INSTALLATION AND PREPARATION

1. **Install XAMPP in your device:**

   https://www.apachefriends.org/download.html

2. **Locate the htdocs folder:**

   `C:\xampp\htdocs`

3. **Put the following folders inside htdocs:**
   - `Admin Online Computer Store`
   - `Online Computer Store`
   - `Image`

4. **Set up database:**
   - `Start XAMPP Apache and MySQL module`
   - `Enter phpMyAdmin by clicking MySQL's Admin button`
   - `Create a new database named computer_store`
   - `Inside the database, click import`
   - `Import computer_store.sql`
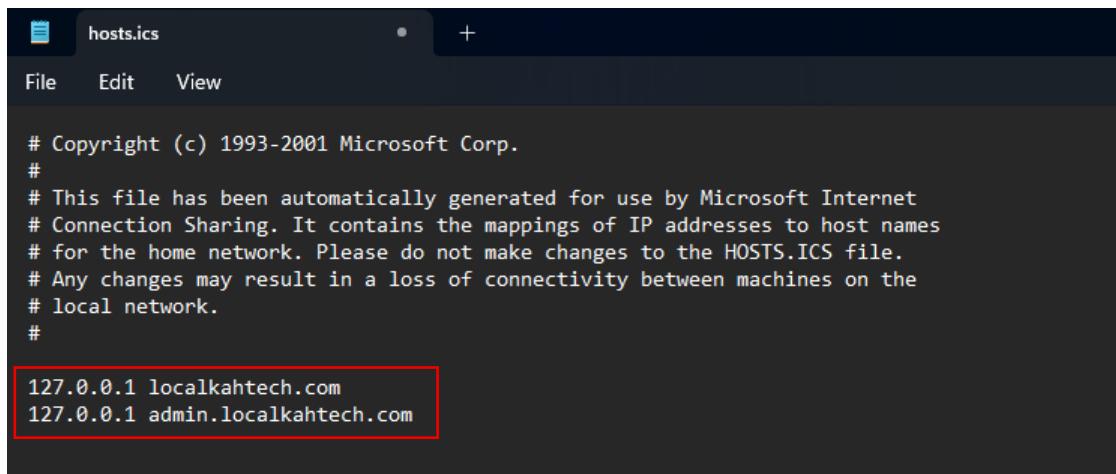
SELF-SIGNED DIGITAL CERTIFICATE

1. **Open this file (need a notepad with administrator's permission):**

   `C:\Windows\System32\drivers\etc\hosts.ics`

2. **Add this code into the file:**

   `127.0.0.1 localkahtech.com`

   `127.0.0.1 admin.localkahtech.com`

3. Open this file (open with a notepad / code editor):

```
C:\xampp\apache\makecert.bat
```
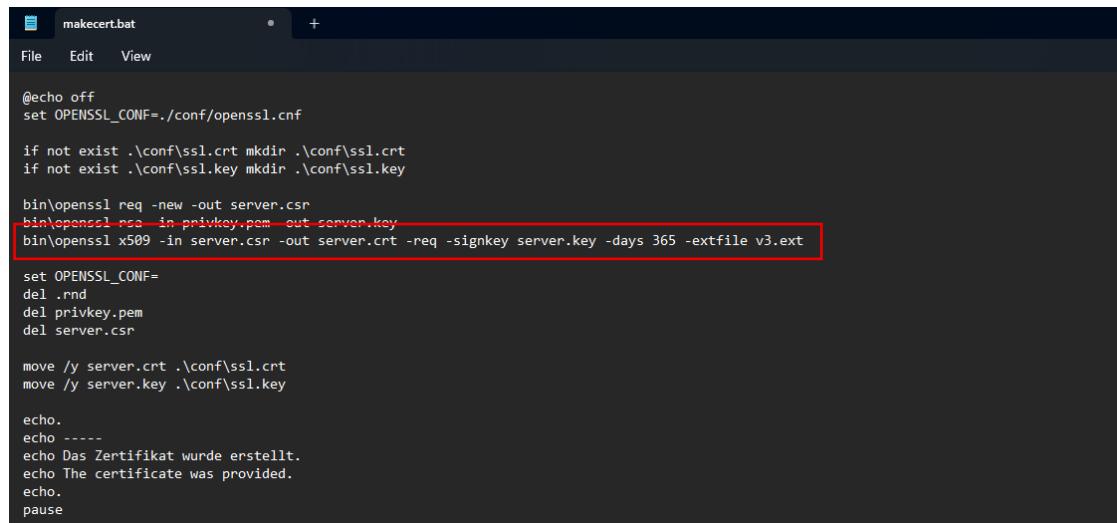
4. Modify this code in the file:

```
Change:
bin\openssl x509 -in server.csr -out server.crt -req -
signkey server.key -days 365
```

```
To:
bin\openssl x509 -in server.csr -out server.crt -req -
signkey server.key -days 365 -extfile v3.ext
```

