

Curs 9

2023/2024

Programarea aplicațiilor web

- Programarea aplicațiilor web
 - An V RC
 - 1.5C/1L/1P

Program

- An V
 - Saptamana 1
 - Luni 17-20 Curs (Intro/HTML/CSS)
 - Saptamanile 2-8
 - Luni 16:30-18 Curs
 - Luni 18-20 Laborator
 - Saptamanile 9-14
 - Luni 16:30-18 Curs
 - Luni 18-20 Proiect

Orar

- <https://orar.etti.tuiasi.ro/> : C->16:30-18, L/P -> 18

Group: Professor: Classroom:



FACULTATEA DE ELECTRONICA, TELECOMUNICATII SI TEHNOLOGIA INFORMATIEI
55RC
ETTL

	1 8:00 - 8:50	2 9:00 - 9:50	3 10:00 - 10:50	4 11:00 - 11:50	5 12:00 - 12:50	6 13:00 - 13:50	7 14:00 - 14:50	8 15:00 - 15:50	9 16:00 - 16:50	10 17:00 - 17:50	11 18:00 - 18:50	12 19:00 - 19:50
L										PAW (C) Damian R. 2.13 TC (R)		
Ma								RCALSC (C) Scripcariu L. 2.13 TC (R)			RCALSC (L) Scripcariu L. 2.13 TC (R)	
Mi								POO (C) Sirbu A. P8 (Amf.)			TEFO (L) Trifina L. 3.25 TTI (L)	
J						Etic (C) Casian-Bo tez I. Online	Etic (S) Casian-Bo tez I. Online				TEFO (L) Trifina L. 3.25 TTI (L)	
V								TEFO (C) Trifina L. P8 (Amf.)				
Sa												

Nota

- An V
 - 33% E
 - 66% Aplicatii
 - 33% L
 - 33% P

Site



Microwave and Optoelectronics Laboratory

We are enlisted in the Telecommunications Department of the Electronics, Telecommunication and Information Technology Faculty (ETTI) from the "Gh. Asachi" Technical University (TUJIASI) in Iasi, Romania

We currently cover inside ETTI the fields related to:

- Microwave Circuits and Devices
- Optoelectronics
- Information Technology

Courses

Nr.	Course	Shortcut	Code	Type	Semester	Credits	Weekly	Examination	Link
1	Microwave Devices and Circuits for Radiocommunications	DCMR	DOS412T	DOS	7	4	0P,1L,0S,2C	Exam	details
2	Monolithic Microwave Integrated Circuits	CIMM	RD.IA.207	DOMS	11	6	1.5L,0S,2C,0P	Exam	details
3	Advanced Techniques in the Design of the Radio-communications Systems	TAPSR	RD.IA.103	DIMS	9	6	1.5P,0L,0S,2C	Exam	details
4	Optical Communications	CO	DOS409T	DOS	7	5	0P,1L,0S,3C	Colloquium	details
5	Optical Communications	OC	EDOS409T	DOS	7	5	0P,1L,0S,3C	Exam	details
6	Satellite Communications	CS	RC.IA.104	DIMS	9	6	0L,0S,2C,1.5P	Exam	details
7	Applied Informatics 1	IA1	DOF135	DOF	1	4	0P,1L,0S,2C	Verification	details
8	Applied Informatics 1	AI1	EDOF135	DOF	1	4	0P,1L,0S,2C	Verification	details
9	Databases, Web Programming and Interfacing	DWPI	ITT.IA.601	DIS	11	5	1P,1L,0.25S,1C	Verification	details
10	Web Applications Design	PAW	RC.IA.108	DIMS	10	5	1L,0S,1.5C,1P	Exam	details
11	Optoelectronics	OPTO	DID405M	DID	8	4	0P,1L,0S,2C	Colloquium	details
12	Microwave Devices and Circuits for Radiocommunications (English)	MDCR	EDOS412T	DOS	8	4	0P,1L,0S,2C	Exam	details



Server referinta LAMP 2024

- 3 variante acceptate
 - CentOS 7.1
 - Ubuntu 20.04
 - Debian 12.5

Tema bonus

- logfile.php
 - Afiseaza log Apache (erori php majore)
- **2p suplimentar** la laborator/examen
- Modificare logfile.php pentru a afisa **toate** erorile PHP
 - php.ini – activare erori
 - php.ini – locatie erori
 - logfile.php – afisare log PHP

Project

Proiect

- Teme in **echipa**: 2/3 membri
- Evaluare **individuala**
- Variabile ca dificultate (cu note diferite)

“Examen” Alocare teme proiect

- **Alocare teme**
 - tema aleasa (optiune principala) - **necesar**
 - nume coechipier - **necesar**
 - tema alternativa (rezerva 1)
 - tema alternativa (rezerva 2)
 - punctul ales (a/b) - **necesar**
- Primul venit, primul servit
 - **ambii** parteneri finalizeaza examenul

“Examen” Predare proiect

- Predare proiect
- Chiar daca unele fisiere sunt comune, **ambii** coechipieri trebuie sa finalizeze depunerea
- Predare 3 fisiere
 - un fișier ***.pdf/*.jpg** cu **planul aplicației**
 - un fișier ***.sql** cu backup-ul bazei de date de care are nevoie aplicația pentru a funcționa (**nr. linii!!**)
 - un fișier cu arhiva directorului conținând aplicația (fișiere *.php, *.jpg, structură de directoare etc., arhivate: ***.zip, *.7z** etc.) (**nr. pagini!!**)

Predare + Sustinere proiect

- Sustinere – sala II.13
 - 27.05.2024 ora 18
 - 10.06.2024 ora 18
 - 11.06.2024 ora 16
- Predare – examen online
 - limita pentru fisiere 10MB. Pentru date mai multe este prevazuta posibilitatea introducerii unui link spre un fisier in cloud
 - neprotejat
 - valid cel putin 5 zile

PROIECT (final)

- Tema de nota **8**
 - 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 **9**
 - Conditiiile de la tema de nota 8 **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 50 de inregistrari in tabelul cel mai "voluminos"

PROIECT (final)

- Tema de nota **10**
 - Condițiile de la tema de nota 9 **si in plus**
 - Necesitatea conlucrării între 2 studenti cu teme "pereche"
 - Tema se preda/trimite cu macar 1 zi înainte **sustinerii** 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+**
 - Condițiile de la tema de nota 10 **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 (**obligatoriu**)
 - nota individuala la proiect va depinde intr-o mica masura (in limita a 1p) de nota minima a colegilor din echipa
 - **+1p la nota de examen**

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 bonus (>5, in general **offline**)
 - Conditiiile de la tema de nota 10+ **si in plus:**
 - **3 studenti/CD**
 - 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 controlata dual prin CSS, desktop/phone
 - Facilitati in ceea ce priveste nota (**DACA** toate celelalte conditii sunt indeplinite), la alegere:
 - prezenta la laborator: N → P = **66%**, L = **0%**, E = 33%
 - **+2p la nota de examen**

PROIECT (final)

- proiectul se **sustine individual** (oral si practic)
- 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+)
 - $N-\min(E)=1 \rightarrow -0\text{ p}$
 - $N-\min(E)=2 \rightarrow -0.5\text{ p}$
 - $N-\min(E)=3 \rightarrow -1\text{ p}$

Notare proiect 2020/2021

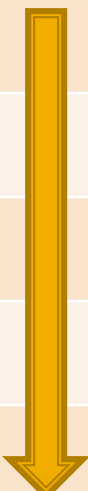
- 1p – functionalitate ✓
- 1p – aplicatia ruleaza pe server-ul CentOS/Ubuntu ✓
- numar de pagini dinamice ✓
- numar de inregistrari in baza de date ✓
- 1p – planul aplicatiei ✓
- 2p – prezentare in Teams a proiectului ✓

Notare 2024 (final)

- 1p – **functionalitate**
- 1p – mutarea **personala** a site-ului (restaurare backup + setare server) pe un server de referinta CentOS/Ubuntu/**Debian**
- 1p – cunoasterea **codului**
 - raspunsul la intrebari de genul: "unde ai facut aceasta", "ce face acest cod"
- 1p – **planul aplicatiei**
- Teme "de nota 10,10+"
 - Initiativa. Investigarea posibilitatilor de imbunatatire
 - Explicatii relativ la functionarea unei anumite secvente de cod
 - Utilizare sesiune, Javascript, **CSS media**

Notare 2024

- 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
 bonus	$15 = 5 \times 3$	500
10+	$8 = 4 \times 2$	300
10	$6 = 3 \times 2$	100
9	$4 = 2 \times 2$	50
8	$1 = 1 \times 1$	20

Exemplu

- 1. Galerie de imagini in care imaginile sunt ordonate dupa categorii.

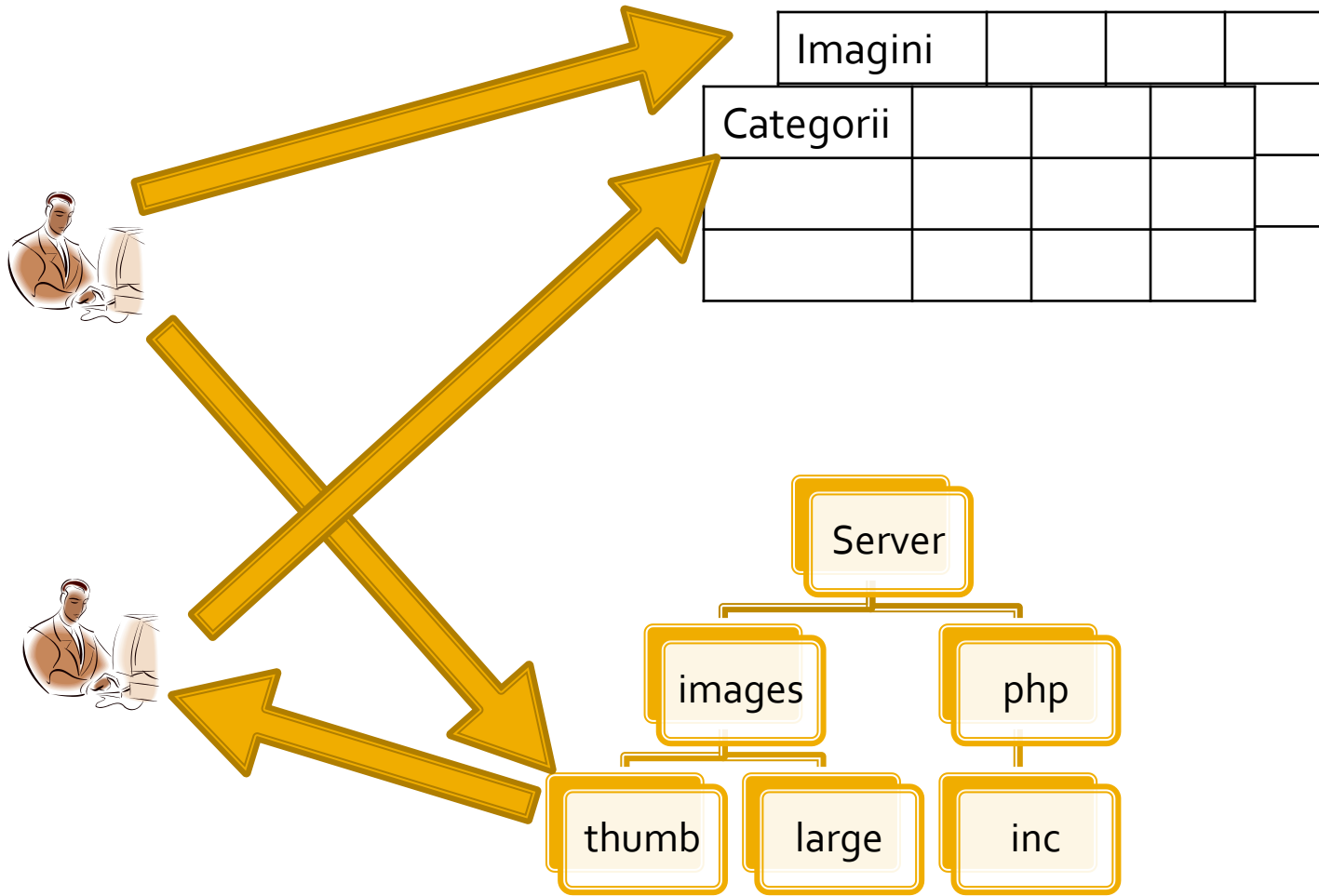


- a. aplicatia pentru adaugarea de categorii si afisare a imaginilor (cu alegerea prealabila a categoriei si afisarea listei de imagini format mic)



- b. aplicatia pentru adaugare de imaginilor (cu alegerea prealabila a categoriei si generarea prealabila a imaginii format mic)

Exemplu



Server referinta LAMP 2024

- 3 variante acceptate
 - CentOS 7.1
 - Ubuntu 20.04
 - Debian 12.5

Server referinta LAMP

- Centos 7.1
 - PHP 5.4.16
 - MariaDB 5.5.44 / root:masterrc
 - Apache 2.4.6
 - PhpMyAdmin/4.4.15
 - **root**/student:masterrc
 - Python 2.7.5
 - creat: Workstation Player 12.x (**12**)

