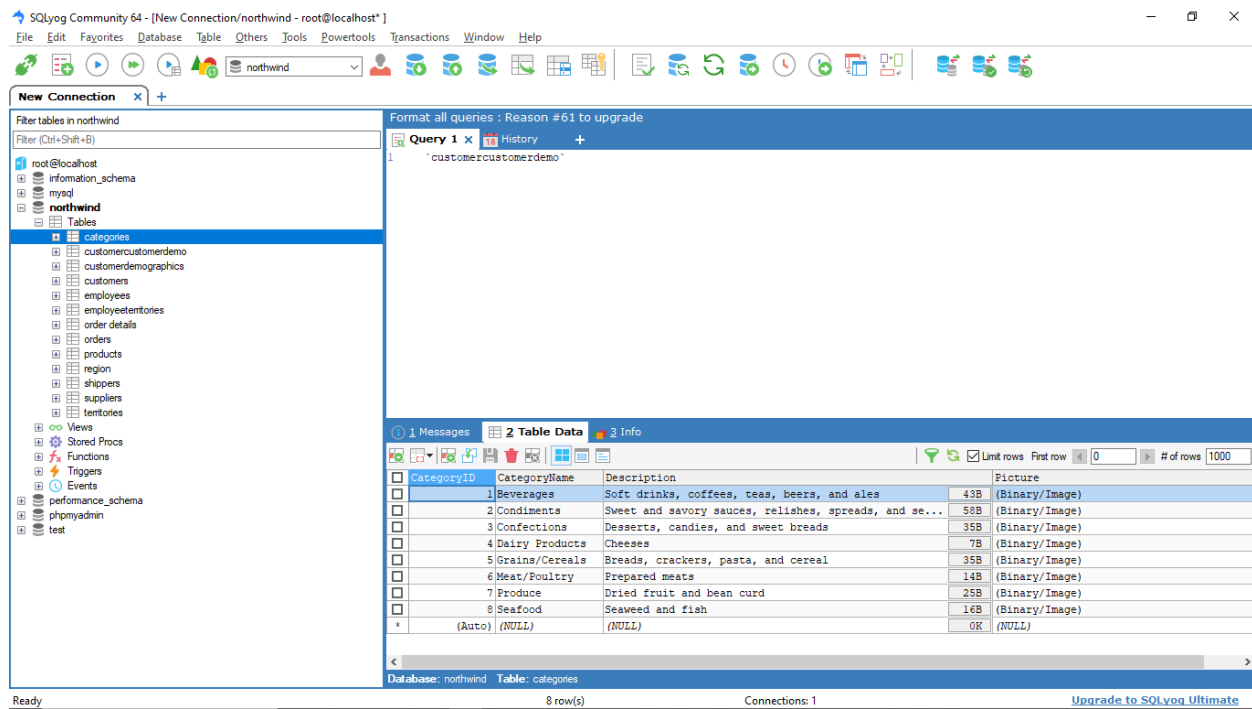


Даалгавар№-7 STORED PROCEDURE

1. Ажилтны дэлгэрэнгүй мэдээллийг хэвлэж гаргах stored procedure бич
2. 1998 оны шилдэг ажилтанг захиалга хүргэж өгсөн тоо, хүргэж өгдөг дундаж хугацаагаар нь шалгаруулан олох stored procedure бич
3. Өмнөх (1) гэсэн даалгавраар хийсэн stored procedure өмнө нь өгөгдлийн санд үүссэн бол устгаад шинээр үүсгэдэг байхаар (1) гэсэн stored procedure-ийн кодыг өөрчил
4. Оны шилдэг захиалагчийг өөрийн сонгон шалгаруулалтаар олох stored procedure бич
5. (4) даалгавраар хийсэн stored procedure ашиглан бүх оны шилдгийн шилдэг захиалагчийн тухай мэдээллийг хэвлэж гаргах stored procedure бич.
6. Хамгийн их орлого оруулсан үйлчлүүлэгчдийг нийт орлогын 3 хувьтай тэнцэх мөнгийг олгохоор болжээ. Энэ жагсаалтыг үйлчлүүлэгчийн нэр, орлогын нийт мөнгөн дүн, 3 хувьтай тэнцэх мөнгөн дүн зэргээр хэвлэж гаргах stored procedure бич.

