

Curs 14  
2015/2016

# Tehnici moderne de proiectare a aplicatiilor web

# Activitate suplimentara

# Activitate suplimentara

- Exemplul prezentat in sursele de pe site (laborator) este inefficient
- Suplimentar ascunde o **greseala de logica** care impiedica functionarea corecta a programului
  - programul nu este protejat, nu verifica faptul ca in casuta in care se asteapta numere nu se introduc siruri de text
  - **greseala de logica** presupune utilizatorul **cooperant si educat**, introduce ceea ce se asteapta de la el sa introduca, dar chiar in aceste conditii apare o abatere de la functionarea corecta

# Recompensa activitate suplimentara

- Raspunsul corect va fi recompensat cu:
  - **2p** in plus la nota de laborator (se pot compensa astfel eventuale absente)
  - **2p** in plus la nota de la testarea finala (examen)
- Nota de la proiect
  - Nu este influentata
- Nota finala se obtine prin medie ponderata **dupa** aplicarea suplimentelor amintite mai sus

Nu se aplica in 2015/2016

<http://rf-opto.etti.tuiasi.ro> → prezenta curs

# Regulament recompensa

- Raspunsul si codul de corectie trebuie trimise individual prin email
- Codul trebuie sa fie functional
- Maxim **2** incercari pentru fiecare student
- Studentii pot discuta intre ei **dar**
- Oricare **doua raspunsuri identice se elimina reciproc**

Nu se aplica in 2015/2016

<http://rf-opto.etti.tuiasi.ro> → prezenta curs

# Aspecte practice recomandate in realizarea aplicatiilor web

# Metode de lucru recomandate 1

- Daca nu aveti acces simplu la “log-urile” server-ului MySql puteti vedea cum ajung efectiv interogariile la el afisand temporar textul interogarii
  - `$query = "SELECT * FROM `produse` AS p WHERE `id_categ` = ".$row_result_c['id_categ'];  
echo $query; //util in perioada de testare`
  - Textul prelucrat de PHP al interogarii va fi afisat in clar pe pagina facand mai usoara depanarea programului
  - Aceste linii **trebuie** eliminate in forma finala a programului ca masura de securitate

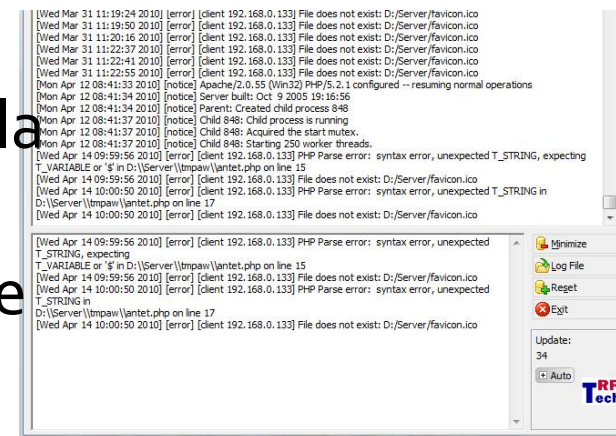
# Metode de lucru recomandate 2

- Verificarea "log-ului" de erori al server-ului Apache ramane principala metoda de depanare a codului PHP.

- W2000: Utilizarea aplicatiei prezentata la laborator este mai comoda datorita automatizarii dar orice alta varianta este utila

- Centos 7.1:

- putty → nano /var/log/httpd/error\_log
- <http://192.168.30.5/logfile.php> (nonstandard)

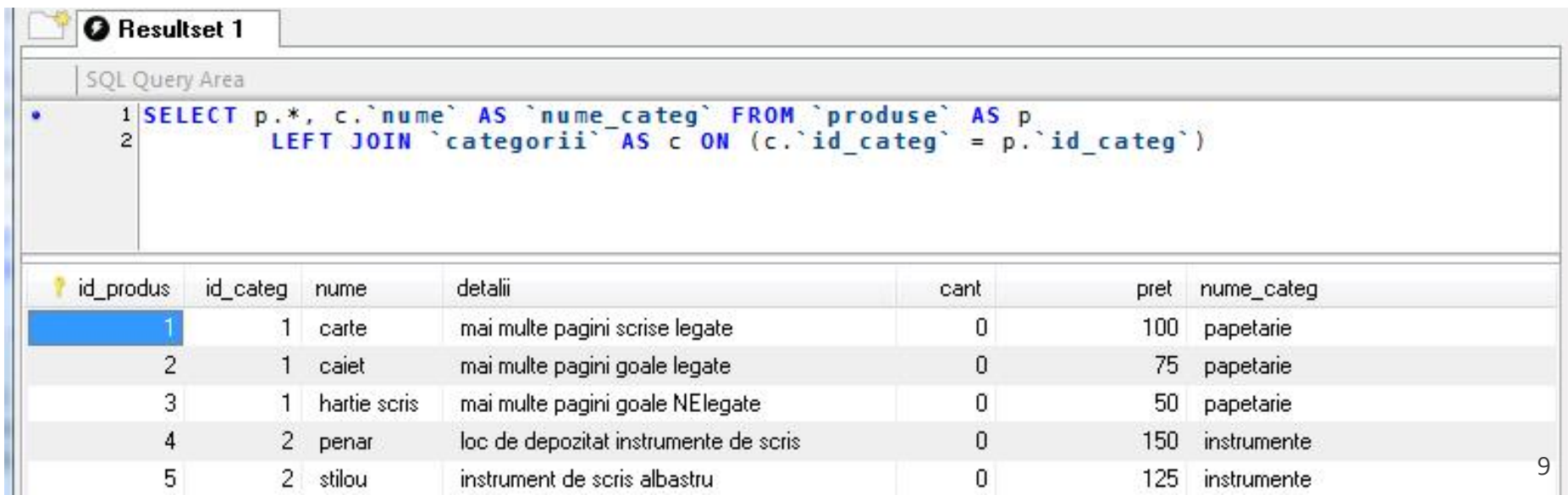


```
[Wed Mar 31 11:19:24 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Wed Mar 31 11:19:50 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Wed Mar 31 11:20:16 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Wed Mar 31 11:22:37 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Wed Mar 31 11:22:41 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Wed Mar 31 11:22:55 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
[Mon Apr 12 08:41:33 2010] [notice] Apache/2.0.55 (Win32) PHP/5.2.1 configured -- resuming normal operations
[Mon Apr 12 08:41:34 2010] [notice] Server built: Oct 9 2005 19:16:56
[Mon Apr 12 08:41:34 2010] [notice] Parent: Created child process 848
[Mon Apr 12 08:41:37 2010] [notice] Child 848: Child process is running
[Mon Apr 12 08:41:37 2010] [notice] Child 848: Acquired the start mutex.
[Mon Apr 12 08:41:37 2010] [notice] Child 848: Starting 250 worker threads.
[Wed Apr 14 09:59:56 2010] [error] [client 192.168.0.133] PHP Parse error: syntax error, unexpected T_STRING, expecting
T_VARIABLE or '$' in D:/Server/Impaw/antet.php on line 15
[Wed Apr 14 10:00:50 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
D:/Server/Impaw/antet.php on line 17
[Wed Apr 14 10:00:50 2010] [error] [client 192.168.0.133] PHP Parse error: syntax error, unexpected T_STRING in
D:/Server/Impaw/antet.php on line 17
[Wed Apr 14 10:00:50 2010] [error] [client 192.168.0.133] File does not exist: D:/Server/favicon.ico
```



# Metode de lucru recomandate 3

- In perioada de definitivare a formei interogarilor MySql este de multe ori benefic sa se utilizeze mai intai **MySql Query Browser/PhpMyAdmin** pentru incercarea interogarilor, urmand ca apoi, cand sunteti multumiti de rezultat, sa transferati interogarea SQL in codul PHP



The screenshot shows a MySQL Query Browser window with a tab labeled "Resultset 1". The "SQL Query Area" contains the following query:

```
1 SELECT p.*, c.`nume` AS `nume_categ` FROM `produse` AS p
2 LEFT JOIN `categorii` AS c ON (c.`id_categ` = p.`id_categ`)
```

