Lab 1

2026/2027

Databases, Web Programming and Interfacing

DWPI

- Databases, Web Programming and Interfacing
  - year VI, IT4T
    - 1C/1L/1P
- Timetable
  - Friday, every week (fiecare saptamana) 1C + 2L (17-20)
  - Room change: from 2.13 to **1.08**
  - Test + Project Presentation: **last week** (Weekend)

Grade

- 25% - Test/Exam – last week – 1h
- 25% - Laboratory
- 50% - 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)

Project

- self selected homework: available until **xx.11** (~~2 weeks from lecture 9~~)
- **only** selection from a list after xx.11

Examene online: 2024/2025

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

Pas 3

Nr.	Title	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	

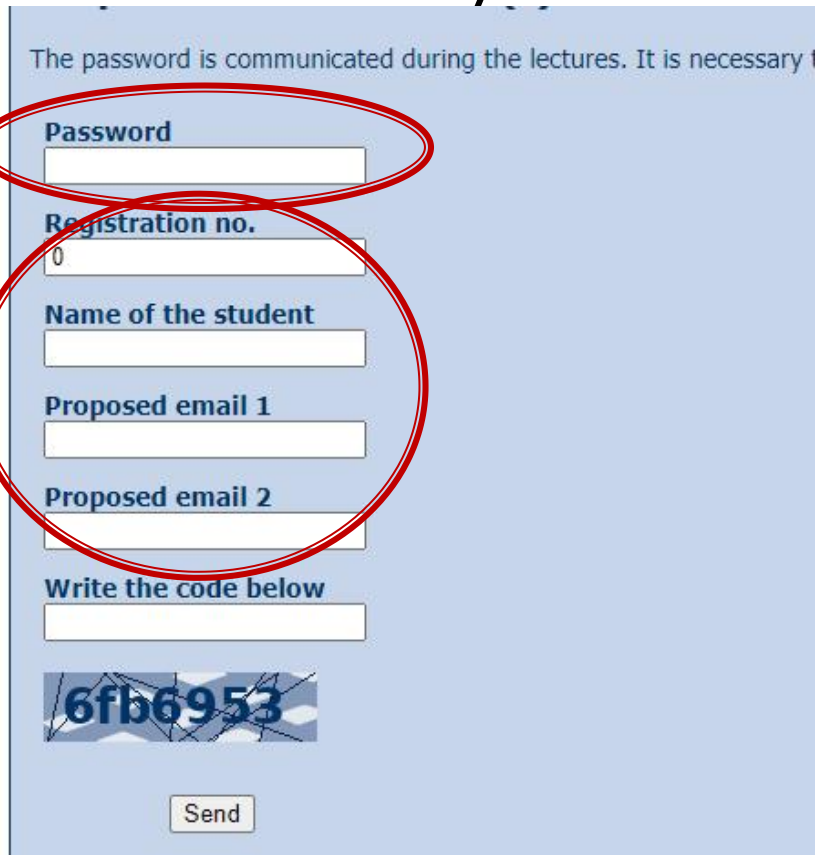
Info

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



Online – Registration no.

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

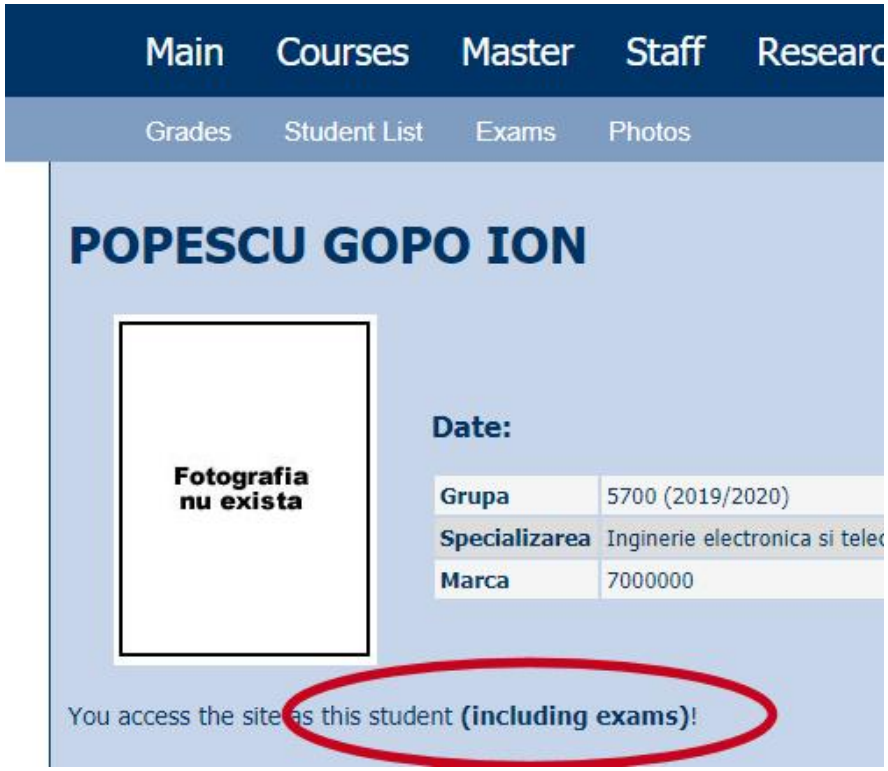




Online

- access email/password

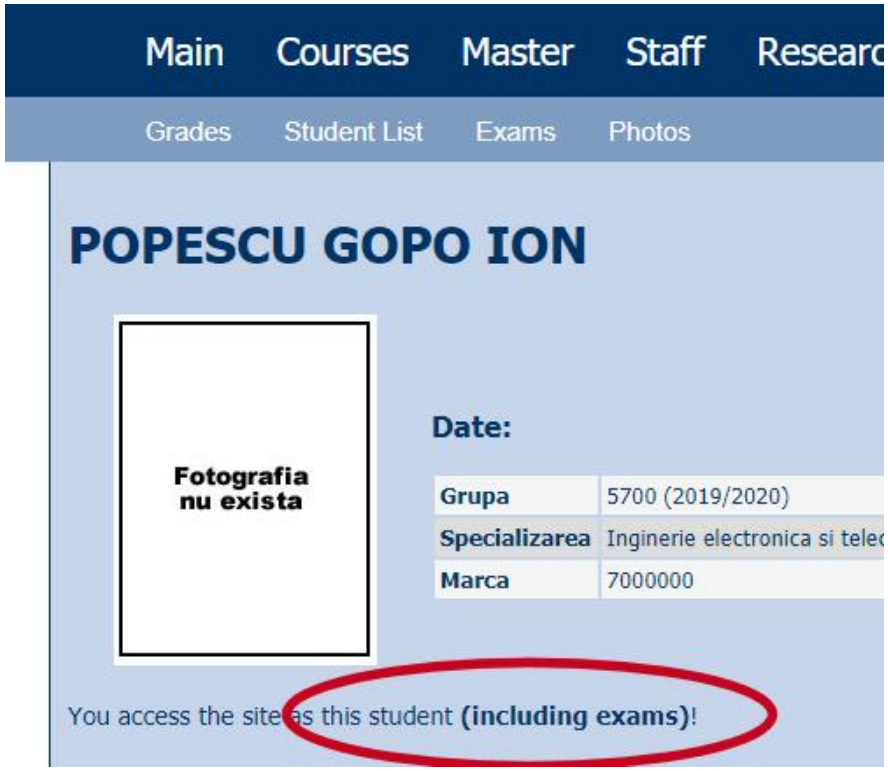




Online

- access email/password





Password

- received by email

Important message from RF-OPTO Inbox ×

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 atentia: 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

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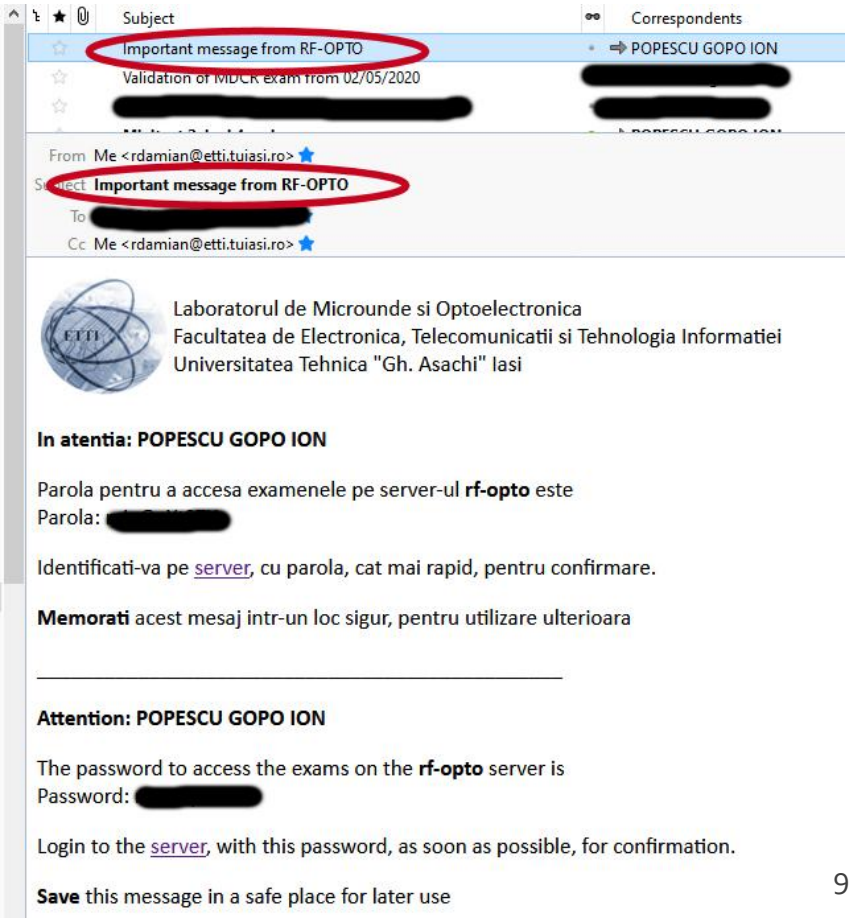
Attention: POPESCU GOPO ION

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.

