Gospel According to SQL Server

Scripts that saves live

Spis treści

[1) Maintainance 3](#_Toc58331776)

[1.1) Size of all tables 3](#_Toc58331777)

[1.2) Find all objects containing text 4](#_Toc58331778)

# 1) Maintainance

## 1.1) Size of all tables[[1]](#footnote-1)

Query to list size of the tables in SQL Server database.

|  |
| --- |
| SELECT  t.NAME AS TableName,  s.Name AS SchemaName,  p.rows,  SUM(a.total\_pages) \* 8 AS TotalSpaceKB,  CAST(ROUND(((SUM(a.total\_pages) \* 8) / 1024.00), 2) AS NUMERIC(36, 2)) AS TotalSpaceMB,  SUM(a.used\_pages) \* 8 AS UsedSpaceKB,  CAST(ROUND(((SUM(a.used\_pages) \* 8) / 1024.00), 2) AS NUMERIC(36, 2)) AS UsedSpaceMB,  (SUM(a.total\_pages) - SUM(a.used\_pages)) \* 8 AS UnusedSpaceKB,  CAST(ROUND(((SUM(a.total\_pages) - SUM(a.used\_pages)) \* 8) / 1024.00, 2) AS NUMERIC(36, 2)) AS UnusedSpaceMB  FROM  sys.tables t  INNER JOIN  sys.indexes i ON t.OBJECT\_ID = i.object\_id  INNER JOIN  sys.partitions p ON i.object\_id = p.OBJECT\_ID AND i.index\_id = p.index\_id  INNER JOIN  sys.allocation\_units a ON p.partition\_id = a.container\_id  LEFT OUTER JOIN  sys.schemas s ON t.schema\_id = s.schema\_id  WHERE  t.NAME NOT LIKE 'dt%'  AND t.is\_ms\_shipped = 0  AND i.OBJECT\_ID > 255  GROUP BY  t.Name, s.Name, p.Rows  ORDER BY  TotalSpaceMB DESC, t.Name |

## 1.2) Find all objects containing text[[2]](#footnote-2)

Query used for searching the objects (i.e. Triggers/Views) which contains the specific text in their definition.

|  |
| --- |
| SELECT DISTINCT  a.[name]  FROM  sysobjects a  INNER JOIN syscomments b on a.id = b.id  WHERE  b.[text] LIKE '%[search-term]%' |

## 1.3) Cleaning buffers

Should also have the CHECKPOINT

|  |
| --- |
| CHECKPOINT  DBCC DROPCLEANBUFFERS  DBCC FREEPROCCACHE |

## 1.4) Find fragmented indexes

Query which finds the fragmented indexes

|  |
| --- |
| SELECT  S.name as 'Schema',  T.name as 'Table',  I.name as 'Index',  DDIPS.avg\_fragmentation\_in\_percent,  DDIPS.page\_count  FROM  sys.dm\_db\_index\_physical\_stats (DB\_ID(), NULL, NULL, NULL, NULL) AS DDIPS  INNER JOIN sys.tables T on T.object\_id = DDIPS.object\_id  INNER JOIN sys.schemas S on T.schema\_id = S.schema\_id  INNER JOIN sys.indexes I ON I.object\_id = DDIPS.object\_id AND DDIPS.index\_id = I.index\_id  WHERE  DDIPS.database\_id = DB\_ID()  AND I.name IS NOT NULL  AND DDIPS.avg\_fragmentation\_in\_percent > 0  ORDER BY  DDIPS.avg\_fragmentation\_in\_percent DESC |

# 2) Definition

## 2.1) Index creation

Idempotent index creation

|  |
| --- |
| IF EXISTS (SELECT 1 FROM sys.indexes WHERE name = @NAME)  BEGIN  DROP INDEX @NAME ON @TABLE  END  GO  CREATE INDEX @NAME ON @TABLE(...)  GO |

## 2.2) Rebuilding the table to other clustering

Set of command to achieve different physical sorting

|  |
| --- |
| -- Drop of PK constraint  ALTER TABLE @TABLE DROP CONSTRAINT @PK\_CONSTRAINT WITH ( ONLINE = OFF )  -- New clustering  CREATE CLUSTERED INDEX @NAME ON @TABLE(...);  -- New unique column  ALTER TABLE @TABLE ADD CONSTRAINT @PK\_CONSTRAINT PRIMARY KEY NONCLUSTERED ();  GO |

# 3) Diagnostics

## 2.1) Finding queries – what do they’re waiting for

Find out the queries which wait for something.