5. **Create a new *v3.ext* file (same folder with *makecert.bat*):**

   ```
   C:\xampp\apache\v3.ext
   ```

6. **Add this code into the file:**

   ```
   authorityKeyIdentifier = keyid, issuer
   basicConstraints = CA:FALSE
   keyUsage = digitalSignature, nonRepudiation,
   keyEncipherment, dataEncipherment
   subjectAltName = @alt_names
   [alt_names]
   DNS.1 = localhost
   DNS.2 = *.localkahtech.com
   DNS.3 = localkahtech.com
   DNS.4 = 127.0.0.1
   DNS.5 = 127.0.0.2
   ```

7. **Run this file (double click to run):**

```
C:\xampp\apache\makecert.bat
```

8. **Fill in details:**

```
+..............+.....+.........+...+............+.................+...++++++
Enter PEM pass phrase:

Verifying - Enter PEM pass phrase:
```

- PEM pass phrase: kahtech

- Verifying PEM pass phrase: kahtech

** Take note: it is normal that the input is hidden

```
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:
State or Province Name (full name) [Some-State]:
Locality Name (eg, city) []:
Organization Name (eg, company) [Internet Widgits Pty Ltd]:
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:localkahtech.com
Email Address []:kahtechpng@gmail.com
```

- First 5 rows leave empty to use the default value

- Common name: localkahtech.com

- Email address: kahtechpng@gmail.com

** Take note: the email address is just an example, it can be changed to any valid email address

```
Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:kahtech
An optional company name []:kahtech
Enter pass phrase for privkey.pem:

writing RSA key
Certificate request self-signature ok
subject=C = AU, ST = Some-State, O = Internet Widgits Pty Ltd, CN = localkahtech.com, emailAddress = kahtechpng@gmail.com
Could Not Find C:\xampp\apache\.rnd
        1 file(s) moved.
        1 file(s) moved.

-----
Das Zertifikat wurde erstellt.
The certificate was provided.

Press any key to continue . . .
```
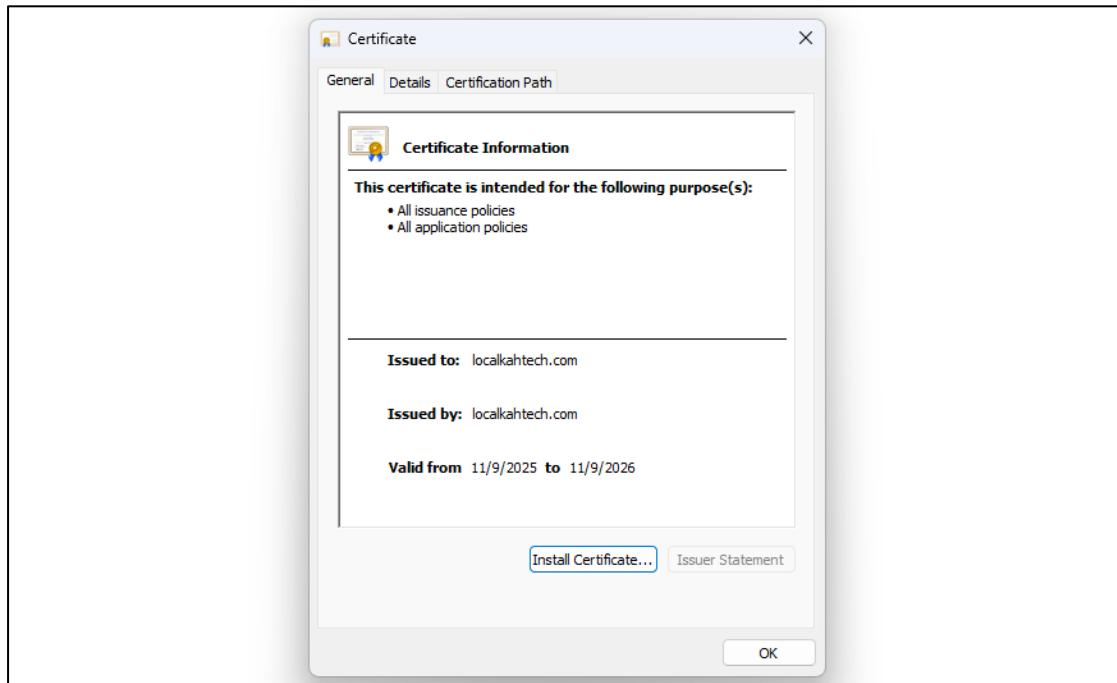
- Challenge password: kahtech

