

SQL Server Tutorial

Part 113 - NTILE function in SQL Server

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In this session we will learn

- NTILE function in SQL Server

Link to Dot Net Basics, ASP.NET, C#, ADO.NET and SQL Server video series

<http://www.youtube.com/user/kudvenkat/playlists>

Suggested Videos

Part 110 - RANK and DENSE_RANK in SQL Server

Part 111 - Difference between rank dense_rank and row_number in SQL

Part 112 - Calculate running total in SQL Server 2012

NTILE function in SQL Server

If you are in need of the DVD with all the videos and PPT's, please visit
<http://pragimtech.com/order.aspx>

NTILE function

- Introduced in SQL Server 2005
- ORDER BY Clause is required
- PARTITION BY clause is optional
- Distributes the rows into a specified number of groups
- If the number of rows is not divisible by number of groups, you may have groups of two different sizes.
- Larger groups come before smaller groups
- For example,
 - NTILE(2) of 10 rows divides the rows in 2 Groups (5 in each group)
 - NTILE(3) of 10 rows divides the rows in 3 Groups (4 in first group, 3 in 2nd & 3rd group)

Syntax: `NTILE (Number_of_Groups) OVER (ORDER BY Col1, Col2, ...)`

NTILE function in SQL Server

NTILE function without PARTITION BY clause: Divides the 10 rows into 3 groups. 4 rows in first group, 3 rows in the 2nd & 3rd group

```
SELECT Name, Gender, Salary,  
NTILE(3) OVER (ORDER BY Salary) AS [Ntile]  
FROM Employees
```

Id	Name	Gender	Salary		Name	Gender	Salary	Ntile
1	Mark	Male	5000		Todd	Male	3500	1
2	John	Male	4500		Sara	Female	4000	1
3	Pam	Female	5500		John	Male	4500	1
4	Sara	Female	4000		Mark	Male	5000	1
5	Todd	Male	3500	→	Mary	Female	5000	2
6	Mary	Female	5000		Ron	Male	5000	2
7	Ben	Male	6500		Tom	Male	5500	2
8	Jodi	Female	7000		Pam	Female	5500	3
9	Tom	Male	5500		Ben	Male	6500	3
10	Ron	Male	5000		Jodi	Female	7000	3

NTILE function in SQL Server

What if the specified number of groups is GREATER THAN the number of rows
It will try to create as many groups as possible with one row in each group.

With 10 rows in the table, NTILE(11) will create 10 groups with 1 row in each group.

```
SELECT Name, Gender, Salary,  
NTILE(11) OVER (ORDER BY Salary) AS [Ntile]  
FROM Employees
```

Id	Name	Gender	Salary		Name	Gender	Salary	Ntile
1	Mark	Male	5000		Todd	Male	3500	1
2	John	Male	4500		Sara	Female	4000	2
3	Pam	Female	5500		John	Male	4500	3
4	Sara	Female	4000		Mark	Male	5000	4
5	Todd	Male	3500	→	Mary	Female	5000	5
6	Mary	Female	5000		Ron	Male	5000	6
7	Ben	Male	6500		Tom	Male	5500	7
8	Jodi	Female	7000		Pam	Female	5500	8
9	Tom	Male	5500		Ben	Male	6500	9
10	Ron	Male	5000		Jodi	Female	7000	10

NTILE function in SQL Server

NTILE function with PARTITION BY clause : When the data is partitioned, NTILE function creates the specified number of groups within each partition.

The following query partitions the data into 2 partitions (Male & Female). NTILE(3) creates 3 groups in each of the partitions.

```
SELECT Name, Gender, Salary,  
NTILE(3) OVER (PARTITION BY GENDER ORDER BY Salary) AS [Ntile]  
FROM Employees
```

Id	Name	Gender	Salary		Name	Gender	Salary	Ntile
1	Mark	Male	5000		Sara	Female	4000	1
2	John	Male	4500		Mary	Female	5000	1
3	Pam	Female	5500		Pam	Female	5500	2
4	Sara	Female	4000		Jodi	Female	7000	3
5	Todd	Male	3500	→	Todd	Male	3500	1
6	Mary	Female	5000		John	Male	4500	1
7	Ben	Male	6500		Mark	Male	5000	2
8	Jodi	Female	7000		Ron	Male	5000	2
9	Tom	Male	5500		Tom	Male	5500	3
10	Ron	Male	5000		Ben	Male	6500	3

Additional Resources

PRAGIM Home Page:

www.PragimTech.com

Resources:

C#, ADO.NET, ASP.NET, SQL Server & MVC youtube Playlists

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