

Veri Tabanı

CHECK, NOT NULL, ALTER TABLE

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CHECK Kısıtlaması

- ▶ Tabloya eklenecek sütun için kontrol kısıtlaması verilebilir.
- ▶ Kontrol kısıtlaması sonucu Boole bir ifade olan herhangi bir kısıtlama olabilir.
- ▶ Bu kısıtlamanın sonucuna göre (True-False) SQL ifadesi değerlendirilir.
- ▶ Check kısıtlaması hem sütun hem de tablo için eklenebilir.

```
[CONSTRAINT [constraint_name]] CHECK (expression) [[NOT] ENFORCED]
```

CHECK Kısıtlaması

Tablo oluşturma

```
CREATE TABLE parts (  
    part_no VARCHAR(18) PRIMARY KEY,  
    description VARCHAR(40),  
    cost DECIMAL(10,2 ) NOT NULL CHECK (cost >= 0),  
    price DECIMAL(10,2) NOT NULL CHECK (price >= 0)  
);
```

```
SHOW CREATE TABLE parts;
```

Table	Create Table
parts	<pre>CREATE TABLE `parts` (`part_no` varchar(18) NOT NULL, `description` varchar(40) DEFAULT NULL, `cost` decimal(10,2) NOT NULL, `price` decimal(10,2) NOT NULL, PRIMARY KEY (`part_no`), CONSTRAINT `parts_chk_1` CHECK ((`cost` >= 0)), CONSTRAINT `parts_chk_2` CHECK ((`price` >= 0))) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4</pre>

CHECK Kısıtlaması

Ekleme

```
INSERT INTO parts(part_no, description,cost,price)
VALUES('A-001','Cooler',0,-100);
```

Error Code: 3819. Check constraint 'parts_chk_2' is violated.

CHECK Kısıtlaması

Tablo oluşturma

```
DROP TABLE IF EXISTS parts;
```

```
CREATE TABLE parts (  
    part_no VARCHAR(18) PRIMARY KEY,  
    description VARCHAR(40),  
    cost DECIMAL(10,2 ) NOT NULL CHECK (cost >= 0),  
    price DECIMAL(10,2) NOT NULL CHECK (price >= 0),  
    CONSTRAINT parts_chk_price_gt_cost  
        CHECK(price >= cost)  
);
```

CHECK Kısıtlaması

Ekleme

```
SHOW CREATE TABLE parts;
```

Table	Create Table
parts	<pre>CREATE TABLE `parts` (`part_no` varchar(18) NOT NULL, `description` varchar(40) DEFAULT NULL, `cost` decimal(10,2) NOT NULL, `price` decimal(10,2) NOT NULL, PRIMARY KEY (`part_no`), CONSTRAINT `parts_chk_1` CHECK ((`cost` >= 0)), CONSTRAINT `parts_chk_2` CHECK ((`price` >= 0)), CONSTRAINT `parts_chk_price_gt_cost` CHECK ((`price` >= `cost`))) ENGINE=InnoDB DEFAULT CHARSET=latin1</pre>

```
INSERT INTO parts(part_no, description, cost, price)  
VALUES ('A-001', 'Cooler', 200, 100);
```

Error Code: 3819. Check constraint 'parts_chk_price_gt_cost' is violated.

NOT NULL Kısıtlaması

Tablo oluşturma

- Bir tablodaki bir sütunun içeriğinin boş olmaması isteniyorsa NOT NULL kısıtlaması kullanılır.

```
column_name data_type NOT NULL;
```

```
CREATE TABLE tasks (  
    id INT AUTO_INCREMENT PRIMARY KEY,  
    title VARCHAR(255) NOT NULL,  
    start_date DATE NOT NULL,  
    end_date DATE  
);
```

NOT NULL Kısıtlaması

Ekleme

```
INSERT INTO tasks(title ,start_date, end_date)
VALUES('Learn MySQL NOT NULL constraint', '2017-02-01','2017-02-02'),
      ('Check and update NOT NULL constraint to your database', '2017-02-01',NULL);
```

```
SELECT *
FROM tasks
WHERE end_date IS NULL;
```

	id	title	start_date	end_date
▶	2	Check and update NOT NULL constraint to your ...	2017-02-01	NULL

NOT NULL Kısıtlaması

Güncelleme

```
UPDATE tasks
SET
    end_date = start_date + 7
WHERE
    end_date IS NULL;
```

```
SELECT * FROM tasks;
```

	id	title	start_date	end_date
▶	1	Learn MySQL NOT NULL constraint	2017-02-01	2017-02-02
	2	Check and update NOT NULL constraint to your ...	2017-02-01	2017-02-08

NOT NULL Kısıtlaması

Tablo değiştirme NOT NULL ekleme

```
ALTER TABLE tasks  
CHANGE  
    end_date  
    end_date DATE NOT NULL;
```

```
DESCRIBE tasks;
```

	Field	Type	Null	Key	Default	Extra
►	id	int(11)	NO	PRI	NULL	auto_increment
	title	varchar(255)	NO		NULL	
	start_date	date	NO		NULL	
	end_date	date	NO		NULL	

NOT NULL Kısıtlaması

Tablo değiştirme NOT NULL kaldırma

```
ALTER TABLE tasks  
MODIFY  
    end_date  
    end_date DATE NOT NULL;
```

DESCRIBE tasks;