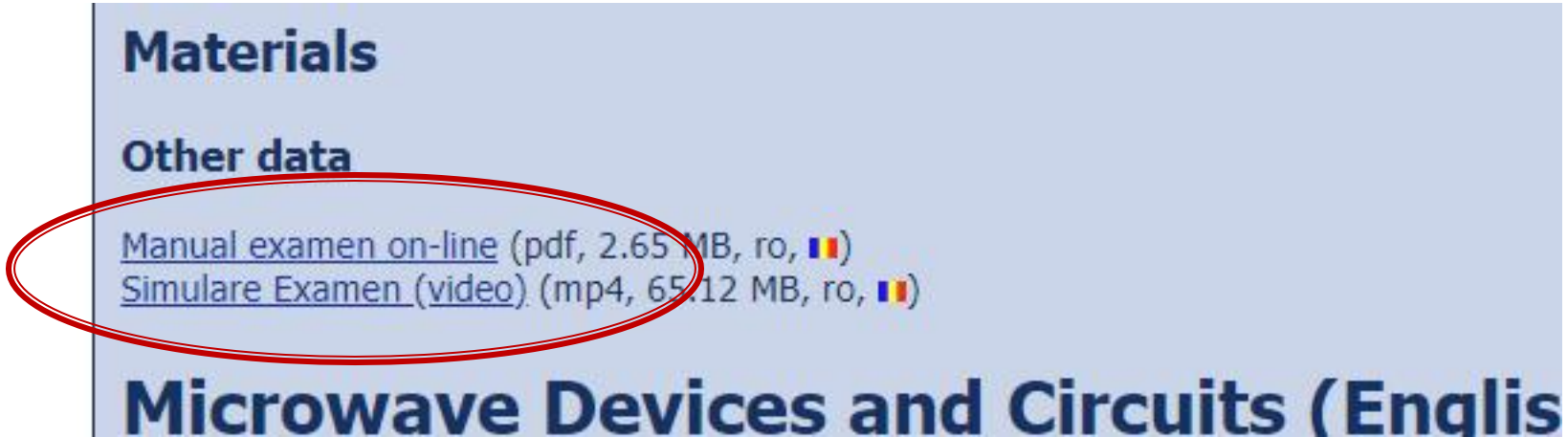
Save this message in a safe place for later use

Reply Reply all Forward



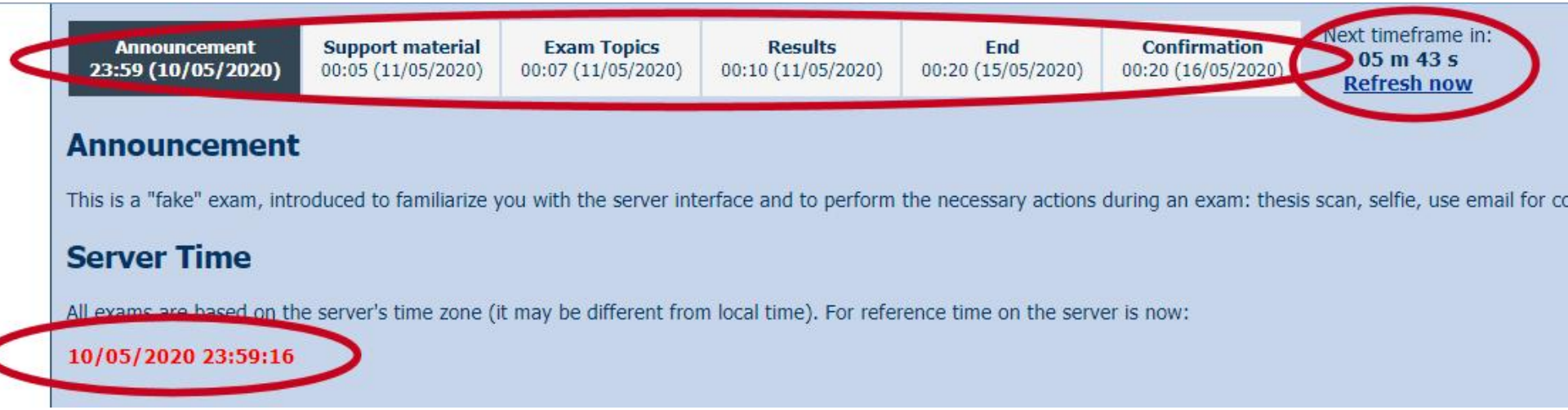
Online exam manual

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



Examen online

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



2026/2027

Project

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 13.11 – 27.11

- on-line exam for **choosing** the **individual** assignment **inside** the **team** (/individual) web **application**
  - "Individual Subject Final Homework/Project"
- 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. **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 13.11 – 27.11

- 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 beneficiate 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 18.12 – xx.06

- 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.)

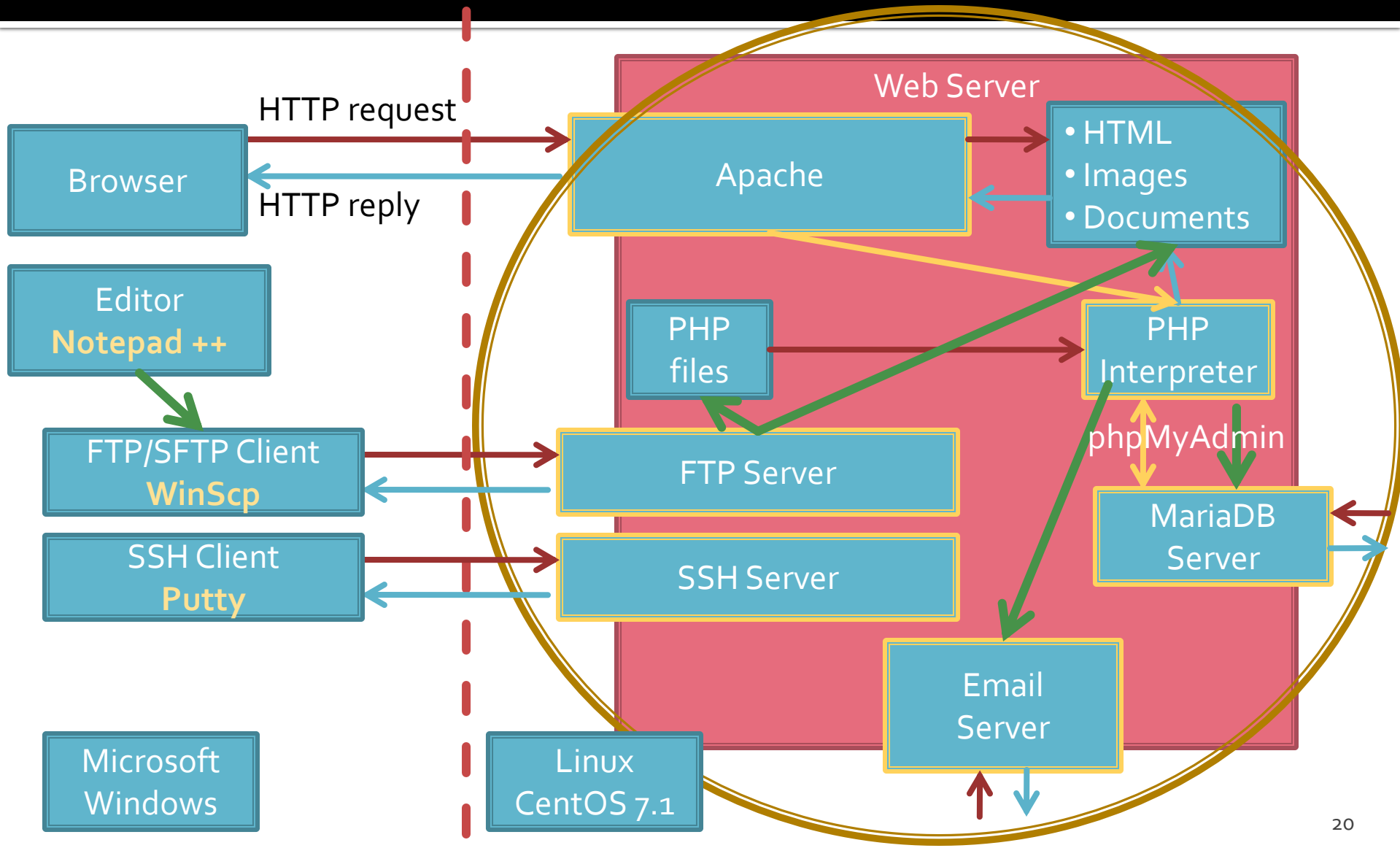
Online exam 18.12 – xx.06

- 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.

