# Tabulky tvorba

[1 Tabulky 1](#_Toc477286161)

[1.1 Teorie tvorby tabulek 1](#_Toc477286162)

[1.2 Syntaxe 1](#_Toc477286163)

[1.3 Přehled hotových tabulek 9](#_Toc477286164)

[1.4 Výpis popisu tabulky 9](#_Toc477286165)

[1.5 tvorba tabulek 9](#_Toc477286166)

[1.6 Přejmenovat tabulku 11](#_Toc477286167)

[1.7 Příkaz TRUNCATE TABLE 11](#_Toc477286168)

[1.8 Příkaz REPLACE 11](#_Toc477286169)

[1.9 Tvorba tabulek v phpMyAdmin 11](#_Toc477286170)

[1.10 Vazby mezi tabulkami 11](#_Toc477286171)

[1.11 Dočasné tabulky 11](#_Toc477286172)

[1.12 Úprava tabulek 12](#_Toc477286173)

[1.13 Mazání tabulek 12](#_Toc477286174)

[2 Manipulace s daty 12](#_Toc477286175)

[2.1 Teorie 12](#_Toc477286176)

[2.2 INSERT 12](#_Toc477286177)

[2.3 UPDATE 12](#_Toc477286178)

[2.4 DELETE 12](#_Toc477286179)

[2.5 Export dat 13](#_Toc477286180)

[2.6 Tvorba tabulek v MySQL 15](#_Toc477286181)

## Tabulky

Syntaxe: Hotové tabulky v databázi

SHOW TABLES;

Syntaxe: struktura tabulky

DESCRIBE db;

SHOW COLUMNS FROM db;

Syntaxe: Klíče a indexy

SHOW KEYS FROM <nazev\_tabulky>;

SHOW INDEX FROM <nazev\_tabulky>;

### Syntaxe CREATE TABLE

CREATE [ TEMPORARY ] TABLE [IF NOT EXISTS] table\_name

(

column1 datatype [ NULL | NOT NULL ]

[ DEFAULT default\_value ]

[ AUTO\_INCREMENT ]

[ UNIQUE KEY | PRIMARY KEY ]

[ COMMENT 'string' ],

column2 datatype [ NULL | NOT NULL ]

[ DEFAULT default\_value ]

[ AUTO\_INCREMENT ]

[ UNIQUE KEY | PRIMARY KEY ]

[ COMMENT 'string' ],

...

| [CONSTRAINT [constraint\_name]] PRIMARY KEY [ USING BTREE | HASH ] (index\_col\_name, ...)

| [INDEX | KEY] index\_name [ USING BTREE | HASH ] (index\_col\_name, ...)

| [CONSTRAINT [constraint\_name]] UNIQUE [ INDEX | KEY ]

[ index\_name ] [ USING BTREE | HASH ] (index\_col\_name, ...)

| {FULLTEXT | SPATIAL} [ INDEX | KEY] index\_name (index\_col\_name, ...)

| [CONSTRAINT [constraint\_name]]

FOREIGN KEY index\_name (index\_col\_name, ...)

REFERENCES another\_table\_name (index\_col\_name, ...)

[ MATCH FULL | MATCH PARTIAL | MATCH SIMPLE ]

[ ON DELETE { RESTRICT | CASCADE | SET NULL | NO ACTION } ]

[ ON UPDATE { RESTRICT | CASCADE | SET NULL | NO ACTION } ]

| CHECK (expression)

{ENGINE | TYPE} = engine\_name

| AUTO\_INCREMENT = value

| AVG\_ROW\_LENGTH = value

| [DEFAULT] CHARACTER SET = charset\_name

| CHECKSUM = {0 | 1}

| [DEFAULT] COLLATE = collation\_name

| COMMENT = 'string'

| DATA DIRECTORY = 'absolute path'

| DELAY\_KEY\_WRITE = { 0 | 1 }

| INDEX DIRECTORY = 'absolute path'

| INSERT\_METHOD = { NO | FIRST | LAST }

| MAX\_ROWS = value

| MIN\_ROWS = value

| PACK\_KEYS = {0 | 1 | DEFAULT}

| PASSWORD = 'string'

| RAID\_TYPE = { 1 | STRIPED | RAIDO }

RAID\_CHUNKS = value

RAID\_CHUNKSIZE = value

| ROW\_FORMAT = {DEFAULT | DYNAMIC | FIXED | COMPRESSED}

| UNION = (table1, ... )