7. NorthWind sample Database үүсгэсэн байдал:



Stored Procedure

DELIMITER && энэ нь STORED PROCEDURE эхлэлийг тодорхойлоход хэргэлдэг

CREATE PROCEDURE шинэ процедурыг үүсгэх

BEGIN энэ нь хадгалагдсан процедурын кодын блокийн эхлэлийг тэмдэглэнэ

Энэ хэсэгт харахыг хүссэн үр дүндээ тааруулан query бичнэ

END энэ нь хадгалагдсан процедурын кодын блокийн төгсгөлийг тэмдэглэнэ

CALL энэ нь үүсгэсэн пороцедурыг дуудаж ажиллуулдаг SQL

DELIMITER && энэ нь STORED PROCEDURE төгсгөлийг тодорхойлоход хэргэлдэг

1. Ажилтны дэлгэрэнгүй мэдээллийг хэвлэж гаргах stored procedure

SQLyog Community 64 - [New Connection/northwind - root@localhost]

File Edit Favorites Database Table Others Tools PowerTools Transactions Window Help

Filter functions in northwind

Filter (Ctrl+Shift+B)

- root@localhost
 - information_schema
 - mysql
 - northwind
 - Tables
 - categories
 - customercustomerdemo
 - customerdemographics
 - customers
 - employees
 - employeeentities
 - order details
 - orders
 - products
 - region
 - shippers
 - suppliers
 - territories
 - Views
 - Stored Procs
 - Functions
 - Triggers
 - Events
 - performance_schema
 - phpmyadmin
 - test

Take database snapshots and compare them â€” useful for audit trails : Reason #23 to upgrade

Query 1 x History +

```
1 DELIMITER &&
2 CREATE PROCEDURE employeeInfo()
3 BEGIN
4     SELECT * FROM employees ;
5 END &&
6
7 CALL employeeInfo() |
```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

EmployeeID	LastName	FirstName	Title	TitleOfCourtesy	BirthDate	HireDate	Address
1	Davolio	Nancy	Sales Representative	Ms.	1948-12-08 00:00:00	1992-05-01 00:00:00	507 - 20th Ave. E.Apt. 2A
2	Fuller	Andrew	Vice President, Sales	Dr.	1952-02-19 00:00:00	1992-08-14 00:00:00	908 W. Capital Way
3	Leverling	Janet	Sales Representative	Ms.	1963-08-30 00:00:00	1992-04-01 00:00:00	722 Moss Bay Blvd.
4	Peacock	Margaret	Sales Representative	Mrs.	1937-09-19 00:00:00	1993-05-03 00:00:00	4110 Old Redmond Rd.
5	Buchanan	Steven	Sales Manager	Mr.	1955-03-04 00:00:00	1993-10-17 00:00:00	14 Garrett Hill
6	Suyama	Michael	Sales Representative	Mr.	1963-07-02 00:00:00	1993-10-17 00:00:00	Coventry HouseMiner Rd.
7	King	Robert	Sales Representative	Mr.	1960-05-29 00:00:00	1994-01-02 00:00:00	Edgeham HollowWinchester Way
8	Callahan	Laura	Inside Sales Coordinator	Ms.	1958-01-09 00:00:00	1994-03-05 00:00:00	4726 - 11th Ave. N.E.
9	Dodsworth	Anne	Sales Representative	Ms.	1966-01-27 00:00:00	1994-11-15 00:00:00	7 Houndstooth Rd.

CALL employeeInfo()

Exec: 0.002 sec Total: 0.008 sec 9 row(s) Ln 7, Col 25 Connections: 1 Upgrade to SQLyog Ultimate