Teme propuse

- 4 teme interfatare
- 5 teme generice

Using LAMP


Web Server
HTTP request
HTTP reply
Browser
Apache
• HTML
• Images
• Documents
Editor
Notepad ++
PHP
files
PHP
Interpreter
phpMyAdmin
FTP/SFTP Client
WinScp
FTP Server
MariaDB
Server
SSH Client
Putty
SSH Server
Email
Server
Microsoft
Windows
Linux
CentOS 7.1

Using LAMP

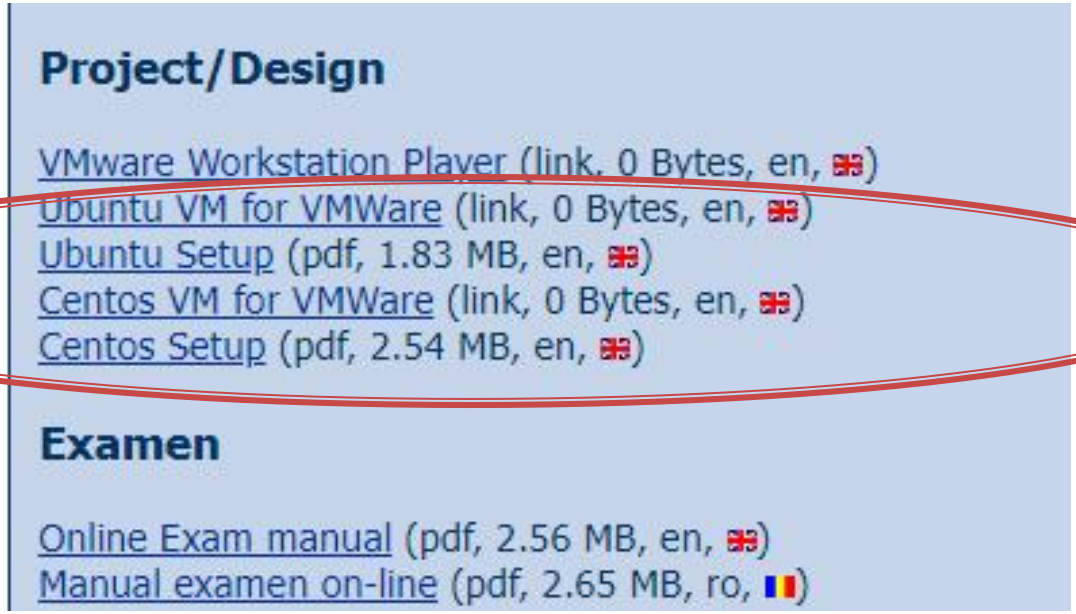
- differences from a Windows computer
  - system commands difficult
    - command prompt, SSH, Putty
  - files submitted by FTP
    - Copy/Paste unavailable
  - administration of MySql server:
    - using PhpMyAdmin (preloaded)
    - using other software on the host computer (eg. MySQL Workbench)

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**

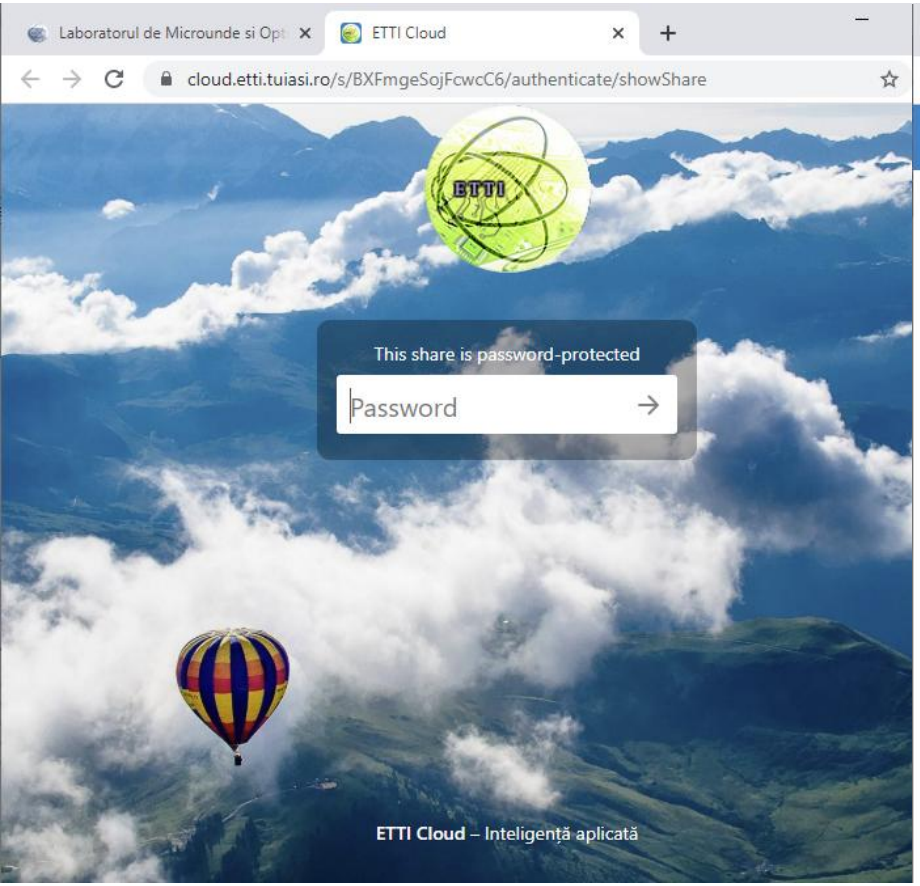
Reference Server

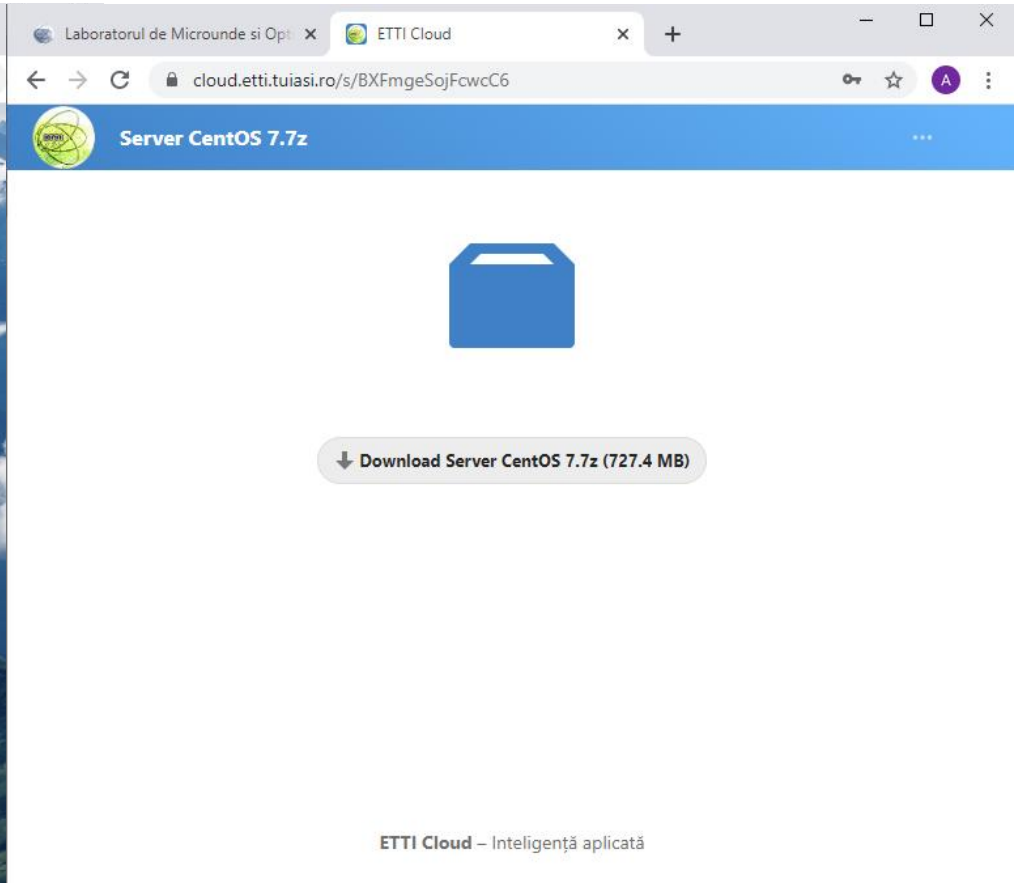
- rf-opto.etti.tuiasi.ro > Master > Web Design



Reference Server

- Cloud ETTI: **RF-opto3#**





Reference Server

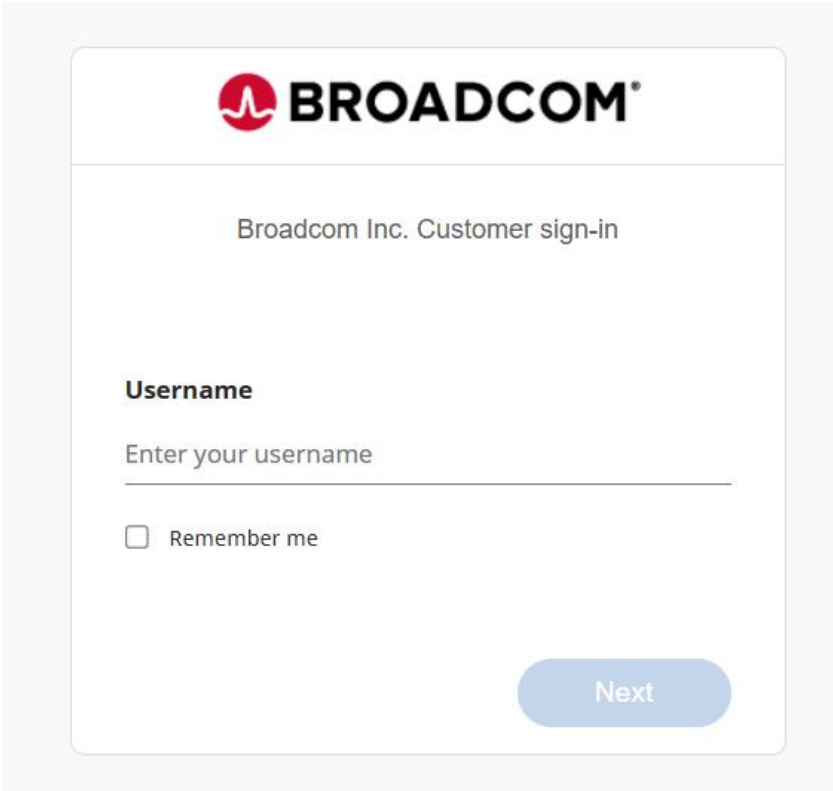
- Virtual machine
- VMware Workstation Player
  - Free (non-commercial)
  - https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html
- Replaced by VMware Workstation Pro



