



DBAgent

Release 5.3

Manual



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2 Introduction

2.1 Purpose of DBAgent

Purpose is to identify SQL Server related Issues. DBAgent checks the database environments, identifies relevant issues and fixes them if possible and desired, or indicates a solution direction.

2.2 Overall operation

At least once every 24 hours issues are identified and fixed automatically if DBAgent is configured to do so.

Once every 24 hours Issues are reported though e-mail, divided into 3 categories:

1. Automatically fixed;
2. User choice; to be fixed interactively using DBAgent Management Console;
3. Manual; to be solved in another way.

The trend of the latest X measurements is reported periodically (configurable).

2.3 Supported versions

DBAgent itself runs on at least SQL Server 2012 and can handle these versions:

- 2008R2
- 2012
- 2014
- 2016
- 2017

2.4 Special features

Periodically special information is downloaded from the DBAgent website about:

- SQL Server Versions / Updates
- Updated URL's with Information about Issues

This information is saved into the Database and used to better identify Issues or help solving them.

In addition, there could be a message to DBAgent Users which is shown after it is downloaded.



3 Overview

3.1 Components

DBAgent consists of the following

1. A front-end application: DBAgent Management Console, further called 'Console'. The Console is used to Manage and configure DBAgent and to initiate the resolution of some Issues;
2. An Engine database, further called 'Engine'. The Engine contains all code and intelligence and does all the work, most of it independently, some of it on request from the Console (user action);
3. A Data database is used to store the Configuration and all data from and for the processes;
4. Some DLL's for cryptographic functions among others, some of the routines in it also are loaded into the Engine as an assembly so it uses the same logic as the Console where needed.

The Engine which includes all functionality does all the work independently of the Console

, the other one is used for storage of data. That way functionality can be replaced by a new version of the Front-end and / or the Engine without consequences for the existing data.

The Engine does all the processing Front-en

3.2 Security

Any passwords that is stored is encrypted first.

Any password that you enter in the Console to send it to the Engine is also encrypted first.

3.3 Terms and concepts

With DBAgent the following terms and concepts are important:

- Server: Windows Server (1 or more Instances);
- Instance: SQL Server installation;
- Check: determine if a certain Issue exists;
- Issue: an observation with regard to a Check which requires attention;
- Exclusion: exclusion of a specified Check for an Issue at a certain level;
- Alert: signaling of an Issue;
- Task: technical process for solving an Issue, or meeting a user request;
- TaskStep: part of a Task;
- Solution: solution for an Issue (applied or yet to be).

A number of terms and concepts are explained further below.



3.3.1 Check

All Checks are predefined and part of DBAgent. It is not possible to add checks yourself, with sufficient interest this could be implemented in future releases.

The existing checks are aimed at detecting and signaling undesirable situations. Such a situation is called an Issue and signaling it is called an Alert.

3.3.2 Issue

For certain (types of) Issues, DBAgent offers solution options, manually or (semi-) automatically. An automatic solution is applied immediately, a manual or semi-automatic solution must be initiated by the User.

For a several Issues there is no standard solution, these have to be solved by an expert administrator (DBA).

If possible solutions are known, the Issue row contains an URL to information regarding the issue.

An Issue always relates to a certain level:

- Server
- Instance
- Database

3.3.3 Exclusion

Exclusion normally takes place at the same level as where it occurs but it is also possible to exclude an Issue at a higher level.

A specific Database Issue, for example, can be excluded at the Database, Instance or Server level. If it is excluded at the same level as the Issue itself (in this case Database), the exclusion applies only to that specific Database. When the Exclusion is applied at Instance or Server level, the effect is that the Issue is excluded for all Databases on that Instance or Server.

So Instance level Issues can be excluded at Instance or Server level, and Server Issues only at Server level.

The aforementioned exclusion options can be selected from the detail screen by means of a right mouse click.

Actually there is one level higher: Enterprise. Exclusions on this level however cannot be specified through the detail screen but only through the control panel by excluding the Issue itself in the Issues tab.

3.3.4 Alert



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An Alert warns you that there are one or more Issues, Alerts consist of Indicators in the Tabs and the daily Alert Mail that shows global types and numbers of Issues.

3.3.5 Task / TaskStep

Currently a Task consists of one TaskStep only. In future versions, Tasks can consist of multiple Steps that are executed sequentially.

