BAZE PODATAKA · VEŽBE 6 · DRUGI DEO

Naredba SELECT

Čitanje podataka iz baze w3schools: DISTINCT · WHERE · AND, OR, NOT · ORDER BY · LIMIT · LIKE · IN · BETWEEN

PRIPREMA

Baza w3schools na vašem serveru

1. Preuzmite skriptu **w3schools.sql**:

github.com/AndrejWeb/w3schools-database

2. Workbench: **File** → **Open SQL Script…** → izvršite (ikona munje)

3. Osvežite panel *Schemas*: pojavljuje se baza **w3schools**.

ILI IZ TERMINALA

```
mysql -u root -p < w3schools.sql
```

PROVERA

```
USE w3schools;
SHOW TABLES;
```

PRIPREMA

Osam tabela, broj redova u svakoj

customers kupci **91**	**products** proizvodi **77**	**orders** porudžbine **196**	**order_details** stavke porudžbina **518**
categories kategorije **8**	**employees** zaposleni **10**	**suppliers** dobavljači **29**	**shippers** prevoznici **3**

Imena tabela su malim slovima, kao u skripti. Danas radimo uglavnom sa **customers** i **products**.

ŠABLON

Delovi naredbe SELECT, uvek ovim redom

ŠABLON

```
SELECT [DISTINCT] kolona1, kolona2, ...
FROM ime_tabele
[WHERE uslov]
[ORDER BY kolona [ASC | DESC]]
[LIMIT broj];
```

SELECT – koje kolone (projekcija π)

FROM – iz koje tabele

WHERE – koji redovi (selekcija σ)

ORDER BY – kojim redosledom

LIMIT – koliko najviše redova

KOMENTARI

Komentari u SQL kodu

ŠABLON

```
-- komentar do kraja reda
/* komentar u više
   redova */
```

PRIMER

```
-- Kupci iz Meksika
SELECT CustomerName, City
FROM customers
WHERE Country = 'Mexico';  /* 5 kupaca */
```

REZULTAT · 5 redova

CustomerName	City
Ana Trujillo Emparedados y helados	México D.F.
Antonio Moreno Taquería	México D.F.
Centro comercial Moctezuma	México D.F.
Pericles Comidas clásicas	México D.F.
Tortuga Restaurante	México D.F.

SELECT

Izbor kolona

ŠABLON

```
SELECT kolona1, kolona2, ...
FROM ime_tabele;
```

PRIMER

```
SELECT CustomerName, City
FROM customers;
```

REZULTAT · 91 red (prikazano 5)

CustomerName	City
Alfreds Futterkiste	Berlin
Ana Trujillo Emparedados y helados	México D.F.
Antonio Moreno Taquería	México D.F.
Around the Horn	London
Berglunds snabbköp	Luleå

SELECT *

Sve kolone tabele

ŠABLON

```
SELECT *
FROM ime_tabele;
```

PRIMER

```
SELECT *
FROM products;
```

REZULTAT · 77 redova (prikazano 5)

ID	ProductName	Supp	Cat	Unit	Price
1	Chais	1	1	10 boxes x 20 bags	18
2	Chang	1	1	24 - 12 oz bottles	19
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10
4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	22
5	Chef Anton's Gumbo Mix	2	2	36 boxes	21.35

SELECT DISTINCT

Vrednosti bez ponavljanja

ŠABLON

```
SELECT DISTINCT kolona
FROM ime_tabele;
```

PRIMER

```
SELECT DISTINCT Country
FROM customers;
```

REZULTAT · 21 RED

Argentina	Austria	Belgium
Brazil	Canada	Denmark
Finland	France	Germany
Ireland	Italy	Mexico
Norway	Poland	Portugal
Spain	Sweden	Switzerland
UK	USA	Venezuela

WHERE

Filtriranje redova

ŠABLON

```
SELECT kolone
FROM ime_tabele
WHERE uslov;
```

PRIMER

```
SELECT CustomerID, CustomerName, City
FROM customers
WHERE Country = 'Mexico';
```

REZULTAT · 5 redova

CustomerID	CustomerName	City
2	Ana Trujillo Emparedados y helados	México D.F.
3	Antonio Moreno Taquería	México D.F.
13	Centro comercial Moctezuma	México D.F.
58	Pericles Comidas clásicas	México D.F.
80	Tortuga Restaurante	México D.F.

WHERE

Operatori u uslovu

Operator	Značenje	Primer
=	jednako	Country = 'Mexico'
<> ili !=	različito	Country <> 'Mexico'
> < >= <=	veće, manje…	Price > 30
BETWEEN	u opsegu, sa granicama	Price BETWEEN 10 AND 20
LIKE	poređenje sa šablonom	CustomerName LIKE 'a%'
IN	jedna od vrednosti iz liste	Country IN ('Germany', 'UK')
IS NULL	nema vrednost	PostalCode IS NULL

AND, OR, NOT

Složeni uslovi

ŠABLON

```
WHERE uslov1 AND uslov2
WHERE uslov1 OR uslov2
WHERE NOT uslov
```

PRIMER

```
SELECT CustomerName, City
FROM customers
WHERE Country = 'Spain'
  AND CustomerName LIKE 'G%';
```

REZULTAT · 2 reda

CustomerName	City
Galería del gastrónomo	Barcelona
Godos Cocina Típica	Sevilla

Germany OR Spain → 16 redova · NOT Spain → 86 redova · uz mešanje AND i OR koristite zagrade.