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

EmployeeID	LastName	FirstName	Title	TitleOfCourtesy	BirthDate	HireDate	Address	City	Region	PostalCode
1	Davolio	Nancy	Sales Representative	Ms.	1948-12-08 00:00:00	1992-05-01 00:00:00	507 - 20th Ave. E.Apt. 2A	Seattle	WA	98122
2	Fuller	Andrew	Vice President, Sales	Dr.	1952-02-19 00:00:00	1992-08-14 00:00:00	908 W. Capital Way	Tacoma	WA	98401
3	Leverling	Janet	Sales Representative	Ms.	1963-08-30 00:00:00	1992-04-01 00:00:00	722 Moss Bay Blvd.	Kirkland	WA	98033
4	Peacock	Margaret	Sales Representative	Mrs.	1937-09-19 00:00:00	1993-05-03 00:00:00	4110 Old Redmond Rd.	Redmond	WA	98052
5	Buchanan	Steven	Sales Manager	Mr.	1955-03-04 00:00:00	1993-10-17 00:00:00	14 Garrett Hill	London	(NULL)	SW1 6JR
6	Suyama	Michael	Sales Representative	Mr.	1963-07-02 00:00:00	1993-10-17 00:00:00	Coventry HouseMiner Rd.	London	(NULL)	EC2 7JR
7	King	Robert	Sales Representative	Mr.	1960-05-29 00:00:00	1994-01-02 00:00:00	Edgeham HollowWinchester Way	London	(NULL)	RG1 9SP
8	Callahan	Laura	Inside Sales Coordinator	Ms.	1958-01-09 00:00:00	1994-03-05 00:00:00	4726 - 11th Ave. N.E.	Seattle	WA	98105
9	Dodsworth	Anne	Sales Representative	Ms.	1966-01-27 00:00:00	1994-11-15 00:00:00	7 Houndstooth Rd.	London	(NULL)	W62 7LT

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

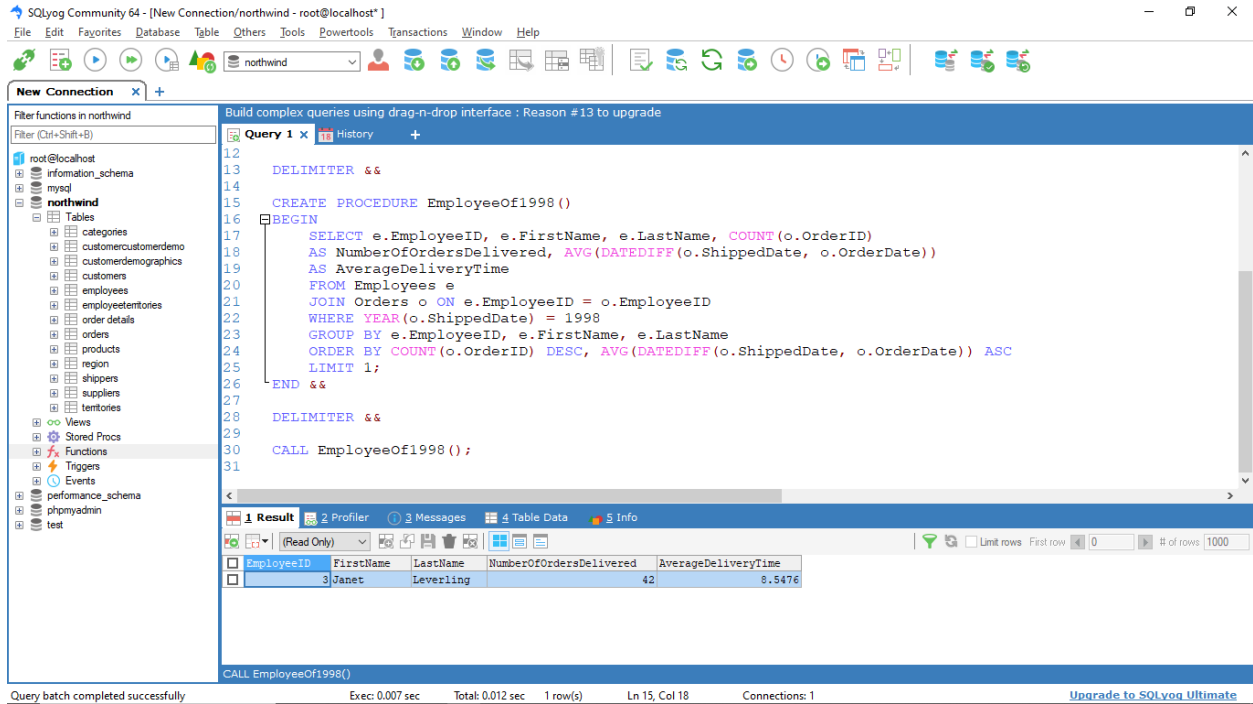
Country	HomePhone	Extension	Photo	Notes	ReportsTo
USA	(206) 555-9857	5467	(Binary/Image)	12K Education includes a BA in psychology from Colorado State...	175B 2
USA	(206) 555-9482	3457	(Binary/Image)	12K Andrew received his BTS commercial in 1974 and a Ph.D. in...	440B (NULL)
USA	(206) 555-3412	3355	(Binary/Image)	11K Janet has a BS degree in chemistry from Boston College (1...	239B 2
USA	(206) 555-8122	5176	(Binary/Image)	12K Margaret holds a BA in English literature from Concordia ...	218B 2
UK	(71) 555-4848	3453	(Binary/Image)	12K Steven Buchanan graduated from St. Andrews University, Sc...	440B 2
UK	(71) 555-7773	428	(Binary/Image)	11K Michael is a graduate of Sussex University (MA, economics...	324B 5
UK	(71) 555-5598	465	(Binary/Image)	11K Robert King served in the Peace Corps and traveled extens...	285B 5
USA	(206) 555-1189	2344	(Binary/Image)	11K Laura received a BA in psychology from the University of ...	151B 2
UK	(71) 555-4444	452	(Binary/Image)	12K Anne has a BA degree in English from St. Lawrence College...	95B 5

