

# Final Homework 2

## Bash Scripting

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## Final Homework #2

### TASK

Company ABC is planning to evaluate "Zabbix" as a replacement of the current monitoring system. You have been asked to help. Could you please prepare proof-of-concept with 2 virtual machines (VMs) – 1 for server and 1 for agent. Please use official documentation and guide -

[https://www.zabbix.com/documentation/4.4/manual/installation/install\\_from\\_packages/rhel\\_centos](https://www.zabbix.com/documentation/4.4/manual/installation/install_from_packages/rhel_centos)

### DEFINITION OF DONE

- 1) 2 Linux (centos7) VMs are up and running;
- 2) First bash script should automatically install and configure Zabbix server on the 1 VM, second bash script should automatically install agent on the 2 VMs;
- 3) VM 2 added to the Zabbix server manually with attached linux template  
(<https://www.zabbix.com/documentation/4.2/manual/config/hosts/host>);
- 4) Latest data confirms you are receiving Linux metrics data.  
([https://zabbix.com/documentation/4.2/manual/web\\_interface/frontend\\_sections/monitoring/latest\\_data](https://zabbix.com/documentation/4.2/manual/web_interface/frontend_sections/monitoring/latest_data))

Установка агента:

```
devops@localhost:/home/devops
File Edit View Search Terminal Help
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Warning: RPMDB altered outside of yum.
  Installing : zabbix-agent-5.0.27-1.el7.x86_64
  Verifying   : zabbix-agent-5.0.27-1.el7.x86_64
1/1
1/1
Installed:
  zabbix-agent.x86_64 0:5.0.27-1.el7
Complete!
Created symlink from /etc/systemd/system/multi-user.target.wants/zabbix-agent.service to /usr/lib/systemd/system/zabbix-agent.service.
[root@localhost devops]# cat zab.sh
#!/bin/bash

rpm -Uvh https://repo.zabbix.com/zabbix/5.0/rhel/7/x86_64/zabbix-release-5.0-1.el7.noarch.rpm
yum clean all
yum install -y zabbix-agent
systemctl restart zabbix-agent
systemctl enable zabbix-agent
[root@localhost devops]#
```

17:41:47  
2 сентября 2022 г.

Сентябрь 2022			
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19:22:44  
4 сентября 2022 г.

```

devops@localhost:~$ cat Gashnikova_Final_Homework2_2_BashScripting.sh
#!/bin/bash

rpm -Uvh https://repo.zabbix.com/zabbix/5.0/rhel/7/x86_64/zabbix-release-5.0-1.el7.noarch.rpm
yum clean all
yum install -y zabbix-agent
systemctl restart zabbix-agent
systemctl enable zabbix-agent
sed -i 's/ServerActive=127.0.0.1/ServerActive=192.168.56.103/' /etc/zabbix/zabbix_agentd.conf
sed -i 's/Server=127.0.0.1/Server=192.168.56.103/' /etc/zabbix/zabbix_agentd.conf
systemctl start httpd
systemctl stop firewalld
systemctl restart zabbix-agent
[devops@localhost ~]$ 

```

## Установка сервера:

11:43:57  
3 сентября 2022 г.

Сентябрь 2022

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devops@localhost:~\$ Access denied for user 'zabbix'@'localhost' on database 'zabbix'. [Z3001] conn 9501:20220903:114132.968 database is currently in use by another process. [Z3001] conn 9501:20220903:114142.971 [Z3001] conn 9501:20220903:114142.971 database is currently in use by another process. [Z3001] conn 9501:20220903:114142.971 database is currently in use by another process. [Z3001] conn 9501:20220903:114152.972 [Z3001] conn 9501:20220903:114152.972 database is currently in use by another process. [Z3001] conn 9501:20220903:114152.972 database is currently in use by another process. [Z3001] conn 9501:20220903:114202.977 [Z3001] conn 9501:20220903:114202.977 database is currently in use by another process. [Z3001] conn 9501:20220903:114213.156 [Z3001] conn 9501:20220903:114213.156 database is currently in use by another process. [Z3001] conn 9501:20220903:114223.157 [Z3001] conn 9501:20220903:114223.157 database is currently in use by another process. [Z3001] conn 9501:20220903:114223.158 [Z3001] conn 9501:20220903:114223.158 database is currently in use by another process. [Z3001] conn 9501:20220903:114233.159 [Z3001] conn 9501:20220903:114233.159 database is currently in use by another process. [Z3001] conn 9501:20220903:114243.159 [Z3001] conn 9501:20220903:114243.159 database is currently in use by another process. [Z3001] conn [root@localhost devops]#