Below the query area, a table displays the results of the query. The table has the following columns: id\_produș, id\_categ, nume, detalii, cant, pret, and nume\_categ. The first row is highlighted in blue.

id_produș	id_categ	nume	detalii	cant	pret	nume_categ
1	1	carte	mai multe pagini scrise legate	0	100	papetarie
2	1	caiet	mai multe pagini goale legate	0	75	papetarie
3	1	hartie scris	mai multe pagini goale NElegate	0	50	papetarie
4	2	penar	loc de depozitat instrumente de scris	0	150	instrumente
5	2	stilou	instrument de scris albastru	0	125	instrumente

# Metode de lucru recomandate 3

MySQL Query Browser - Connection: root@server / tmpaw

File Edit View Query Script Tools Window Help

Transaction Explain Compare

Resultset 1

SQL Query Area

```
1 SELECT p.*, c.`nume` AS `nume_categ` FROM `produse` AS p
2 LEFT JOIN `categorii` AS c ON (c.`id_categ` = p.`id_categ`)
```

id_produc	id_categ	nume	detalii	cant	pret	nume_categ
1	1	carte	mai multe pagini scrise legate	0	100	papetarie
2	1	caiet	mai multe pagini goale legate	0	75	papetarie
3	1	hartie scris	mai multe pagini goale NElegate	0	50	papetarie
4	2	penar	loc de depozitat instrumente de scris	0	150	instrumente
5	2	stilou	instrument de scris albastru	0	125	instrumente
6	2	creion	instrument de scris gri	0	25	instrumente
7	3	cd	canta	0	50	audio-video
8	3	dvd	vizual	0	100	audio-video
9	3	blue ray	vizual extrem	0	500	audio-video

9 rows fetched in 0.0035s (0.0016s)

Edit Apply Changes Discard Changes First Last Search

1: 1

# Metode de lucru recomandate 4

- eficienta unei aplicatii web
  - 100% - **toate prelucrarile "mutate" in RDBMS**
  - PHP **doar** afisarea datelor
- eficienta unei aplicatii MySql
  - 25% **alegerea corecta a tipurilor de date**
  - 25% **crearea indecsilor necesari in aplicatii**
  - 25% **normalizarea corecta a bazei de date**
  - 20% **cresterea complexitatii interogarilor pentru a "muta" prelucrarile pe server-ul de baze de date**
  - 5% **scrierea corecta a interogarilor**

# Metode de lucru recomandate 5

- La implementarea unei aplicatii noi (proiect)
  1. Imaginarea planului aplicatiei (ex: C9, S14-S15)
    - "cum as vrea eu sa lucrez cu o astfel de aplicatie"
    - hartie/creion/timp – esentiale
  2. Identificarea datelor/transmisia de date intre pagini
    - get/post/fisier unic colectare-prelucrare
    - baza de date read/write
  3. Identificarea structurii logice a datelor utilizate
    - "clase" de obiecte/fenomene tratate identic
    - se are in vedere scalabilitatea (posibilitatea de crestere a numarului de elemente dintr-o clasa)

# Metode de lucru recomandate 5

- La implementarea unei aplicatii noi (proiect)
  4. Realizarea structurii bazei de date
    - In general un tabel pentru fiecare clasa logica distincta **DAR...**
    - se are in vedere scalabilitatea (daca aplicatia creste sa **NU** apara cresterea numarului de clase/tabele) **SI...**
    - normalizare
  5. Identificarea tipului de date necesar pentru coloane
    - de preferat numerele intregi in orice situatie care presupune ordonare
    - dimensiunea campurilor nu mai mare decat e necesar (poate fi fortata prin atributul "size" in eticheta HTML "input")
  6. Imaginarea formei fizice a paginilor
    - "am mai vazut asa si mi-a placut" (Don't make me think!)
    - investigarea posibilitatii de a introduce functionalitate template

# Metode de lucru recomandate 5

- La implementarea unei aplicatii noi (proiect)
  7. Popularea manuala a bazei de date cu date initiale
    - MySql Query Browser (sau PhpMyAdmin) / automat / imprumut
    - programarea individuala a paginilor are nevoie de prezenta unor date
  8. Programare individuala a paginilor
    - In general in ordinea din planul aplicatiei (de multe ori o pagina asigura datele necesare pentru urmatoarea din plan)
    - modul "verbose" activ pentru PHP (adica: `echo $a; print_r($matr)`)
  9. Pregatirea pentru distributie/mutare
    - testare detaliata (eventual un "cobai")
    - eliminarea adaosurilor "verbose"
    - backup
    - generarea unui eventual install/setup

# MySql – eficienta

- eficienta unei aplicatii web
  - 100% - **toate prelucrarile "mutate" in RDBMS**
  - PHP **doar** afisarea datelor
- eficienta unei aplicatii MySql
  - 25% **alegerea corecta a tipurilor de date**
  - 25% **crearea indecsilor necesari in aplicatii**
  - 25% **normalizarea corecta a bazei de date**
  - 20% **cresterea complexitatii interogarilor pentru a "muta" prelucrarile pe server-ul de baze de date**
  - 5% **scrierea corecta a interogarilor**

MySql (MariaDB) – Server Centos 7.1

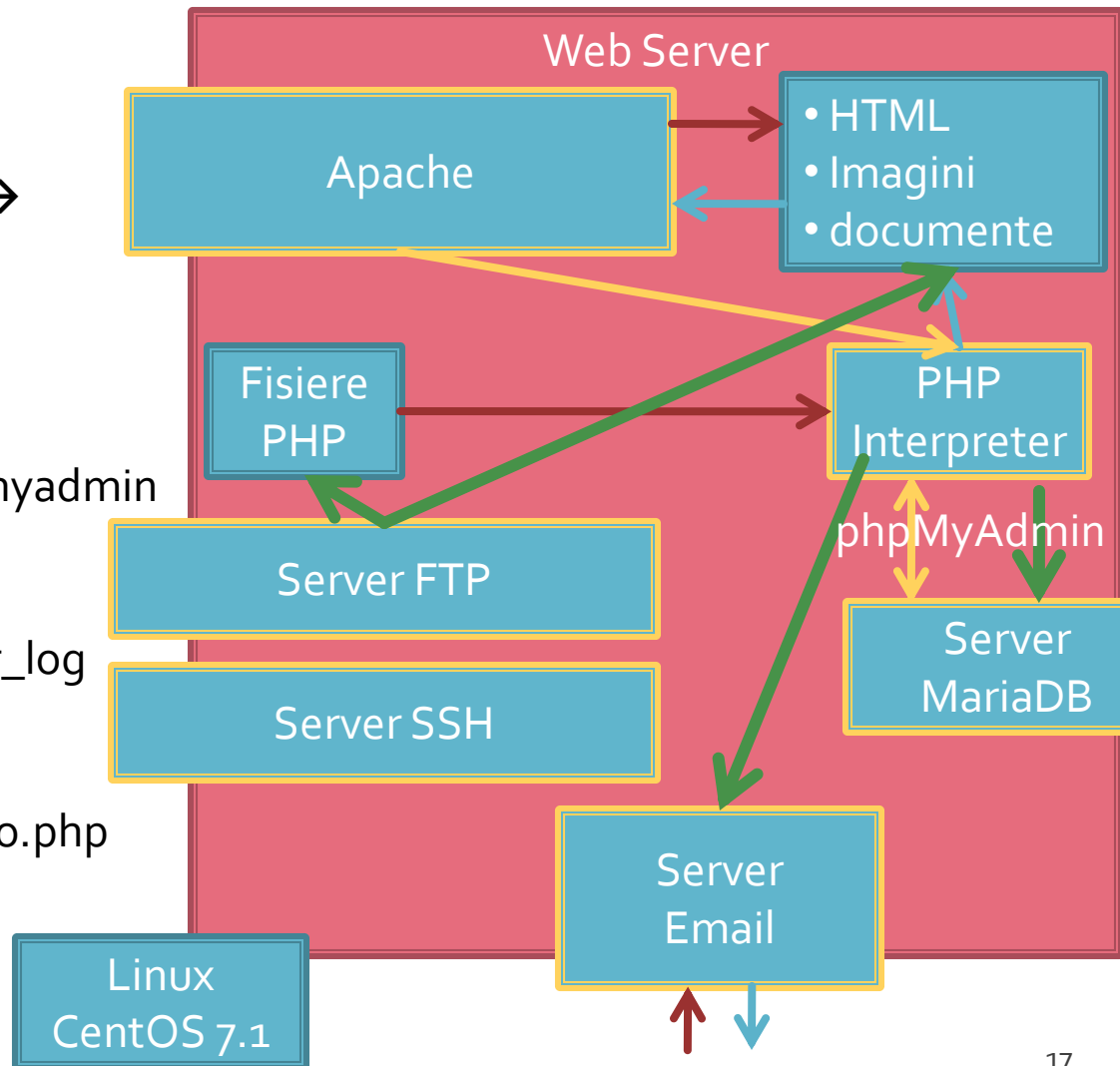
# Mini – Indrumar practic

## Lucru cu bazele de date



# Utilizare LAMP

1. login → root:masterrc
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masterrc (remote login)
4. [alte comenzi linux dorite]
5. FTP → Wincp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masterrc
7. Apache Error Log →
  - 7a. putty → nano /var/log/httpd/error\_log
  - 7b. http://192.168.30.5/logfile.php (nonstandard)
8. PHP info → http://192.168.30.5/info.php