	Field	Type	Null	Key	Default	Extra
►	id	int(11)	NO	PRI	NULL	auto_increment
	title	varchar(255)	NO		NULL	
	start_date	date	NO		NULL	
	end_date	date	YES		NULL	

ALTER TABLE

Tablo oluşturma

```
CREATE TABLE vehicles (  
    vehicleId INT,  
    year INT NOT NULL,  
    make VARCHAR(100) NOT NULL,  
    PRIMARY KEY(vehicleId)  
);
```

vehicles
* vehicleId
year
make

ALTER TABLE

Sütun ekleme

```
ALTER TABLE table_name  
  
ADD  
  
    new_column_name column_definition  
  
    [FIRST | AFTER column_name]
```

```
ALTER TABLE vehicles  
  
ADD model VARCHAR(100) NOT NULL;
```

```
DESCRIBE vehicles;
```

	Field	Type	Null	Key	Default	Extra
►	vehicleId	int(11)	NO	PRI	NULL	
	year	int(11)	NO		NULL	
	make	varchar(100)	NO		NULL	
	model	varchar(100)	NO		NULL	

ALTER TABLE

Birden fazla sütun ekleme

```
ALTER TABLE table_name  
  
    ADD new_column_name column_definition  
    [FIRST | AFTER column_name],  
  
    ADD new_column_name column_definition  
    [FIRST | AFTER column_name],  
  
    ...;
```

```
ALTER TABLE vehicles  
  
ADD color VARCHAR(50),  
  
ADD note VARCHAR(255);
```

```
DESCRIBE vehicles;
```

	Field	Type	Null	Key	Default	Extra
►	vehicleId	int(11)	NO	PRI	NULL	
	year	int(11)	NO		NULL	
	make	varchar(100)	NO		NULL	
	model	varchar(100)	NO		NULL	
	color	varchar(50)	YES		NULL	
	note	varchar(255)	YES		NULL	

ALTER TABLE

Sütun özellikleri değiştirme

```
ALTER TABLE table_name  
MODIFY column_name column_definition  
[ FIRST | AFTER column_name];
```

```
DESCRIBE vehicles;
```

	Field	Type	Null	Key	Default	Extra
►	vehideId	int(11)	NO	PRI	NULL	
	year	int(11)	NO		NULL	
	make	varchar(100)	NO		NULL	
	model	varchar(100)	NO		NULL	
	color	varchar(50)	YES		NULL	
	note	varchar(255)	YES		NULL	

```
ALTER TABLE vehicles  
MODIFY note VARCHAR(100) NOT NULL;
```

```
DESCRIBE vehicles;
```

	Field	Type	Null	Key	Default	Extra
►	vehideId	int(11)	NO	PRI	NULL	
	year	int(11)	NO		NULL	
	make	varchar(100)	NO		NULL	
	model	varchar(100)	NO		NULL	
	color	varchar(50)	YES		NULL	
	note	varchar(100)	NO		NULL	

ALTER TABLE

Sütun özellikleri değiştirme

```
ALTER TABLE table_name  
  
    MODIFY column_name column_definition  
    [ FIRST | AFTER column_name],  
  
    MODIFY column_name column_definition  
    [ FIRST | AFTER column_name],  
  
    ...;
```

```
ALTER TABLE vehicles  
  
    MODIFY year SMALLINT NOT NULL,  
  
    MODIFY color VARCHAR(20) NULL AFTER make;
```

	Field	Type	Null	Key	Default	Extra
▶	vehicleId	int(11)	NO	PRI	<u>NULL</u>	
	year	int(11)	NO		<u>NULL</u>	
	make	varchar(100)	NO		<u>NULL</u>	
	model	varchar(100)	NO		<u>NULL</u>	
	color	varchar(50)	YES		<u>NULL</u>	
	note	varchar(100)	NO		<u>NULL</u>	

	Field	Type	Null	Key	Default	Extra
▶	vehicleId	int(11)	NO	PRI	<u>NULL</u>	
	year	smallint(6)	NO		<u>NULL</u>	
	make	varchar(100)	NO		<u>NULL</u>	
	color	varchar(20)	YES		<u>NULL</u>	
	model	varchar(100)	NO		<u>NULL</u>	
	note	varchar(100)	NO		<u>NULL</u>	

ALTER TABLE

Sütun adı değiştirme

```
ALTER TABLE table_name  
  
CHANGE COLUMN original_name new_name column_definition  
  
[FIRST | AFTER column name];
```

```
ALTER TABLE vehicles  
  
CHANGE COLUMN note vehicleCondition VARCHAR(100) NOT NULL;
```

```
DESCRIBE vehicles;
```

	Field	Type	Null	Key	Default	Extra
▶	vehicleId	int(11)	NO	PRI	NULL	
	year	smallint(6)	NO		NULL	
	make	varchar(100)	NO		NULL	
	color	varchar(20)	YES		NULL	
	model	varchar(100)	NO		NULL	
	vehicleCondition	varchar(100)	NO		NULL	

ALTER TABLE

Sütun silme

```
ALTER TABLE table_name  
DROP COLUMN column_name;
```

```
ALTER TABLE vehicles  
DROP COLUMN vehicleCondition;
```

ALTER TABLE

Tablo adı değiştirme

```
ALTER TABLE table_name  
RENAME TO new_table_name;
```

```
ALTER TABLE vehicles  
RENAME TO cars;
```

KAYNAKLAR

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