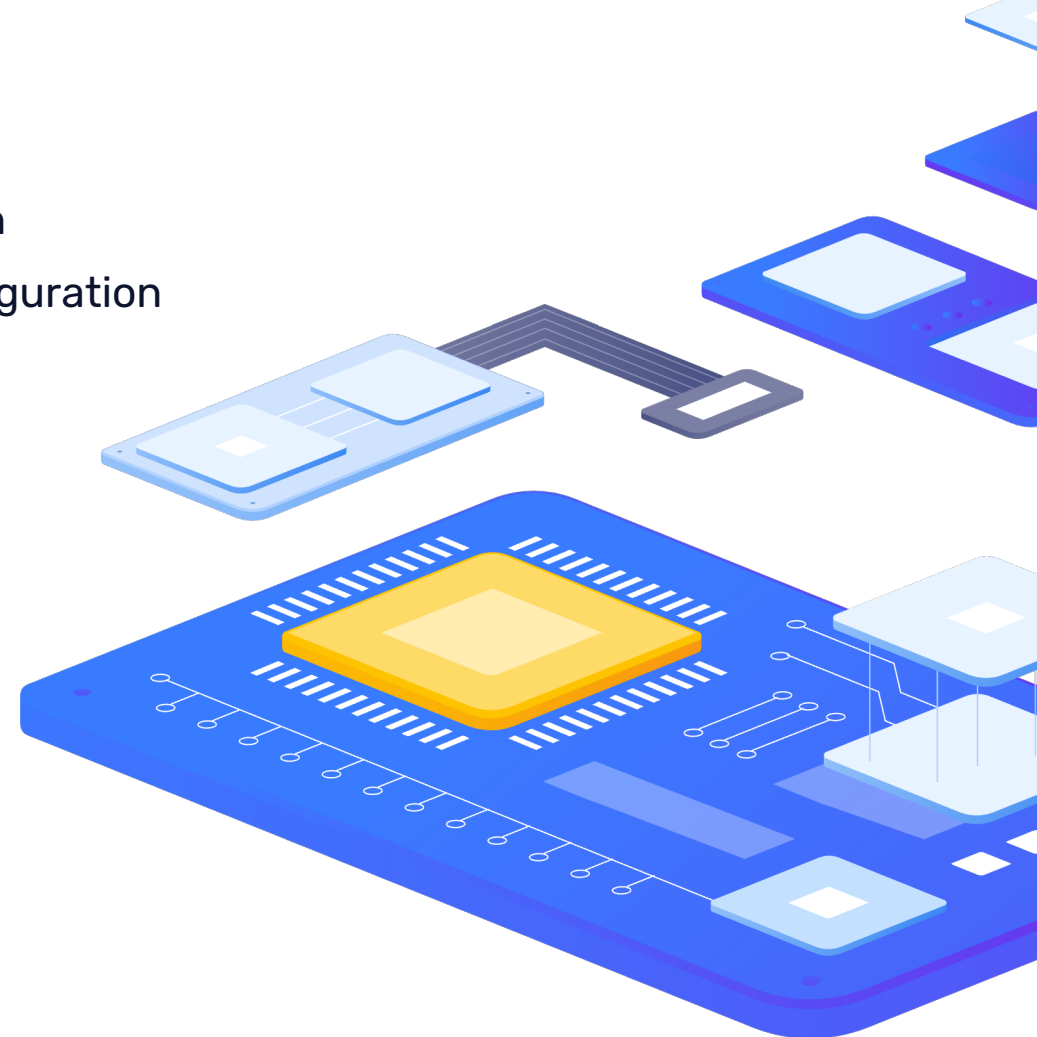
- › Running on Zabbix Server
- › Javascript
 - › XMLHttpRequest()
- › Targets:
 - › Communication with external systems:
 - › Ticketing systems (Jira, request Tracker, OTRS, ...)
 - › Automatization (AWX, ansible)
 - › Inventory systems (CMDB)
 - › ZABBIX server callback



Frontend Scripting

Script

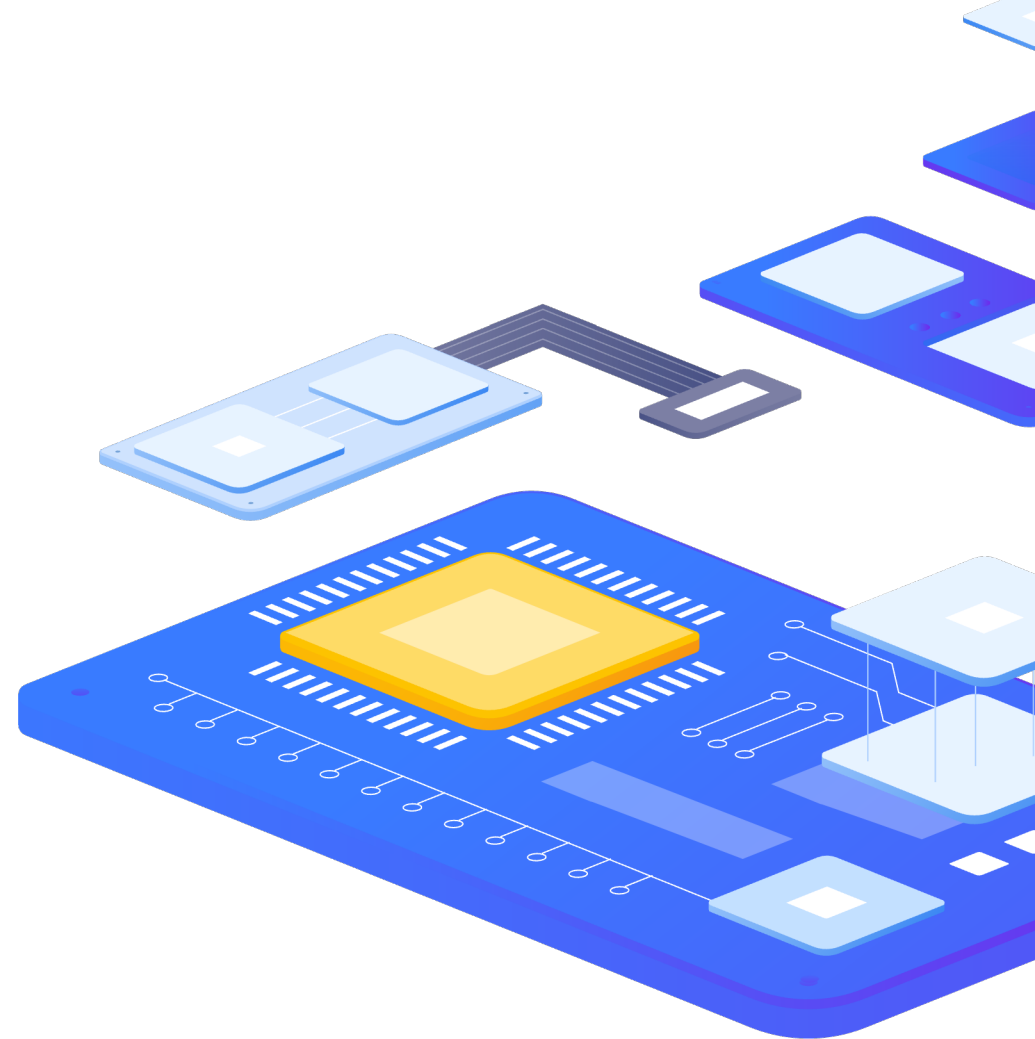
- › Run on server, proxy or agent
- › adding an `AllowKey=system.run[*]` parameter in agent configuration
- › setting the `EnableRemoteCommands` parameter to '1' in proxy configuration
- › Target systems:
 - › Linux - bash script or command
 - › Windows - cmd command or script
- › wait / nowait status