# PhpMyAdmin

- <http://192.168.30.5/phpmyadmin>
  - root
  - parola administrator **MySql/MariaDB** (masterrc)



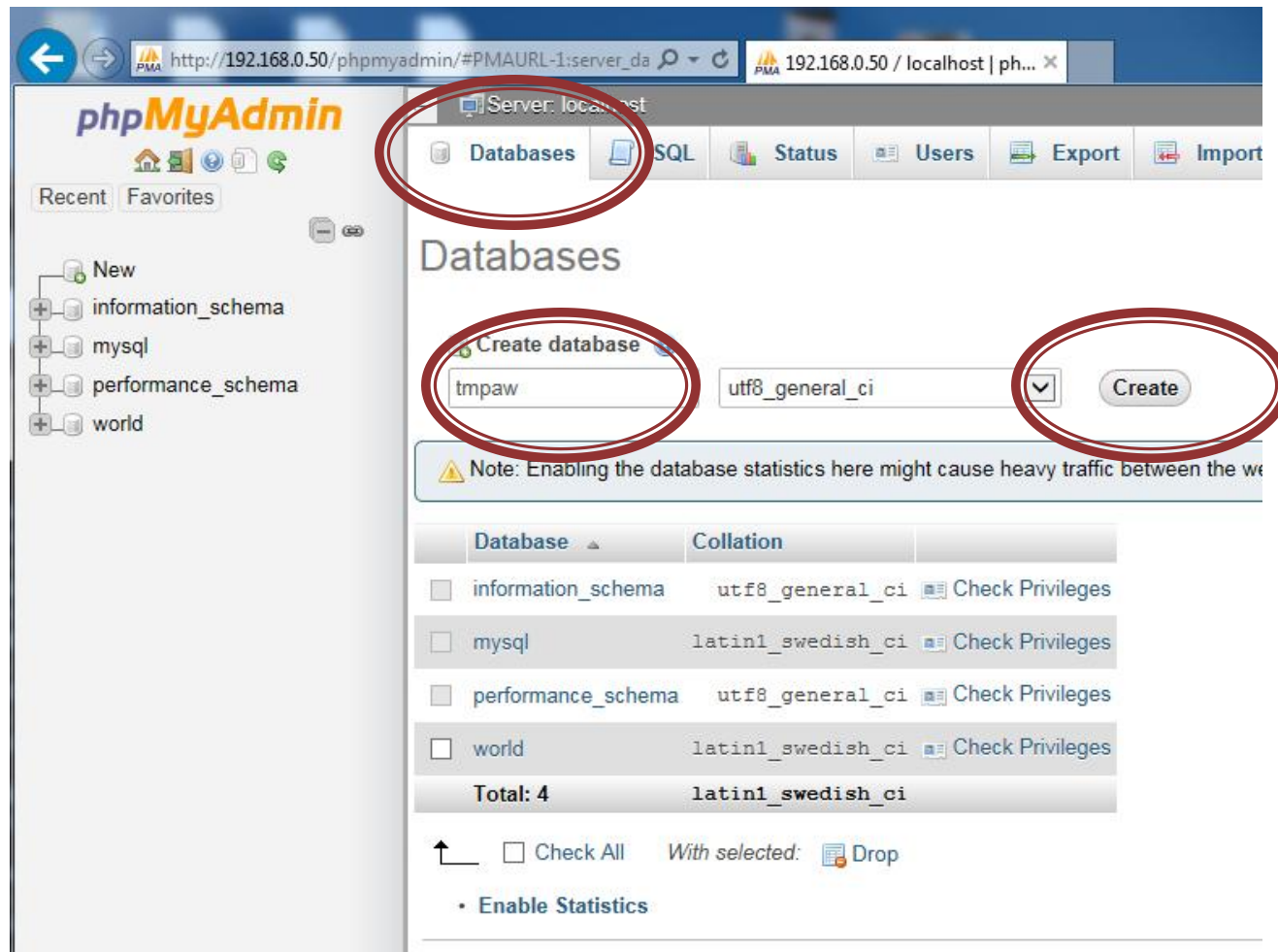
# PhpMyAdmin

The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows the URL `http://192.168.0.50/phpmyadmin/#PMAURL-0:index.php` and the server name `192.168.0.50 / localhost | ph...`. The interface includes a navigation menu on the left with options like "Recent" and "Favorites", and a tree view of databases including "information\_schema", "mysql", "performance\_schema", and "world". The main content area is divided into several panels:

- General Settings:** Includes a "Change password" link and a "Server connection collation" dropdown menu set to `utf8mb4_unicode_ci`.
- Appearance Settings:** Includes a "Language" dropdown set to "English", a "Theme" dropdown set to "pmahomme", and a "Font size" dropdown set to "82%". A "More settings" link is also present.
- Database server:** Lists server details:
  - Server: Localhost via UNIX socket
  - Server type: MariaDB
  - Server version: 5.5.44-MariaDB - MariaDB Server
  - Protocol version: 10
  - User: root@localhost
  - Server charset: UTF-8 Unicode (utf8)
- Web server:** Lists web server details:
  - Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips mod\_fcgid/2.3.9 PHP/5.4.16 mod\_python/3.5.0- Python/2.7.5
  - Database client version: libmysql - 5.5.44-MariaDB
  - PHP extension: mysqli
  - PHP version: 5.4.16
- phpMyAdmin:** Lists version and resource information:
  - Version information: 4.4.15.1
  - Documentation
  - Wiki
  - Official Homepage
  - Contribute
  - Get support
  - List of changes

# Creare Baza de Date

- Databases → "nume" → Create



The screenshot shows the phpMyAdmin interface. The 'Databases' tab is selected and circled in red. Below it, the 'Create database' form is visible, with the database name 'tmpaw' and the collation 'utf8\_general\_ci' entered, and the 'Create' button circled in red. A table below the form lists existing databases and their collations.

Database	Collation	
<input type="checkbox"/> information_schema	utf8_general_ci	<a href="#">Check Privileges</a>
<input type="checkbox"/> mysql	latin1_swedish_ci	<a href="#">Check Privileges</a>
<input type="checkbox"/> performance_schema	utf8_general_ci	<a href="#">Check Privileges</a>
<input type="checkbox"/> world	latin1_swedish_ci	<a href="#">Check Privileges</a>
<b>Total: 4</b>	<b>latin1_swedish_ci</b>	

↑  Check All With selected: [Drop](#)

• [Enable Statistics](#)

# Creare tabelle in baza de date

- Baza de date (in lista) → Structure → div Create Table → nume/coloane → Go

The screenshot shows the phpMyAdmin web interface. The browser address bar displays the URL `http://192.168.0.50/php`. The main content area shows the 'Database: tmpaw' view. The 'Structure' tab is selected and circled in red. Below it, a message states 'No tables found in database.' The 'Create table' button is also circled in red. The 'Name' field contains the text 'categorii' and is circled in red. The 'Number of columns' field contains the number '3' and is circled in red. The 'Go' button at the bottom right is circled in red. The left sidebar shows a tree view of databases, with 'performance\_schema' and 'tmpaw' circled in red.

