

SQL Server Tutorial

Part 101 - Grouping Sets in SQL Server

Venkat

PRAGIM Technologies

kudvenkat@gmail.com

<http://csharp-video-tutorials.blogspot.com>

PragimTech.com | facebook.com/pragimtech | twitter.com/kudvenkat | 91 99456 99393

In this session we will learn

- Grouping Sets 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 98 - Difference between where and having in sql server

Part 99 - Table Valued Parameters in SQL Server

Part 100 - Send datatable as parameter to stored procedure

Grouping Sets 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>

Grouping sets is a new feature introduced in SQL Server 2008

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

Sum of Salary by
Country and Gender

Country	Gender	TotalSalary
India	Female	4000
UK	Female	5000
USA	Female	12500
India	Male	8000
UK	Male	12000
USA	Male	10000

Group By query to calculate Sum of Salary by Country and Gender

```
Select Country, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Country, Gender
```

Grouping Sets in SQL Server

Along with Sum of Salary by Country and Gender, we also want Sum of Salary just by Country

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

Country	Gender	TotalSalary
India	Female	4000
UK	Female	5000
USA	Female	12500
India	Male	8000
UK	Male	12000
USA	Male	10000
India	NULL	12000
UK	NULL	17000
USA	NULL	22500

Sum of
Salary by
Country

```
Select Country, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Country, Gender

UNION ALL

Select Country, NULL, Sum(Salary) as TotalSalary
From Employees
Group By Country
```

Grouping Sets in SQL Server

Along with Sum of Salary by Country and Gender, we also want Sum of Salary just by Country, and also Sum of Salary just by Gender

Country	Gender	TotalSalary
India	Female	4000
UK	Female	5000
USA	Female	12500
India	Male	8000
UK	Male	12000
USA	Male	10000
India	NULL	12000
UK	NULL	17000
USA	NULL	22500
NULL	Female	21500
NULL	Male	30000

Sum of Salary by Gender

Sum of Salary by Country

Grouping Sets in SQL Server

Query to compute

Sum of Salary by Country and Gender,

Sum of Salary just by Country, and

Sum of Salary just by Gender

```
Select Country, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Country, Gender
```

UNION ALL

```
Select Country, NULL, Sum(Salary) as TotalSalary
From Employees
Group By Country
```

UNION ALL

```
Select NULL, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Gender
```

Grouping Sets in SQL Server

Along with Sum of Salary by Country and Gender, we also want Sum of Salary just by Country, and also Sum of Salary just by Gender and finally grand total

Country	Gender	TotalSalary
India	Female	4000
UK	Female	5000
USA	Female	12500
India	Male	8000
UK	Male	12000
USA	Male	10000
India	NULL	12000
UK	NULL	17000
USA	NULL	22500
NULL	Female	21500
NULL	Male	30000
NULL	NULL	51500

Sum of Salary by Gender

Sum of Salary by Country

Grand Total

Grouping Sets in SQL Server

Query to compute

Sum of Salary by Country and Gender,

Sum of Salary just by Country,

Sum of Salary just by Gender,

Grand Total

```
Select Country, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Country, Gender
```

UNION ALL

```
Select Country, NULL, Sum(Salary) as TotalSalary
From Employees
Group By Country
```

UNION ALL

```
Select NULL, Gender, Sum(Salary) as TotalSalary
From Employees
Group By Gender
```

UNION ALL

```
Select NULL, NULL, Sum(Salary) as TotalSalary
From Employees
```


Grouping Sets in SQL Server

With Grouping Sets feature introduced in SQL Server 2008, the amount of T-SQL code that you have to write will be greatly reduced

```
Select Country, Gender, Sum(Salary) TotalSalary
From Employees
Group BY
GROUPING SETS
(
    (Country, Gender), -- Sum of Salary by Country & Gender
    (Country),         -- Sum of Salary by Country
    (Gender),          -- Sum of Salary by Gender
    ()                 -- Grand Total
)
```

Grouping Sets in SQL Server

The order of the rows in the result set is not the same as in the case of UNION ALL query. To control the order use ORDER BY

```
Select Country, Gender, Sum(Salary) TotalSalary
From Employees
Group BY
    GROUPING SETS
    (
        (Country, Gender), -- Sum of Salary by Country & Gender
        (Country),         -- Sum of Salary by Country
        (Gender),          -- Sum of Salary by Gender
        ()                 -- Grand Total
    )
Order By Grouping(Country), Grouping(Gender), Gender
```

Additional Resources

PRAGIM Home Page:

www.PragimTech.com

Resources:

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

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