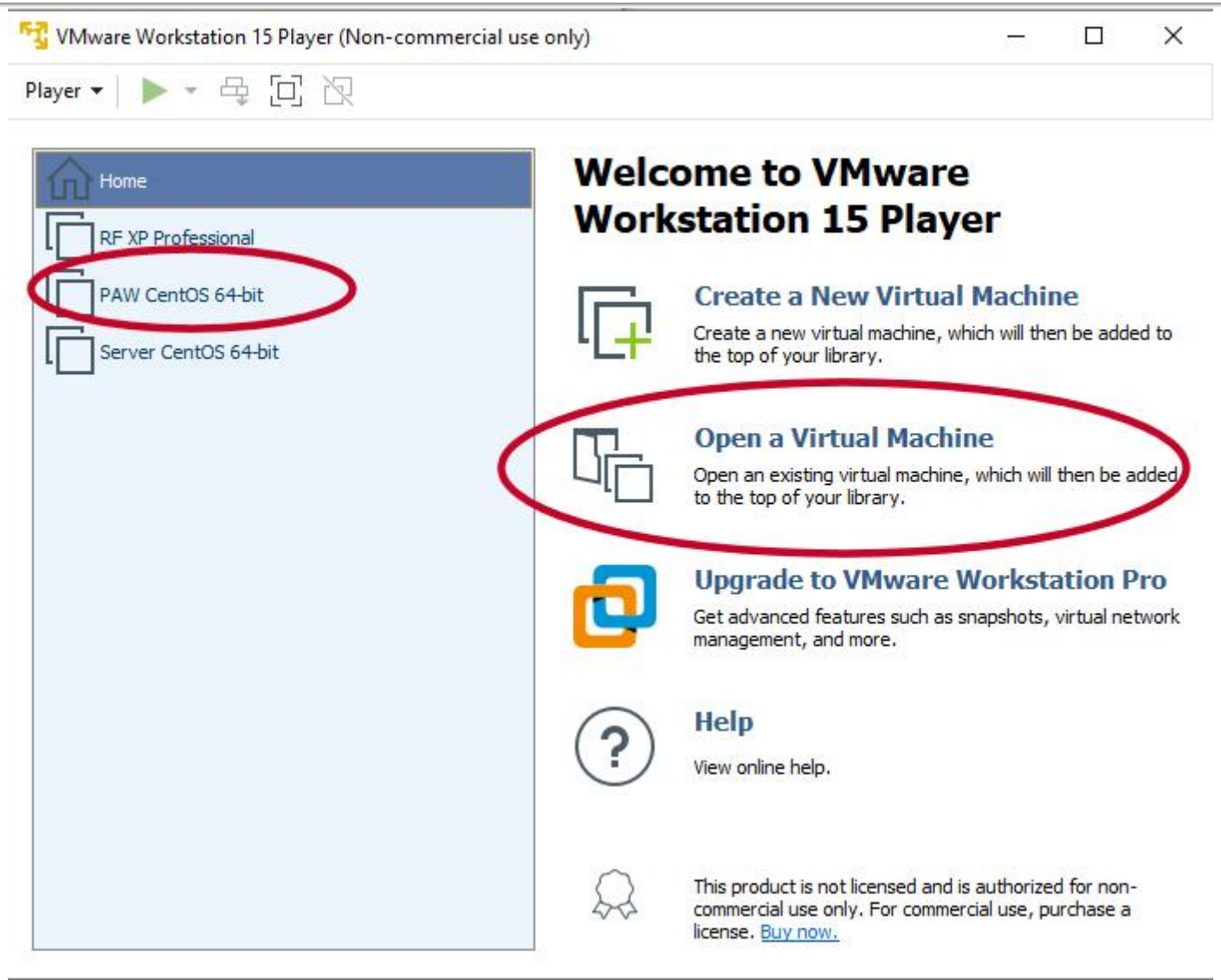
Reference Server

- Masina virtuala
- VMware Workstation Pro (Broadcom)





Reference Server

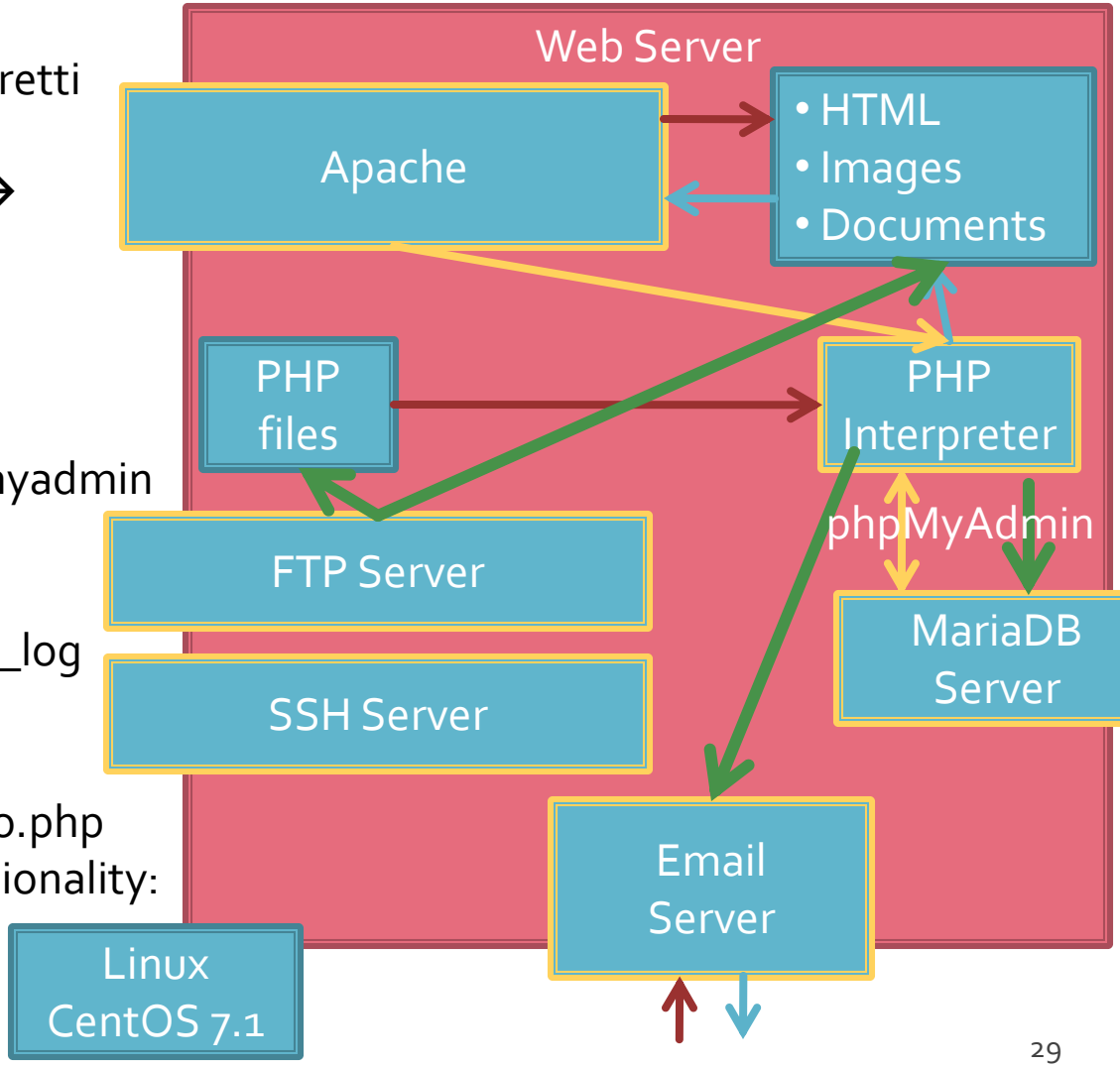


Possible problems

- 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 2026

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

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
  - created: 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
  - correction **paw user FTP access**:
    - sudo usermod -a -G upload paw
    - sudo chmod -R 775 /var/www
  - Python 3.8.10
  - created : Workstation Player 15.x (**16**)