# Introducere coloane, tabel categorii

- (eventual) Adaugare coloane / Stabilire nume
- Name / Type / Length / Default

Server: localhost » Database: tmpaw » Table: categorii

Table name:  Add  column(s)

Name	Type	Length/Values	Default	Collation
<input type="text" value="id_categ"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
<input type="text" value="nume"/>	<input type="text" value="VARCHAR"/>	<input type="text" value="45"/>	<input type="text" value="None"/>	<input type="text"/>
<input type="text" value="detalii"/>	<input type="text" value="VARCHAR"/>	<input type="text" value="150"/>	<input type="text" value="None"/>	<input type="text"/>

Table comments:

Collation:

Storage Engine:

# Introducere coloane

- (eventual) NOT NULL / Index / Auto Increment
  - in functie de “necesitatile” coloanei respective

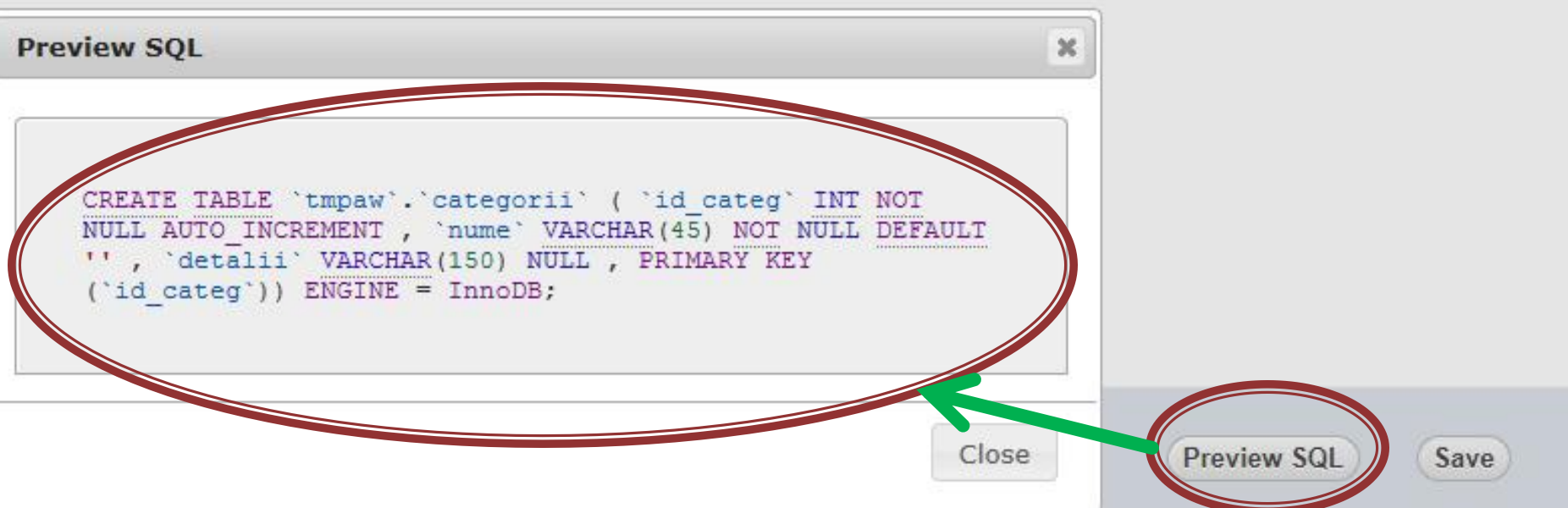
Table name:  Add  column(s)

Structure

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comments
id_categ	INT		None			<input type="checkbox"/>	PRIMARY	<input checked="" type="checkbox"/>	
nume	VARCHAR	45	As defined:			<input type="checkbox"/>	---	<input type="checkbox"/>	
detalii	VARCHAR	150	None			<input checked="" type="checkbox"/>	---	<input type="checkbox"/>	

# Preview SQL

- in aproape toate etapele in PhpMyAdmin
  - exemplu de cod SQL/schelet utilizabil (copy/paste) in aplicatia PHP
  - modificari de finete absente din interfata
    - copy → Sectiune "SQL" in interfata → paste → modificare





# Introducere coloane, tabel produse

- New → Nume → Add Columns → ...

The screenshot shows the phpMyAdmin interface for a database named 'tmpaw'. The 'Structure' tab is active, and the 'Add Columns' dialog is open. The table name 'produse' is entered in the 'Table name' field. The 'Add' button is set to '1' column(s), and the 'Go' button is visible. The table structure is displayed below, with columns: id\_produs (INT, PRIMARY), id\_categ (INT), nume (VARCHAR, 45), detalii (VARCHAR, 150), cant (INT), and pret (FLOAT). The 'pret' column is currently selected.

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	C
id_produs	INT		None			<input type="checkbox"/>	PRIMARY	<input checked="" type="checkbox"/>	
id_categ	INT		None			<input type="checkbox"/>	---	<input type="checkbox"/>	
nume	VARCHAR	45	As defined:			<input type="checkbox"/>	---	<input type="checkbox"/>	
detalii	VARCHAR	150	None			<input checked="" type="checkbox"/>	---	<input type="checkbox"/>	
cant	INT		None			<input checked="" type="checkbox"/>	---	<input type="checkbox"/>	
pret	FLOAT		None			<input checked="" type="checkbox"/>	---	<input type="checkbox"/>	

# Introducere date initiale (interfata)

- Tabel → Insert → Completare → Go

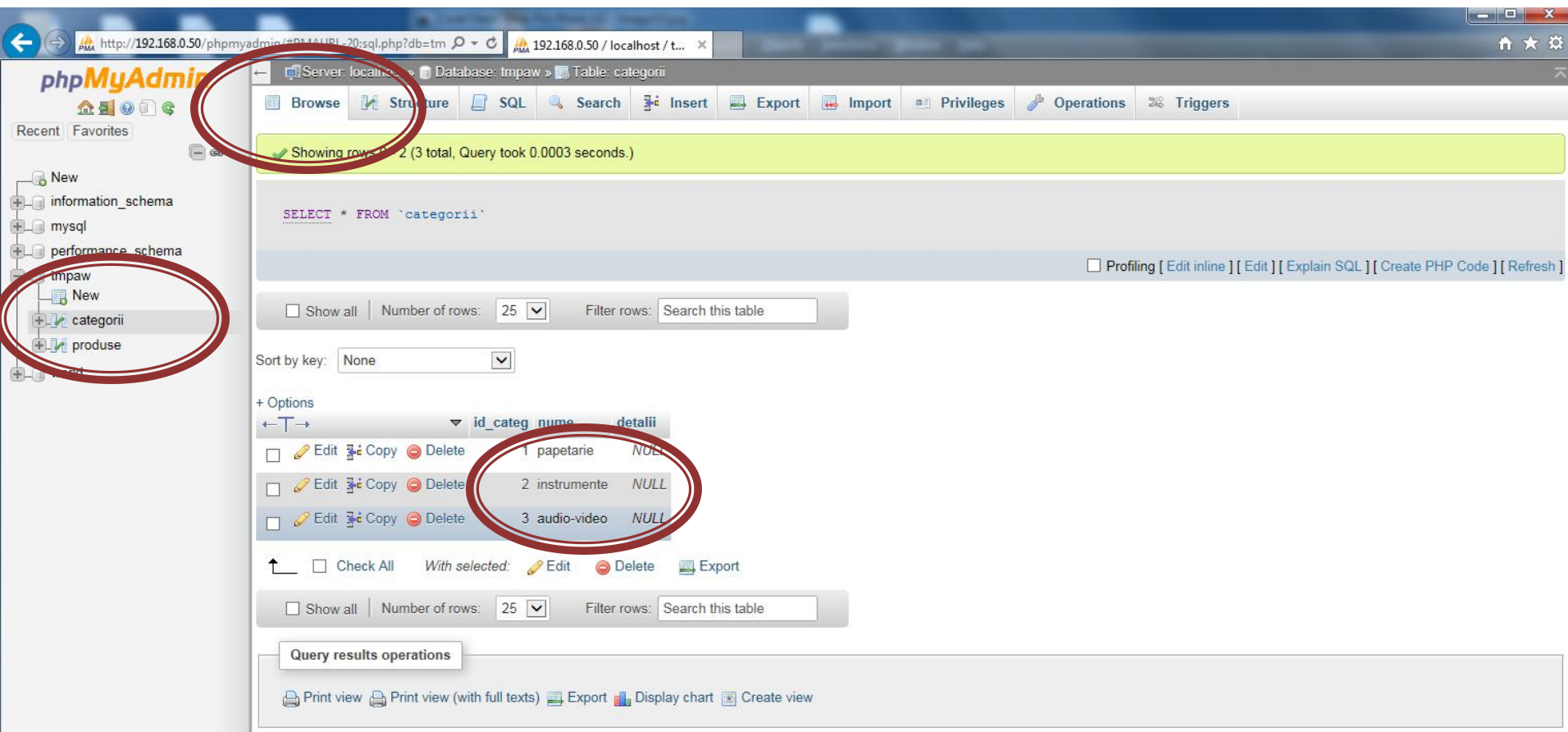
The screenshot displays the phpMyAdmin interface for a table named 'categorii' in the 'tmpaw' database. The 'Insert' tab is selected, and the 'id\_categ' column is highlighted. The 'nume' column contains the value 'papetarie'. The 'Go' button is visible at the bottom right. The 'Insert as new row' dropdown is set to 'insert as new row', and the 'and then' dropdown is set to 'Go back to previous page'. The 'Continue insertion with' dropdown is set to '1' row.

