# WAMP or WEMP Setup

Disclaimer: вы смотрите просто запись лекции, это **HE** специально подготовленный видеокурс!



#### What is WAMP or WEMP?



#### STOP!

Do NOT use any "pre-built packs" like Denver, Open Server and/or any other "pre-configured" solutions!

Those solutions do NOT look like any real-life environment!

Those solutions have multiple "custom features" that can not be found in any other environment.

Use only genuine software, not derivatives!

#### Initial assumptions and links

Assumptions: you are able to create a VirtualBox VM, you know how to use Windows, you are able to install Windows.

#### Just in case:

https://www.microsoft.com/en-us/software-download/

https://stackoverflow.com

https://google.com

Use any latest version of Windows. In most cases there are trial versions.

## Create a VirtualBox VM with the following settings

	Minimal	Preferred
RAM	4096 MB	16384 MB
HDD	100 GB	250 GB
CPU	1 core	4 cores
Network 1	NAT	NAT
Network 2	Host-only	Host-only

Other settings are not really important...

Step 2: install (or upgrade) the latest Windows version

#### Install the latest Windows from miscrosoft.com.

#### As usual, perform the next commands (just in case):

```
Install-Module PSWindowsUpdate
Get-WindowsUpdate
Install-WindowsUpdate -MicrosoftUpdate -AcceptAll -AutoReboot
```

PowerShell, administrator mode, don't forget to enable "Change execution policy to allow local PowerShell scripts to run without signing. Require signing for remote scripts." Or just use GUI ©.

#### Step 3: find your VM's ip address

#### List network interfaces:

ipconfig /all

## Find your host-only adapter ip (something like this):

IPv4 Address: 192.168.56.101 (Preferred)

## [optional] try connecting via Remote Desktop:

mstsc /v:192.168.56.101

Don't forget to enable incoming RD connection in guest OS.

#### Download MySQL (Community Server):

https://dev.mysql.com/downloads/mysql/

## Install MySQL:

```
{MySQL + MySQL Workbench = just follow the installer instructions}
```

If prompted, chose legacy authentication method.

That's less secure but much easier in educational environment.

Step 5: install PHP (part 1)

#### **Download PHP:**

Use "thread safe" version.

https://windows.php.net/download/

Download and install "Visual C++ Redistributable for Visual Studio"

https://windows.php.net/download/

See the links in the left panel. Match VC++ version to the one your PHP version is compiled with. **You** should install BOTH x86 and x64 versions!

Step 5: install PHP (part 2)

First, create this folder.

## Unpack PHP to C:/WebSoft/PHP:

tar -zxvf php.zip -C "C:/WebSoft/PHP"

## Add "C:/WebSoft/PHP" to system PATH variable:

setx /M PATH "%PATH%; C:\WebSoft\PHP"

Then restart your CLI software for this operation to take effect.

Copy it from **php.ini-development**.

# In C:/WebSoft/PHP/php.ini set the next values:

output buffering

Off

max\_execution\_time

300

memory limit

32G

error reporting

E\_ALL

display errors

On

## In C:/WebSoft/PHP/php.ini set the next values:

display\_startup\_errors

error log

post\_max\_size

upload\_max\_filesize

date.timezone

On

error.log

32G

32G

"Europe/Minsk"

Step 6: configure PHP (part 3)

In C:/WebSoft/PHP/php.ini set the next values:

extension dir

"C:/WebSoft/PHP/ext"

Step 6: configure PHP (part 4)

# In C:/WebSoft/PHP/php.ini enable extensions:

curl gd mbstring mysqli openssl pdo mysql

```
Step 7: test PHP
```

First, create this folder.

## In C:/WebData/ create a "info.php" with such code:

```
<?php
phpinfo();</pre>
```

This is the DocumentRoot. All your PHP applications should be here (or in subfolders).

#### In command line execute:

```
php info.php
```

{you should see phpinfo() output}

#### Step 8: install Apache httpd

Match VS version to the one your PHP version is compiled with.

## Download Apache httpd:

```
https://www.apachelounge.com/download/
```

## Unpack Apache httpd to C:/WebSoft/httpd:

First, create this folder.

```
cd "C:/WebSoft/httpd/"
tar --strip-components=1 -zxvf httpd.zip
```

Full path here.

