

This article will focus on **Microsoft SQL Server** databases and the maintenance routines that should be scheduled as tasks on the NT Server where SQL Server is running. Before we get started, it should be stressed that you should ensure that your SQL Server databases are getting backed up on a regular basis. When SQL Server is running, all SQL databases on that server are open. Therefore, your backup tape software may not be backing up your database unless one of the following is in place:

1. Your tape software includes a SQL Server agent capable of backing up these open database files.
2. You schedule SQL Server to stop before the scheduled back up kicks in and then restart sometime after the backup is completed.
3. You run a scheduled task which exports the database tables so they can be backed up by the backup software.

SQL Server Transaction Logs

First, let's cover SQL Server Database transaction logs. A SQL Server Database transaction log is a SQL Server database file that keeps track of every change made to the database. Every single add, delete, and update, as well as changes to table structures are logged to this transaction log. Each database has its own transaction log. With SQL Server 6.5, the transaction log was placed into a database "device" which had a finite limit as defined when the database was created. When the transaction log size reached this limit, an error was displayed telling the user that the transaction log was full. When that happened, the transaction log was "dumped" which means the transactions were cleared out to make room for new transactions.

SQL Server 7.0 treats transaction logs differently than SQL Server 6.5. Instead of being placed into a database device, the transaction log is placed into a file that is only limited by the amount of disk space available on the disk drive where the file is placed. Therefore, this transaction log can continue to grow until the entire disk drive is full which is not a good situation. So, the transaction log should be periodically dumped to clear out old transactions.

To avoid filling up your server's disk drive, we recommend scheduling a weekly task that runs after the database back up which will dump the transaction log. You can use SQL Server's scheduled tasks feature or NT Scheduler to do this. The following details the steps involved in setting up this task. If you don't feel comfortable with performing these functions, be sure to contact hal Technical Support.

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Truncate database and log files (once a week)

1. In SQL Server Enterprise Manager, select Tools | Job Scheduling from the menu.
2. Click next.
3. Click Transact SQL command.
4. Click next.
5. Select master as the database.
6. Type the following in the transact SQL statement text box:

Dump tran xxxHFWyy with no_log (where 'xxx' is your application id and 'yy' is your database id)

Go

Backup log xxxHFWyy with no_log

Go

Dbcc shrinkdatabase (xxxHFWyy,1)

Go

7. Click next.
8. Click on a recurring basis.
9. Click schedule.
10. Click weekly.
11. Every 1 week.
12. Check Saturday.
13. Occurs once at 11:59 PM (sometime after your tape backup).
14. Click no end date.
15. Click OK.
16. Click next.
17. Click next.
18. Type Truncate Log xxxHFWyy (this names the scheduled task).
19. Click Finished.
20. Click OK.
21. Start Enterprise Manager.
22. Expand SQL Server Group.
23. Expand your server name.
24. Expand databases.
25. Right click on xxxHFWyy and click properties.
26. Click on Options tab.
27. Check auto shrink.
28. Check truncate log on checkpoint.
29. Click OK.

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Database Indexes

The second item we want to cover here is a scheduled task to rebuild your database indexes. Indexes are used to retrieve data quickly and, by re-building your indexes, you may improve the time it takes to save records to the database and retrieve records from your database. Here are the steps.

Re-index (once a month)

1. Go into SQL Enterprise Manager.
2. Expand SQL Server Group.
3. Expand server name.
4. Expand databases.
5. Click once on FILE database (xxxHFWyy).
6. Select Tools-Database Maintenance Planner from the menu.
7. Click next.
8. Check any databases in the form xxxHFWyy.
9. Click next.
10. Click reorganize data and index pages.
11. Click change.
12. Click monthly and set to 1st Sunday of every month at 11:59 PM (sometime after your tape backup).
13. Click next.
14. Click next.
15. Uncheck backup database.
16. Click next.
17. Uncheck backup transaction log.
18. Click next.
19. Click next.
20. Click next.
21. Click finished.

Your data is very valuable to your business so take steps to protect it. Regular backups with tape rotation as well as scheduling the above tasks will help ensure database integrity and security.