

Veri Tabanı

INSERT, UPDATE, DELETE

Hüseyin Ahmetoğlu

MySQL Insert

- ▶ INSERT ifadesi, bir tabloya bir veya daha fazla satır eklemenizi sağlar.

```
INSERT INTO table(c1,c2,...)
VALUES
    (v11,v12,...),
    (v21,v22,...),
    ...
    (vnn,vn2,...);
```

Örnek-1

Tablo oluşturma

```
CREATE TABLE IF NOT EXISTS tasks (  
    task_id INT AUTO_INCREMENT,  
    title VARCHAR(255) NOT NULL,  
    start_date DATE,  
    due_date DATE,  
    priority TINYINT NOT NULL DEFAULT 3,  
    description TEXT,  
    PRIMARY KEY (task_id)  
);
```

Örnek-1

Veri Ekleme

```
INSERT INTO tasks(title,priority)
VALUES('Learn MySQL INSERT Statement',1);
```

```
SELECT * FROM tasks;
```

	task_id	title	start_date	due_date	priority	description
►	1	Learn MySQL INSERT Statement	NULL	NULL	1	NULL

Örnek-2

Varsayılan Değerler

```
INSERT INTO tasks(title,priority)
VALUES('Understanding DEFAULT keyword in INSERT statement',DEFAULT);
```

```
priority TINYINT NOT NULL DEFAULT 3
```

```
SELECT * FROM tasks;
```

	task_id	title	start_date	due_date	priority	description
▶	1	Learn MySQL INSERT Statement	NULL	NULL	1	NULL
	2	Understanding DEFAULT keyword in INSERT	NULL	NULL	3	NULL

Örnek-3

Tarih Ekleme

```
INSERT INTO tasks(title, start_date, due_date)
VALUES('Insert date into table','2018-01-09','2018-09-15');
```

	task_id	title	start_date	due_date	priority	description
▶	1	Learn MySQL INSERT Statement	NULL	NULL	1	NULL
	2	Understanding DEFAULT keyword in INSERT statement	NULL	NULL	3	NULL
	3	Insert date into table	2018-01-09	2018-09-15	3	NULL

```
INSERT INTO tasks(title,start_date,due_date)
VALUES('Use current date for the task',CURRENT_DATE(),CURRENT_DATE())
```

	task_id	title	start_date	due_date	priority	description
▶	1	Learn MySQL INSERT Statement	NULL	NULL	1	NULL
	2	Understanding DEFAULT keyword in INSERT statement	NULL	NULL	3	NULL
	3	Insert date into table	2018-01-09	2018-09-15	3	NULL
	4	Use current date for the task	2018-09-02	2018-09-02	3	NULL

Örnek-4

Birden fazla satır ekleme

```
INSERT INTO tasks(title, priority)
VALUES
    ('My first task', 1),
    ('It is the second task', 2),
    ('This is the third task of the week', 3);
```

	task_id	title	start_date	due_date	priority	description
▶	1	Learn MySQL INSERT Statement	NULL	NULL	1	NULL
	2	Understanding DEFAULT keyword in INSERT statement	NULL	NULL	3	NULL
	3	Insert date into table	2018-01-09	2018-09-15	3	NULL
	4	Use current date for the task	2018-09-02	2018-09-02	3	NULL
	5	My first task	NULL	NULL	1	NULL
	6	It is the second task	NULL	NULL	2	NULL
	7	This is the third task of the week	NULL	NULL	3	NULL

MySQL INSERT INTO SELECT

- ▶ VALUES yan tümcesinde satır değerlerini kullanmanın yanı sıra, INSERT ifadesi için veri kaynağı olarak bir SELECT ifadesinin sonucunu kullanabilirsiniz.
- ▶ SELECT ifadesi, bir veya daha fazla tablodan veri alabilir.
- ▶ INSERT INTO SELECT ifadesi, diğer tablolardan bir tabloya veri kopyalamak veya birden çok tablodan bir tabloya veri özetlemek istediğinizde çok kullanışlıdır.

```
INSERT INTO table_name(column_list)
SELECT
    select_list
FROM
    another_table
WHERE
    condition;
```


