

BASIS DATA LANJUT

JOBSHEET-8



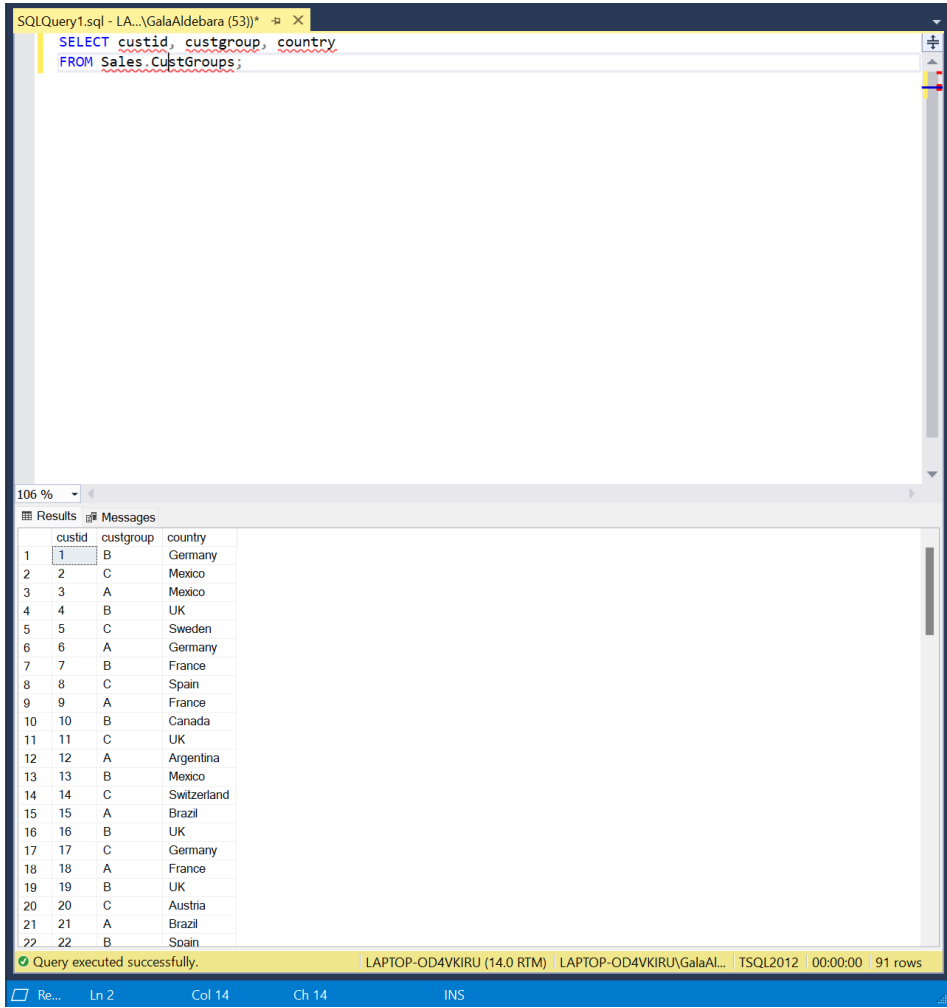
MUHAMMAD IQBAL MAKMUR AL-MUNIRI

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TEKNIK INFORMATIKA
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Nim	:	2241720099
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LEMBAR JAWABAN JOBSHEET-8