- Optional company name: kahtech

- Pass phrase for privkey.pem: kahtech
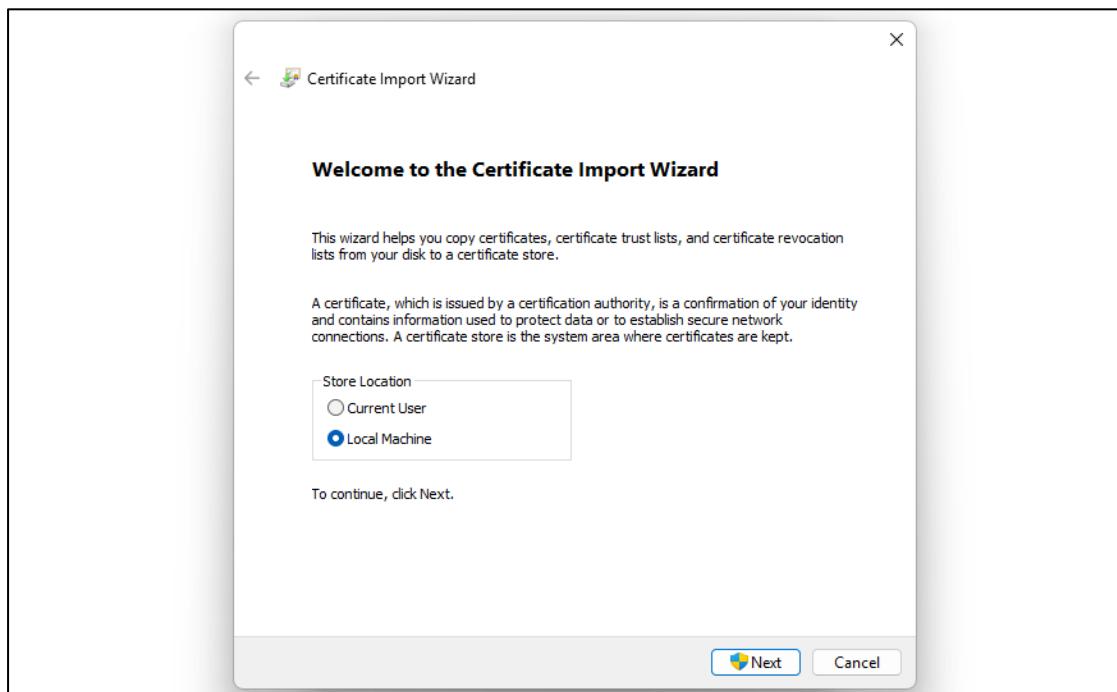
**9. Run this file (double click to run):**

```