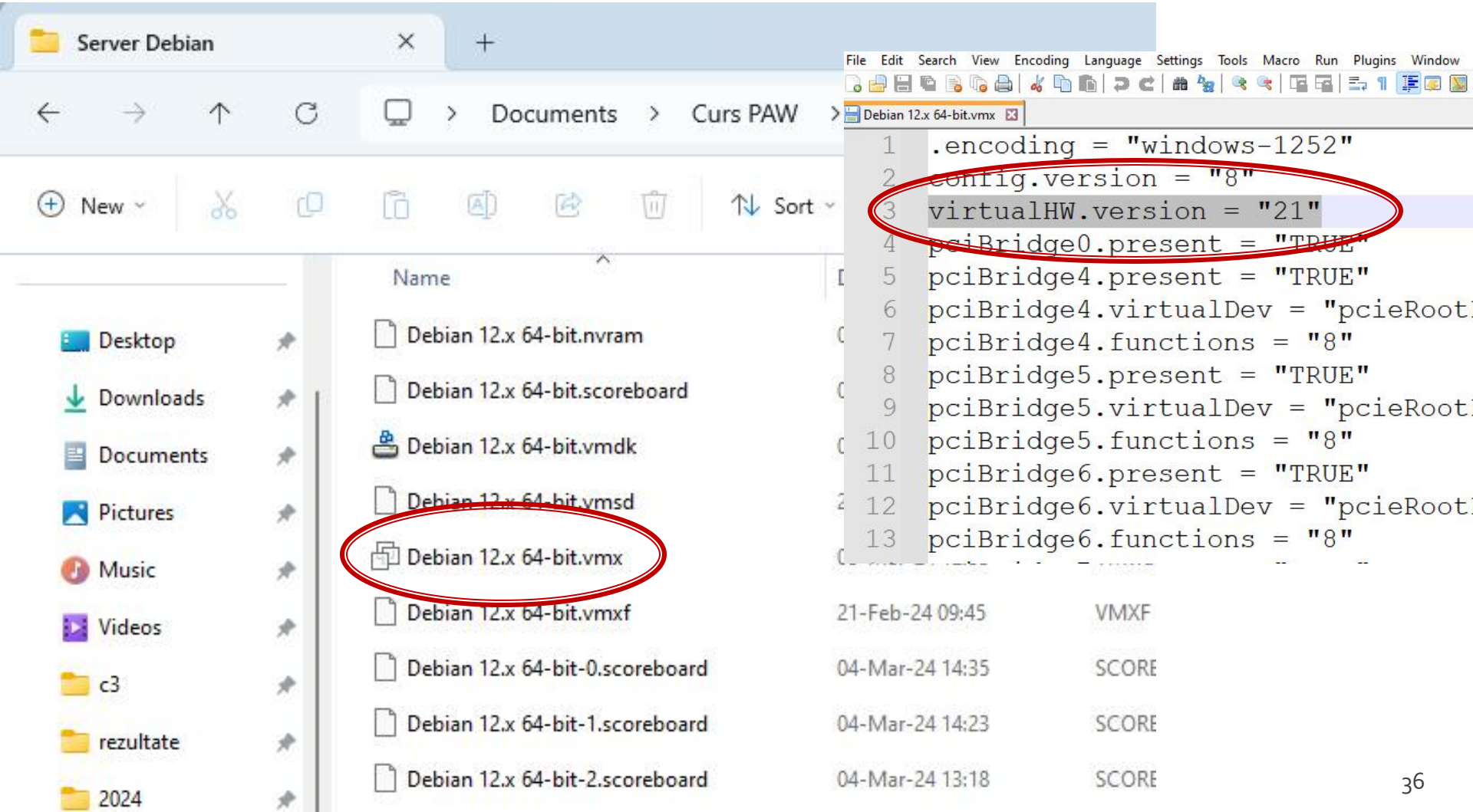
LAMP Reference Server

- 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
  - created : Workstation Player 17.5 (**21**)

LAMP Reference Server

- To run a server on an earlier version of VMware Player:
  - locate the server's "*.vmx" file
  - change virtualHW.version = "**21**" to a lower (earlier) value
    - in 2.13/1.08 -> **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

Support applications

- Portable applications (for lab, install for home)

Laboratory

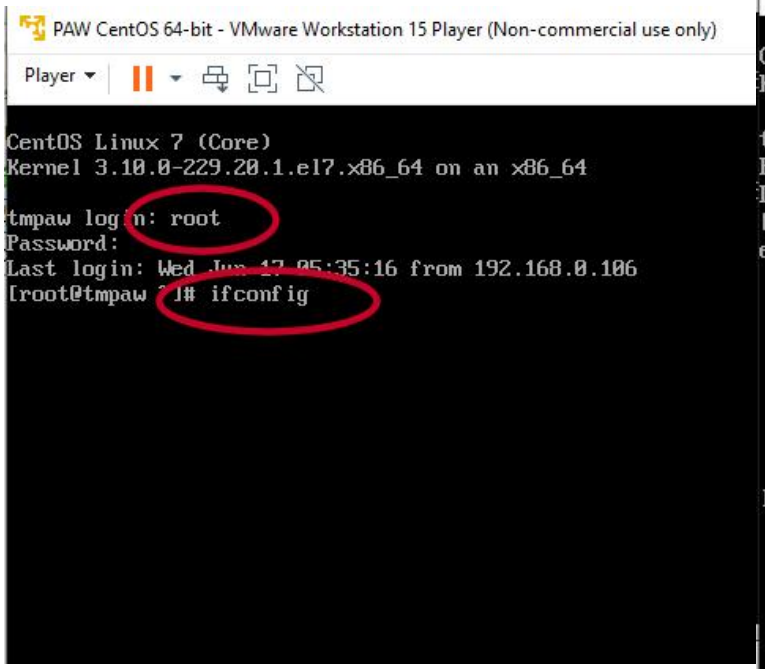
Laborator 1 (pdf, 1.48 MB, ro,)
Server Win2000 pentru VMWare Player - lab 1 (cloud) (link, 0 Bytes, en,)
Accesorii laborator (x32 - partial) (zip, 28.92 MB, en,)
Accesorii laborator (x64 - complet) (zip, 133.58 MB, en,)

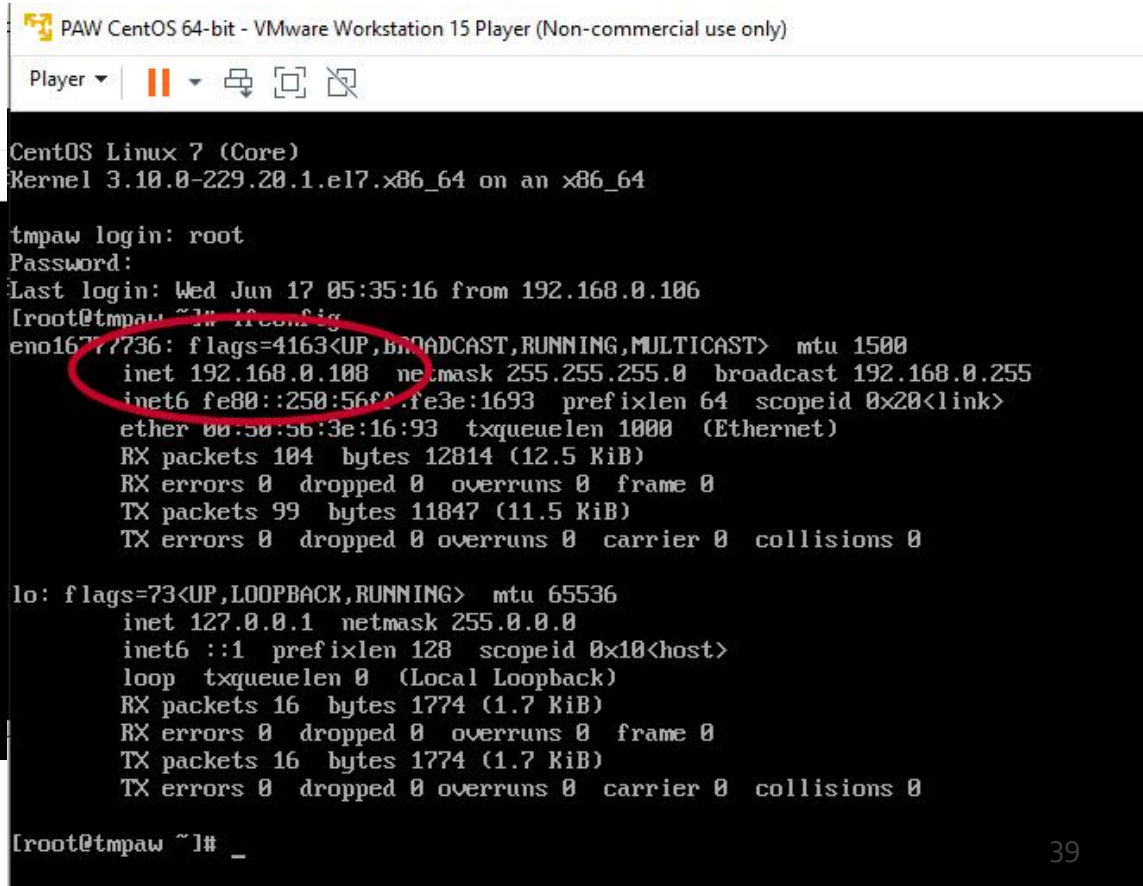
Project/Design

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, 1.83 MB, en,)