#### Step 9: configure Apache httpd (part 1)

# In C:/WebSoft/httpd/conf/httpd.conf:

Replace

c:/Apache24

With

c:/WebSoft/httpd

Uncomment

#LoadModule rewrite\_module modules/mod\_rewrite.so

#### Step 9: configure Apache httpd (part 2)

# In C:/WebSoft/httpd/conf/httpd.conf:

Replace

AllowOverride none

With

AllowOverride all

Replace

\${SRVROOT}/htdocs

With

C:/WebData

Step 9: configure Apache httpd (part 3)

## In C:/WebSoft/httpd/conf/httpd.conf:

Replace

DirectoryIndex index.html

With

DirectoryIndex index.php index.html

Step 10: install Apache httpd service and start it

## Install Apache httpd service and start it:

```
cd C:/WebSoft/httpd/bin
httpd.exe -k install
net start Apache2.4
```

#### Step 11: test Apache httpd connection

#### On your host OS connect to your VM via browser:

http://192.168.56.101



Step 12: add PHP handler to Apache https (part 1)

## Stop Apache httpd service:

net stop Apache2.4

## In C:/WebSoft/httpd/conf/httpd.conf:

After

AddType application/x-gzip .gz .tgz

Add

AddType application/x-httpd-php .php AddType application/x-httpd-php .phar

#### Step 12: add PHP handler to Apache https (part 2)

# In C:/WebSoft/httpd/conf/httpd.conf:

```
Add (at
the end
of file)
```

```
PHPIniDir "C:/WebSoft/PHP"

LoadModule php_module "C:/WebSoft/PHP/php8apache2_4.dll"
```

Check the version!

## Start Apache httpd service:

net start Apache2.4

#### Step 13: test Apache httpd and PHP

#### On your host OS connect to your VM via browser:

http://192.168.56.101/info.php



#### Step 14: install phpMyAdmin

## Download the latest version of phpMyAdmin:

```
https://www.phpmyadmin.net/
```

First, create this folder.

## Extract it into C:/WebData/phpmyadmin:

```
cd "C:/WebData/phpmyadmin/"
tar --strip-components=1 -zxvf pma.zip {main_folder}
```

Full path here.

This should be something like "phpMyAdmin-9.6.1-all-languages".

Copy it from **config.sample.inc.php**.

## In C:/WebData/phpmyadmin/config.inc.php set

\$cfg['blowfish secret']

{some\_value}

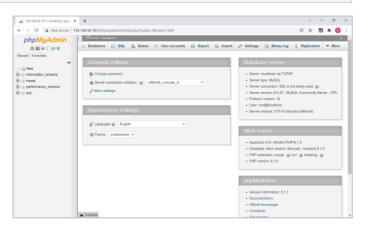
\$cfg['SendErrorReports']

'never'

#### Step 16: test phpMyAdmin

## Login to phpMyAdmin with you MySQL credentials:

http://192.168.56.101/phpmyadmin/



#### Step 17: install Nginx

#### Download the latest stable version:

https://nginx.org/en/download.html

## Unpack Nginx to C:/WebSoft/nginx:

First, create this folder.

```
cd "C:/WebSoft/nginx/"
tar --strip-components=1 -zxvf nginx.zip {folder}
```

Full path here.

This should be something like "nginx-5.54.2.zip".

#### Step 18: configure Nginx (part 1)

# In C:/WebSoft/nginx/conf/nginx.conf:

```
Replace listen 80;
With listen 81;
Replace root html
With root C:/WebData
```

#### Step 18: configure Nginx (part 2)

## In C:/WebSoft/nginx/conf/nginx.conf:

Replace

index index.html

With

index index.php index.html

## In C:/WebSoft/nginx/conf/nginx.conf:

#### After

```
location / {
          root C:/WebData;
          index index.php index.html index.htm;
}
```

#### Add

#### Create and run the following CMD file:

```
cd C:/WebSoft/nginx/
start C:/WebSoft/PHP/php-cgi.exe -b 127.0.0.1:9123
start C:/WebSoft/nginx/nginx.exe
pause
taskkill /f /IM nginx.exe
taskkill /f /IM php-cgi.exe
```

It is also possible to make Nginx run as Windows Service. Google the solution yourself.

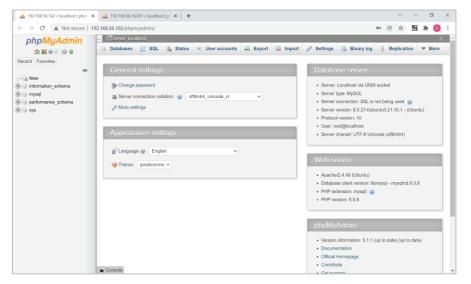
Step 20: and test once again

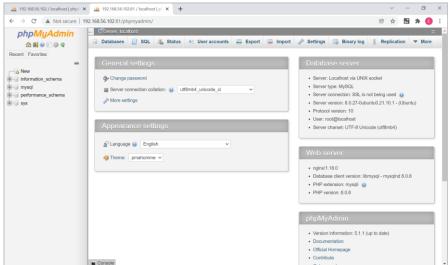
#### On your host OS connect to your VM via browser:

http://192.168.56.101/phpmyadmin/

http://192.168.56.101:81/phpmyadmin/

#### Done!





#### Useful idea 1: check your PHP configuration

#### On your host OS open it via browser:

http://192.168.56.101/info.php

http://192.168.56.101:81/info.php





Useful idea 2: do some enhancements

Setup FTP server.

Configure virtual hosts.

These actions are not necessary but may simplify your work.

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