

Lecture 9 (w10)

2025/2026

Databases, Web Programming and Interfacing

DWPI

- Databases, Web Programming and Interfacing
 - An VI IT₄T
 - 1C/1L/1P
- Timetable
 - Friday, every week (fiecare saptamana) 1C + 2L (17-20)
 - Test + Project Presentation: **last week** (Weekend)

Grade

- 10% - Test/Exam – last week – 1h
- 40% - Project
 - Personal(80%)/Team(20%)
- Previous database project
 - receives a **web user interface**
 - **split** in individual assignments
 - bonus (individual) for **supplemental embedded systems access!**
 - admin/user – web user interface
 - data supplier – embedded system (even partial)

Info

- https://rf-opto.etti.tuiasi.ro/master_it.php

Laboratorul de Microunde si Opti x +

← → ↻ ⚠ Not secure | rf-opto.etti.tuiasi.ro/master_it.php



English | Romana

Main Courses **Master** Staff Research Students

Radiocommunication Systems Microwave IC Satellite Comm. Web Design Ethics

Databases, Web Programming and Interfacing

Course: DWPI (2021-2022)

Course Coordinator: Assoc.P. Dr. Radu-Florin Damian
Code: ITT.IA.601
Discipline Type: DIS; Required, Specialty
Credits: 5
Enrollment Year: 6, Sem. 11

Activities

Course: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Year, Timetable:
Laboratory: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Year, Timetable:
Project: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Year, Timetable:

Evaluation

Type: Verification

C: 10%, (Tests during semester)
C: 10%, (Tests during semester)
D: 40%, (Homework/Specialty papers)
D: 40%, (Homework/Specialty papers)

Materials

Textbooks

PHP5 and MySQL Bible (pdf, 15.97 MB, en, )
PAW 2021 Curs 1 (pdf, 15.1 MB, ro, )
PAW Curs 1 (video) (mp4, 467.67 MB, ro, )

Project/Design

Server CentOS pentru VMWare Player (cloud) (link, 0 Bytes, en, )
Instalare CentOS (pdf, 2.54 MB, en, )

Online – Registration no.

- access to **online exams** requires the **password** received by email

The password is communicated during the lectures. It is necessary to

Password

Registration no.

Name of the student

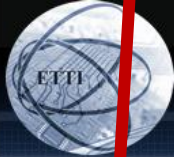
Proposed email 1

Proposed email 2

Write the code below

6fb6953

Send

 **RF-OPTO** 

English | Romana |

Main Courses Master Staff Research **Students**

Login Tutoring

Login

Use the Registration no. and your email or the password received by email

Registration no.

Email/Password

Write the code below

5dd64f9

Send

Online

- access email/password

Main Courses Master Staff Research

Grades Student List Exams Photos

POPESCU GOPO ION



**Fotografia
nu exista**

Date:

Grupa	5700 (2019/2020)
Specializarea	Inginerie electronica si telec
Marca	7000000

You access the site as **this student!**

Main Courses Master Staff Research

Grades Student List Exams Photos

POPESCU GOPO ION



**Fotografia
nu exista**

Date:

Grupa	5700 (2019/2020)
Specializarea	Inginerie electronica si telec
Marca	7000000

You access the site as **this student (including exams)!**

Online

- access email/password

Main Courses Master Staff Research

Grades Student List Exams Photos

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**Fotografia
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You access the site as this student **(including exams)!**

Password

■ received by email

Important message from RF-OPTO

Inbox x



Radu-Florin Damian

to me, POPESCU



Romanian

> English

[Translate message](#)



Laboratorul de Microunde si Optoelectronica
Facultatea de Electronica, Telecomunicatii si Tehnologia Informatiei
Universitatea Tehnica "Gh. Asachi" Iasi

In atentie: POPESCU GOPO ION

Parola pentru a accesa examenele pe server-ul **rf-opto** este

Parola: [REDACTED]

Identificati-va pe [server](#), cu parola, cat mai rapid, pentru confirmare.

Memorati acest mesaj intr-un loc sigur, pentru utilizare ulterioara

Attention: POPESCU GOPO ION

The password to access the exams on the **rf-opto** server is

Password: [REDACTED]

Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use

Reply

Reply all

Forward

Subject	Correspondents
Important message from RF-OPTO	POPESCU GOPO ION
Validation of MD/CR exam from 02/05/2020	[REDACTED]
[REDACTED]	[REDACTED]

From: Me <rdamian@etti.tuiasi.ro> ★

Subject: Important message from RF-OPTO

To: [REDACTED]

Cc: Me <rdamian@etti.tuiasi.ro> ★



Laboratorul de Microunde si Optoelectronica
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Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use

Manual examen online

- The online exam app used for:
 - lectures (attendance)
 - laboratory
 - project
 - examinations

Materials

Other data

[Manual examen on-line](#) (pdf, 2.65 MB, ro, )

[Simulare Examen](#) (video) (mp4, 65.12 MB, ro, )

Microwave Devices and Circuits (Englis

Examen online

- always against a **timetable**
 - long period (project submission/laboratory results)
 - short period (tests: 15min, exam: 2h)

The screenshot shows a web interface for an online exam. At the top, a horizontal timeline bar contains several stages: 'Announcement' (23:59 (10/05/2020)), 'Support material' (00:05 (11/05/2020)), 'Exam Topics' (00:07 (11/05/2020)), 'Results' (00:10 (11/05/2020)), 'End' (00:20 (15/05/2020)), and 'Confirmation' (00:20 (16/05/2020)). To the right of this bar, a red circle highlights the text 'Next timeframe in: 05 m 43 s' and a blue link 'Refresh now'. Below the timeline, the 'Announcement' section is active, displaying the text: 'This is a "fake" exam, introduced to familiarize you with the server interface and to perform the necessary actions during an exam: thesis scan, selfie, use email for co...'. Underneath, the 'Server Time' section states: 'All exams are based on the server's time zone (it may be different from local time). For reference time on the server is now:'. A red circle highlights the server time '10/05/2020 23:59:16'.

Announcement	Support material	Exam Topics	Results	End	Confirmation
23:59 (10/05/2020)	00:05 (11/05/2020)	00:07 (11/05/2020)	00:10 (11/05/2020)	00:20 (15/05/2020)	00:20 (16/05/2020)

Next timeframe in: 05 m 43 s
[Refresh now](#)

Announcement

This is a "fake" exam, introduced to familiarize you with the server interface and to perform the necessary actions during an exam: thesis scan, selfie, use email for co...

Server Time

All exams are based on the server's time zone (it may be different from local time). For reference time on the server is now:

10/05/2020 23:59:16

2025/2026

Project

Project

- self selected homework: available until **20.12** (~2 weeks)
- **only** selection from a list after 20.12

Examene online: 2024/2025

Disciplina: DWPI (Databases, Web Programming and Interfacing (eng))

Pas 3

Nr.	Titlu	Start	Stop	Activ	Subiecte	Sustineri	Finalizate	C
1	Individual Subject Final Homework/Project	22/11/2024; 17:00	14/12/2024; 08:00	Activ	Homework project 2023.pdf	1	0	
2	Generic Test Exam	22/11/2024; 11:00	22/03/2025; 16:00	Activ	manual examen en 0.pdf	0	0	

Project

- Submission: **On-site**
- Presentation (in front of the colleagues) + files submission
- 3 files
 - **1 *.pdf** (print-screen while using the application, short usage instructions, a mini-user manual for the application) (**personal**)
 - **1 *.sql** (backup of the database required to run the application) (**team**)
 - archive of the application (inside: files *.php, *.jpg, folder tree etc., archived: ***.zip, *.7z** etc.) (**team/personal**)

Project grading

- **(2p)** the application runs on the **reference server** (can be downloaded from [rf-opto](#): Debian, php 8 **or** Ubuntu, php 7 **or** CentOS 7, php 5): extract files from the ***.zip** archive in a folder on the server, restore database from the ***.sql** backup file
- **(2p)** the ***.pdf** file containing the user manual exists and is appropriate for the submitted application
- **(2p)** the application **flowchart** has been submitted and contains appropriate data
- **(4p)** presentation on-site of the **application**

Online exam 05.12 - 20.12

- on-line exam for **choosing** the **individual** assignment **inside** the **team** (/individual) web **application**
- Data:
 - 1. **Selfie, file**, taken during the submission process (acting as a signature for the submission)
 - 2. **Title** of your (team) application/project, **text** (e.g. "Student Enrollment")
 - 3. **Team members, text** (e.g. "Popescu/Ionescu/Vasilescu")
 - 4. **Database, file**, Access (*.accdb) or SQL (*.sql), current database
 - 5. **Individual assignment, file**, Doc/Pdf/Txt describing the proposed individual activity (e.g. "I intend to design the scripts that will: 1. add records in the Students table + 2. extract the full list from Courses table + 3. list records from Students table following specified criteria")

Online exam 05.12 - 20.12

- While it is not required to keep the same team composition and/or the same database from the first half of the semester, it is **recommended**.
- The current database is not required to be kept identical until the end of the semester. Addition of tables/columns or change of data types is to be expected during application development. The current file is meant to be used only as support for understanding the proposed individual assignment.
- The individual assignment must not overlap with another team member assignment and cannot be changed during the semester. However, deviation from the assignment will be permitted (**only** if properly justified during the final presentation)
- A team integrated final application (same design, common application) will benefit from a bonus during the final submission. However individual grade will only depend on fulfillment of the individual assignment. Maximum grade can be obtained without the team bonus.

Online exam 19.12 – xx.o6

- on-line exam for the submission of the final individual work inside the team (/individual) web application.
- Data:
 - 1. **Selfie, file**, taken during the submission process (acting as a signature for the submission)
 - 2. **Title** of your (team) application/project, **text**
 - 3. **Team members, text**
 - 4. **PDF file, file**, includes a flowchart of your team application with identification of individual assignment inside the team application, and print-screen while using the application, short usage instructions, a mini-user manual for the application (only for your individual assignment)
 - 4. **SQL file, file**, (*.sql), backup of the final database required to run your submitted application
 - 5. **Archive file, file**, one archive of the application (inside: files *.php, *.jpg, folder tree etc., archived: *.zip, *.7z etc.)

Online exam 19.12 – xx.o6

- The files must be uploaded by **all team members, even if they are identical** (access to the common files is a minimal proof of team membership).
- The "SQL file" and "Archive file" can (should) be common, as is the case for the overall flowchart of the team application.
- However, the identification of individual assignment on the flowchart and the mini-user manual (print-screen, usage instructions) **must** be different between team members, without overlaps.

Introduction

Applications

★ Favorites BCC e-SMART

BANCA COMERCIALA CARPATICA BCC e-SMART internet banking inteligent

Conturi Plati Depozite Rapoarte Setari

Rulare raport Vizualizare rapoarte

ATENTIE!
Va reamintim ca BCC nu solicita informatii confidentiale (user, parola, numar de card, data expirarii cardului, codul PIN) prin e-mail.
Aceste informatii nu trebuie divulgate nimanei, sub niciun motiv.
Pentru alte lamuriri, puteti apela 0800.807.807 (numar accesibil din retea Romtelecom).
Aveti posibilitatea sa alegeti procesarea in regim de urgenta a platilor. Aceasta optiune se comisioneaza suplimentar.

Rulare raport

Raport

Ruleaza raportul

☒ imediat

☐ la data 03.03.2010 ora 23:59

Ruleaza

top

surati activitate pe Internet, va rugam sa consultati periodic documentul [SECURITATE INTERNET](#) *** BCC informeaza ca SWIFT poate furniza autor

Applications

Internet Explorer browser window showing the BCR (Banca Comerciala Romana) website. The address bar displays www.bcr.ro.

The website header includes navigation links: Home, Contact, English, Contact center, Go, Cauta, Go.

The main navigation menu includes: CLICK 24Banking, 24 Banking, Persoane fizice, Private banking, Timeri, PFA, Micro, Corporatii, IMM, Municipalitati, Despre noi, Cariere, Presa.

The sub-navigation menu includes: Lista de conturi, Conturi curente, Economisire, Finantare.

The left sidebar contains a user profile section with a "Logout" button and a "Favorite" dropdown menu. Below this is a list of links for various services:

- Ordin de Plata
- Istoricul tranzactiilor
- Lista ordine de plata
- Sabloane
- Plata repetitiva
- Schimb Valutar
- Cumpara produse
- Deschidere cont curent
- Constituire depozite la termen
- Deschidere cont de economii
- Cumparare CDD
- Ataseaza card de debit
- Aplica pentru un credit
- Curs valutar
- Mesaje(4)
- Contul meu de CLICK 24Banking (Favorite)
- Demo Click 24 Banking

The main content area displays the "Ordin de Plata - Creare" (Create Payment Order) form. The form includes a table with the following columns: Stare cont, Tip, Numar cont, Sold disponibil, and Valuta. The table shows a single row with the following data:

Stare cont	Tip	Numar cont	Sold disponibil	Valuta
Activ	Conturi curente	[Redacted]	[Redacted]	RON

