

Description

Zabbix template for Microsoft SQL Server (MS SQL) backup status.

Features

- MS SQL instance Low Level Discovery.
- MS SQL database Low Level Discovery.
- MS SQL database backup status Low Level Discovery.

Supported versions

Tested on Microsoft SQL Server 2012, 2014 and 2016. It may work with earlier versions, but some items may be unsupported.

Tested on Zabbix 3.4.0. It may work with earlier versions, but some items may be unsupported.

Assumptions

This template is not one-click solution. It may require some tinkering, so I assume that:

- You are familiar with a Microsoft Window OS.
- You are familiar with a Microsoft SQL server.
- You are familiar with a Microsoft SQL server backup concept.
- You are familiar with a Zabbix.
- You have a correctly working Zabbix server and Zabbix agents.
- You have tested other Zabbix template with an item type "Active" and it works.

Template includes

Templates:

- "Template Microsoft SQL Server Database Backup.xml" – Template for Microsoft SQL Server database backup monitoring.

Value mapping:

- "SQL Database Backup status.xml" – Zabbix value mapping for Microsoft SQL Server Database backup status.

Scripts:

- "mssql.backup.userparams.conf" – Example of user parameters.
- "Discovery.mssql.sysdatabasefull.ps1" – PowerShell script for Low Level Discovery.
- "Discovery.mssql.sysdatabasename.ps1" – PowerShell script for Low Level Discovery.
- "Discovery.mssql.userdatabasediff.ps1" – PowerShell script for Low Level Discovery.
- "Discovery.mssql.userdatabasefull.ps1" – PowerShell script for Low Level Discovery.
- "Discovery.mssql.userdatabaselog.ps1" – PowerShell script for Low Level Discovery.
- "Discovery.mssql.userdatabasename.ps1" – PowerShell script for Low Level Discovery.

Deployment. Step by step

1. Import templates via Configuration >> Templates:

- "Template Microsoft SQL Server Database Backup.xml"

2. Import value mappings via Administration >> General >> Value mapping:
 - "SQL Database Backup status.xml"
3. Create the folder "MSSQL" in a directory ""C:\Zabbix\bin\".
4. Create the folder "DiscoveryDatabaseBackup" in a directory ""C:\Zabbix\bin\MSSQL\".
5. Copy PowerShell scripts (*.ps1) to a directory "C:\Zabbix\bin\MSSQL\DiscoveryDatabaseBackup\".
6. Copy mssql.backup.userparams.conf to a directory "C:\Zabbix\".
7. Modify file "zabbix_agentd.win.conf" - add line "Include=C:\Zabbix\mssql.backup.userparams.conf".
8. Grant rights for Zabbix Agent service account. It needs read rights on tables master.sys.databases and msdb.dbo.backupset. By default, Zabbix Agent service account is NT AUTHORITY\SYSTEM which is already in SQL Server.
9. Restart Zabbix Agent.
10. Modify macros in a template according to your needs. Default values are below:

Macros	Macros meaning	Value	Value meaning	Trigger
{SYSDBFTIME1}	System db full backup time value 1	25	25 hours	Low
{SYSDBFTIME2}	System db full backup time value 2	26	26 hours	Medium
{SYSDBFTIME3}	System db full backup time value 3	27	27 hours	High
{UDBDIME1}	User db diff backup time value 1	25	25 hours	Low
{UDBDIME2}	User db diff backup time value 2	26	26 hours	Medium
{UDBDIME3}	User db diff backup time value 3	27	27 hours	High
{UDBFTIME1}	User db full backup time value 1	172	7 days and 4 hours	Low
{UDBFTIME2}	User db full backup time value 2	174	7 days and 6 hours	Medium
{UDBFTIME3}	User db full backup time value 3	176	7 days and 8 hours	High
{UDBLTIME1}	User db log backup time value 1	30	30 minutes	Low
{UDBLTIME2}	User db log backup time value 2	60	60 minutes	Medium
{UDBLTIME3}	User db log backup time value 3	90	90 minutes	High

11. Add template to a Host.

Notes

MS SQL backup history is queried from table msdb.dbo.backupset. If there is no info in this table or the info is incorrect, template may not work correctly. I know there are 3rd party backup solutions, which may insert incorrect values or do not insert at all.

If you want only a specific host to have other values than default, you can change them in that host's macros section.

Zabbix value mapping section does not support macros, therefore, if you change a default macros values for a template or a specific host, remember to update "SQL Database Backup status" via Administration >> General >> Value mapping.

If you have a non-default Zabbix installation directory or you want to put Powershell scripts to other directory, you will have to update files and directories in steps 3- 7.

Userparamaters moved to a separate file "mssql.backup.userparams.conf" for an easier management in a present and a future.

All Powershell scripts moved to a separate directory "C:\Zabbix\bin\MSSQL\DiscoveryDatabaseBackup\" for an easier management in a present and a future.

Zabbix Item Application prototypes made as “SQL {#SQLINSTANCENAME} Database {#DBNAME}” (per database) instead of “SQL {#SQLINSTANCENAME} Database”. My other Zabbix template for monitoring MS SQL will be updated accordingly.

MS SQL system databases (master, msdb etc.) are discovered and monitored by default. I saw templates, where system databases there excluded from discovery and monitoring, but I am against it. You need to know the backup status of system databases as well.

Items Update interval (30 seconds), History storage period (90 days) and Trend storage period (365 days) are set accordingly to the rule “as much as possible, for as long as possible”. If you have ~10 instances with an average ~8 databases per instance you will be fine. But if you have more than that, you should check “Zabbix calculations for MS SQL template.xlsx”. Enter your values and see how much disk space for a Zabbix database you will need. Also, depending on the number of processed values per second (NVS), you may consider upgrading your Zabbix server or increasing Items Update interval from 30 seconds to any value you feel comfortable. All calculations are based on Zabbix [manual](#) and they provide only average values, not the exact numbers.

Thanks

Thanks for the additional ideas and help with the scripts to Pavel L., Nerijus P., Klaidas I.

Contacts

Let me know if you find any errors. Or maybe you just have a great idea which really, really must be added to the templates.

mantas.tumenas@gmail.com