);

Syntaxe: Tabulka

CREATE TABLE Moje77777 (  
 id INT);

|  |  |
| --- | --- |
| **Datový typ** | **Popis** |
| int | = celé číslo v rozsahu -2 147 483 648 až 2 147 483 647 |
| smallint | = celé číslo v rozsahu -32 768 až 32 767 … 0 až 65 535 |
| tinyint | = celé číslo v rozsahu -118 až 127 … 0 až 255 |
| float | = číslo s pohyblivou řádovou čárkou |
| decimal(p, d) | = desetinné číslo s *p* platnými číslicemi a *d* platnými desetinnými místy |
| money | = číslo jako peněžní částka (tento typ je snadno nahraditelný např. pomocí *decimal(10, 2)*) |
| char(x) | = textový řetězec o délce *x* znaků (nejvíce však 255) |
| varchar(x) | = textový řetězec o délce maximálně *x* znaků (nejvíce však 255) |
| time | = čas ve formátu HH:MM:SS |
| date | = datum ve formátu RRRR-MM-DD |
| datetime | = datum a čas ve formátu RRRR-MM-DD HH:MM:SS |
| blob | = speciální datový typ pro uložení binárních dat (soubory...) |
|  |  |

### Omezení tabulek - integritní

Integritní:

**UNIQUE**

**DEFAULT vychozi\_hodnota**

### Další omezení tabulek - modifikátory

**AUTO\_INCREMENT**

**BINARY**  
**FULLTEXT INDEX**  
**INDEX**  
**NOT NULL**  
**NULL**  
**PRIMARY KEY**  
**UNSIGNED**  
**ZEROFILL**

Syntaxe:

CREATE TABLE <nazev> (

product\_id int not null primary key auto\_increment,

name varchar(75),

quantity int,

price decimal(9,2)

);

### Typ tabulky

**MYISAM**

**ISAM  
MERGE  
HEAP**

**INNODB  
BDB**

SYNTAXE

CREATE TABLE zakaznik (

id INT NOT NULL AUTO\_INCREMENT,

jmeno varchar(50) NOT NULL,

prijmeni varchar(50) NOT NULL,

PRIMARY KEY (id)

) ENGINE=INNODB

## Cizí klíče

ON UPDATE RESTRICT

ON UPDATE CASCADE

ON DELETE CASCADE

ON DELETE RESTRICT

ON DELETE SET NULL

SYNTAXE

CREATE TABLE contact (

id INT,

zakaznik\_id INT,

info varchar(50) NOT NULL,

type varchar(50) NOT NULL,

INDEX par\_ind (zakaznik\_id),

CONSTRAINT CiziKlic\_customer FOREIGN KEY (zakaznik\_id)

REFERENCES zakaznik(id)

ON DELETE CASCADE

ON UPDATE CASCADE

) ENGINE=INNODB;

## Změny v tabulce

### ALTER TABLE syntaxe

ALTER TABLE ***tbl\_name***

[***alter\_specification*** [, ***alter\_specification***] ...]

[***partition\_options***]

***alter\_specification***:

***table\_options***

| ADD [COLUMN] ***col\_name*** ***column\_definition***

[FIRST | AFTER ***col\_name*** ]

| ADD [COLUMN] (***col\_name*** ***column\_definition***,...)

| ADD {INDEX|KEY} [***index\_name***]

[***index\_type***] (***index\_col\_name***,...) [***index\_option***] ...

| ADD [CONSTRAINT [***symbol***]] PRIMARY KEY

[***index\_type***] (***index\_col\_name***,...) [***index\_option***] ...

| ADD [CONSTRAINT [***symbol***]]

UNIQUE [INDEX|KEY] [***index\_name***]

[***index\_type***] (***index\_col\_name***,...) [***index\_option***] ...

| ADD FULLTEXT [INDEX|KEY] [***index\_name***]

(***index\_col\_name***,...) [***index\_option***] ...

| ADD SPATIAL [INDEX|KEY] [***index\_name***]

(***index\_col\_name***,...) [***index\_option***] ...

| ADD [CONSTRAINT [***symbol***]]

FOREIGN KEY [***index\_name***] (***index\_col\_name***,...)

