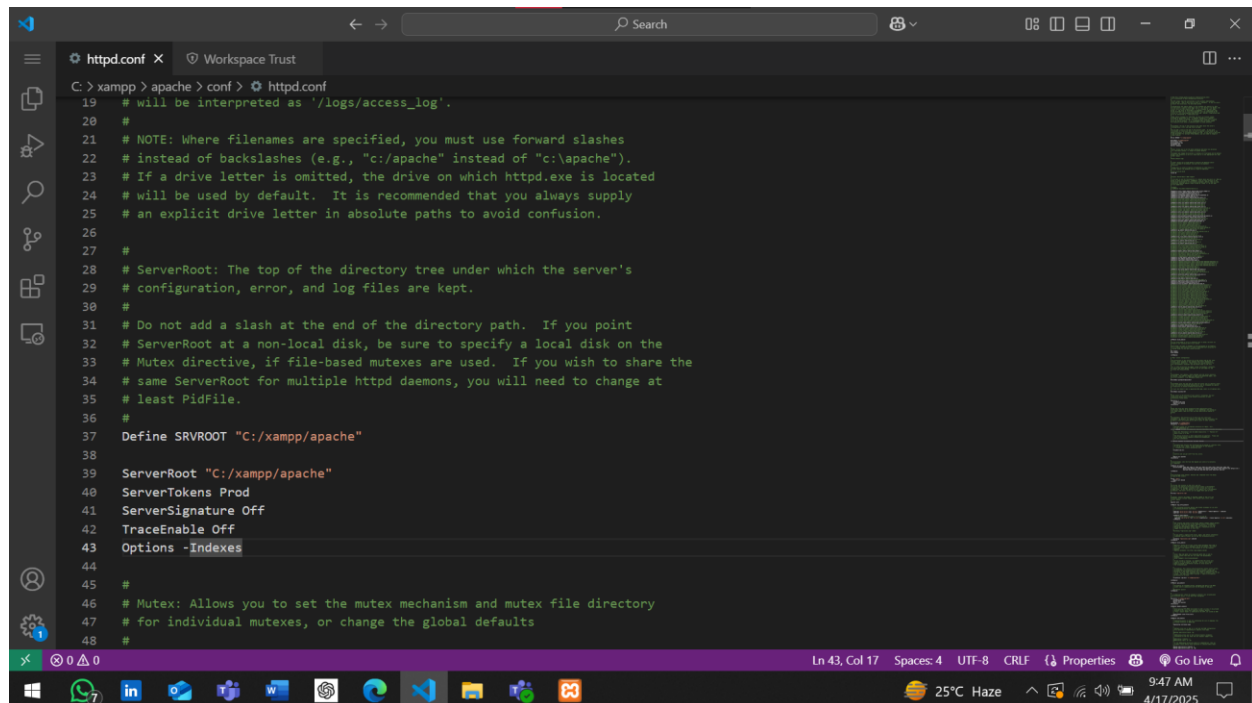


# Task 1: XAMP Server Installation & Hardening

## Steps:

### 1. Apache Hardening:

- Locate httpd.conf (typically in:  
\\xampp64\\bin\\apache\\apache2.x.x\\conf\\)
- Make these changes:



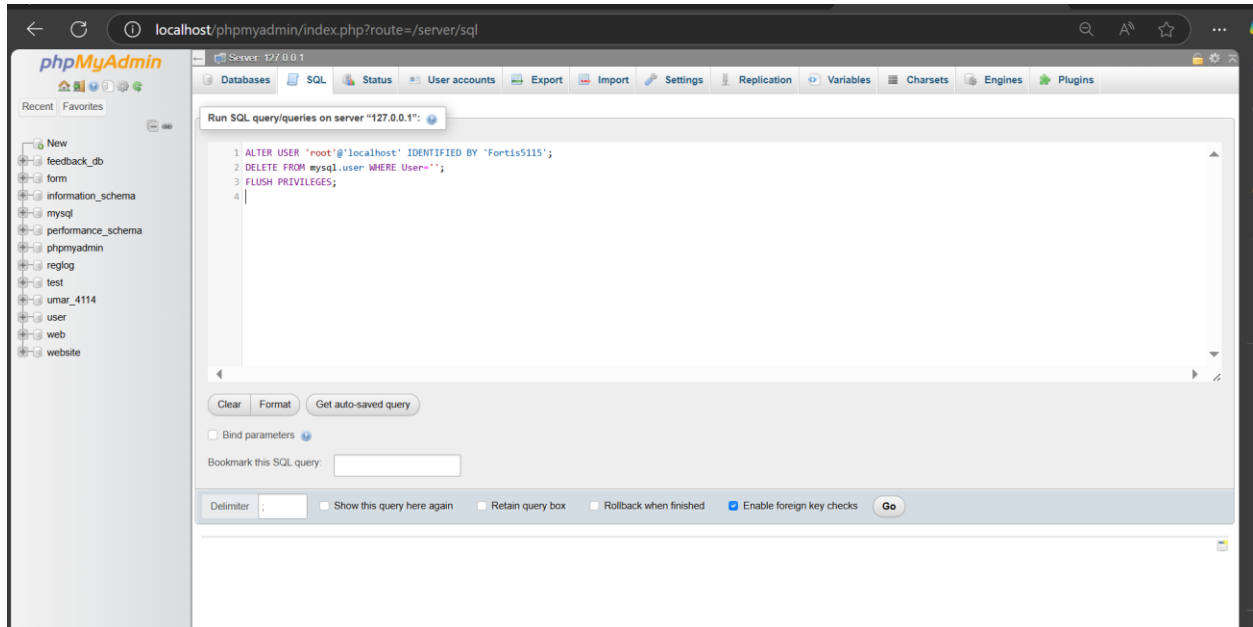
The screenshot shows a code editor with the file `httpd.conf` open. The editor has a dark theme and a sidebar on the left with icons for Explorer, Search, Source Control, and Run and Debug. The main editor area shows the following configuration changes:

```
19 # will be interpreted as '/logs/access_log'.
20 #
21 # NOTE: Where filenames are specified, you must use forward slashes
22 # instead of backslashes (e.g., "c:/apache" instead of "c:\apache").
23 # If a drive letter is omitted, the drive on which httpd.exe is located
24 # will be used by default. It is recommended that you always supply
25 # an explicit drive letter in absolute paths to avoid confusion.
26 #
27 #
28 # ServerRoot: The top of the directory tree under which the server's
29 # configuration, error, and log files are kept.
30 #
31 # Do not add a slash at the end of the directory path. If you point
32 # ServerRoot at a non-local disk, be sure to specify a local disk on the
33 # Mutex directive, if file-based mutexes are used. If you wish to share the
34 # same ServerRoot for multiple httpd daemons, you will need to change at
35 # least PidFile.
36 #
37 Define SRVROOT "C:/xampp/apache"
38
39 ServerRoot "C:/xampp/apache"
40 ServerTokens Prod
41 ServerSignature Off
42 TraceEnable Off
43 Options -Indexes
44
45 #
46 # Mutex: Allows you to set the mutex mechanism and mutex file directory
47 # for individual mutexes, or change the global defaults
48 #
```

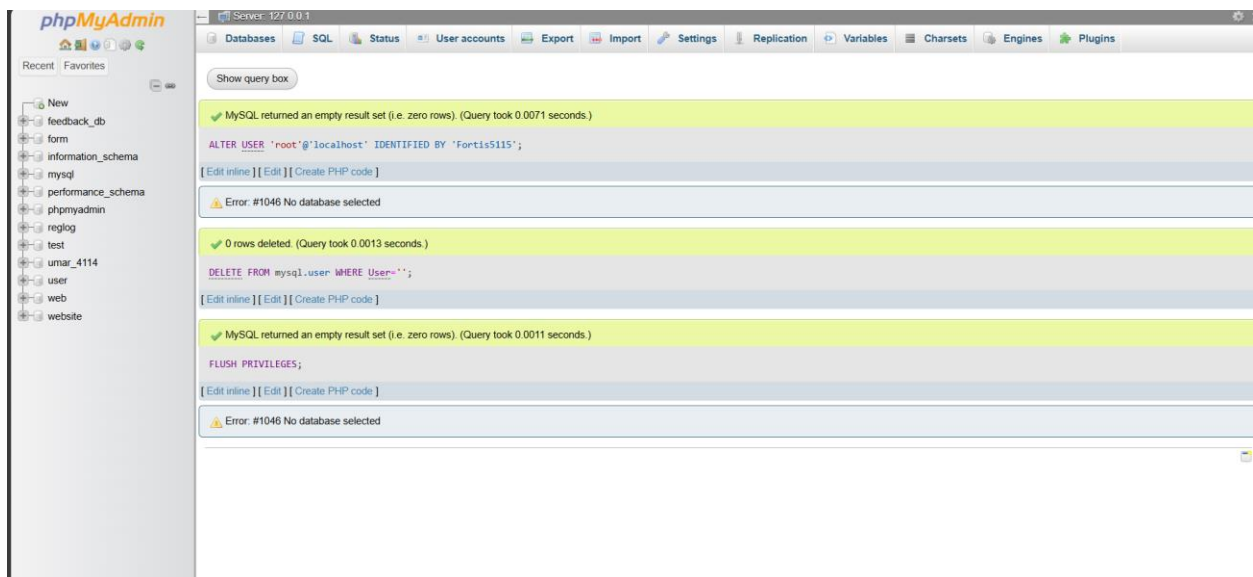
The status bar at the bottom shows the current line and column as `Ln 43, Col 17`, the encoding as `UTF-8`, and the line endings as `CRLF`. The system tray at the bottom right shows the date and time as `9:47 AM 4/17/2025`.