Örnek-5

Tablo yaratma

```
CREATE TABLE suppliers (  
    supplierNumber INT AUTO_INCREMENT,  
    supplierName VARCHAR(50) NOT NULL,  
    phone VARCHAR(50),  
    addressLine1 VARCHAR(50),  
    addressLine2 VARCHAR(50),  
    city VARCHAR(50),  
    state VARCHAR(50),  
    postalCode VARCHAR(50),  
    country VARCHAR(50),  
    customerNumber INT,  
    PRIMARY KEY (supplierNumber)  
);
```

Örnek-5

SELECT

```
customerNumber,  
customerName,  
phone,  
addressLine1,  
addressLine2,  
city,  
state,  
postalCode,  
country
```

FROM

```
customers
```

WHERE

```
country = 'USA' AND  
state = 'CA';
```

	customerNumber	customerName	phone	addressLine1	addressLine2	city	state	postalCode	country
▶	124	Mini Gifts Distributors Ltd.	4155551450	5677 Strong St.	HAILE	San Rafael	CA	97562	USA
	129	Mini Wheels Co.	6505555787	5557 North Pendale Street	HAILE	San Francisco	CA	94217	USA
	161	Technics Stores Inc.	6505556809	9408 Furth Circle	HAILE	Burlingame	CA	94217	USA
	205	Toys4GrownUps.com	6265557265	78934 Hillside Dr.	HAILE	Pasadena	CA	90003	USA
	219	Boards & Toys Co.	3105552373	4097 Douglas Av.	HAILE	Glendale	CA	92561	USA
	239	Collectable Mini Designs Co.	7605558146	361 Furth Circle	HAILE	San Diego	CA	91217	USA
	321	Corporate Gift Ideas Co.	6505551386	7734 Strong St.	HAILE	San Francisco	CA	94217	USA
	347	Men R' US Retailers, Ltd.	2155554369	6047 Douglas Av.	HAILE	Los Angeles	CA	91003	USA
	450	The Sharp Gifts Warehouse	4085553659	3086 Ingle Ln.	HAILE	San Jose	CA	94217	USA
	475	West Coast Collectables Co.	3105553722	3675 Furth Circle	HAILE	Burbank	CA	94019	USA
	487	Signal Collectbles Ltd.	4155554312	2793 Furth Circle	HAILE	Brisbane	CA	94217	USA

```

INSERT INTO suppliers (
    supplierName,
    phone,
    addressLine1,
    addressLine2,
    city,
    state,
    postalCode,
    country,
    customerNumber
)
SELECT
    customerName,
    phone,
    addressLine1,
    addressLine2,
    city,
    state ,
    postalCode,
    country,
    customerNumber
FROM
    customers
WHERE
    country = 'USA' AND
    state = 'CA';

```

```
SELECT * FROM suppliers;
```

	supplierNumber	supplierName	phone	addressLine1	addressLine2	city	state	postalCode	country	customerNumber
▶	1	Mini Gifts Distributors Ltd.	4155551490	5677 Strong St.	NULL	San Rafael	CA	97562	USA	124
	2	Mini Wheels Co.	6505555787	5557 North Pendale Street	NULL	San Francisco	CA	94217	USA	129
	3	Technics Stores Inc.	6505556809	9408 Furth Circle	NULL	Burlingame	CA	94217	USA	161
	4	Toys4GrownUps.com	6265557265	78934 Hillside Dr.	NULL	Pasadena	CA	90003	USA	205
	5	Boards & Toys Co.	3105552373	4097 Douglas Av.	NULL	Glendale	CA	92561	USA	219
	6	Collectable Mini Designs Co.	7605558146	361 Furth Circle	NULL	San Diego	CA	91217	USA	239
	7	Corporate Gift Ideas Co.	6505551386	7734 Strong St.	NULL	San Francisco	CA	94217	USA	321
	8	Men 'R' US Retailers, Ltd.	2155554369	6047 Douglas Av.	NULL	Los Angeles	CA	91003	USA	347
	9	The Sharp Gifts Warehouse	4085553659	3086 Ingle Ln.	NULL	San Jose	CA	94217	USA	450
	10	West Coast Collectables Co.	3105553722	3675 Furth Circle	NULL	Burbank	CA	94019	USA	475
	11	Signal Collectibles Ltd.	4155554312	2793 Furth Circle	NULL	Brisbane	CA	94217	USA	487