Frontend Scripting

SSH / Telnet

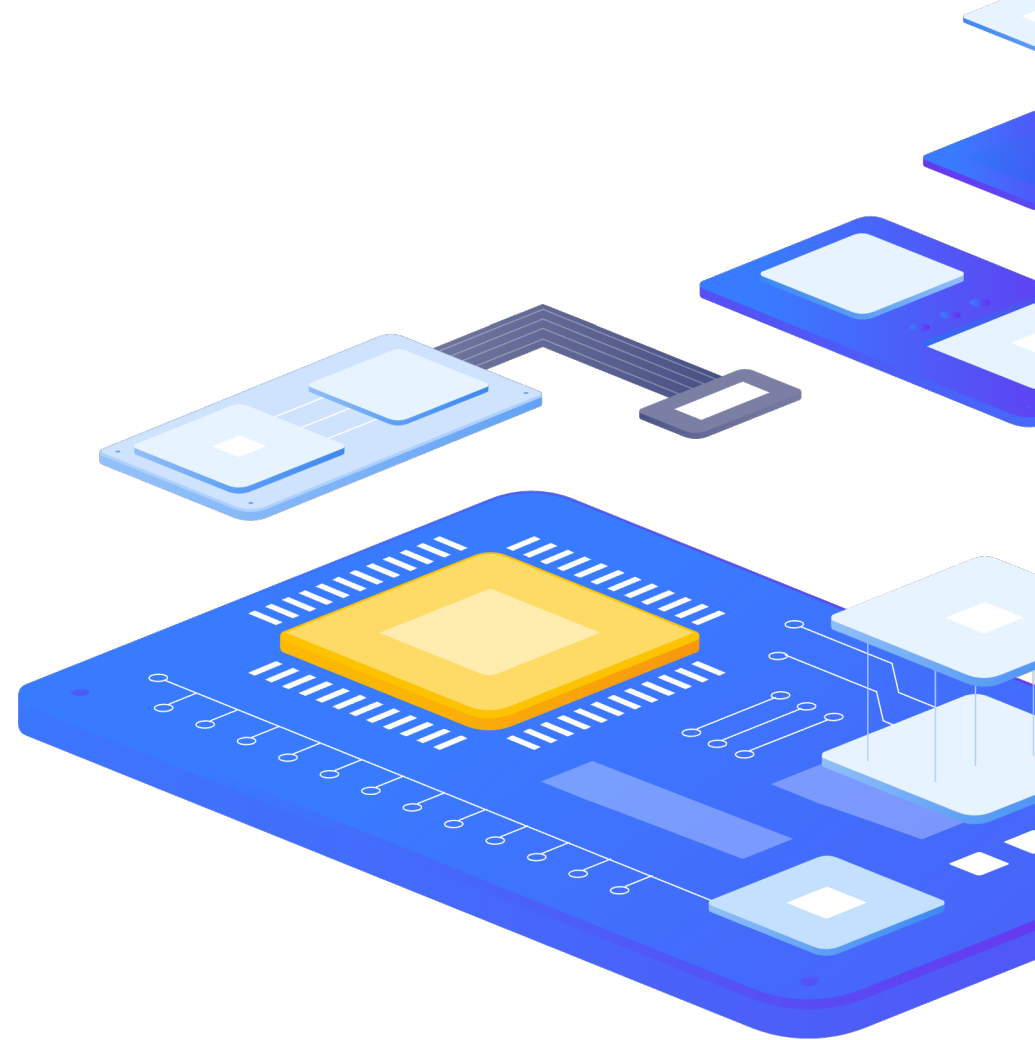
- › Remote command execution using the ssh protocol
- › Password or key based authentication
- › Calls to devices without zabbix agents (switches, disk arrays, ...)