IP address

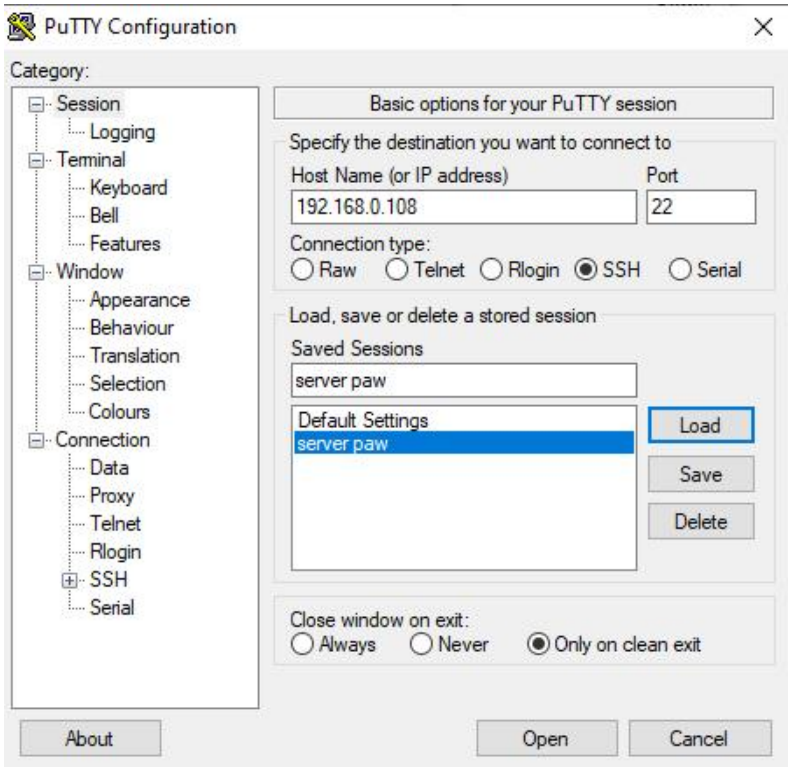
- login, ifconfig
- Ctrl + Alt + mouse

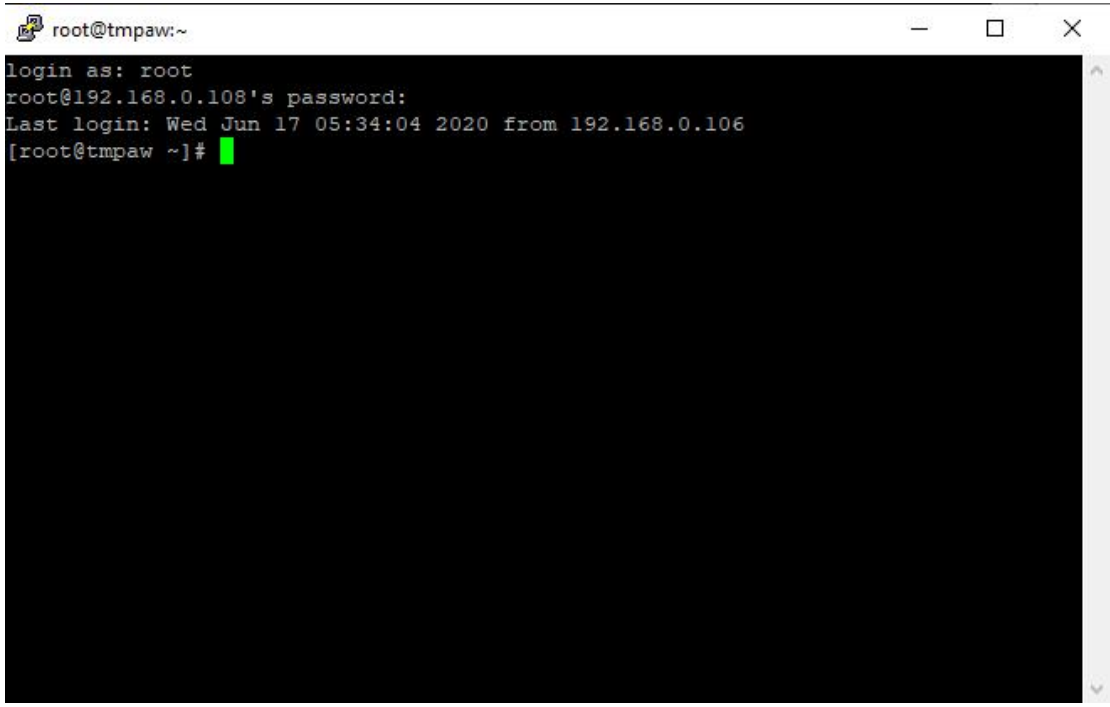




Putty

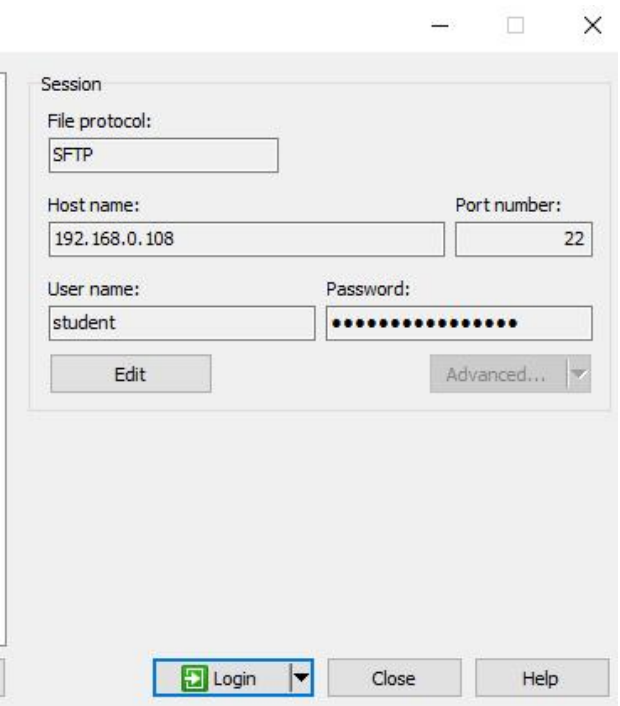
- putty.exe
- avoids mouse capture (CentOS), copy/paste etc.

