MS SQL Server DBA Troubleshooting Tips

Sl No	Problem Reported / General point	Environment / Comments	Fix / Solution.
26	To get the index_defragmentation values for all the indexes in the specified database represented by the DBID parameter.	ANY SQL INSTANCE	**Use** master GO **SELECT** ip.database_id, ip.**OBJECT_ID**, ip.index_id, b.**name**, ip.avg_fragmentation_in_percent FROM sys.dm_db_index_physical_stats (DB_ID(<DBName>), NULL, NULL, NULL, NULL) **as** ip INNER JOIN sys.indexes **as** i ON ip.**OBJECT_ID** = i.**OBJECT_ID** AND ip.index_id = i.index_id WHERE ip.database_id = **DB_ID**(<DBName>) **ORDER BY** ip.**OBJECT_ID** GO **Query giving more details like Table name,Index Type etc.** **SELECT** tbl.[name] TableName, ind.[name] IndexName, mn.index_type_desc IndexType,

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			mn.avg_fragmentation_in_percent [FRAG_%] FROM sys.dm_db_index_physical_stats (null, null, null, null, null)as mn inner join sys.tables tbl on tbl.[object_id] = mn.[object_id] inner join sys.indexes ind on ind.[object_id] = mn.[object_id] WHERE [database_id] = db_id(<DBNAme>) ORDER BY mn.avg_fragmentation_in_percent DESC GO
27	Query related to io wait stats collection		SELECT DB_NAME(database_id),* FROM sys.dm_io_virtual_file_stats (2,1) SELECT * FROM sys.dm_os_waiting_tasks SELECT ot.waiting_task_address, ot.session_id, [text] FROM sys.dm_os_waiting_tasks ot inner join sys.dm_exec_requests er ON ot.session_id = er.session_id cross apply sys.dm_exec_sql_text(sql_handle) cross apply sys.dm_exec_query_plan(plan_handle) WHERE ot.session_id > 50

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28	Script to see the currently running code and its related analysis.		SELECT wt.waiting_task_address, wt.session_id, [text] FROM sys.dm_os_waiting_tasks OT inner join sys.dm_exec_requests er ON ot.session_id = er.session_id cross apply sys.dm_exec_sql_text(sql_handle) cross apply sys.dm_exec_query_plan(plan_handle) WHERE wt.session_id > 50
29. a	Query to get the session related statistics including the CPU , I\O etc.		SELECT * FROM sys.dm_exec_sessions WHERE is_user_process = 1 AND writes > 0 For average values SELECT AVG(cpu_time) as "CPU_Time",AVG(memory_usage) as "Memory_Usage",AVG(logical_reads) as "Logical_Reads",AVG(total_scheduled_time) as "Total_Scheduled_Time",AVG(total_elapsed_time) as "Elapsed Total Time" FROM sys.dm_exec_sessions WHERE is_user_process = 1 AND writes > 0

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29. b	Queries to get the info on query specific to a database.		• From query stats dmv below , pick the required sqlhandle against the required database and supply it as a parameter to the dm_exec_sql_text(sqlhandle) **SELECT** * **FROM** sys.dm_exec_query_stats **SELECT** * **FROM** sys.sysdatabases **SELECT** * **FROM** sys.dm_exec_connections -- select * from sys.dm_exec_sql_text(sqlhandle) **SELECT** * **FROM** sys.dm_exec_sql_text(0x0300FF7F714B96F927335101F39F000001000000000000000000000000000000000000000000)
30	Query to check fragmentation in all the indexes on all the tables on all the databses on an SQL Server.		Example USE master; GO **SELECT** b.name,c.name,ps.avg_fragmentation_in_percent **FROM** sys.dm_db_index_physical_stats (NULL, NULL, NULL, NULL , 'DETAILED') AS PS

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			INNER JOIN sys.indexes AS b ON ps.OBJECT_ID = b.OBJECT_ID AND ps.index_id = b.index_id AND ps.avg_fragmentation_in_percent > 30 INNER JOIN sys.databases as c ON c.database_id = ps.database_id GO
31	Link between the table and index's master table.		EXEC sp_MSforeachdb 'USE ? select ''?'' as DatabaseName, st.name as TableName,si.name as IndexName from sys.indexes si inner join sys.tables st ON si.object_id = st.object_id WHERE si.name LIKE ''%INDEXNAME%'''
32	Solution for logical consistency based error (torn-page) in an mdf file.		EXEC sp_resetstatus <dbname> ; ALTER DATABASE <dbname> SET EMERGENCY DBCC CHECKDB('<dbname> ') ALTER DATABASE <dbname> SINGLE_USER WITH ROLLBACK IMMEDIATE DBCC CHECKDB ('<dbname> ` , REPAIR_ALLOW_DATA_LOSS) ALTER DATABASE yourDBname SET MULTI_USER
33	To check the kind of index on the corrupted page and then restore the torn page		DBCC TRACEON (3604, -1) GO DBCC PAGE('yourdb', 1, 45242, 3) GO Output:

	from a backup set.		*Metadata: IndexId = n*
			
			If n is greater than 1 it is a non-clustered index which can be dropped and recreated. If n is 0 or 1 you have data corruption and need to perform one of the options described below.
			
			Restoring from a backup
			If the recovery model is FULL (or BULK_LOGGED, with some limitations), backup the tail of the log, perform a DB restore (with norecovery) from the last full backup log backups in chronological order and finally the tail of the log.
			
			To restore on a single bad page ,you have the option restoring only the bad pages as below:
			
			`RESTORE DATABASE yourdb PAGE = '1:45242'`
			`FROM DISK = 'C:\DBpathfile.bak'`
			`WITH NORECOVERY`

34	When you need to force failover to the mirrored server in case the principle is not available		ALTER DATABASE <database_name> SET PARTNER FORCE_SERVICE_ALLOW_DATA_LOSS

	you can issue this.		
35	To enable mirroring on an SQL server.		If you want to start testing database mirroring in SQL Server 2005 and later, you will need to enable a trace flag on your SQL Server 2005 instance. To do so, you will need to modify the start-up flags for the SQL Server executable and add the following option: **-T1400** . Please note that the **-T** is case sensitive and must be uppercase. To add this start-up option to the SQL Server 2005 executable, you can use the **SQL Server Configuration Manager** tool from the *Configuration Tools* program sub-group in the SQL Server 2005 program group, Under *SQL Server Services*, right-click on the SQL Server service you want to enable Database Mirroring on and then on the Advanced tab and modify the Startup Parameters value to add **-T1400** to the list of parameters. Make sure to separate any new parameters by a semi-colon (;). Stop and re-start your SQL Server service to enable this option. After doing so you will be able to configure database mirroring for any of your user databases by right-clicking on the database or by using a script.