Column	Type	Function	Null	Value
id_categ	int(11)			
nume	varchar(45)			papetarie
detalii	varchar(150)		☑	

Continue insertion with  row

# Vizualizare date existente

- Tabel → Browse → salt la pagina (numar de linii pe pagina)



The screenshot shows the phpMyAdmin interface for a database named 'tmpaw'. The 'categoriasii' table is selected, and the 'Browse' view is active. The table contains three rows of data, which are circled in red. The 'id\_categ' column has values 1, 2, and 3. The 'nume' column has values 'papetarie', 'instrumente', and 'audio-video'. The 'detalii' column contains NULL values. The interface also shows the SQL query 'SELECT \* FROM `categoriasii`' and various options for viewing and editing the data.

id_categ	nume	detalii
1	papetarie	NULL
2	instrumente	NULL
3	audio-video	NULL

# Introducere date initiale (SQL)

- Tabel → SQL → completare → Go

The screenshot shows the phpMyAdmin interface for a MySQL database named 'tmpaw'. The 'produse' table is selected in the left sidebar. The 'SQL' tab is active, and the following query is entered in the editor:

```
1 INSERT INTO `produse` (`id_produș`, `id_categ`, `nume`, `detalii`, `cant`, `pret`)
2 VALUES
3 (1,1,'carte','mai multe pagini scrise legate',0,100),
4 (2,1,'caiet','mai multe pagini goale legate',0,75),
5 (3,1,'hartie scris','mai multe pagini goale NElegate',0,50),
6 (4,2,'penar','loc de depozitat instrumente de scris',0,150),
7 (5,2,'stilou','instrument de scris albastru',0,125),
8 (6,2,'creion','instrument de scris gri',0,25),
9 (7,3,'cd','canta',0,50),
10 (8,3,'dvd','vizual',0,100),
11 (9,3,'blue ray','vizual extrem',0,500);
```

The 'Columns' list on the right shows: id\_produș, id\_categ, nume, detalii, cant, pret. The 'Go' button is highlighted in the bottom right corner.

# Tabel produse

The screenshot shows the phpMyAdmin interface for a database named 'tmpaw'. The 'Table: produse' view is active, showing the table structure and data. The 'Structure' tab is selected, and the 'produse' table is highlighted in the left sidebar. The table contains 9 rows of data, including columns for 'id\_produs', 'id\_categ', 'nume', 'detalii', 'cant', and 'pret'.

Showing rows 0 - 8 (9 total, Query took 0.0003 seconds.)

```
SELECT * FROM `produse`
```

Profiling [ [Edit inline](#) ] [ [Edit](#) ] [ [Explain SQL](#) ] [ [Create PHP Code](#) ] [ [Refresh](#) ]

Show all | Number of rows: 25 | Filter rows: Search this table

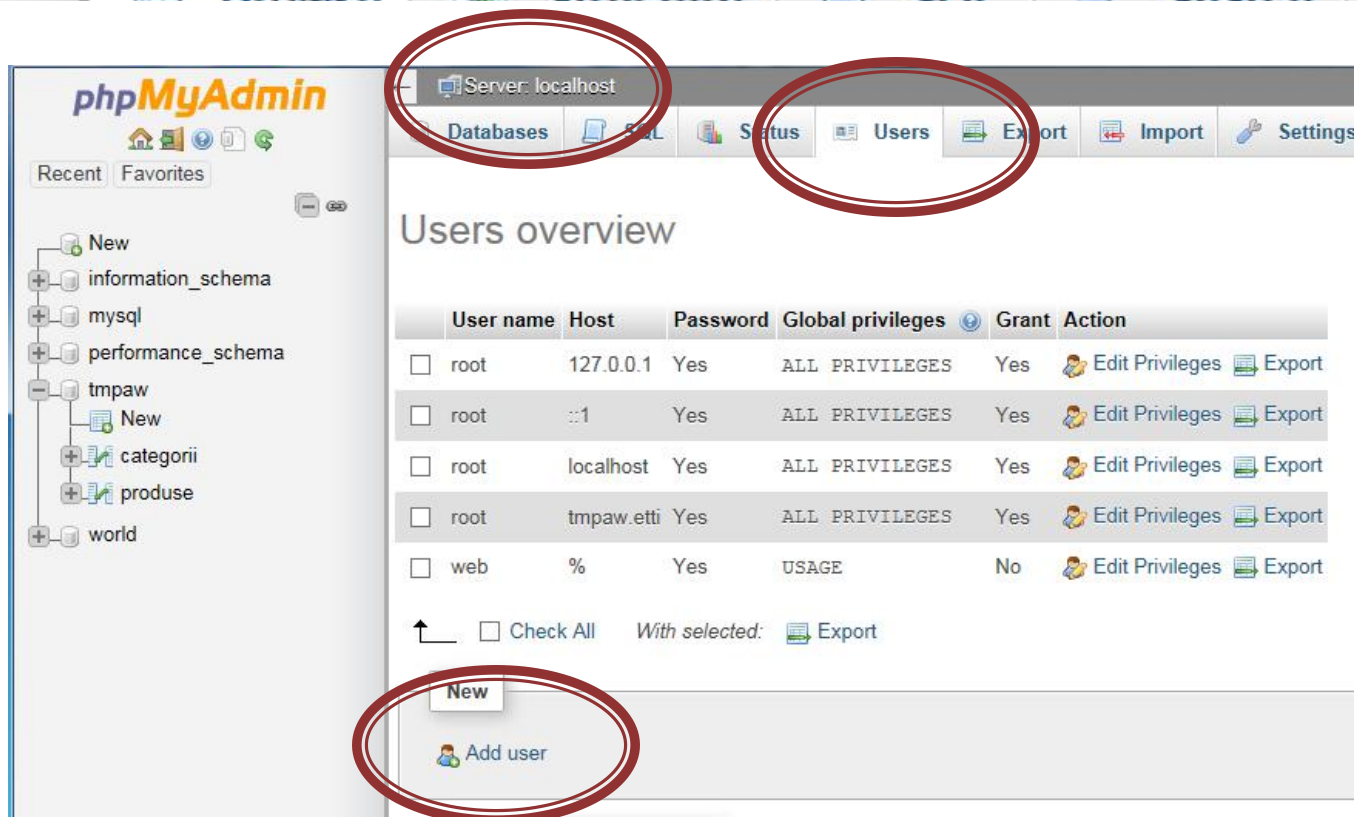
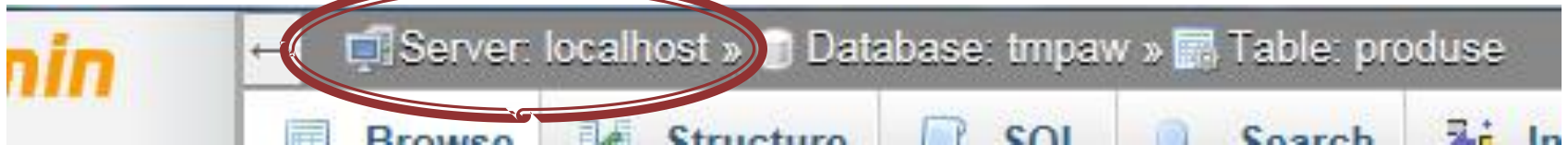
Sort by key: None