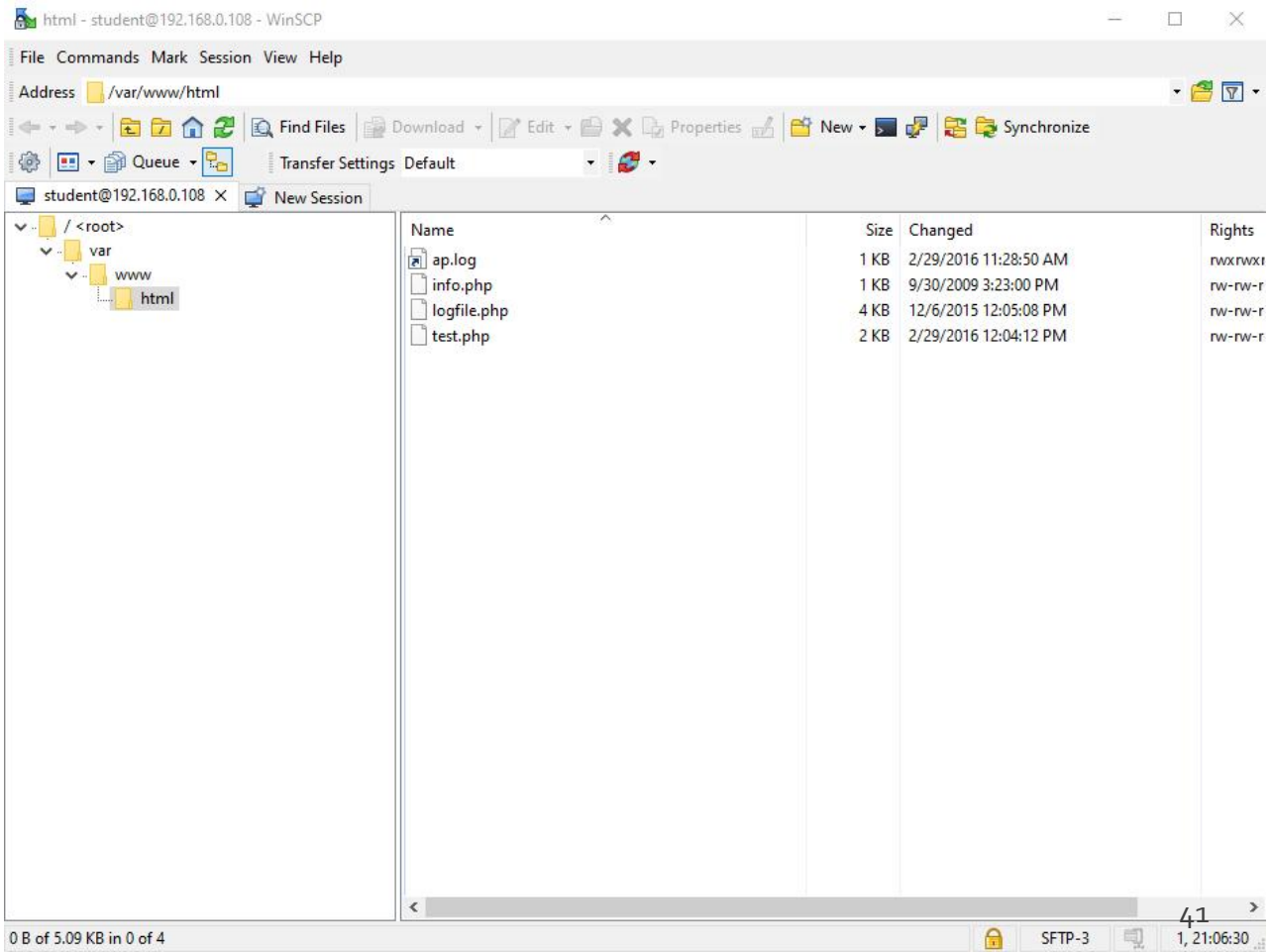




WinSCP

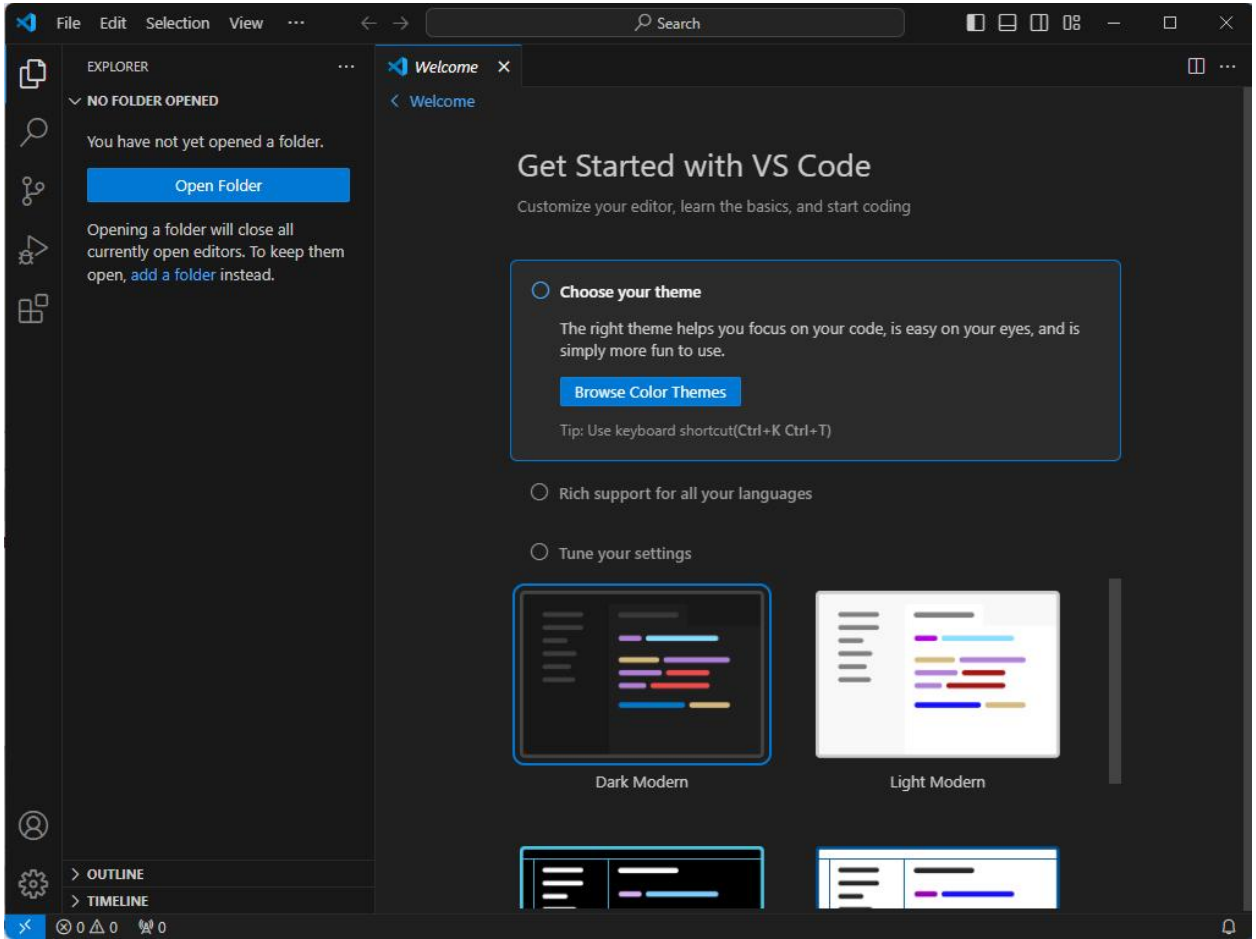
- FTP client
- upload files





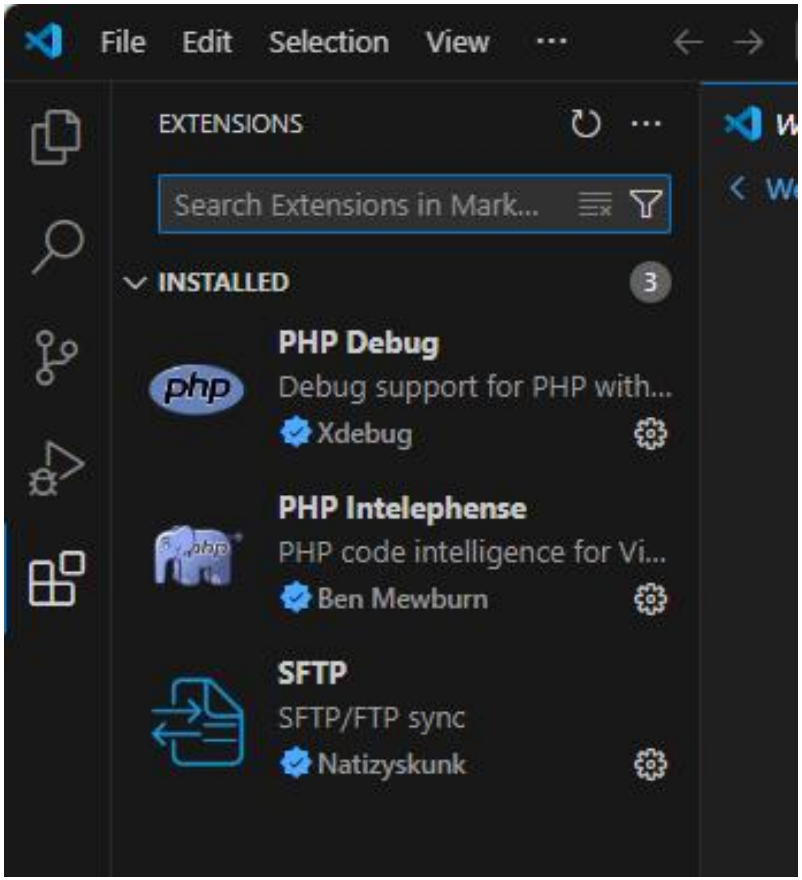
Visual Studio Code

- 1.87 Portable

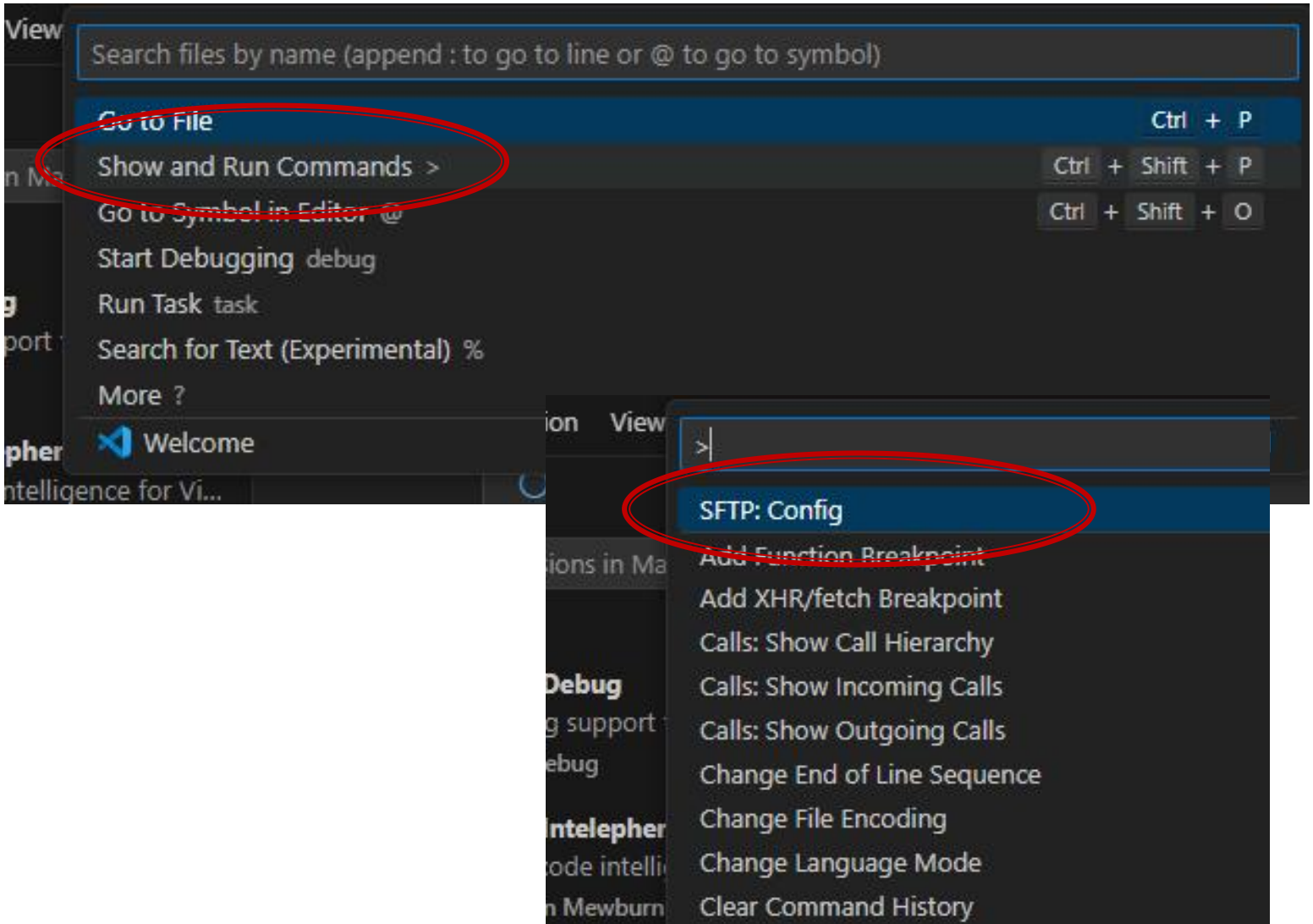


Visual Studio Code

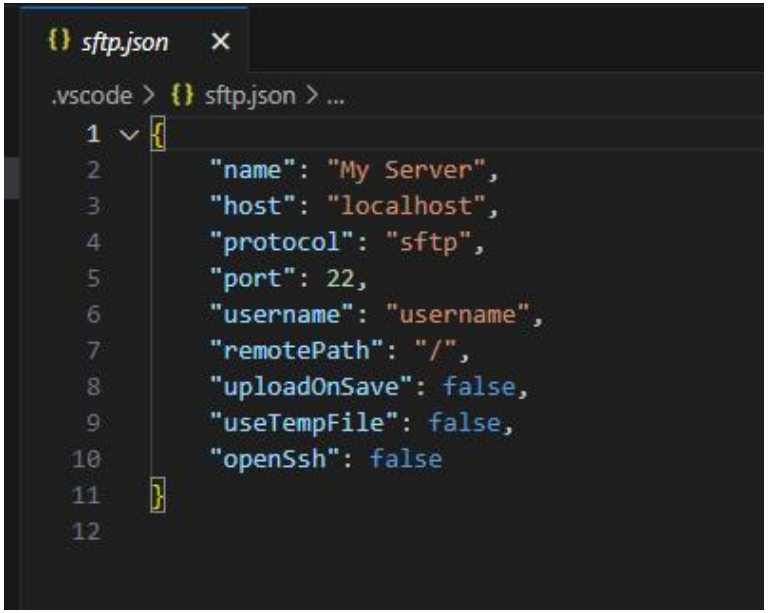
- Installed extensions
  - PHP Intelephense
    - PHP 8 -> Debian
  - PHP Debug (inactive for now)
  - SFTP – automatic save on server