C:\xampp\apache\conf\ssl.crt\server.crt
```
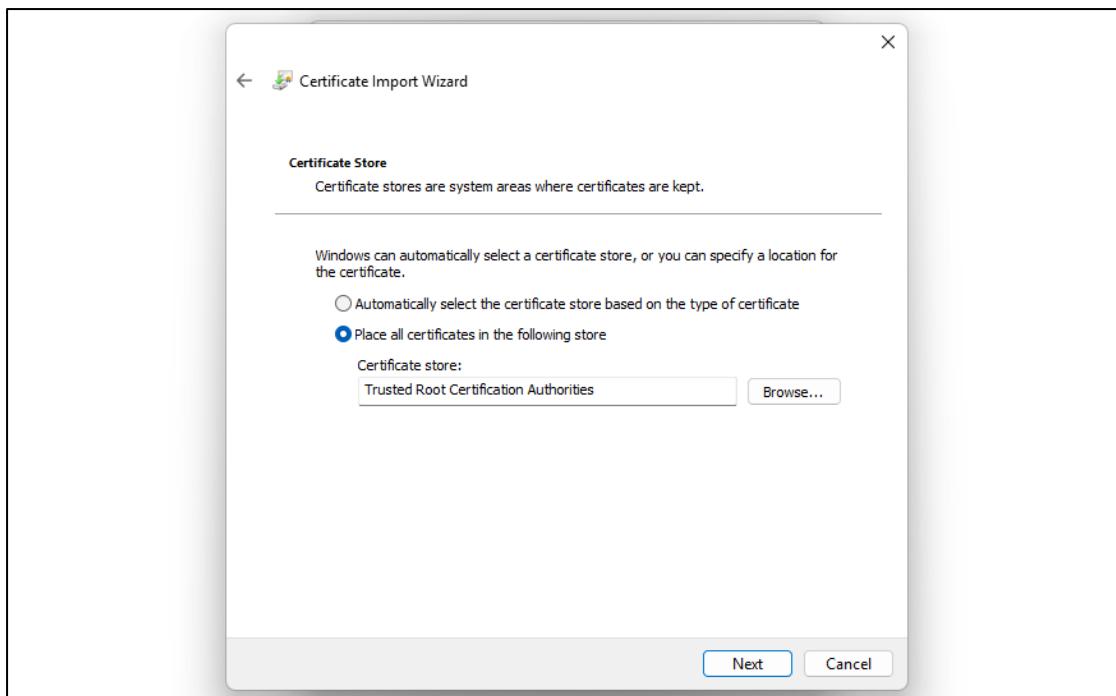
10. Install certificate:
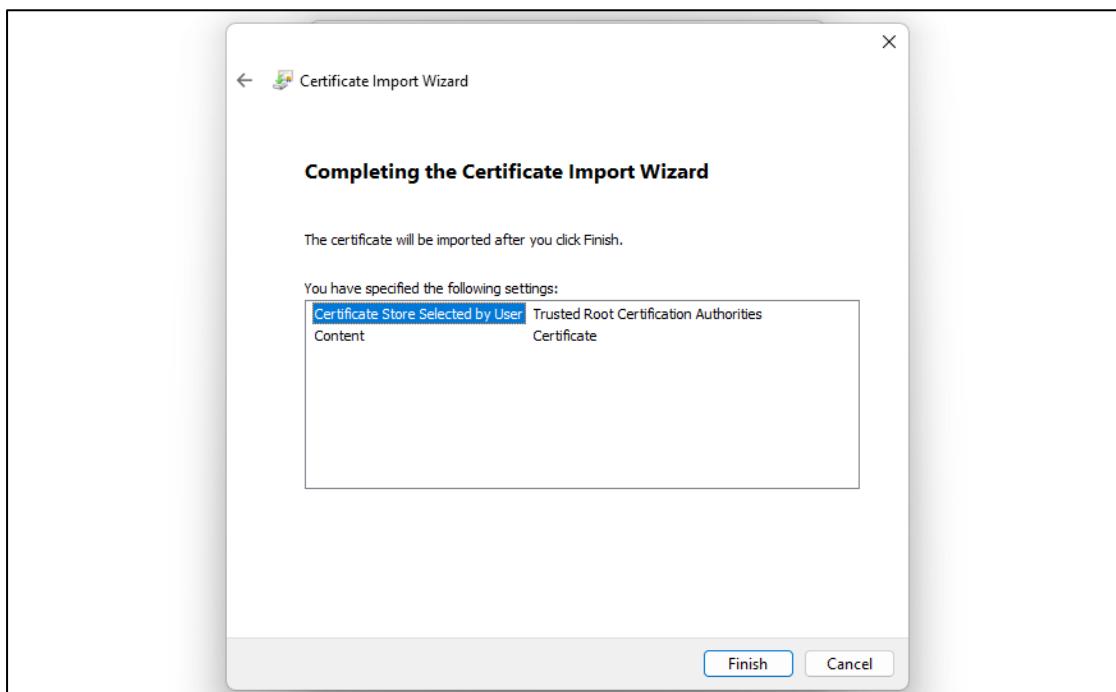
- Click **< Install Certificate >**