Soal No	Jawaban																																																																																												
1	<pre>SELECT custid, custgroup, country FROM Sales.CustGroups;</pre>  <table><thead><tr><th></th><th>custid</th><th>custgroup</th><th>country</th></tr></thead><tbody><tr><td>1</td><td>1</td><td>B</td><td>Germany</td></tr><tr><td>2</td><td>2</td><td>C</td><td>Mexico</td></tr><tr><td>3</td><td>3</td><td>A</td><td>Mexico</td></tr><tr><td>4</td><td>4</td><td>B</td><td>UK</td></tr><tr><td>5</td><td>5</td><td>C</td><td>Sweden</td></tr><tr><td>6</td><td>6</td><td>A</td><td>Germany</td></tr><tr><td>7</td><td>7</td><td>B</td><td>France</td></tr><tr><td>8</td><td>8</td><td>C</td><td>Spain</td></tr><tr><td>9</td><td>9</td><td>A</td><td>France</td></tr><tr><td>10</td><td>10</td><td>B</td><td>Canada</td></tr><tr><td>11</td><td>11</td><td>C</td><td>UK</td></tr><tr><td>12</td><td>12</td><td>A</td><td>Argentina</td></tr><tr><td>13</td><td>13</td><td>B</td><td>Mexico</td></tr><tr><td>14</td><td>14</td><td>C</td><td>Switzerland</td></tr><tr><td>15</td><td>15</td><td>A</td><td>Brazil</td></tr><tr><td>16</td><td>16</td><td>B</td><td>UK</td></tr><tr><td>17</td><td>17</td><td>C</td><td>Germany</td></tr><tr><td>18</td><td>18</td><td>A</td><td>France</td></tr><tr><td>19</td><td>19</td><td>B</td><td>UK</td></tr><tr><td>20</td><td>20</td><td>C</td><td>Austria</td></tr><tr><td>21</td><td>21</td><td>A</td><td>Brazil</td></tr><tr><td>22</td><td>22</td><td>B</td><td>Spain</td></tr></tbody></table>		custid	custgroup	country	1	1	B	Germany	2	2	C	Mexico	3	3	A	Mexico	4	4	B	UK	5	5	C	Sweden	6	6	A	Germany	7	7	B	France	8	8	C	Spain	9	9	A	France	10	10	B	Canada	11	11	C	UK	12	12	A	Argentina	13	13	B	Mexico	14	14	C	Switzerland	15	15	A	Brazil	16	16	B	UK	17	17	C	Germany	18	18	A	France	19	19	B	UK	20	20	C	Austria	21	21	A	Brazil	22	22	B	Spain
	custid	custgroup	country																																																																																										
1	1	B	Germany																																																																																										
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2	<pre>SELECT country, [A] AS GroupA, [B] AS GroupB, [C] AS GroupC FROM (SELECT country, custgroup FROM Sales.CustGroups) AS SourceTable PIVOT (COUNT(custgroup) FOR custgroup IN ([A], [B], [C])</pre>																																																																																												

) AS PivotTable;

The screenshot shows a SQL Server Enterprise Manager window with a query editor and a results pane. The query editor contains the following SQL code:

```
SELECT country, [A] AS GroupA, [B] AS GroupB, [C] AS GroupC
FROM (
    SELECT country, custgroup
    FROM Sales.CustGroups
) AS SourceTable
PIVOT (
    COUNT(custgroup)
    FOR custgroup IN ([A], [B], [C])
) AS PivotTable;
```

The results pane displays a table with 21 rows and 4 columns: country, GroupA, GroupB, and GroupC. The data is as follows:

	country	GroupA	GroupB	GroupC
1	Argentina	2	1	0
2	Austria	0	0	2
3	Belgium	0	1	1
4	Brazil	3	5	1
5	Canada	2	1	0
6	Denmark	0	1	1
7	Finland	2	0	0
8	France	4	3	4
9	Germany	3	4	4
10	Ireland	0	1	0
11	Italy	2	1	0
12	Mexico	1	2	2
13	Norway	0	1	0
14	Poland	0	1	0
15	Portugal	1	1	0
16	Spain	2	1	2
17	Sweden	1	0	1
18	Switzerland	0	0	2
19	UK	1	3	3
20	USA	5	3	5
21	Venezuela	1	1	2

The status bar at the bottom indicates: Query executed successfully. LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAl... TSQL2012 00:00:00 21 rows

