

Workshop 04 - Northwind

Preamble

Creating the database

The first step in this workshop is positioning ourselves in your database folder as we have been doing these past few times. In this folder, we'll have two important files with the northwind structure and data to work with.

While in `/vagrant` in the virtual machine, we must create a new database to pass our new data into. We create the database, the user and their access with:

```
create database northwind;  
create user north identified by 'secret';  
grant all privileges on northwind.* to north;  
flush privileges;
```

The database's name, the user and the password can be whatever you want, of course.

Organizing the database

Because we already have the database with use, it is only necessary to transfer the data with these command.

```
mysql northwind < northwind.sql -u north -p
```

To corroborate it works, we can enter as the north user and make a command like a select.

```
Database changed
MariaDB [northwind]> show tables
-> ;
+-----+
| Tables_in_northwind |
+-----+
| customers            |
| employee_privileges  |
| employees            |
| inventory_transaction_types |
| inventory_transactions |
| invoices             |
| order_details        |
| order_details_status |
| orders               |
| orders_status        |
| orders_tax_status    |
| privileges           |
| products             |
| purchase_order_details |
| purchase_order_status |
| purchase_orders      |
| sales_reports        |
| shippers             |
| strings              |
| suppliers            |
+-----+
20 rows in set (0.001 sec)

MariaDB [northwind]> |
```

Populating the database

As easy as before, we populate the tables now that we have them.

```
mysql northwind < northwind-data.sql -u north -p
```

Challenge 01

'Recupere el código (id) y la descripción (type_name) de los tipos de transacciones de inventario (inventory_transaction_types).'

```
select id as `Código`, type_name as `Descripción` from
inventory_transaction_types;
```

```
MariaDB [northwind]> select id as `Código`, type_name as `Descripción` from inventory_transaction_types;
```

Código	Descripción
1	Purchased
2	Sold
3	On Hold
4	Waste

4 rows in set (0.000 sec)

Interlude

Using the terminal is usually for more simple queries, to facilitate the work, I'll be using TablePlus with the following configuration:

MySQL

Name

Northwind

Status color

Tag

local

Host

192.168.56.11

Port

3306

User

north

Other options

Password

••••••

Store in keychain

Database

northwind

Bootstrap commands...

SSL mode

PREFERRED

TLS

TLS 1.1, TLS 1.2

Key...

Cert...

CA Cert...

—

☐ Over SSH

Server

Port

User

Password

Store in keychain

☐ Use SSH Key

SSH private key...

Passphrase

—

Save

Test

Connect

Challenge 02

'Recupere la cantidad total de ordenes (orders) registradas por cada vendedor (employees).'

```
select concat(e.first_name, " ", e.last_name) as `Vendedor`,
       count(o.id) as `Cantidad`
from employees e
join orders o
  on o.employee_id = e.id
group by e.id;
```

1select
2 concat(e.first_name, " ", e.last_name) as `Vendedor`,
3 count(o.id) as `Cantidad`
4 from employees e
5 join orders o
6 on o.employee_id = e.id
7group by e.id;
8
9

line 9, column 1, location 175

No limit

	Vendedor	Cantidad	
1	Nancy Freehafer	12	
2	Andrew Cencini	4	
3	Jan Kotas	6	
4	Mariya Sergienko	8	
5	Michael Neipper	4	
6	Robert Zare	2	
7	Laura Giussani	2	
8	Anne Hellung-Larsen	10	

Challenge 03

'Recupere la lista de los 10 productos «más ordenados»(order_details), y la cantidad total de unidades ordenadas para cada uno de esos productos.'

```
select p.product_code as `Código`,
       p.product_name as `Producto`,
       sum(od.quantity) as `Cantidad`
from products p
join order_details od
```

```
on od.product_id = p.id
group by p.id
order by `Cantidad` desc
limit 10;
```

```
9 select p.product_code as `Código`,
10    p.product_name as `Producto`,
11    sum(od.quantity) as `Cantidad`
12    from products p
13    join order_details od
14        on od.product_id = p.id
15 group by p.id
16 order by `Cantidad` desc
17 limit 10;
18
19
```

 line 15, column 14, location 382

No limit 

Bea

	Código	Producto	Cantidad	
1	NWTB-43	Northwind Traders Coffee	650.0000	
2	NWTB-34	Northwind Traders Beer	487.0000	
3	NWTSO-41	Northwind Traders Clam Chowder	290.0000	
4	NWTB-81	Northwind Traders Green Tea	275.0000	
5	NWTCA-48	Northwind Traders Chocolate	200.0000	
6	NWTCM-40	Northwind Traders Crab Meat	120.0000	
7	NWTJP-6	Northwind Traders Boysenberry Spread	100.0000	
8	NWTP-57	Northwind Traders Ravioli	100.0000	
9	NWTD-72	Northwind Traders Mozzarella	90.0000	
10	NWTBGM-19	Northwind Traders Chocolate Biscuits Mix	85.0000	