# MySQL Security:

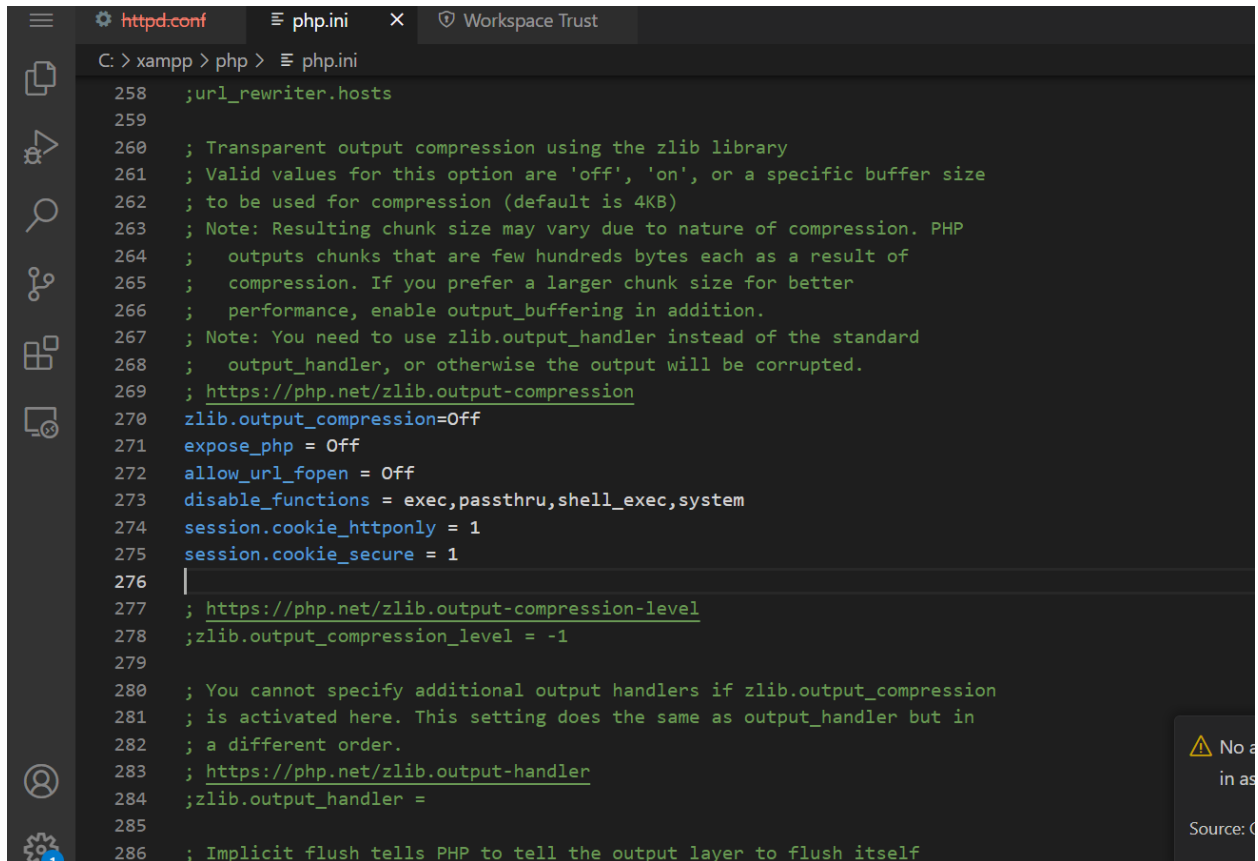
Open phpMyAdmin and make these changes to user