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

Notes	ReportsTo	PhotoPath	Salary
Education includes a BA in psychology from Colorado State...	175B	2 http://accweb/employees/davolio.bmp	2954.55
Andrew received his BTS commercial in 1974 and a Ph.D. in...	440B	(NULL) http://accweb/employees/fuller.bmp	2254.49
Janet has a BS degree in chemistry from Boston College (1...	239B	2 http://accweb/employees/leverling.bmp	3119.15
Margaret holds a BA in English literature from Concordia ...	218B	2 http://accweb/employees/peacock.bmp	1661.08
Steven Buchanan graduated from St. Andrews University, Sc...	440B	2 http://accweb/employees/buchanan.bmp	1744.21
Michael is a graduate of Sussex University (MA, economics...	324B	5 http://accweb/employees/davolio.bmp	2004.07
Robert King served in the Peace Corps and traveled extens...	285B	5 http://accweb/employees/davolio.bmp	1991.55
Laura received a BA in psychology from the University of ...	151B	2 http://accweb/employees/davolio.bmp	2100.5
Anne has a BA degree in English from St. Lawrence College...	95B	5 http://accweb/employees/davolio.bmp	2333.33

2. 1998 оны шилдэг ажилтанг захиалга хүргэж өгсөн тоо, хүргэж өгдөг дундаж хугацаагаар нь шалгаруулан олох stored procedure



The screenshot displays the SQLyog Community 64 interface. On the left, the 'Filter functions in northwind' pane shows a tree view of the database schema, including tables like 'employees', 'orders', and 'suppliers'. The main editor window shows the creation of a stored procedure named 'EmployeeOf1998()'. The procedure's SQL code is as follows:

```
12
13 DELIMITER $$
14
15 CREATE PROCEDURE EmployeeOf1998 ()
16 BEGIN
17     SELECT e.EmployeeID, e.FirstName, e.LastName, COUNT(o.OrderID)
18     AS NumberOfOrdersDelivered, AVG(DATEDIFF(o.ShippedDate, o.OrderDate))
19     AS AverageDeliveryTime
20 FROM Employees e
21 JOIN Orders o ON e.EmployeeID = o.EmployeeID
22 WHERE YEAR(o.ShippedDate) = 1998
23 GROUP BY e.EmployeeID, e.FirstName, e.LastName
24 ORDER BY COUNT(o.OrderID) DESC, AVG(DATEDIFF(o.ShippedDate, o.OrderDate)) ASC
25 LIMIT 1;
26 END $$
27
28 DELIMITER $$
29
30 CALL EmployeeOf1998();
31
```

Below the SQL editor, the '1 Result' tab is active, showing a single row of data in a table format:

EmployeeID	FirstName	LastName	NumberOfOrdersDelivered	AverageDeliveryTime
3	Janet	Leverling	42	8.5476

The status bar at the bottom indicates 'Query batch completed successfully' with execution details: 'Exec: 0.007 sec', 'Total: 0.012 sec', '1 row(s)', 'Ln 15, Col 18', and 'Connections: 1'. A link to 'Upgrade to SQLyog Ultimate' is also present.