+ Options		id_produs	id_categ	nume	detalii	cant	pret
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	1	1	carte	mai multe pagini scrise legate	0	100
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	2	1	caiet	mai multe pagini goale legate	0	75
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	3	1	hartie scris	mai multe pagini goale NElegate	0	50
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	4	2	penar	loc de depozitat instrumente de scris	0	150
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	5	2	stilou	instrument de scris albastru	0	125
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	6	2	creion	instrument de scris gri	0	25
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	7	3	cd	canta	0	50
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	8	3	dvd	vizual	0	100
<input type="checkbox"/>	<a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	9	3	blue ray	vizual extrem	0	500

Check All | With selected: [Edit](#) [Delete](#) [Export](#)

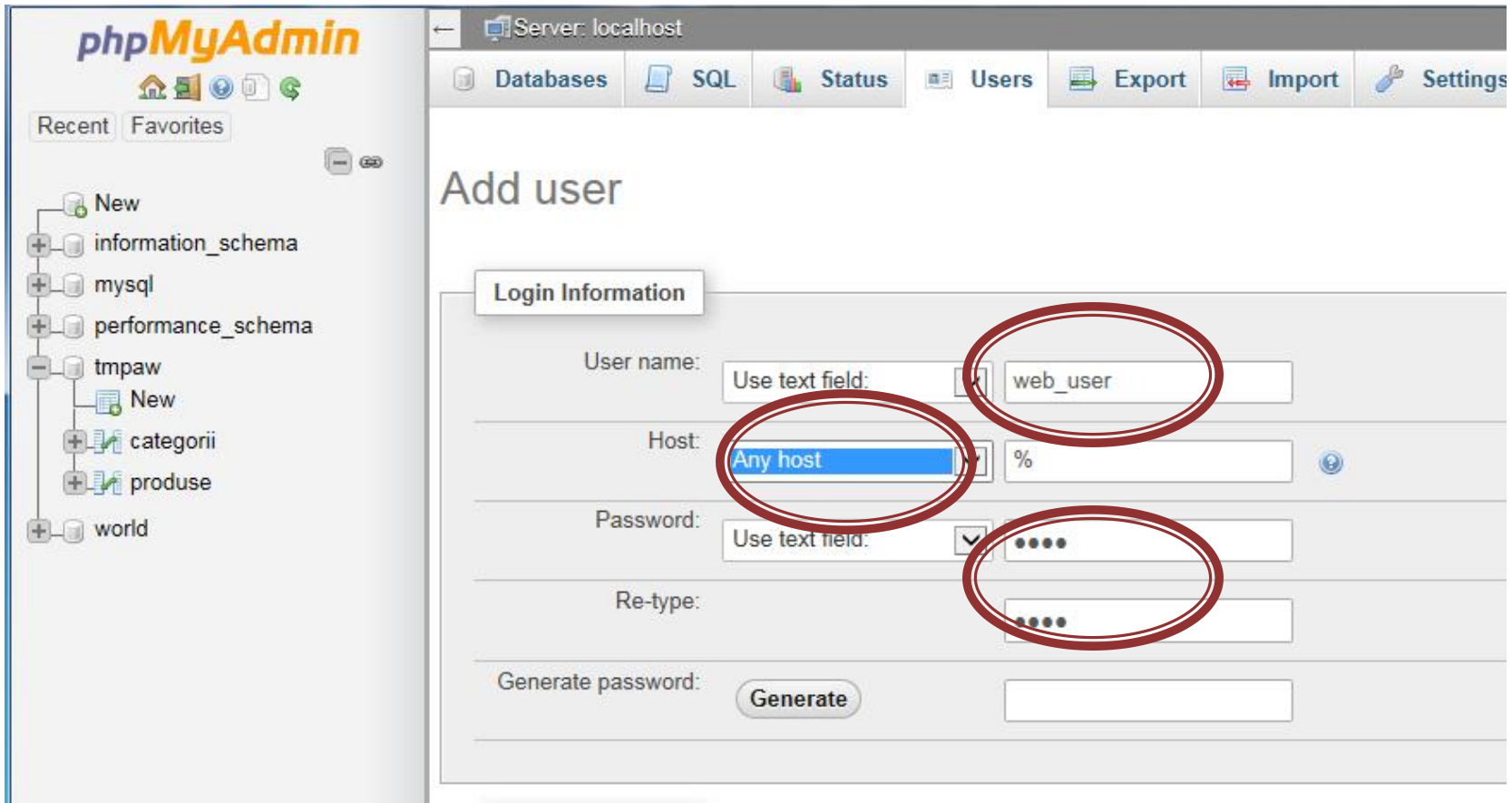
# Adaugare utilizator

- Server → Users → Add user



# Adaugare utilizator

- Nu e recomandabil/**posibil** sa se utilizeze user-ul MySql "root" pentru aplicatii



The screenshot shows the phpMyAdmin interface for adding a new user. The 'Login Information' section is visible, with the following fields:

- User name:  (highlighted with a red circle)
- Host:  (highlighted with a red circle)
- Password:  (highlighted with a red circle)
- Re-type:  (highlighted with a red circle)

The 'Generate password' section is also visible, with a 'Generate' button and an empty text field.

# Drepturi de acces

- Server → Users → Edit Privileges

The screenshot shows the phpMyAdmin interface for 'Server: localhost'. The 'Users overview' page is displayed, showing a table of users and their privileges. The 'Server: localhost' breadcrumb and the 'Users' menu item are circled in red. The 'web\_user' user's 'Edit Privileges' link is also circled in red.

	User name	Host	Password	Global privileges	Grant	Action
<input type="checkbox"/>	root	127.0.0.1	Yes	ALL PRIVILEGES	Yes	<a href="#">Edit Privileges</a> <a href="#">Export</a>
<input type="checkbox"/>	root	:::1	Yes	ALL PRIVILEGES	Yes	<a href="#">Edit Privileges</a> <a href="#">Export</a>
<input type="checkbox"/>	root	localhost	Yes	ALL PRIVILEGES	Yes	<a href="#">Edit Privileges</a> <a href="#">Export</a>
<input type="checkbox"/>	root	tmpaw.etti	Yes	ALL PRIVILEGES	Yes	<a href="#">Edit Privileges</a> <a href="#">Export</a>
<input type="checkbox"/>	web	%	Yes	USAGE	No	<a href="#">Edit Privileges</a> <a href="#">Export</a>
<input type="checkbox"/>	web_user	%	Yes	USAGE	No	<a href="#">Edit Privileges</a> <a href="#">Export</a>



# Drepturi de acces

- Database → nume → Go

The screenshot shows the phpMyAdmin interface for a MySQL server on localhost. The 'Database' tab is selected in the navigation menu. The main content area displays the 'Edit Privileges: User 'web\_user'@'%' page. Under the 'Database-specific privileges' section, there is a table with the following structure:

Database	Privileges	Grant	Table-specific privileges	Action
None				
mysql				
tmpaw				
world				

Below the table, there is a text input field labeled 'Add privileges on the following database(s):' with a dropdown menu containing the selected databases: mysql, tmpaw, and world.

# Drepturi de acces

- Se aloca drepturile SELECT + INSERT + UPDATE + DELETE asupra bazei de date create

The screenshot shows the phpMyAdmin interface for editing privileges. The user 'web\_user'@'%' is selected for the database 'tmpaw'. The 'Data' section is checked, indicating that SELECT, INSERT, UPDATE, and DELETE privileges are granted. The 'Structure' and 'Administration' sections are unchecked.

