

DDL (create, alter, drop)

ALTER - change the structure of existing table.

if I have to add a new column.

```
CREATE TABLE orders (
    order_id int,
    order_item_id int,
    order_date date,
    customer_id int,
    product_id int,
    quantity int,
    product_price float,
    total_price float
);
```

```
INSERT INTO orders VALUES
(1, 1, '2013-07-25', 11599, 957, 1, 299.98, 299.98),
(2, 2, '2013-07-25', 256, 1073, 1, 199.99, 199.99),
(2, 3, '2013-07-25', 256, 502, 5, 50.00, 250.00),
(2, 4, '2013-07-25', 256, 403, 1, 129.99, 129.99),
(4, 5, '2013-07-25', 8827, 897, 2, 24.99, 49.98),
(4, 6, '2013-07-25', 8827, 365, 5, 59.99, 299.95),
(4, 7, '2013-07-25', 8827, 502, 3, 50.00, 150.00),
(4, 8, '2013-07-25', 8827, 1014, 4, 49.98, 199.92),
(5, 9, '2013-07-25', 11318, 957, 1, 299.98, 299.98),
(5, 10, '2013-07-25', 11318, 365, 5, 59.99, 299.95),
(5, 11, '2013-07-25', 11318, 1014, 2, 49.98, 99.96),
(5, 12, '2013-07-25', 11318, 957, 1, 299.98, 299.98),
(5, 13, '2013-07-25', 11318, 403, 1, 129.99, 129.99);
```

I want to add a new column (order\_status)

--get this inserted in the table

```
INSERT INTO orders VALUES (7, 14, '2013-07-25', 4530, 1073, 1,
199.99, 199.99);
INSERT INTO orders (order_id, order_item_id, order_date,
customer_id, product_id, quantity, product_price, total_price)
VALUES (7, 14, '2013-07-25', 4530, 1073, 1, 199.99, 199.99);
```

```
INSERT INTO orders (order_id, order_item_id, order_date,
customer_id, order_status, product_id, quantity, product_price,
total_price) VALUES (7, 14, '2013-07-25', 4530, 'COMPLETE', 1073, 1,
199.99, 199.99), (7, 15, '2013-07-25', 4530, 'COMPLETE', 957, 1,
299.98, 299.98), (7, 16, '2013-07-25', 4530, 'COMPLETE', 926, 5,
15.99, 79.95);
```

```
INSERT INTO orders (order_id, order_item_id, order_date,
customer_id, order_status, product_id, quantity, product_price,
total_price) VALUES (8, 17, '2013-07-25', 2911, null, 365, 3, 59.99,
179.97),
(8, 18, '2013-07-25', 2911, null, 365, 5, 59.99, 299.95),
(8, 19, '2013-07-25', 2911, null, 1014, 4, 49.98, 199.92),
(8, 20, '2013-07-25', 2911, null, 502, 1, 50.00, 50.00);
```

equivalent to

```
INSERT INTO orders (order_id, order_item_id, order_date,
customer_id, product_id, quantity, product_price, total_price) VALUES
(8, 17, '2013-07-25', 2911, 365, 3, 59.99, 179.97),
(8, 18, '2013-07-25', 2911, 365, 5, 59.99, 299.95),
(8, 19, '2013-07-25', 2911, 1014, 4, 49.98, 199.92),
(8, 20, '2013-07-25', 2911, 502, 1, 50.00, 50.00);
```

-- drop a column

-- change the datatype of a column

-- the requirement is to change order\_date from date to datetime

## DATE AND DATETIME ARE COMPATIBLE TYPES

```
INSERT INTO orders (order_id, order_item_id, order_date,
customer_id, order_status, product_id, quantity, product_price) VALUES
(7, 14, '2013-07-25 12:42:30', 4530, 'COMPLETE', 1073, 1, 199.99), (7,
15, '2013-07-25', 4530, 'COMPLETE', 957, 1, 299.98), (7, 16,
'2013-07-25', 4530, 'COMPLETE', 926, 5, 15.99);
```