3. Өмнөх (1) гэсэн даалгавраар хийсэн stored procedure өмнө нь өгөгдлийн санд үүссэн бол устгаад шинээр үүсгэдэг байхаар (1) гэсэн stored procedure-ийн кодыг өөрчил

The screenshot shows the SQLyog Community 64 interface. On the left, the 'Filter procedures in northwind' pane lists various stored procedures, with 'employeeInfo' selected. The main editor displays the following SQL code:

```
327
328
329 DROP PROCEDURE IF EXISTS employeeInfo;
330
331 DELIMITER &&
332
333 CREATE PROCEDURE selectEmployee(IN empID INT)
334 BEGIN
335     SELECT * FROM employees WHERE EmployeeID = empID;
336 END &&
337
338 CALL selectEmployee(5);
339
340 DELIMITER ;
341
342
```

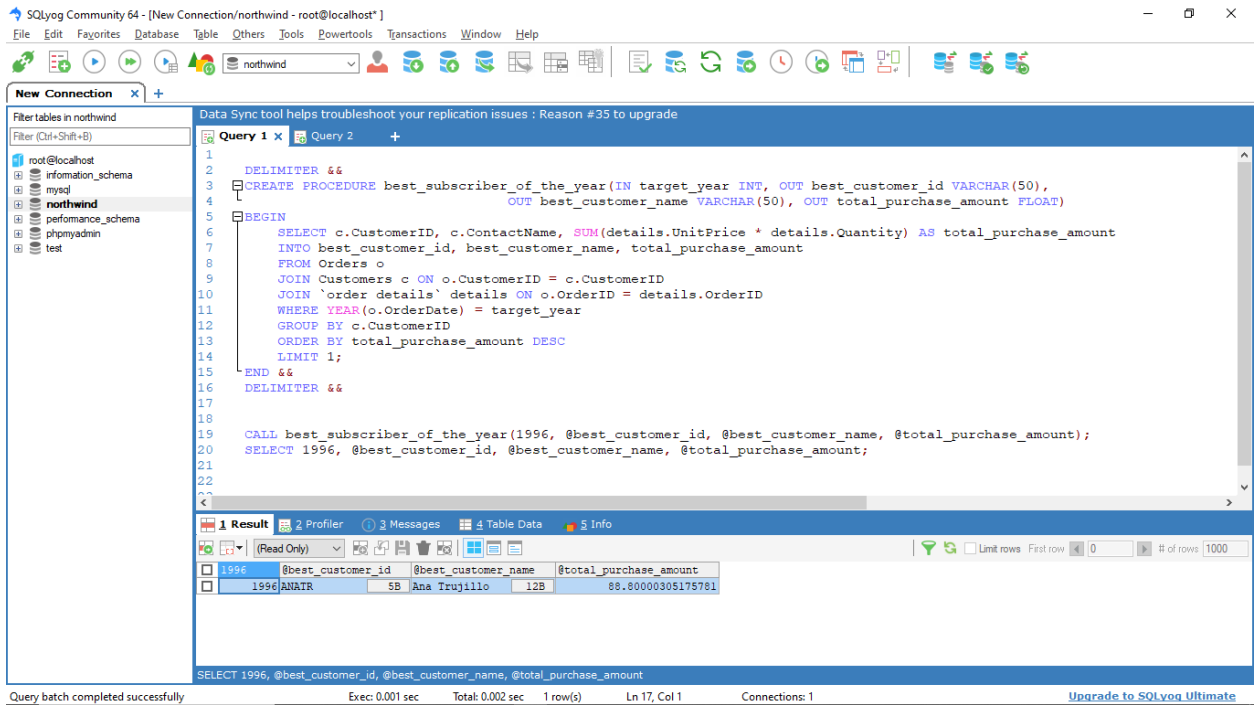
Below the editor, the '1 Result' pane shows the execution results of the stored procedure. The results are displayed in a table with the following columns: EmployeeID, LastName, FirstName, Title, TitleOfCourtesy, BirthDate, HireDate, Address, City, and Region. The first row of data is:

EmployeeID	LastName	FirstName	Title	TitleOfCourtesy	BirthDate	HireDate	Address	City	Region
5	Buchanan	Steven	Sales Manager	Mr.	1955-03-04 00:00:00	1993-10-17 00:00:00	14 Garrett Hill	London	(NULL)

The status bar at the bottom indicates: 'Query batch completed successfully', 'Exec: 0.002 sec', 'Total: 0.005 sec', '1 row(s)', 'Ln 339, Col 24', 'Connections: 1', and a link to 'Upgrade to SQLyog Ultimate'.