Frontend Scripting

IPMI

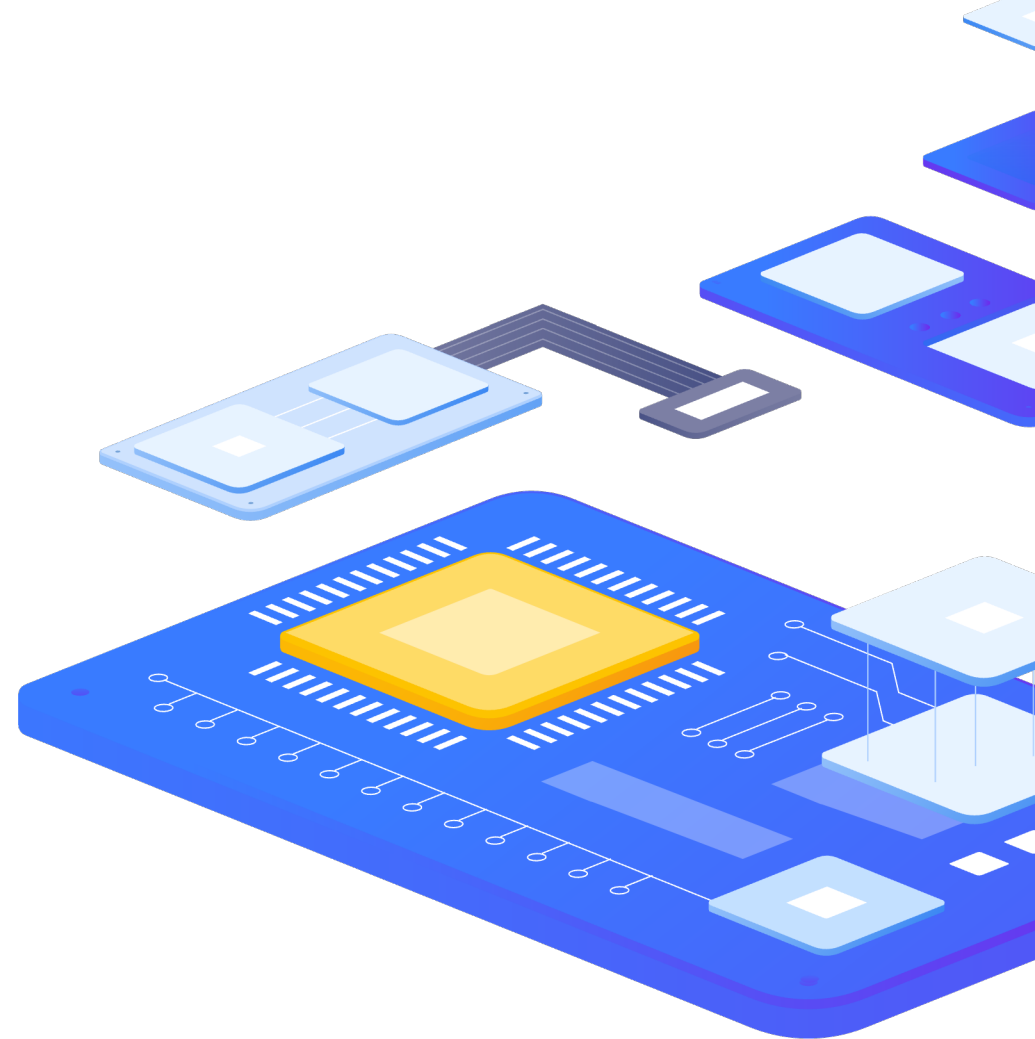
- › Remote command execution using the IPMI protocol
- › Calls to hardware devices (iDrac, iLo, ..)



