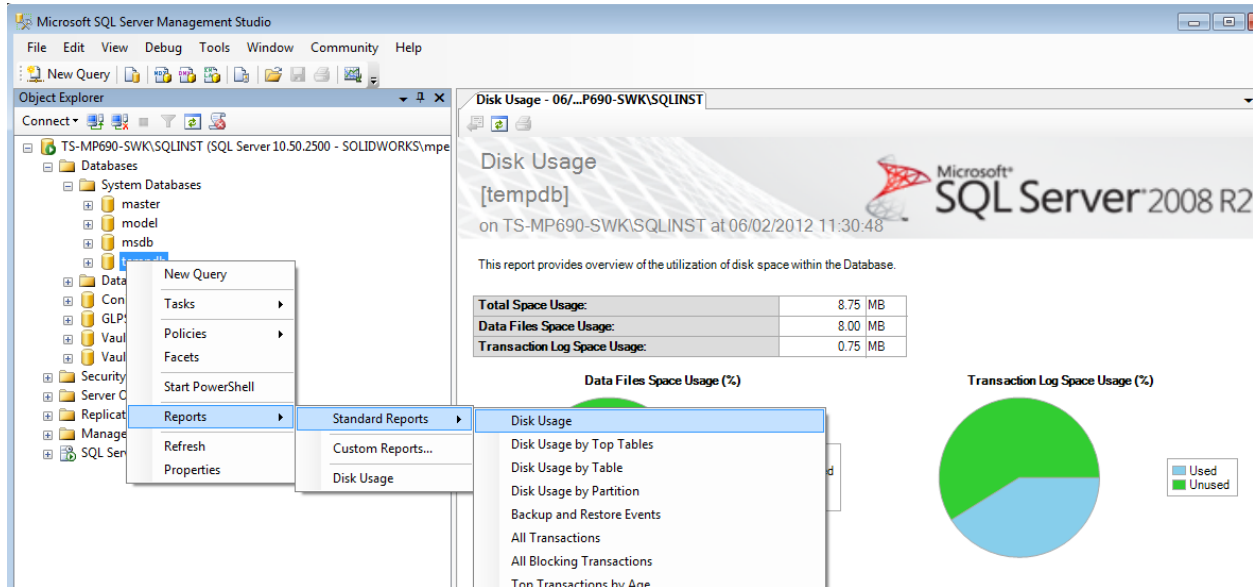# How can I manually change the size of the datafiles that SQL Server uses for tempdb ?

The current size of the tempdb physical files can be viewed in SQL Server Management Studio by selecting tempdb, then RMB -> Reports -> Standard Reports -> Disk Usage.

In this report dialog you can also expand the "Data/Log Files Autogrow/Autoshrink events" section to see how Autogrow has been used

Alternatively you can select tempdb then RMB --> New Query and issue this SQL command:

```
SELECT name, physical_name, type_desc, size/128 as [Size in MB]
       FROM sys.database_files
```

[By default the Size column shows current size of the file in 8KB pages, so divide by 128 to convert to MB]
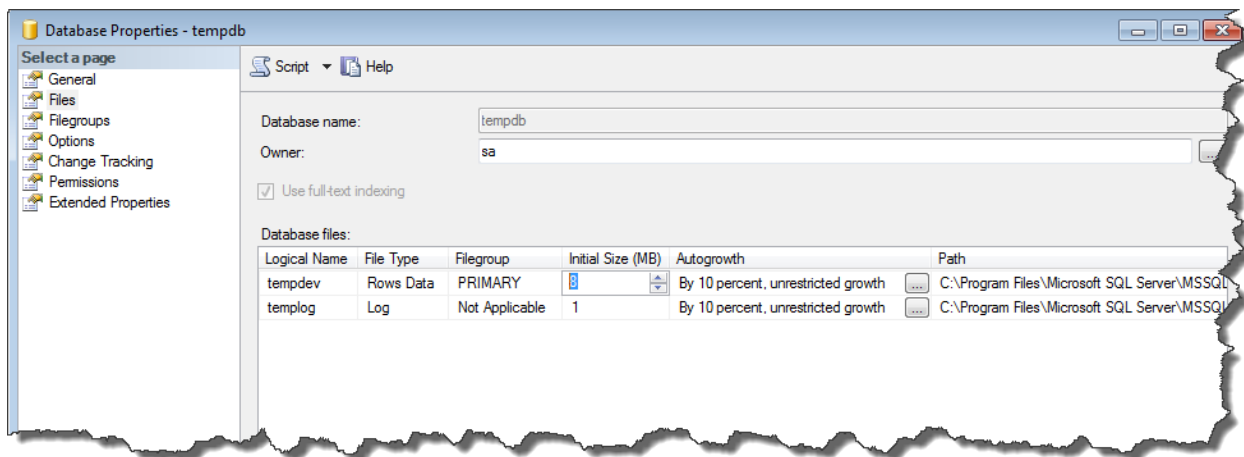
Note that tempdb is recreated whenever SQL Server is restarted, with files of default sizes. Over time, as SQL Server uses tempdb as its working area, it will grow until it reaches a typical working size.

On many SQL Server instances tempdb is set to a default configuration of one datafile of 8MB and a transaction log file of 0.5MB or 1 MB with autogrow set at 10% for both. When SQL Server is restarted, tempdb is recreated with files of these original sizes. After a restart, a heavily used tempdb which has not been pre-sized will have to grow very frequently causing processing (and logging) overhead for each autogrow event, and in the process creating very fragmented files.

A better approach is to establish a suitable size for the datafiles based on typical usage and then manually set the file target size based on experience. Adding an extra 20% buffer can help ensure that auto growth is minimized

Remember that tempdb is recreated with the default file sizes whenever SQL Server is restarted, so to get an accurate view of the required tempbd size you need to have a period of continuous operation of SQL Server (without a restart) and including a range of typical user activities so that tempdb is properly exercised and has grown to the working size.

With this target size in mind, the size of tempdb physical files can be set using SQL Server Management Studio. Select tempdb RMB -> Properties -> Files.

Or you could Select tempdb RMB -> New Query and use the ALTER DATABASE command, as in this example, which sets the database at 1GB and the log file at 0.5GB:

```
ALTER DATABASE tempdb
MODIFY FILE (NAME = 'tempdev', SIZE = 1024MB);
ALTER DATABASE tempdb
MODIFY FILE (NAME = 'templog', SIZE = 512MB);
```

Whatever size you choose for tempdb, it is good practice to leave auto growth enabled on the database. We intend to avoid auto growth if possible, but it is wise to have it available so that tempdb does not run out of space in an emergency.

If the datafile is modified to an explicit size (as above), then this is the size that will be used whenever tempdb is recreated, so a single contiguous file will now be used even after a restart.