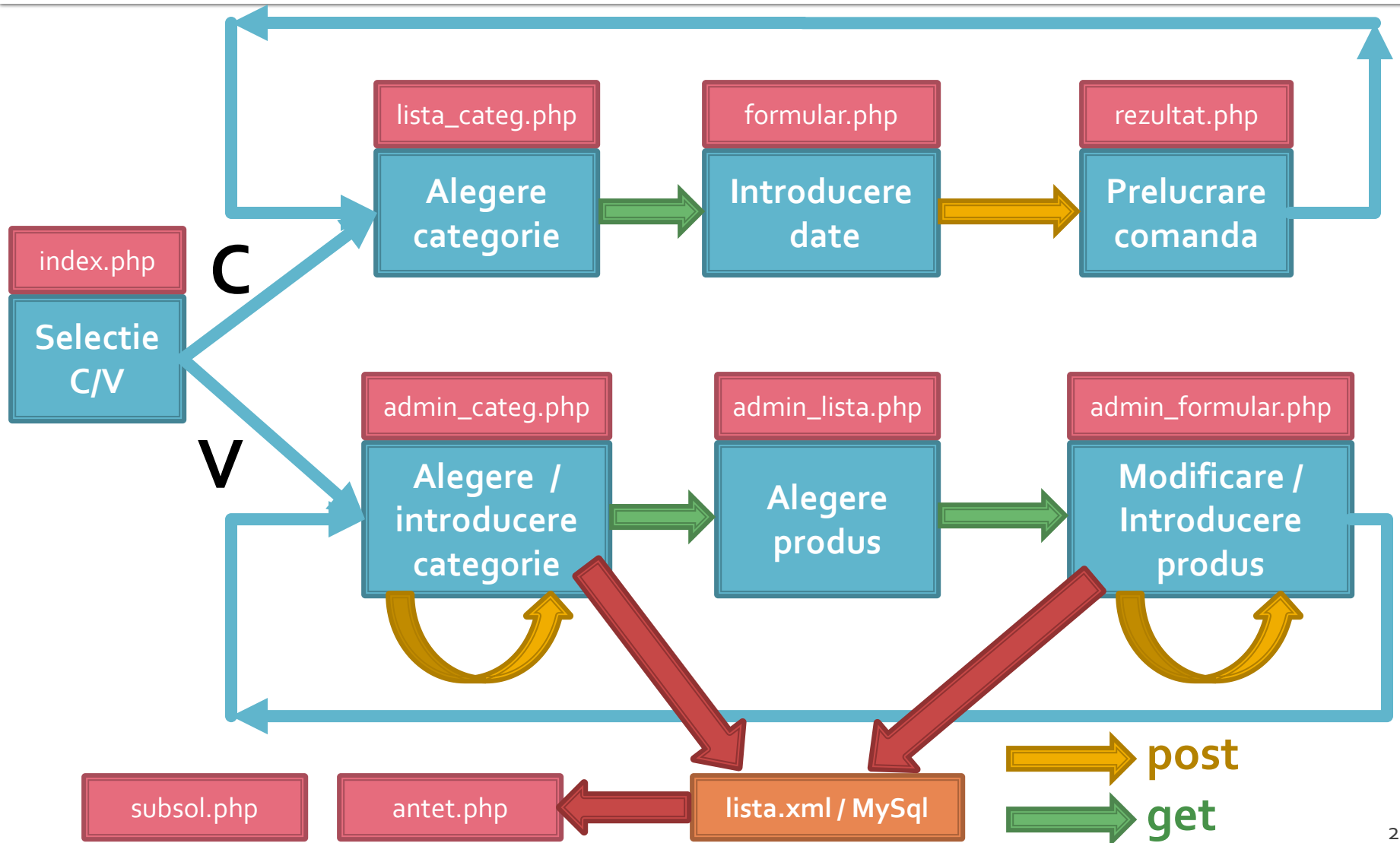
Server referinta LAMP

- Ubuntu 20.04
 - PHP 7.4.3
 - MariaDB 10.3.31 / root:masteretti
 - Apache 2.4.41
 - **paw/student:masteretti**
 - necesar suplimentar pentru **acces FTP user paw:**
 - sudo usermod -a -G upload paw
 - sudo chmod -R 775 /var/www
 - Python 3.8.10
 - creat: Workstation Player 15.x (**16**)

Server referinta LAMP

- Debian 12.5
 - PHP 8.2.7
 - MariaDB 10.11.6 / root:masteretti
 - Apache 2.4.57
 - PhpMyAdmin/5.2.1 deb
 - **root/paw/student:masteretti**
 - Python 3.11.2
 - creat: Workstation Player 17.5 (**21**)

Plan aplicatie



Examen

- **fizic**
- 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
- 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

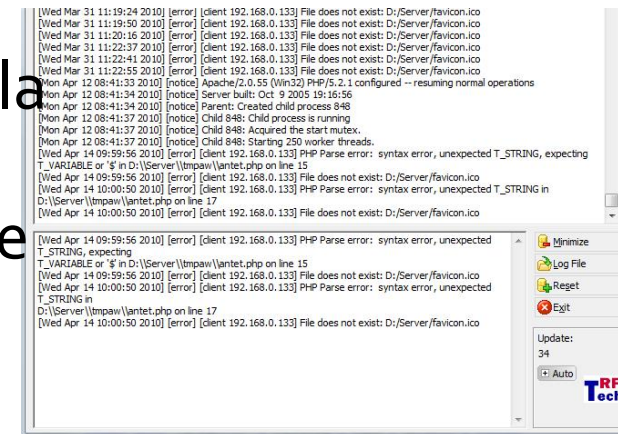
Aspecte practice recomandate in realizarea aplicatiilor web

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

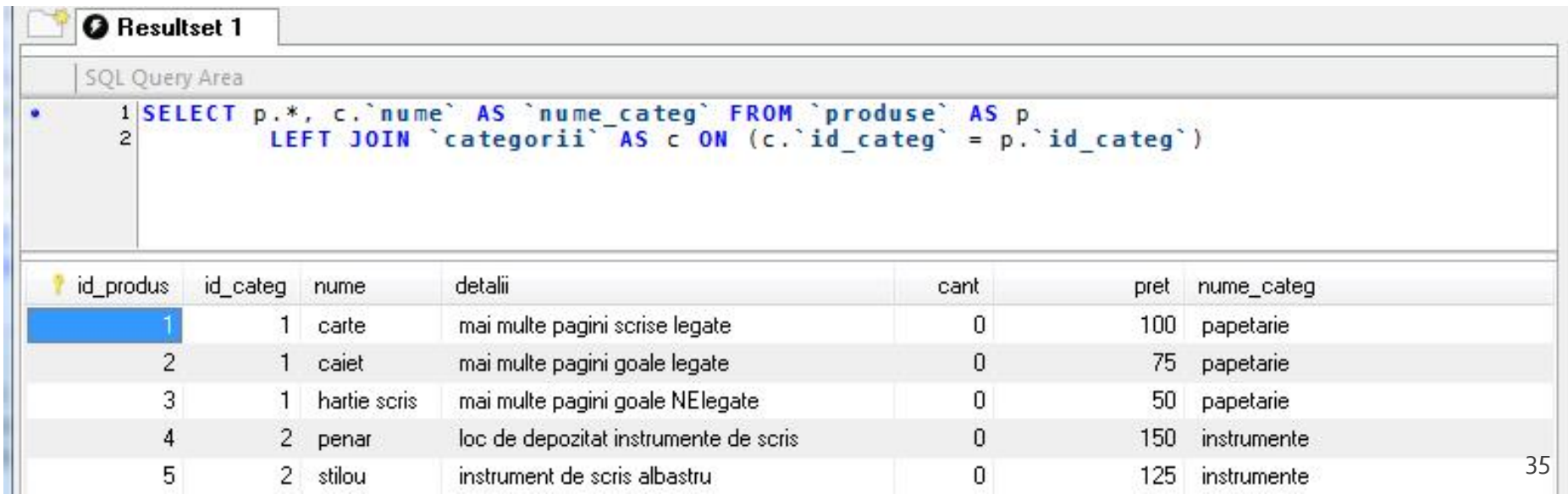
- Verificarea “log-ului” de erori al server-ului Apache ramane principala metoda de depanare a codului PHP.
 - W2000: Utilizarea aplicatiei prezentata la laborator este mai comoda datorita automatizarii dar orice alta varianta este utila
 - Centos/Ubuntu/Debian
 - putty → nano /var/log/httpd/error_log
 - <http://192.168.30.5/logfile.php> (nonstandard)
 - tema suplimentara (php.ini + log PHP **recomandat**)



The screenshot shows a web browser window displaying a log file. The log contains several entries, including errors and notices. The most prominent errors are 'File does not exist: D:\Server\favicon.ico' and 'PHP Parse error: syntax error, unexpected T_STRING, expecting T_VARIABLE or '\$' in D:\Server\Impaw\antet.php on line 15'. The browser interface includes standard navigation buttons (Minimize, Log File, Reset, Exit) and an update indicator showing 'Update: 34' and 'Auto'.

Metode de lucru recomandate 3

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



The screenshot shows the MySQL Workbench interface. At the top, there is a tab labeled "Resultset 1". Below it is the "SQL Query Area" containing the following SQL 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 of results is displayed. 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_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
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 5a

- La implementarea unei aplicatii noi (proiect)
 1. Imaginarea planului aplicatiei (ex: S56)
 - "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 5b

- 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 5c

- 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

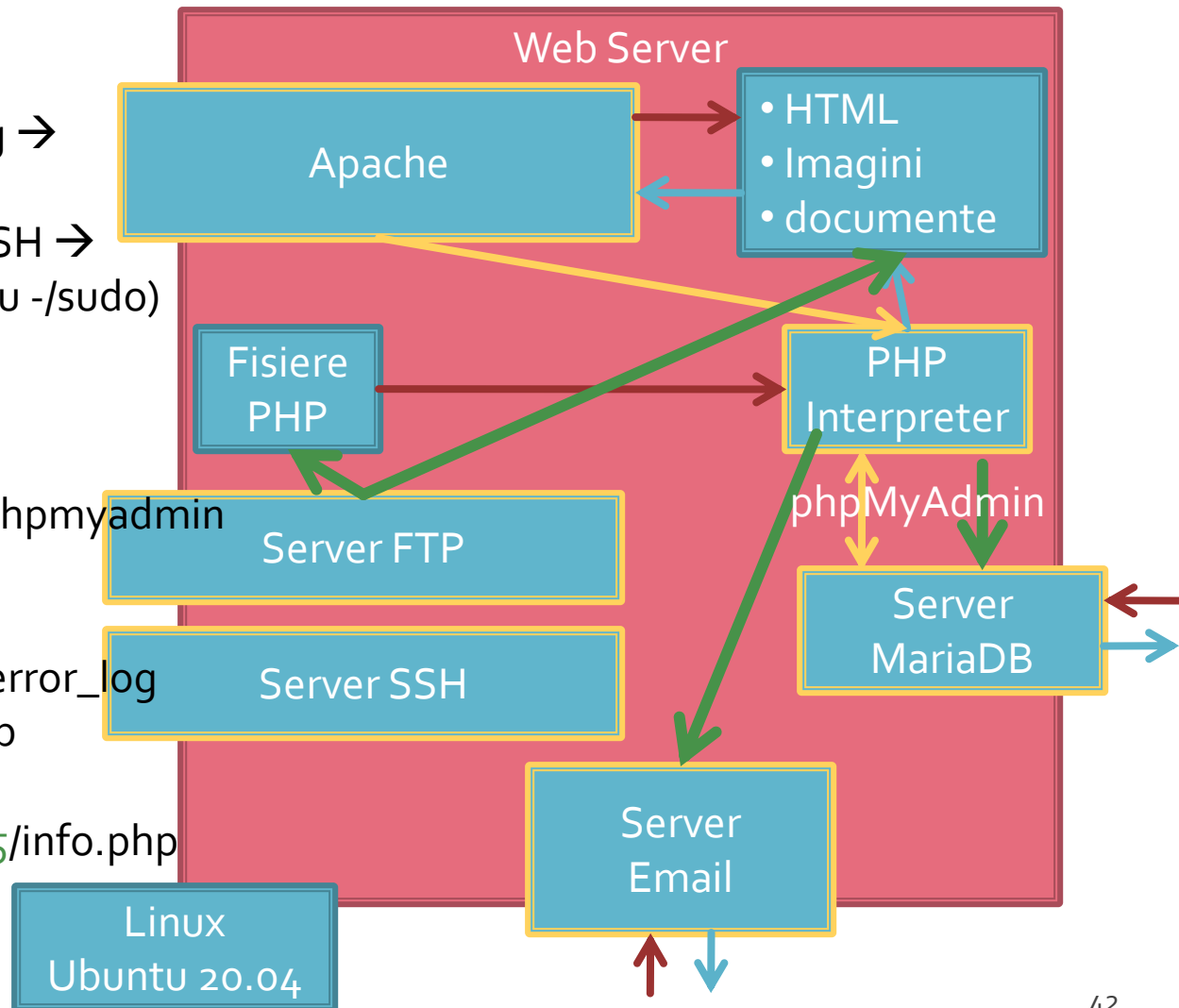
Faza de verificare/depanare

- Se recomanda utilizarea posibilitatii vizualizarii matricilor
 - In fisierul care receptioneaza datele
 - temporar pina la definitivarea codului
- utilizarea de cod "verbose" (manual) in etapele initiale de scriere a surselor PHP poate fi extinsa si la alte tipuri de date
 - singura (aproape) metoda de depanare(debug) in PHP
 - `<p>temp <?php echo "a=";echo $a; ?> </p>`

```
echo "<pre>";  
print_r($_POST);  
echo "</pre>";
```

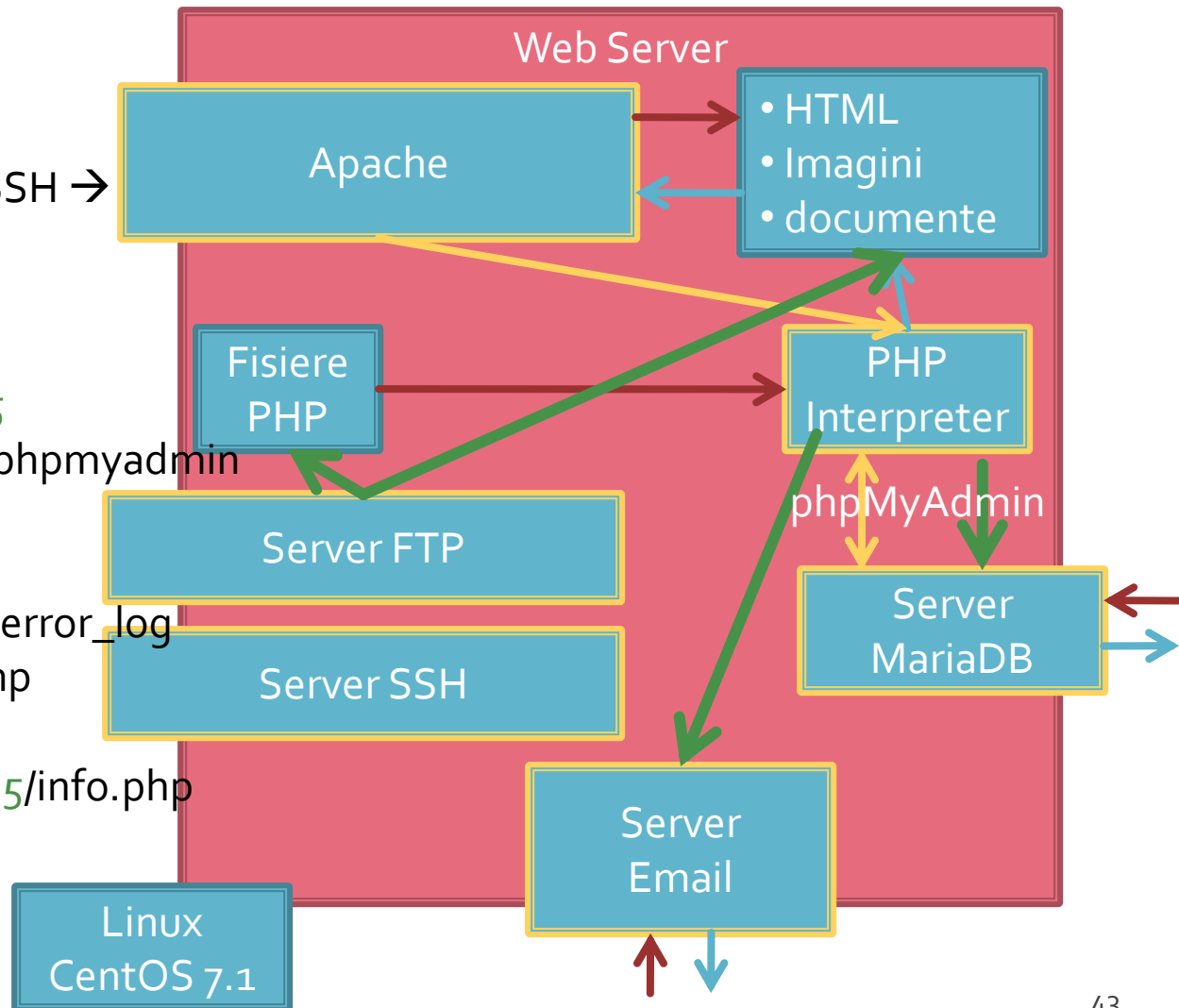
Utilizzare LAMP Ubuntu/Debian

1. login → **paw**:masteretti
2. (su - + **root**:masteretti) ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → **paw**:masteretti (remote login + su -/sudo)
4. [alte comenzi linux dorite]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → **root**:masteretti
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