3.3.6 Solution

DBAgent has a number of possible Solutions for Issues in its database, when a Solution has actually been applied by means of a Task, it can be found as a Solution in the Solutions tab.



4 Installation and configuration

4.1 Requirements and preconditions

DBAgent requires:

- SQL Server 2012 Standard Edition or higher;
- 1GB database disk space;
- Internet access from the Front-end to download of any informative text and/or (SQL Server) version information;
- xp_cmdshell (will be configured);
- Database-mail (must be configured);
- SQL CLR (will be configured);
- .NET Framework 3.5;
- .NET Framework 4;

4.2 Installation

This procedure is simple:

- Put the four database files in the folders where you want them;
- Attach both databases;
- Put DBAgent.exe, DBAgentLib.dll and DDCrypt.dll together in a folder;

4.3 Configuration

- Open a query window and execute: ***DBAgent_Engine.dbo.up_AutoConfig***
- Start DBAgent.exe:
 - Three notifications will be given regarding the fact that an Evaluation License (30 days, 20 database limit) has been created;
 - Possibly one or more notifications will be given with regard to any downloaded content;
- Connect to the Instance where you attached the databases, always use an account with sysadmin privileges on all Instances;
- Open the menu and go to *Config / Options* and enter everything like you want it, but at least ***Email Operator***. For the rest you can (for the time being) use the default values. Save any changes and close this window;
- Open the menu and go to *Config / Connections*, start the wizard and go through it.

DBAgent should now be ready to use.



5 Usage

DBAgent is intuitive to use, if you like you can consult the Online documentation:

<https://dbagent.damdata.nl/>.

When you start the program, you must login on the Engine database, the first time you must enter the Instance name and (if you use Password Authentication) your password. This will be encrypted and saved for future use *if* you check the 'Remember Password' checkbox.

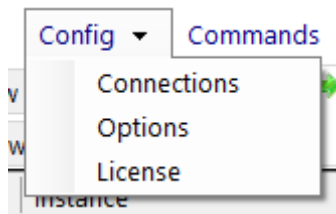
5.1 Menu

Connect Config ▾ Commands ▾ Support ▾ Exit

5.1.1 Connect

If there are multiple Engines in your organization, use this option. All entries entered earlier are saved so you can choose from them.

5.1.2 Config



5.1.2.1 Connections

This activates the Connection Wizard, see chapter 6.

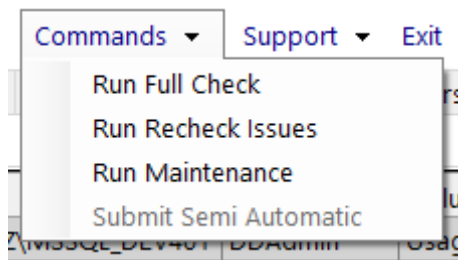
5.1.2.2 Options

This activates the Configuration Module, see chapter 0.

5.1.2.3 License

This activates the License Module, see chapter 0.

5.1.3 Commands



5.1.3.1 Run Full Check

Run the daily Full Check again, maybe you added Items to your environment (Instances, Databases etc.) that you want to have checked right away.



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5.1.3.2 Run Recheck Issues

This is part of the Full Check. After all the data is collected the Engine will check this data. With this option you can force to check again, for example after changing DBAgent's configuration, to see if you get the desired results now. So the data is not collected again but possible new rules are applied.

5.1.3.3 Run Maintenance

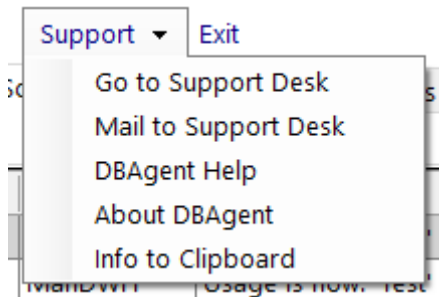
Run the daily Maintenance job again, this can make sense after you changed the options for archiving (in the Configuration Module).

5.1.3.4 Submit Semi Automatic

One of the Configurable options is 'Autosolve', if this is set to 'Semi Automatic' and there are issues to be solved this way, the Menu option is not grey (like now) and you can Submit, so the Solutions are applied.

5.1.4 Support

DamData uses the Helpdesk portal from [Freshdesk](#).



5.1.4.1 Go to Support Desk

Takes you to the DamData Support site where you can manage or initiate support.