3 Ya, jumlah baris yang dihasilkan sama persis.

4

```
SELECT country, city, contactname, [A] AS GroupA, [B] AS GroupB, [C] AS
GroupC
FROM (
    SELECT country, city, contactname, custgroup
    FROM Sales.CustGroups
) AS SourceTable
PIVOT (
    COUNT(custgroup)
    FOR custgroup IN ([A], [B], [C])
) AS PivotTable;
```

SQLQuery1.sql - LA...\GalaAldebara (53)*

```

SELECT country, city, contactname, [A] AS GroupA, [B] AS GroupB, [C] AS GroupC
FROM (
    SELECT country, city, contactname, custgroup
    FROM Sales.CustGroups
) AS SourceTable
PIVOT (
    COUNT(custgroup)
    FOR custgroup IN ([A], [B], [C])
) AS PivotTable;

```

106 %

Results
Messages

	country	city	contactname	GroupA	GroupB	GroupC
1	Argentina	Buenos Aires	Gaffney, Lawrie	0	1	0
2	Argentina	Buenos Aires	Ray, Mike	1	0	0
3	Argentina	Buenos Aires	Tiano, Mike	1	0	0
4	Austria	Graz	Kane, John	0	0	1
5	Austria	Salzburg	Meston, Tosh	0	0	1
6	Belgium	Bruxelles	Mace, Donald	0	0	1
7	Belgium	Charleroi	Gulbis, Katrin	0	1	0
8	Brazil	Campinas	Cheng, Yao-Qiang	0	1	0
9	Brazil	Resende	Li, Yan	0	1	0
10	Brazil	Rio de Janeiro	Cohen, Shy	0	1	0
11	Brazil	Rio de Janeiro	Florczyk, Krzysztof	0	1	0
12	Brazil	Rio de Janeiro	Garden, Euan	0	1	0
13	Brazil	Sao Paulo	Misiec, Anna	0	0	1
14	Brazil	Sao Paulo	Nagel, Jean-Philippe	1	0	0
15	Brazil	Sao Paulo	Richardson, Shawn	1	0	0
16	Brazil	Sao Paulo	Russo, Giuseppe	1	0	0
17	Canada	Montreal	Taylor, Maurice	1	0	0
18	Canada	Tsawassen	Bassols, Pilar Colome	0	1	0
19	Canada	Vancouver	Steiner, Dominik	1	0	0
20	Denmark	Kobenhavn	Gonzalez, Nuria	0	1	0
21	Denmark	Copenhagen	Fonteneau, Karl	0	0	1
22	Finland	Helsinki	Larsson, Katarina	1	0	0

Query executed successfully.
LAPTOP-OD4VKIRU (14.0 RTM)
LAPTOP-OD4VKIRU\GalaAl...
SQL2012
00:00:00
91 rows

Re...
Ln 10
Col 1
Ch 1
INS

5

```

WITH PivotCustGroups AS (
    SELECT custid, country, custgroup
    FROM Sales.CustGroups
)
SELECT *
FROM (
    SELECT country, custgroup, COUNT(custid) AS TotalCustomers
    FROM PivotCustGroups
    GROUP BY country, custgroup
) AS SourceTable
PIVOT (
    SUM(TotalCustomers)
    FOR custgroup IN ([A], [B], [C])
) AS PivotTable;