Utilizare LAMP CentOS

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 → Winscp → 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



Client / Server

```
<input name="nume" ....>
```

```
echo $_POST['nume']; //ceva  
echo $_GET['nume']; //ceva  
echo $_REQUEST['nume']; //ceva
```

ceva

Trimite

get
post

Interpretor PHP primeste
\$_POST
\$_GET
\$_REQUEST

Depanare

```
echo "<pre>";  
print_r($_POST);  
echo "</pre>";
```

```
<p>temp <?php echo  
"a=";echo $a; ?> </p>
```

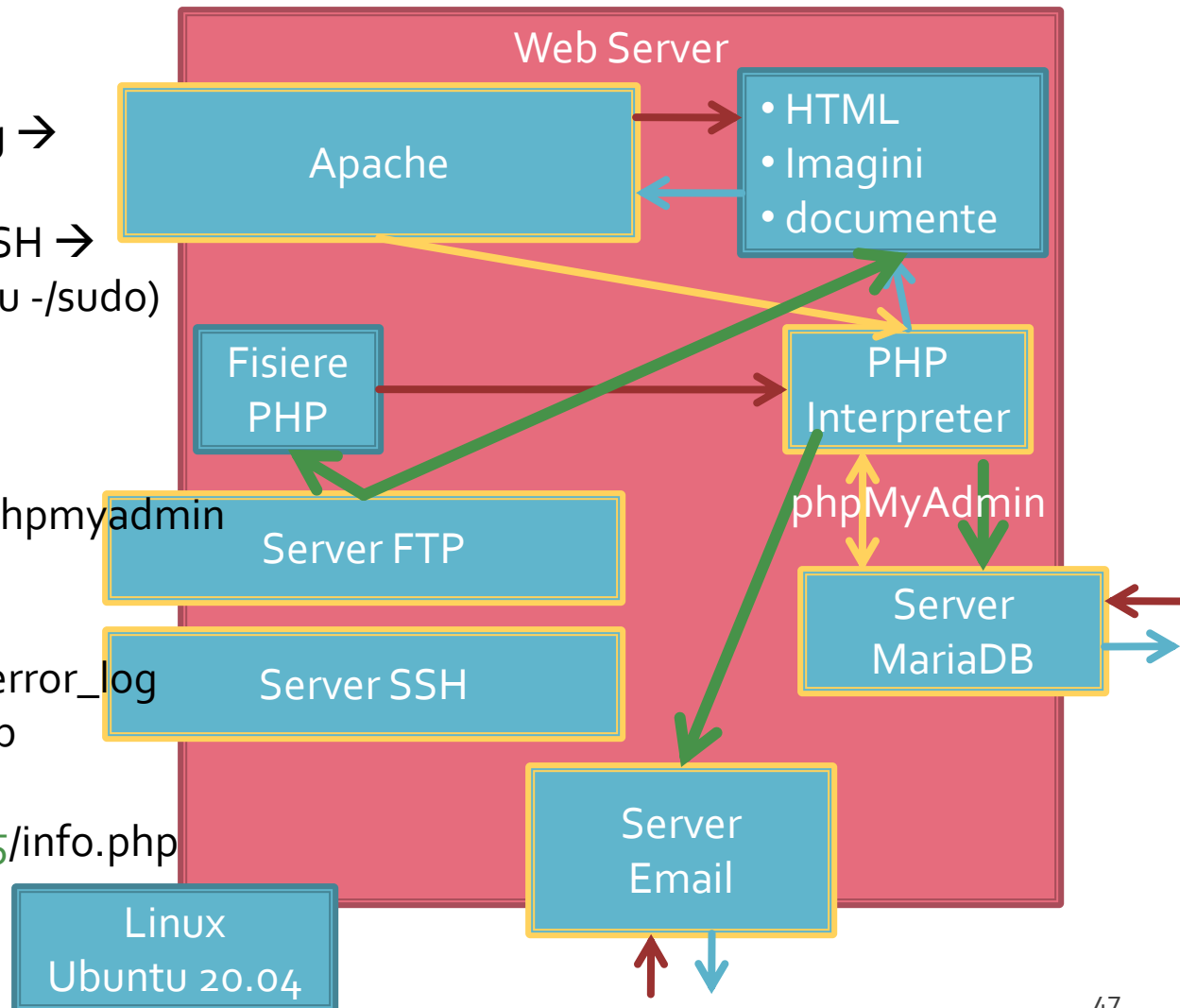
MySql – Server Ubuntu/Debian

Mini – Indrumar practic

Lucru cu bazele de date

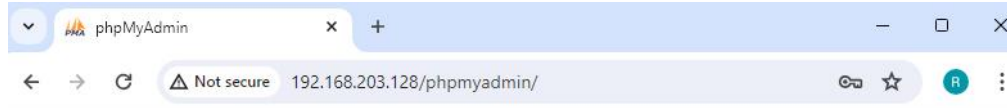
Utilizzare LAMP Ubuntu/Debian

1. login → **paw**:masteretti
2. (su - + **root**:masteretti) ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → **paw**:masteretti (remote login + su -/sudo)
4. [alte comenzi linux dorite]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → **root**:masteretti
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** (masteretti)




Welcome to phpMyAdmin

Language

English

Log in

Username: root

Password:

Log in

PhpMyAdmin

The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows the URL `192.168.203.128/phpmyadmin/index.php?route=/&route=%2F`. The interface includes a top navigation bar with tabs for Databases, SQL, Status, User accounts, Export, Import, Settings, Replication, Variables, Charsets, and More. A left sidebar shows a tree view of databases: information_schema, mysql, performance_schema, phpmyadmin, sys, and world. The main content area is divided into several panels:

- General settings:** Includes a "Change password" link, a "Server connection collation" dropdown set to "utf8mb4_unicode_ci", and a "More settings" link.
- Appearance settings:** Includes a "Language" dropdown set to "English" and a "Theme" dropdown set to "pmahomme" with a "View all" button.
- Database server:** Lists server details:
 - Server: Localhost via UNIX socket
 - Server type: MariaDB
 - Server connection: SSL is not being used
 - Server version: 10.11.6-MariaDB-0+deb12u1 - Debian 12
 - Protocol version: 10
 - User: root@localhost
 - Server charset: UTF-8 Unicode (utf8mb4)
- Web server:** Lists web server details:
 - Apache/2.4.57 (Debian)
 - Database client version: libmysql - mysqlnd 8.2.7
 - PHP extension: mysqli, curl, mbstring, sodium
 - PHP version: 8.2.7
- phpMyAdmin:** Lists version and resource information:
 - Version information: 5.2.1deb1
 - Documentation
 - Official Homepage
 - Contribute
 - Get support
 - List of changes
 - License

Creare Baza de Date

- Databases → "nume" → Create

The screenshot shows the phpMyAdmin interface for creating a new database. The 'Databases' tab is selected and highlighted with a red circle. Below the navigation bar, the 'Create database' form is visible. The 'Name' field contains 'lab' and the 'Collation' field contains 'utf8mb4_general_ci', both highlighted with red circles. The 'Create' button is also highlighted with a red circle. Below the form, there is a table of existing databases.

Database	Collation	Action
<input type="checkbox"/> information_schema	utf8mb3_general_ci	Check privileges
<input type="checkbox"/> mysql	utf8mb4_general_ci	Check privileges
<input type="checkbox"/> performance_schema	utf8mb3_general_ci	Check privileges
<input type="checkbox"/> phpmyadmin	utf8mb4_general_ci	Check privileges
<input type="checkbox"/> sys	utf8mb3_general_ci	Check privileges
<input type="checkbox"/> world	utf8mb4_general_ci	Check privileges

Total: 6

Creare tabelle in baza de date

- Baza de date (in lista) → Structure → div Create new table → nume/coloane → Create

The screenshot shows the phpMyAdmin interface. The browser address bar indicates the URL: 192.168.203.128/phpmyadmin/index.php?route=/database/structure&db=lab. The interface is for the 'lab' database on 'localhost:3306'. The 'Structure' tab is selected, and a message states 'No tables found in database.' Below this, the 'Create new table' button is highlighted. The 'Table name' field contains 'categorii' and the 'Number of columns' field contains '3'. The 'Create' button is also highlighted. The left sidebar shows a tree view of databases, with 'lab' selected.

phpMyAdmin

Recent Favorites

Server: localhost:3306 Database: lab

Structure SQL Search Query Export Import

No tables found in database.

Create new table

Table name	Number of columns	
<input type="text" value="categorii"/>	<input type="text" value="3"/>	<input type="button" value="Create"/>

information_schema lab mysql performance_schema phpmyadmin sys

Introducere coloane, tabel categorii

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

The screenshot shows the phpMyAdmin interface for a database named 'lab'. The table 'categorii' is selected, and the 'Structure' tab is active. The table structure is displayed as follows:

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	Comments
d_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"/>

At the top of the interface, the 'Table name:' field contains 'categorii', and the 'Add' button is set to '1 column(s)'. The 'Storage Engine' is set to 'InnoDB'.

Introducere coloane

- (eventual) NOT NULL / Index / Auto Increment

Server: localhost:3306 » Database: lab

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking More

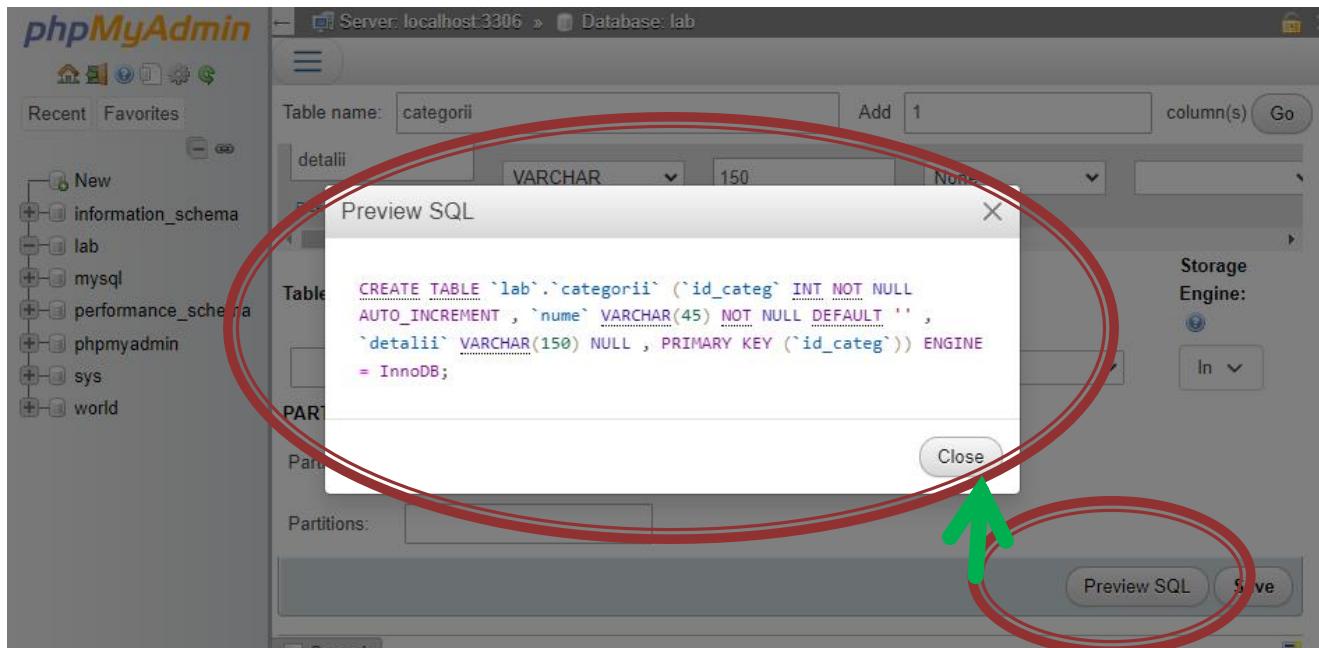
Table name: categorii Add 1 column(s) Go

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

Table comments: Collation: Storage Engine: InnoDB

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 adding columns to a table named 'produse'. The 'Table name' field is set to 'produse'. The 'Add' field is set to '1', 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 'id_produs' column is highlighted as the primary key.

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	Comments
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 shows the phpMyAdmin interface for the 'lab' database, specifically the 'categorii' table. The 'Insert' button is circled in red. The 'name' field is filled with 'papetarie' and circled in red. The 'Insert as new row' dropdown is circled in red. The 'Go' button is circled in red. The 'Continue insertion with' field is set to '1' and circled in red.