Frontend Scripting

Script Execution Target

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



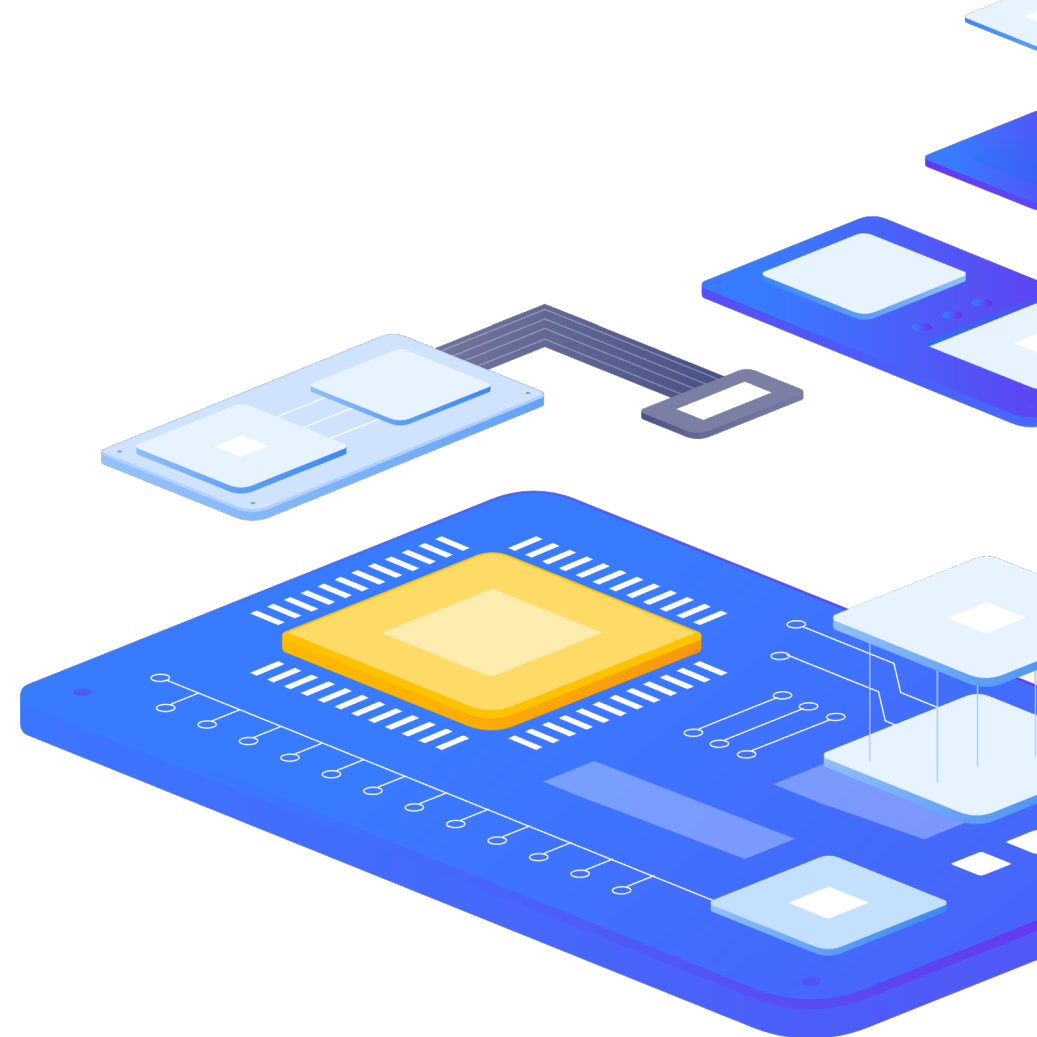
Zabbix agent configuration

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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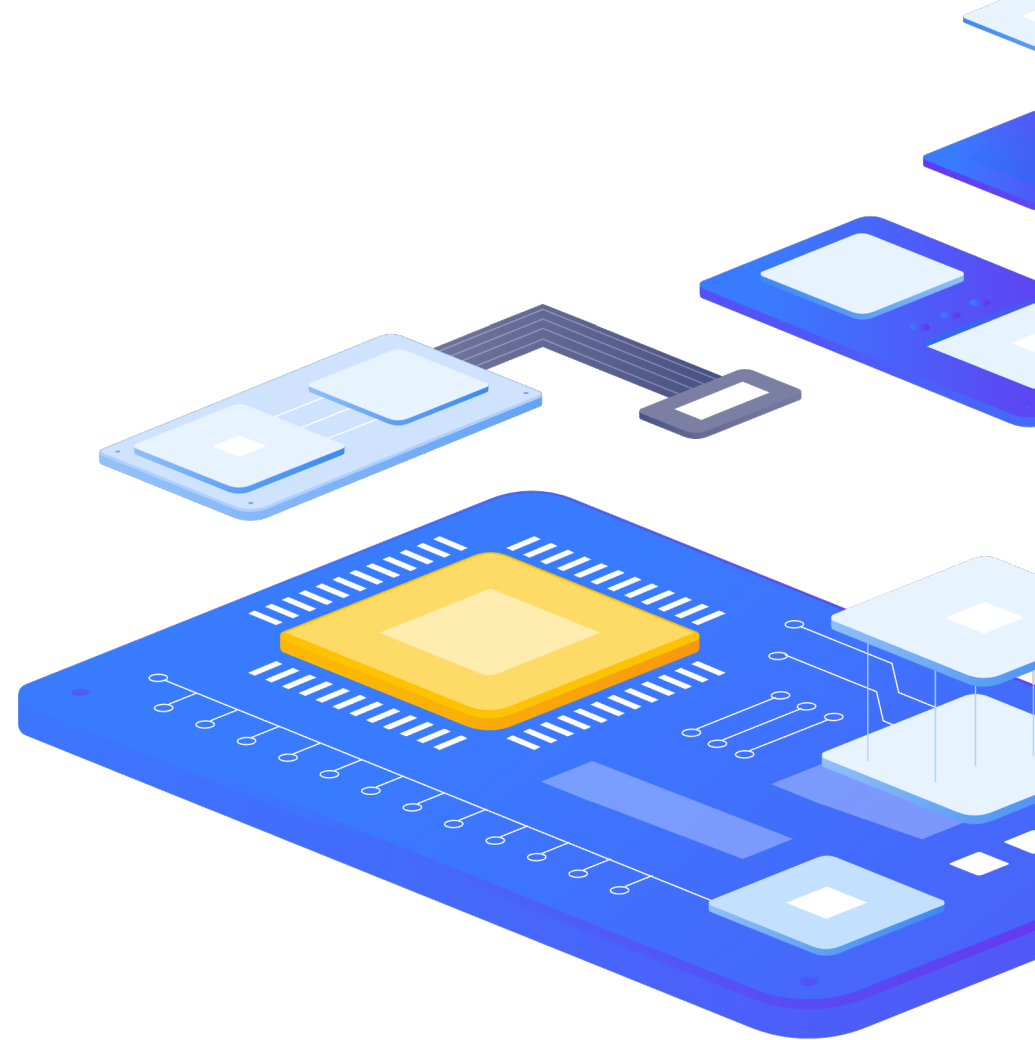
Scripts in Items and Script type preprocessing



Frontend Scripting

Item Scripts

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



Preprocessing

Custom Script

› Javascript

Item	Tags	Preprocessing 1																									
		<table border="1"><thead><tr><th>Preprocessing steps</th><th>Name</th><th>Parameters</th><th>Custom on fail</th><th>Actions</th></tr></thead><tbody><tr><td>1:</td><td>JavaScript</td><td>//convert values from API server...</td><td><input type="checkbox"/></td><td>Test Remove</td></tr><tr><td colspan="5">Add</td></tr><tr><td>Type of information</td><td>Text</td><td colspan="3"></td></tr><tr><td colspan="5">Update Clone Test Delete Cancel</td></tr></tbody></table>	Preprocessing steps	Name	Parameters	Custom on fail	Actions	1:	JavaScript	//convert values from API server...	<input type="checkbox"/>	Test Remove	Add					Type of information	Text				Update Clone Test Delete Cancel				
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4

