









SQL Language





Data Definition Language

Database

- Create Database
- Drop Database
- Alter Database

• Table

- Create Table
- Alter Table
- Drop Table
- Create Index
- Create View



Create tables

```
CREATE TABLE IF NOT EXISTS client(
    client_id INT NOT NULL PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    type VARCHAR(45) NULL
 CREATE TABLE IF NOT EXISTS product(
       product id INT NOT NULL,
       name varchar(50) NOT NULL,
       description varchar(255),
       class varchar(255) NOT NULL,
       color varchar(45) NOT NULL,
       clock binary(1),
       msrp int,
       primary key (product id)
```

```
☐ CREATE TABLE IF NOT EXISTS sales(
      tran id INT UNSIGNED NOT NULL AUTO INCREMENT,
      date DATE NOT NULL,
      product id INT,
      client id INT,
      price DECIMAL NOT NULL,
      quantity INT,
      PRIMARY KEY(tran id),
      INDEX (product id),
      FOREIGN KEY (product_id)
        REFERENCES product(product id)
          ON DELETE NO ACTION
          ON UPDATE CASCADE
```

drop table if exists sales;

Used to
Add/drop/rename columns
Add/drop/rename indexes
Add/drop keys
Add/drop constraints
Change data type

```
ALTER TABLE sales

ADD FOREIGN KEY (client_id)

REFERENCES client (client_id)

ON DELETE NO ACTION

ON UPDATE CASCADE
;
```



Data Manipulation Language

- Insert Into
- Update
- Delete
- Select



MySQL Data Types								
CHAR	String (0 - 255)							
VARCHAR	String (0 - 255)							
TINYTEXT	String (0 - 255)							
TEXT	String (0 - 65535)							
BLOB	String (0 - 65535)							
MEDIUMTEXT	String (0 - 16777215)							
MEDIUMBLOB	String (0 - 16777215)							
LONGTEXT	String (0 - 4294967295)							
LONGBLOB	String (0 - 4294967295)							

TINYINT x	Integer (-128 to 127)
SMALLINT x	Integer (-32768 to 32767)
MEDIUMINT x	Integer (-8388608 to 8388607)
INT x	Integer (-2147483648 to 2147483647)
BIGINT x	Integer (-9223372036854- 775808 to 922337203685- 4775807)
FLOAT	Decimal (precise to 23 digits)
DOUBLE	Decimal (24 to 53 digits)
DECIMAL	"DOUBLE" stored as string

DATE	YYYY-MM-DD
DATETIME	YYYY-MM-DD HH:MM:SS
TIMESTAMP	YYYYMMDDHHMMSS
TIME	HH:MM:SS



Add Records – INSERT INTO

```
INSERT INTO product
VALUES
(1,'E-ZIP','Zip','EVERYDAY','GREEN','Y',59.95),
(2,'E-FLX','Flex','EVERYDAY','BLACK','N',99.95),
(3,'A-BLZ','Blaze','ACTIVE','PURPLE','Y',199.95),
(4,'P-SUG','Surge','PERFORMANCE','BLACK','Y',249.95);
;
```

Product_id	Code	Name	Class	Color	Has_clock	msrp
1	E-ZIP	Zip	EVERYDAY	GREEN	Υ	59.95
2	E-FLX	Flex	EVERYDAY	BLACK	N	99.95
3	A-BLZ	Blaze	ACTIVE	PURPLE	Υ	199.95
4	P-SUG	Surge	PERFORMANCE	BLACK	Υ	249.95



Add Records – INSERT INTO

```
INSERT INTO sales
(date, product_id, client_id, price, quantity)
VALUES
```

```
('2016-6-1', 1, 1, 40, 10),

('2016-6-5', 1, 2, 30, 5),

('2016-6-8', 2, 1, 80, 8),

('2016-6-8', 2, 2, 70, 7),

('2016-6-13', 3, 2, 150, 5),

('2016-6-18', 3, 4, 150, 10),

('2016-6-20', 2, 4, 40, 15);
```

Tran_id	date	Product_id	Client_id	Price	Quantity
1	2016-06-01	1	1	40	10
2	2016-06-05	1	2	30	5
3	2016-06-08	2	1	80	8
4	2016-06-08	2	2	70	7
5	2016-06-13	3	2	150	5
6	2016-06-18	3	4	150	10
7	2016-06-20	2	4	40	15



Update Records – UPDATE

Update one record

UPDATE sales SET date = '2016-06-11', quantity=12 WHERE tran_id=10;

Tran_id	date	Product_i d	Client_id	price	quantity
10	2016-06-10	1	3	40	15

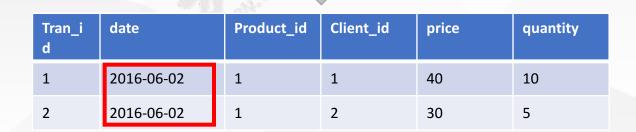


Tran_i d	date	Product_i d	Client_id	price	quantity
10	2016-06-11	1	3	40	12
2007					

Update multiple records

UPDATE sales
SET date = '2016-6-2'
WHERE date = '2016-6-1' and product_id=1;

Tran_id	date	Product_id	Client_id	price	quantity
1	2016-06-01	1	1	40	10
2	2016-06-01	1	2	30	5





DELETE from product
where product_id = '10';

How many rows are affected?

Product:

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0	product id	code	name	desc	class	color	has clock	msrp
	2	E-FLX	Flex		EVERYDAY	BLACK	N	99.95
	3	A-BLZ	Blaze		ACTIVE	PURPLE	Υ	199.95
	4	P-SUG	Surge		PERFORMANCE	BLACK	Υ	249.95
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Sales:

tran id	date	product id	client id	price	quantity
3	2016-06-01	2	1	80	8
4	2016-06-01	2	2	70	7
5	2016-06-03	3	3	150	5
6	2016-06-03	3	4	150	10
7	2016-06-05	4	2	200	5
8	2016-06-05	4	4	200	10
9	2016-06-08	3	3	150	5
NULL	NULL	NULL	NULL	NULL	NULL



谢谢

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