5.1.4.2 Mail to Support Desk

Opens a new mail in your mail client to send to the Support Desk, this creates a new ticket.

5.1.4.3 DBAgent Help

Takes you to the online help site.

5.1.4.4 About DBAgent

Shows the Version and Build info and a legal message.

5.1.4.5 Info to Clipboard

Support could ask you to use this, if you do then some information about license and versions are placed on the Clipboard so you can paste it into mail or whatever is needed at that moment.

5.1.5 Exit

Just ends the program.



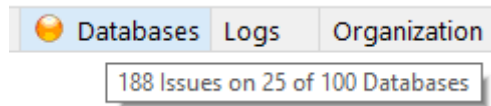
5.2 Main Tabs

5.2.1 Introduction

5.2.1.1 Led indicators



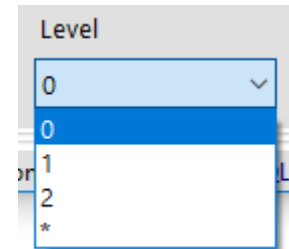
The most important Tabs have an indicator, if you hover these Tabs, they show more information:



5.2.1.2 Overview Level

All these 'Indicated' Tabs have an Overview SubTab with a Level selection box to select the level of Aggregation.

The higher the Level, the higher the Aggregation of course. Some only have Detail and Total (0 to 1), some also have SubTotal (0 to 2).





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All of them also have '*' which shows all Levels, from Detail to Total:

Overview Issues Tasks Solutions Servers Instances Databases

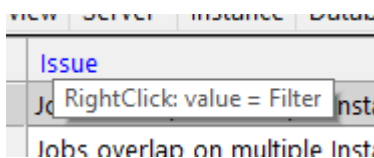
Overview All

	Level	Is Production	Usage	Count	Issues
▶	2 - Total	*	*	100	139
	1 - SubTotal	1	Production (Business-critical)	1	0
	1 - SubTotal	0	Development	10	4
	1 - SubTotal	0	System (SQL Server)	52	56
	1 - SubTotal	0	Test	3	4
	1 - SubTotal	0	Unknown	34	75
	1 - SubTotal	*	Development	10	4
	1 - SubTotal	*	Production (Business-critical)	1	0
	1 - SubTotal	*	System (SQL Server)	52	56
	1 - SubTotal	*	Test	3	4
	1 - SubTotal	*	Unknown	34	75
	0 - Detail	1	Production (Business-critical)	1	0
	0 - Detail	0	Development	10	4
	0 - Detail	0	System (SQL Server)	52	56
	0 - Detail	0	Test	3	4
	0 - Detail	0	Unknown	34	75

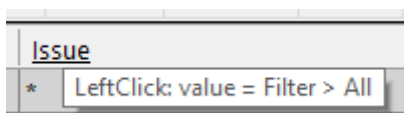
Filter Level
*

5.2.1.3 Filtering and Click-through

If the Column Name is **blue** it indicates you can use the values in it as a filter in the Current Tab:

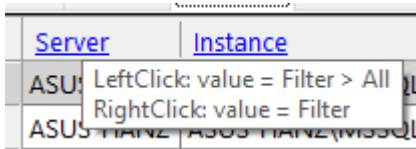


If the Column Name is underlined it indicates that you can use the values in it as a Filter in the **All** SubTab and jump to it:

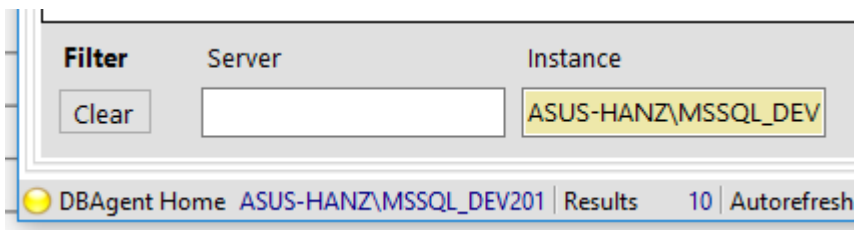




If the Column Name is blue and underlined, you can use the values to do one of both actions above:



If you use a Filter, the Filter entry on the bottom of the (target) Tab is set, of course you can also manually enter filters, keep in mind that Filtering is case-sensitive:



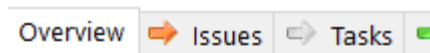
N.B.: Remember that when you navigate, filters in Tabs you leave are *not* cleared. If you come back there, a filter could still be active. Explicitly clear Filters using the **Clear** button.

