Description

Zabbix template for Microsoft SQL Server.

Features

- Performance counters
- Database Low Level Discovery
- Agent job Low Level Discovery

Supported versions

Tested on Microsoft SQL Server 2012, 2014 and 2016. It may work with earlier versions, but some items (with missing performance counters) may be unsupported. For the extensive overview on the performance counters difference between MS SQL 2008 and MS SQL 2012 you can read here (https://blog.dbi-services.com/sql-server-2012-new-perfmon-counters/).

Tested on Zabbix 3.4.0. It may work with earlier versions, but some items (for example service.info[service,<param>]) may be unsupported. The template was started on Zabbix 2.4.0 but after each new Zabbix version, objects were modified or new things were added.

Template includes

Templates:

- “Template SQL Server Instance 0 DE.xml” – Template for Microsoft SQL Server Database Engine.
- “Template SQL Server Instance 0 SA.xml” – Template for Microsoft SQL Server Agent.

Value mapping:

- “SQL Agent Job status.xml” – Zabbix value mapping for Microsoft SQL Server Agent Job status.
- “SQL Database status.xml” – Zabbix value mapping for Microsoft SQL Server Database status.

Scripts:

- “userparams.conf” – Example of user parameters.
- “Discovery.mssql.server.ps1” – Powershell script for Low Level Discovery.

Deployment

Macros values

For a default instance

Macros	Value	Usage
{$SQLINSTANCE0}	SQLServer	Get performance counter
{$SQLINSTANCEEVENTLOG0}	MSSQLSERVER	Get Event Viewer log
{$SQLINSTANCENAME0}	[Instance display name]	Instance display name
{$SQLINSTANCESERVICE0}	MSSQLSERVER	Get service state
{$SQLAGENT0}	SQLAgent	Get performance counter
{$SQLAGENTEVENTLOG0}	SQLSERVERAGENT	Get Event Viewer log
{$SQLAGENTSERVICE0}	SQLSERVERAGENT	Get service state

For a named instance. In this example named instance is “TEMP”

Macros	Value	Usage
{$SQLINSTANCE1}	MSSQL$TEMP	Get performance counter
{$SQLINSTANCEEVENTLOG1}	MSSQL\$TEMP	Get Event Viewer log
{$SQLINSTANCENAME1}	TEMP	Instance display name
{$SQLINSTANCESERVICE1}	MSSQL$TEMP	Get service state
{$SQLAGENT1}	SQLAgent$TEMP	Get performance counter
{$SQLAGENTEVENTLOG1}	SQLAgent\$TEMP	Get Event Viewer log
{$SQLAGENTSERVICE1}	SQLAgent$TEMP	Get service state

Step by step

1. Import templates via Configuration >> Templates:
   - “Template SQL Server Instance 0 DE.xml”
   - “Template SQL Server Instance 0 SA.xml”
2. Import value mappings via Administration >> General >> Value mapping:
   - “SQL Agent Job status.xml”
   - “SQL Database status.xml”
3. Copy Discovery.mssql.server.ps1 to a location a Zabbix Agent can access.
4. Edit Discovery.mssql.server.ps1 line 14. For “InsertSQLInstanceName” enter the name of the Microsoft SQL Server instance:
   - [Parameter(Mandatory = $false, Position = 2)]$SQLInstanceName="EnterInstanceName"
5. Update UserParameter in zabbix_agentd.conf with a provided example. Change path to a script Discovery.mssql.server.ps1 if needed.
6. Grant rights for Zabbix Agent service account. It needs read rights on tables msdb.dbo.sysjobhistory andmsdb.dbo.sysjobs. By default Zabbix Agent service account is NT AUTHORITY\SYSTEM which is already in SQL Server.
7. Restart Zabbix Agent.
8. Add template to a Host.
9. Update (if needed) macros.
10. By default you should add both templates to a host. Unless you have Microsoft SQL Server Express edition. In that case add only “Template SQL Server Instance 0 DE Baseline.xml” template.

Limitations

Microsoft SQL Server Agent job status is queried from table msdb.dbo.sysjobhistory. If the job is never run and no record exists in this table, Zabbix item will be unsupported.

No Microsoft SQL Server instance discovery (yet). So, in case you have more than 1 SQL instance per host, you need to clone templates “Template SQL Server Instance 0 DE.xml” and “Template SQL Server Instance 0 SA.xml”. Steps to be done:

- Copy – Paste “Template SQL Server Instance 0 DE.xml”.
- Rename template to “Template SQL Server Instance 1 DE.xml”.
- Open with a text editor (Notepad++).
- Find and replace all Macros by changing only “0” to another value (“1”):
  - {$SQLINSTANCE0} to {$SQLINSTANCE1}
  - …
  - {$SQLINSTANCESERVICE0} to {$SQLINSTANCESERVICE1}
- Save changes and import template.

- Add a new template to a host
- Add or update Macros values accordingly.

Do the same for a “Template SQL Server Instance 0 SA.xml”.

Links to sources

- Microsoft SQL Server Database status and Agent job status Low Level Discovery Powershell script comes from Diego Cavalcante Zabbix template (https://share.zabbix.com/databases/microsoft-sql-server/template-windows-sql-server). Some minor modifications were added.
- SQL Server performance counters selection is based on a 2010 Quest Software poster made by Kevin Kline and Brent Ozar.

Contacts

Let me know if you find any errors.

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