Column	Type	Function	Null	value
id_categ	int(11)			
nume	varchar(45)			papetarie
detalii	varchar(150)		<input checked="" type="checkbox"/>	

Insert as new row and then Insert another new row

Continue insertion with 1 rows

Vizualizare date existente

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

The screenshot shows the phpMyAdmin interface for a database named 'lab'. The table 'categoriasii' is selected. The 'Browse' button is circled in red. The table name 'categoriasii' in the left sidebar is also circled in red. The table data is displayed as follows:

	id_categ	nume	descriere
<input type="checkbox"/>	1	papetarie	NULL
<input type="checkbox"/>	2	instrumente	NULL
<input type="checkbox"/>	3	audio-video	NULL

The 'id_categ' column header is circled in red. The table data is also circled in red.

Introducere date initiale (SQL)

- Tabel → SQL → completare → Go

The screenshot shows the phpMyAdmin interface for a database named 'lab' and a table named 'produse'. The 'SQL' tab is selected, and an SQL query is entered in the main text area. The query is an INSERT statement with 10 rows of data. The 'Go' button at the bottom right is highlighted with a red circle. The 'produse' table is also highlighted in the left sidebar.

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

Tabel produse

The screenshot shows the phpMyAdmin interface for a MySQL database named 'lab'. The current view is for the 'produse' table. The 'Browse' button in the top navigation bar and the 'produse' entry in the left sidebar are circled in red. The table displays 9 rows of product data with columns for ID, category, name, details, quantity, and price.

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

Extra options

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

Adaugare utilizator

- Server → User accounts → Add user account

The screenshot shows the phpMyAdmin interface with several elements circled in red to indicate the navigation path:

- The top navigation bar shows "Server: localhost:3306" circled.
- The "User accounts" menu item in the top navigation bar is circled.
- The "Add user account" button in the "New" section is circled.

The "User accounts overview" table is displayed below the navigation bar:

User name	Host name	Password	Global privileges	User group	Grant	Action
<input type="checkbox"/> mariadb.sys	localhost	No	USAGE		No	Edit privileges Export Unlock
<input type="checkbox"/> mysql	localhost	Yes	ALL PRIVILEGES	Yes		Edit privileges Export Lock
<input type="checkbox"/> phpmyadmin	localhost	Yes	USAGE	No		Edit privileges Export Lock
<input type="checkbox"/> root	localhost	Yes	ALL PRIVILEGES	Yes		Edit privileges Export Lock
<input type="checkbox"/> web	%	Yes	USAGE	No		Edit privileges Export Lock

Below the table, there are options to "Check all" and "With selected: Export". At the bottom, there are buttons for "New", "Add user account", and "Remove selected user accounts".

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 account. The browser address bar indicates the URL: 192.168.203.128/phpmyadmin/index.php?route=/server/privileges&adduser=1. The page title is "Add user account". The form is titled "Login Information" and contains the following fields:

- User name: A text input field containing "lab_user".
- Host name: A dropdown menu set to "Any host".
- Password: A text input field with masked characters (dots).
- Re-type: A second text input field for password confirmation, also masked.
- Authentication plugin: A dropdown menu set to "Native MySQL authentication".
- Generate password: A button labeled "Generate" next to an empty text input field.

Three red circles are drawn around the "User name" field, the "Host name" dropdown, and the "Password" field, highlighting these specific input areas.

Drepturi de acces

- Server → User accounts → Edit Privileges

The screenshot shows the phpMyAdmin interface for a MySQL server at localhost:3306. The breadcrumb navigation shows 'Server: localhost:3306' and 'User accounts', both circled in red. The 'User accounts overview' page displays a table of user accounts with columns for User name, Host name, Password, Global privileges, User group, Grant, and Action. The 'Action' column for the 'lab_user' account has 'Edit privileges' circled in red.

	User name	Host name	Password	Global privileges	User group	Grant	Action
<input type="checkbox"/>	lab_user	%	Yes	USAGE		No	Edit privileges Export Lock
<input type="checkbox"/>	mariadb.sys	localhost	No	USAGE		No	Edit privileges Export Unlock
<input type="checkbox"/>	mysql	localhost	Yes	ALL PRIVILEGES	Yes		Edit privileges Export Lock
<input type="checkbox"/>	phpmyadmin	localhost	Yes	USAGE	No		Edit privileges Export Lock
<input type="checkbox"/>	root	localhost	Yes	ALL PRIVILEGES	Yes		Edit privileges Export Lock
<input type="checkbox"/>	web	%	Yes	USAGE	No		Edit privileges Export Lock

↑ Check all With selected: Export

Drepturi de acces

- Database → nume → Go

phpMyAdmin

Server: localhost:3306

Databases SQL Status User accounts Export

Global Database Change password Login Information

Edit privileges: User account 'lab_user'@

Database-specific privileges

Database	Privileges	Grant	Table-specific privileges	Action
			None	

Add privileges on the following database(s):

lab
mysql
phpmyadmin
sys

Go

Drepturi de acces

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

The screenshot shows the phpMyAdmin interface for editing privileges. The browser address bar shows the URL: `192.168.203.128/phpmyadmin/index.php?route=/server/privileges&username=lab_user&hostname=%25&dbname=`. The page title is "Edit privileges: User account 'lab_user'@'%' Database lab". The "Database-specific privileges" section is active, and the "Data" category is selected. The following table shows the checked privileges:

Category	Privilege	Status
Data	SELECT	Checked
	INSERT	Checked
	UPDATE	Checked
	DELETE	Checked
Structure	CREATE	Unchecked
	ALTER	Unchecked
	INDEX	Unchecked
	DROP	Unchecked
	CREATE TEMPORARY TABLES	Unchecked
	SHOW VIEW	Unchecked
	CREATE ROUTINE	Unchecked
	ALTER ROUTINE	Unchecked
	EXECUTE	Unchecked
	GRANT OPTION	Unchecked
Administration	GRANT	Unchecked
	LOCK TABLES	Unchecked
	REFERENCES	Unchecked

Drepturi de acces, verificare

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

The screenshot shows the phpMyAdmin interface for a MySQL server. The browser address bar indicates the URL: `192.168.203.128/phpmyadmin/index.php?route=/server/privileges&db=lab&checkprivsdb=lab&viewing_mode=db`. The interface shows the 'Server: localhost:3306' and 'Database: lab' context. The 'Privileges' tab is selected and circled in red. The main content area displays 'Users having access to "lab"'. A table lists the users and their privileges:

User name	Host name	Type	Privileges	Grant	Action
<input type="checkbox"/> lab_user	%	database-specific	SELECT, INSERT, UPDATE, DELETE	No	Edit privileges Export
<input type="checkbox"/> mysql	localhost	global	ALL PRIVILEGES	Yes	Edit privileges Export
<input type="checkbox"/> root	localhost	global	ALL PRIVILEGES	Yes	Edit privileges Export

Below the table, there are options to 'Check all' and 'With selected: Export'. The 'lab' database in the left sidebar is also circled in red.

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 table named 'produse' in a database named 'lab'. The table structure is displayed in 'Table structure' view. A message at the top indicates that a SQL query to create an index on the 'id_categ' column has been executed successfully. The table structure table shows the following columns:







#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id_produs	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	id_categ	int(11)			No	None			Change Drop More
3	nume	varchar(45)	utf8mb4_general_ci		No				Change Drop More
4	detalii	varchar(150)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	cant	int(11)			Yes	NULL			Change Drop More
6	pret	float			Yes	NULL			Change Drop More

At the bottom of the interface, the index creation options are visible, including 'Primary', 'Unique', 'Index', 'Spatial', and 'Fulltext'. The 'Index' option is selected.

Verificare/Stergere index

- Zona Indexes, vizualizare/control lista de indecsi

Indexes

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

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 lab;
 - USE lab;
- La utilizarea PhpMyAdmin trebuie să se creeze manual baza de date înaintea restaurării

Backup

- Nume (tabel sau baza de date) → Export
 - Custom: exista optiunea Add CREATE DATABASE / USE statement

The screenshot displays the phpMyAdmin interface for a database named 'lab' on localhost:3306. The 'Export' menu item in the top navigation bar is circled in red. In the left sidebar, the 'lab' database folder is also circled in red. The main content area shows the 'Exporting tables from "lab" database' screen. The 'Export method:' section has the 'Custom - display all possible options' radio button selected and circled in red. The 'Export templates:' section shows a 'New template:' form with a 'Template name' input field and a 'Create' button.

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 interface. On the left sidebar, the 'lab' database is selected and circled in red. The main window shows the 'Import' tab selected in the top navigation bar, also circled in red. The 'Importing into the database "lab"' dialog is open, showing the 'File to import:' section. The 'Choose File' button and the file name 'lab.sql' are circled in red. The dialog also includes instructions on file compression and a file size limit of 2,048KiB.

Structure SQL Search Query Export **Import** Operat

Importing into the database "lab"

File to import:

File may be compressed (gzip, bzip2, zip) or uncompressed.
A compressed file's name must end in `.[format].[compression]`. Example: `.sql.zip`

Browse your computer: (Max: 2,048KiB)

Choose File lab.sql

You may also drag and drop a file on any page.

Character set of the file:

MySQL Workbench

Mini – Indrumar practic

Lucru cu bazele de date

MySQL Workbench CE

- <https://dev.mysql.com/downloads/workbench/>

General Availability (GA) Releases Archives ⓘ

MySQL Workbench 8.0.36

Select Operating System:
Microsoft Windows ▾

Recommended Download:

MySQL Installer
for Windows

All MySQL Products. For All Windows Platforms.
In One Package.

Starting with MySQL 5.6 the MySQL Installer package replaces the standalone MSI packages.

Windows (x86, 32 & 64-bit), MySQL Installer MSI

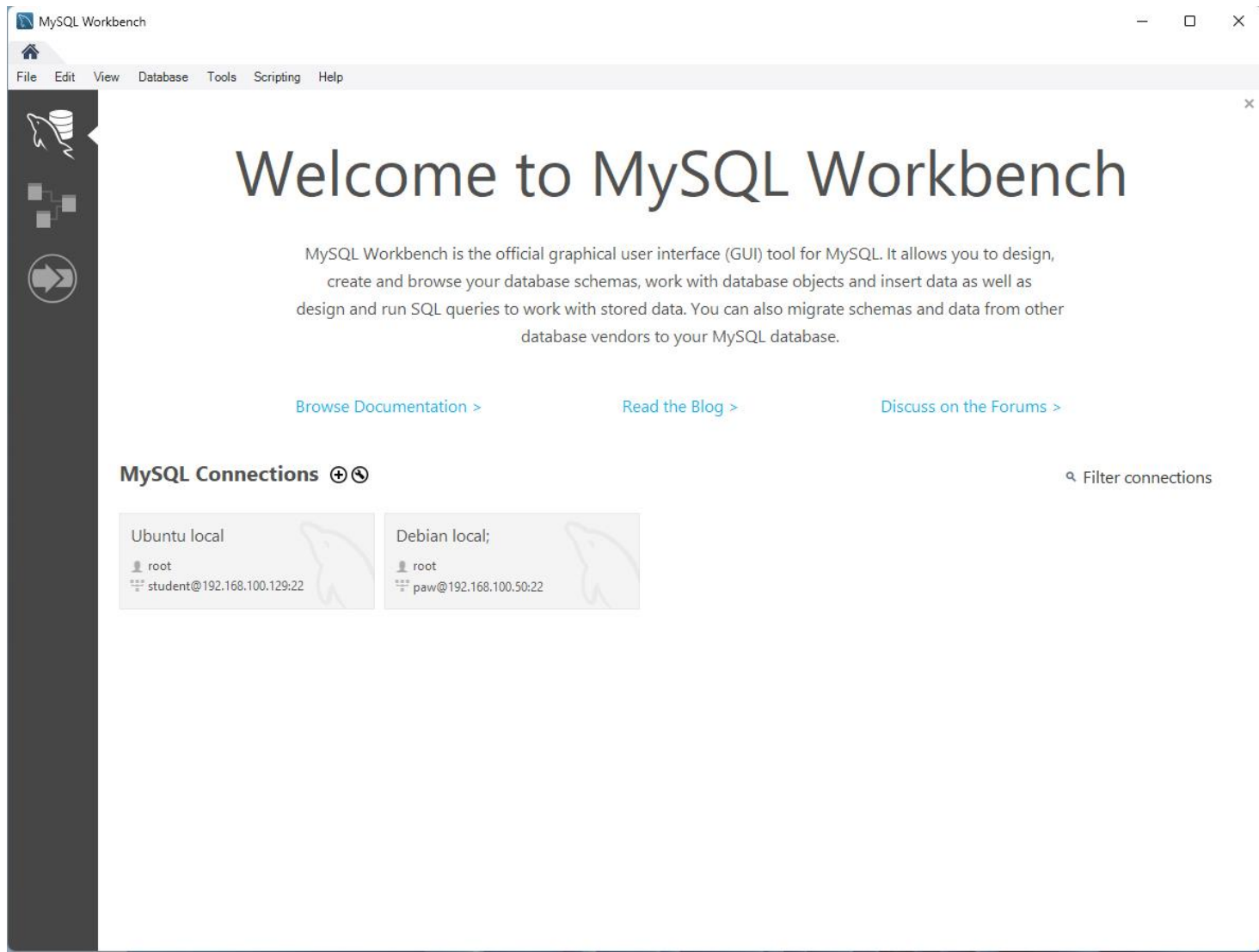
[Go to Download Page >](#)

Other Downloads:

Windows (x86, 64-bit), MSI Installer <small>(mysql-workbench-community-8.0.36-winx64.msi)</small>	8.0.36	42.0 MB	Download
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MD5: 2156fe0cb6f5ed83908e463... | Signature

MySQL Workbench CE



Conexiune

welcom

MySQL Workbench i
create and brows
design and run SQL q

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MySQL Connections  

Setup New Connection

Connection Name: Debian Paw Type a name for the connection

Connection Method: Standard TCP/IP over SSH Method to use to connect to the RDBMS

Parameters SSL Advanced

SSH Hostname: 192.168.203.128:22 SSH server hostname, with optional port number.

SSH Username: paw Name of the SSH user to connect with.

SSH Password: Store in Vault ... Clear SSH user password to connect to the SSH tunnel.

SSH Key File: Path to SSH private key file.

MySQL Hostname: 127.0.0.1 MySQL server host relative to the SSH server.

MySQL Server Port: 3306 TCP/IP port of the MySQL server.

Username: root Name of the user to connect with.

Password: Store in Vault ... Clear The MySQL user's password. Will be requested later if not set.

Default Schema: The schema to use as default schema. Leave blank to select it later.