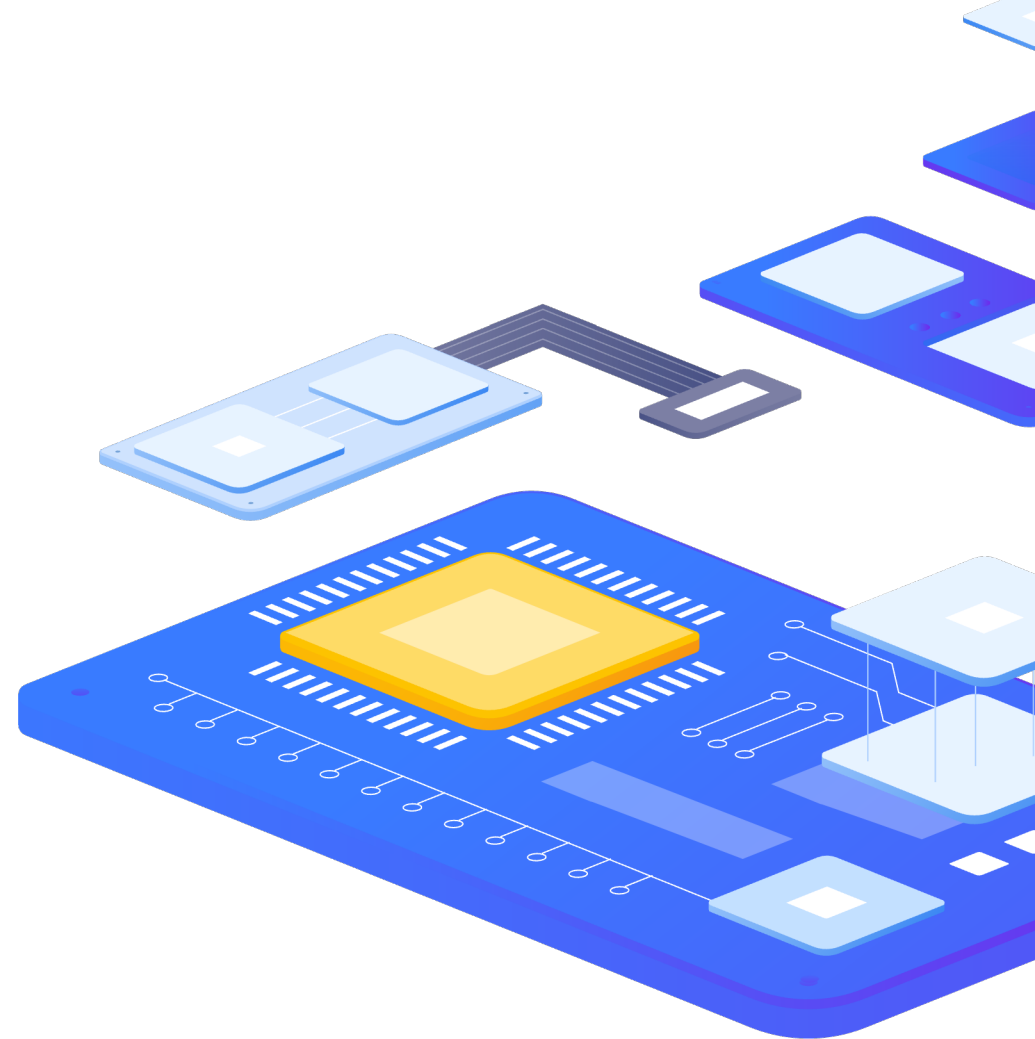
Ukázky



Frontend Scripting

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

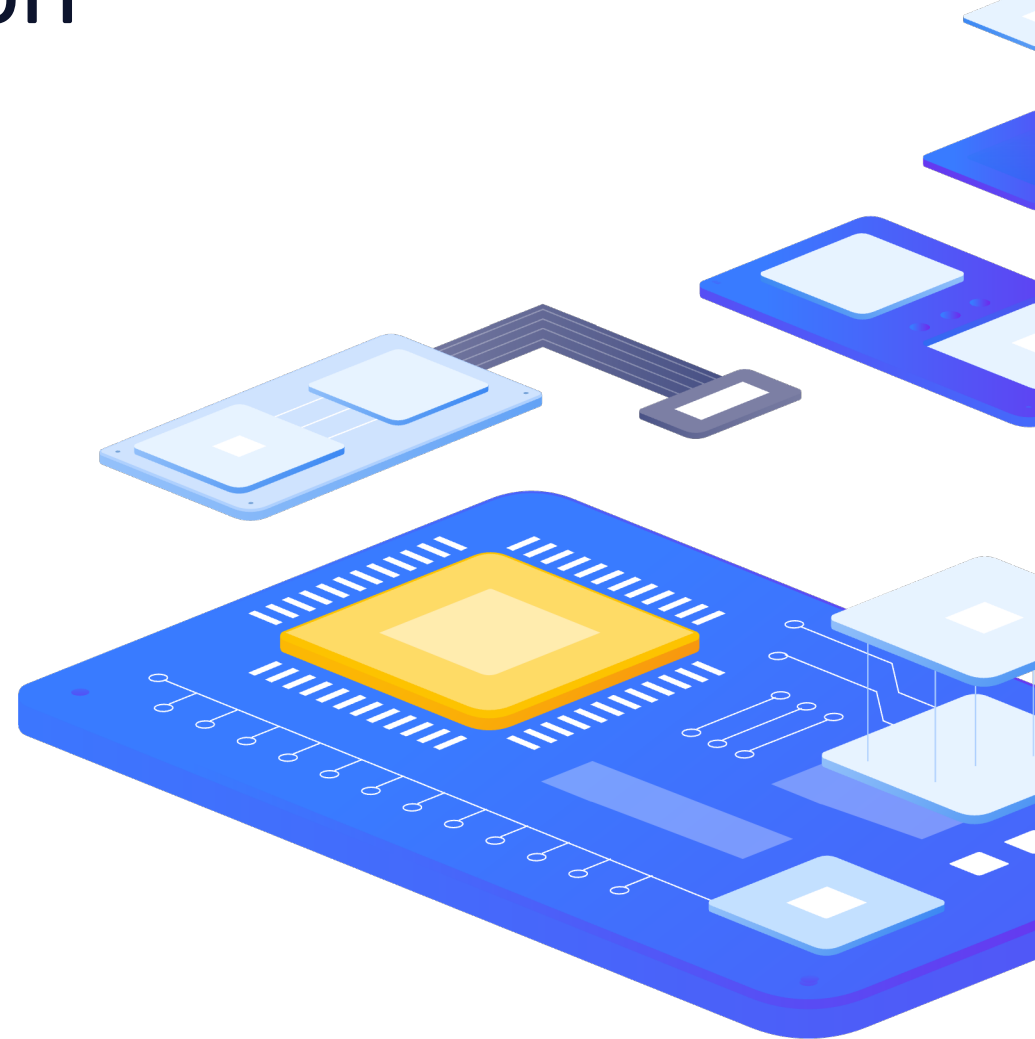


Frontend Scripting