```

	<div><div>SQLQuery1.sql - LA...\GalaAldebara (53)*</div><div><pre>WITH PivotCustGroups AS (SELECT custid, country, custgroup FROM Sales.CustGroups) SELECT * FROM (SELECT country, custgroup, COUNT(custid) AS TotalCustomers FROM PivotCustGroups GROUP BY country, custgroup) AS SourceTable PIVOT (SUM(TotalCustomers) FOR custgroup IN ([A], [B], [C])) AS PivotTable;</pre></div><div><div>106 %</div><div>Results Messages</div><table><tr><th></th><th>country</th><th>A</th><th>B</th><th>C</th></tr><tr><td>1</td><td>Argentina</td><td>2</td><td>1</td><td>NULL</td></tr><tr><td>2</td><td>Austria</td><td>NULL</td><td>NULL</td><td>2</td></tr><tr><td>3</td><td>Belgium</td><td>NULL</td><td>1</td><td>1</td></tr><tr><td>4</td><td>Brazil</td><td>3</td><td>5</td><td>1</td></tr><tr><td>5</td><td>Canada</td><td>2</td><td>1</td><td>NULL</td></tr><tr><td>6</td><td>Denmark</td><td>NULL</td><td>1</td><td>1</td></tr><tr><td>7</td><td>Finland</td><td>2</td><td>NULL</td><td>NULL</td></tr><tr><td>8</td><td>France</td><td>4</td><td>3</td><td>4</td></tr><tr><td>9</td><td>Germany</td><td>3</td><td>4</td><td>4</td></tr><tr><td>10</td><td>Ireland</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>11</td><td>Italy</td><td>2</td><td>1</td><td>NULL</td></tr><tr><td>12</td><td>Mexico</td><td>1</td><td>2</td><td>2</td></tr><tr><td>13</td><td>Norway</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>14</td><td>Poland</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>15</td><td>Portugal</td><td>1</td><td>1</td><td>NULL</td></tr><tr><td>16</td><td>Spain</td><td>2</td><td>1</td><td>2</td></tr><tr><td>17</td><td>Sweden</td><td>1</td><td>NULL</td><td>1</td></tr><tr><td>18</td><td>Switzerland</td><td>NULL</td><td>NULL</td><td>2</td></tr><tr><td>19</td><td>UK</td><td>1</td><td>3</td><td>3</td></tr><tr><td>20</td><td>USA</td><td>5</td><td>3</td><td>5</td></tr><tr><td>21</td><td>Venezuela</td><td>1</td><td>1</td><td>2</td></tr></table><div>Query executed successfully. LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAl... TSQ2012 00:00:00 21 rows</div><div>Re... Ln 14 Col 17 Ch 17 INS</div></div></div>		country	A	B	C	1	Argentina	2	1	NULL	2	Austria	NULL	NULL	2	3	Belgium	NULL	1	1	4	Brazil	3	5	1	5	Canada	2	1	NULL	6	Denmark	NULL	1	1	7	Finland	2	NULL	NULL	8	France	4	3	4	9	Germany	3	4	4	10	Ireland	NULL	1	NULL	11	Italy	2	1	NULL	12	Mexico	1	2	2	13	Norway	NULL	1	NULL	14	Poland	NULL	1	NULL	15	Portugal	1	1	NULL	16	Spain	2	1	2	17	Sweden	1	NULL	1	18	Switzerland	NULL	NULL	2	19	UK	1	3	3	20	USA	5	3	5	21	Venezuela	1	1	2
	country	A	B	C																																																																																																											
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3	Belgium	NULL	1	1																																																																																																											
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21	Venezuela	1	1	2																																																																																																											
6	<p>Tidak sama, karena pada pratikum bagian 1 langsung melakukan PIVOT pada view Sales.CustGroups dengan menghitung custgroup untuk setiap country, sedangkan kode diatas menggunakan CTE 'PivotCustGroups' untuk menghitung total customer untuk setiap kombinasi country dan custgroup, baru setelah itu menggunakan operator PIVOT pada CTE untuk menghitung jumlah total customer pada masing – masing group.</p>																																																																																																														
7	<p>CTE memungkinkan kita membuat bagian dari query yang dapat digunakan kembali dalam query lain. Dengan membuat CTE untuk operasi penggalan data, kita dapat menggunakan CTE tersebut di beberapa query pivot atau operasi analisis data lainnya. Ini meningkatkan modularitas dan mengurangi duplikasi kode. CTE membuat query lebih mudah dipahami karena memungkinkan kita menulis query secara bertahap. Kita dapat membuat CTE yang mencari dan mengolah data sumber terlebih dahulu, dan kemudian menggunakan hasilnya dalam operasi-operasi selanjutnya, termasuk operasi pivot. Hal ini membuat query lebih terorganisir dan mudah diikuti.</p>																																																																																																														
8	<pre>WITH SalesByCategory AS (SELECT o.custid, (od.qty * od.unitprice) AS salesvalue, c.categoryname FROM Sales.OrderDetails od JOIN Sales.Orders o ON od.orderid = o.orderid</pre>																																																																																																														

```

JOIN Production.Products p ON od.productid = p.productid
JOIN Production.Categories c ON p.categoryid = c.categoryid
WHERE YEAR(o.orderdate) = 2008
)
SELECT custid,
[Beverages] AS Beverages,
[Condiments] AS Condiments,
[Confections] AS Confections,
[Dairy Products] AS DairyProducts,
[Grain/Cereals] AS GrainCereals,
[Meat/Poultry] AS MeatPoultry,
[Produce] AS Produce,
[Seafood] AS Seafood
FROM (
SELECT custid, categoryname, salesvalue
FROM SalesByCategory
WHERE categoryname IN ('Beverages', 'Condiments', 'Confections', 'Dairy
Products',
'Grain/Cereals', 'Meat/Poultry', 'Produce', 'Seafood')
) AS SourceTable
PIVOT (
SUM(salesvalue)
FOR categoryname IN ([Beverages], [Condiments], [Confections], [Dairy
Products],
[Grain/Cereals], [Meat/Poultry], [Produce], [Seafood])
) AS PivotTable;