Configure Server Management... Test Connection Cancel OK

Store Password For Connection

Please enter password for the following service:

Service: sch@192.168.203.128:22

User: paw

Password: *****

OK Cancel

Conexiune

The image shows a sequence of steps in MySQL Workbench:

- Setup New Connection:** The main configuration window with fields for SSH Hostname (192.168.203.128:22), SSH Username (paw), SSH Password (Store in Vault ...), SSH Key File, MySQL Hostname (127.0.0.1), MySQL Server Port (3306), Username (root), and Password (Store in Vault ...). The connection method is set to "Standard TCP/IP over SSH".
- Authentication Dialog:** A dialog box titled "Please enter password for the following service:" with fields for "User: root" and "Password: *****".
- Connection Warning:** A warning dialog titled "Connection Warning" with a yellow triangle icon, stating: "Incompatible/nonstandard server version or connection protocol detected (10.11.6). A connection to this database can be established but some MySQL Workbench features may not work properly since the database is not fully compatible with the supported versions of MySQL. MySQL Workbench is developed and tested for MySQL Server versions 5.6, 5.7 and 8.0." Buttons for "Test Connection", "Continue Anyway", "Cancel", and "OK" are visible.
- SSH Tunnel Error:** A dialog box titled "Could not connect the SSH Tunnel" with a red 'X' icon, stating: "The authenticity of host '192.168.203.128' can't be established. Server key fingerprint is 85:d3:81:76:a6:5a:0e:22:07:c3:89:16:59:d5:c5:6a:00:b...:36 Are you sure you want to continue connecting?" Buttons for "Ok" and "Cancel" are visible.
- Successful Connection:** A dialog box titled "Successfully made the MySQL connection" with a blue 'i' icon, stating: "Information related to this connection: Host: 127.0.0.1, Port: 3306, User: root, SSL: not enabled. A successful MySQL connection was made with the parameters defined for this connection." Buttons for "OK" and "Cancel" are visible.

Red circles and arrows highlight the "Store in Vault ..." button, the "Test Connection" button, the "Ok" button in the SSH tunnel error dialog, the "Continue Anyway" button in the connection warning dialog, and the "Successfully made the MySQL connection" dialog.

Configurare

[browse Documentation >](#)

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MySQL Connections

Ubuntu local

root
student@192.168.100.129:22

Debian local;

root
paw@192.168.100.50:22

Debian Paw

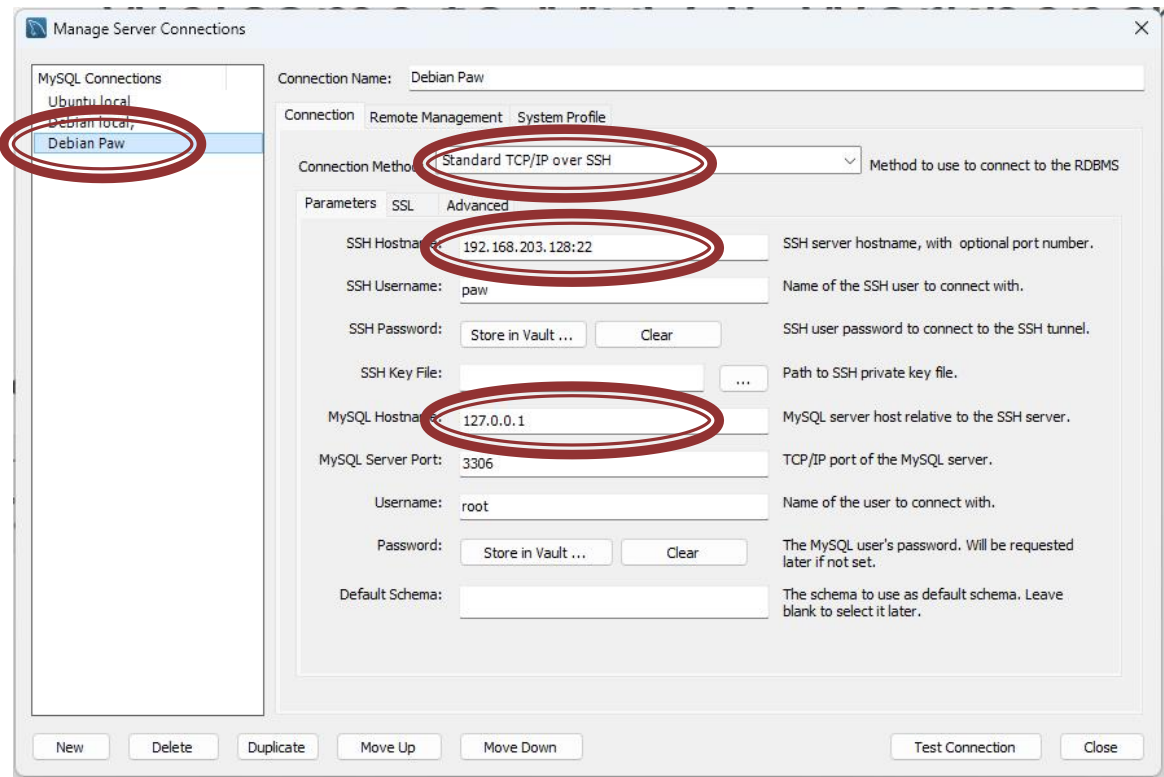
root
paw@192.168.203.128:22

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MySQL Workbench i
create and brows
design and run SQL q

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MySQL Connections  



Manage Server Connections

MySQL Connections

- Ubuntu local
- Debian local;
- Debian Paw

Connection Name: Debian Paw

Connection: Remote Management System Profile

Connection Method: Standard TCP/IP over SSH Method to use to connect to the RDBMS

Parameters SSL Advanced

SSH Hostname: 192.168.203.128:22 SSH server hostname, with optional port number.

SSH Username: paw Name of the SSH user to connect with.

SSH Password: Store in Vault ... Clear SSH user password to connect to the SSH tunnel.

SSH Key File: ... Path to SSH private key file.

MySQL Hostname: 127.0.0.1 MySQL server host relative to the SSH server.

MySQL Server Port: 3306 TCP/IP port of the MySQL server.

Username: root Name of the user to connect with.

Password: Store in Vault ... Clear The MySQL user's password. Will be requested later if not set.

Default Schema: The schema to use as default schema. Leave blank to select it later.

New Delete Duplicate Move Up Move Down Test Connection Close

Configurare

The image displays two screenshots of the 'Manage Server Connections' dialog box in Red Hat Ansible Tower, illustrating the configuration process for a new connection.

Left Screenshot: Selection of Management Method

- Connection Name:** Debian Paw
- Connection Type:** Remote Management, System Profile
- Management Options:**
 - Do not use remote management
 - Native Windows remote management (only available on Windows)
 - SSH login based management
- Host Information:**
 - Hostname: 192.168.203.128
 - Port: (blank)
 - Username: paw
 - Password: (masked with 'Store in Vault ...')
 - SSH Key Path: (blank)
 - Authenticate Using SSH Key

Right Screenshot: Configuration Details

- Connection Name:** Debian Paw
- Connection Type:** Remote Management, System Profile
- Information:** Information about the server and MySQL configuration, such as path to the configuration file, command to start or stop it etc. You may pick a preset configuration profile or customize one for your needs.
- System Type:** Linux
- Installation Type:** Ubuntu Linux (sysvinit, Vendor Package)
- Configuration File:** /etc/mysql/my.cnf
- Configuration File Section:** mysqld
- MySQL Management:**
 - Start MySQL: /etc/init.d/mysql start
 - Stop MySQL: /etc/init.d/mysql stop
 - Run as administrator and write configuration data
- Override sudo command line:** (blank)

Administrare/Control

The screenshot displays the MySQL Workbench Administration Dashboard. The interface includes a top menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a sidebar with navigation options. The main dashboard area is divided into several sections:

- MANAGEMENT:** Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore.
- INSTANCE:** Startup / Shutdown, Server Logs, Options File.
- Performance:** Dashboard, Performance Reports, Performance Schema Setup.
- Administration:** Schemas.

The main dashboard content includes:

- Network Status:** Incoming Network Traffic (Bytes/Second) showing 8.00 B/s receiving and 5.27 KB/s sending. Outgoing Network Traffic (Bytes/Second) showing 5.27 KB/s sending. Client Connections (Total) showing 4 connections out of a limit of 151.
- MySQL Status:** Table Open Cache Efficiency at 63%. SQL Statements Executed (#) showing counts for SELECT, INSERT, UPDATE, DELETE, CREATE, ALTER, and DROP.
- InnoDB Status:** InnoDB Buffer Pool Usage at 4%. InnoDB Disk Writes showing 0 B/s writing. InnoDB Disk Reads showing 0.00 B/s reading. Redo Log showing 0 B/s data written. Doublewrite Buffer showing 0 B/s writes.

Red circles highlight the 'Dashboard' and 'Administration' options in the sidebar.

Administrare/Control

MySQL Workbench

Debian Paw - Warning - not s...

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 produse produse - Table Administration - Server Status

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

No object selected

Object Info Session

Connection Name: **Debian Paw**

Host: pawetti
Socket: /run/mysqld/mysqld.sock
Port: 3306
Version: 10.11.6-MariaDB-0+deb12u1 (Debian 12)
Compiled For: debian-linux-gnu (x86_64)
Configuration File: /etc/mysql/my.cnf
Running Since: Mon Apr 15 14:21:29 2024 (0:55)

Refresh

Available Server Features

Performance Schema:	<input type="radio"/> Off	PAM Authentication:	<input type="radio"/> Off
Thread Pool:	<input type="radio"/> n/a	Password Validation:	<input type="radio"/> n/a
Memcached Plugin:	<input type="radio"/> n/a	Audit Log:	<input type="radio"/> n/a
Semisync Replication Plugin:	<input type="radio"/> Off	Firewall:	<input type="radio"/> n/a
SSL Availability:	<input checked="" type="radio"/> On	Firewall Trace:	<input type="radio"/> n/a

Server Directories

Base Directory:	/usr
Data Directory:	/var/lib/mysql/
Disk Space in Data Dir:	16G of 19G available
Plugins Directory:	/usr/lib/mysql/plugin/
Tmp Directory:	/tmp
Error Log:	<input type="radio"/> Off
General Log:	<input type="radio"/> Off
Slow Query Log:	<input type="radio"/> Off

: this server is not a replica in a replication setup

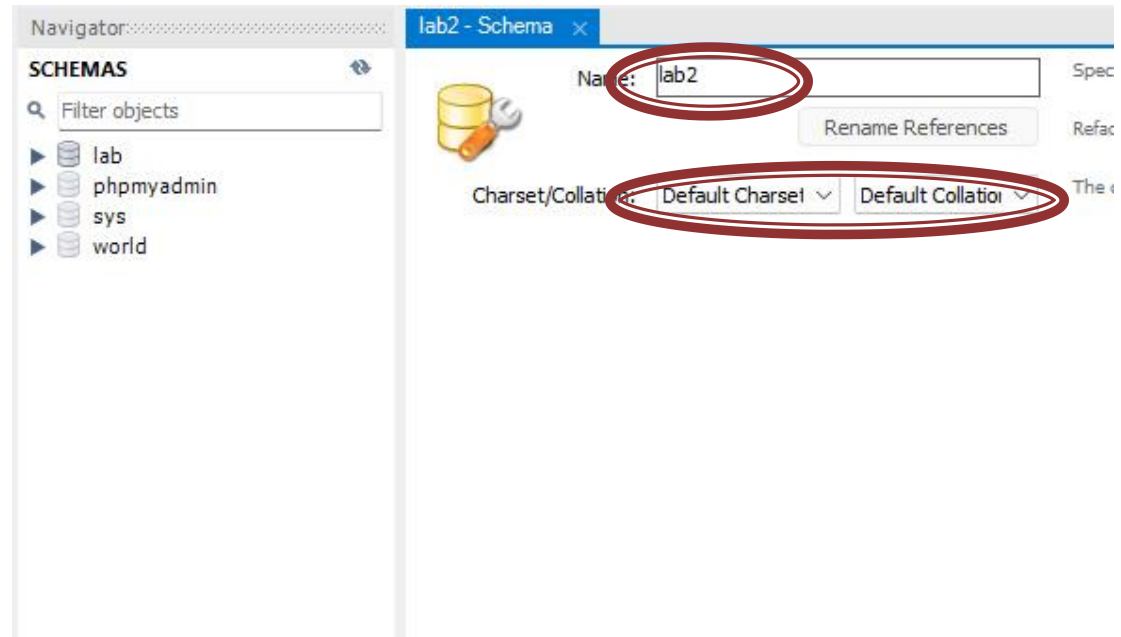
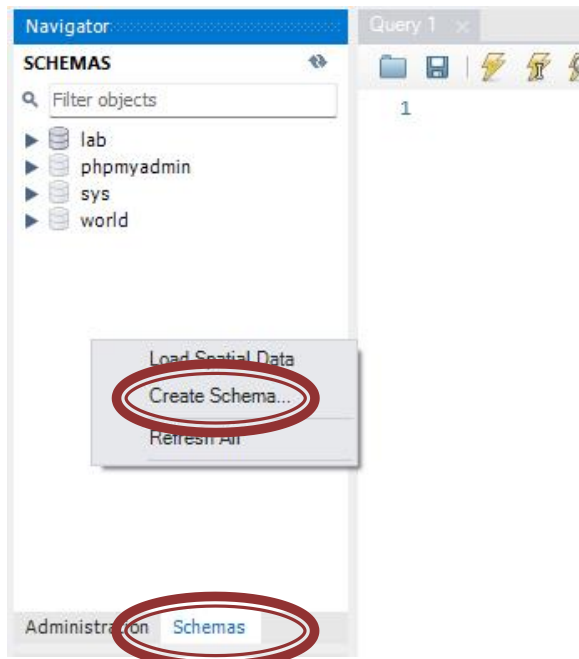
SHA256 Password Private Key: n/a
SHA256 Password Public Key: n/a

SSL CA: n/a
SSL CA Path: n/a
SSL Cert: n/a

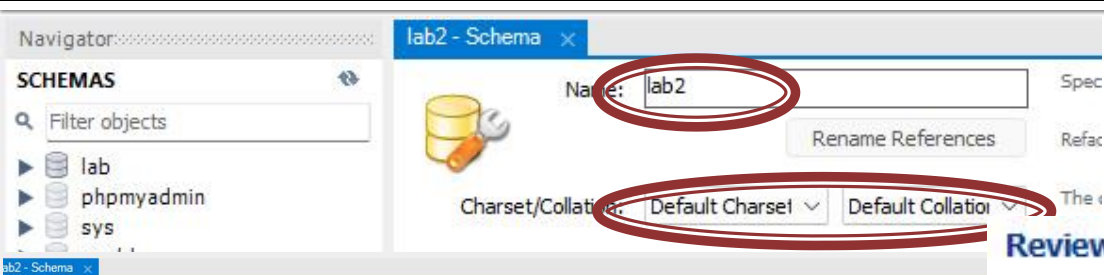
Server Status: Running
CPU/Load: 0.0
Connections: 4
Traffic: 19.10 KB/s
Key Efficiency: 0.0%
Selects per Second: 0
InnoDB Buffer Usage: 4.8%
InnoDB Reads per Second: 0
InnoDB Writes per Second: 0