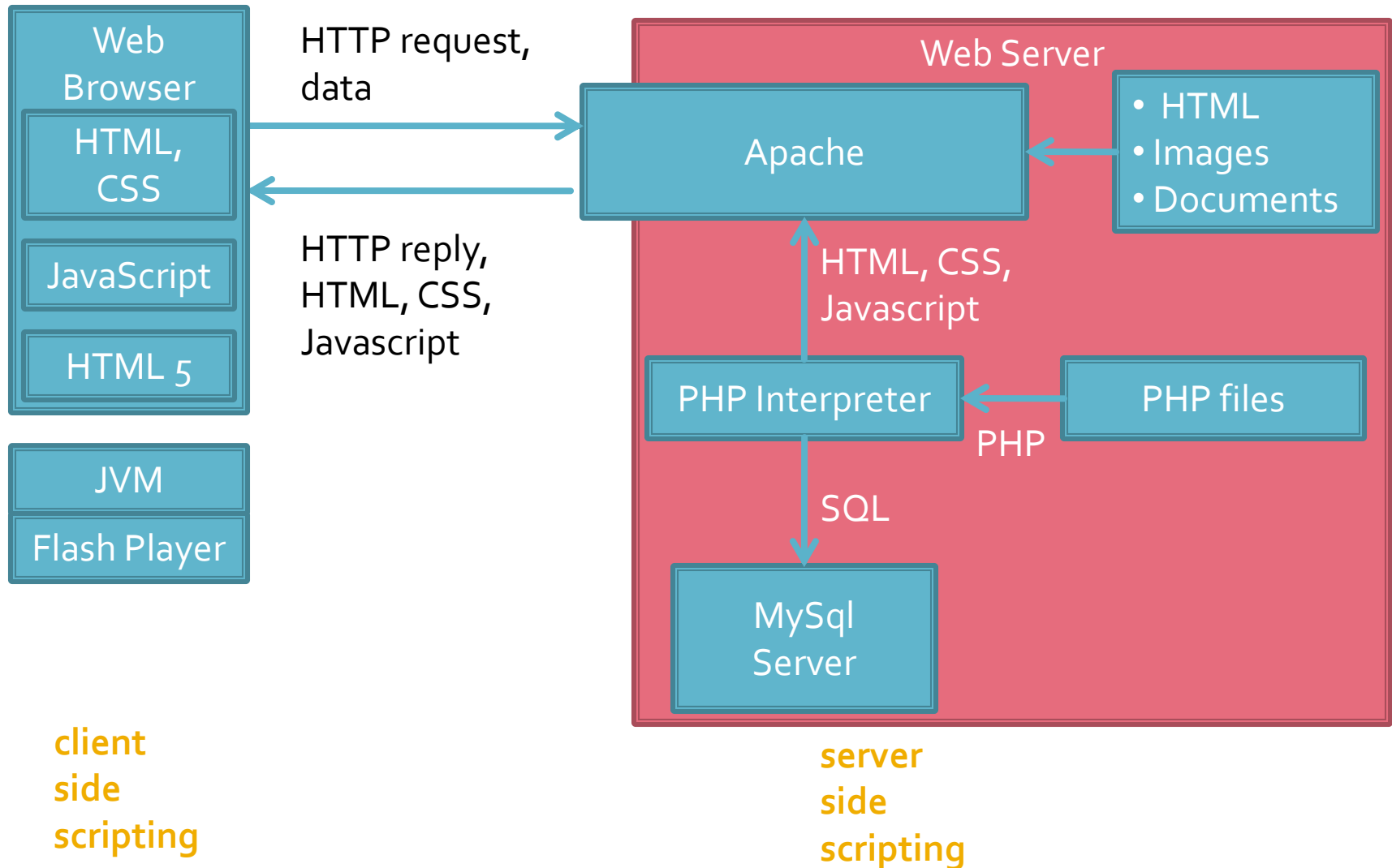
Below the table, there is a "Detalii" section with dropdown menus for "Sablon personal" and "Sablon furnizor", and a text input field for "IBAN beneficiar". A "Verificare IBAN" button is also present.

A "Nota:" section provides instructions: "Pentru a ordona o plata, va rugam fie sa introduceti IBAN beneficiar, fie sa selectati un sablon personal sau pentru furnizori. Atentie : Transferurile se pot efectua doar catre conturi deschise in aceeași valuta!"

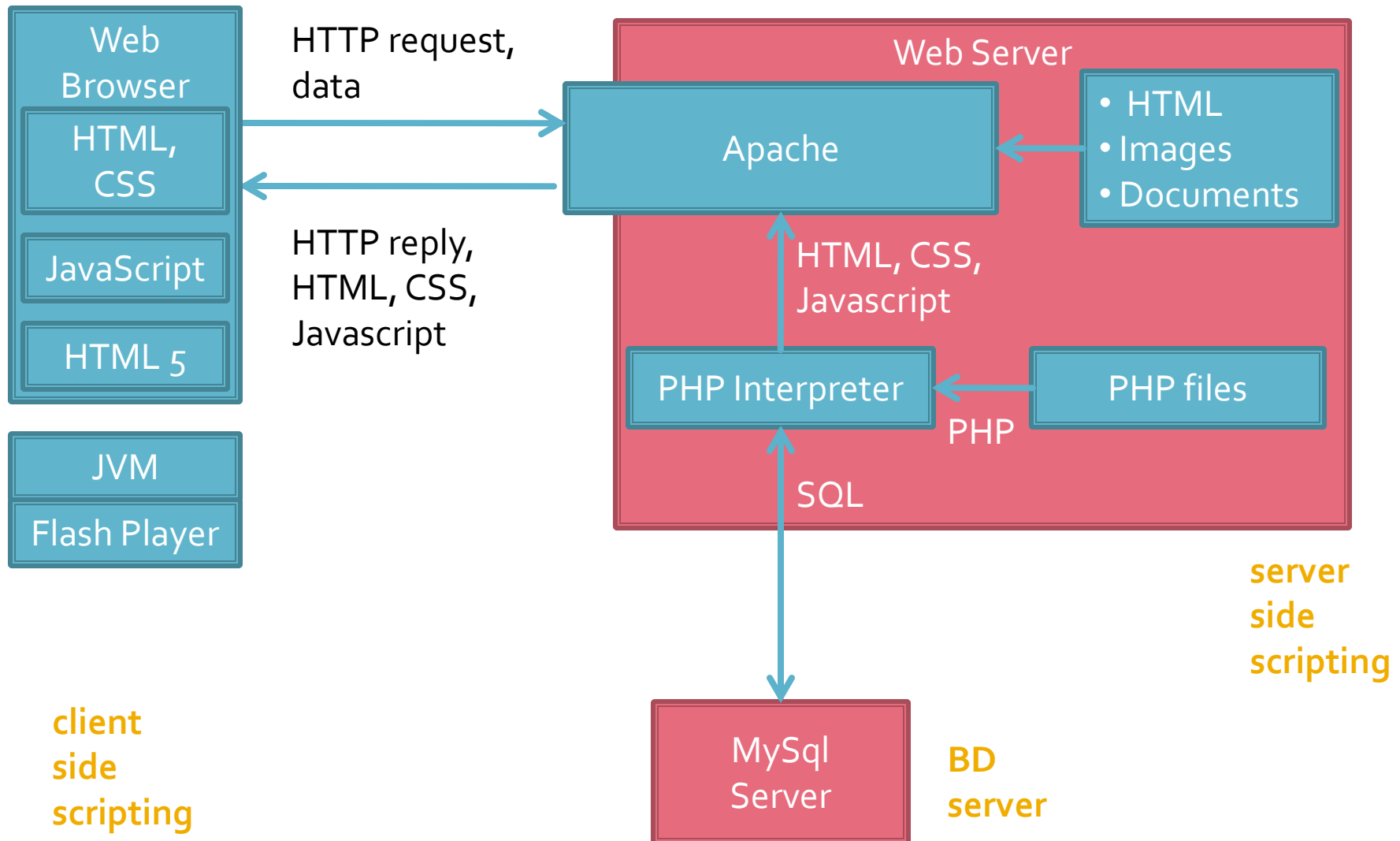
The footer contains a row of four boxes: "Tarife si comisioane", "Intrebari si Raspunsuri", "24 Banking", and "Contact center". Each box has a "detalii" link.

The bottom of the page displays the BCR logo and the text: "BANCA COMERCIALA ROMANA - SOCIETATE ADMINISTRATA IN SISTEM DUALIST, Bucuresti, B-dul Regina Elisabeta nr.5, Sector 3 | mentiuni legale - © 2008 BCR SA - Toate drepturile rezervate | site map |".

Client/Server Scripting



Client/Server Scripting



Necessity

```
<td><?php echo $row['Documente'];?>&nbsp;  </td>
<td><?php echo $row['user_creat'];?>&nbsp;  </td>
<td class="smaller"><a href="control_lot.php?id=-<?php echo $row['ID_LOT'];?>">dezactiveaza</a><br /><a href=
"control_lot.php?id=<?php echo $row['ID_LOT'];?>">modifica</a></td>
</tr>
<?php $index++;
    } while ( $row = mysql_fetch_assoc($result));?>
</table><?php
}
else
{
    echo "<p>Nu exista loturi active</p>";
}
?>

<p class="title">Loturi inactive</p>
<?php
$query = "SELECT l.*, c.`nume_user` AS `user_creat`
FROM `lot` AS l
LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
WHERE l.`Activ` = 0 ORDER BY l.`ID_LOT` DESC";
$result = mysql_query($query);
$total=0;
if ($result && (mysql_num_rows($result) > 0))
{
    $total=mysql_num_rows($result);
    $row = mysql_fetch_assoc($result);
}
if ($total>0)
{?>
<table align="center">
    <tr class="lista_titlu">
        <td align="center">Nu exista loturi inactive</td>
```

Necessity

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

logfile.php lista_lot.php
539 <?php ??>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar'];?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579 <td><?php echo $row['Pui'];?>&nbsp;</td>
580 <td><?php echo $row['Greutate'];?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti'];?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti'];?>&nbsp;</td>
583 <td><?php echo $row['Ferma'];?>&nbsp;</td>
584 <td><?php echo $row['Documente'];?>&nbsp;</td>
```

HTML

E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Win

logfile.php lista_lot.php

```
539 <?php ?>
```

```
540
```

```
541 <div id="maincontent"><!-- InstanceBeginEditable name="Conti
```

```
542 <p><span class="title">Adauga</span><br/>
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```
545 <?php
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```
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
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```
547 FROM `lot` AS l
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548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
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```
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
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```
550 $result = mysql_query($query);
```

```
551 $total=0;
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```
552 if ($result && (mysql_num_rows($result) > 0))
```

```
553 {
```

```
554 $total=mysql_num_rows($result);
```

```
555 $row = mysql_fetch_assoc($result);
```

```
556 }
```

```
557 if ($total>0)
```

```
558 {
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```
559 <table align="center">
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560 <tr class="lista_titlu">
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569 <td>Documente</td>
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```
570 <td>Creat</td>
```

```
571 <td>Comenzi</td>
```

```
572 </tr>
```

```
573 <?php $index=1;
```

```
574 do { ?>
```

```
575 <tr class="<?php if ($index%2) echo "lista_in
```

```
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
```

```
577 <td><?php echo $row['Numar']; ?>&nbsp;</td>
```

```
578 <td><?php echo date("d/m/Y", strtotime($row['Data']))
```

```
579 <td><?php echo $row['Pui']; ?>&nbsp;</td>
```

```
580 <td><?php echo $row['Greutate']; ?>&nbsp;</td>
```

```
581 <td><?php echo $row['Pui_Morti']; ?>&nbsp;</td>
```

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582 <td><?php echo $row['Greutate_Morti']; ?>&nbsp;</td>
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583 <td><?php echo $row['Ferma']; ?>&nbsp;</td>
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584 <td><?php echo $row['Documente']; ?>&nbsp;</td>
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<td>Gr. pui</td>
```

HTML + PHP

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584 <td><?php echo $row['Documente']; ?>&nbsp;</td>
```

HTML + PHP + SQL

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541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar'];?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579 <td><?php echo $row['Pui'];?>&nbsp;</td>
580 <td><?php echo $row['Greutate'];?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti'];?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti'];?>&nbsp;</td>
583 <td><?php echo $row['Ferma'];?>&nbsp;</td>
584 <td><?php echo $row['Documente'];?>&nbsp;</td>
```

```
<?php
$query = "SELECT l.*, c.`nume_user` AS `user_creat`
FROM `lot` AS l
LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
$result = mysql_query($query);
$total=0;
if ($result && (mysql_num_rows($result) > 0))
{
$total=mysql_num_rows($result);
$row = mysql_fetch_assoc($result);
}
```

HTML

- Offers **the logical structure** of the document
- Required
 - the **final result** of any type of programming for a distributed application web is almost exclusively HTML code (HTML structure eventually manipulated by “client side scripting”/Javascript)
- **rf-opto Previous years** Curs 1 PAW 2021-2022 – Recapitulare HTML (RO + video)
- Course: Web Technologies (2012-2013) (EN)
 - <https://rf-opto.etti.tuiasi.ro/internet.php>
 - Web Technologies, Lecture 5
 - Web Technologies, Lecture 6

Learn more

- Web Hypertext Application Technology Working Group (WHATWG) HTML Living Standard
 - <https://html.spec.whatwg.org/>
- W3Schools Online Web Tutorials
 - <https://www.w3schools.com/html/>
 - <https://www.w3schools.com/css/>
 - + JavaScript, PHP, SQL, Python

Web application

Web application

- Implies processing data and generating a customized document (direct result of the input data)
- input data can originate:
 - from the user
 - from an external source (DB)
 - a **combination** user/DB

Forms in HTML

- required for the user to send data to the server
- `<form>...</form>`
- Specific attributes:
 - action: address of the document which receives the data
 - `<form action="<?php echo $_SERVER['PHP_SELF'];?>">`
 - `<form action="actiuni/file2.html">`
 - method: method for transmitting data: post or get
 - `<form method="post" action= ... >`

Methods

- **post** : data is transmitted as a block (inside the body of the HTTP request)
- **get** : appends form-data into the URL :
`results.php?prob=81&an=2009`
- **get** must be used only for “idempotent” data,
 - no collateral effects
 - no change in server status (databases, etc)
- we can emulate a form (**get**) by writing links appropriately

Form elements

- inside `<form>...</form>`
 - input
 - select/option
 - textarea
 - button
- **all** elements will have a name
 - attribute: **name**=""
 - the name will be directly present in the URI generated by get, or will be a variable sent by post
- data is effectively sent by a **type="submit"** button

INPUT

- `<input .../>`
- Attributes:
 - type: text | password | checkbox | radio | submit | reset | file | hidden | image | button
 - name: variable name
 - value: data to send to the server on submitting the form (initial data in some cases)
 - checked/src/size/maxlength depending on type

Examples

```
<input name="textfield" type="text" value="ceva" />
```

```
<input name="Ok" type="submit" value="Trimite" />
```

```
<label><input name="check" type="checkbox" value="5" checked />check1</label>
```

```
<label><input name="RG1" type="radio" value="a" checked="checked" />but1</label>
```

```
<label><input name="RG1" type="radio" value="b" />but2</label>
```

```
<input name="hid" type="hidden" value="6" />
```

ceva

Trimite



check1



but1



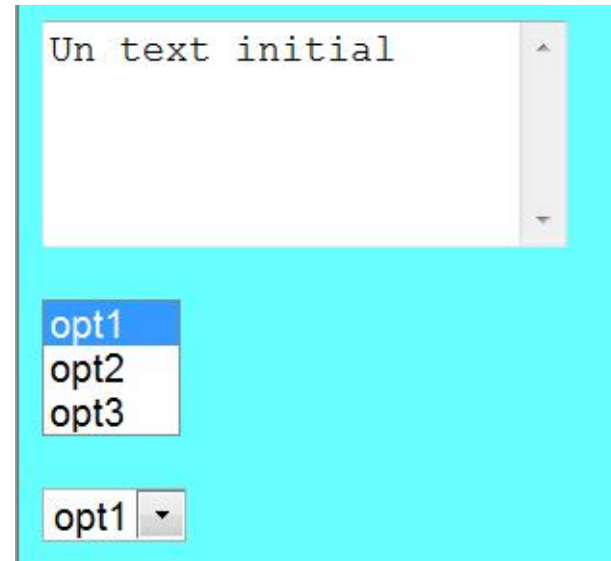
but2

TEXTAREA/SELECT

```
<textarea name="textarea" cols="20" rows="5">Un text  
initial</textarea><br /><br />
```

```
<select name="select." size="3">  
  <option value="1" selected="selected">opt1</option>  
  <option value="2">opt2</option>  
  <option value="3">opt3</option>  
</select><br /><br />
```

```
<select name="select...">  
  <option value="1" selected="selected">opt1</option>  
  <option value="2">opt2</option>  
  <option value="3">opt3</option>  
</select>
```



Un text initial

opt1
opt2
opt3

opt1 ▼

BUTTON

```
<button type="button" onClick="do ( );">Click Here</button>
```

```
<button type="submit" value="infoOnly">Request Info</button>
```

```
<button type="reset">Clear</button>
```

```
<button type="submit" id="sender"  
value="infoOnly">Request<br />Info<br /></button>
```

```
<button type="submit" id="sender"  
value="infoOnly"><p>Request</p><p><b><i>Info</i></b></p>  
</button>
```

- introduced to insert complex content in buttons (formatted text, images)
- Not always the best idea (Don't make me think!)