5.2.1.4 Ordering

You can click most column headers to sort them, the next click reverses the sorting.

5.2.2 Overview Tab

This is the main overview, it shows the totals of information from DBAgent.



When you left click on an item, you navigate to the corresponding Main Tab.

Exception is 'Exclusions' which doesn't have a Main tab in the Console. Instead, DBAgent offers you to jump to 'Config - Exclusions'.

	Item	Count
▶	Current Issues	188
	New Solutions	2
	Tasks	0
	Servers	2
	Instances	13
	Databases	100
	Exclusions	2
	User Log	74

5.2.3 Issues



Level	Issue	Count
0 - Detail	Database Backup late or never taken	38
0 - Detail	Database Consistency Check	16
0 - Detail	Database has large amounts of unused space	6
0 - Detail	Database Owner not [sa]	3
0 - Detail	Database Recovery Model incorrect	1

This is actually what DBAgent is all about. The **Overview**, **Server**, **Instance** and **Database** SubTabs speak for themselves. The **All** SubTab is explained in the next paragraph.

5.2.3.1 All

This Tab gives detailed information about all current Issues. You can filter on the levels:

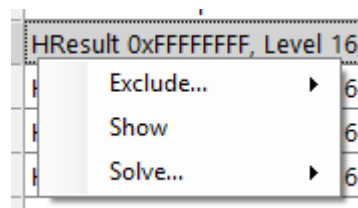
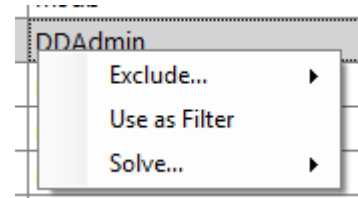
- Server
- Instance
- Database
- Item

The Item column shows the actual Item to which the Issue relates so it is often the name of the Server, Instance or Database. In other cases it will be the name of an Instance related object or a Database related object.

The Detail columns shows a description of the Issue.

If you RightClick an Issue you get a context menu with one or more of these four options, it depends on the type of information in the column which option(s) you actually see:

- **Exclude**, shows 1 or more levels: do not display this Issue anymore for the level you choose;
- **Use as Filter**: this value is added to the Filter(s) at the bottom of the panel;
- **Show**, only for the Detail column which can be very wide: show the Detail in a popup window for enhanced readability;
- **Solve**: shows 1 or more possible solutions you can choose.



N.B.: **Use as Filter** and **Show** exclude each other.



For most Issues there is information available on the internet, if you LeftClick on the last column: URL, you will be taken to

- a. A relevant page on a generally valued third party website;
OR
- b. The relevant page on the DBAgent website with information and/or collected links to other relevant pages;
OR
- c. A default page on the DBAgent site that informs you that there is no information linked yet, of course we will work on optimizing the information.

5.2.4 Tasks

This tab mainly exists to complete the picture. When tasks are carried out, they can be seen here, it shows insight into the functioning of DBAgent and shows the progress.

You'll find the SubTabs **Overview**, **All Tasks** and **All Steps**. On the **Results** column you again have the option to **Show** the content in a popup via the Context menu.

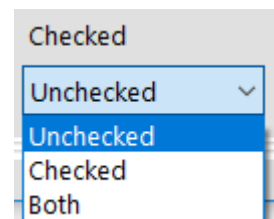
Tasks are cleaned periodically, depending on the settings in the Configuration module.

5.2.5 Solutions

This Tab shows recent Solutions, DBAgent likes to show off what it did to keep you happy with it.

In the **All** SubTab you can examine every solution before clicking on the Action column to Check it to indicate that you have seen it, or you can click the **Check All** button at the bottom of the panel.

By default you only see Unchecked Solutions but at the bottom of the panel you can select what you see (see the image on the right).



When you start the Console, you'll be notified when there are unchecked Solutions.

On the Solution and Status columns you again have the option to **Show** the content in a popup via the Context menu.

5.2.6 Servers

In the **All** SubTab you can choose **Details** from the Context menu, that will show a popup with all details of the Server and any Exclusions.