```

SQLQuery1.sql - LA...GalaAldebara (53))
JOIN Production.Categories c ON p.categoryid = c.categoryid
WHERE YEAR(o.orderdate) = 2008
)
SELECT custid,
[Beverages] AS Beverages,
[Condiments] AS Condiments,
[Confections] AS Confections,
[Dairy Products] AS DairyProducts,
[Grain/Cereals] AS GrainCereals,
[Meat/Poultry] AS MeatPoultry,
[Produce] AS Produce,
[Seafood] AS Seafood
FROM (
SELECT custid, categoryname, salesvalue
FROM SalesByCategory
WHERE categoryname IN ('Beverages', 'Condiments', 'Confections', 'Dairy Products',
'Grain/Cereals', 'Meat/Poultry', 'Produce', 'Seafood')
) AS SourceTable
PIVOT (
SUM(salesvalue)
FOR categoryname IN ([Beverages], [Condiments], [Confections], [Dairy Products],
[Grain/Cereals], [Meat/Poultry], [Produce], [Seafood])
) AS PivotTable;

106 %
Results Messages

	custid	Beverages	Condiments	Confections	DairyProducts	GrainCereals	MeatPoultry	Produce	Seafood
1	46	144,00	195,00	NULL	4220,00	NULL	149,00	450,00	403,56
2	69	NULL	NULL	25,00	340,00	NULL	NULL	NULL	215,89
3	29	90,00	NULL	117,50	NULL	NULL	NULL	NULL	NULL
4	75	360,00	439,00	NULL	NULL	NULL	NULL	318,00	NULL
5	9	533,00	1750,00	1515,10	556,80	NULL	624,00	705,00	837,00
6	15	NULL	405,75	NULL	NULL	NULL	NULL	NULL	108,00
7	89	7077,50	NULL	2712,15	1737,50	NULL	1638,00	NULL	2113,75
8	3	380,00	NULL	NULL	NULL	NULL	NULL	NULL	NULL
9	52	NULL	NULL	NULL	125,00	NULL	NULL	NULL	120,00
10	72	720,00	NULL	250,00	210,00	NULL	NULL	NULL	NULL
11	66	225,00	260,00	560,00	1592,00	NULL	328,00	1200,00	NULL
12	78	72,00	NULL	NULL	NULL	NULL	NULL	NULL	184,00
13	32	8049,00	NULL	1186,00	510,00	NULL	247,58	NULL	570,00
14	26	360,00	NULL	NULL	NULL	NULL	1733,06	159,00	NULL
15	12	1037,00	NULL	NULL	25,00	NULL	NULL	364,80	150,00
16	35	1192,50	NULL	210,00	645,00	NULL	NULL	1972,00	1456,80
17	86	324,00	NULL	NULL	1240,00	NULL	NULL	NULL	NULL
18	63	22675,00	NULL	4802,49	3960,50	NULL	656,00	3682,00	1377,00
19	6	NULL	114,00	283,00	714,00	NULL	NULL	424,00	625,00
20	55	900,00	720,15	1022,50	175,00	NULL	NULL	848,00	NULL
21	49	750,00	110,00	NULL	640,00	NULL	NULL	NULL	193,00
22	67	323,00	NULL	663,50	3500,00	NULL	468,00	NULL	2162,50