Example 2 – Manual Event action

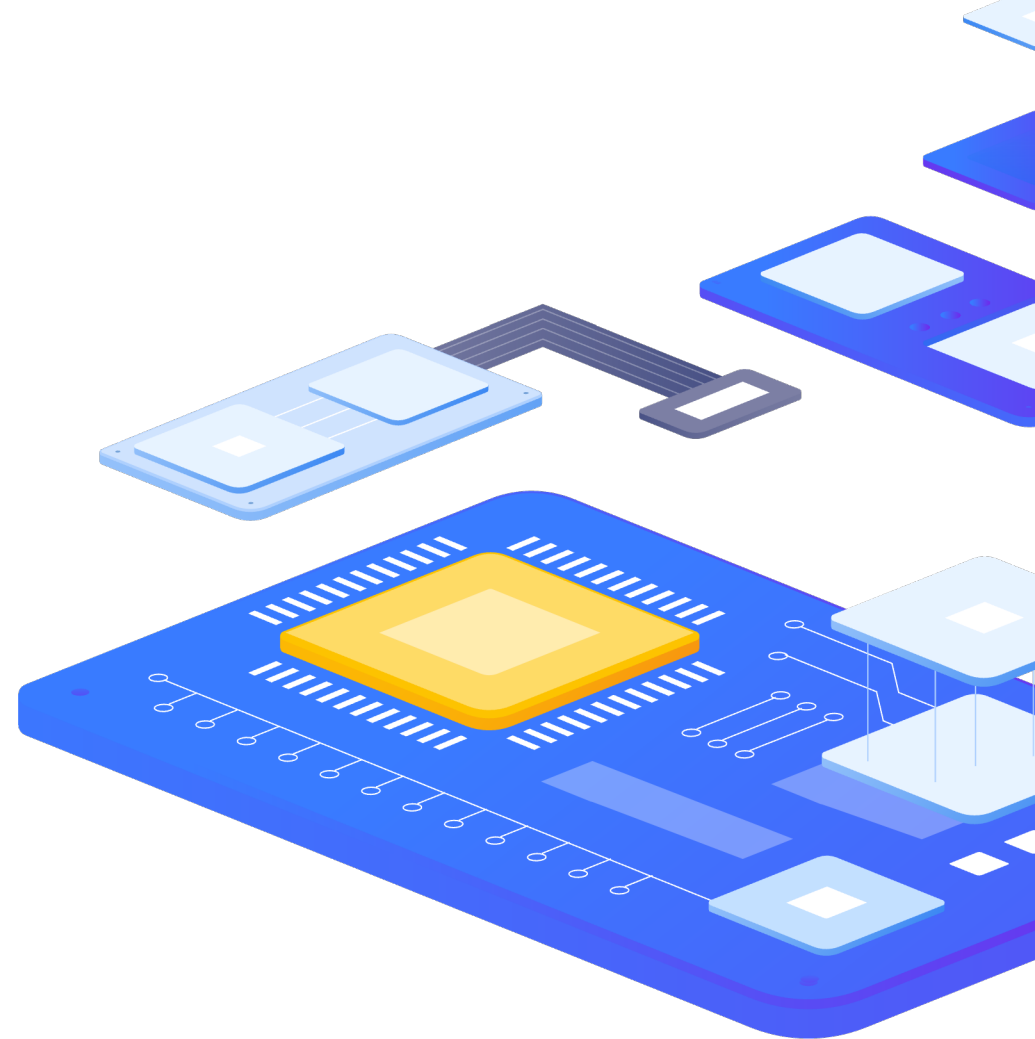
- › Problem:
 - › Manually create Ticket pro problem
- › Solution:
 - › Create Event script – Webhook