4. Оны шилдэг захиалагчийг өөрийн сонгон шалгаруулалтаар олох stored procedure

Гараас утгаа авдаг байдлаар



SQLyog Community 64 - [New Connection/northwind - root@localhost]

File Edit Favorites Database Table Others Tools Powertools Transactions Window Help

Filter tables in northwind

- root@localhost
- information_schema
- mysql
- northwind
- performance_schema
- phpmyadmin
- test

Query 1 X Query 2 +

```
1
2
3 DELIMITER $$
4 CREATE PROCEDURE best_subscriber_of_the_year(IN target_year INT, OUT best_customer_id VARCHAR(50),
5 OUT best_customer_name VARCHAR(50), OUT total_purchase_amount FLOAT)
6 BEGIN
7 SELECT c.CustomerID, c.ContactName, SUM(details.UnitPrice * details.Quantity) AS total_purchase_amount
8 INTO best_customer_id, best_customer_name, total_purchase_amount
9 FROM Orders o
10 JOIN Customers c ON o.CustomerID = c.CustomerID
11 JOIN 'order details' details ON o.OrderID = details.OrderID
12 WHERE YEAR(o.OrderDate) = target_year
13 GROUP BY c.CustomerID
14 ORDER BY total_purchase_amount DESC
15 LIMIT 1;
16 END $$
17 DELIMITER $$
18
19 CALL best_subscriber_of_the_year(1996, @best_customer_id, @best_customer_name, @total_purchase_amount);
20 SELECT 1996, @best_customer_id, @best_customer_name, @total_purchase_amount;
21
22
```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

	@best_customer_id	@best_customer_name	@total_purchase_amount
1996	ANATR	Ana Trujillo	88.80000305175781

SELECT 1996, @best_customer_id, @best_customer_name, @total_purchase_amount

Query batch completed successfully Exec: 0.001 sec Total: 0.002 sec 1 row(s) Ln 17, Col 1 Connections: 1 [Upgrade to SQLyog Ultimate](#)

5. (4) даалгавраар хийсэн stored procedure ашиглан бүх оны шилдгийн шилдэг захиалагчийн тухай мэдээллийг хэвлэж гаргах stored procedure

Import schema and data from any ODBC compliant data source : Reason #39 to upgrade

Query 1 Query 2 x +

```
1 DROP PROCEDURE IF EXISTS Best_subscriber_of_each_year;
2
3 DELIMITER $$
4 CREATE PROCEDURE Best_subscriber_of_each_year(IN year1 INT, IN year2 INT, IN year3 INT)
5 BEGIN
6     CREATE TEMPORARY TABLE subscribers (
7         YEAR INT,
8         CustomerID VARCHAR(50),
9         ContactName VARCHAR(50),
10        TotalPurchaseAmount FLOAT
11    );
12
13    INSERT INTO subscribers
14    SELECT
15        YEAR(o.OrderDate) AS YEAR,
16        c.CustomerID,
17        c.ContactName,
18        SUM(od.UnitPrice * od.Quantity) AS TotalPurchaseAmount
19    FROM
20        Orders o
21        JOIN Customers c ON o.CustomerID = c.CustomerID
22        JOIN `Order Details` od ON o.OrderID = od.OrderID
23    WHERE
24        YEAR(o.OrderDate) IN (year1, year2, year3)
25    GROUP BY
26        YEAR(o.OrderDate),
27        c.CustomerID
28    ORDER BY
```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

Year	CustomerID	ContactName	TotalPurchaseAmount
1996	ERNSH	Roland Mendel	17170.4
1997	QUICK	Horst Kloss	64238
1998	SAVEA	Jose Pavarotti	42806.2

CALL Best_subscriber_of_each_year(1996, 1997, 1998)

Import schema and data from any ODBC compliant data source : Reason #39 to upgrade

