

Jobsheet 2 - Database Operasional

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Kelas : SIB 2A
Mata kuliah: Data Warehouse

Tugas 1

1. Import data perusahaan tersebut pada DBMS MySQL!

Table	Action	Rows	Type	Collation	Size	Overhead
customers	Browse Structure Search Insert Empty Drop	122	InnoDB	utf8mb4_0900_ai_ci	64.0 KiB	-
employees	Browse Structure Search Insert Empty Drop	23	InnoDB	utf8mb4_0900_ai_ci	48.0 KiB	-
offices	Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_0900_ai_ci	16.0 KiB	-
orderdetails	Browse Structure Search Insert Empty Drop	2,996	InnoDB	utf8mb4_0900_ai_ci	240.0 KiB	-
orders	Browse Structure Search Insert Empty Drop	326	InnoDB	utf8mb4_0900_ai_ci	64.0 KiB	-
payments	Browse Structure Search Insert Empty Drop	273	InnoDB	utf8mb4_0900_ai_ci	16.0 KiB	-
productlines	Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_0900_ai_ci	16.0 KiB	-
products	Browse Structure Search Insert Empty Drop	110	InnoDB	utf8mb4_0900_ai_ci	80.0 KiB	-
8 tables	Sum	3,864	InnoDB	utf8mb4_0900_ai_ci	544.0 KiB	0 B

2. Analisa struktur data dari database perusahaan tersebut, dalam bentuk tabel, analisa hubungan setiap tabel nya!

No	Table 1	Table 2	Jenis Relasi
1	productlines	products	1 to Many
2	products	orderdetails	1 to Many
3	orderdetails	orders	Many to 1
4	orders	customers	Many to 1
5	customers	payments	1 to Many
6	customers	employees	Many to 1
7	employees	employees	Many to 1
8	employees	offices	Many to 1

3. Analisa jumlah field pada setiap tabel!

No	Nama Tabel	Jumlah Field
1	productlines	4
2	products	9
3	orderdetails	5
4	orders	7
5	customers	13
6	payments	4
7	employees	8
8	offices	9

PRAKTIKUM 1

1) Jalankan query berikut pada DBMS MySql yang telah tersedia data Perusahaan LegendVehicle.

Showing rows 0 - -1 (0 total, Query took 0.0024 seconds.)

SELECT * FROM employees employee, employees manager, customers cust WHERE employee.reportsTo = manager.employeeNumber AND employee.employeeNumber = cust.salesRepEmployeeNumber;

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

employeeNumber	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle	employeeNumber	lastName	firstName	extension	email	officeCode
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1
1166	Thompson	Leslie	x4065	lthompson@classicmodelcars.com	1	1143	Sales Rep	1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1

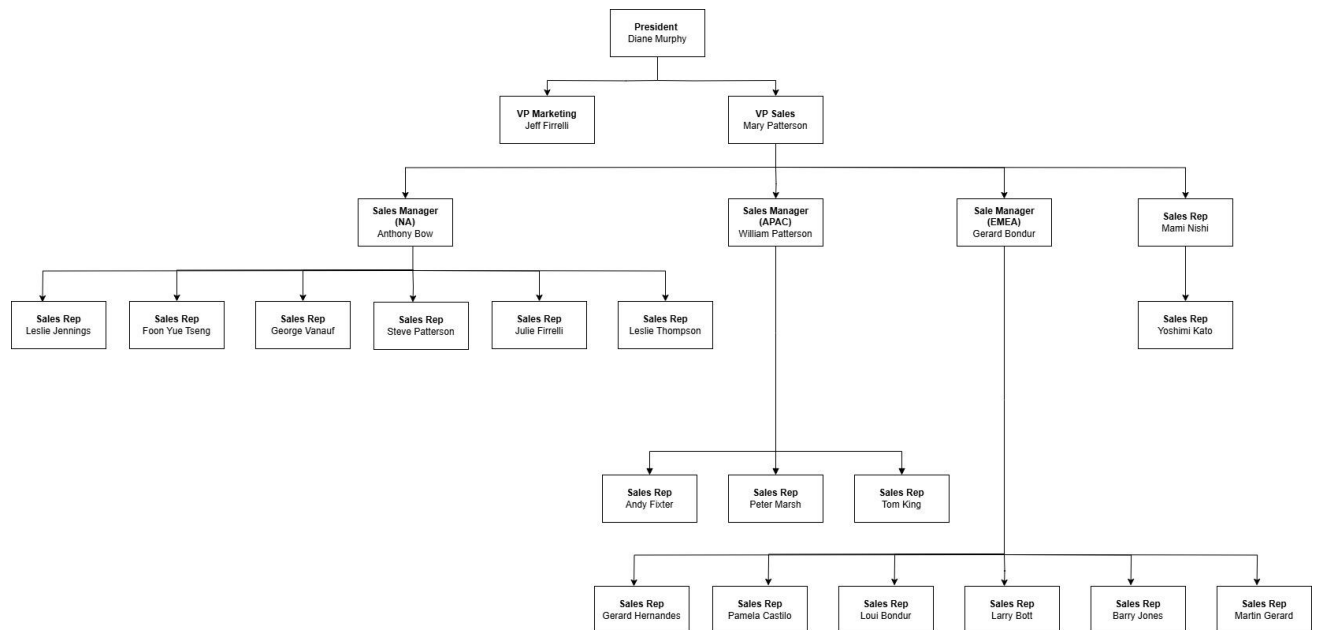
2) Buka tab baru pada browser untuk melakukan eksekusi query berikut:

id_manager	Manager	id_staff	staff
1143	Anthony Bow	1165	Leslie Jennings
1143	Anthony Bow	1166	Leslie Thompson
1143	Anthony Bow	1188	Julie Firrelli
1143	Anthony Bow	1216	Steve Patterson
1143	Anthony Bow	1286	Foon Yue Tseng
1143	Anthony Bow	1323	George Vanauf
1002	Diane Murphy	1056	Mary Patterson
1002	Diane Murphy	1076	Jeff Firrelli
1102	Gerard Bondur	1337	Loui Bondur
1102	Gerard Bondur	1370	Gerard Hernandez
1102	Gerard Bondur	1401	Pamela Castillo
1102	Gerard Bondur	1501	Larry Bott
1102	Gerard Bondur	1504	Barry Jones
1102	Gerard Bondur	1702	Martin Gerard
1621	Mami Nishi	1625	Yoshimi Kato
1056	Mary Patterson	1088	William Patterson
1056	Mary Patterson	1102	Gerard Bondur
1056	Mary Patterson	1143	Anthony Bow
1056	Mary Patterson	1621	Mami Nishi
1088	William Patterson	1611	Andy Fixter
1088	William Patterson	1612	Peter Marsh
1088	William Patterson	1619	Tom King

dari hasil query diatas maka akan ditemukan atasan dari setiap pegawai.

TUGAS 2

Gambarlah hirarki organisasi berdasarkan atasan dari setiap pegawai sesuai dengan hasil prkatikum diatas!



Buka tab baru pada browser untuk melakukan eksekusi query berikut:

```

1 SELECT manager.employeeNumber as id_manager,
2 concat(manager.firstName," ",manager.lastName) as Manager,
3 employee.employeeNumber as id_staff, concat(employee.firstName,"
",employee.lastName) as staff,
4 count(cust.customerNumber) as total_cust
5 FROM employees employee join employees manager on
employee.reportsTomanager.employeeNumber
6 left join customers cust on employee.employeeNumber=cust.salesRepEmployeeNumber
7 GROUP BY employee.employeeNumber
8 ORDER BY manager.firstName;

```

dari query tersebut menghasilkan jumlah customer dari setiap staff.

id_manager	Manager	id_staff	staff	total_cust
1143	Anthony Bow	1165	Leslie Jennings	6
1143	Anthony Bow	1166	Leslie Thompson	6
1143	Anthony Bow	1188	Julie Firrelli	6
1143	Anthony Bow	1216	Steve Patterson	6
1143	Anthony Bow	1286	Foon Yue Tseng	7
1143	Anthony Bow	1323	George Vanauf	8
1002	Diane Murphy	1056	Mary Patterson	0
1002	Diane Murphy	1076	Jeff Firrelli	0
1102	Gerard Bondur	1337	Loui Bondur	6
1102	Gerard Bondur	1370	Gerard Hernandez	7
1102	Gerard Bondur	1401	Pamela Castillo	10
1102	Gerard Bondur	1501	Larry Bott	8
1102	Gerard Bondur	1504	Barry Jones	9
1102	Gerard Bondur	1702	Martin Gerard	6
1621	Mami Nishi	1625	Yoshimi Kato	0
1056	Mary Patterson	1088	William Patterson	0
1056	Mary Patterson	1102	Gerard Bondur	0
1056	Mary Patterson	1143	Anthony Bow	0
1056	Mary Patterson	1621	Mami Nishi	5
1088	William Patterson	1611	Andy Fixter	5
1088	William Patterson	1612	Peter Marsh	5
1088	William Patterson	1619	Tom King	0

TUGAS 3

1. Siapakah staff dengan hirarki paling bawah yang berprestasi dilihat dari jumlah customer terbanyak?

Your SQL query has been executed successfully.

```
SELECT employee.employeeNumber AS id_staff, CONCAT(employee.firstName, ' ', employee.lastName) AS staff, COUNT(cust.customerNumber) AS total_cust FROM employees AS employee LEFT JOIN customers AS cust ON employee.employeeNumber = cust.salesRepEmployeeNumber WHERE employee.employeeNumber NOT IN (SELECT DISTINCT reportsTo FROM employees WHERE reportsTo IS NOT NULL) GROUP BY employee.employeeNumber, employee.firstName, employee.lastName ORDER BY total_cust DESC LIMIT 1;
```

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

Extra options

id_staff	staff	total_cust
1401	Pamela Castillo	10

2. Jika KPI atasan dihitung dari customer yang dimilikinya dijumlah dengan customer dari staff dibawahnya, urutkan ranking prestasi keseluruhan pegawai beserta keterangan jumlah customer yang dimilikinya!