Query executed successfully.
LAPTOP-OD4VKIRU (14.0 RTM)
LAPTOP-OD4VKIRU\GalaAl...
TSQL2012
00:00:00
80 rows

Re...
Ln 19
Col 22
Ch 22
INS

9

SELECT country, A, B, C
FROM Sales.PivotCustGroups;

SQLQuery1.sql - LA...\GalaAldebara (53))*			
<pre> SELECT country, A, B, C FROM Sales.PivotCustGroups; </pre>			
106 %			
Results Messages			
country	A	B	C
1 Argentina	2	1	0
2 Austria	0	0	2
3 Belgium	0	1	1
4 Brazil	3	5	1
5 Canada	2	1	0
6 Denmark	0	1	1
7 Finland	2	0	0
8 France	4	3	4
9 Germany	3	4	4
10 Ireland	0	1	0
11 Italy	2	1	0
12 Mexico	1	2	2
13 Norway	0	1	0
14 Poland	0	1	0
15 Portugal	1	1	0
16 Spain	2	1	2
17 Sweden	1	0	1
18 Switzerland	0	0	2
19 UK	1	3	3
20 USA	5	3	5
21 Venezuela	1	1	2
Query executed successfully. LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAl... TSQL2012 00:00:00 21 rows			
Re...	Ln 3	Col 1	Ch 1 INS

10

```

SELECT custgroup, country, numberofcustomers
FROM (
  SELECT country, A, B, C
  FROM Sales.PivotCustGroups
) AS SourceTable
UNPIVOT (
  numberofcustomers FOR custgroup IN (A, B, C)
) AS UnpivotedData;

```


SQLQuery1.sql - LA...\GalaAldebara (53))

```

SELECT custgroup, country, numberofcustomers
FROM (
    SELECT country, A, B, C
    FROM Sales.PivotCustGroups
) AS SourceTable
UNPIVOT (
    numberofcustomers FOR custgroup IN (A, B, C)
) AS UnpivotedData;

```

106 %

Results Messages

	custgroup	country	numberofcustomers
1	A	Argentina	2
2	B	Argentina	1
3	C	Argentina	0
4	A	Austria	0
5	B	Austria	0
6	C	Austria	2
7	A	Belgium	0
8	B	Belgium	1
9	C	Belgium	1
10	A	Brazil	3
11	B	Brazil	5
12	C	Brazil	1
13	A	Canada	2
14	B	Canada	1
15	C	Canada	0
16	A	Denmark	0
17	B	Denmark	1
18	C	Denmark	1
19	A	Finland	2
20	B	Finland	0
21	C	Finland	0
22	A	France	4

Query executed successfully. LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAL... TSQL2012 00:00:00 63 rows

Re... Ln 8 Col 17 Ch 17 INS

11

```

SELECT
    country,
    city,
    COUNT(*) AS noofcustomers
FROM
    Sales.Customers
GROUP BY
    GROUPING SETS (
        (country, city),
        (country),
        (city),
        ());

```

SQLQuery1.sql - LA...\GalaAldebara (53))

```

SELECT
country,
city,
COUNT(*) AS noofcustomers
FROM
Sales.Customers
GROUP BY
GROUPING SETS (
(country, city),
(country),
(city),
());