Click Here

Request Info 

 Clear

Request
Info



Request

Info



Exemplu – forma

- Mic magazin online
- Formular de comanda cu procesarea comenzii

```
<html>
<head>
<title>Magazin online XXX SRL</title>
</head>
<body>
<h1>Magazin online XXX SRL</h1>
<h2>Realizati comanda</h2>
<form action="rezultat.html" method="post">
<table border="0">
<tr bgcolor="#cccccc"><td width="150">Produs</td><td width="15">Cantitate</td></tr>
<tr><td>Carti</td><td align="center"><input type="text" name="carti_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Caiete</td><td align="center"><input type="text" name="caiete_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Penare</td><td align="center"><input type="text" name="penare_cant" size="3" maxlength="3" /></td></tr>
<tr><td colspan="2" align="center"><input type="submit" value="Trimite" /></td></tr>
</table>
</form>
</body>
</html>
```

Magazin online XXX SRL

Realizati comanda

Produs	Cantitate
Carti	1
Caiete	2
Penare	3

HTML 5 – Input validation



- `<input type="email">`
- `<input type="number">`
- `<input type="search">`
- `<input type="tel">`
- `<input type="url">`

HTML 5 – Input validation



```
<label for="email">Email:</label>
<input type="email" id="email" name="email">
<br /><br />
<label for="can">Cantitate (1 - 5):</label>
<input type="number" id="can" name="can" min="1" max="5">
<br /><br />
<label for="gsearch">Cautare Google:</label>
<input type="search" id="gsearch" name="gsearch">
<br /><br />
<label for="phone">Telefon:</label>
<input type="tel" id="phone" name="phone"
placeholder="0123.456.789" pattern="[0-9]{4}.[0-9]{3}.[0-9]{3}"
required>
<br /><br />
<label for="server">Server:</label>
<input type="url" id="server" name="server">
```

Email:

Cantitate (1 - 5):

Cautare Google:

Telefon:

Server:

HTML 5 – Input validation



Email:

Please include an '@' in the email address. 'ceva' is missing an '@'.

ceva@server

Cantitate (1 - 5):

Telefon:



Please match the requested format.

Server:



Please enter a URL.

Email:



Please include an '@' in the email address. 'ceva' is missing an '@'.

Telefon:

Server:



Please fill out this field.

Telefon:



Please match the requested format.

Server:

HTML 5 – Native browser UI



- `<input type="color">`
- `<input type="date">`
- `<input type="datetime-local">`
- `<input type="month">`
- `<input type="range">`
- `<input type="time">`
- `<input type="week">`

HTML 5 – Native browser UI



```
<label for="culoare">Culoare:</label>
<input type="color" id="culoare" name="culoare" value="#ff0000">
<br /><br />
<label for="nastere">Data nastere:</label>
<input type="date" id="nastere" name="nastere">
<br /><br />
<label for="examen">Examen (data si ora):</label>
<input type="datetime-local" id="examen" name="examen">
<br /><br />
<label for="fin">Finalizare (luna si an):</label>
<input type="month" id="fin" name="fin">
<br /><br />
<label for="vol">Volum (0 - 50):</label>
<input type="range" id="vol" name="vol" min="0" max="50">
<br /><br />
<label for="ora">Ora intalnire:</label>
<input type="time" id="ora" name="ora">
<br /><br />
<label for="sap">Saptamana:</label>
<input type="week" id="sap" name="sap">
```

Culoare:

Data nastere:

Examen (data si ora):

Finalizare (luna si an):

Volum (0 - 50):

Ora intalnire:

Saptamana:

HTML 5 – Native browser UI



Culoare:

Data nastere:

Examen (data):

Finalizare (lu):

Volum (0 - 50):

Ora intalnire:

Saptamara:

R G B ↕

Culoare:

Data nastere:

Examen (data):

Finalizare (lu):

Volum (0 - 50):

Ora intalnire:

Saptamara:

March 2023

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18

HTML 5 – Native browser UI



Examen (data si ora):

Finalizare (luna si an): **March 2023** ↑ ↓

Volum (0 - 50):

Ora intalnire:

Saptamana:

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

[Clear](#) [Today](#)

02	21	PM
03	22	AM
04	23	
05	24	
06	25	
07	26	
08		

Finalizare (luna si an): **June 2023**

Volum (0 - 50):

Ora intalnire:

Saptamana:

2023

Jan	Feb	Mar	Apr
May	Jun	Jul	Aug
Sep	Oct	Nov	Dec

[Clear](#) [This month](#)

HTML 5 – Native browser UI



Volum (0 - 50):



Ora intalnire:

05:30 PM

Saptamana: W

02 25

PM

03 26

AM

04 27

05 28

06 29

07 30

08 31

Trimite

Saptamana:

Week 13, 2023



Trimite

March 2023



Week	Su	Mo	Tu	We	Th	Fr	Sa
9	26	27	28	1	2	3	4
10	5	6	7	8	9	10	11
11	12	13	14	15	16	17	18
12	19	20	21	22	23	24	25
13	26	27	28	29	30	31	1
14	2	3	4	5	6	7	8

Clear

This week

Media



- HTML 5 significantly improves (with browser support) the ability to display multimedia data without external applications

- `<audio>...</audio>`

- MP3, Wav, Ogg

- `<video>...</video>`

- MP4, WebM, Ogg

```
<video width="320" height="240" controls  
autoplay loop>  
  <source src="movie.mp4" type="video/mp4">  
  <source src="movie.ogg" type="video/ogg">  
  Your browser does not support the video tag.  
</video>
```

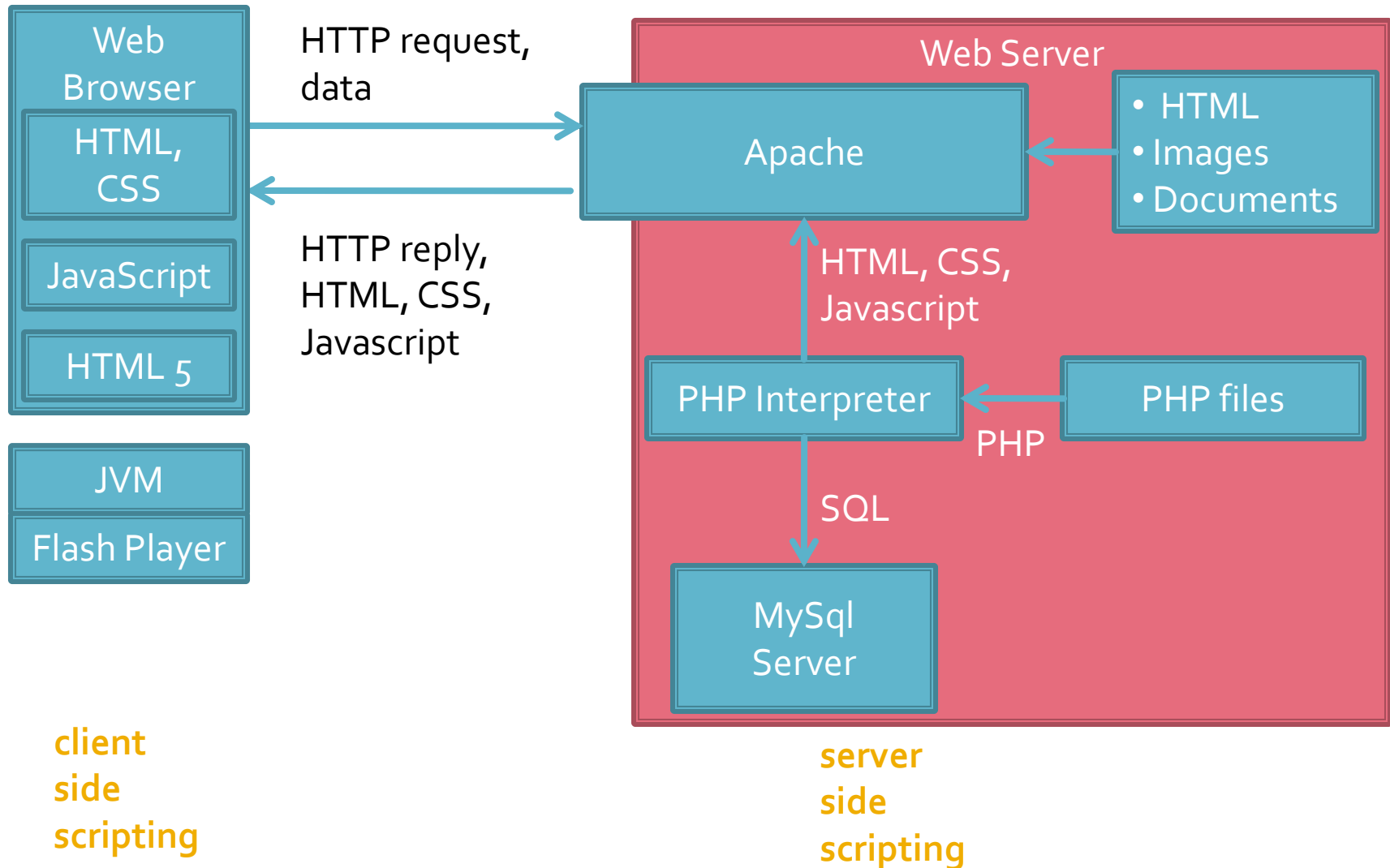
Hypertext PreProcessor

PHP

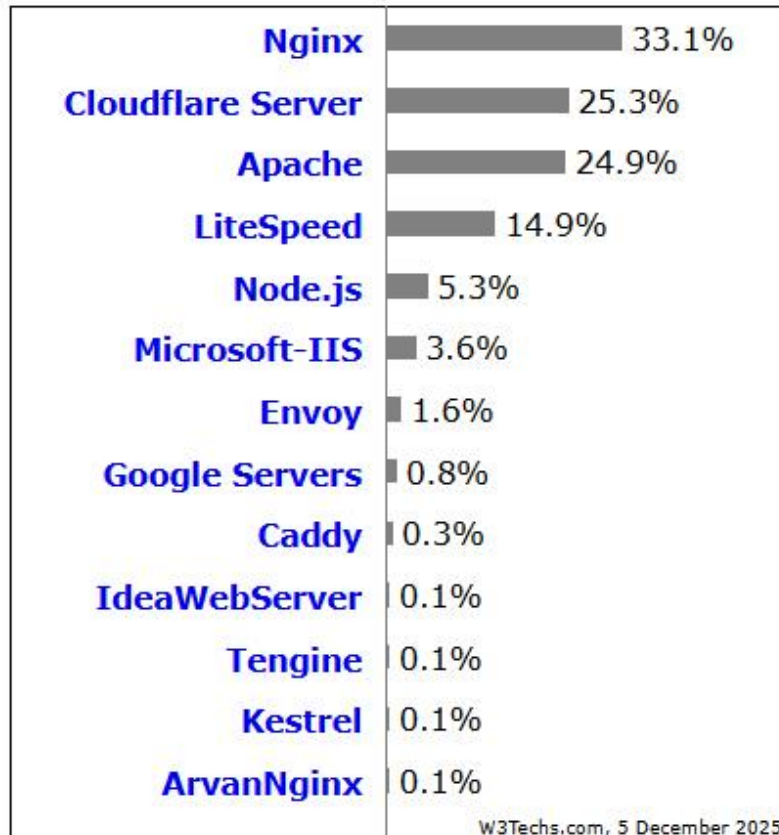
PHP

- Hypertext PreProcessor – recursive acronym
 - initial – Personal Home Page / Form Interpreter
 - 1995 – 1.0
- current version: 7.4.33 (end of life)
 - 2022-11-03
- current version: 8.5.0
 - 2025-11-20
 - 8.4.15, 8.3.28
- general-purpose scripting language
- server-side scripting
- open source