Server: localhost

Databases SQL Status Users Export Import Settings Replicati

Database Table

Edit Privileges: User **'web\_user'@'%'** - Database **tmpaw**

Database-specific privileges  Check All

Note: MySQL privilege names are expressed in English.

Data	Structure	Administration
<input checked="" type="checkbox"/> SELECT	<input type="checkbox"/> CREATE	<input type="checkbox"/> GRANT
<input checked="" type="checkbox"/> INSERT	<input type="checkbox"/> ALTER	<input type="checkbox"/> LOCK TABLES
<input checked="" type="checkbox"/> UPDATE	<input type="checkbox"/> INDEX	<input type="checkbox"/> REFERENCES
<input checked="" type="checkbox"/> DELETE	<input type="checkbox"/> DROP	
	<input type="checkbox"/> CREATE TEMPORARY TABLES	
	<input type="checkbox"/> SHOW VIEW	

# Drepturi de acces, verificare

- Nume → Privileges
- Marea majoritate a aplicatiilor **nu** au nevoie de drepturi de acces la structura/administrare

Server: localhost » Database: tmpaw

Structure SQL Search Query Export Import Operations **Privileges** Routing

Users having access to "tmpaw"

User	Host	Type	Privileges	Grant	Action	
<input type="checkbox"/>	root	127.0.0.1	global	ALL PRIVILEGES	Yes	Edit Privileges
<input type="checkbox"/>	root	:::1	global	ALL PRIVILEGES	Yes	Edit Privileges
<input type="checkbox"/>	root	localhost	global	ALL PRIVILEGES	Yes	Edit Privileges
<input type="checkbox"/>	root	tmpaw.etti	global	ALL PRIVILEGES	Yes	Edit Privileges
<input type="checkbox"/>	web_user	%	database-specific	SELECT, INSERT, UPDATE, DELETE	No	Edit Privileges

Check All With selected: Export

# Index

- Adaugare index e esentiala pentru viteza
  - exemplu, produse grupate pe categorii, selectia produselor dintr-o categorie se face cu :
    - `SELECT * FROM `produse` WHERE `id_categ` = 1`
- Tabel → Structure → Index / Selectare + Index

The screenshot shows the phpMyAdmin interface for a database named 'tmpaw'. The 'Table: produse' structure is displayed. The table has six columns: id\_produs, id\_categ, nume, detalii, cant, and pret. The 'id\_categ' column is highlighted with a green circle, and the 'Index' button for this column is circled in red. The 'Structure' tab is also circled in red. The 'produse' table is selected in the left sidebar, also circled in red. The 'Index' button at the bottom of the interface is circled in green.





#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id_produs	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial Fulltext Distinct values
2	id_categ	int(11)			No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
3	nume	varchar(45)	utf8_general_ci		No			Change Drop Primary Unique Index Spatial Fulltext Distinct values
4	detalii	varchar(150)	utf8_general_ci		Yes	NULL		Change Drop Primary Unique Index Spatial Fulltext Distinct values
5	cant	int(11)			Yes	NULL		Change Drop Primary Unique Index Spatial Fulltext Distinct values
6	pret	float			Yes	NULL		Change Drop Primary Unique Index Spatial Fulltext Distinct values

# Verificare/Stergere index

- Apasare +Indexes, se deschide lista de indecsi
- Apasare -Indexes, se inchide lista de indecsi

- Indexes

Indexes ⓘ

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
 Edit  Drop PRIMARY		BTREE	Yes	No	id_produ	9	A	No	
 Edit  Drop id_categ		BTREE	No	No	id_categ	9	A	No	

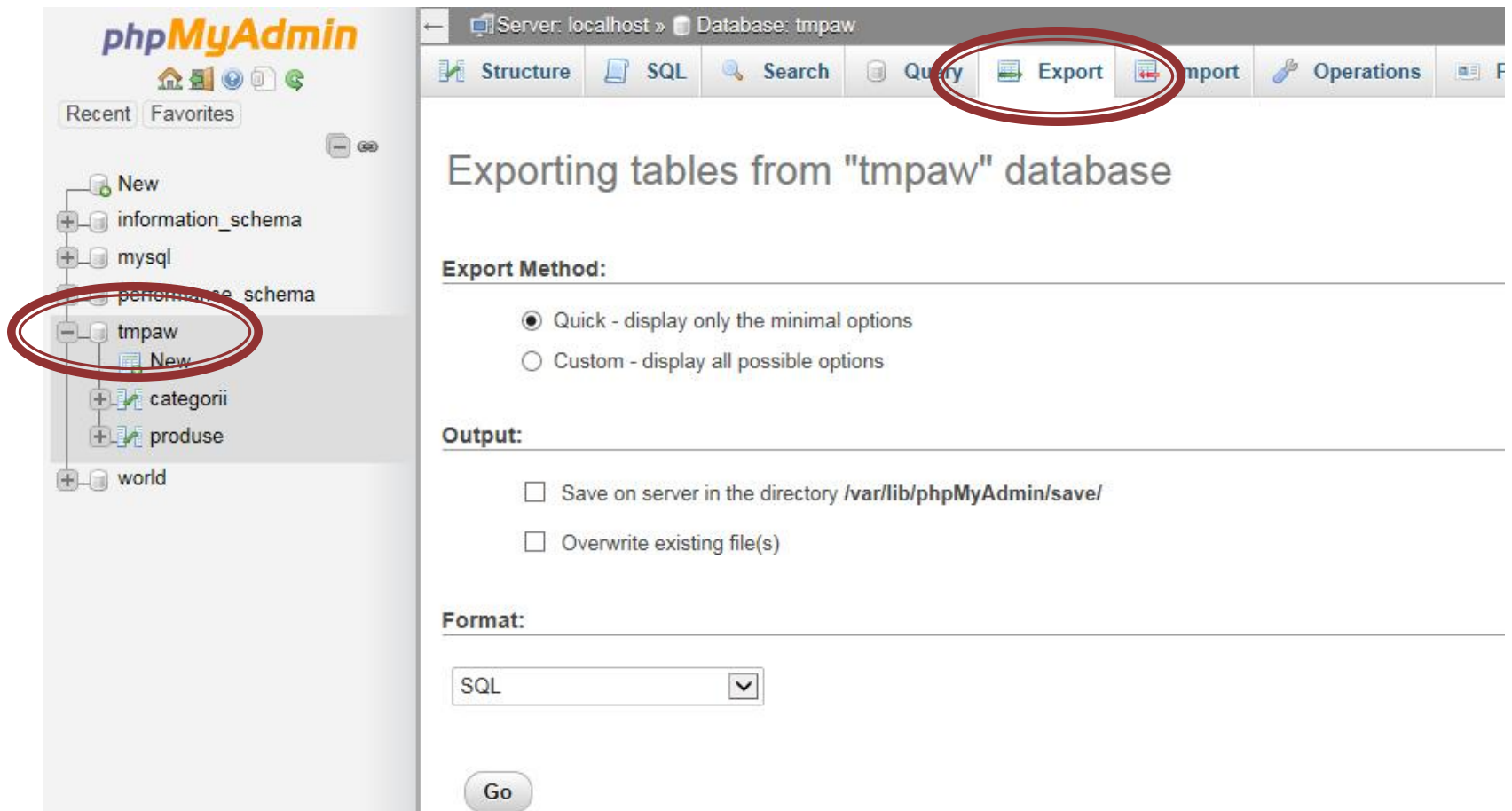
Create an index on  columns

# Backup, Restore

- Ca și în cazul Windows 2000 facilitatea de Backup realizează un script SQL care conține structura și datele exprimate sub forma de interogări SQL
- O deosebire între PhpMyAdmin și aplicațiile specifice MySQL (aceleși de pe Windows 2000 sau MySQL Workbench) este absența liniilor de creare a bazei de date
  - CREATE DATABASE IF NOT EXISTS tmpaw;
  - USE tmpaw;
- La utilizarea PhpMyAdmin trebuie să se creeze manual înaintea restaurării baza de date

# Backup

- Nume (tabel sau baza de date) → Export



The screenshot displays the phpMyAdmin interface for a database named 'tmpaw' on a localhost server. The left sidebar shows a tree view of databases, with 'tmpaw' selected and circled in red. The main panel shows the 'Export' tab selected in the top navigation bar, also circled in red. The 'Export Method' section has 'Quick' selected. The 'Output' section has 'Save on server in the directory /var/lib/phpMyAdmin/save/' selected. The 'Format' section has 'SQL' selected. A 'Go' button is at the bottom.