- › 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



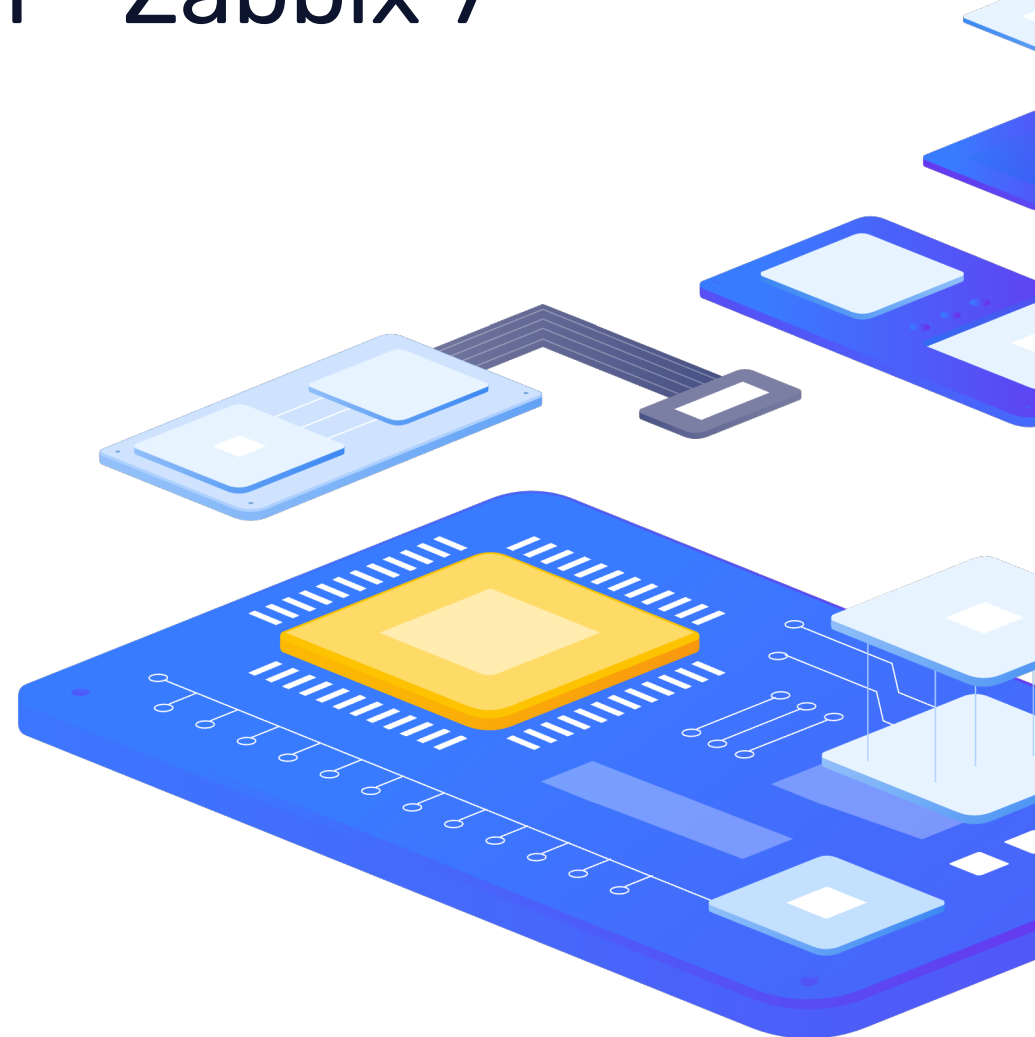
Example 4 – DNS HOST Name settings

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



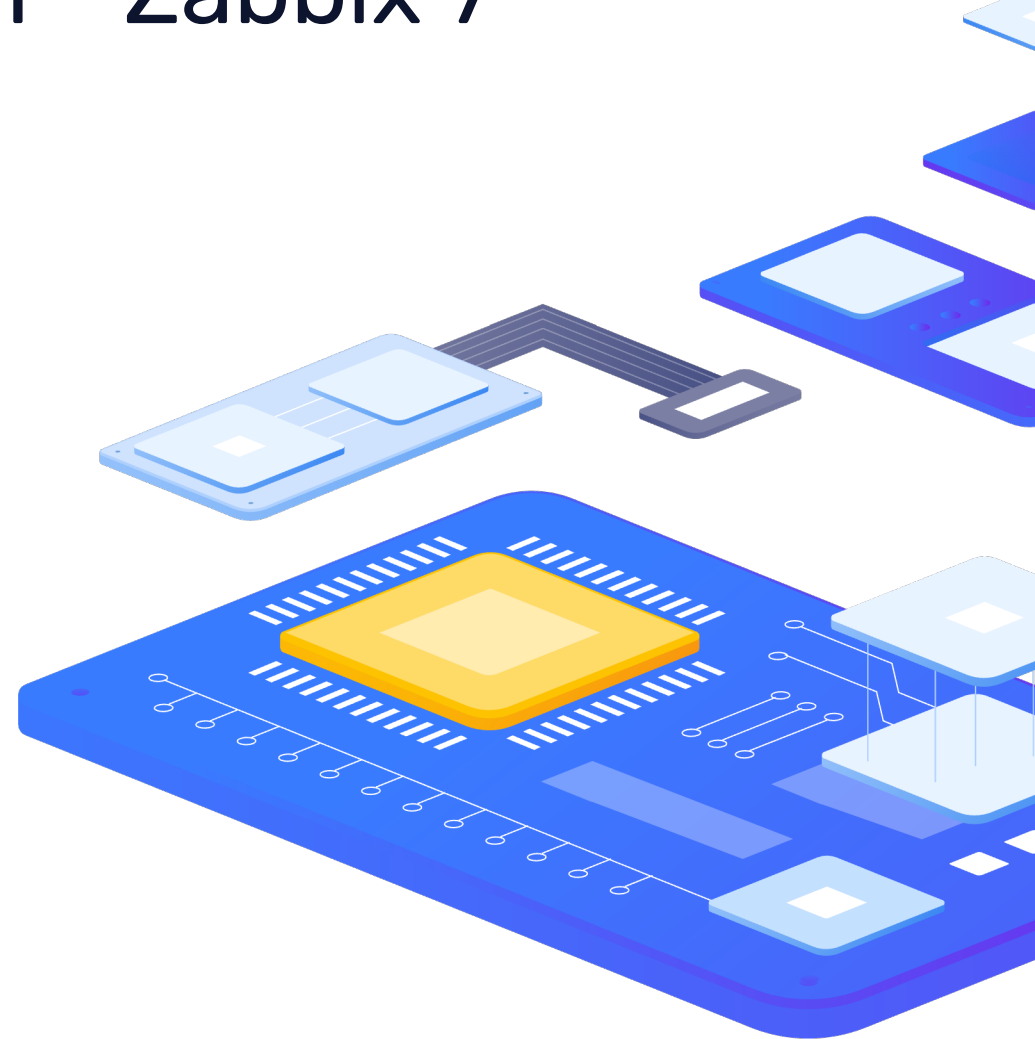
Example 5 – Manual Host action - Zabbix 7

- › Problem:
 - › Allow to restart list of services
- › Solution:
 - › Agent script with dropdown menu