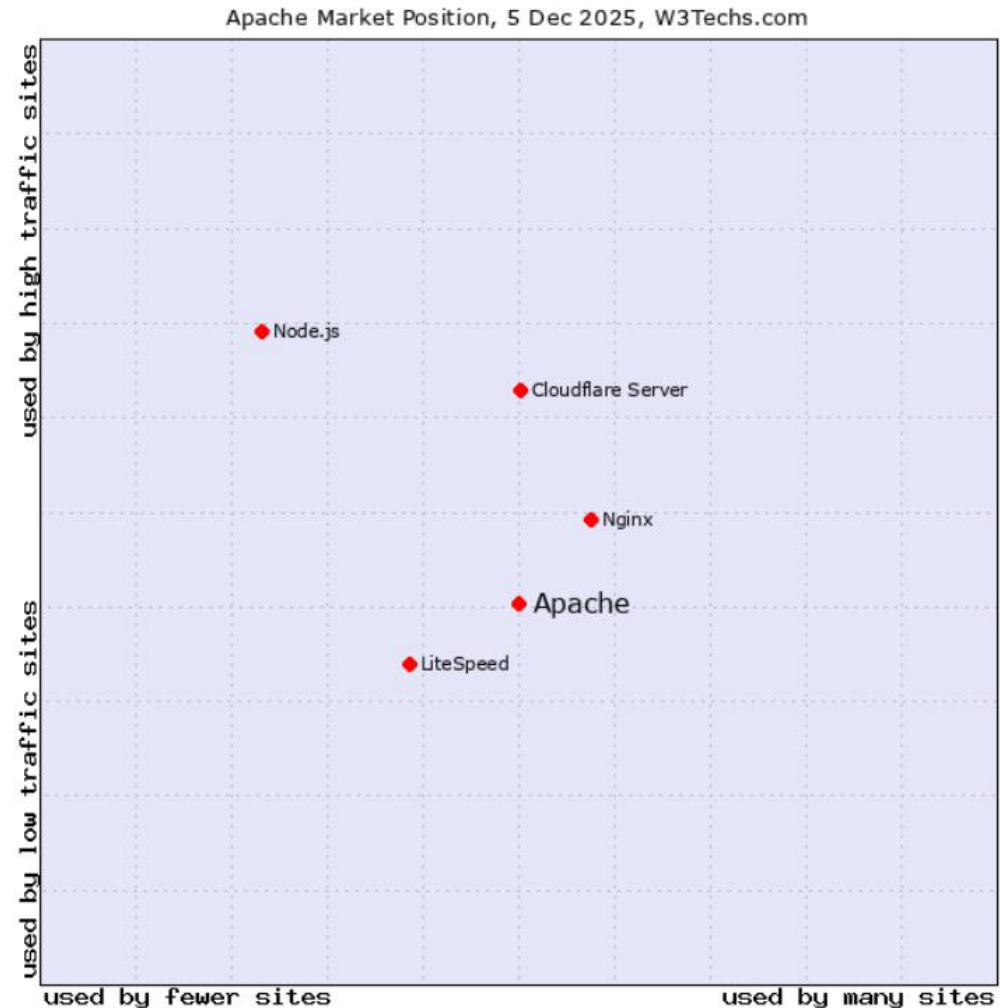
Client/Server Scripting



Technology of Web servers

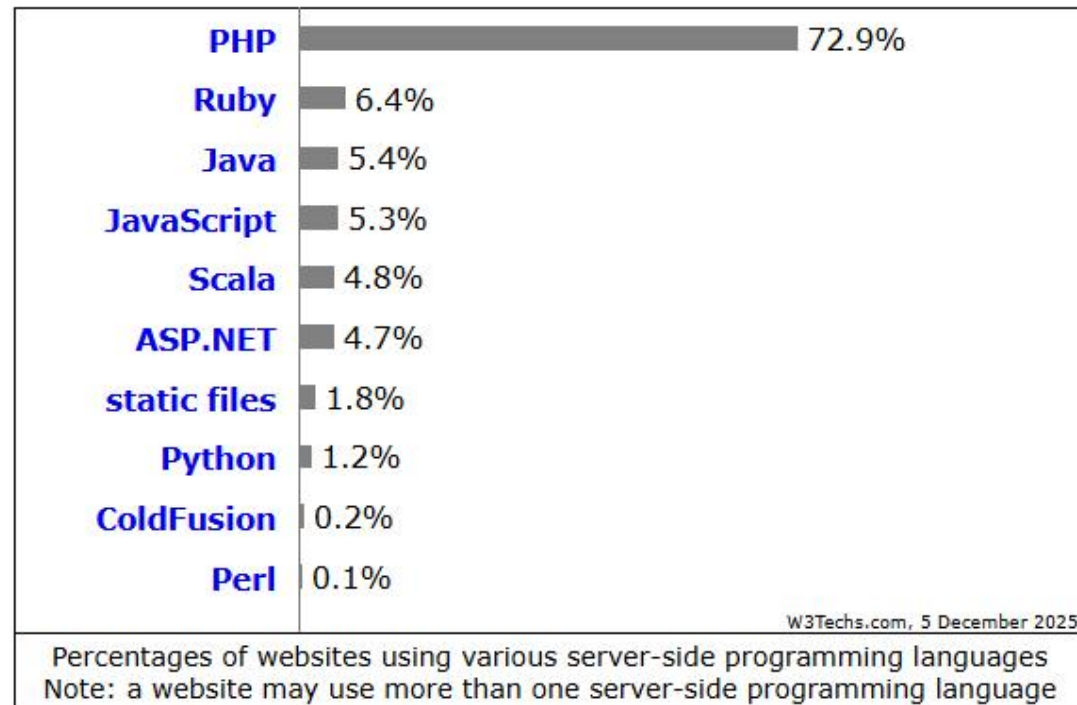


Percentages of websites using various web servers
Note: a website may use more than one web server



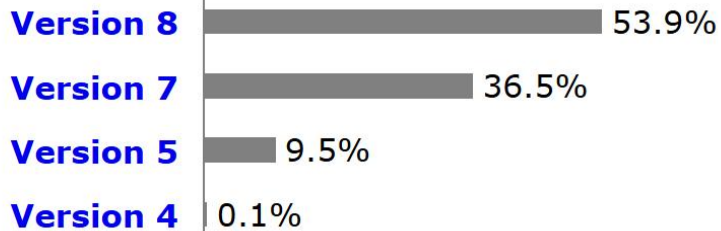
Technology of Web servers

- PHP – 72.9%
- Ruby – 6.4%
- Java – 5.4%
- JavaScript – 5.3%
- Scala – 4.8%
- ASP.NET – 4.7%
- ...
- Python – 1.2%



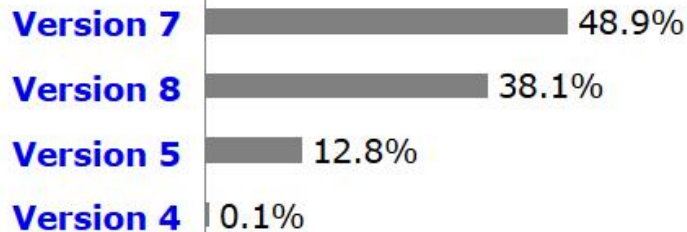
Technology of Web servers

■ PHP version



W3Techs.com, 5 December 2025

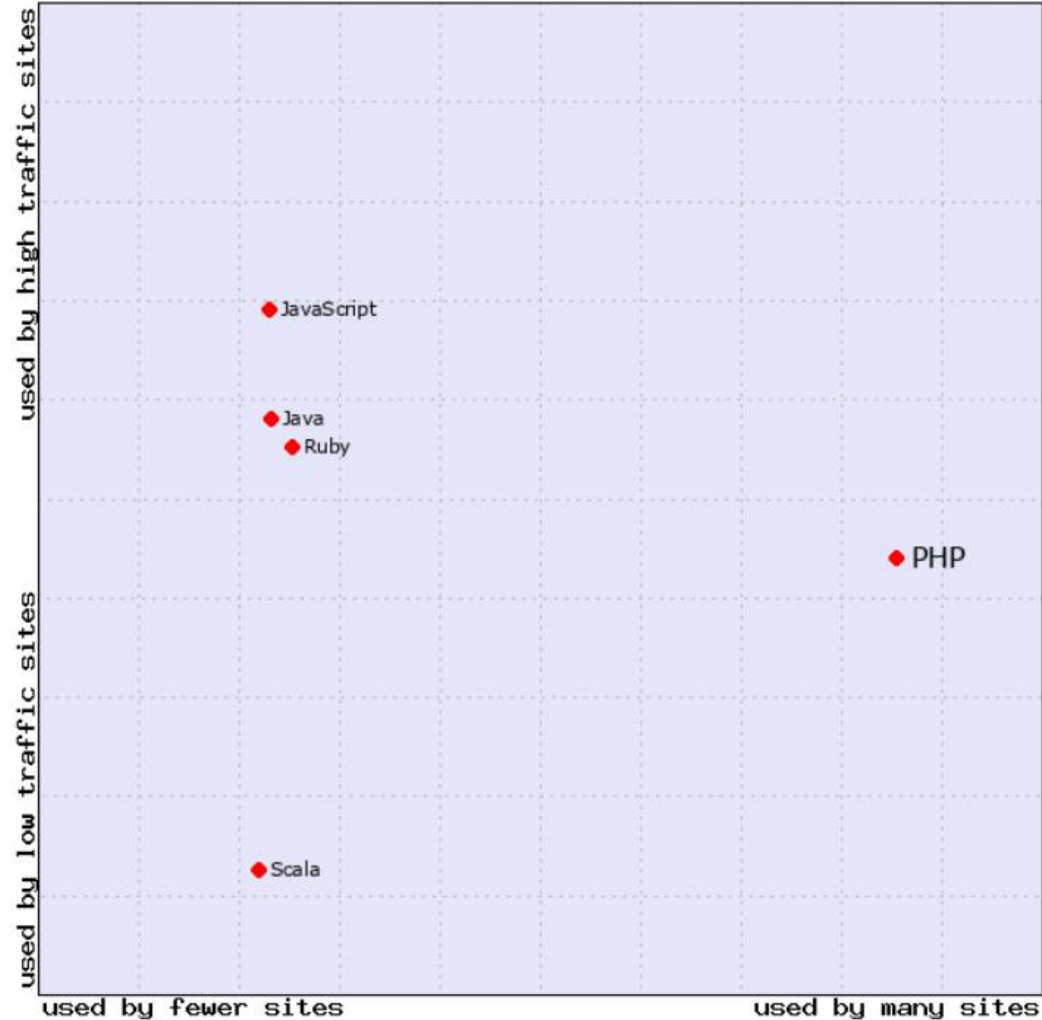
Percentages of websites using various versions of PHP



W3Techs.com, 29 November 2024

Percentages of websites using various versions of PHP

PHP Market Position, 5 Dec 2025, W3Techs.com

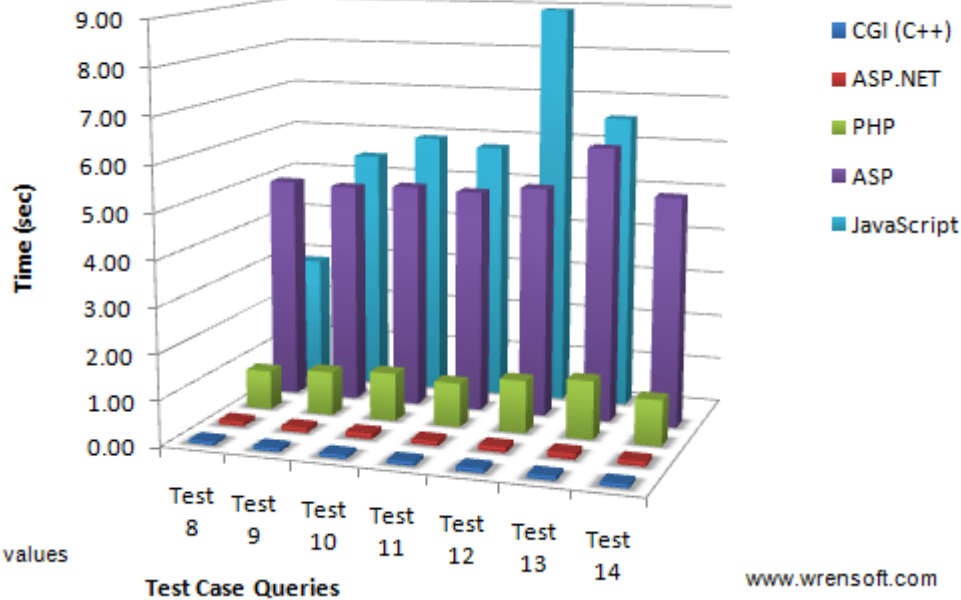


PHP Advantages

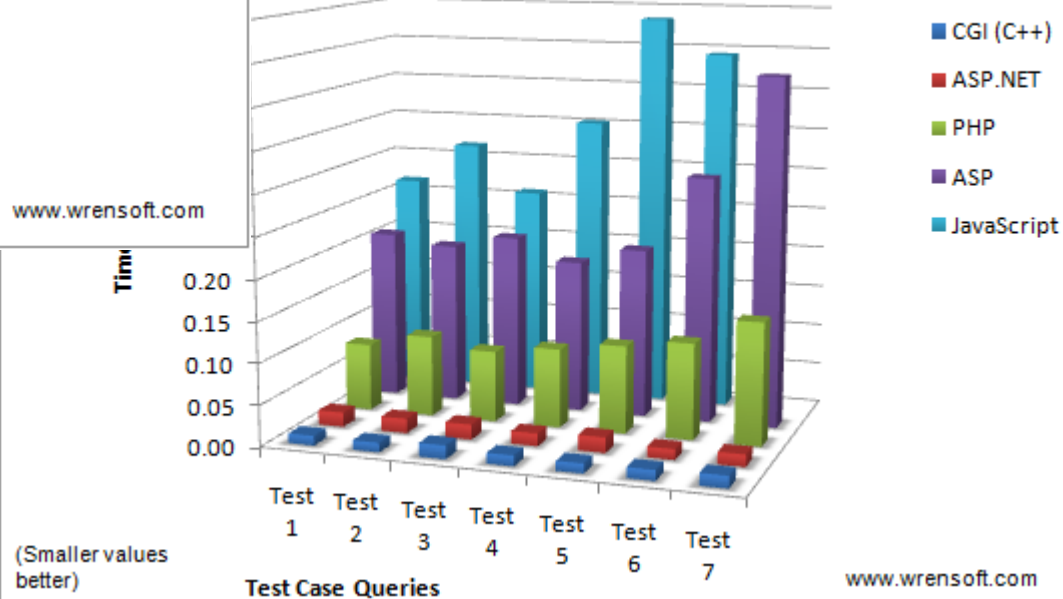
- Efficient performance (but interpreted language!)
- Strong support for database integration
- Low cost (Open source)
- Extensive library (dedicated for web)
- Easy to learn and use (C)
- Portability and compatibility
 - Open source: source available
- **Large and active community**
- Commercial support widely available

Performance

Zoom search benchmarking
(Medium site - 60K pages, 2.5 million words)



Zoom search benchmarking
(Small site - 400 pages, 266K words)