Örnek-6

```
CREATE TABLE stats (  
    totalProduct INT,  
    totalCustomer INT,  
    totalOrder INT  
);
```

```
INSERT INTO stats(totalProduct, totalCustomer, totalOrder)  
VALUES(  
    (SELECT COUNT(*) FROM products),  
    (SELECT COUNT(*) FROM customers),  
    (SELECT COUNT(*) FROM orders)  
);
```

```
SELECT * FROM stats;
```

	totalProduct	totalCustomer	totalOrder
▶	110	122	326

MySQL INSERT ON DUPLICATE KEY UPDATE

- ▶ INSERT ON DUPLICATE KEY UPDATE deyimi, bir tabloya bir satır eklediğinizde BENZERSİZ dizinde bir kopya veya BİRİNCİL ANAHTAR hatası oluşursa, verileri güncellemek için kullanılır.

```
INSERT INTO table (column_list)
VALUES (value_list)
ON DUPLICATE KEY UPDATE
    c1 = v1,
    c2 = v2,
    ...;
```

Örnek-6

```
CREATE TABLE devices (  
    id INT AUTO_INCREMENT PRIMARY KEY,  
    name VARCHAR(100)  
);
```

```
INSERT INTO devices(name)  
VALUES('Router F1'),('Switch 1'),('Switch 2');
```

```
SELECT  
    id,  
    name  
FROM  
    devices;
```

	id	name
▶	1	Router F1
	2	Switch 1
	3	Switch 2

Örnek-6

```
INSERT INTO
    devices(name)
VALUES
    ('Printer')
ON DUPLICATE KEY UPDATE name = 'Printer';
```

	id	name
▶	1	Router F1
	2	Switch 1
	3	Switch 2
	4	Printer

Örnek-6

```
INSERT INTO devices(id,name)
VALUES
    (4,'Printer')
ON DUPLICATE KEY UPDATE name = 'Central Printer';
```

	id	name
▶	1	Router F1
	2	Switch 1
	3	Switch 2
	4	Central Printer

INSERT IGNORE

- ▶ Bir tabloya birden çok satır eklemek için INSERT deyimini kullandığınızda ve işleme sırasında bir hata oluşursa, MySQL deyimini sonlandırır ve bir hata döndürür. Sonuç olarak, tabloya hiçbir satır eklenmez.
- ▶ Ancak, INSERT IGNORE deyimini kullanırsanız, hataya neden olan geçersiz veri içeren satırlar yoksayılır ve geçerli veri içeren satırlar tabloya eklenir.

```
INSERT IGNORE INTO table(column_list)
VALUES( value_list),
      ( value_list),
      ...
```

Örnek-7

```
CREATE TABLE subscribers (  
    id INT PRIMARY KEY AUTO_INCREMENT,  
    email VARCHAR(50) NOT NULL UNIQUE  
);
```

```
INSERT INTO subscribers(email)  
VALUES('john.doe@gmail.com');
```

Örnek-7

```
INSERT INTO subscribers(email)
VALUES('john.doe@gmail.com'),
      ('jane.smith@ibm.com');
```

Error Code: 1062. Duplicate entry 'john.doe@gmail.com' for key 'email'

```
INSERT IGNORE INTO subscribers(email)
VALUES('john.doe@gmail.com'),
      ('jane.smith@ibm.com');
```

```
SHOW WARNINGS;
```

	Level	Code	Message
►	Warning	1062	Duplicate entry 'john.doe@gmail.com' for key 'email'