Realizarea bazei de date

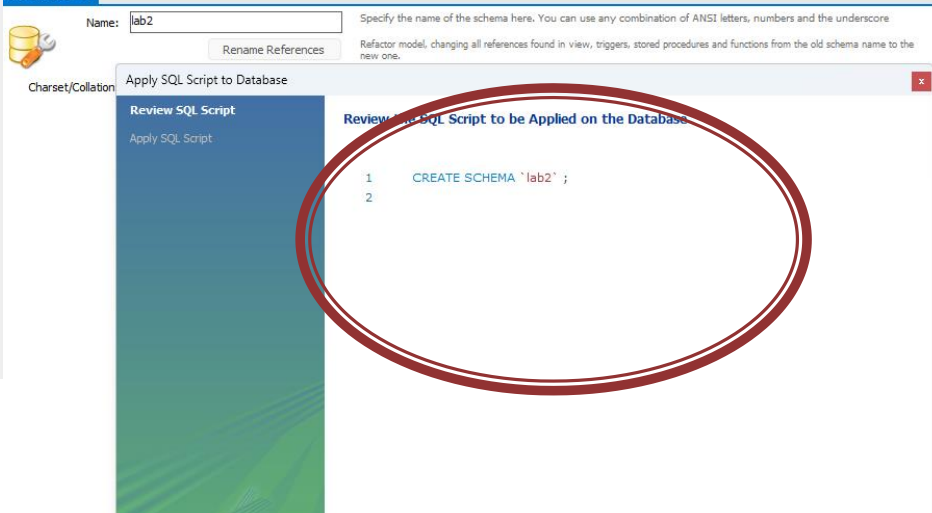
- se creaza o noua baza de date:
 - in lista "Schemas" – Right click – Create New Schema
- se activeaza ca baza de date curenta noua "schema" – Dublu click pe numele ales



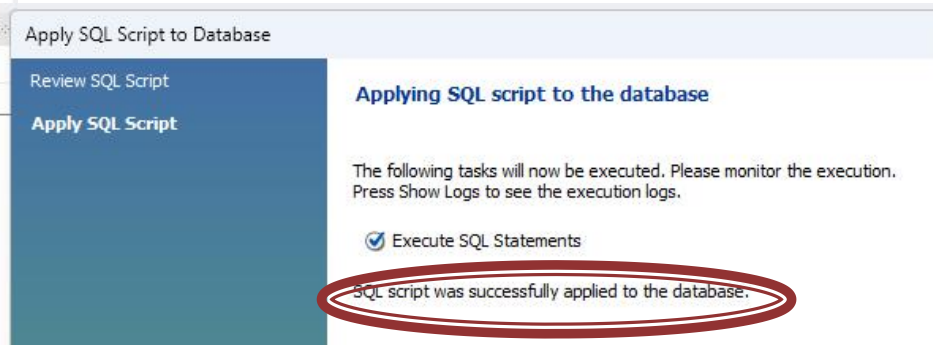
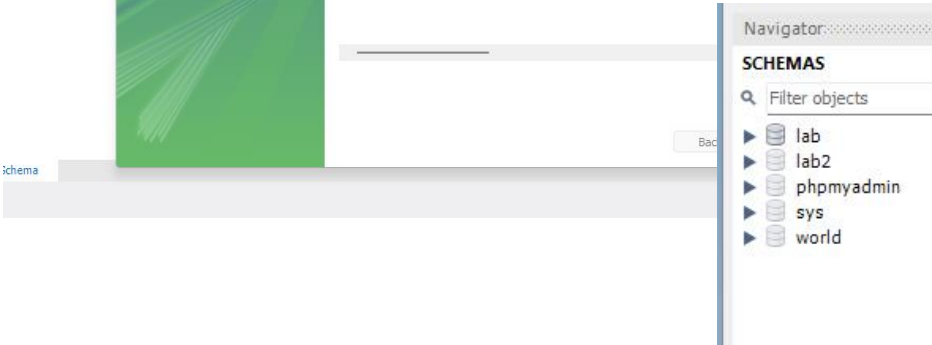
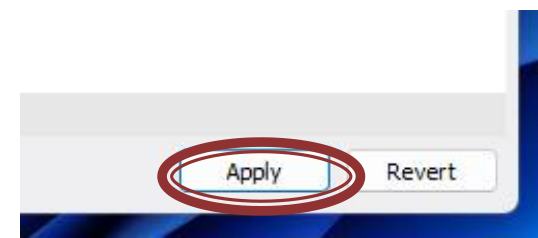
Realizarea bazei de date



Review the SQL Script to be Applied on the Database

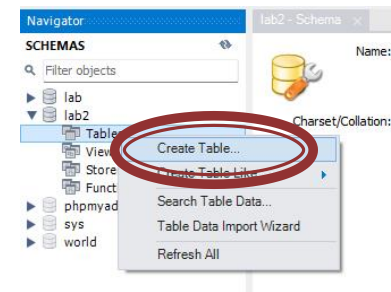


1 CREATE SCHEMA `lab2` ;
2



Introducere tabele

- Introducere tabel – Click sageata langa numele bazei de date – Tables – Right Click – Create Table
- se defineste structura tabelului
 - nume coloane
 - tip de date
 - NOT NULL – daca se accepta ca acea coloana sa ramana fara date (NULL) sau nu
 - AUTOINC – daca acea coloana va fi de tip intreg si va fi incrementata automat de server (util pentru crearea cheilor primare)
 - Default value – valoarea implicita care va fi inserata daca la introducerea unei linii noi nu se mentioneaza valoare pentru acea coloana (legat de optiunea NOT NULL)






Tabel Categorii

Navigator: categorii - Table x

Table Name: Schema: **lab2**

Charset/Collation: Engine:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
 id_categ	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
 nume	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 detalii	VARCHAR(150)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Apply SQL Script to Database

Review SQL Script

Apply SQL Script

Review the SQL Script to be Applied on the Database

```
1 CREATE TABLE `lab2`.`categorii` (  
2   `id_categ` INT NOT NULL AUTO_INCREMENT,  
3   `nume` VARCHAR(45) NOT NULL,  
4   `detalii` VARCHAR(150) NULL,  
5   PRIMARY KEY (`id_categ`));  
6
```

Tabel Prognose

produse - Table

Table Name: Schema: **lat**

Charset/Collation: Engine:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/E:
id_produ	INT(11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
id_categ	INT(11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
nume	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
detalii	VARCHAR(150)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
cant	INT(11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
cost	FLOAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

Column Name: Data T

Charset/Collation: Del

Comments: Stor

Columns Indexes Foreign Keys Triggers Partitioning Options

Introducere date initiale

The screenshot illustrates the process of entering initial data into a table in a database management tool. The interface is divided into several sections:

- Navigator:** Shows the database structure, including the 'lab' schema and the 'lab2' database. The 'categoriasii' table is highlighted.
- SQL Editor:** Contains the query `SELECT * FROM lab2.categoriasii;`, which is circled in red. An arrow points from this query to the Result Grid.
- Result Grid:** Displays the results of the query. The first screenshot shows a table with three columns: 'id_categ', 'nume', and 'detalii'. The first row contains three NULL values, which is circled in red.
- Result Grid (Second Screenshot):** Shows the same table after data has been entered. The first row now contains the values 'papetarie', 'instrumente', and 'audio-video', which are circled in red.

id_categ	nume	detalii
NULL	NULL	NULL
NULL	papetarie	NULL
NULL	instrumente	NULL
NULL	audio-video	NULL
NULL	NULL	NULL

Introducere date initiale

- Completare in rezultat + Buton Apply



Introducere date prin script

The screenshot displays the SQL Enterprise Manager interface. The main window shows a script with the following SQL commands:

```
1 CREATE TABLE `lab2`.`produse` (`id_produs` INT NOT NULL AUTO INCREMENT, `id_categ` INT NOT NULL, `nume` VARCHAR(255), `detalii` VARCHAR(255), `cant` INT);
2
3 INSERT INTO `lab2`.`produse` (`id_produs`, `id_categ`, `nume`, `detalii`, `cant`)
4
5 (1,1,'carte','mai multe pagini scrise legate',0,100),
6
7 (2,1,'caiet','mai multe pagini goale legate',0,75),
8
9 (3,1,'hartie scris','mai multe pagini goale NElegate',0,50),
10
11 (4,2,'penar','loc de depozitat instrumente de scris',0,150),
12
13 (5,2,'stilou','instrument de scris albastru',0,125),
14
15 (6,2,'creion','instrument de scris alb',0,25),
16
17 (7,3,'cd','canta',0,50),
18
19 (8,3,'dvd','vizual',0,100),
20
21 (9,3,'blue ray','vizual extrem',0,500);
```

The 'Output' window at the bottom shows the execution results:

#	Time	Action	Message	Duration
5	15:32:51	Apply changes to categorii	Changes applied	
6	15:35:34	Apply changes to categorii	No changes detected	
7	15:35:34	Apply changes to categorii	No changes detected	
9	15:37:58	CREATE TABLE `lab2`.`produse` (`id_produs` INT NOT NULL AUTO_IN...	0 row(s) affected	0.015 sec
10	15:37:58	INSERT INTO `lab2`.`produse` (`id_produs`,`id_categ`,`nume`,`detalii`,`ca...	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.009 sec
10	15:38:24	SELECT * FROM `lab2`.`produse` LIMIT 0, 50000	9 row(s) returned	0.000 sec / 0.000 sec

Introducere date initiale

The screenshot shows the MySQL Query Browser interface. The main window displays the SQL Query Area with the query: `1 SELECT * FROM produse p;`. Below the query, the result set is shown as a table with the following data:

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

The interface also includes a menu bar (File, Edit, View, Query, Script, Tools, Window, Help), a toolbar with various icons, and a right-hand sidebar with 'Schemata', 'Bookmarks', and 'History' sections. The 'Schemata' section shows a tree view of the database structure, including 'tmpaw', 'categorii', 'produse', and 'world'. The 'Syntax' section is also visible at the bottom right.

Index in tabelul produse

The image shows a screenshot of the phpMyAdmin interface with three overlapping windows. The leftmost window is the 'Navigator' showing a tree view of databases and tables. The middle window shows the 'Columns' tab for the 'produse' table. The rightmost window shows the 'Indexes' tab for the 'produse' table.

Navigator (Left): Shows a tree view of databases: lab, lab2, and world. Under 'lab2', there are folders for 'Tables', 'Views', 'Stored Procedures', and 'Functions'. The 'Tables' folder is expanded to show 'categorii' and 'produse'. A red circle highlights the 'produse' table icon.

Columns Tab (Middle): Shows the structure of the 'produse' table. The columns are:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/E
id_produc	INT(11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
id_categ	INT(11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
nume	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
detalii	VARCHAR(150)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
cant	INT(11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
pret	FLOAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

Indexes Tab (Right): Shows the configuration for the 'id_categ' index. The 'Index Name' is 'id_categ' and the 'Type' is 'INDEX'. The 'Index Columns' list shows:

Column	Order	Length
<input type="checkbox"/> id_produc	ASC	
<input checked="" type="checkbox"/> id_categ	1 ASC	
<input type="checkbox"/> nume	ASC	
<input type="checkbox"/> detalii	ASC	
<input type="checkbox"/> cant	ASC	
<input type="checkbox"/> pret	ASC	

Red circles and arrows highlight the 'Indexes' tab, the 'id_categ' index, and the 'id_categ' column in the index columns list.

User si drepturi de acces

■ Probleme de compatibilitate

The screenshot displays the MySQL Workbench 'Users and Privileges' configuration window. The left sidebar shows the 'Administration' menu item circled in red. The main window shows a table of user accounts and a detailed configuration panel for a new user named 'lab2_user'. The 'Authentication Type' is set to 'unix_socket', which is also circled in red. The 'Add Account' button at the bottom is circled in red. The 'Details for account newuser@%' panel shows the 'Login Name' as 'lab2_user' and the 'Authentication Type' as 'unix_socket', both circled in red. The 'Password' field contains a weak password, indicated by a red warning message.

Navigation: categories Administration - Users and Priv...

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges**
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

Schema: lab

Debian Paw
Users and Privileges

User Accounts

User	From Host
lab_user	%
mariadb.sys	localhost
mysql	localhost
phpmyadmin	localhost
root	localhost
web	%

Select an account to edit or click []

Login	Account Limits	Administrative
lab2_user		

Details for account newuser@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: lab2_user You may create multiple accounts with the to connect from different hosts.

Authentication Type: unix_socket For the standard password and/or host ba select 'Standard'.

Limit to Hosts Matching: % % and _ wildcards may be used

Password: ***** Type a password to reset it.
Weak password.

Confirm Password: ***** Enter password again to confirm.

Authentication String: Authentication plugin specific parameters.

See the plugin documentation for valid values and details.

Add Account Delete Refresh

Privilegii

The screenshot shows the MySQL Administration tool interface. The main window is titled "Administration - Users and Privil..." and displays "Users and Privileges" for the user "Debian Paw". The "Details for account newuser@%" tab is active, with sub-tabs for "Login", "Account Limits", "Administrative Roles", and "Schema Privileges". A "New Schema Privilege Definition" dialog box is open, prompting the user to select a schema for the user 'newuser'. The "Selected schema:" field is set to "lab2". The "Add Entry..." button in the dialog is highlighted with a red circle.

User	From Host
lab_user	%
mariadb.sys	localhost

Schema Privileges for newuser@%:

Schema	Privileges
lab2	DELETE, INSERT, SELECT, UPDATE

The screenshot shows the "Details for account lab2_user@%" tab in the MySQL Administration tool. The "Schema Privileges" sub-tab is active, showing a table with the following entry:

Schema	Privileges
lab2	DELETE, INSERT, SELECT, UPDATE

Below the table, the text states: "The user 'lab2_user'@'%' will have the following access rights to the schema...". The "Subject Rights" section is highlighted with a red circle and contains the following checked items:

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW VIEW

The "DDL Rights" section contains the following unchecked items:

- CREATE
- ALTER
- REFERENCES
- INDEX
- CREATE VIEW
- CREATE ROUTINE
- ALTER ROUTINE
- EVENT
- DROP

Backup

The screenshot shows the PostgreSQL Enterprise Console interface for a 'Data Export' operation. The interface is divided into a left-hand navigation pane and a main content area. The navigation pane includes sections for 'MANAGEMENT', 'INSTANCE', and 'PERFORMANCE'. The 'Data Export' option is highlighted in the 'MANAGEMENT' section. The 'Administration' option is highlighted in the 'INSTANCE' section. The main content area is titled 'Administration - Data Export' and shows the 'Data Export' configuration for a 'Debian Paw' instance. The 'Object Selection' tab is active, showing a tree view of 'Tables to Export' and 'Schema Objects'. The 'lab2' schema is selected, and the 'categorias' and 'produse' tables are selected. The 'Export Options' section shows that the export will be saved to a 'Self-Contained File' at the path 'E:\Documents\dumps\Dump20240422.sql'. The 'Include Create Schema' option is unchecked. The 'Start Export' button is highlighted in the bottom right corner.