Sites

- [Microsoft.com](https://www.microsoft.com) used on subdomain
- [Facebook.com](https://www.facebook.com)
- [Wikipedia.org](https://www.wikipedia.org)
- [Digicert.com](https://www.digicert.com)
- [Wordpress.org](https://www.wordpress.org)
- [Vimeo.com](https://www.vimeo.com) used on subdomain
- [Archive.org](https://www.archive.org) used on inner pages
- [Vk.com](https://www.vk.com)
- [Theguardian.com](https://www.theguardian.com) used on subdomain
- [Wordpress.com](https://www.wordpress.com)

PHP - Concepts

- interpreted language – compiled “on the fly” by a PHP interpreter on the server
- PHP scripts contain the sources
 - there is the possibility of pre-compiling the sources in order to increase speed
 - Hip-Hop for PHP / Facebook
 - HipHop Virtual Machine / Facebook
- oriented towards dynamic web applications (libraries)
- can be integrated into HTML - typical usage

Integration

```
556     }
557     if ($total>0)
558     {?>
559     <table align="center">
560     <tr class="lista_titlu">
561     <td align="center">Nr.</td>
562     <td>Numar</td>
563     <td>Data</td>
564     <td>Nr. pui</td>
565     <td>Gr. pui</td>
566     <td>Nr. pui morti</td>
567     <td>Gr. pui morti</td>
568     <td>Ferma</td>
569     <td>Documente</td>
570     <td>Creat</td>
571     <td>Comenzi</td>
572     </tr>
573     <?php $index=1;
574     do { ?>
575     <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_par";?>">
576     <td align="center"><?php echo $index; ?>&nbsp;</td>
577     <td><?php echo $row['Numar'];?>&nbsp;</td>
578     <td><?php echo date("d/m/Y", strtotime($row['Data']));?>&nbsp;</td>
579     <td><?php echo $row['Pui'];?>&nbsp;</td>
580     <td><?php echo $row['Greutate'];?>&nbsp;</td>
```



⊗ 12 ⚠ 0 🗨 0

Escaping from HTML

- A PHP file normally contains HTML tags (**IS** basically a HTML file), with some PHP code **sections** inside
- PHP interpreter
- the PHP interpreter looks for sections that it needs to interpret and their interior is processed as PHP code
- what is found **outside** these sections is sent to the web server **unmodified**
- most of the time the result is a virtual "text file" containing (pure) **HTML** code (+CSS/Javascript)

Escaping from HTML

- `<?php ... ?>`
 - XML type – default, always available, recommended
- `<? ... ?>`
 - short, usually deactivated
 - absent in PHP 7,8
- `<script language="php"> ... </script>`
 - script type, available
- `<% ... %>`
 - ASP type, usually deactivated
 - absent in PHP 7,8

Escaping from HTML

- **echo** a PHP language construct: output one or more strings (equivalent with puts() in C)
- can process data
 - `echo $a + $b;`
- in most cases “output” is the data sent to the client by the web server
- “output” can usually be considered:
 - the current document
 - that particular script position inside the document

HTML + PHP

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
logfile.php lista_lot.php
539 <?php }?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
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567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
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574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_p
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar']; ?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data'])); ?>&nbsp;</td>
579 <td><?php echo $row['Pui']; ?>&nbsp;</td>
580 <td><?php echo $row['Greutate']; ?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti']; ?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti']; ?>&nbsp;</td>
583 <td><?php echo $row['Ferma']; ?>&nbsp;</td>
584 <td><?php echo $row['Documente']; ?>&nbsp;</td>
```

Escaping possibilities

- All versions offer the same HTML source for the browser
- The one that leaves the HTML structure outside the escaping tags and only the dynamic data results from PHP processing is **recommended**
- HTML + PHP code is interpreted much more elegantly in WYSIWYG editors

```
<h2>Transaction result</h2>  
<?php echo '<p>Command received</p>';?>
```

```
<h2>Transaction result</h2>  
<p><?php echo 'Command received';?></p>
```

```
<?php echo '<h1>Online Shop XXX SRL</h1>';?>  
<?php echo '<h2>Transaction result</h2>';?>  
<?php echo '<p>Command received</p>';?>
```

```
<?php  
echo '<h1>Online Shop XXX SRL</h1>';  
echo '<h2>Transaction result</h2>';  
echo '<p>Command received</p>';  
?>
```

Escaping possibilities

```
test.php x
1 <h2>Rezultate comanda</h2>
2 <p><?php echo 'Comanda receptionata';?></p>
3
4 <?php
5 echo '<h1>Magazin online XXX SRL</h1>';
6 echo '<h2>Rezultate comanda</h2>';
7 echo '<p>Comanda receptionata</p>';
8 ?>
9
```

PHP – statements

- PHP statements end with a semicolon ;
 - exception: semicolon can be omitted at the end of the PHP code block: ... **echo 'something' ?>**
- multiple statements can be written on the same line (without moving to the next line)
 - **echo 'some1'; echo 'some2'; ...**
 - not recommended

PHP – comments

- comments in PHP follow C and Pearl syntax
- at the end of the line:
 - `// echo some; //comment`
 - `# echo some; #comment`
- block comment
 - `/* ... */`
 - `/* a
multiline
comment */`

PHP – constants

- Like any programming language PHP is based on usage
 - constants
 - variables
 - functions
- Constants definition:
 - `define('BOOKPRICE', 100);`
- “case sensitive”
 - by convention, only in capital letters
 - `echo BOOKPRICE; // 100`

PHP – variables

- variable – **\$** character followed by the variable name
- the variable name is “case sensitive”
- a frequent mistake is forgetting the \$ char
 - PHP Notice: Use of undefined constant an – assumed \$an (**or 'an'**) in D:\\Server\\
- Data types
 - scalar
 - composite
 - special

PHP – data types

- scalar
 - Boolean
 - integer
 - float (double)
 - **string**
- composite
 - array
 - object
- special
 - resource
 - NULL

PHP – Variables

- declaring variables is **not required**, except when declaring a definition domain (eg. global variables)
 - `global $a, $b;`
`$c=$a+$b;`
- freeing the memory is not necessary, PHP does it automatically at the end of the script

PHP – Variables

```
$var = expression
```

- Control of variables is automatic, “on the fly”
 - A variable starts with the **\$** sign, followed by the name of the variable
 - PHP has no command for declaring a variable. It is created the moment you first assign a value to it
 - PHP automatically associates a data type to the variable, depending on its value
 - Variable names are case-sensitive (\$age and \$AGE are two different variables)

PHP – data types

- PHP automatically associates a data type to the variable, depending on its value
- automatic conversions are often **not** numerical but **“human”**
- In PHP 7, type declarations were added for function arguments, return values and class properties