- Choose **< Local Machine >**
- Click **< Next >**

- Choose **< Place all certificates in the following store >**

- Click **< Browse… >**

- Choose **< Trusted Root Certification Authorities >**

- Click **< Next >**

- Click **< Finish >**
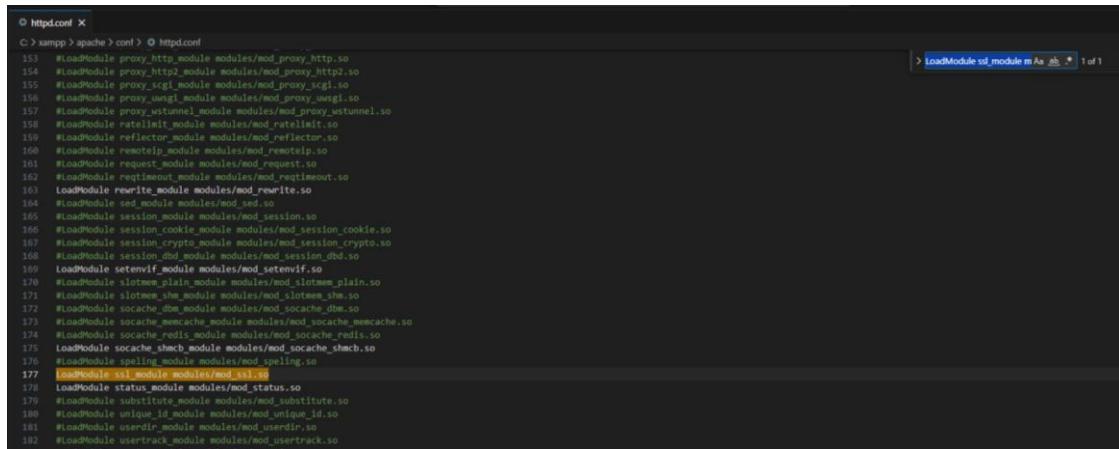
11. Open this file (open with a notepad / code editor):

```
C:\xampp\apache\conf\httpd.conf
```
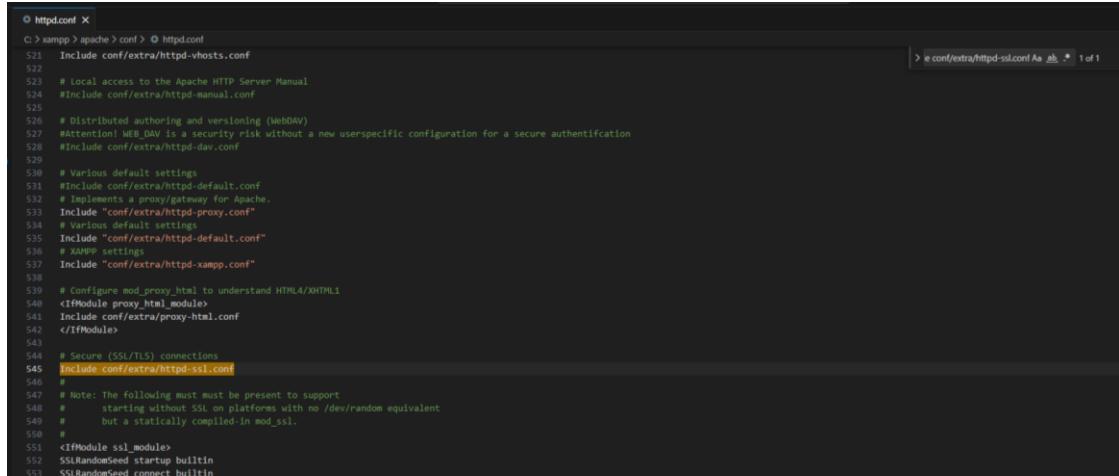
12. Make sure these lines are not comments:

- `LoadModule ssl_module modules/mod_ssl.so`

- `Include conf/extra/httpd-ssl.conf`

`** Take note: remove the # to uncomment the line`

13. Open this file (open with a notepad / code editor):

```
C:\xampp\apache\conf\extra\httpd-vhosts.conf
```

14. Add this code into the file:

```
<VirtualHost *:80>
    ServerName localhost
    DocumentRoot "C:/xampp/htdocs"
    <Directory "C:/xampp/htdocs">
        AllowOverride All
        Require all granted
    </Directory>
</VirtualHost>


<VirtualHost *:80>
    ServerName www.localkahtech.com
    ServerAlias localkahtech.com
    DocumentRoot "C:/xampp/htdocs/Online Computer Store"


    Alias /Image "C:/xampp/htdocs/Image"


    <Directory "C:/xampp/htdocs/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>


    RewriteEngine on
    RewriteCond %{SERVER_NAME} =www.localkahtech.com [OR]
    RewriteCond %{SERVER_NAME} =localkahtech.com
    RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI}
[END,NE,R=permanent]
</VirtualHost>


<VirtualHost *:443>
```

```
    ServerName www.localkahtech.com
    ServerAlias localkahtech.com
    DocumentRoot "C:/xampp/htdocs/Online Computer Store"

    Alias /Image "C:/xampp/htdocs/Image"

    <Directory "C:/xampp/htdocs/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    SSLEngine on
    SSLCertificateFile "conf/ssl.crt/server.crt"
    SSLCertificateKeyFile "conf/ssl.key/server.key"

    Header always set Strict-Transport-Security "max-
age=31536000"
</VirtualHost>

<VirtualHost *:80>
    ServerName www.admin.localkahtech.com
    ServerAlias admin.localkahtech.com
    DocumentRoot "C:/xampp/htdocs/Admin Online Computer
Store"

    Alias /Image "C:/xampp/htdocs/Image"

    <Directory "C:/xampp/htdocs/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
```

```
    RewriteEngine on
    RewriteCond %{SERVER_NAME} =www.admin.localkahtech.com
[OR]
    RewriteCond %{SERVER_NAME} =admin.localkahtech.com
    RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI}
[END,NE,R=permanent]
</VirtualHost>


<VirtualHost *:443>
    ServerName www.admin.localkahtech.com
    ServerAlias admin.localkahtech.com
    DocumentRoot "C:/xampp/htdocs/Admin Online Computer
Store"

    Alias /Image "C:/xampp/htdocs/Image"

    <Directory "C:/xampp/htdocs/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    SSLEngine on
    SSLCertificateFile "conf/ssl.crt/server.crt"
    SSLCertificateKeyFile "conf/ssl.key/server.key"

    Header always set Strict-Transport-Security "max-
age=31536000"
</VirtualHost>



** Take note: the folder path can be different, ensure they
match the actual path of your folders
```

15. YouTube references:

https://www.youtube.com/watch?v=leAFGFhE8O8

https://www.youtube.com/watch?v=eqrDHkIFe8U

SUPPRESSING ERRORS CONFIGURATION

1. **Open this file (open with a notepad / code editor):**

   `C:\xampp\apache\conf\httpd.conf`

2. **Add this code below LogLevel warn:**

   `ServerTokens Prod`

```
<Files ".ht*">
    Require all denied
</Files>

#
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
#
ErrorLog "logs/error.log"


#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
LogLevel warn

ServerTokens Prod
```

3. **Open this file (open with a notepad / code editor):**

```
C:\xampp\apache\conf\extra\httpd-vhosts.conf
```

4. **Add these lines to both *localkahtech.com* and *admin.localkahtech.com*:**

```
ServerSignature Off
ErrorDocument 404 /errors/404.php
ErrorDocument 500 /errors/500.php
```

```
<VirtualHost *:80>
    ServerName www.localkahtech.com
    ServerAlias localkahtech.com
    DocumentRoot "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Online Computer Store"

    ServerSignature Off
    ErrorDocument 404 /errors/404.php
    ErrorDocument 500 /errors/500.php

    Alias /Image "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Image"

    <Directory "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    RewriteEngine on
    RewriteCond %{SERVER_NAME} =www.localkahtech.com [OR]
    RewriteCond %{SERVER_NAME} =localkahtech.com
    RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI} [END,NE,R=permanent]
</VirtualHost>

<VirtualHost *:443>
    ServerName www.localkahtech.com
    ServerAlias localkahtech.com
    DocumentRoot "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Online Computer Store"

    ServerSignature Off
    ErrorDocument 404 /errors/404.php
    ErrorDocument 500 /errors/500.php

    Alias /Image "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Image"

    <Directory "C:/xampp/htdocs/INT6005CEM_group_assignment_G23/Image">
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    SSLEngine on
    SSLCertificateFile "conf/ssl.crt/server.crt"
    SSLCertificateKeyFile "conf/ssl.key/server.key"

    Header always set Strict-Transport-Security "max-age=31536000"
</VirtualHost>
```