5.2.7 Instances

Again, in the **All** SubTab you can choose Details from the Context menu, that will show a popup with all details of the Instance and any Exclusions, in addition you can keep notes with regard to the Instance.



5.2.8 Databases

Again, in the **All** SubTab you can choose Details from the Context menu, that will show a popup with all details of the Instance and any Exclusions. In addition you can also keep notes with regard to the Database but also edit the **Usage** and preferred **Recovery Model**.

5.2.9 Logs

Each Log is maximized to the top 500 most recent registrations.

5.2.9.1 UserLog

Registration of User actions, like Config changes and chosen Solutions.

5.2.9.2 EventLog

Registration of System events regarding installation etc.

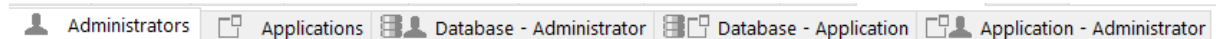
5.2.9.3 ProcessLog

Registration of System processes regarding the collection and interpretation of data.

5.2.9.4 TaskLog

Registration of SQL commands that have been executed for the purpose of resolving Issues.

5.2.10 Organization



In this section you administer the relations between Databases, Applications and the responsible Administrators. Of course this entire section is optional.

Each Form has a **Reload** button that reverses changes as long as they are not Saved yet. On Each Form you can use Filters, but they only become active when 3 or more characters have been entered.

5.2.10.1 Defaults

In the Configuration module (Menu Config / Options) Tab Organization, you can let DBAgent Create or Drop All Defaults:

What Create does:

- It registers two default Applications:
 - **SQL Server**



- **Default**

- It registers one default Administrator with the name **Default**
- It links all System Databases that are not linked to an Application yet to **SQL Server**
- It links all other Databases that are not linked to an Application yet to **Default**
- It links all Databases that are not linked to an Administrator yet to **Default**

That way you don't have to worry if you forgot to link some Databases, because they are all linked and you can edit the registrations as you like.

What Drop does:

It only drops only the Default links that are still Default as they were created, not the ones you already edited.

5.2.10.2 Administrators

Enter the Administrators in the organization that you want to link to Applications and / or Databases.

5.2.10.3 Applications

Enter the Applications you want to link to Databases and / or Administrators.

5.2.10.4 Other Forms

In the other Forms:

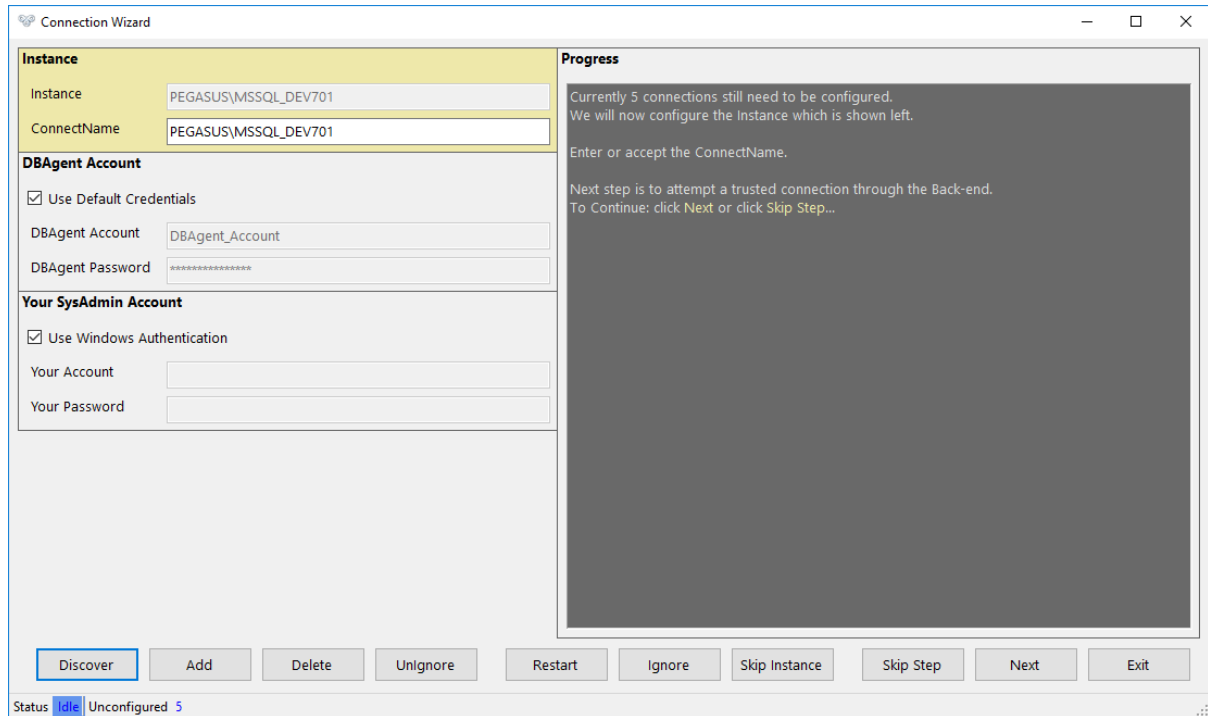
- Database – Administrator
- Database – Application
- Application – Administrator