```
<?php
echo $variable ; // type Null, not initialized – value NULL (only)
$variable = "0"; // $ variable  type string (ASCII 48)
$variable += 2; // $ variable  type integer (2)
$variable = $ variable + 1.3; // $variable  type float (3.3)
$variable = 5 + "10 objects"; // $variable  type integer (15)
$var2=5; // $var2  type integer (5)
$variable =$var2."10 objects"; // $variable  type string “510 objects”
?>
```

PHP – operators

- Similar (generally) to C/C++
- An operator takes one or more values (or expressions), performs an operation and yields another value
- Operators are divided in three groups
 - Unary operators: applied to one value
 - Binary operators: applied to two values
 - Ternary operators: applied to three values

PHP – operators

- Operators
 - Arithmetic
 - Assignment
 - Bitwise
 - Comparison
 - Incrementing/Decrementing
 - Logical
 - **String**

PHP – operators

■ Arithmetic

- `-$a` – Negation
- `$a + $b` – Addition
- `$a - $b` – Subtraction
- `$a * $b` – Multiplication
- `$a / $b` – Division
- `$a % $b` – Modulo (remainder)
- `$a ** $b` – Exponentiation

■ String

- `$a.$b` – Concatenation String a with String b

PHP – operators

■ Assignment

- `$a=$b`
- `$a+=$b` ($a=a+b$)
- `$a-=$b` ($a=a-b$)
- `$a/=$b` ($a=a/b$)
- `$a*=$b` ($a=a*b$)
- `$a%=$b` ($a=a\%b$)
- `$a**=$b` ($a=a^b$)
- **`$a.=$b` ($a=a$ concatenate b - strings)**

PHP – operators

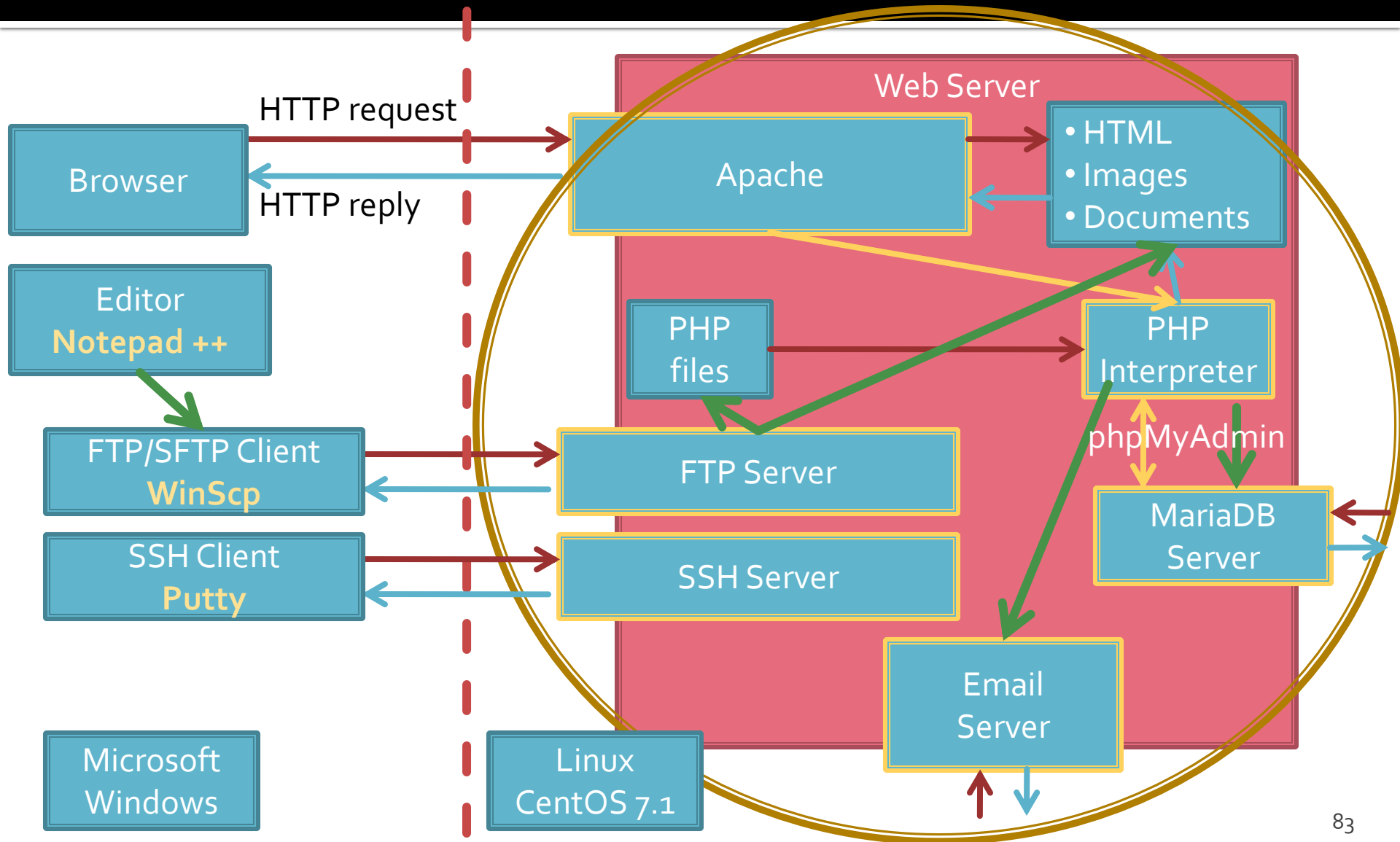
- Bitwise operators
 - similar to C
 - `~, &, |, ^, <<, >>`
- Logical operators
 - offer a boolean result (always: true/false)
 - Some similar to C
 - `&&, ||, !`
 - Supplemental
 - `and, or, xor` – equivalent but with lower priority
 - `$a=55/0 or die('divide by 0');`

PHP – operators

- Comparison operators
 - most of the time offer a boolean result (true/false)
 - similar to C
 - `==` , `!=` , `>` , `<` , `<>` , `>=` , `<=`
 - Supplemental
 - `===` “Identical”, equal value **AND** same type
 - `!==` “Not identical”, different value **OR** different type
 - `<=>` “Spaceship”, an integer -1/0/1 depending on relation between operands
 - `?:` “Ternary”, `(expr1) ? (expr2) : (expr3)` evaluates to `expr2` if `expr1` evaluates to true, and `expr3` if `expr1` evaluates to false
 - `??` “Null Coalescing”, `$var = expression ?? 'default value if NULL';`

Reference server and applications

Using LAMP



Using LAMP

- differences from a Windows computer
 - system commands difficult
 - command prompt, SSH, Putty
 - files submitted by FTP
 - Copy/Paste unavailable
 - administration of MySql server:
 - using PhpMyAdmin (preloaded)
 - using other software on the host computer (eg. MySQL Workbench)

Using LAMP – Advantages

- Advantages
 - Available applications have newer versions (**2020 ~**)
 - CentOS/7.1, Apache/2.4.6, PHP/5.4.16, MariaDB/5.5.44, PhpMyAdmin/4.4.15
 - Ubuntu/20.04, Apache/ 2.4.41, PHP/ 7.4.3, MariaDB/ 10.3.31, PhpMyAdmin/4.9.5
 - Debian/12.5, Apache/ 2.4.57, PHP/ 8.2.7, MariaDB/ 10.11.6, PhpMyAdmin/5.2.1
 - Available applications very similar with real life hosting solutions
 - SSH
 - FTP
 - Email
 - for full functionality the network interface for the VM must be changed
Host-only -> **Bridged**

Reference Server

- rf-opto.etti.tuiasi.ro > Master > Web Design

Project/Design

[VMware Workstation Player](#) (link, 0 Bytes, en, )

[Ubuntu VM for VMWare](#) (link, 0 Bytes, en, )

[Ubuntu Setup](#) (pdf, 1.83 MB, en, )

[Centos VM for VMWare](#) (link, 0 Bytes, en, )

[Centos Setup](#) (pdf, 2.54 MB, en, )

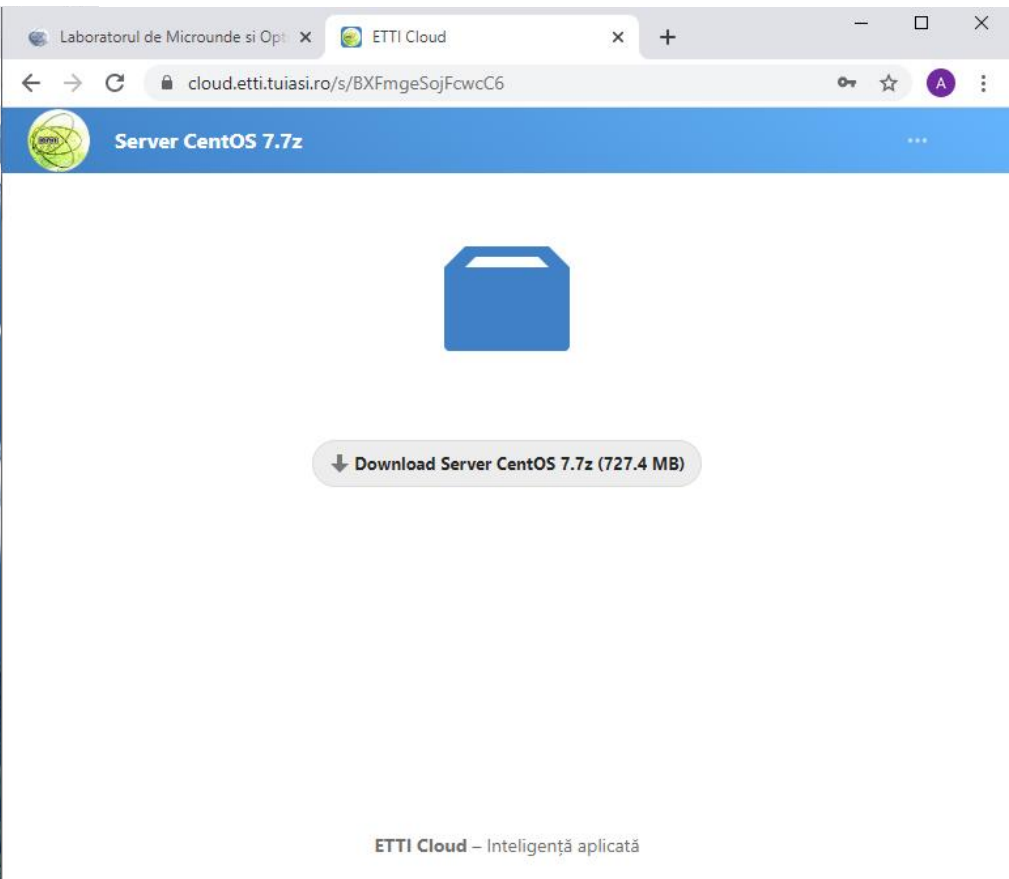
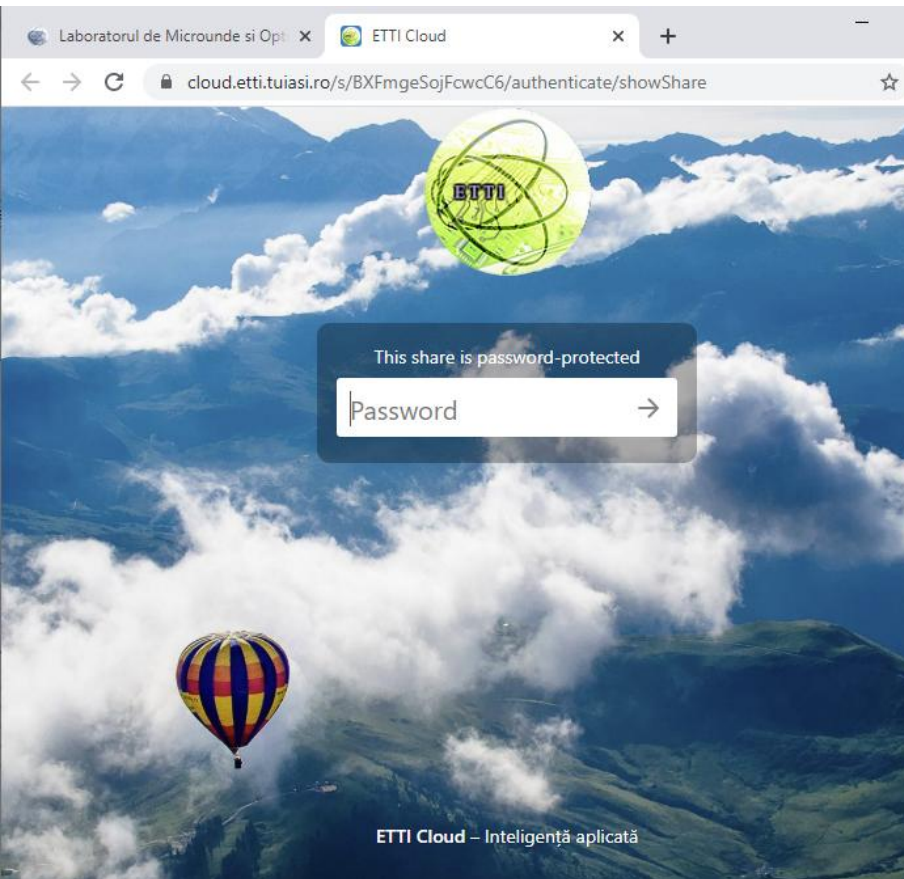
Examen

[Online Exam manual](#) (pdf, 2.56 MB, en, )

[Manual examen on-line](#) (pdf, 2.65 MB, ro, )

Reference Server

■ Cloud ETTI: RF-opto3#



Server referinta

- Masina virtuala
- VMware Workstation Player
 - Gratuit (non-comercial)