Example 6 – Manual Host action - Zabbix 7

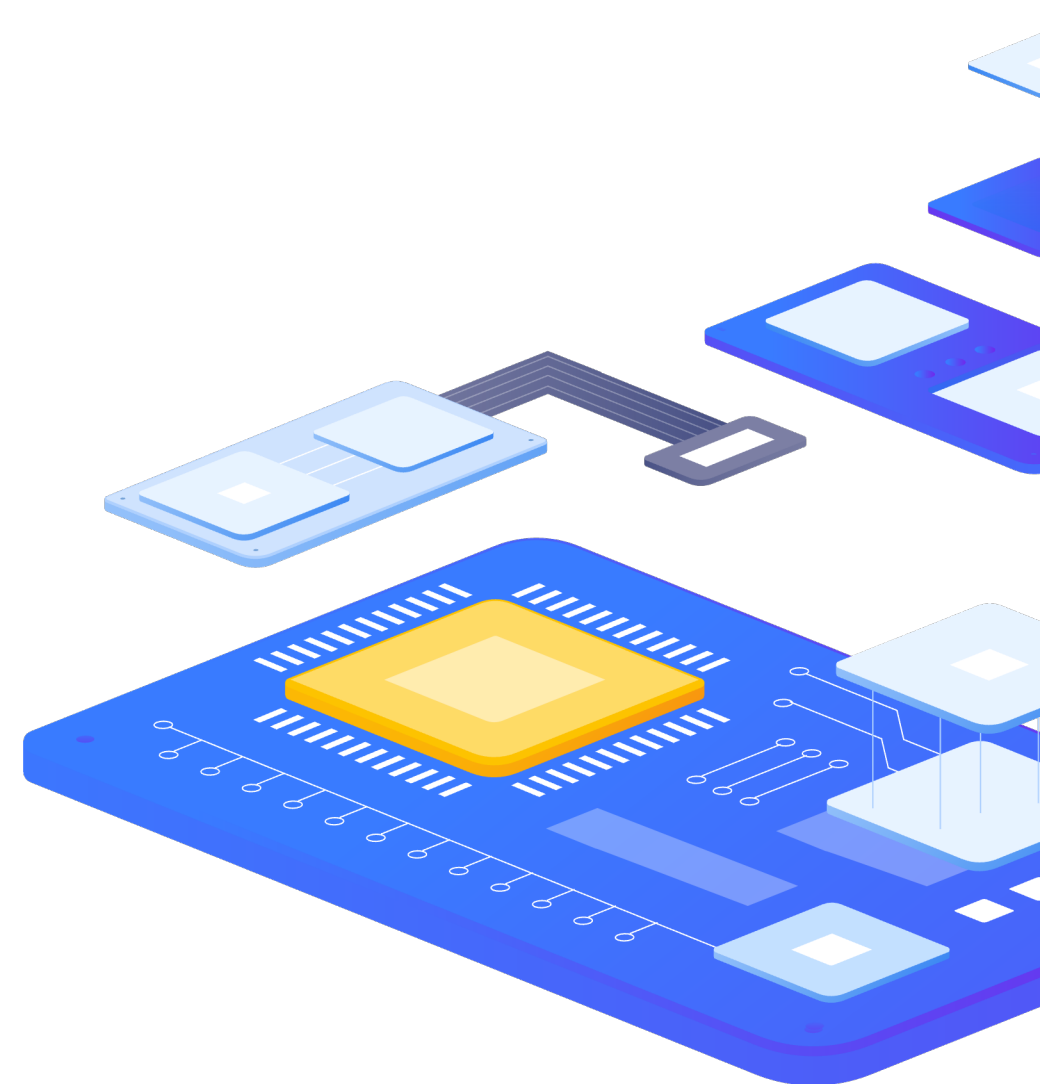
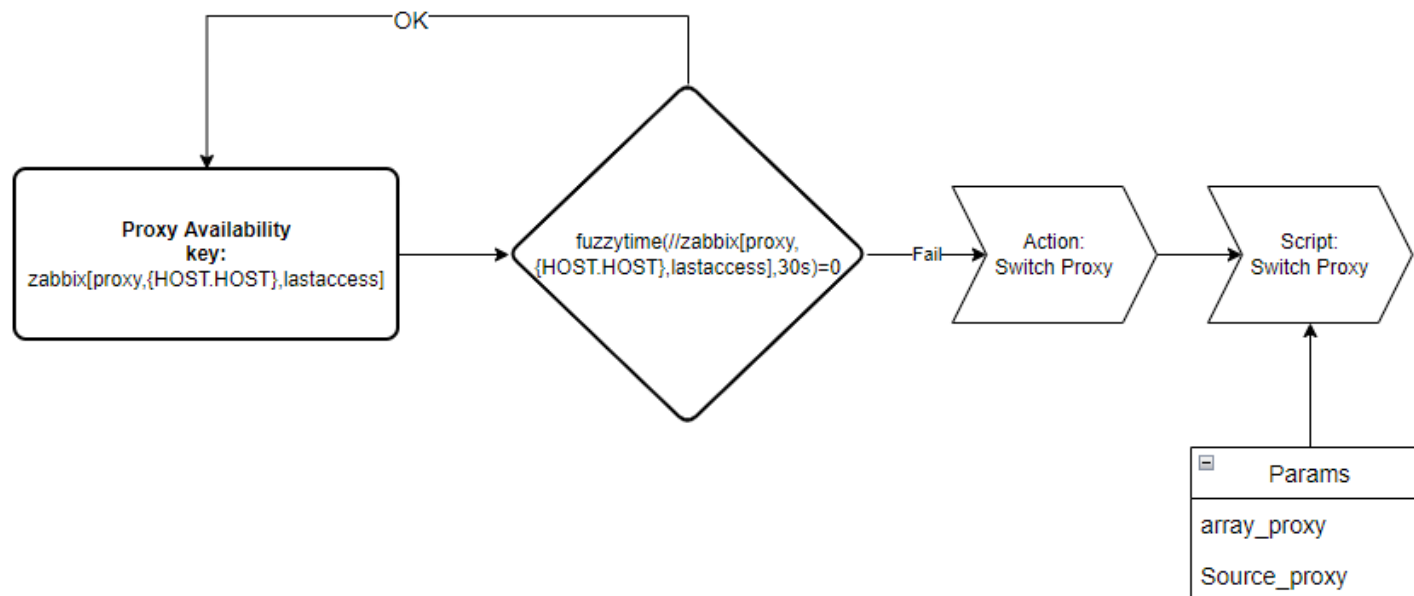
- › Problem:
 - › Manual data input
- › Solution:
 - › Webhook script with API call `history.push`



Frontend Scripting

Example 7 – 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?



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