

MS SQL New functions, syntaxes, tips & tricks

DAMIR MATEŠIĆ, MVP

Damir Matešić, mag. inf.

Senior Database Developer @Span.eu

AD 2018 - Leading Data Events in Croatia

AD 2019 - Introduced SQL Saturday in Croatia

AD 2020 - Co-founder & organizer of #Dataweekender...

W: blog.matesic.info

@: dmatesic@gmail.com

in: linkedin.com/in/dmatesic



Slides & Demos

<https://github.com/matesic-damir/presentations>

COMPRESS AND DECOMPRESS

2016+

ROW, PAGE...

Syntax:

COMPRESS (expression)

- **Expression** - nvarchar(n), nvarchar(max), varchar(n), varchar(max), varbinary(n), varbinary(max), char(n), nchar(n), or binary(n) expression.

- **Return**

GZIP

INDEX

XML, Log-s, Rarely used data

COMPRESS AND DECOMPRESS

Opposite of COMPRESS?

Syntax:

DECOMPRESS (expression)

- **Expression** - Is a varbinary(n), varbinary(max), or binary(n)
- **Return** -> data in varbinary(max)

Casting is recommended

STRING_SPLIT – SQL 2016

STRING_SPLIT (string , separator)

- table-valued function
- splitting string values by a separator

STRING_SPLIT – SQL 2022

STRING_SPLIT (string , separator [, enable_ordinal])

STRING_AGG – SQL 2017

STRING_AGG

- string aggregation using a separator

DATE_BUCKET

DATE_BUCKET(<datepart>, <bucket_width>, <input date/time> [, <origin>])

datePart

day

week

month

quarter

year

hour

minute

second

millisecond

Abbreviations

dd, d

wk, ww

mm, m

qq, q

yy, yyyy

hh

mi, n

ss, s

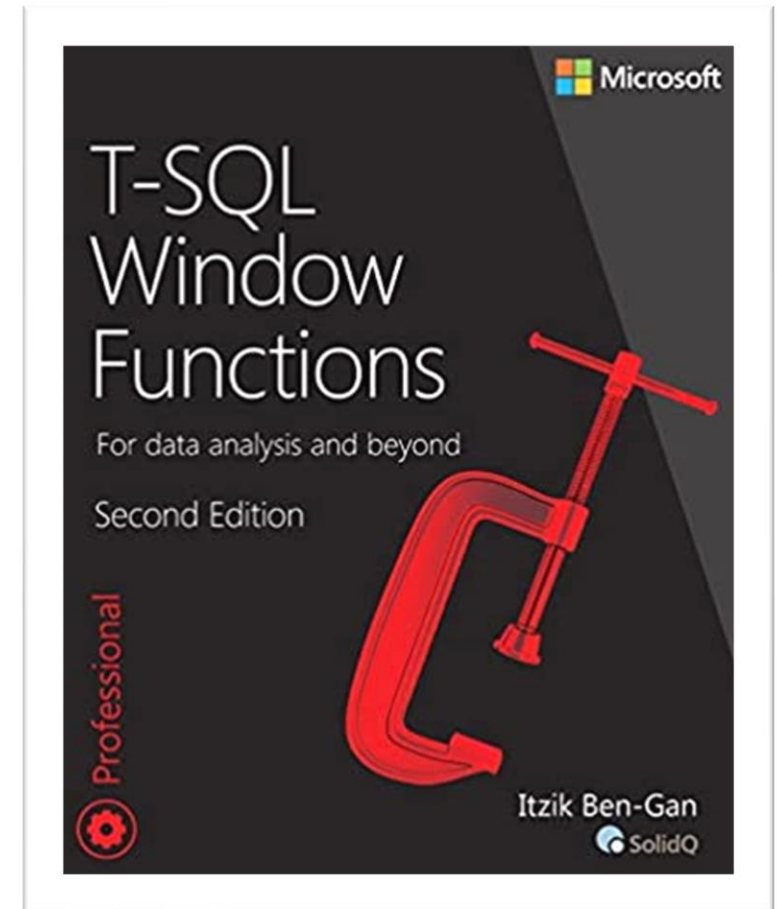
ms

GENERATE_SERIES

GENERATE_SERIES(<start>, <stop> [, STEP = <step>])

WINDOW

Itzik Ben-Gan



The WINDOW Clause

```
WINDOW window_name AS (  
    [ reference_window_name ]  
    [ <PARTITION BY clause> ]  
    [ <ORDER BY clause> ]  
    [ <ROW or RANGE clause> ]  
)
```

```
SELECT  
FROM  
WHERE  
GROUP BY  
HAVING  
WINDOW  
ORDER BY
```

FIRST_VALUE, LAST_VALUE

FIRST/LAST_VALUE ([scalar_expression])

OVER ([partition_by_clause] order_by_clause [rows_range_clause])

TRIM, LTRIM, RTRIM

LTRIM (character_expression , [characters])

RTRIM (character_expression , [characters])

TRIM ([LEADING | TRAILING | BOTH] [characters FROM] string)

IS NOT DISTINCT (The Distinct Predicate)

IS [NOT] DISTINCT FROM

```
DECLARE @dt AS DATE = '20220212';
```

```
SELECT orderid, shippeddate
```

```
FROM Sales.Orders
```

```
WHERE shippeddate = @dt;
```

```
DECLARE @dt AS DATE = NULL; ??
```

GREATEST() & LEAST()

GREATEST/LEAST (expression1 [,...expressionN])

same data type or [implicitly convert](#)

NULL

Types not supported for comparison: varchar(max), varbinary(max) or nvarchar(max) exceeding 8,000 bytes, cursor, geometry, geography, image, non-byte-ordered user-defined types, ntext, table, text, and xml.

Approximate Percentile Functions

PERCENTILE_CONT i PERCENTILE_DISC - SQL Server 2005 and later

APPROX_PERCENTILE_CONT i APPROX_PERCENTILE_DISC

DATETRUNC

DATETRUNC (datepart, date)

HASHBYTES

SQL 2005 - ~~MD2, MD4, MD5, SHA, SHA1~~

SQL 2012 - SHA2_256, SHA2_512

- Input: 8 000 bytes



DEMO