



Data Management Services

THE BUSINESS OF EDUCATION

General Maintenance Practices for SQL Servers (SIMS Servers and Office Masters)

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Fully accredited by Capita SIMS for proven quality of SIMS support

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Introduction

Note: This guidance is intended for 3rd Party Network Support providers and onsite technical support only. These tasks will be automatically carried out at Primary phase schools that have a Fully Managed Network Support contract with HfL ICT Services.

There are several highly important recommendations that Capita SIMS and HfL ICT Services suggest to ensure smooth usage of school data, including the hardware and software associated with this data. This is especially relevant to the SIMS, FMS and SOLUS3 data, whether it's on a dedicated server or an Office Master machine (which is also used as a workstation).

The first recommendation is that a good backup solution is in place, running on a nightly basis – see page 2

Next, it is important to access SQL Server Management Studio once a month and verify that the databases are not showing up with any errors, as seen on page 3. It is also a good idea to check if a memory cap is in place on the SQL instance. If not, you may wish to consider doing so (dependant on the amount of RAM installed in the machine) – see page 4.

Check the size of the **.ldf** files in the data folder for SQL. If they become too large they will slow down the operation of SIMS – see page 5.

Do run the Re-Index Patch (22573) and Reset Statistics Patch (20647) once a month. These have been made available by us to all schools via SOLUS3.

Lastly, rebooting the SQL Server host machine, once a week for Office Masters and once a month for SIMS Servers, will help maintain good performance of the database(s), and hardware in general.

Backup Solution

There are several backup solutions available to use, whether it be an online backup or an onsite backup.

All databases, including SIMS, SOLUS3 and FMS, should be backed up on a nightly basis. Discover requires a separate backup utility be run as the SQL database does not hold graph and other settings.

The 'DocStorage' folder located in the SIMS-SP folder on the root of C:\ or D:\ also needs to be backed up in its entirety.

It cannot be stressed enough how important a viable backup solution is. Your IT Support Provider or Network Manager should ensure that they are working as expected, possibly via remote connection or during on-site visits.

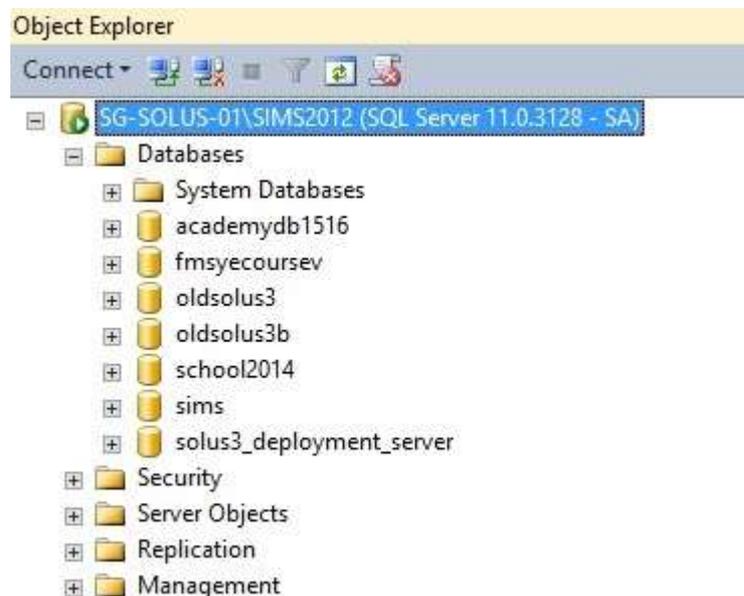
HfL ICT Services can provide backup scripts that ensure the SQL passwords are passed into the database before the backup is created, negating the need to reset passwords if a database recovery is necessary.

Microsoft SQL Server Management Studio

It is recommended that you should access this software on a Monthly basis to ensure that the databases that are in use are viable and fully operational. Your IT Support Provider or Network Manager can access this via the Start Menu on the SIMS Server/Office Master, using the SA user credentials for your school:



Once logged in, you need to expand the **Databases** section in the file tree on the left and make sure there are no error warnings attached to the databases that are in the list. If there is nothing detailed after the database names (like in the image below) everything should be working ok.



If there are any error messages associated with any of the databases, please contact your support provider. Any errors will normally show as a yellow warning triangle next to the database name.