Query 1 Query 2 x +

```

22      JOIN `Order Details` od ON o.OrderID = od.OrderID
23  WHERE
24      YEAR(o.OrderDate) IN (year1, year2, year3)
25  GROUP BY
26      YEAR(o.OrderDate),
27      c.CustomerID
28  ORDER BY
29      YEAR(o.OrderDate) ASC,
30      TotalPurchaseAmount DESC;
31
32  SELECT * FROM subscribers WHERE YEAR = year1 ORDER BY TotalPurchaseAmount DESC LIMIT 1
33  SELECT * FROM subscribers WHERE YEAR = year2 ORDER BY TotalPurchaseAmount DESC LIMIT 1
34  SELECT * FROM subscribers WHERE YEAR = year3 ORDER BY TotalPurchaseAmount DESC LIMIT 1
35
36  DROP TEMPORARY TABLE IF EXISTS subscribers;
37  END$$
38
39  DELIMITER ;
40
41
42  CALL Best_subscriber_of_each_year(1996, 1997, 1998);
43
44
45
46
47
48
49

```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

<input type="checkbox"/>	Year	CustomerID	ContactName	TotalPurchaseAmount
<input type="checkbox"/>	1996	ERNSH	Roland Mendel	17170.4
<input type="checkbox"/>	1997	QUICK	Horst Kloss	64238
<input type="checkbox"/>	1998	SAVEA	Jose Pavarotti	42806.2

CALL Best_subscriber_of_each_year(1996, 1997, 1998)

6. Хамгийн их орлого оруулсан үйлчлүүлэгчдийг нийт орлогын 3 хувьтай тэнцэх мөнгийг олгохоор болжээ. Энэ жагсаалтыг үйлчлүүлэгчийн нэр, орлогын нийт мөнгөн дүн, 3 хувьтай тэнцэх мөнгөн дүн зэргээр хэвлэж гаргах stored procedure

SQLyog Community 64 - [New Connection/northwind - root@localhost*]

File Edit Favorites Database Table Others Tools Powertools Transactions Window Help

Filter procedures in northwind

Filter (Ctrl+Shift+B)

- root@localhost
 - information_schema
 - mysql
 - northwind
 - Tables
 - Views
 - Stored Procs
 - BestClient
 - BestClientAllYear
 - BestClientOfYear
 - CustOrderHist
 - CustOrdersOrders
 - Employee Sales by Country
 - EmployeeDetails
 - employeeInfo
 - EmployeeOf1998
 - GetBestCustomerOfAllYears
 - GetBestCustomerOfYear
 - LookByFName
 - Sales by Year
 - SalesByCategory
 - sp_employees_cursor
 - sp_employees_insert
 - sp_employees_rank
 - sp_employees_rollup
 - sp_employees_rownum
 - sp_employees_selectAll
 - sp_employees_selectRow
 - sp_employees_update
 - TopClient
 - Functions
 - Triggers
 - Events
 - performance_schema
 - phpmyadmin
 - test

Query Profiler analyzes queries and helps you optimize them : Reason #55 to upgrade

Query 1 x History +

```
343
344 DROP PROCEDURE ClientRefund;
345
346 DELIMITER &&
347 CREATE PROCEDURE ClientRefund()
348 BEGIN
349     SELECT c.ContactName, SUM(od.UnitPrice * od.Quantity)
350     AS TotalIncome, SUM(od.UnitPrice * od.Quantity) * 0.03 AS Bonus
351     FROM `Order Details` AS od
352     INNER JOIN Orders o ON o.OrderID = od.OrderID
353     INNER JOIN Customers c ON c.CustomerID = o.CustomerID
354     GROUP BY c.CustomerID
355     ORDER BY TotalIncome DESC
356     LIMIT 3;
357 END&&
358
359 CALL ClientRefund();
360
361 DELIMITER &&
```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info

(Read Only)

ContactName	TotalIncome	Bonus
Horst Kloss	117483.3900	3524.501700
Jose Pavarotti	115673.3900	3470.201700
Roland Mendel	113236.6800	3397.100400

CALL ClientRefund()

Query batch completed successfully Exec: 0.004 sec Total: 0.006 sec 3 row(s) Ln 360, Col 1 Connections: 1 [Upgrade to SQLyog Ultimate](#)