***reference\_definition***

| ALGORITHM [=] {DEFAULT|INPLACE|COPY}

| ALTER [COLUMN] ***col\_name*** {SET DEFAULT ***literal*** | DROP DEFAULT}

| CHANGE [COLUMN] ***old\_col\_name*** ***new\_col\_name*** ***column\_definition***

[FIRST|AFTER ***col\_name***]

| LOCK [=] {DEFAULT|NONE|SHARED|EXCLUSIVE}

| MODIFY [COLUMN] ***col\_name*** ***column\_definition***

[FIRST | AFTER ***col\_name***]

| DROP [COLUMN] ***col\_name***

| DROP PRIMARY KEY

| DROP {INDEX|KEY} ***index\_name***

| DROP FOREIGN KEY ***fk\_symbol***

| DISABLE KEYS

| ENABLE KEYS

| RENAME [TO|AS] ***new\_tbl\_name***

| RENAME {INDEX|KEY} ***old\_index\_name*** TO ***new\_index\_name***

| ORDER BY ***col\_name*** [, ***col\_name***] ...

| CONVERT TO CHARACTER SET ***charset\_name*** [COLLATE ***collation\_name***]

| [DEFAULT] CHARACTER SET [=] ***charset\_name*** [COLLATE [=] ***collation\_name***]

| DISCARD TABLESPACE

| IMPORT TABLESPACE

| FORCE

| {WITHOUT|WITH} VALIDATION

| ADD PARTITION (***partition\_definition***)

| DROP PARTITION ***partition\_names***

| DISCARD PARTITION {***partition\_names*** | ALL} TABLESPACE

| IMPORT PARTITION {***partition\_names*** | ALL} TABLESPACE

| TRUNCATE PARTITION {***partition\_names*** | ALL}

| COALESCE PARTITION ***number***

| REORGANIZE PARTITION ***partition\_names*** INTO (***partition\_definitions***)

| EXCHANGE PARTITION ***partition\_name*** WITH TABLE ***tbl\_name*** [{WITH|WITHOUT} VALIDATION]

| ANALYZE PARTITION {***partition\_names*** | ALL}

| CHECK PARTITION {***partition\_names*** | ALL}

| OPTIMIZE PARTITION {***partition\_names*** | ALL}

| REBUILD PARTITION {***partition\_names*** | ALL}

| REPAIR PARTITION {***partition\_names*** | ALL}

| REMOVE PARTITIONING

| UPGRADE PARTITIONING

***index\_col\_name***:

***col\_name*** [(***length***)] [ASC | DESC]

***index\_type***:

USING {BTREE | HASH}

***index\_option***:

KEY\_BLOCK\_SIZE [=] ***value***

| ***index\_type***

| WITH PARSER ***parser\_name***

| COMMENT '***string***'

***table\_options***:

***table\_option*** [[,] ***table\_option***] ... (see [CREATE TABLE](https://dev.mysql.com/doc/refman/5.7/en/create-table.html) options)

***partition\_options***:

(see [CREATE TABLE](https://dev.mysql.com/doc/refman/5.7/en/create-table.html) options)

### Přejmenování tabulky

**RENAME novy\_nazev\_tabulky;**

### Smazání

**DROP**

### Změna parametrů

**CHANGE**

### Modifikace parametrů

**MODIFY**

### Příkaz TRUNCATE TABLE

**TRUNCATE TABLE**

## Optimalizace tabulky

**OPTIMIZE TABLE**