Server: localhost » Database: tmpaw

Structure SQL Search Query **Export** Import Operations F

## Exporting tables from "tmpaw" database

**Export Method:**

- Quick - display only the minimal options
- Custom - display all possible options

**Output:**

- Save on server in the directory `/var/lib/phpMyAdmin/save/`
- Overwrite existing file(s)

**Format:**

SQL

Go

# Restore

- Se creaza in avans baza de date
- Nume → Import → Browse (alegere fisier backup)
- fisierele SQL pot fi compresate gzip, bzip2, zip

The screenshot displays the phpMyAdmin web interface. On the left sidebar, the database 'tmpaw' is selected and circled in red. The main content area shows the 'Import' page for the 'tmpaw' database. The 'Import' button in the top navigation bar is also circled in red. The 'File to Import:' section includes a text input field, a 'Browse...' button (circled in red), and a 'Max: 2048KiB' label. Below this, there are radio buttons for 'Browse your computer' and 'Select from the web server upload directory'. The 'Character set of the file:' dropdown is set to 'utf-8'. The 'Partial Import:' section has a checked checkbox for 'Allow the interruption of an import...' and a text input field for 'Skip this number of queries...' set to '0'.



# Indicatii examinare

# Teme de proiect

- La toate temele **1p** din nota este obtinut de indeplinirea functionalitatii cerute.
- La toate temele forma paginii prezinta importanta (dependentă de dificultatea temei)

# PROIECT (final)

- Tema de nota **7 (>6)**
  - Tema unica pentru fiecare student
  - Baza de date cu care se lucreaza contine minim 20 de inregistrari in tabelul cel mai "voluminos"
- Tema de nota **8 (>6)**
  - Conditiiile de la tema de nota 7 **si in plus**
  - Necesitatea conlucrarii intre 2 studenti cu doua teme "pereche"
  - Se accepta ca un student sa realizeze ambele puncte
  - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **4 = 2 X 2**
  - Baza de date cu care se lucreaza contine minim 40 de inregistrari in tabelul cel mai "voluminos"

# PROIECT (final)

- Tema de nota **9 (>5)**
  - Condițiile de la tema de nota 8 **si in plus**
  - Necesitatea conlucrării între 2 studenti cu teme "pereche"
  - Tema se preda/trimite cu macar 1 zi înainte de susținerea ei
  - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **6 = 3 X 2**
  - Baza de date cu care se lucreaza sa contina minim 100 de inregistrari in tabelul cel mai "voluminos".

# PROIECT (final)

- Tema de nota **10 (>5)**
  - Condițiile de la tema de nota 9 **si in plus**
  - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **8 = 4 X 2**
  - Baza de date cu care se lucreaza contine minim **300** de inregistrari in tabelul cel mai "voluminos"
  - Necesitatea investigarii posibilitatilor de **imbunatatire** a aplicatiei si adaugarii de functionalitate
  - nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota minima a colegilor din echipa

# PROIECT (final)

- proiectul se sustine individual (oral si practic)
- grila de notare la proiect schimbata fata de anii precedenti
- fiecare membru al unei echipe (la temele de nota 9 si 10) trebuie sa sustina in aceeasi zi proiectul
- nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota medie a colegilor din echipa (numai la temele de 10 si 10+)
  - $N-\min(E)=1 \rightarrow -0.5 p$
  - $N-\min(E)=2 \rightarrow -0.5 p$
  - $N-\min(E)=3 \rightarrow -1 p$

# PROIECT (final)

- In caz de necesitate, pentru completarea echipei cadrul didactic poate fi membru al echipelor (9/10/10+). Conditii:
  - metoda de comunicare in echipa sa fie prin email sau direct
  - latentă de raspuns: ~ 1 zi
  - reactiv
  - nota implicita 10 ( 😊 )
  - nu lucreaza noaptea, si in special nu in noaptea dinaintea predarii ( 😊 )
- dezavantaj asumat: "spion" in echipa

# PROIECT (final)

- Tema de nota **10+** (>5, in general **offline**)
  - Conditiiile de la tema de nota 10 **si in plus**
  - Baza de date cu care se lucreaza contine minim **500** de inregistrari in tabelul cel mai "voluminos«
  - Numar **minim** de pagini dinamice (php+mysql) in aplicatie **15 = 5 X 3**
  - Tema care face apel la controlul **sesiunii** client/server
  - Necesitatea utilizarii **Javascript** in **aplicatie** (aplicatie libera dar cu efect tehnic nu estetic)
  - Forma paginii trebuie sa respecte cerintele "F shape pattern"
  - Facilitati in ceea ce priveste prezenta la laborator (**DACA** toate celelalte conditii sunt indeplinite – P = **66%**, L = **0%**, E = **33%**)

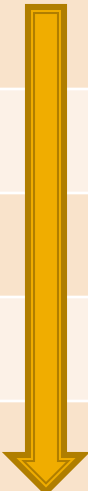


# Notare < 2016

- 1p – functionalitate
  - cadrul didactic va incerca sa foloseasca aplicatia respectiva. Daca "pe dinafara e vopsit gardul" se obtine 1p
- 1p – mutarea site-ului (restaurare backup + setare server) pe un server de referinta
  - server-ul de referinta va fi masina virtuala utilizata la laborator (inclusiv aplicatiile cu pricina)
  - sa va pregatiti pentru situatia in care pe acel server exista si alte baze de date care nu trebuie distruse
  - fiecare student isi pune sursele in directorul propriu, in radacina server-ului. Daca tema depinde de anumite fisiere ale colegului, le cereti inainte
- 1p – cunoasterea codului
  - raspunsul la intrebari de genul: "unde ai facut aceasta"
- Teme "de nota 10"
  - 1p – initiativa. Investigarea posibilitatilor de imbunatatire
  - 1p – intrebari legate de cooperarea cu colegul de echipa
  - 1p – explicatii relativ la functionarea unei anumite secvente de cod

# Notare 2016

- numar de pagini dinamice ✓
- numar de inregistrari in baza de date ✓
  - se verifica indeplinirea conditiilor corespunzatoare si se realizeaza **de-clasificarea** temei pana cand **ambele** conditii sunt indeplinite

Tema de nota ...	Pagini	Inregistrari
 10+	$15 = 5 \times 3$	500
10	$8 = 4 \times 2$	300
9	$6 = 3 \times 2$	100
8	$4 = 2 \times 2$	40
7	$1 = 1 \times 1$	20

# Notare 2016

- 1p – functionalitate
- 1p – mutarea **personală** a site-ului (restaurare backup + setare server) pe un server de referință
  - server-ul de referință va fi mașina virtuală **Centos 7.1** utilizată la laborator (inclusiv aplicațiile cu pricina)
  - să vă pregătiți pentru situația în care pe acel server există și alte baze de date care **nu** trebuie distruse
  - fiecare student își pune sursele în directorul propriu, în rădăcina server-ului. Dacă tema depinde de anumite fișiere ale colegului, le cereți înainte
- 1p – cunoașterea codului
  - răspunsul la întrebări de genul: “unde ai făcut aceasta”
- Teme “de nota 10,10+”
  - inițiativă. Investigarea posibilităților de îmbunătățire
  - întrebări legate de cooperarea cu colegul de echipă
  - explicații relativ la funcționarea unei anumite secvențe de cod
  - utilizare sesiune, Javascript, F shape pattern

# Examen

- probleme
- fiecare student are subiect propriu
- toate materialele permise
- tehnica de calcul **nu** este necesara dar este permisa

# Examen

- Oricare din temele de proiect (sau asemenea) poate constitui una din problemele de examen
  - se va cere realizarea planului / structurii logice a aplicatiei (C9, S13-14)
- Se poate cere scrierea unui cod pentru realizarea anumitor operatii, fara necesitatea corectitudinii tehnice absolute (";", nume corect al functiilor, parametri functie etc.)
- Se poate cere interpretarea unui cod php/MySql cu identificarea efectului

# Contact

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