Adding a Memory Cap

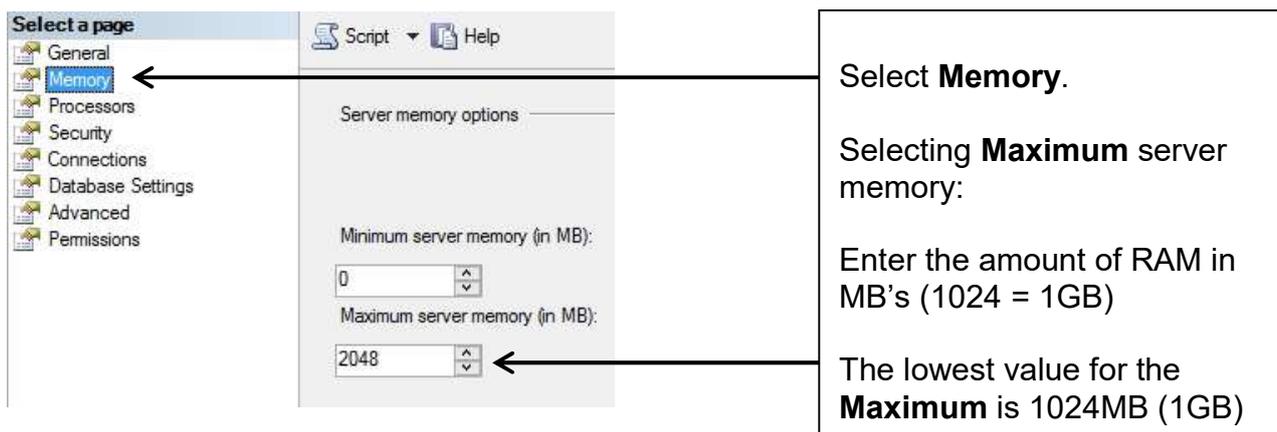
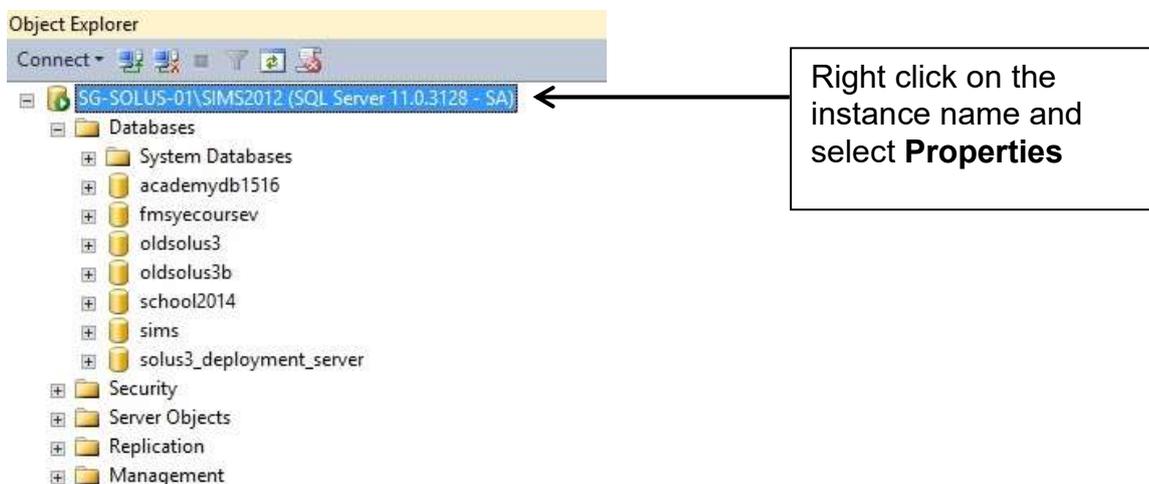
It is sometimes necessary (but always good practice) to add a memory cap to the SQL Server instance. This will ensure that SQL does not use all of the available RAM installed in the SIMS Server/Office Master, ensuring a minimum performance level. The Memory cap size is determined based on a couple of factors: the amount of RAM installed and the combined size of the databases being used. It is completely discretionary but advisable that the cap is at least half the total size of the databases in use.

Schools with higher specification servers, e.g. those with a minimum of 32Gb of RAM, can let SQL manage the amount of RAM it uses.

To see the size of the Databases navigate to:

SIMS-SP\Microsoft SQL Server\MSSQL11.SIMS2012\MSSQL\DATA, normally located on the root of C:\ or D:\ and determine the size of the files within that directory.

To set the memory cap, log into SQL Server Management Studio, and then:



The Maximum server memory MUST NOT be set below 1024MB, as this can prevent SQL from operating and may require a complete reinstallation of the SQL Server!

Shrinking Databases and Running Patches

It may be apparent on occasions that the performance of SIMS and FMS have deteriorated to a level where they are running very slowly. If this is the case you should first check the size of the **.ldf** file of the database(s), which can be found in:

SIMS-SP\Microsoft SQL Server\MSSQL11.SIMS2012\MSSQL\DATA, normally located in the root of C:\ or D:\

If this is very large it is suggestive that the database has entered 'Full Recovery Mode' and may be adversely affecting the performance of SIMS. These databases will need to be put back into 'Simple Recovery Mode' and the **.ldf** files reduced in size.

In order to do this (and rather than accessing SQL Server Management Studio) a simple and effective patch can be run. **Patch 22573** which shrinks the **SIMS .ldf** file and re-indexes the database to improve performance. And **Patch 16368** which shrinks the **FMS .ldf** file and places the database into simple recovery mode.

It is advisable to run **Patch 22573** on a monthly basis to help keep performance optimal and also to schedule **Patch 20647** to run over night on a monthly basis. These are both already available to all schools via SOLUS3.

A Capita document which outlines in more detail what these patches will do is available upon request.

Patches **22573** and **20647** have been authorised via Solus 3 to all Schools, and Patch **16368** has been authorised to all FMS schools.

Rebooting

It is not advisable to leave any computer for any length of time without a reboot.

HfL ICT Services suggest that all Database Servers are scheduled to reboot at least once a month and all Office Masters are rebooted on a weekly basis. This helps to ensure that every process is reset, RAM is released back to the Operating System and performance levels are maintained.



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