Challenge 04

'Recupere el monto total (invoices, orders, order_details, products) y la cantidad de facturas (invoices) por vendedor (employee). Debe considerar solamente las ordenes con estado diferente de 0 y solamente los detalles en estado 2 y 3, debe utilizar el precio unitario de las lineas de detalle de orden, no considere el descuento, no considere los impuestos, porque la comisión a los vendedores se paga sobre el precio base.'

```
select count(o.id) as `Cantidad`,
       concat(e.first_name, " ", e.last_name) as `Vendedor`,
       sum(od.quantity * od.unit_price) as `Monto`
from invoices i
join orders o
    on o.id = i.order_id
```

```
join order_details od
  on od.id = o.id
join employees e
  on e.id = o.employee_id
where o.status_id <> 0
  and od.status_id in (2,3)
group by e.id
order by `Cantidad` desc, `Monto` desc;
```

```
19 select count(o.id) as `Cantidad`,
20       concat(e.first_name, " ", e.last_name) as `Vendedor`,
21       sum(od.quantity * od.unit_price) as `Monto`
22 from invoices i
23 join orders o
24   on o.id = i.order_id
25 join order_details od
26   on od.id = o.id
27 join employees e
28   on e.id = o.employee_id
29 where o.status_id <> 0
30   and od.status_id in (2,3)
31 group by e.id
32 order by `Cantidad` desc, `Monto` desc;
33
34
```

line 15, column 17, location 403

No limit

	Cantidad	Vendedor	Monto	
1	6	Anne Hellung-Larsen	2934.50000000	
2	5	Mariya Sergienko	2987.00000000	
3	4	Nancy Freehafer	5752.00000000	
4	3	Jan Kotas	14019.00000000	
5	3	Michael Neipper	1963.75000000	
6	2	Andrew Cencini	1052.50000000	
7	1	Laura Giussani	1930.00000000	
8	1	Robert Zare	510.00000000	

Challenge 05

'Recupere los movimientos de inventario del tipo ingreso. Tomando como base todos los movimientos de inventario (inventory_transactions), considere unicamente el tipo de movimiento 1 (transaction_type) como ingreso.'

```
select p.product_code as `Código`,
       p.product_name as `Producto`,
```

```
sum(it.quantity) as `Cantidad`
from products p
join inventory_transactions it
    on it.product_id = p.id
where it.transaction_type = 1
group by p.id;
```

33

```
34 select p.product_code as `Código`,
35        p.product_name as `Producto`,
36        sum(it.quantity) as `Cantidad`
37        from products p
38        join inventory_transactions it
39            on it.product_id = p.id
40        where it.transaction_type = 1
41        group by p.id;
42
```

line 33, column 1, location 895

No limit

	Código	Producto	Cantidad
1	NWTB-1	Northwind Traders Chai	40
2	NWTCO-3	Northwind Traders Syrup	100
3	NWTCO-4	Northwind Traders Cajun Seasoning	40
4	NWTO-5	Northwind Traders Olive Oil	40
5	NWTJP-6	Northwind Traders Boysenberry Spread	100
6	NWTDFN-7	Northwind Traders Dried Pears	40
7	NWTS-8	Northwind Traders Curry Sauce	65
8	NWTFN-14	Northwind Traders Walnuts	40
9	NWTCFV-17	Northwind Traders Fruit Cocktail	40

Challenge 06

'Recupere los movimientos de inventario del tipo salida. Tomando como base todos los movimientos de inventario (inventory_transactions), considere unicamente los tipos de movimiento (transaction_type) 2, 3 y 4 como salidas.

Debe agrupar por producto (products) y deberá incluir como mínimo los campos de código (product_code), nombre del producto (product_name) y la cantidad de unidades que salieron.'

```
select p.product_code as `Código`,
       p.product_name as `Producto`,
       sum(it.quantity) as `Cantidad`
from products p
join inventory_transactions it
    on it.product_id = p.id
```

```
where it.transaction_type in (2,3,4)
group by p.id;
```

43select p.product_code as `Código`,
44 p.product_name as `Producto`,
45 sum(it.quantity) as `Cantidad`
46 from products p
47 join inventory_transactions it
48 on it.product_id = p.id
49 where it.transaction_type in (2,3,4)
50 group by p.id;
51
52

line 40, column 34, location 1134

No limit

	Código	Producto	Cantidad
1	NWTB-1	Northwind Traders Chai	40
2	NWTCO-3	Northwind Traders Syrup	50
3	NWTCO-4	Northwind Traders Cajun Seasoning	40
4	NWTO-5	Northwind Traders Olive Oil	25
5	NWTJP-6	Northwind Traders Boysenberry Spread	100
6	NWTDFN-7	Northwind Traders Dried Pears	40
7	NWTS-8	Northwind Traders Curry Sauce	65
8	NWTCFV-17	Northwind Traders Fruit Cocktail	40
9	NWTRGM-19	Northwind Traders Chocolate Biscuits Mix	85

Challenge 07

'Genere un reporte de movimientos de inventario (inventory_transactions) por producto (products), tipo de transacción y fecha, entre las fechas 22/03/2006 y 24/03/2006 (incluyendo ambas fechas).

