Ma'lumotlar tiplari

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TIME DATETIME farqi va timezone lar bn ishlash xaqida informasiya qo'shish kerak. rosa muammo bo'gan birinchi o'rganayotgan paytlarimda.

> 💡 Mysqlda ma'lumotlar turlari bilan tanishib chiqamiz

MySQL DATA TYPES

DATE TYPE	SPEC	DATA TYPE	SPEC
CHAR	String (0 - 255)	INT	Integer (-2147483648 to 2147483647)
VARCHAR	String (0 - 255)	BIGINT	Integer (-9223372036854775808 to 9223372036854775807)
TINYTEXT	String (0 - 255)	FLOAT	Decimal (precise to 23 digits)
TEXT	String (0 - 65535)	DOUBLE	Decimal (24 to 53 digits)
BLOB	String (0 - 65535)	DECIMAL	"DOUBLE" stored as string
MEDIUMTEXT	String (0 - 16777215)	DATE	YYYY-MM-DD
MEDIUMBLOB	String (0 - 16777215)	DATETIME	YYYY-MM-DD HH:MM:SS
LONGTEXT	String (0 - 4294967295)	TIMESTAMP	YYYYMMDDHHMMSS
LONGBLOB	String (0 - 4294967295)	TIME	HH:MM:SS
TINYINT	Integer (-128 to 127)	ENUM	One of preset options
SMALLINT	Integer (-32768 to 32767)	SET	Selection of preset options
MEDIUMINT	Integer (-8388608 to 8388607)	BOOLEAN	TINYINT(1)

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Raqamli ma'lumotlar turi (int)

Type	Storage (Bytes)	Minimum Value (Signed/Unsigned)	Maximum Value (Signed/Unsigned)
TINYINT	1	-128	127
		0	255
SMALLINT	2	-32768	32767
		0	65535
MEDIUMINT	3	-8388608	8388607
		0	16777215
INT	4	-2147483648	2147483647
		0	4294967295
BIGINT	8	-9223372036854775808	9223372036854775807
		0	18446744073709551615

```sql
CREATE TABLE kitoblar ( kitob_id INT AUTO_INCREMENT PRIMARY KEY, nomi VARCHAR(255)
);
```

```sql
INSERT INTO kitoblar(nomi) VALUES ('Salom dunyo'), ('Maugli'), ('Pakaxontas');
```

💡 **INT UNSIGNED** - bo'lsa manfiy sonlarni qabul qilmaydi

```sql
CREATE TABLE kitoblar ( id INT AUTO_INCREMENT, nomi VARCHAR(255) NOT NULL, bet INT
UNSIGNED );
```

Matn ko'rinishidagi ma'lumotlar turlari (string)

CHAR(size)	Maximum size of 255 characters.
VARCHAR(size)	Maximum size of 255 characters.
TINYTEXT(size)	Maximum size of 255 characters.
TEXT(size)	Maximum size of 65,535 characters.

VARCHAR

> maximum character count - 255

```sql
CREATE TABLE kitoblar ( id INT AUTO_INCREMENT, nomi VARCHAR(13) NOT NULL, nomi CHAR
(13) NOT NULL, bet INT UNSIGNED, PRIMARY KEY (id) ); INSERT INTO kitoblar(nomi, be
t) VALUES('Bu kitob nomi', 5); Create table temp (City CHAR(10), Street VARCHAR(1
0)); Insert into temp values('Pune','Oxford'); select length(city), length(street)
from temp; length(City) Length(street) 10 6 CHAR - Belgilangan uzunlikdagi simvolla
r satrini saqlash uchun ishlatiladi. VARCHAR - O`zgaruvchan uzunlikdagi ma'lumotlar
ni saqlash uchun foydalaniladi
```

TEXT va TINYTEXT

```
VARCHAR tipida default qiymat berish mumkin TEXT va TINYTEXT da default qiymat beri
b bo'lmaydi
```

Date va Time

DATE	Values range from '1000-01-01' to '9999-12-31'.
DATETIME	Values range from '1000-01-01 00:00:00' to '9999-12-31 23:59:59'.
TIMESTAMP(m)	Values range from '1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' TC.
TIME	Values range from '-838:59:59' to '838:59:59'.