|  |
| --- |
| WITH aux\_transactions AS(  SELECT  [session\_to\_transaction].[session\_id],  MIN([transactions].[database\_transaction\_begin\_time]) AS [begin\_time]  FROM  sys.dm\_tran\_session\_transactions [session\_to\_transaction]  INNER JOIN sys.dm\_tran\_database\_transactions [transactions] ON [transactions].[transaction\_id] = [session\_to\_transaction].[transaction\_id]  WHERE  [transactions].[database\_transaction\_state] <= 5  GROUP BY  [session\_to\_transaction].[session\_id]  )  SELECT  [waits].[blocking\_session\_id] AS [blocking\_session\_id],  [waits].[session\_id] AS [session\_id],  [databases].[name] AS [database\_name],  [sessions].[nt\_user\_name] AS [nt\_user\_name],  [requests].[start\_time] AS [blocked\_request\_start\_time],  CONVERT(CHAR(8), DATEADD(second, DATEDIFF(ss, [requests].[start\_time], DATEADD(ms, [requests].[total\_elapsed\_time], [requests].[start\_time])), 0), 108) AS [blocked\_total\_elapsed],  CONVERT(CHAR(8), DATEADD(second, DATEDIFF(ss, [requests].[start\_time], DATEADD(ms, [requests].[cpu\_time], [requests].[start\_time])), 0), 108) AS [blocked\_cpu\_elapsed],  CONVERT(CHAR(8), DATEADD(second, DATEDIFF(ss, [aux].[begin\_time], GETDATE()), 0), 108) AS [blocking\_transaction\_total\_elapsed],  [requests].[total\_elapsed\_time] AS [blocked\_total\_elapsed\_time],  [waits].[wait\_duration\_ms] AS [wait\_duration\_ms],  [waits].[wait\_type] AS [wait\_type],  CONCAT([tasks].[pending\_io\_count], '/', [pending\_io\_byte\_count], '/', [pending\_io\_byte\_average]) AS [pending\_io\_cba],  CONCAT([requests].[cpu\_time], '/', [requests].[total\_elapsed\_time]) AS [cpu\_ratio],  CONCAT([requests].[cpu\_time] \*100 / CASE WHEN [requests].[total\_elapsed\_time] = 0 THEN 1 ELSE[requests].[total\_elapsed\_time] END,'%') AS [cpu\_percent],  [sessions].[memory\_usage] AS [memory\_8kb\_pages],  [sessions].[row\_count] AS [row\_count],  [sessions].[open\_transaction\_count] AS [open\_transaction\_count],  [blocking\_plan].text AS [blocking\_query],  [plan].text AS [waiting\_query],  [query\_plan].[query\_plan] AS [waiting\_plan],  [eqmg].[dop] AS [grant\_dop],  [eqmg].[granted\_memory\_kb] AS [memory\_granted\_memory\_kb],  [eqmg].[query\_cost] AS [memory\_query\_cost],  [waits].[resource\_description] AS [resource\_description],  [blocked\_databases].[name] AS [blocked\_database\_name],  CAST ('https://www.sqlskills.com/help/waits/' + [waits].[wait\_type] as XML) AS [Help/Info URL]  FROM  sys.dm\_os\_waiting\_tasks [waits]  INNER JOIN sys.dm\_os\_tasks [tasks] ON waits.[waiting\_task\_address] = [tasks].[task\_address]  INNER JOIN sys.dm\_exec\_sessions [sessions] ON [waits].[session\_id] = [sessions].[session\_id]  INNER JOIN sys.dm\_exec\_sessions [blocking\_sessions] ON [waits].[blocking\_session\_id] = [blocking\_sessions].[session\_id]  INNER JOIN sys.dm\_exec\_requests [requests] ON [sessions].[session\_id] = [requests].[session\_id]  INNER JOIN sys.databases [databases] ON [sessions].[database\_id] = [databases].[database\_id]  INNER JOIN sys.databases [blocked\_databases] ON [blocking\_sessions].[database\_id] = [blocked\_databases].[database\_id]  FULL JOIN sys.dm\_exec\_query\_memory\_grants [eqmg] ON [waits].[session\_id] = [eqmg].[session\_id]  FULL JOIN sys.dm\_exec\_connections [blocking\_connection] ON [waits].[blocking\_session\_id] = [blocking\_connection].[session\_id]  FULL JOIN aux\_transactions [aux] ON [aux].[session\_id] = [blocking\_connection].[session\_id]  OUTER APPLY sys.dm\_exec\_sql\_text ([blocking\_connection].[most\_recent\_sql\_handle]) [blocking\_plan]  OUTER APPLY sys.dm\_exec\_sql\_text ([requests].[sql\_handle]) [plan]  OUTER APPLY sys.dm\_exec\_query\_plan ([requests].[plan\_handle]) [query\_plan]  WHERE  [sessions].[is\_user\_process] = 1  ORDER BY  [waits].[blocking\_session\_id],  [waits].[session\_id]; |

1. <https://stackoverflow.com/questions/7892334/get-size-of-all-tables-in-database> [↑](#footnote-ref-1)
2. <https://coderwall.com/p/hytfaq/find-all-objects-containing-specific-text-in-sql-server> [↑](#footnote-ref-2)