

# SQL Server Tutorial

## Part 108 - Over clause in SQL Server

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# In this session we will learn

- Over clause 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 105 - Grouping function in SQL Server**

**Part 106 - Grouping\_Id function in SQL Server**

**Part 107 - Debugging SQL Server stored procedures**

# Over clause 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>

The **OVER clause** combined with **PARTITION BY** is used to break up data into partitions. The specified function operates for each partition

**Syntax:** `function (...) OVER (PARTITION BY col1, Col2, ...)`

**For example :** `COUNT (Gender) OVER (PARTITION BY Gender)` will partition the data by **GENDER** i.e there will 2 partitions (Male and Female) and then the **COUNT()** function is applied over each partition

**Any of the following functions can be used**

**COUNT(), AVG(), SUM(), MIN(), MAX(), ROW\_NUMBER(), RANK(), DENSE\_RANK() etc**

# Over clause in SQL Server

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

```
SELECT Gender, COUNT(*) AS GenderTotal, AVG(Salary) AS AvgSal,  
        MIN(Salary) AS MinSal, MAX(Salary) AS MaxSal  
FROM Employees  
GROUP BY Gender
```

Gender	GenderTotal	AvgSal	MinSal	MaxSal
Female	4	5375	4000	7000
Male	6	5000	3500	6500

# Over clause in SQL Server

What if we want non-aggregated values (like employee Name and Salary) in result set along with aggregated values

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

Name	Salary	Gender	GenderTotals	AvgSal	MinSal	MaxSal
Pam	5500	Female	4	5375	4000	7000
Sara	4000	Female	4	5375	4000	7000
Mary	5000	Female	4	5375	4000	7000
Jodi	7000	Female	4	5375	4000	7000
Tom	5500	Male	6	5000	3500	6500
Ron	5000	Male	6	5000	3500	6500
Ben	6500	Male	6	5000	3500	6500
Todd	3500	Male	6	5000	3500	6500
Mark	5000	Male	6	5000	3500	6500
John	4500	Male	6	5000	3500	6500

```
SELECT Name, Salary, Gender, COUNT(*) AS GenderTotal, AVG(Salary) AS AvgSal,  
       MIN(Salary) AS MinSal, MAX(Salary) AS MaxSal  
FROM Employees  
GROUP BY Gender
```

Column 'Employees.Name' is invalid in the select list because it is not contained in either an aggregate function or the GROUP BY clause

# Over clause in SQL Server

One way to achieve this is by including the aggregations in a sub query and then JOINING it with the main query

```
SELECT Name, Salary, Employees.Gender, Genders.GenderTotals,
       Genders.AvgSal, Genders.MinSal, Genders.MaxSal
FROM Employees
INNER JOIN
(SELECT Gender, COUNT(*) AS GenderTotals,
         AVG(Salary) AS AvgSal,
         MIN(Salary) AS MinSal, MAX(Salary) AS MaxSal
FROM Employees
GROUP BY Gender) AS Genders
ON Genders.Gender = Employees.Gender
```

Better way of doing this is by using the OVER clause combined with PARTITION BY

```
SELECT Name, Salary, Gender,
       COUNT(Gender) OVER(PARTITION BY Gender) AS GenderTotals,
       AVG(Salary) OVER(PARTITION BY Gender) AS AvgSal,
       MIN(Salary) OVER(PARTITION BY Gender) AS MinSal,
       MAX(Salary) OVER(PARTITION BY Gender) AS MaxSal
FROM Employees
```

# Additional Resources

## PRAGIM Home Page:

[www.PragimTech.com](http://www.PragimTech.com)

## Resources:

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

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