

2 Remote commands

Overview

With remote commands you can define that a certain pre-defined command is automatically executed on the monitored host upon some condition.

Thus remote commands are a powerful mechanism for smart pro-active monitoring.

In the most obvious uses of the feature you can try to:

- Automatically restart some application (web server, middleware, CRM) if it does not respond
- Use IPMI 'reboot' command to reboot some remote server if it does not answer requests
- Automatically free disk space (removing older files, cleaning /tmp) if running out of disk space
- Migrate a VM from one physical box to another depending on the CPU load
- Add new nodes to a cloud environment upon insufficient CPU (disk, memory, whatever) resources

Configuring an action for remote commands is similar to that for sending a message, the only difference being that Zabbix will execute a command instead of sending a message.

Remote commands can be executed by Zabbix server, proxy or agent. Remote commands on Zabbix agent can be executed directly by Zabbix server or through Zabbix proxy. Both on Zabbix agent and Zabbix proxy remote commands are disabled by default. They can be enabled by setting the `EnableRemoteCommands` parameter to '1'.

Remote commands executed by Zabbix server are run as described in [Command execution](#) including exit code checking.

Remote commands are executed even if the target host is in maintenance.

Remote command limit

Remote command limit after resolving all macros depends on the type of database and character set (non- ASCII characters require more than one byte to be stored):

<i>Database</i>	<i>Limit in characters</i>	<i>Limit in bytes</i>
MySQL	65535	65535
Oracle Database	2048	4000
PostgreSQL	65535	not limited
IBM DB2	2048	2048
SQLite (only Zabbix proxy)	65535	not limited

The following tutorial provides step-by-step instructions on how to set up remote commands.

Configuration

Those remote commands that are executed on Zabbix agent (custom scripts) must be first enabled in the respective [zabbix_agentd.conf](#).

Make sure that the **EnableRemoteCommands** parameter is set to **1** and uncommented. Restart agent daemon if changing this parameter.

Remote commands do not work with active Zabbix agents.

Then, when configuring a new action in *Configuration* → *Actions*:

- Define the appropriate conditions. In this example, set that the action is activated upon any disaster problems with one of Apache applications:

The screenshot shows the Zabbix web interface for configuring an action. The 'Actions' tab is active, and the configuration is for an action named 'Serious problem with Apache'. The 'Type of calculation' is set to 'And/Or'. The 'Conditions' section is expanded, showing three conditions: 'A: Problem is not suppressed', 'B: Application contains Apache', and 'C: Trigger severity is greater than or equals Disaster'. The 'Name' field is marked with a red asterisk, indicating it is mandatory.

All mandatory input fields are marked with a red asterisk.

- In the *Operations* tab, select the **Remote command** operation type
- Select the remote command type (IPMI, Custom script, SSH, Telnet, Global script)
- If *Custom script* type is selected choose the way how custom script will be executed (by Zabbix agent, Zabbix server (proxy) or Zabbix server only)
- Enter the remote command

For example:

```
sudo /etc/init.d/apache restart
```

In this case, Zabbix will try to restart an Apache process. With this command, make sure that the command is executed on Zabbix agent (click the *Zabbix agent* button against *Execute on*).

Note the use of **sudo** - Zabbix user does not have permissions to restart system services by default. See below for hints on how to configure **sudo**.

Zabbix agent should run on the remote host and accept incoming connections. Zabbix agent executes commands in background.

Remote commands on Zabbix agent are executed without timeout by the `system.run[,nowait]` key and are not checked for execution results. On Zabbix server remote commands are executed with timeout as set in the `TrapperTimeout` parameter of `zabbix_server.conf` file and are [checked](#) for

execution results.

Access permissions

Make sure that the 'zabbix' user has execute permissions for configured commands. One may be interested in using **sudo** to give access to privileged commands. To configure access, execute as root:

```
# visudo
```

Example lines that could be used in *sudoers* file:

```
# allows 'zabbix' user to run all commands without password.
zabbix ALL=NOPASSWD: ALL
```

```
# allows 'zabbix' user to restart apache without password.
zabbix ALL=NOPASSWD: /etc/init.d/apache restart
```

On some systems *sudoers* file will prevent non-local users from executing commands. To change this, comment out **requiretty** option in */etc/sudoers*.

Remote commands with multiple interfaces

If the target system has multiple interfaces of the selected type (Zabbix agent or IPMI), remote commands will be executed on the default interface.

It is possible to execute remote commands via SSH and Telnet using another interface than the Zabbix agent one. The available interface to use is selected in the following order:

- Zabbix agent default interface
- SNMP default interface
- JMX default interface
- IPMI default interface

IPMI remote commands

For IPMI remote commands the following syntax should be used:

```
<command> [<value>]
```

where

- <command> - one of IPMI commands without spaces
- <value> - 'on', 'off' or any unsigned integer. <value> is an optional parameter.

Examples

Example 1

Restart of Windows on certain condition.

In order to automatically restart Windows upon a problem detected by Zabbix, define the following actions:

PARAMETER	Description
Operation type	'Remote command'
Type	'Custom script'
Command	c:\windows\system32\shutdown.exe -r -f

Example 2

Restart the host by using IPMI control.

PARAMETER	Description
Operation type	'Remote command'
Type	'IPMI'
Command	reset

Example 3

Power off the host by using IPMI control.

PARAMETER	Description
Operation type	'Remote command'
Type	'IPMI'
Command	power off

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