## Result



## PHP Security (php.ini):



```
258 ;url_rewriter.hosts
259
260 ; Transparent output compression using the zlib library
261 ; Valid values for this option are 'off', 'on', or a specific buffer size
262 ; to be used for compression (default is 4KB)
263 ; Note: Resulting chunk size may vary due to nature of compression. PHP
264 ; outputs chunks that are few hundreds bytes each as a result of
265 ; compression. If you prefer a larger chunk size for better
266 ; performance, enable output_buffering in addition.
267 ; Note: You need to use zlib.output_handler instead of the standard
268 ; output_handler, or otherwise the output will be corrupted.
269 ; https://php.net/zlib.output-compression
270 zlib.output_compression=Off
271 expose_php = Off
272 allow_url_fopen = Off
273 disable_functions = exec,passthru,shell_exec,system
274 session.cookie_httponly = 1
275 session.cookie_secure = 1
276
277 ; https://php.net/zlib.output-compression-level
278 ;zlib.output_compression_level = -1
279
280 ; You cannot specify additional output handlers if zlib.output_compression
281 ; is activated here. This setting does the same as output_handler but in
282 ; a different order.
283 ; https://php.net/zlib.output-handler
284 ;zlib.output_handler =
285
286 ; Implicit flush tells PHP to tell the output layer to flush itself
```

## Verification ( Failed )

```
Command Prompt
Microsoft Windows [Version 10.0.19045.5608]
(c) Microsoft Corporation. All rights reserved.

C:\Users\PMLS>curl -I http://localhost
HTTP/1.1 302 Found
Date: Thu, 17 Apr 2025 05:01:40 GMT
Server: Apache/2.4.58 (Win64) OpenSSL/3.1.3 PHP/8.2.12
X-Powered-By: PHP/8.2.12
Location: http://localhost/dashboard/
Content-Type: text/html; charset=UTF-8

C:\Users\PMLS>
```

## Now change httpd.conf

```
php.ini  httpd.conf X
C: > xampp > apache > conf > httpd.conf

25  # an explicit drive letter in absolute paths to avoid confusion.
26
27  #
28  # ServerRoot: The top of the directory tree under which the server's
29  # configuration, error, and log files are kept.
30  #
31  # Do not add a slash at the end of the directory path.  If you point
32  # ServerRoot at a non-local disk, be sure to specify a local disk on the
33  # Mutex directive, if file-based mutexes are used.  If you wish to share the
34  # same ServerRoot for multiple httpd daemons, you will need to change at
35  # least PidFile.
36  #
37  Define SRVROOT "C:/xampp/apache"
38
39  ServerRoot "C:/xampp/apache"
40  ServerTokens Prod
41  ServerSignature Off
42  TraceEnable Off
43  Options -Indexes
44  Header unset X-Powered-By
45  #
46  # Mutex: Allows you to set the mutex mechanism and mutex file directory
47  # for individual mutexes, or change the global defaults
48  #
49  # Uncomment and change the directory if mutexes are file-based and the default
50  # mutex file directory is not on a local disk or is not appropriate for some
51  # other reason.
52  #
```