 - <https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html>
- Inlocuit de VMware Workstation Pro



VMware Workstation Pro for PC

Build and test nearly any app with the world's leading desktop hypervisor app for Windows and Linux.

DOWNLOAD NOW >

Server referinta

- Masina virtuala
- VMware Workstation Pro (Broadcom)



VMware Workstation Pro for PC

Build and test nearly any app with the world's leading desktop hypervisor app for Windows and Linux.

[DOWNLOAD NOW >](#)



Broadcom Inc. Customer sign-in

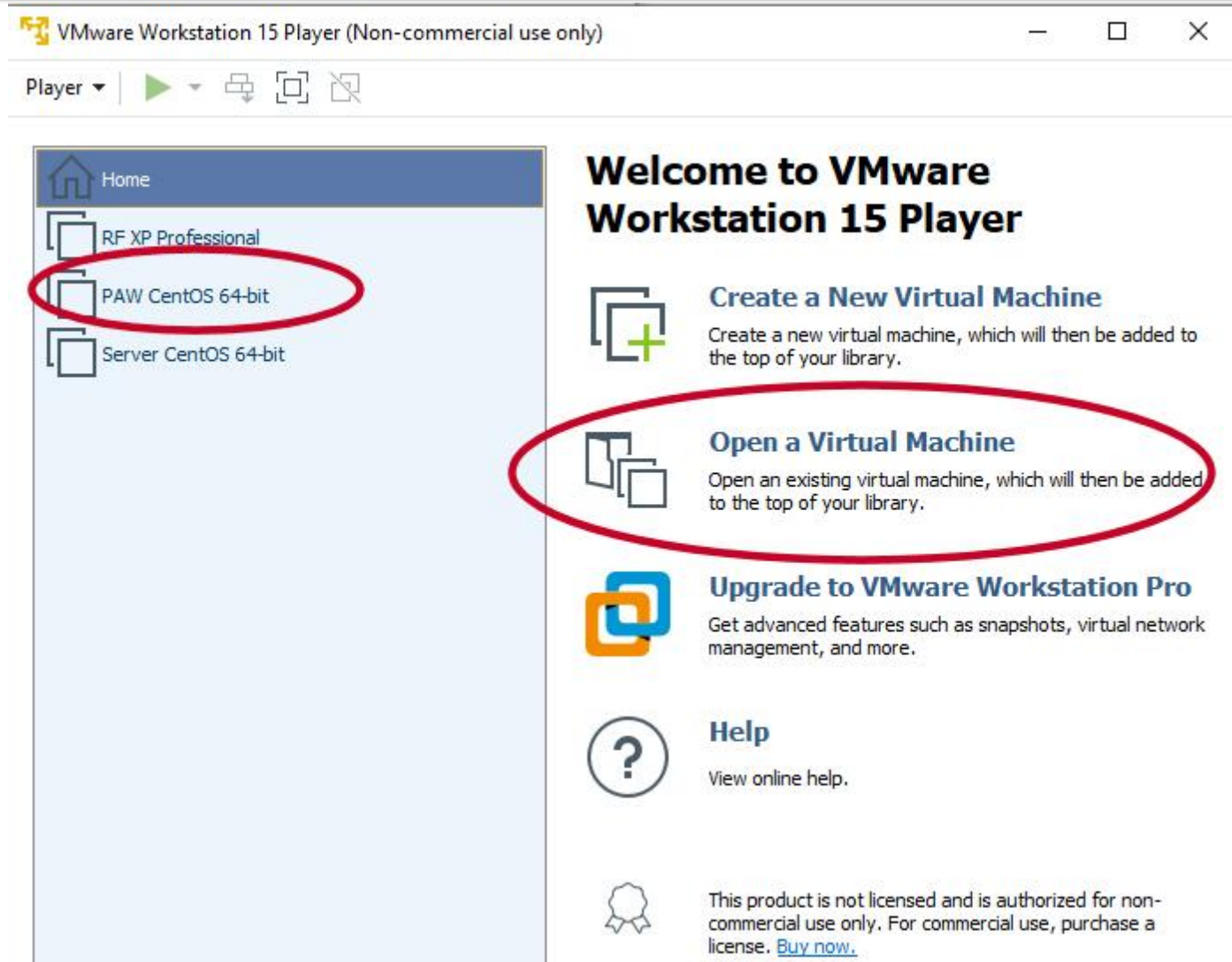
Username

Enter your username

☐ Remember me

Next

Reference Server

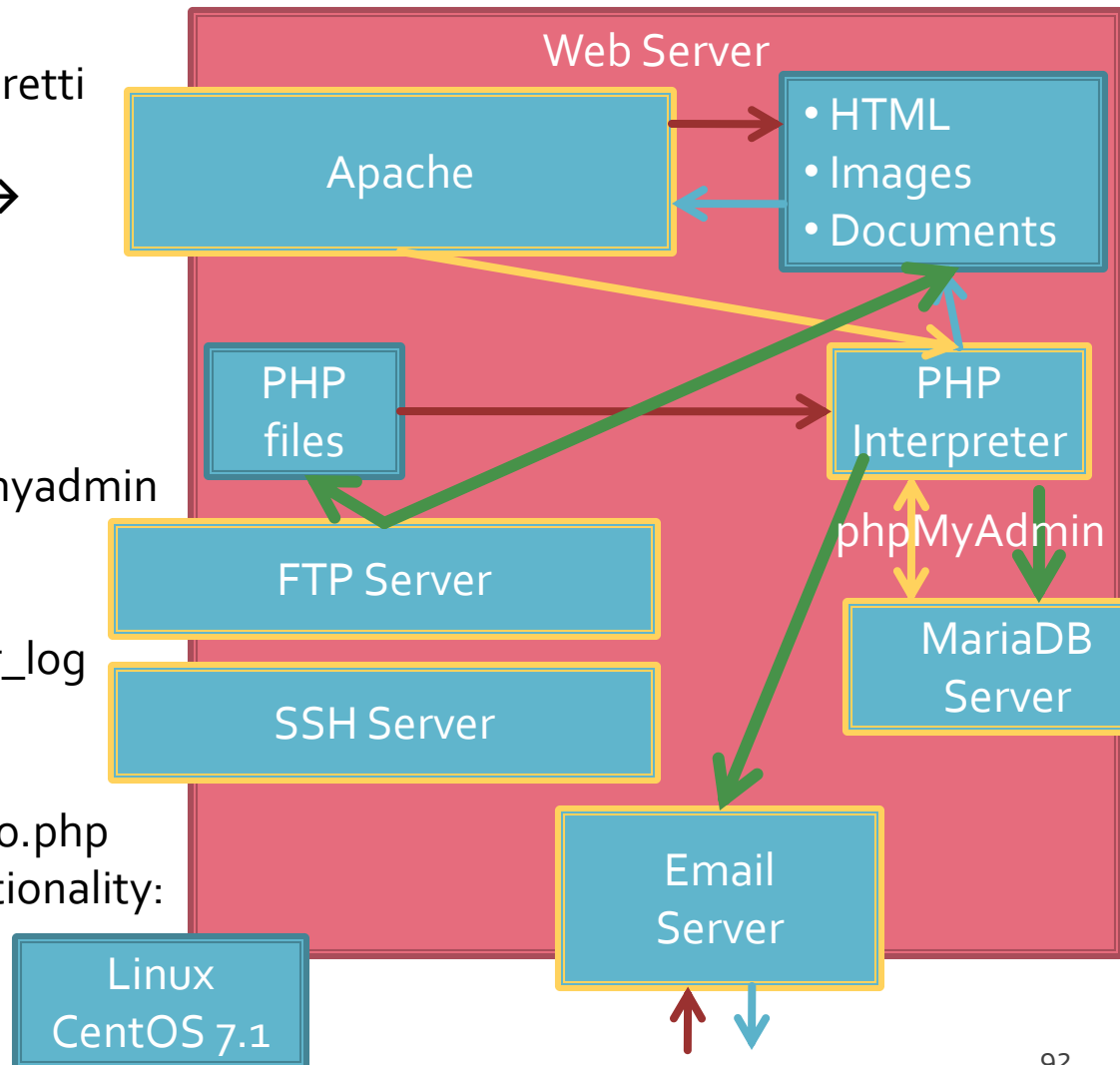


Possible problems

- Current VMWare Player runs **only** on **64bit** operating systems Windows/Linux
 - for 32bit operating systems previous (**certified originals**) can be made available on rf-opto
- The host computer **must** enable **Hardware Virtualization**
 - Hardware Virtualization is enabled in BIOS, depending on the PC manufacturer: Processor, Chipset, Northbridge
 - Options name: VT-x, AMD-V, Vanderpool, Hyper-V, SVM, Intel Virtualization Technology. if available: Intel VT-d, AMD IOMMU
- VM archive requires **7zip** native to the target operating system

Using LAMP

1. login → root:masterrc / paw:masteretti
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masterrc (remote login)
4. [other linux command line]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masterrc / 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
9. if DHCP service stops Apache functionality:
service httpd restart



LAMP Reference Server 2023

- Linux, two variants
 - Centos 7.1
 - PHP 5.4.16
 - MariaDB 5.5.44
 - Apache 2.4.6
 - **root**/student:masterrc
 - Ubuntu 20.04 (**recommended**)
 - PHP 7.4.3
 - MariaDB 10.3.31
 - Apache 2.4.41
 - **paw**/student:masteretti
 - correction **paw FTP access**:
 - `sudo usermod -a -G upload paw`
 - `sudo chmod -R 775 /var/www`

LAMP Reference Server 2025

- Linux, three proposed servers
 - CentOS 7.1
 - Ubuntu 20.04
 - **Debian 12.5**

LAMP Reference Server

- 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**)

LAMP Reference Server

- 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**)

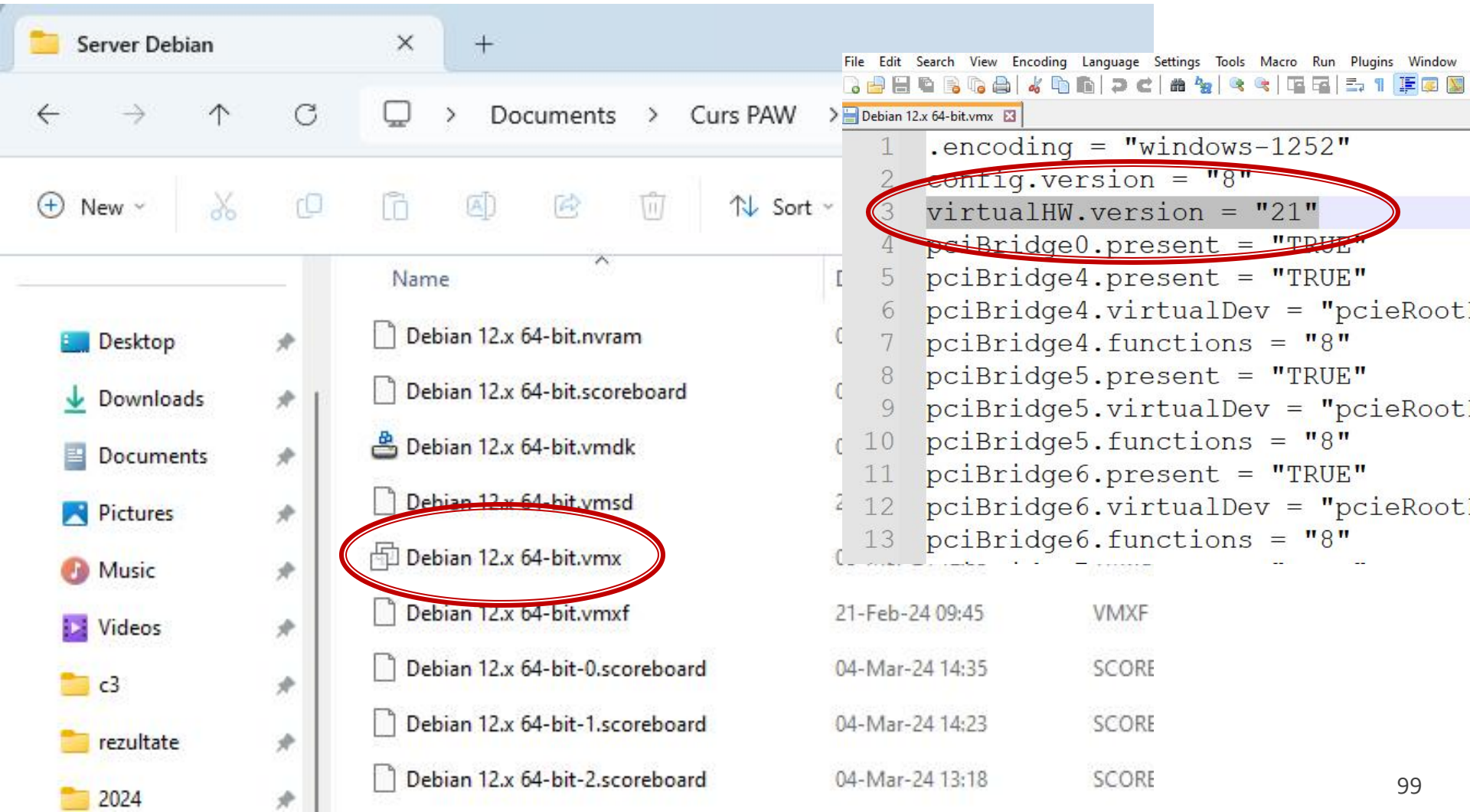
LAMP Reference Server

- 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**)

Server referinta

- Pentru rularea unui server pe o versiune VMware Player anterioara:
 - se localizeaza fisierul "*.vmx" a server-ului
 - se modifica virtualHW.version = "**21**" la o valoare mai mica (anterioara)
 - in 2.13 -> **18**

LAMP Reference Server



Support applications

- WinSCP (client FTP, gratuit)
 - <https://winscp.net/eng/download.php>
- Notepad ++ (editor, avansat, gratuit)
 - <https://notepad-plus-plus.org/downloads/>
- Putty (remote access)
 - <https://www.putty.org/>
- MySQL Workbench (gratuit, cont Oracle)
 - <https://www.mysql.com/products/workbench/>
- Visual Studio Code (gratuit, Microsoft)
 - <https://code.visualstudio.com/download>

Aplicatii suport

- Variante portabile

Laboratory

[Laborator 1](#) (pdf, 1.48 MB, ro, 🇷🇴)

[Server Win2000 pentru VMWare Player - lab 1 \(cloud\)](#) (link, 0 Bytes, en, 🇬🇧)

[Accesorii laborator \(x32 - partial\)](#) (zip, 28.92 MB, en, 🇬🇧)

[Accesorii laborator \(x64 - complet\)](#) (zip, 133.58 MB, en, 🇬🇧)

Project/Design

[VMware Workstation Player](#) (link, 0 Bytes, en, 🇬🇧)

[Server CentOS pentru VMWare Player \(cloud\)](#) (link, 0 Bytes, en, 🇬🇧)

[Instalare Centos](#) (pdf, 2.54 MB, en, 🇬🇧)

[Server Ubuntu pentru VMWare Player \(cloud\)](#) (link, 0 Bytes, en, 🇬🇧)

[Instalare Ubuntu](#) (pdf, 1.82 MB, en, 🇬🇧)

IP address

- login, ifconfig
- Ctrl + Alt + mouse

PAW CentOS 64-bit - VMware Workstation 15 Player (Non-commercial use only)

Player ▾ || ▾ ⏏ ⏏ ⏏