Navigation Pane:

- MANAGEMENT
 - Server Status
 - Client Connections
 - Users and Privileges
 - Data Export
- INSTANCE
 - Administration
- PERFORMANCE
 - Dashboard
 - Performance Reports
 - Performance Schema Setup

Main Content Area:

Administration - Data Export

Debian Paw
Data Export

Object Selection | Export Progress

Tables to Export

Exp...	Schema	Exp...	Schema Objects
<input type="checkbox"/>	lab	<input checked="" type="checkbox"/>	categorias
<input checked="" type="checkbox"/>	lab2	<input checked="" type="checkbox"/>	produse
<input type="checkbox"/>	phoenix		
<input type="checkbox"/>	sys		
<input type="checkbox"/>	world		

Refresh 2 tables selected

Dump Structure and Dat... Select Views Select Tables Unselect All

Objects to Export

Dump Stored Procedures and Functions Dump Events Dump Triggers

Export Options

Export to Dump Project Folder E:\Documents\dumps\Dump20240422

Export to Self-Contained File E:\Documents\dumps\Dump20240422.sql

All selected database objects will be exported into a single, self-contained file.

Create Dump in a Single Transaction (self-contained file only) Include Create Schema

Press [Start Export] to start...

Start Export

Restore – rulare script

The screenshot shows the MySQL Workbench interface. The left sidebar contains navigation options under 'MANAGEMENT', 'INSTANCE', and 'PERFORMANCE'. The main window displays a SQL script for restoring a database. The script is as follows:

```
1 MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2 --
3 -- Host: localhost    Database: lab2
4 -----
5 -- Server version    5.5.5-10.11.6-MariaDB-0+deb12u1
6
7 /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8 /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9 /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `categorii`
20 --
21
22 DROP TABLE IF EXISTS `categorii`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `categorii` (
```

The 'Output' window at the bottom shows the 'Action Output' table with columns for '#', 'Time', 'Action', 'Message', and 'Duration / Fetch'.

Restore - interfata

test_mwb Administration - Data Import/Res...

Debian Paw
Data Import

Import from **Disk** Import Progress

Import Options

Import from Dump Project Folder E:\Documents\dumps

Select the Dump Project Folder to import. You can do a selective restore.

Load Folder Contents

Import from Self-Contained File E:\Documents\Curs PAW\2024\c8\test_mwb.sql

Select the SQL/dump file to import. Please note that the whole file will be imported.

Default Schema to be Imported To

Default Target Schema: lab2

Select Database Objects to Import (only available for Project Folders)

Imp...	Schema
--------	--------

Table: **categoriai**

Columns:

Column Name	Column Type	Attributes
id_categ	int(11)	AI PK
nume	varchar(45)	
detalii	varchar(150)	

Administration Schemas

Press [Start Import] to start...

Script SQL Backup - utilitate

- Poate fi folosit ca un model extrem de bun pentru comenzile necesare pentru crearea programatica (din PHP de exemplu) a bazei de date

```
CREATE DATABASE IF NOT EXISTS tmpaw;
USE tmpaw;

DROP TABLE IF EXISTS `categorii`;
CREATE TABLE `categorii` (
  `id_categ` int(10) unsigned NOT NULL auto_increment,
  `nume` varchar(45) NOT NULL,
  `detalii` varchar(150) default NULL,
  PRIMARY KEY (`id_categ`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

INSERT INTO `categorii` (`id_categ`,`nume`,`detalii`) VALUES
(1,'papetarie',NULL),
(2,'instrumente',NULL),
(3,'audio-video',NULL);
```

Tehnici PHP avansate

HTTP headers

- Permite transmiterea unor header-e specifice protocolului HTTP
- Structura mesajului
 - <initial line, different for request vs. response>
 - Header1: value1
 - Header2: value2
 - Header3: value3
 -
 - <optional message body goes here, like file contents or query data; it can be many lines long, or even binary data \$&*%@!^\$@>

```
Request URI: http://www.example.com
```

```
HTTP/1.1 200 OK
```

```
Content-Encoding: gzip
```

```
Age: 521648
```

```
Cache-Control: max-age=604800
```

```
Content-Type: text/html; charset=UTF-8
```

```
Date: Fri, 06 Mar 2020 17:36:11 GMT
```

```
Etag: "3147526947+gzip"
```

```
Expires: Fri, 13 Mar 2020 17:36:11 GMT
```

```
Last-Modified: Thu, 17 Oct 2019 07:18:26 GMT
```

```
Server: ECS (dcb/7EC9)
```

```
Vary: Accept-Encoding
```

```
X-Cache: HIT
```

```
Content-Length: 648
```

HTTP headers

- header(string, code)

```
<?php header("HTTP/1.0 404 Not Found");?>
```

```
<?php header("Location: http://www.example.com/");  
/* Redirect browser */?>
```

```
<meta http-equiv="refresh" content="5;  
url=http://www.example.com/">
```

HTTP headers

- Header-ele HTTP se trimit inaintea oricaror alte date (HTML)
 - Inceput fisier: `<?php header("..."); ?><!DOCTYPE HTML PUBLIC ...
<html>...<body>...</body></html>`
 - Nici macar **un spatiu** nu trebuie sa apara inainte de primul `<?php`
 - Daca necesitatea de a trimite header-e poate aparea mai tarziu in script se foloseste obligatoriu `Buffer ieseire`

Buffer iesire

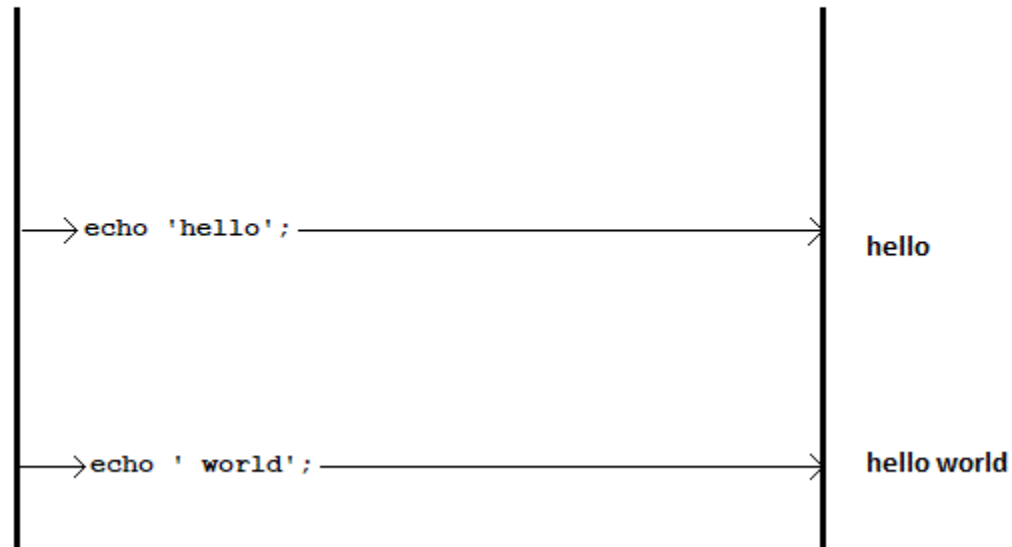
- Copie orice iesire a scriptului PHP intr-un buffer de memorie fara sa transmita nimic clientului
- Utilizat in general pentru conlucrarea cu header-e HTTP, evitarea generarii de HTML inainte de terminarea lucrului cu header-e
- `ob_start();`
- `ob_end_flush ();`
- `ob_end_clean ();`
- `ob_get_contents ()`