DATE

```sql
CREATE TABLE people ( id INT AUTO_INCREMENT PRIMARY KEY, first_name VARCHAR(50) NOT
NULL, last_name VARCHAR(50) NOT NULL, birth_date DATE NOT NULL ); SELECT NOW(); //R
esult : 2019-12-10 05:59:38 SELECT DATE(NOW()); //Result : 2019-12-10 SELECT CURDAT
E(); //Result : 2019-12-10 SELECT DAY('2019-12-10') kun, MONTH('2019-12-10') oy, QU
ARTER('2019-12-10') yil_choragi, YEAR('2019-12-10') yil
```

TIME

```sql
CREATE TABLE dars ( id INT PRIMARY KEY AUTO_INCREMENT, name VARCHAR(255) NOT NULL,
start_at TIME, end_at TIME ); INSERT INTO dars(name,start_at,end_at) VALUES('Veb',
'19:00:00','21:00:00');
```

TIMESTAMP

```sql
TIMESTAMP - bu turdagi ustunga hozirgi sana va vaqtni UTC bilan saqlash mumkin CREA
TE TABLE test_timestamp ( t1 TIMESTAMP ); INSERT INTO test_timestamp(t1) VALUES('20
20-01-11 01:00:01'); '1970-01-01 00:00:01' UTC - '2038-01-19 03:14:07' UTC CREATE T
ABLE categories ( id INT AUTO_INCREMENT PRIMARY KEY, name VARCHAR(255) NOT NULL, cr
eated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP );
```

DATETIME

```sql
CREATE TABLE test_dt ( id INT AUTO_INCREMENT PRIMARY KEY, created_at DATETIME ); IN
SERT INTO test_dt(created_at) VALUES('2019-12-10 14:29:36');
```

JSON

```sql
CREATE TABLE table_name ( ... json_column_name JSON, ... ); JSON turidagi ustunga D
EFAULT qiymat berish mumkin emas INDEX qilish imkoni yo`q CREATE TABLE events( id i
nt auto_increment primary key, event_name varchar(255), visitor varchar(255), prope
rties json, browser json ); INSERT INTO events(event_name, visitor, properties, bro
wser) VALUES ( 'pageview', '1', '{ "page": "/" }', '{ "name": "Safari", "os": "Ma
c", "resolution": { "x": 1920, "y": 1080 } }' ), ('pageview', '2', '{ "page": "/con
tact" }', '{ "name": "Firefox", "os": "Windows", "resolution": { "x": 2560, "y": 16
00 } }' ), ( 'pageview', '1', '{ "page": "/products" }', '{ "name": "Safari", "os":
"Mac", "resolution": { "x": 1920, "y": 1080 } }' ), ( 'purchase', '3', '{ "amount":
200 }', '{ "name": "Firefox", "os": "Windows", "resolution": { "x": 1600, "y": 900
} }' ), ( 'purchase', '4', '{ "amount": 150 }', '{ "name": "Firefox", "os": "Window
s", "resolution": { "x": 1280, "y": 800 } }' ), ( 'purchase', '4', '{ "amount": 500
}', '{ "name": "Chrome", "os": "Windows", "resolution": { "x": 1680, "y": 1050 } }'
); JSON ustunlaridan qiymatlarni olish uchun (->>) operatoridan foydalaniladi SELEC
T id, browser->'$.name' browser FROM events; https://www.digitalocean.com/communit
y/tutorials/working-with-json-in-mysql
```

BOOLEAN

```sql
CREATE TABLE tasks ( id INT PRIMARY KEY AUTO_INCREMENT, title VARCHAR(255) NOT NUL
L, completed BOOLEAN ); TRUE yoki FALSE qiymatlarni qabul qiladi.
```

DECIMAL

```sql
CREATE TABLE materials ( id INT AUTO_INCREMENT PRIMARY KEY, description VARCHAR(25
5), cost DECIMAL(19 , 4 ) NOT NULL ); INSERT INTO materials(description, cost) VALU
ES('Bicycle', 500.34), ('Seat',10.23), ('Break',5.21); DECIMAL(13,4) - jami 13 ta s
on qatnashishi mumkin, va shundan 4 tasi verguldan keyingi sonlar bo`lishi mumkin.
999999999.9999 - yuqoridagining max qiymati DECIMAL(6,4) - -99.9999 to 99.9999 UNSI
GNED DECIMAL(6,4) - 0.0000 to 99.9999
```