... you just enter the combinations you want make.



6 Connection Wizard

Purpose is to register all Instances you want to maintain with DBAgent.



6.1 Button bar

Button	Purpose
Discover	attempts to find all SQL Server Instances on the network, try this the first time to register all DBAgent members.
Add	Should an Instance not appear after Discovery, you can add it manually using this button.
Delete	Delete the currently selected Instance
Unignore	Certain Instances you wanted to Ignore before are now all Unignored, which means that they appear in this Wizard to configure the connection.
Restart	Begin the Wizard from the start, with the first Instance to configure.
Ignore	Flag this Instance Ignored so you wont see it in the future in this Wizard.
Skip Instance	Skip this Instance for now, next time you'll see it again in this Wizard.
Skip Step	Skip the Step that is currently proposed in the Progress Section of the Wizard.
Next	Continue to the next Instance.
Exit	Stop configuring and exit the Wizard.

6.2 Left Panels

6.2.1 Instance



Instance is the name corresponding to @@servername, ConnectName is the same by default. In some cases however you cannot connect to the Instance by that name but you have to use an alias or IP/Port combination. For those cases you can specify that name here, this name will be used in the Connectstring.

6.2.2 DBAgent Account

That is the Account (SQL Server credentials) that DBAgent will use to connect to the Instance. If necessary, that account will be created on-the-fly.

By default these are the credentials that are saved during Configuration, using the Configuration Module. It is smart to do that first, so you can use that default for all or most Instances.

If you uncheck the Use Default Credentials checkbox, you can enter specific credentials for this Instance, these credentials are saved with the Instance registration. The Default Credentials are *not* updated.

6.2.3 Your SysAdmin Account

If the DBAgent Account needs to be created, you need to provide your DBA Credentials to DBAgent so it can Connect and create the Login for you. The Credentials you provide here are not remembered or stored in any way. You can use either Windows or SQL Server authentication as you like.

6.3 The process

If you start the Wizard the first time, you can click , after that the first Instance to be configured will be shown, the text in the Progress panel guides you through the process.

The panels on the left side get a light-yellow background as an indication that you can enter whatever is needed, in accordance with the text in the Progress panel.



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7 Configuration Module

DBAgent Management Console - Configuration

DBAgent - Configuration

General | Credentials | Issues | Databases | Exclusions | Organization

Report Weekly on: Monday

Weekly Report Days Back: 5

Report Subject Prefix: DBAgent

AutoSolve: No

Days History for Issues: 5

Days History for Tasks: 5

Days History for Solutions: 5

Days History for Items: 90

Days History for Logs: 10

Administrator Icon: Random

Default Backup Location: C:\

Default Maintenance Window: 20:00:00 until 06:00:00

Email Operator: hans@damdata.nl

Temp Folder: C:\Users\SQLSER~1\AppData\Local\Temp

AutoRefresh Rate (sec.): 10

Check DBAgent Version: Every time

Check IssueLinks: Every time

Check SQL Server Versions: Every time

Is Production:

7.1 General



Item	Description
Report Weekly on	Select the day you want to receive the Weekly Report
Weekly Report Days Back	Set the number of days for the trend in the Weekly Report mail
Report Subject Prefix	The Subject of the Weekly Report will start with this text, so you can recognize it in your pile of mail.
AutoSolve	Configure if you want the Issues that can be automatically solved, indeed to be automatically solved. Options: No, Semi Automatic, Fully Automatic.
Days History for Issues	Nr. of days to keep Issues after they are Solved.
Days History for Tasks	Nr. of days to keep Tasks after they are Executed.