```
CentOS Linux 7 (Core)
Kernel 3.10.0-229.20.1.el7.x86_64 on an x86_64

tmpaw login: root
Password:
Last login: Wed Jun 17 05:35:16 from 192.168.0.106
[root@tmpaw ~]# ifconfig
```

PAW CentOS 64-bit - VMware Workstation 15 Player (Non-commercial use only)

Player ▾ || ▾ ⏏ ⏏ ⏏

```
CentOS Linux 7 (Core)
Kernel 3.10.0-229.20.1.el7.x86_64 on an x86_64

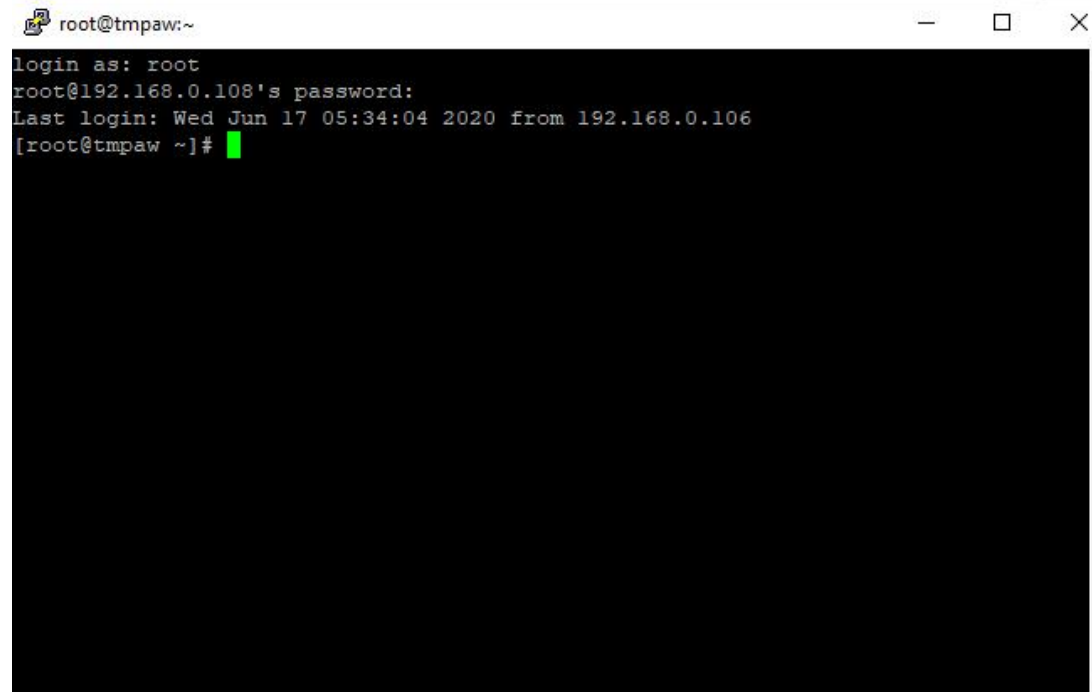
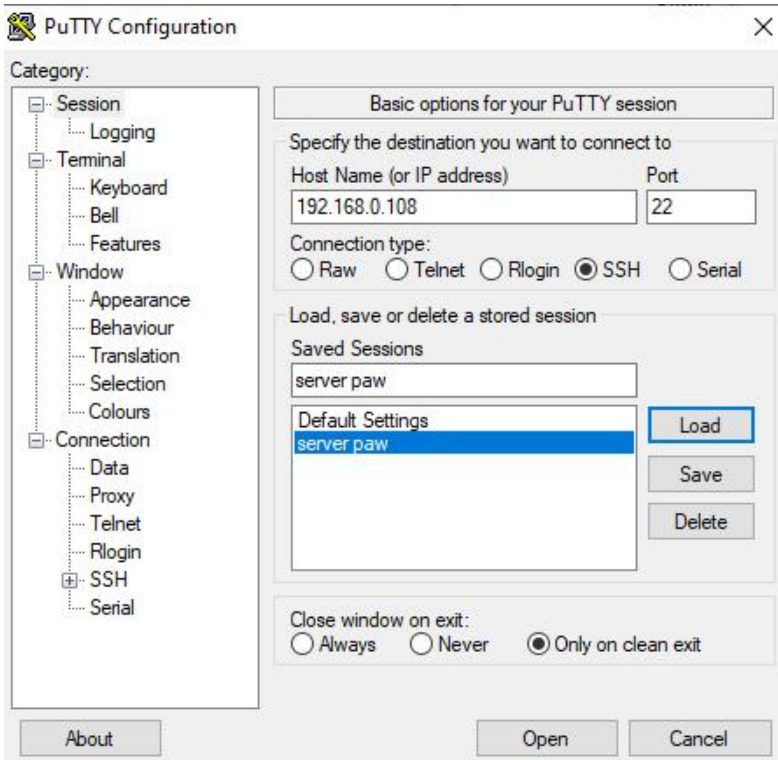
tmpaw login: root
Password:
Last login: Wed Jun 17 05:35:16 from 192.168.0.106
[root@tmpaw ~]# ifconfig
eno16777736: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.0.108 netmask 255.255.255.0 broadcast 192.168.0.255
    inet6 fe80::250:56ff:fe3e:1693 prefixlen 64 scopeid 0x20<link>
    ether 08:00:56:3e:16:93 txqueuelen 1000 (Ethernet)
    RX packets 104 bytes 12814 (12.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 99 bytes 11847 (11.5 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 0 (Local Loopback)
    RX packets 16 bytes 1774 (1.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 16 bytes 1774 (1.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@tmpaw ~]# _
```

Putty

- putty.exe
- avoids mouse capture (CentOS), copy/paste etc.



WinSCP

- FTP client
- upload files

Session

File protocol:
SFTP

Host name: 192.168.0.108 Port number: 22

User name: student Password:

Edit Advanced...

Login Close Help

html - student@192.168.0.108 - WinSCP

File Commands Mark Session View Help

Address /var/www/html

Find Files Download Edit Properties New Synchronize

Transfer Settings Default

student@192.168.0.108 x New Session

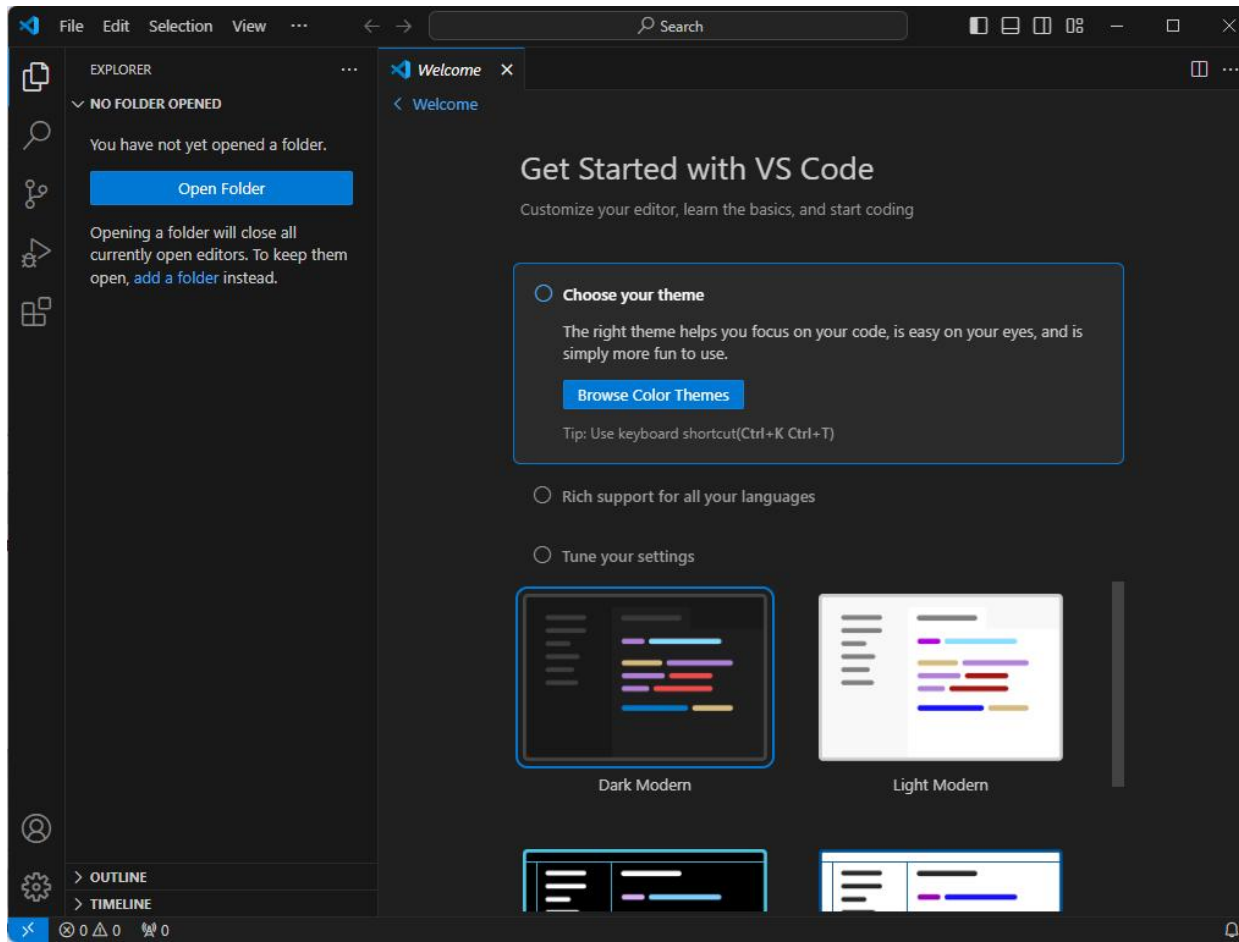
Name	Size	Changed	Rights
ap.log	1 KB	2/29/2016 11:28:50 AM	rw-rw-r
info.php	1 KB	9/30/2009 3:23:00 PM	rw-rw-r
logfile.php	4 KB	12/6/2015 12:05:08 PM	rw-rw-r
test.php	2 KB	2/29/2016 12:04:12 PM	rw-rw-r

0 B of 5.09 KB in 0 of 4

SFTP-3 104 1, 21:06:30

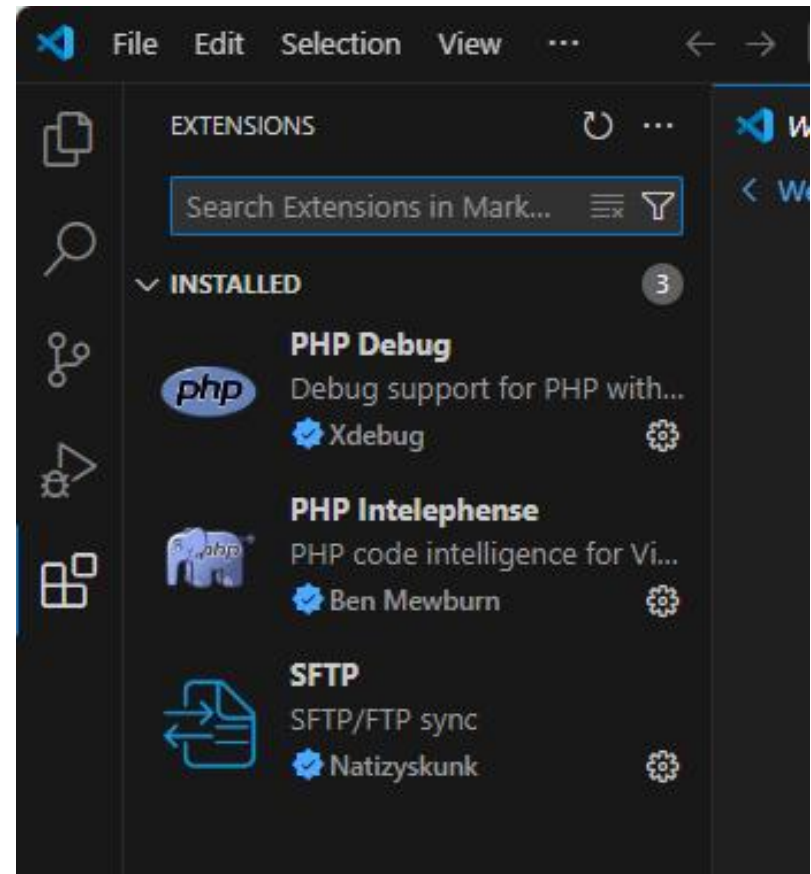
Visual Studio Code

■ 1.87 Portable

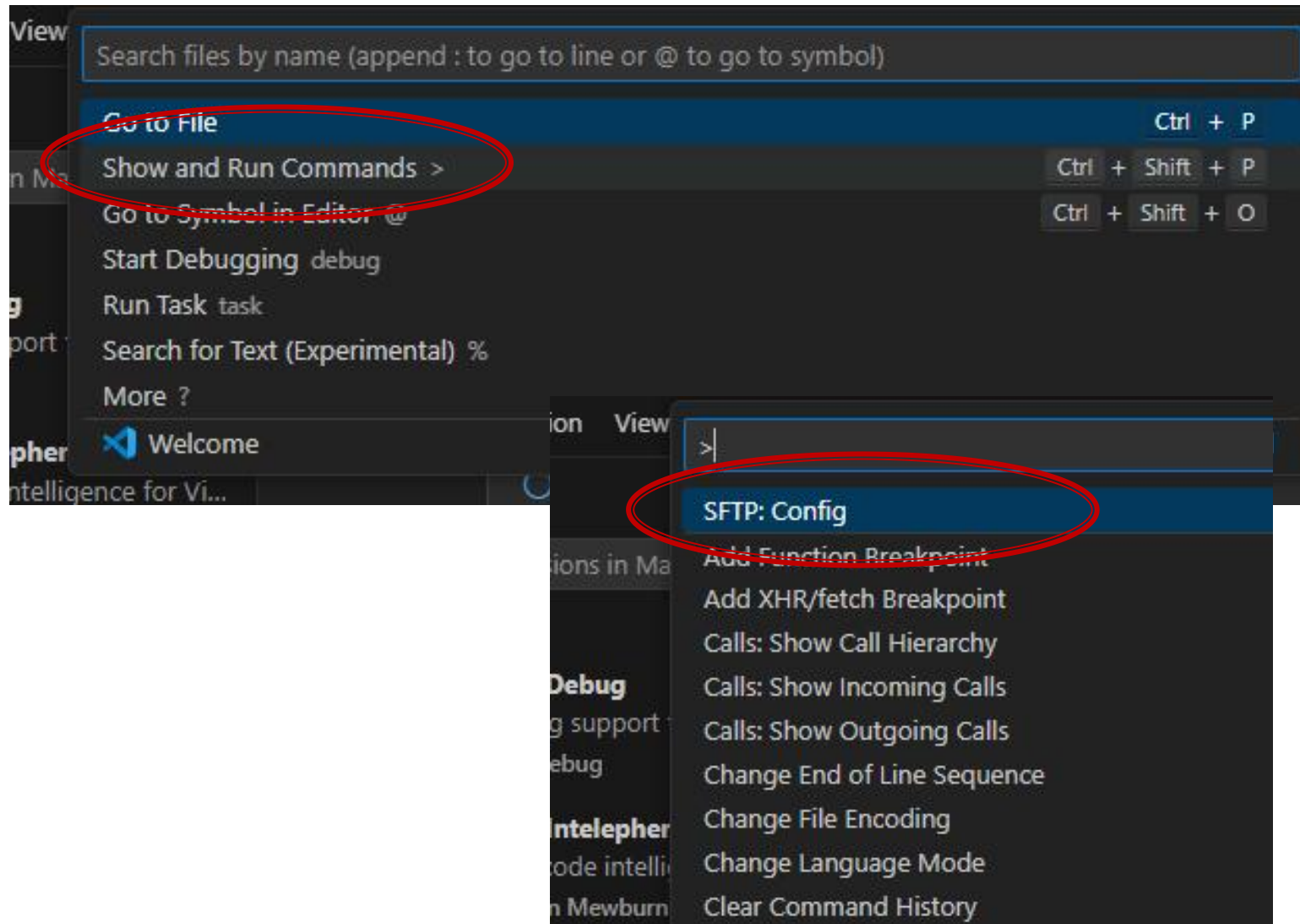


Visual Studio Code

- Installed extensions
 - PHP Intelephense
 - PHP 8 -> Debian
 - PHP Debug (inactive for now)
 - SFTP – automatic save on server



Visual Studio Code

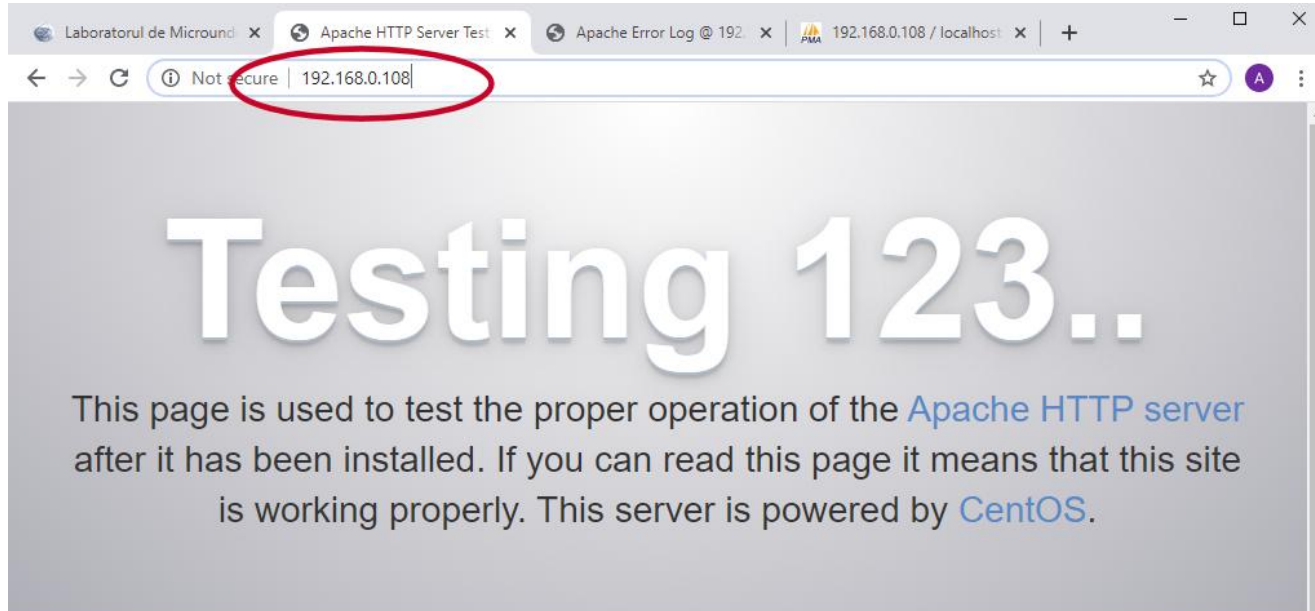


Visual Studio Code

```
{ } sftp.json x
.vscode > { } sftp.json > ...
1  {
2    "name": "My Server",
3    "host": "localhost",
4    "protocol": "sftp",
5    "port": 22,
6    "username": "username",
7    "remotePath": "/",
8    "uploadOnSave": false,
9    "useTempFile": false,
10   "openSsh": false
11 }
12
```

```
{ } sftp.json •
.vscode > { } sftp.json > ...
1  {
2    "name": "Debian Server",
3    "host": "192.168.30.5",
4    "protocol": "sftp",
5    "port": 22,
6    "username": "student",
7    "remotePath": "/var/www/html/",
8    "uploadOnSave": true,
9    "useTempFile": false,
10   "openSsh": false
11 }
12
```

Browser



Just visiting?

The website you just visited is either experiencing problems or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting `www.example.com`, you should send e-mail to `"webmaster@example.com"`.

Are you the Administrator?

You should add your website content to the directory `/var/www/html/`.

To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

Promoting Apache and CentOS

You are free to use the images below on Apache and CentOS Linux powered HTTP servers. Thanks for using Apache and CentOS!



Server MySQL/MariaDB

The screenshot shows a web browser window with the phpMyAdmin interface. The address bar shows the URL `192.168.0.108/phpmyadmin/` with a red circle highlighting the domain part. The interface includes a left sidebar with a tree view of databases (information_schema, mysql, performance_schema, tmpaw, world) and a main content area with several panels: General Settings, Appearance Settings, Database server, Web server, and phpMyAdmin. The General Settings panel shows options for changing the password and server connection collation (set to utf8mb4_unicode_ci). The Appearance Settings panel shows options for language (English), theme (pmahomme), and font size (82%). The Database server panel lists server details like type (MariaDB), version (5.5.44-MariaDB), and user (root@localhost). The Web server panel lists details like Apache version (2.4.6), PHP version (5.4.16), and database client version (libmysql - 5.5.44-MariaDB). The phpMyAdmin panel provides links for version information, documentation, and support.

Browser tabs: Laboratorul de Microind..., Apache HTTP Server Test, Apache Error Log @ 192..., 192.168.0.108 / localhost

Address bar: 192.168.0.108/phpmyadmin/

phpMyAdmin interface:

- Recent | Favorites
- Left sidebar: New, information_schema, mysql, performance_schema, tmpaw, world
- General Settings
 - Change password
 - Server connection collation: utf8mb4_unicode_ci
- Appearance Settings
 - Language: English
 - Theme: pmahomme
 - Font size: 82%
 - More settings
- Database server
 - 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
 - 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: mysql
 - PHP version: 5.4.16
- phpMyAdmin
 - Version information: 4.4.15.1
 - Documentation
 - Wiki
 - Official Homepage
 - Contribute
 - Get support
 - List of changes

Contact

- Laboratorul de microunde si optoelectronica
- <https://rf-opto.etti.tuiasi.ro>
- rdamian@etti.tuiasi.ro