Debe incluir como mínimo el código (product_code), el nombre del producto (product_name), la fecha truncada (transaction_created_date), la descripción del tipo de movimiento (type_name) y la suma de cantidad (quantity).'

```
select p.product_code as `Código`,
       p.product_name as `Producto`,
       itt.type_name as `Tipo`,
       date_format(it.transaction_created_date, '%m/%d/%Y') as `Fecha`,
       sum(it.quantity) as `Cantidad`
from products p
join inventory_transactions it
  on it.product_id = p.id
join inventory_transaction_types itt
  on itt.id = it.transaction_type
where it.transaction_created_date >= str_to_date('22/03/2006', '%d/%m/%Y')
```



```
and it.transaction_created_date <= str_to_date('24/03/2006', '%d/%m/%Y')
group by p.id, itt.id
order by p.product_name;
```

```
53 select p.product_code as `Código`,
54        p.product_name as `Producto`,
55        itt.type_name as `Tipo`,
56        date_format(it.transaction_created_date, '%m/%d/%Y') as `Fecha`,
57        sum(it.quantity) as `Cantidad`
58 from products p
59 join inventory_transactions it
60     on it.product_id = p.id
61 join inventory_transaction_types itt
62     on itt.id = it.transaction_type
63 where it.transaction_created_date >= str_to_date('2006/03/22', '%Y/%m/%d')
64      and it.transaction_created_date <= str_to_date('2006/03/24', '%Y/%m/%d')
65 group by p.id, itt.id
66 order by p.product_name;
67
```

line 64, column 61, location 1925

No limit

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Run

	Código	Producto	Tipo	Fecha	Cantid
1	NWTFN-74	Northwind Traders Almonds	Purchased	03/22/2006	20
2	NWTB-34	Northwind Traders Beer	Purchased	03/22/2006	60
3	NWTJP-6	Northwind Traders Boysenberry Spread	Purchased	03/22/2006	100
4	NWTCO-4	Northwind Traders Cajun Seasoning	Purchased	03/22/2006	40
5	NWTB-1	Northwind Traders Chai	Purchased	03/22/2006	40
6	NWTB-1	Northwind Traders Chai	Sold	03/22/2006	15

Challenge 08

'Genere la consulta SQL para un reporte de inventario, tomando como base todos los movimientos de inventario (inventory_transactions), considere los tipos de movimiento (transaction_type) 2, 3 y 4 como salidas y el tipo 1 como ingreso.

Este reporte debe estar agrupado por producto (products) y deberá incluir como mínimo los campos de código (product_code), nombre del producto (product_name) y la sumalización de ingresos, salidas y la cantidad disponible en inventario (diferencia de ingresos - salidas).'

```
select p.product_code as `Código`,
       p.product_name as `Producto`,
       sum( if(it.transaction_type = 1, it.quantity,0 ) ) as `Ingresos`,
       sum( if(it.transaction_type in (2,3,4), it.quantity, 0 ) ) as `Salidas`,
       sum( if(it.transaction_type = 1, it.quantity,0 ) ) - sum(
if(it.transaction_type in (2,3,4), it.quantity, 0 ) ) as `Disponible`
from products p
join inventory_transactions it
    on it.product_id = p.id
group by p.id;
```

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```
select p.product_code as `Código`,
       p.product_name as `Producto`,
       sum( if(it.transaction_type = 1, it.quantity,0 ) ) as `Ingresos`,
       sum( if(it.transaction_type in (2,3,4), it.quantity, 0) ) as `Salidas`,
       sum( if(it.transaction_type = 1, it.quantity,0 ) ) - sum( if(it.transaction_type in
       (2,3,4), it.quantity, 0) ) as `Disponible`
       from products p
       join inventory_transactions it
       on it.product_id = p.id
       group by p.id;
```

≡

line 66, column 29, location 2032

No limit

Beautify

Run

	Código	Producto	Ingresos	Salidas	Disponible
1	NWTB-1	Northwind Traders Chai	40	40	0
2	NWTCO-3	Northwind Traders Syrup	100	50	50
3	NWTCO-4	Northwind Traders Cajun Seasoning	40	40	0
4	NWTO-5	Northwind Traders Olive Oil	40	25	15
5	NWTJP-6	Northwind Traders Boysenberry Spread	100	100	0
6	NWTDFN-7	Northwind Traders Dried Pears	40	40	0
7	NWTS-8	Northwind Traders Curry Sauce	65	65	0
8	NWTDNF-14	Northwind Traders Walnuts	40	0	40
9	NWTFCV-17	Northwind Traders Fruit Cocktail	40	40	0