ORDER BY

Sortiranje rezultata

ŠABLON

```
SELECT kolone FROM ime_tabele
ORDER BY kolona1 [ASC | DESC],
         kolona2 [ASC | DESC];
```

PRIMER

```
SELECT ProductName, Price
FROM products
ORDER BY Price DESC;
```

REZULTAT · 77 redova (prikazano 5)

ProductName	Price
Côte de Blaye	263.5
Thüringer Rostbratwurst	123.79
Mishi Kobe Niku	97
Sir Rodney's Marmalade	81
Carnarvon Tigers	62.5

LIMIT

Samo prvih nekoliko redova

ŠABLON

```
SELECT kolone FROM ime_tabele
[ORDER BY kolona]
LIMIT broj;
```

PRIMER

```
SELECT ProductName, Price
FROM products
ORDER BY Price
LIMIT 3;
```

REZULTAT · 3 reda

ProductName	Price
Geitost	2.5
Guaraná Fantástica	4.5
Konbu	6

LIKE

Pretraga po šablonu teksta

ŠABLON

```
SELECT kolone FROM ime_tabele
WHERE kolona LIKE 'šablon';
```

Šablon	Pronalazi
'a%'	počinje sa a
'%a'	završava se sa a
'%or%'	sadrži or
'_r%'	r je drugo slovo

PRIMER

```
SELECT CustomerName FROM customers
WHERE CustomerName LIKE 'a%';
```

REZULTAT · 4 reda

CustomerName
Alfreds Futterkiste
Ana Trujillo Emparedados y helados
Antonio Moreno Taquería
Around the Horn

IN

Vrednost iz liste

ŠABLON

```
SELECT kolone FROM ime_tabele
WHERE kolona IN (vrednost1, vrednost2, ...);
```

PRIMER

```
SELECT CustomerName, Country
FROM customers
WHERE Country IN ('Germany',
                  'France', 'UK');
```

REZULTAT · 29 redova (prikazano 5)

CustomerName	Country
Alfreds Futterkiste	Germany
Around the Horn	UK
Blauer See Delikatessen	Germany
Blondel père et fils	France
Bon app'	France

BETWEEN

Vrednost u opsegu

ŠABLON

```
SELECT kolone FROM ime_tabele
WHERE kolona BETWEEN a AND b;
```

PRIMER

```
SELECT ProductName, Price
FROM products
WHERE Price BETWEEN 10 AND 20
ORDER BY Price;
```

REZULTAT · 29 redova (prikazano 5)

ProductName	Price
Aniseed Syrup	10
Sir Rodney's Scones	10
Longlife Tofu	10
Spegesild	12
Gorgonzola Telino	12.5

NOT

Negacija: NOT LIKE, NOT IN, NOT BETWEEN

ŠABLON

```
WHERE kolona NOT LIKE 'šablon'
WHERE kolona NOT IN (v1, v2, ...)
WHERE kolona NOT BETWEEN a AND b
```

PRIMER

```
SELECT ProductName, Price
FROM products
WHERE Price NOT BETWEEN 10 AND 100
ORDER BY Price;
```

REZULTAT · 13 redova (prikazano 5)

ProductName	Price
Geitost	2.5
Guaraná Fantástica	4.5
Konbu	6
Filo Mix	7
Tourtière	7.45

SVE ZAJEDNO

Jedan upit sa svim delovima

ŠABLON

```
SELECT kolone
FROM ime_tabele
WHERE uslov
ORDER BY kolona [DESC]
LIMIT broj;
```

PRIMER

```
SELECT ProductName, CategoryID, Price
FROM products
WHERE CategoryID IN (1, 2)
ORDER BY Price DESC
LIMIT 5;
```

REZULTAT · 5 redova

ProductName	CategoryID	Price
Côte de Blaye	1	263.5
Ipoh Coffee	1	46
Vegie-spread	2	43.9
Northwoods Cranberry Sauce	2	40
Sirop d'érable	2	28.5

VEZA SA PRVIM DELOM ČASA

Nalog koji sme samo da čita

KAO ROOT

```
CREATE USER 'student'@'localhost'
  IDENTIFIED BY 'Student#1';
GRANT SELECT ON w3schools.*
  TO 'student'@'localhost';
```

KAO STUDENT

```
SELECT CustomerName FROM customers
LIMIT 1;   -- Alfreds Futterkiste

DELETE FROM customers;
-- ERROR 1142: DELETE command denied
```

Pravo **SELECT** znači: čitanje da, menjanje ne – princip najmanjih privilegija u praksi.

PROVERA ZNANJA

Pet pitanja za kraj

1. Kojim redom se pišu SELECT, FROM, WHERE, ORDER BY i LIMIT?
2. Šta radi DISTINCT?
3. Kada se vrednost piše u apostrofima?
4. Šta pronalazi LIKE '_r%'?
5. Da li BETWEEN 10 AND 20 uključuje 10 i 20?