5. **Open this file (open with a notepad / code editor):**

   ```
   C:\xampp\php\php.ini
   ```

6. **Modify this code in the file:**

   ```
   Change:
   display_errors=On
   display_startup_errors=On
   log_errors=On


   To:
   display_errors=Off
   display_startup_errors=Off
   log_errors=On
   ```
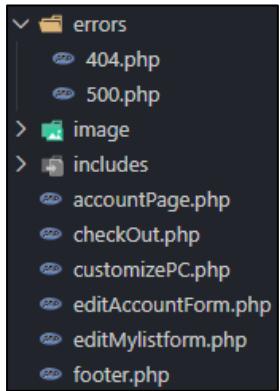
   ```ini
   display_errors=Off

   ; The display of errors which occur during PHP's startup sequence are handled
   ; separately from display_errors. We strongly recommend you set this to 'off'
   ; for production servers to avoid leaking configuration details.
   ; Default Value: On
   ; Development Value: On
   ; Production Value: Off
   ; https://php.net/display-startup-errors
   display_startup_errors=Off

   ; Besides displaying errors, PHP can also log errors to locations such as a
   ; server-specific log, STDERR, or a location specified by the error_log
   ; directive found below. While errors should not be displayed on productions
   ; servers they should still be monitored and logging is a great way to do that.
   ; Default Value: Off
   ; Development Value: On
   ; Production Value: On
   ; https://php.net/log-errors
   log_errors=On
   ```

7. **Check files:**

Make sure you have **404.php** and **500.php** inside your **errors folder** for both **user** and **admin**

EMAIL VERIFICATION

1. **Open this file (open with a notepad / code editor):**

    ```
    C:\xampp\php\php.ini
    ```

2. **Add this code into the file:**

    ```
    [mail function]
    For Win32 only.
    http://php.net/smtp
    SMTP=smtp.gmail.com
    http://php.net/smtp-port
    smtp_port=587
    sendmail_from = your_email_address_here
    sendmail_path = "\"C:\xampp\sendmail\sendmail.exe\" -t"
    ```

    ```
    ** Take note: this code must be added below [mail function]
    ```

3. **Open this file (open with a notepad / code editor):**

    ```
    C:\xampp\sendmail\sendmail.ini
    ```

4. **Add this code into the file:**

    ```
    [sendmail]
    smtp_server=smtp.gmail.com
    smtp_port=587
    error_logfile=error.log
    debug_logfile=debug.log
    auth_username=your_email_address_here
    auth_password=your_password_here
    force_sender=your_email_address_here (it's optional)
    ```

    ```
    ** Take note: this code must be added below [sendmail]
    ```

5. **Email address and password**

   For the previous steps, you are required to provide your email address. All the OTP verification emails will be sent using the email address you provided.

   ** Take note: the auth_password in step no.4 is not your actual email address password, please follow the steps below to get the auth_password

   - Go to your Google Account
   - Click **< Security & Sign-in >**
   - Click **< 2-Step Verification >**
   - Click **< App Passwords >**
   - Create your app password
   - You will get a 16-character app password, use it as your auth_password

   ** Take note: don't share the auth_password to anyone to protect your google account.

6. **Website references:**

   https://www.codingnepalweb.com/configure-xampp-to-send-mail-from-localhost/

VISIT THE WEBSITE

1. **Visit the website:**
   - Start XAMPP Apache and MySQL module
   - Open any browser (Google Chrome and Microsoft Edge are recommended)
   - Use the link to visit the user website:
     https://localkahtech.com/
   - Use the link to visit the admin / manager website:
     https://admin.localkahtech.com/

** Take note: if your XAMPP is running, please restart it after you configure all the files