Сегодня

Настройте календарь

localhost/zabbix/zabbix.php?action=dashboard.view

Centos Wiki Documentation Forums

## ZABBIX

### Global view

All dashboards / Global view

#### System information

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled)	1	1 / 0
Number of templates	217	
Number of items (enabled/disabled/not supported)	155	142 / 0 / 13
Number of triggers (enabled/disabled/problem(ok))	79	79 / 0 [0 / 79]
Number of users (online)	2	1
Required server performance, new values per second	1.8	

#### Problems

Time ▾	Info	Host	Problem • Severity	Duration	Ack	Actions
No data found.						

16:38:20  
3 сентября 2022 г.

Сентябрь 2022

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Сегодня

The dashboard displays a summary of Zabbix system health. It shows 1 available host, 0 not available, and 0 unknown. There are 0 disaster, 0 high, 0 average, 0 warning, and 0 information level triggers. The calendar for September 2022 is shown with days 1 through 30. The current date is highlighted as 1 September. A message indicates no problems found.

localhost/zabbix/triggers.php?filter\_set=1&filter\_hostids[0]=10437

Documentation Forums

## Triggers

All hosts / firsthost Enabled ZBX SNMP JMX IPMI Applications 20 Items 108 Triggers 44 Graphs 21 Discovery rules 3 Web scenarios

Host groups  Select Tags And/Or Or  
 Hosts  Select tag Contains Equals value Add  
 Name   
 Severity  Not classified  Warning  High  
 Information  Average  Disaster  
 State  all  Normal  Unknown  
 Discovered  all  Yes  No  
 With dependencies  all  Yes  No  
 Status  all  Enabled  Disabled  
 Value  all  Ok  Problem  
 Apply Reset

Severity	Value	Name	Operational data	Expression
Average	OK	Mounted filesystem discovery: /: Disk space is critically low (used > \${VFS.FS.PUSED.MAX.CRIT:"%")}	Space used: \${ITEM.LASTVALUE3} of \${ITEM.LASTVALUE2} (\${ITEM.LASTVALUE1})	{firsthost:vfs.fs.size[/,pused].last()}>\${VFS.FS.PUSED.MAX.CRIT}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MIN.CRIT}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MIN.WARN}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MAX.CRIT}"
Warning	OK	Mounted filesystem discovery: /: Disk space is low (used > \${VFS.FS.PUSED.MAX.WARN:"%")}	Space used: \${ITEM.LASTVALUE3} of \${ITEM.LASTVALUE2} (\${ITEM.LASTVALUE1})	{firsthost:vfs.fs.size[/,pused].last()}>\${VFS.FS.PUSED.MAX.WARN}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MIN.CRIT}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MIN.WARN}" or {firsthost:vfs.fs.size[/,used].last()}<\${VFS.FS.FREE.MAX.CRIT}"
Average	OK	Mounted filesystem discovery: /: Running out of free inodes (free < \${VFS.FS.INODE.PFREE.E.MIN.CRIT:"%")}	Free inodes: \${ITEM.LASTVALUE1}	{firsthost:vfs.fs.inode[/,pfree].min(5m)}<\${VFS.FS.INODE.PFREE.E.MIN.CRIT}"
Warning	OK	Mounted filesystem discovery: /: Running out of free inodes (free < \${VFS.FS.INODE.PFREE.E.MIN.WARN:"%")}	Free inodes: \${ITEM.LASTVALUE1}	{firsthost:vfs.fs.inode[/,pfree].min(5m)}<\${VFS.FS.INODE.PFREE.E.MIN.WARN}"
Average	OK	Mounted filesystem discovery: /boot: Disk space is critically low (used > \${VFS.FS.PUSED.MAX.CRIT:"%")}	Space used: \${ITEM.LASTVALUE3} of \${ITEM.LASTVALUE2} (\${ITEM.LASTVALUE1})	{firsthost:vfs.fs.size[/boot,pused].last()}>\${VFS.FS.PUSED.MAX.CRIT}" or {firsthost:vfs.fs.size[/boot,used].last()}<\${VFS.FS.FREE.MIN.CRIT}" or {firsthost:vfs.fs.size[/boot,used].last()}<\${VFS.FS.FREE.MAX.CRIT}"

localhost/zabbix/zabbix.php?action=latest.view&filter\_hostids[]&filter\_application=&filter\_select=&filter\_show\_without\_data=1&filter\_set=1