Buffer issue

No output buffering

PHP script

Client Browser

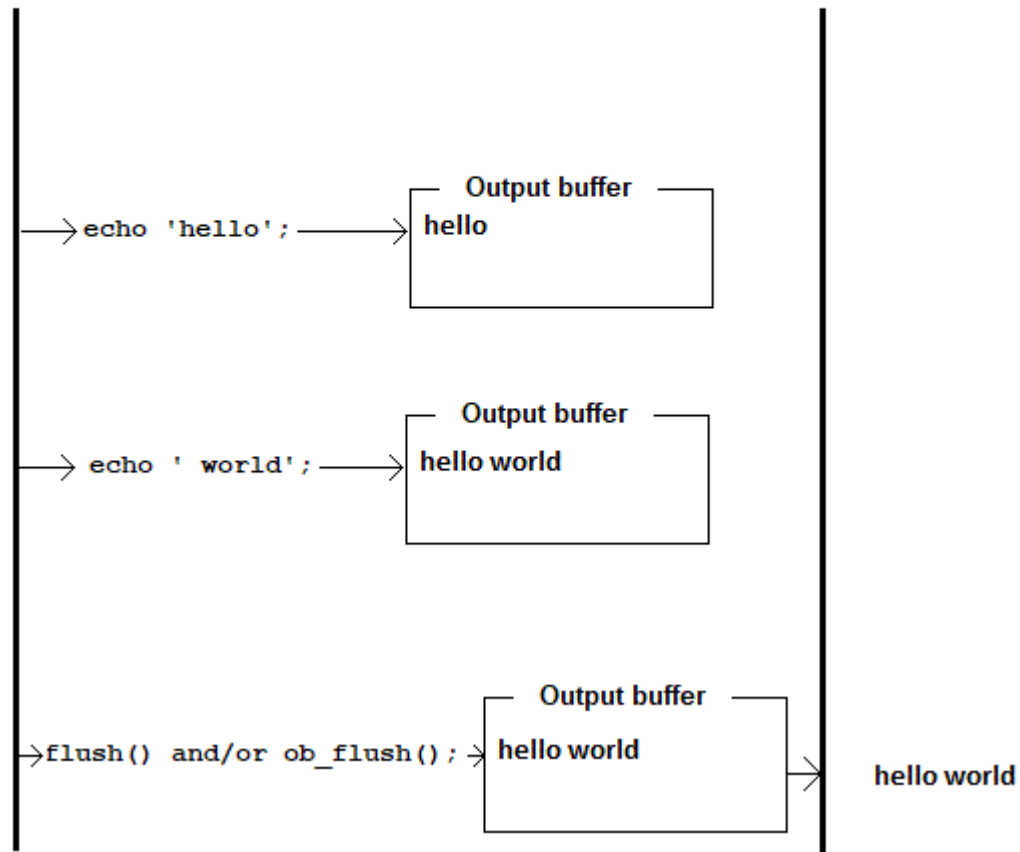


Buffer issues

Output buffering

PHP script

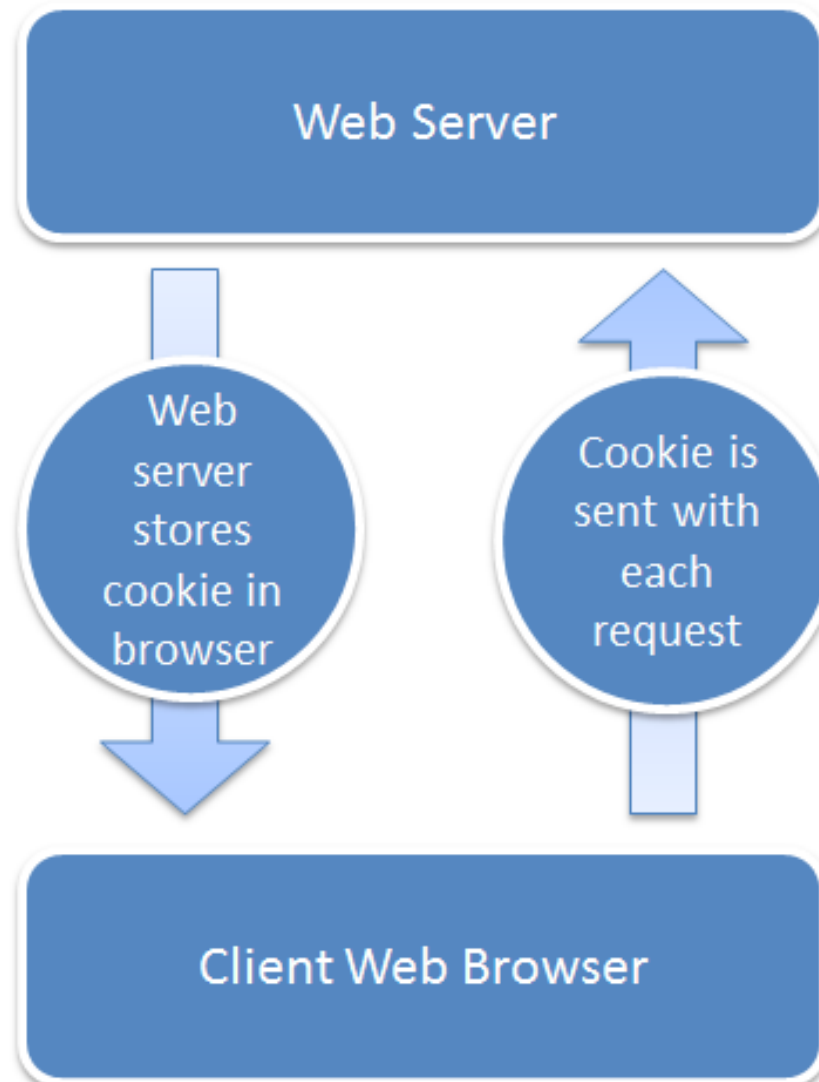
Client Browser



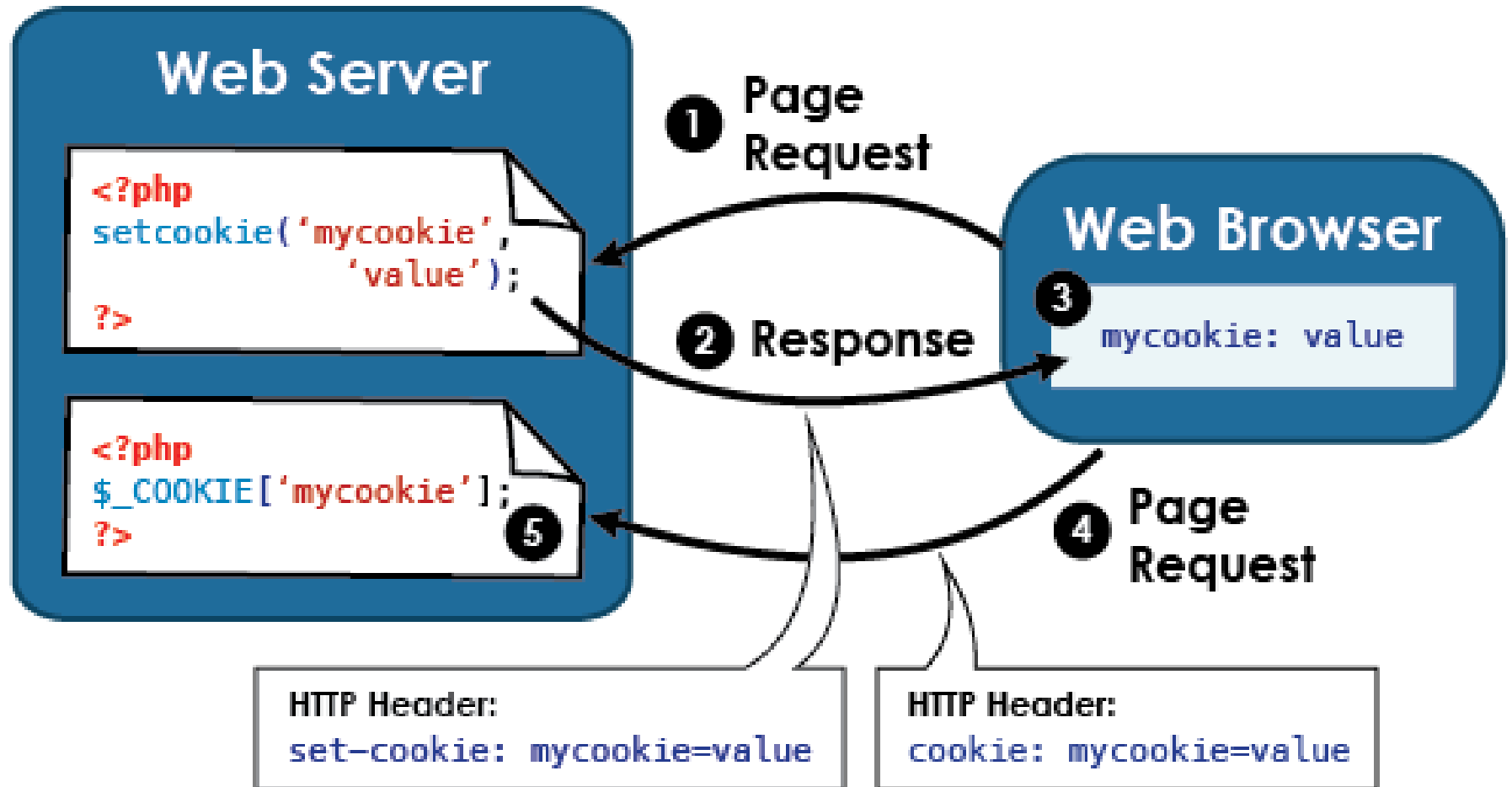
Cookies

- mici cantitati de date ce se stocheaza pe masina client (de obicei gestionat de browser)
- Circula impreuna cu (**este**) header HTTP
- setcookie (string name , string value , int expire , string path , string domain , bool secure , bool httponly)
 - nume (ptr. identificare)
 - value (valoarea/datele stocate)

Cookies



Cookies



Cookies

- `setcookie(string $name, string $value , int $expire = 0)`
 - `expire`: UNIX time stamp, nr. sec. din 1970
 - `time()+nr. sec. de viata dorite`
- datele se stocheaza pe client: probleme de securitate
- Se poate obtine valoarea memorata prin variabila globala `$_COOKIE['nume']`
 - **NU** in acelasi script
 - daca un script php trimite un cookie cu header-ele, de-abia **urmatorul** script accesat va primi acele cookie in header-e

Cookies

```
<?php
$value = 'something from somewhere';

setcookie("TestCookie", $value);
setcookie("TestCookie", $value, time()+3600); /* expire in 1
hour */
setcookie("TestCookie", $value, time()+3600, "~/rasmus/",
"example.com", 1);
?>
```

```
<?php
//Doar pe urmatoarele pagini !!!!

// Print an individual cookie
echo $_COOKIE["TestCookie"];

// Another way to debug/test is to view all cookies
print_r($_COOKIE);
?>
```

Cookies

```
<?php|
//Cookie arrays
// set the cookies
setcookie ("cookie[three]", "cookiethree");
setcookie ("cookie[two]", "cookietwo");
setcookie ("cookie[one]", "cookieone");

// after the page reloads, print them out
if (isset($_COOKIE['cookie']))
{
    foreach ($_COOKIE['cookie'] as $name => $value)
    {
        $name = htmlspecialchars($name);
        $value = htmlspecialchars($value);
        echo "$name : $value <br />\n";
    }
}
?>
```

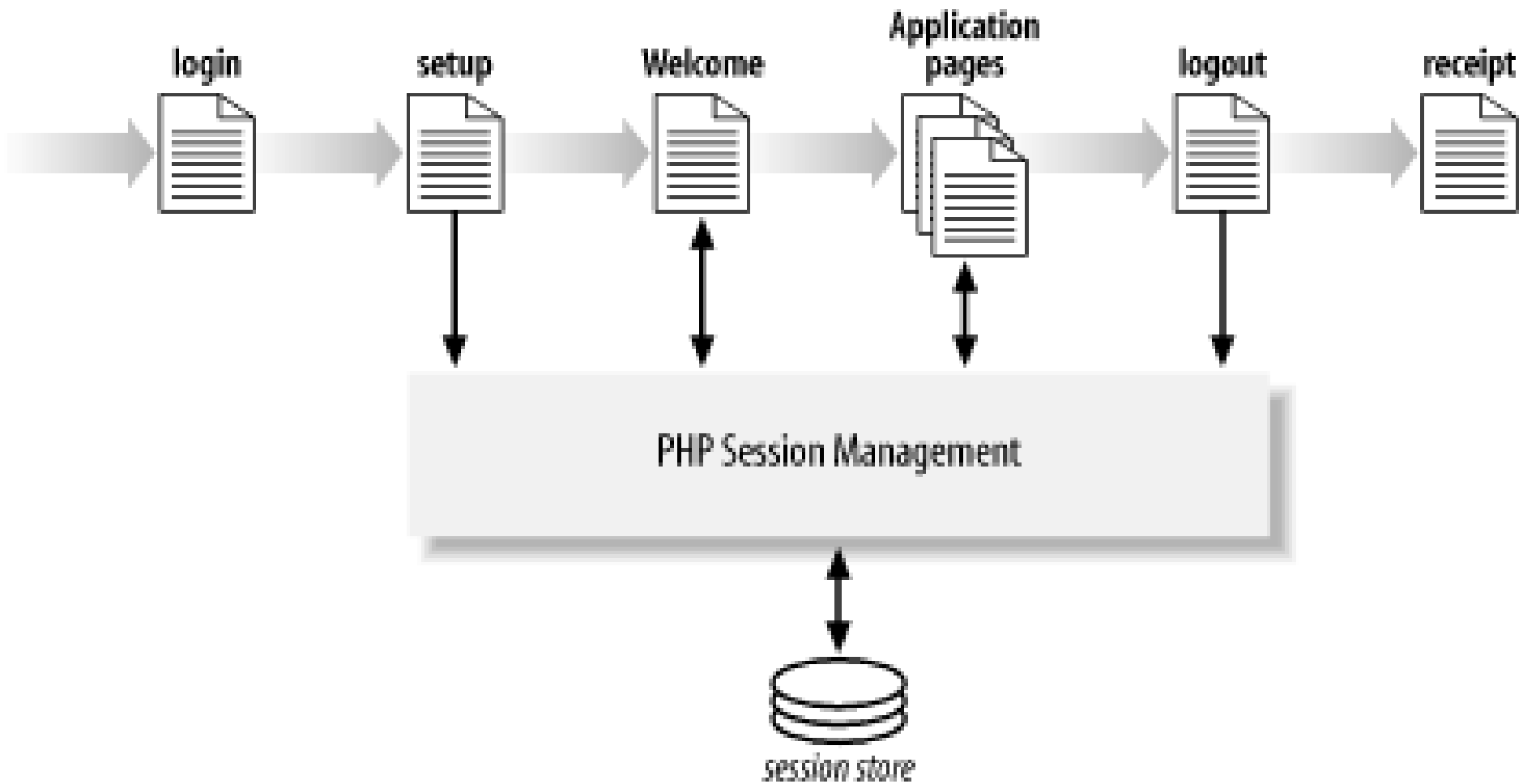
Sesiune

- cookie poate oferi "memorie" aplicatiilor web
- dezavantaje
 - datele se stocheaza la client, nu sunt in siguranta
 - nu se pot stoca oricate date (max. 20)
 - e posibil clientul sa nu accepte cookie
- Sesiunea pentru evitarea acestor dezavantaje
 - stocare pe server
 - oricat de mult date
 - daca clientul nu accepta cookie, "memoria" se realizeaza prin metoda "get"

Sesiune

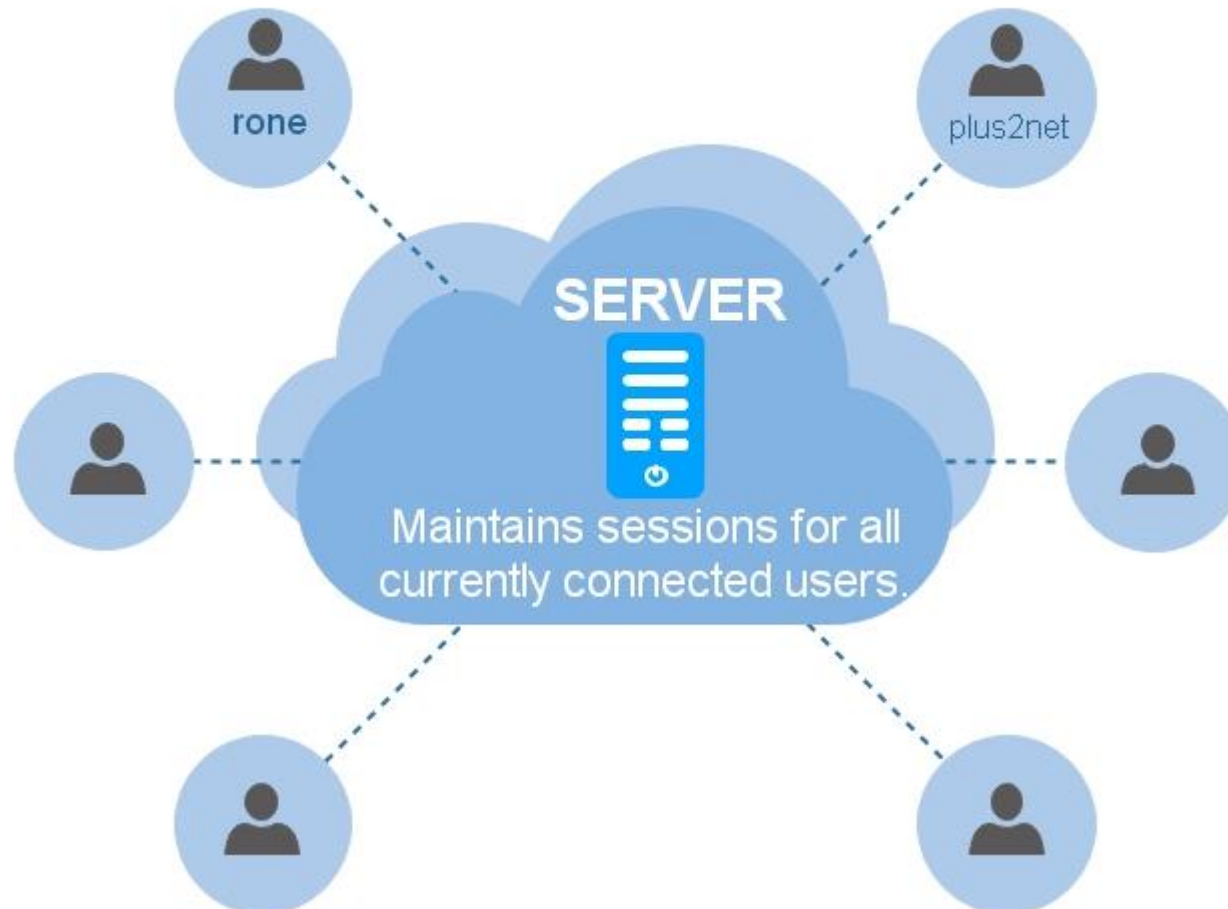
- `session_start()`; (session_ID din GET, POST, COOKIE)
- `session_write_close ()`;
- `session_id ([string id])`;
- datele se manipuleaza prin variabila globala `$_SESSION` care ofera acces la citirea/scrierea datelor

Sesiune



Sesiune

SESSIONS Management



Sesiune

```
<?php
// Initialize the session.
// If you are using session_name("something"), don't forget it now!
session_start();

// Unset all of the session variables.
$_SESSION = array();

// If it's desired to kill the session, also delete the session cookie.
// Note: This will destroy the session, and not just the session data!
if (isset($_COOKIE[session_name()]))
{
    setcookie(session_name(), '', time()-42000, '/');
}

// Finally, destroy the session.
session_destroy();?>
```

Sesiune

```
<?php
// page1.php

session_start();

echo 'Welcome to page #1';

$_SESSION['favcolor'] = 'green';
$_SESSION['animal'] = 'cat';
$_SESSION['time'] = time();

// Works if session cookie was accepted
echo '<br /><a href="page2.php">page 2</a>';

// Or maybe pass along the session id, if needed
//echo '<br /><a href="page2.php?' . SID . '">page 2</a>';
echo '<a href="page2.php?' . session_name() . ' = ' .
session_id() . '">page2</a>' ;
?>
```

Sesiune

```
<?php|
// page2.php

session_start();

echo 'Welcome to page #2<br />';

echo $_SESSION['favcolor']; // green
echo $_SESSION['animal'];   // cat
echo date('Y m d H:i:s', $_SESSION['time']);

// You may want to use SID here, like we did in page1.php
echo '<br /><a href="page1.php">page 1</a>';
?>
```

Contact

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