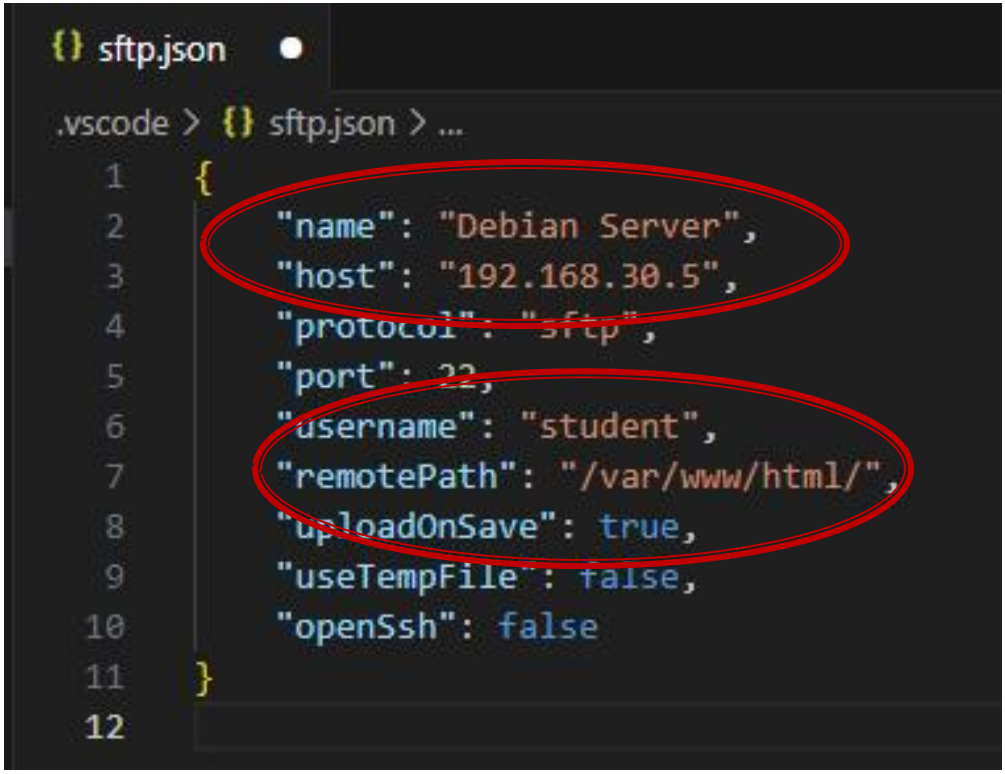


Visual Studio Code

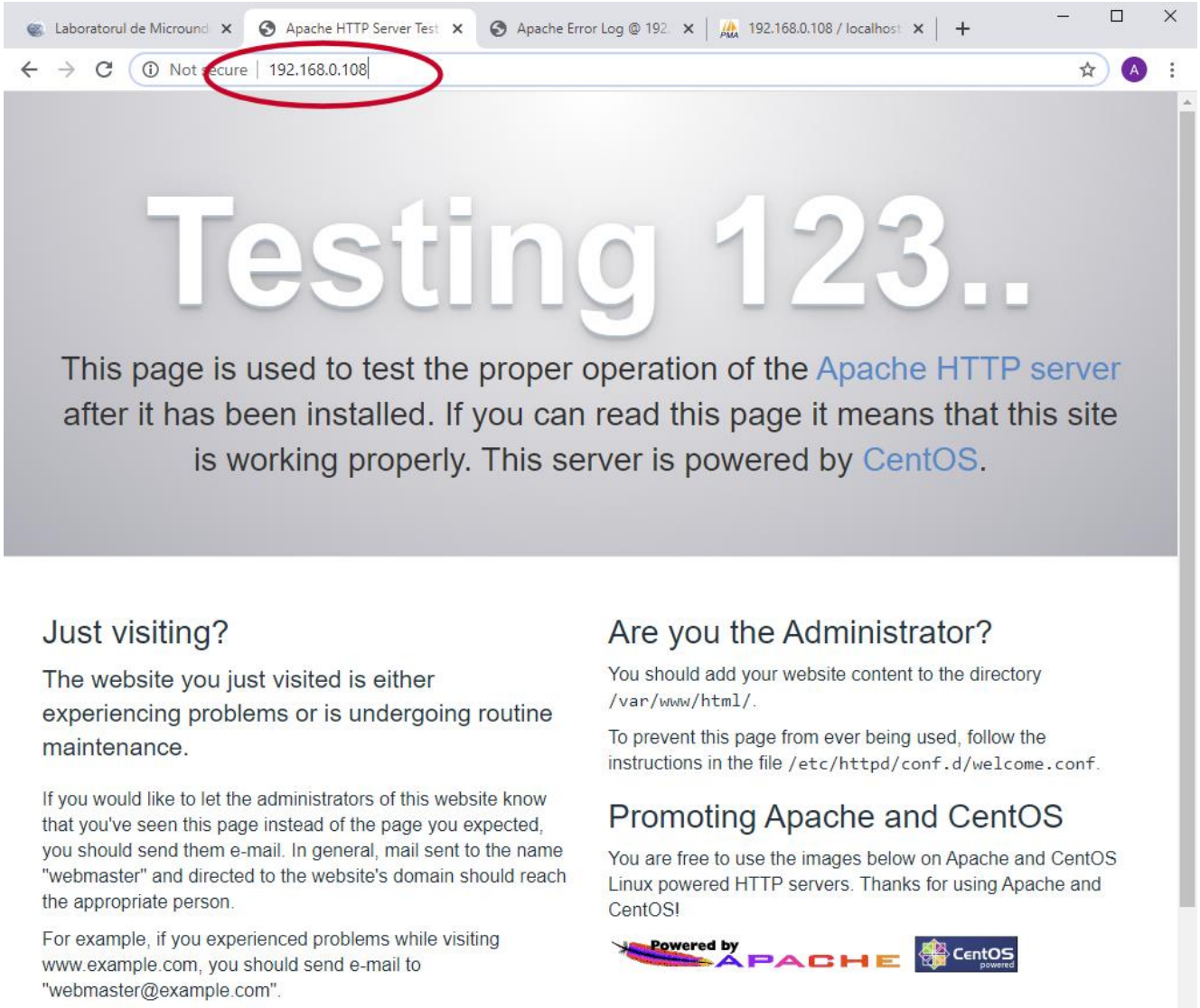


Visual Studio Code

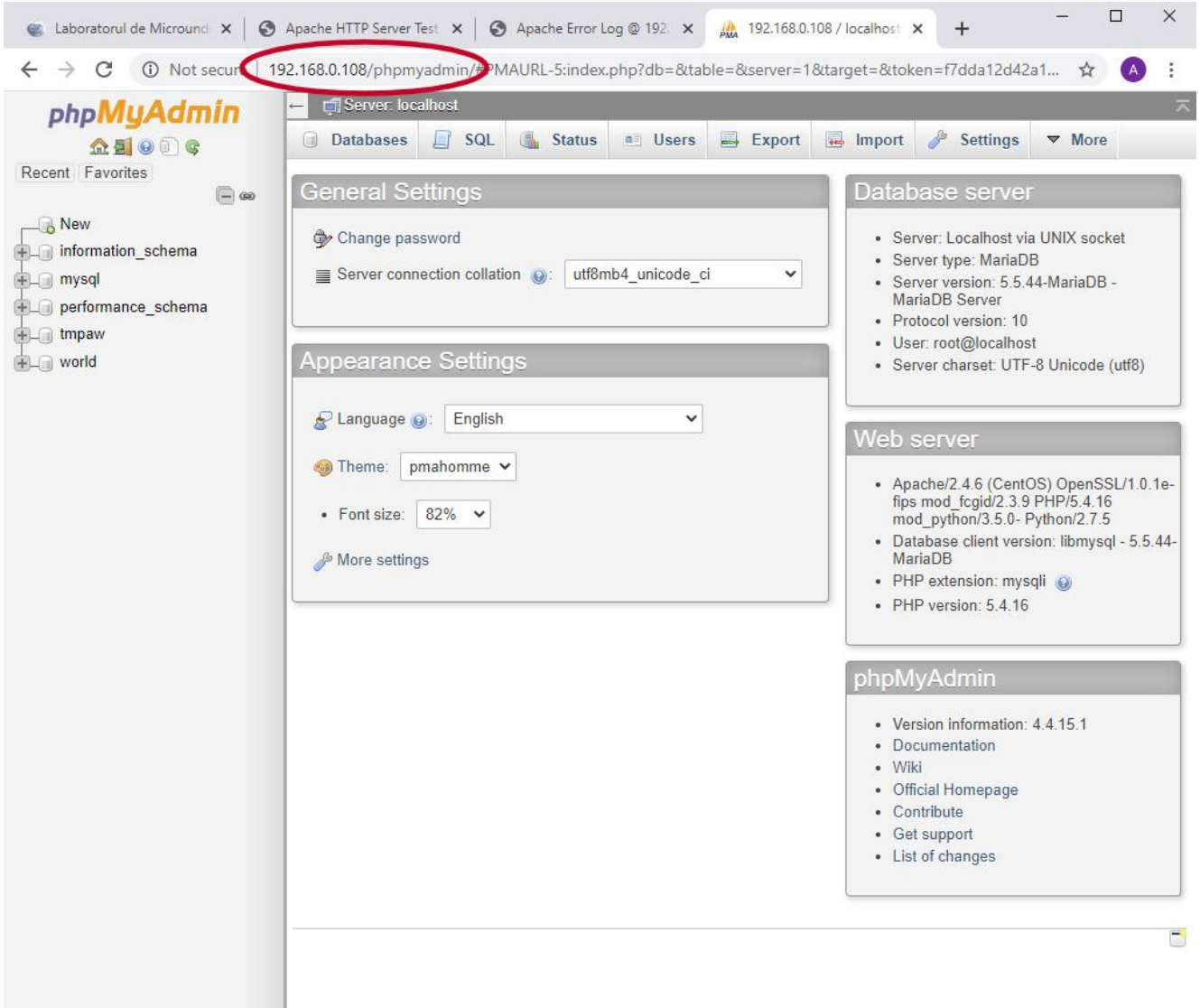




Browser


Laboratorul de Microunde
Apache HTTP Server Test
Apache Error Log @ 192.
192.168.0.108 / localhost
Not secure
192.168.0.108
Testing 123..
This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page it means that this site is working properly. This server is powered by CentOS.
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!
Powered by APACHE
CentOS powered

Server MySQL/MariaDB



Contact

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