Showing rows 0 - 22 (23 total, Query took 0.0040 seconds.)

```

WITH CustomerCount AS ( SELECT employee.employeeNumber AS id_staff, CONCAT(employee.firstName, ' ', employee.lastName) AS staff, employee.reportsTo AS id_manager, COUNT(cust.customerNumber) AS total_cust FROM employees AS employee LEFT JOIN customers AS cust ON employee.employeeNumber = cust.salesRepEmployeeNumber GROUP BY employee.employeeNumber, employee.firstName, employee.lastName, employee.reportsTo ), ManagerKPI AS ( SELECT mgr.id_staff AS id_manager, mgr.staff AS Manager, SUM(emp.total_cust) AS total_cust_staff_below, mgr.total_cust AS total_cust_manager, (mgr.total_cust + COALESCE(SUM(emp.total_cust), 0)) AS total_kpi FROM CustomerCount mgr LEFT JOIN CustomerCount emp ON mgr.id_staff = emp.id_manager GROUP BY mgr.id_staff, mgr.staff, mgr.total_cust ) SELECT id_manager AS employeeNumber, Manager AS EmployeeName, to[...]

```

[Edit]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	employeeNumber	EmployeeName	direct_customers	team_customers	total_customers
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1102	Gerard Bondur	0	46	46
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1143	Anthony Bow	0	39	39
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1088	William Patterson	0	10	10
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1401	Pamela Castillo	10	NULL	10
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1504	Barry Jones	9	NULL	9
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1323	George Vanauf	8	NULL	8
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1501	Larry Bott	8	NULL	8
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1286	Foon Yue Tseng	7	NULL	7
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1370	Gerard Hernandez	7	NULL	7
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1165	Leslie Jennings	6	NULL	6
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1166	Leslie Thompson	6	NULL	6
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1188	Julie Firrelli	6	NULL	6
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1216	Steve Patterson	6	NULL	6

Console

3. Analisa kembali data LegendVehicle untuk mendapatkan ranking pegawai berdasarkan KPI "Jumlah omset yang didapat". Urutkan ranking pegawai beserta keterangan dana yang didapat!

Showing rows 0 - 14 (15 total, Query took 0.0168 seconds.)

```

WITH SalesData AS ( SELECT c.salesRepEmployeeNumber AS employeeNumber, CONCAT(e.firstName, ' ', e.lastName) AS employeeName, SUM(od.quantityOrdered * od.priceEach) AS total_sales FROM customers c JOIN employees e ON c.salesRepEmployeeNumber = e.employeeNumber JOIN orders o ON c.customerNumber = o.customerNumber JOIN orderdetails od ON o.orderNumber = od.orderNumber GROUP BY c.salesRepEmployeeNumber, e.firstName, e.lastName ) SELECT employeeNumber, employeeName, total_sales FROM SalesData ORDER BY total_sales DESC;

```

[Edit inline] [Edit] [Create PHP code]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	employeeNumber	employeeName	total_sales
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1370	Gerard Hernandez	1258577.81
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1165	Leslie Jennings	1081530.54
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1401	Pamela Castillo	868220.55
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1501	Larry Bott	732096.79
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1504	Barry Jones	704853.91
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1323	George Vanauf	669377.05
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1612	Peter Marsh	584593.76
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1337	Loui Bondur	569485.75
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1611	Andy Fixter	562582.59
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1216	Steve Patterson	505875.42
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1286	Foon Yue Tseng	488212.67
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1621	Mami Nishi	457110.07
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1702	Martin Gerard	387477.47
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1188	Julie Firrelli	386663.20

Console

4. Jika KPI yang pertama merupakan "Jumlah customer yang bertransaksi" sedangkan KPI yang kedua "Jumlah omset yang didapat". Maka, berapakah jumlah field yang dibutuhkan untuk mendapatkan informasi tersebut?

Jumlah customer yang

Bertransaksi: 3 field: employeeNumber, customerNumber, salesRepEmployeeNumber.

Jumlah omset yang didapat : 5 field: employeeNumber, salesRepEmployeeNumber, orderNumber, quantityOrdered, priceEach.

5. Buatlah report pertahun untuk KPI "Jumlah omset yang didapat" pada Foon Yue Tseng dan Pamela Castillo. Serta gambarkan grafiknya (grafik garis).

Nama	2003	2004	2005
Foon Yue Tseng	221887.03	237255.26	29070.38
Pamela Castillo	317104.78	409910.07	141205.70