```

106 %

Results
Messages

	country	city	noofcustomers
1	Germany	Aachen	1
2	NULL	Aachen	1
3	USA	Albuquerque	1
4	NULL	Albuquerque	1
5	USA	Anchorage	1
6	NULL	Anchorage	1
7	Spain	Barcelona	1
8	NULL	Barcelona	1
9	Venezuela	Barquisimeto	1
10	NULL	Barquisimeto	1
11	Italy	Bergamo	1
12	NULL	Bergamo	1
13	Germany	Berlin	1
14	NULL	Berlin	1
15	Switzerland	Bern	1
16	NULL	Bern	1
17	USA	Boise	1
18	NULL	Boise	1
19	Germany	Brandenburg	1
20	NULL	Brandenburg	1
21	Sweden	Brücke	1
22	NULL	Brücke	1

Query executed successfully.
LAPTOP-OD4VKIRU (14.0 RTM) | LAPTOP-OD4VKIRU\GalaAl... | TSQL2012 | 00:00:00 | 160 rows

Re... Ln 13 Col 2 Ch 2 INS

12

```

SELECT
DATEPART(YEAR, orderdate) AS orderyear,
DATEPART(MONTH, orderdate) AS ordermonth,
DATEPART(DAY, orderdate) AS orderday,
SUM(val) AS salesvalue
FROM
Sales.OrderValues
GROUP BY
CUBE (
DATEPART(YEAR, orderdate),
DATEPART(MONTH, orderdate),
DATEPART(DAY, orderdate)
);

```

SQLQuery1.sql - LA...\GalaAldebara (53)) *

```

SELECT
    DATEPART(YEAR, orderdate) AS orderyear,
    DATEPART(MONTH, orderdate) AS ordermonth,
    DATEPART(DAY, orderdate) AS orderday,
    SUM(val) AS salesvalue
FROM
    Sales.OrderValues
GROUP BY
    CUBE (
        DATEPART(YEAR, orderdate),
        DATEPART(MONTH, orderdate),
        DATEPART(DAY, orderdate)
    );

```

106 %

Results
Messages

	orderyear	ordermonth	orderday	salesvalue
1	2007	1	1	6931.60
2	2008	1	1	1738.00
3	NULL	1	1	8669.60
4	2007	4	1	851.20
5	2008	4	1	11549.89
6	NULL	4	1	12401.09
7	2007	5	1	5636.96
8	2008	5	1	5448.57
9	NULL	5	1	11085.53
10	2007	7	1	142.50
11	NULL	7	1	142.50
12	2006	8	1	1424.00
13	2007	8	1	2697.50
14	NULL	8	1	4121.50
15	2007	9	1	716.64
16	NULL	9	1	716.64
17	2006	10	1	240.40
18	2007	10	1	3633.10
19	NULL	10	1	3873.50
20	2006	11	1	2296.00
21	NULL	11	1	2296.00
22	2007	12	1	2917.00

Query executed successfully.
LAPTOP-OD4VKIRU (14.0 RTM)
LAPTOP-OD4VKIRU\GalaAl...
TSQL2012
00:00:00
948 rows

Re...
Ln 14
Col 2
Ch 2
INS

13

```

SELECT
    DATEPART(YEAR, orderdate) AS orderyear,
    DATEPART(MONTH, orderdate) AS ordermonth,
    DATEPART(DAY, orderdate) AS orderday,
    SUM(val) AS salesvalue
FROM
    Sales.OrderValues
GROUP BY
    ROLLUP (
        DATEPART(YEAR, orderdate),
        DATEPART(MONTH, orderdate),
        DATEPART(DAY, orderdate)
    );

```

SQLQuery1.sql - LA...\GalaAldebara (53))

```

SELECT
    DATEPART(YEAR, orderdate) AS orderyear,
    DATEPART(MONTH, orderdate) AS ordermonth,
    DATEPART(DAY, orderdate) AS orderday,
    SUM(val) AS salesvalue
FROM
    Sales.OrderValues
GROUP BY
    ROLLUP (
        DATEPART(YEAR, orderdate),
        DATEPART(MONTH, orderdate),
        DATEPART(DAY, orderdate)
    );