Documentation Forums

## Latest data

Host groups  Select Name   
 Hosts  Select Show items without data   
 Application  Select Show details

	Name	Last check	Last value	Change
<input type="checkbox"/>	Host			
<input type="checkbox"/>	CPU (17 Items)			
<input type="checkbox"/>	Context switches per second	2022-09-04 13:46:08	482.6604	+63.9271
<input type="checkbox"/>	CPU guest nice time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:10	0 %	
<input type="checkbox"/>	CPU guest time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:09	0 %	
<input type="checkbox"/>	CPU idle time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:11	96.25 %	-2.6156 %
<input type="checkbox"/>	CPU interrupt time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:12	0 %	
<input type="checkbox"/>	CPU iowait time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:13	0.01689 %	+0.01689 %
<input type="checkbox"/>	CPU nice time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:14	0 %	
<input type="checkbox"/>	CPU softirq time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:15	0.01688 %	-0.01698 %
<input type="checkbox"/>	CPU steal time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:16	0 %	
<input type="checkbox"/>	CPU system time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:17	0.6247 %	+0.3369 %
<input type="checkbox"/>	CPU user time <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:18	3.0211 %	+2.2082 %
<input type="checkbox"/>	CPU utilization <span style="color: #00AEEF;">?</span>	2022-09-04 13:46:11	3.75 %	+2.6156 %
<input type="checkbox"/>	Interrupts per second	2022-09-04 13:46:03	290.4051	+33.3676

## Latest data

localhost/zabbix/zabbix.php?action=latest.view

documentation [Forums](#)

### Latest data

Host groups  Select Name

Hosts firsthost  Select Show items without data  Show details

Application CPU  Select

**Apply** **Reset**

Host	Name	Last check	Last value	Change
firsthost	CPU (17 Items)			
	Context switches per second	2022-09-04 13:55:08	402.3123	-3.1165
	CPU guest nice time	2022-09-04 13:55:10	0 %	
	CPU guest time	2022-09-04 13:55:09	0 %	
	CPU idle time	2022-09-04 13:55:11	98.5927 %	-0.441 %
	CPU interrupt time	2022-09-04 13:55:12	0 %	
	CPU iowait time	2022-09-04 13:55:13	0 %	
	CPU nice time	2022-09-04 13:55:14	0 %	
	CPU softirq time	2022-09-04 13:55:15	0.01695 %	-0.01697 %
	CPU steal time	2022-09-04 13:55:16	0 %	
	CPU system time	2022-09-04 13:55:17	0.4575 %	+0.1692 %
	CPU user time	2022-09-04 13:55:18	0.9319 %	+0.3217 %
	CPU utilization	2022-09-04 13:55:11	1.4073 %	+0.441 %
	Interrupts per second	2022-09-04 13:55:03	235.3715	-7.4966

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Сегодня

Настройте календарь, чтобы видеть запланированные события

**Начало**

localhost/zabbix/zabbix.php?action=latest.view&filter\_hostids[]>=10437&filter\_application=Filesystem%2Fboot&filter\_select=&filter\_show\_without\_data=

documentation [Forums](#)

### Latest data

Host groups  Select Name

Hosts firsthost  Select Show items without data  Show details

Application Filesystem /boot  Select

**Apply** **Reset**

Host	Name	Last check	Last value	Change
firsthost	Filesystem /boot (4 Items)			
	/boot: Free inodes in %	2022-09-04 13:55:58	99.9327 %	
	/boot: Space utilization	2022-09-04 13:56:01	28.0456 %	
	/boot: Total space	2022-09-04 13:56:04	1014 MB	
	/boot: Used space	2022-09-04 13:56:07	284.38 MB	

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localhost/zabbix/zabbix.php?action=latest.view&filter\_hostids[]>=10437&filter\_application=Monitoring+agent&filter\_select=&filter\_show\_without\_data=

documentation [Forums](#)

### Latest data

Host groups  Select Name

Hosts firsthost  Select Show items without data  Show details

Application Monitoring agent  Select

**Apply** **Reset**

Host	Name	Last check	Last value	Change
firsthost	Monitoring agent (3 Items)			
	Host name of Zabbix agent running	2022-09-04 13:39:13	Zabbix server	
	Version of Zabbix agent running	2022-09-04 13:39:13	5.0.27	
Zabbix agent ping	2022-09-04 13:55:56	Up (1)		

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Сегодня