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Item	Description
Days History for Solutions	Nr. of days to keep Solutions after they are Checked.
Days History for Items	Nr. of days to keep history of Databases and DatabaseFiles in the his. tables.
Days History for Logs	Nr. of days to keep Log records.
Administrator Icon	The Icon that is used for the Administrator in the Organization Section.
Default Backup Location	No function.
Default Maintenance Window	No function.
Email Operator	The address where the Reports are sent.
Temp Folder	Location to temporarily store Scripts to be executed by Tasks, bear in mind that this is a Server side Folder You can find references to this Folder in the TasksLog.
AutoRefresh Rate	Nr. of seconds between refreshes in the Console.
Check DBAgent Version	Frequency to check the version, options: Every Time (upon Start), Weekly, Monthly, Never.
Check IssueLinks	Frequency to check for new / updated URL's for Issues, same options as above.
Check SQL Server Versions	Frequency to check for new SQL Server Versions or Updates, same options as above.
Is Production	Indicates Production or not through Console:  DBAgent Home ASUS-HANZ\MSSQL_DEV201 Production  DBAgent Home ASUS-HANZ\MSSQL_DEV202 No Production



8 License Module

On a fresh installation, a 30-day Evaluation license with a 20 database limit is created. Use this module to enter or maintain a regular license.

View / Update License

Current License	
Item	Value
ProductCode	6AC3-E773-4F81-8A80
InstanceName	ASUS-HANZ\MSSQL_DEV201
DatabaseName	DBAgent_Engine
LicenseType	1500
LicenseDescription	Regular License
DatabaseLimit	1500
RegistrationCode	7a07-h8y3-yvde-rhns
ValidUntil	20200630
Registered	20170203
Updated	20180126

Current Usage	
Database Count	<input type="text" value="100"/>

Request Quotation

Update License

License Type

Valid Until

Registration Code

8.1 Current Usage

This shows the registered Database count which is the basis for the License Type.

8.2 Info

The button shows this text:

You can request a Quotation based on the current DatabaseCount, using the Request button.

Your mail client will open a new mail with the necessary information in it.

Please feel free to add any information or questions before sending.



DBAgent



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8.3 Request

The use of the button has just been explained above.

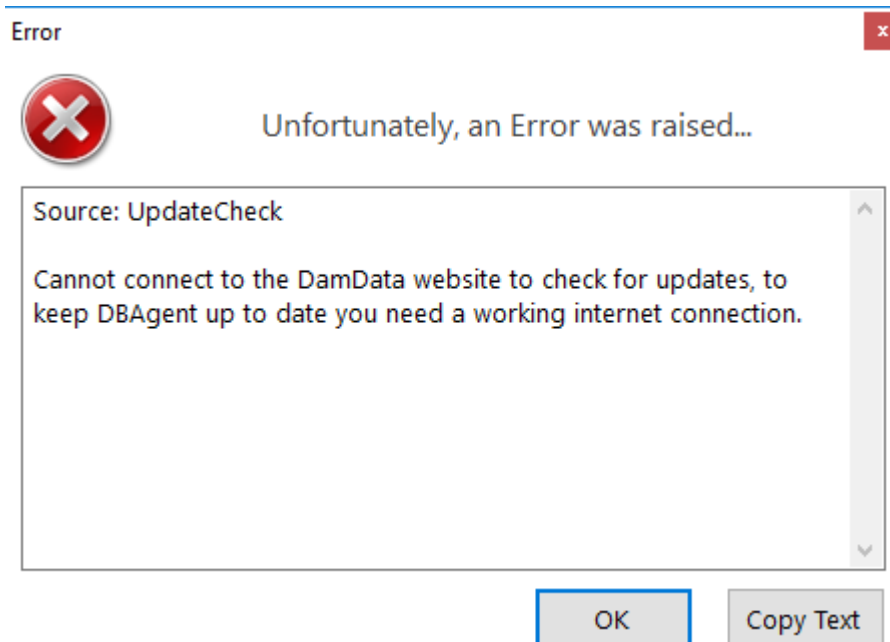
8.4 Update License

if you receive a new Registration Code, you can enter it here.

