SQL Server Tutorial

Part 106 - GROUPING_ID function in SQL Server

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In this session we will learn

- GROUPING_ID function in SQL Server
- Difference between GROUPING and GROUPING_ID functions
- Use of GROUPING_ID function

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 103 - Cube in SQL Server
Part 104 - Difference between cube and rollup in SQL Server
Part 105 - Grouping function in SQL Server

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GROUPING_ID function in SQL Server

GROUPING_ID function computes the level of grouping

Difference between GROUPING and GROUPING_ID

Syntax : GROUPING function is used on single column, where as the column list for GROUPING_ID function must match with GROUP BY column list.

```
GROUPING(Col1)

GROUPING_ID(Col1, Col2, Col3,...)
```

GROUPING indicates whether the column in a GROUP BY list is aggregated or not. Grouping returns 1 for aggregated or 0 for not aggregated in the result set.

GROUPING_ID() concatenates all the GOUPING() functions, perform the binary to decimal conversion, and returns the equivalent integer.

In short

```
GROUPING_ID(A, B, C) =  GROUPING(A) + GROUPING(B) + GROUPING(C)
```

GROUPING_ID function in SQL Server

```sql
SELECT   Continent, Country, City, SUM(SaleAmount) AS TotalSales,
         CAST(GROUPING(Continent) AS NVARCHAR(1)) +
         CAST(GROUPING(Country) AS NVARCHAR(1)) +
         CAST(GROUPING(City) AS NVARCHAR(1)) AS Groupings,
         GROUPING_ID(Continent, Country, City) AS GPID
FROM Sales
GROUP BY ROLLUP(Continent, Country, City)
```

#	Continent	Country	City	TotalSales	Groupings	GPID
1	Asia	India	Bangalore	1000	000	0
2	Asia	India	Chennai	2000	000	0
3	Asia	India	NULL	3000	001	1
4	Asia	Japan	Hiroshima	5000	000	0
5	Asia	Japan	Tokyo	4000	000	0
6	Asia	Japan	NULL	9000	001	1
7	Asia	NULL	NULL	12000	011	3
8	Europe	France	Cannes	5000	000	0
9	Europe	France	Paris	4000	000	0
10	Europe	France	NULL	9000	001	1
11	Europe	United Kingdom	London	1000	000	0
12	Europe	United Kingdom	Manchester	2000	000	0
13	Europe	United Kingdom	NULL	3000	001	1
14	Europe	NULL	NULL	12000	011	3
15	NULL	NULL	NULL	24000	111	7

Sorting by Level of Grouping

```sql
SELECT   Continent, Country, City, SUM(SaleAmount) AS TotalSales,
         GROUPING_ID(Continent, Country, City) AS GPID
FROM Sales
GROUP BY ROLLUP(Continent, Country, City)
ORDER BY GPID
```

Continent	Country	City	TotalSales	GPID
Asia	Japan	Hiroshima	5000	0
Asia	Japan	Tokyo	4000	0
Asia	India	Bangalore	1000	0
Asia	India	Chennai	2000	0
Europe	France	Cannes	5000	0
Europe	France	Paris	4000	0
Europe	United Kingdom	London	1000	0
Europe	United Kingdom	Manchester	2000	0
Europe	United Kingdom	NULL	3000	1
Europe	France	NULL	9000	1
Asia	India	NULL	3000	1
Asia	Japan	NULL	9000	1
Asia	NULL	NULL	12000	3
Europe	NULL	NULL	12000	3
NULL	NULL	NULL	24000	7

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Filter by Level of Grouping

```sql
SELECT    Continent, Country, City, SUM(SaleAmount) AS TotalSales,
          GROUPING_ID(Continent, Country, City) AS GPID
FROM Sales
GROUP BY ROLLUP(Continent, Country, City)
HAVING GROUPING_ID(Continent, Country, City) = 3
```

Retrieves only CONTINENT level aggregated data

Continent	Country	City	TotalSales	GPID
Asia	NULL	NULL	12000	3
Europe	NULL	NULL	12000	3

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Additional Resources

PRAGIM Home Page:

www.PragimTech.com

Resources:

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