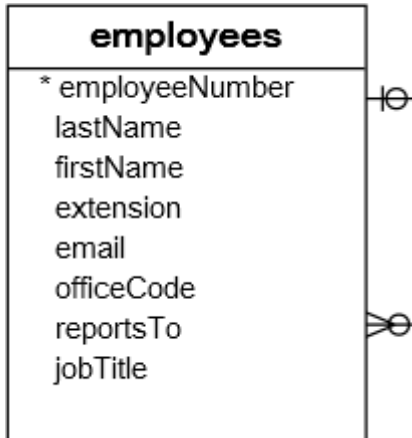
	email
►	jane.smith@ibm.com
	john.doe@gmail.com

MySQL UPDATE

- UPDATE ifadesi, bir tablodaki verileri günceller. Tek bir satırın veya birden çok satırın bir veya daha fazla sütunundaki değerleri değiştirmenize olanak tanır.

```
UPDATE [LOW_PRIORITY] [IGNORE] table_name
SET
    column_name1 = expr1,
    column_name2 = expr2,
    ...
[WHERE
    condition];
```

Örnek-8



```
SELECT
    firstname,
    lastname,
    email
FROM
    employees
WHERE
    employeeNumber = 1056;
```

	firstname	lastname	email
▶	Mary	Patterson	mpatterso@classicmodelcars.com

Örnek-8

```
UPDATE employees
SET
    email = 'mary.patterson@classicmodelcars.com'
WHERE
    employeeNumber = 1056;
```

```
SELECT
    firstname,
    lastname,
    email
FROM
    employees
WHERE
    employeeNumber = 1056;
```

	firstname	lastname	email
►	Mary	Patterson	mary.patterson@classicmodelcars.com

Örnek-9

```
UPDATE employees
SET
    lastname = 'Hill',
    email = 'mary.hill@classicmodelcars.com'
WHERE
    employeeNumber = 1056;
```

```
SELECT
    firstname,
    lastname,
    email
FROM
    employees
WHERE
    employeeNumber = 1056;
```

	firstname	lastname	email
►	Mary	Hill	mary.hill@classicmodelcars.com

Örnek 10

```
UPDATE employees
SET email = REPLACE(email, '@classicmodelcars.com', '@mysqлтutorial.org')
WHERE
    jobTitle = 'Sales Rep' AND
    officeCode = 6;
```


Örnek 11

```
SELECT
    employeeNumber
FROM
    employees
WHERE
    jobtitle = 'Sales Rep'
ORDER BY RAND()
LIMIT 1;
```

```
SELECT
    customername,
    salesRepEmployeeNumber
FROM
    customers
WHERE
    salesRepEmployeeNumber IS NULL;
```

	customername	salesRepEmployeeNumber
►	Havel & Zbyszek Co	NULL
	Porto Imports Co.	NULL
	Asian Shopping Network, Co	NULL
	Natürlich Autos	NULL
	ANG Resellers	NULL
	Messner Shopping Network	NULL
	Franken Gifts, Co	NULL
	BG&E Collectables	NULL

Örnek 11

```
UPDATE customers
SET
    salesRepEmployeeNumber = (SELECT
        employeeNumber
    FROM
        employees
    WHERE
        jobtitle = 'Sales Rep'
    ORDER BY RAND()
    LIMIT 1)
WHERE
    salesRepEmployeeNumber IS NULL;
```

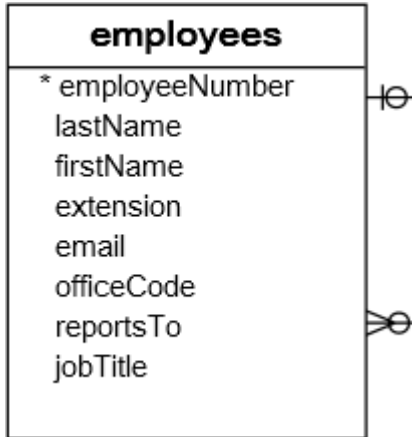
```
SELECT
    salesRepEmployeeNumber
FROM
    customers
WHERE
    salesRepEmployeeNumber IS NULL;
```

MySQL DELETE

- ▶ Bir tablodan veri silmek için MySQL DELETE ifadesini kullanırsınız.
- ▶ İlk olarak, verileri sileceğiniz tabloyu belirtin. İkinci olarak, WHERE yan tümcesinde hangi satırların silineceğini belirtmek için bir koşul kullanın.

```
DELETE FROM table_name  
WHERE condition;
```