## Open PHP.INI and make these changes

```
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

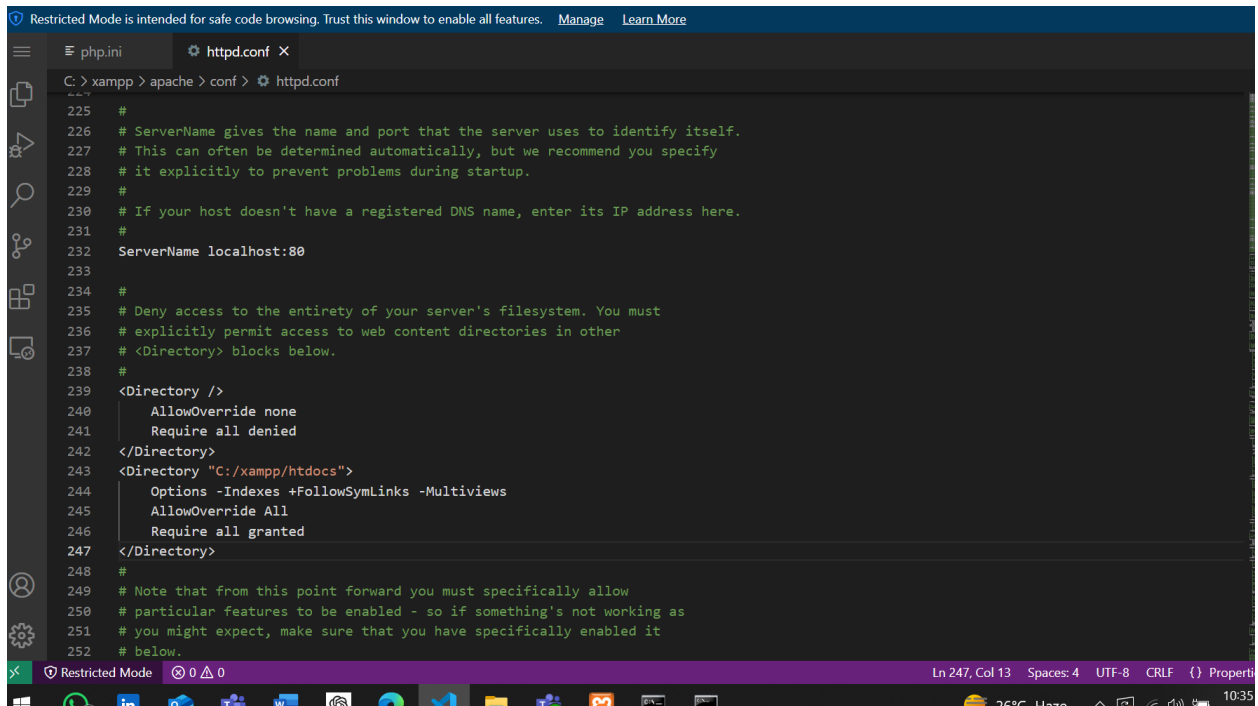
php.ini x httpd.conf
C:\xampp>php>php.ini
294 ; Disable dangerous functions
295 disable_functions = exec,passsthru,shell_exec,system,proc_open,popen,curl_exec,curl_multi_exec
296
297 ; Secure session cookies
298 session.cookie_httponly = 1
299 session.cookie_secure = 1 ; Requires HTTPS to work effectively
300 ; Remove X-Powered-By header
301 header = "X-Powered-By: "
302 ; Error handling security
303 display_errors = Off
304 display_startup_errors = Off
305 log_errors = On
306 error_log = "C:\xampp\php\logs\php_error.log"
307
308 ; The unserialize callback function will be called (with the undefined class'
309 ; name as parameter), if the unserializer finds an undefined class
310 ; which should be instantiated. A warning appears if the specified function is
311 ; not defined, or if the function doesn't include/implement the missing class.
312 ; So only set this entry, if you really want to implement such a
313 ; callback-function.
314 unserialize_callback_func=
315
316 ; The unserialize_max_depth specifies the default depth limit for unserialized
317 ; structures. Setting the depth limit too high may result in stack overflows
```

## Issue Resolved

```
C:\Users\PMLS>curl -I http://localhost
HTTP/1.1 302 Found
Date: Thu, 17 Apr 2025 05:27:52 GMT
Server: Apache/2.4.58 (Win64) OpenSSL/3.1.3 PHP/8.2.12
Location: http://localhost/dashboard/
Content-Type: text/html; charset=UTF-8

C:\Users\PMLS>
```

## Open Httpd.conf and make these changes



```
225 #
226 # ServerName gives the name and port that the server uses to identify itself.
227 # This can often be determined automatically, but we recommend you specify
228 # it explicitly to prevent problems during startup.
229 #
230 # If your host doesn't have a registered DNS name, enter its IP address here.
231 #
232 ServerName localhost:80
233
234 #
235 # Deny access to the entirety of your server's filesystem. You must
236 # explicitly permit access to web content directories in other
237 # <Directory> blocks below.
238 #
239 <Directory />
240     AllowOverride none
241     Require all denied
242 </Directory>
243 <Directory "C:/xampp/htdocs">
244     Options -Indexes +FollowSymLinks -Multiviews
245     AllowOverride All
246     Require all granted
247 </Directory>
248 #
249 # Note that from this point forward you must specifically allow
250 # particular features to be enabled - so if something's not working as
251 # you might expect, make sure that you have specifically enabled it
252 # below.
```

## Verification Test

