



Why do I get a warning message about exceeding allocated space when I try to archive?

When you first install Exaquantum, space is allocated for archives to be held on line. The allocated space is sometimes quite small and most systems will exceed it. The allocation should be modified when system requirements are known.

The settings for the allocated space are stored in two registry keys. These are found under `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Quantum\Server\Historian`. The values are:

ArchiveDiskSize: The maximum size of any one archive in MB. Default is 640 MB. This can be adjusted from the Archiver UI via the Advanced button

NoArchivesOnline: The minimum number of archives desired to be online at any one time. Default is 30. This can only be adjusted in the registry or by running the System Configuration Tool. Please see Chapter 13 of the Engineering Guide Volume 3 for more details on the System Configuration Tool.

You can see by the default settings that $30 \times 640 = 19200$ MB is allocated for archives. This is not enough for most systems. The correct way to set the archive space is as follows:

Determine the maximum archive size and set it in the archiver UI via the Advanced button. This is a setting that is global to all archive groups. You should consider the archive size carefully and not make it more than is easily manageable. Ideally, you are looking for a size that is big enough to limit the number of archives required but not so big as to slow down the system during creation or be difficult to move afterwards. 4 GB is a good size to use as a maximum but this can be increased according to the needs of the system. Remember that the figure is set in MB.

The second part is the number of archives setting. To calculate the correct setting for this, first decide how much space you want for online archives. This is normally determined by the amount of data that you wish to keep online. When you know how much space you want to reserve for archiving, simply divide this space by the maximum archive size. Remember to leave enough space for archiving overhead. As a guide leave at least twice the size of your maximum archive size for overhead. Also remember that there are 9 archive groups all of which store data at different rates. This data can be archived or removed as required.

The following example may help:



Note: For ease of calculation, 1 GB is assumed to be 1000 MB.

The customer has a 120 GB hard disk solely for Exaquantum databases. Data throughput is moderate and the core databases are set to be around 40 GB. The maximum archive size is set to 4000 MB via the Archiver UI. At least 8 GB needs to be reserved for overhead. This leaves 72 GB for online archives. So the number of archives is calculated as $72000 \text{ archive space} / 4000 \text{ archive size} = 18 \text{ archives}$.

Therefore, the value that should be set for the NoArchivesOnline is 18 and the value for the ArchiveDiskSize should be 4000.

With the settings of 18 and 4000 the calculation works like this. An archive is attempted. The archiver makes the calculation of $18 * 4000 = 72000 \text{ MB}$ to get the size of the archive pool. Then the archiver subtracts the size of all currently online archives. This leaves a figure of space left for new archives. The archiver knows the size of the new archive and works out if there is enough room to add it to the archive pool. If there isn't, the archiver then checks the TOTAL disk size of the archive location. The results are as follows:

- 1) If there is enough space in the archive pool, the archive is created.
- 2) If there is not enough space in the archive pool but there is enough on the disk, a warning will be shown but the archive can still be created.
- 3) If there is not enough space in the archive pool and there is not enough on the disk, an error is shown and the archive is not created.

Note on case 2). This can be a problem if the disk space is quite small as the overhead needed for the archive is not included in the calculation. Do not proceed with the archive if there is less than $\text{archive size} * 2$ of free disk space. Overhead is required because the data is first copied from the live database to the archive database and then removed from the live database. There is also overhead due to transactions being stored.