Örnek



```
DELETE FROM employees  
WHERE officeCode = 4;
```

```
DELETE FROM employees;
```

MySQL DELETE and LIMIT

- Silinecek satır sayısını sınırlamak istiyorsanız, LIMIT yan tümcesini aşağıdaki gibi kullanın:

```
DELETE FROM table_table  
LIMIT row_count;
```

```
DELETE FROM table_name  
ORDER BY c1, c2, ...  
LIMIT row_count;
```

Örnek

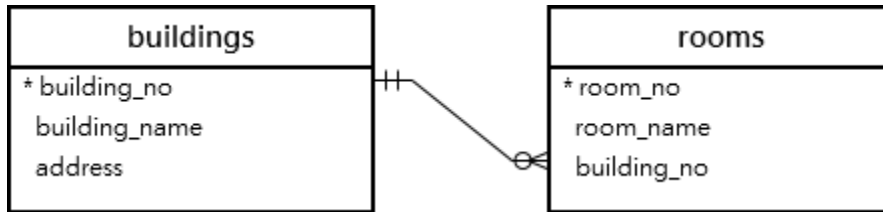
customers
* customerNumber customerName contactLastName contactFirstName phone addressLine1 addressLine2 city state postalCode country salesRepEmployeeNumber creditLimit

```
DELETE FROM customers  
ORDER BY customerName  
LIMIT 10;
```

```
DELETE FROM customers  
WHERE country = 'France'  
ORDER BY creditLimit  
LIMIT 5;
```

MySQL ON DELETE CASCADE

- ▶ İki tablomuz olduğunu varsayalım: binalar ve odalar. Bu veritabanı modelinde her binada bir veya birden fazla oda bulunur. Ancak her oda tek bir binaya aittir. Bina olmadan oda olmaz.
- ▶ Binalar ve odalar tabloları arasındaki ilişki, aşağıdaki veritabanı şemasında gösterildiği gibi birden çoğa (1:N)'dir:



- ▶ Binalar tablosundan bir satırı sildiğinizde, binalar tablosundaki satıra referans veren odalar tablosundaki tüm satırları da silmek istersiniz

Örnek

```
CREATE TABLE buildings (  
    building_no INT PRIMARY KEY AUTO_INCREMENT,  
    building_name VARCHAR(255) NOT NULL,  
    address VARCHAR(255) NOT NULL  
);
```

```
CREATE TABLE rooms (  
    room_no INT PRIMARY KEY AUTO_INCREMENT,  
    room_name VARCHAR(255) NOT NULL,  
    building_no INT NOT NULL,  
    FOREIGN KEY (building_no)  
        REFERENCES buildings (building_no)  
        ON DELETE CASCADE  
);
```



```
INSERT INTO buildings(building_name,address)
VALUES('ACME Headquarters','3950 North 1st Street CA 95134'),
      ('ACME Sales','5000 North 1st Street CA 95134');
```

```
SELECT * FROM buildings;
```

	building_no	building_name	address
►	1	ACME Headquarters	3950 North 1st Street CA 95134
	2	ACME Sales	5000 North 1st Street CA 95134

```
INSERT INTO rooms(room_name,building_no)
VALUES('Amazon',1),
      ('War Room',1),
      ('Office of CEO',1),
      ('Marketing',2),
      ('Showroom',2);
```

```
SELECT * FROM rooms;
```

	room_no	room_name	building_no
▶	1	Amazon	1
	2	War Room	1
	3	Office of CEO	1
	4	Marketing	2
	5	Showroom	2

```
DELETE FROM buildings  
WHERE building_no = 2;
```

```
SELECT * FROM rooms;
```

	room_no	room_name	building_no
▶	1	Amazon	1
	2	War Room	1
	3	Office of CEO	1

KAYNAKLAR

- ▶ MySQL Tutorial - Learn MySQL Fast, Easy and Fun. (2020, March 30). Retrieved from <https://www.mysqltutorial.org>