DDL - create, drop

ALTER

- how to add a new column
- how to drop a existing column
- how to change the datatype of existing column
- how to rename an existing column
- how to rename a table

```
drop database retail_db;
```

```
create database retail_db;
```

```
use retail_db;
```

```
CREATE TABLE orders (
    order_id int,
    order_item_id int,
    order_date date,
    customer_id int,
    product_id int,
    quantity int,
    product_price float,
    total_price float
);
```

```
describe orders;
```

```
INSERT INTO orders VALUES
(1, 1, '2013-07-25', 11599, 957, 1, 299.98, 299.98),
(2, 2, '2013-07-25', 256, 1073, 1, 199.99, 199.99),
(2, 3, '2013-07-25', 256, 502, 5, 50.00, 250.00), (2,
4, '2013-07-25', 256, 403, 1, 129.99, 129.99), (4, 5,
'2013-07-25', 8827, 897, 2, 24.99, 49.98), (4, 6,
'2013-07-25', 8827, 365, 5, 59.99, 299.95), (4, 7,
'2013-07-25', 8827, 502, 3, 50.00, 150.00), (4, 8,
'2013-07-25', 8827, 1014, 4, 49.98, 199.92), (5, 9,
'2013-07-25', 11318, 957, 1, 299.98, 299.98), (5, 10,
'2013-07-25', 11318, 365, 5, 59.99, 299.95), (5, 11,
```

```
'2013-07-25', 11318, 1014, 2, 49.98, 99.96), (5, 12,  
'2013-07-25', 11318, 957, 1, 299.98, 299.98), (5, 13,  
'2013-07-25', 11318, 403, 1, 129.99, 129.99);
```

```
select * from orders;
```

```
-- add a new column named order_status  
ALTER TABLE orders ADD COLUMN order_status varchar(20);
```

```
INSERT INTO orders  
VALUES (7, 14, '2013-07-25', 4530, 1073, 1, 199.99, 199.99);
```

```
INSERT INTO orders (order_id, order_item_id, order_date,  
customer_id, product_id, quantity, product_price, total_price)  
VALUES (7, 14, '2013-07-25', 4530, 1073, 1, 199.99, 199.99);
```

```
DELETE FROM orders WHERE order_id = 7;
```

```
INSERT INTO orders (order_id, order_item_id, order_date,  
customer_id, order_status, product_id, quantity, product_price,  
total_price) VALUES (7, 14, '2013-07-25', 4530, 'COMPLETE', 1073, 1,  
199.99, 199.99), (7, 15, '2013-07-25', 4530, 'COMPLETE', 957, 1,  
299.98, 299.98), (7, 16, '2013-07-25', 4530, 'COMPLETE', 926, 5,  
15.99, 79.95);
```

```
INSERT INTO orders (order_id, order_item_id, order_date,  
customer_id, order_status, product_id, quantity, product_price,  
total_price) VALUES (8, 17, '2013-07-25', 2911, null, 365, 3, 59.99,  
179.97),  
(8, 18, '2013-07-25', 2911, null, 365, 5, 59.99, 299.95),  
(8, 19, '2013-07-25', 2911, null, 1014, 4, 49.98, 199.92),  
(8, 20, '2013-07-25', 2911, null, 502, 1, 50.00, 50.00);
```

```
ALTER TABLE orders DROP COLUMN total_price;
```

```
describe orders;
```

```
select * from orders;
```

```
ALTER TABLE orders MODIFY order_date DATETIME;
```

```
ALTER TABLE orders MODIFY order_date DATE;
```

```
DELETE FROM orders WHERE order_id = 7;
```

```
DESCRIBE orders;
```

```
INSERT INTO orders (order_id, order_item_id, order_date,  
customer_id, order_status, product_id, quantity, product_price) VALUES  
(7, 14, '2013-07-25 12:42:30', 4530, 'COMPLETE', 1073, 1, 199.99), (7,  
15, '2013-07-25', 4530, 'COMPLETE', 957, 1, 299.98), (7, 16,  
'2013-07-25', 4530, 'COMPLETE', 926, 5, 15.99);
```

```
-- the business asked me to change the column name
```

```
ALTER TABLE orders RENAME COLUMN order_date TO order_time;
```

```
select * from orders;
```

```
-- change column datatype (float to int)
```

```
ALTER TABLE orders MODIFY product_price int;
```

```
-- change column product_id (int to varchar)
```

```
ALTER TABLE orders MODIFY product_id varchar(5);
```

```
-- change column customer_id (int to varchar)
```

```
ALTER TABLE orders MODIFY customer_id varchar(3);
```

```
-- change (datetime to int)
```

```
ALTER TABLE orders MODIFY order_time int;
```

```
-- change (datetime to varchar)
```

```
ALTER TABLE orders MODIFY order_time varchar(50);
```

```
-- change (varchar to date)
```

```
ALTER TABLE orders MODIFY order_time date;
```

```
select * from orders;
```

```
-- change order_status to int
```

```
ALTER TABLE orders MODIFY order_status int;
```

```
delete from orders where order_status =  
'COMPLETE'; desc orders;  
  
-- rename the table as orders_with_status  
  
ALTER TABLE orders RENAME TO orders_with_status;  
  
show tables;
```