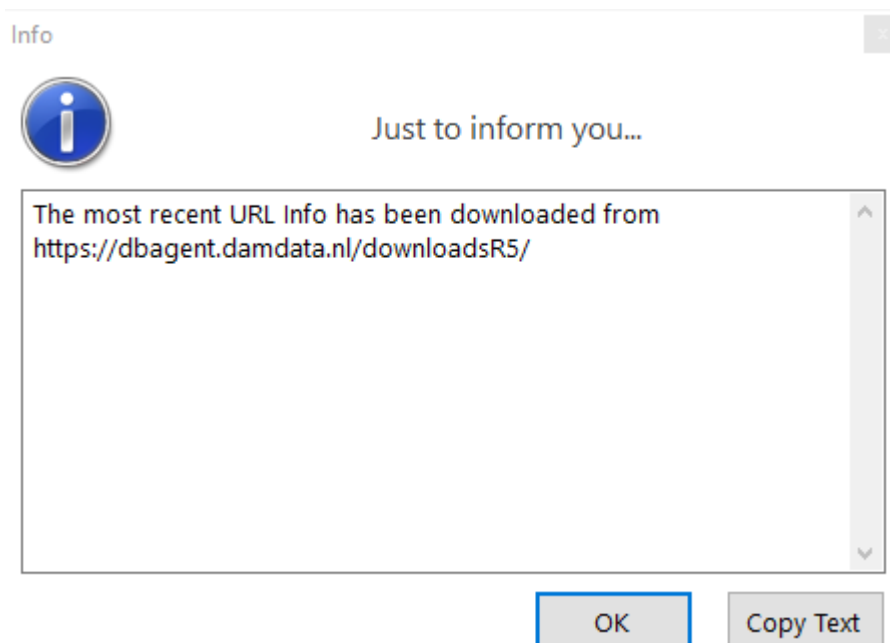


9 Downloads

Periodically DBAgent will download updates if any, therefore it needs Internet access. If there is no access you'll get this:

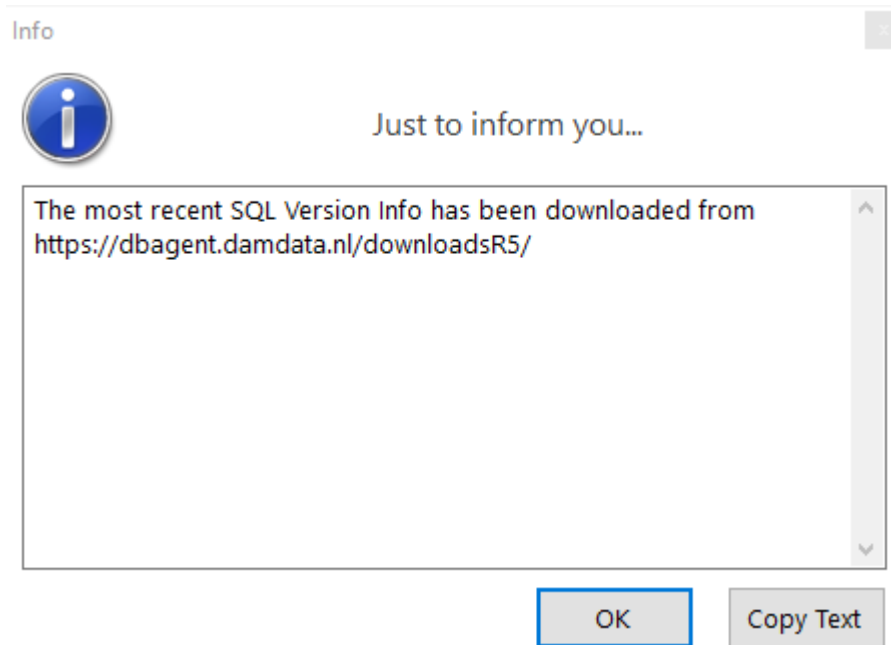


If you *do* have access and the URL's are updated, you see this:





When the SQL Server version is updated:





10 Menu tree

- Connect
- Config
 - Connections
 - Options
 - License
- Commands
 - Run Full Check
 - Run Recheck Issues
 - Run Maintenance
 - Submit Semi Automatic
- Support
 - Go to Support Desk
 - Mail to Support Desk
 - DBAgent Help
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- Exit



11 Tab tree

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- Issues
 - Overview
 - Server
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 - All Tasks
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- Logs
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- Organization
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 - Applications
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