```

106 %

Results Messages

	orderyear	ordermonth	orderday	salesvalue
1	2006	7	4	440.00
2	2006	7	5	1863.40
3	2006	7	8	2206.66
4	2006	7	9	3597.90
5	2006	7	10	1444.80
6	2006	7	11	556.62
7	2006	7	12	2490.50
8	2006	7	15	517.80
9	2006	7	16	1119.90
10	2006	7	17	1614.88
11	2006	7	18	100.80
12	2006	7	19	1952.65
13	2006	7	22	584.00
14	2006	7	23	1873.80
15	2006	7	24	695.63
16	2006	7	25	1176.00
17	2006	7	26	346.56
18	2006	7	29	3536.60
19	2006	7	30	1101.20
20	2006	7	31	642.20
21	2006	7	NULL	27861.90
22	2006	8	1	1424.00

Query executed successfully. LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAl... TSQL2012 00:00:00 507 rows

Re... Ln 13 Col 4 Ch 4 INS

14 ROLLUP menghasilkan total untuk setiap kolom terpisah, total untuk kolom pertama dan kedua, total keseluruhan (tanpa kelompok), tetapi tidak mencakup total untuk kolom kedua saja. CUBE mencakup total untuk setiap kombinasi nilai dalam semua kolom yang ditentukan dalam GROUP BY. Jika kita hanya membutuhkan total penjualan untuk setiap tahun, bulan, hari, serta subtotal penjualan untuk kombinasi tahun-bulan dan tahun-hari, dan total keseluruhan (tanpa kelompok), maka menggunakan ROLLUP lebih sesuai. Karena ROLLUP lebih terbatas.

15

```

SELECT
    GROUPING_ID(DATEPART(YEAR, orderdate), DATEPART(MONTH, orderdate)) AS
groupid,
    DATEPART(YEAR, orderdate) AS orderyear,
    DATEPART(MONTH, orderdate) AS ordermonth,
    SUM(val) AS salesvalue
FROM
    Sales.OrderValues
GROUP BY
    ROLLUP (
        DATEPART(YEAR, orderdate),
        DATEPART(MONTH, orderdate)
    )
ORDER BY
    groupid, orderyear, ordermonth;

```

SQLQuery1.sql - LA...\GalaAldebara (53) * X

```
SELECT
    GROUPING_ID(DATEPART(YEAR, orderdate), DATEPART(MONTH, orderdate)) AS groupid,
    DATEPART(YEAR, orderdate) AS orderyear,
    DATEPART(MONTH, orderdate) AS ordermonth,
    SUM(val) AS salesvalue
FROM
    Sales.OrderValues
GROUP BY
    ROLLUP (
        DATEPART(YEAR, orderdate),
        DATEPART(MONTH, orderdate)
    )
ORDER BY
    groupid, orderyear, ordermonth;
```

106 %

Results Messages

	groupid	orderyear	ordermonth	salesvalue
1	0	2006	7	27861.90
2	0	2006	8	25485.28
3	0	2006	9	26381.40
4	0	2006	10	37515.73
5	0	2006	11	45600.05
6	0	2006	12	45239.63
7	0	2007	1	61258.08
8	0	2007	2	38483.64
9	0	2007	3	38547.23
10	0	2007	4	53032.95
11	0	2007	5	53781.30
12	0	2007	6	36362.82
13	0	2007	7	51020.86
14	0	2007	8	47287.68
15	0	2007	9	55629.27
16	0	2007	10	66749.23
17	0	2007	11	43533.80
18	0	2007	12	71398.44
19	0	2008	1	94222.12
20	0	2008	2	99415.29
21	0	2008	3	104854.18
22	0	2008	4	123798.70

Query executed successfully.

LAPTOP-OD4VKIRU (14.0 RTM) LAPTOP-OD4VKIRU\GalaAl... TSQL2012 00:00:00 27 rows

Re...

Ln 14

Col 33

Ch 33

INS