

Instructions to prepare and upload the project files for the web assignment on the LABINF server

The solution must be developed by each student autonomously and without sharing the code with anyone else. Solutions too similar to each other may be considered not valid for passing the exam. It is the responsibility of each student to keep their solution private.

The solution must be loaded on the host `cclix11.polito.it` by the deadline specified in the assignment requirements. After that deadline, the access will be closed until exams are finished for that assignment.

The host provides:

- Apache v. 2.4.18
 - PHP Version 7.0.18 (note: it might be different from the PHP version in your XAMPP version)
 - MySQL v. 5.7.18
 - phpMyAdmin v. 4.5.4 to manage the DB through a web interface
- as well as an ftp server to load the files of the website.

NB: The PHP/MySQL on the LABINF server might not support the use of the mysql native driver (as opposed to the PHP version included in XAMPP). In other words, it is **not possible** to use PHP mysql functions that rely on that driver (“mysqlnd”). These functions include, for instance, **prepared statements** and **mysqli_fetch_all()** (use a cycle with **mysqli_fetch_array()** instead). The online PHP documentation always **specifies when a function requires the “mysqlnd” driver**.

Also, **TRIGGERS**, **LOCK** and other less common DB operations may **not be available** in the MySQL server on `cclix11.polito.it`. In general, if you want to use some functionalities not described during the lectures, you need to verify that they are available to you in the current `cclix11.polito.it` configuration since no modifications to the configuration are possible. Allowed DB operations are: CREATE, ALTER, DROP, INSERT, SELECT, UPDATE, DELETE.

NB: For security reasons, the host can ONLY be accessed from the Politecnico LAN. Therefore, to load and test your application you need to access the FTP and the WEB server from a computer directly connected to the Politecnico LAN, for instance any computer in LABINF.

(Note: for wireless users at Politecnico, FTP service can be accessed ONLY when connected using the “eduroam” network. See <http://wifi.polito.it/istruzioni/peap.asp> for further instructions on how to connect using “eduroam”).

Instructions to upload your files on the server for the exam

1) Connect to the ftp server (`cclix11.polito.it` port 21) using any ftp client (e.g., filezilla) from a computer connected to the Politecnico LAN. Use the ftp username and password sent to you at your institutional email account (`sxxxxxx@studenti.polito.it`, where `sxxxxxx` represents your enrollment number (“matricola”)) and the corresponding password.

Create a folder, under the *public_html* folder (already present on the server), named according to the instructions about *SECRET_FOLDER_NAME* in your email (this is to prevent your colleagues from accessing and copying the appearance of your website). Do not share *SECRET_FOLDER_NAME* with your colleagues as you will be responsible in case they copy the client part of your website.

Upload all `php`, `html`, `js` and any other file needed by your website in the folder with the name assigned to you.

2) Connect to the phpmyadmin interface, browsing the URL:

`http://cclix11.polito.it/phpmyadmin`

Enter the username and password provided to you by email, and login pressing the “Go” button. On the left side, you will find a database with the name specified in the email. Click on it, select the SQL tab and paste the *database dump* obtained by means of XAMPP (how to create an SQL dump from XAMPP is detailed later in this document). Run it pressing the “Go” button, then navigate in your database to check that everything has been properly created.

3) Finally, test if your web application works properly, by browsing the URL `http://cclix11.polito.it/~sxxxxxx/SECRET_FOLDER_NAME/first_file.php` where *xxxxxx* is your enrollment number (“matricola”), *SECRET_FOLDER_NAME* is the folder name provided to you by email, and *first_file.php* is the file from which navigation on your website begins, typically: *index.php*.

Test your web application extensively. If anything is not working, fix it. Note that after the deadline and during the exam, it will not be possible to make any modifications to your project.

Remember that in order to make the php application work with your database, you need to set host, username, password, and database name when creating connections to the database. Host is *localhost*, username, password have been emailed to you. Database name is the same as the username.

Note that you cannot debug the PHP application directly on the *cclix11* server. Therefore, develop and debug everything on your local machine using XAMPP. If you discover a bug and you have already uploaded the files to the server, simply upload the modified file or files to the server using the ftp client, overwriting the old ones.

Note that the PHP version on the server does not allow the use of “**prepared statements**” with the MySQL interface, therefore **do not use** them when developing the project, even though the PHP version in XAMPP supports them.

Moreover, each user has an *uploads* folder already available in its personal area under the *public_html* folder. **Do NOT** move, rename or delete that folder. If the assignment requires to upload files from the client, use the *move_uploaded_file()* function, available in PHP, with that folder as destination (adding the name of the file you want to create at the end of the path name, as usual). Any other folder will not work.

Also, remember to always keep a copy of all the files of your project, including the database dump, safely stored (e.g., in a USB key), also after you created and uploaded the final version of your assignment, so that in the unlikely event that a problem with the server happens you will not suffer any data loss.

Tips and other suggestions

1) DO NOT wait until the last day to load and test your website!

2) Do not share the username and passwords you received by email with your classmates and colleagues. You are responsible to ensure that nobody, apart from you, will use your credentials.

3) For those of you who were previously enrolled in the 3-year degree (“laurea triennale”), you might have received two emails, since you have two enrollment or student ID numbers (“matricola”). Both of them should work independently, however please use the one corresponding

to the current year and forget about the other.

4) Before uploading your assignment for the first time, check that everything is working from your account by uploading (using ftp) a file named `test.php` containing the following text:

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

and browse the URL: `http://cclix11.polito.it/~sxxxxxx/test.php` from a computer in the Politecnico LAN.

You should get the usual PHP information page with the full PHP configuration on the server.

Remember: everything put directly into the *public_html* folder will be visible to anyone who knows your enrollment (“matricola”) number, so upload your project files **ONLY** under the *SECRET_FOLDER_NAME* folder.

5) If the database does not seem to work inside your php application, write a simple web page to perform, e.g., a `SELECT` on a table in the database. Test the same identical query in the phpmyadmin web interface (using the SQL tab) and compare the results that you get with the ones in your simple php page by, e.g., inspecting the source code of the page in the browser. Remember: always check for errors when performing database operations from PHP.

How to create an SQL dump from XAMPP and load it into the mysql database on cclix11.polito.it

In your local computer, with XAMPP activated (web server and mysql) go to the phpmyadmin web interface, select the correct database from the left side, click on the “Export” tab, make sure that all tables you need are selected, then click on “Add DROP TABLE ...” to make sure that everything in the table already present in your database on the cclix11 is deleted, then click on “Execute” or “Go” and save the sql file. Open it with a text editor. Make sure that no create database command is present, otherwise delete it. Select all the file content, and copy it.

Go to `http://cclix11.polito.it/phpmyadmin`, enter username and password, select your database (remember, this is important), then select the “SQL” tab, then click “Go”. If any errors are present, fix them and press “Go” again. If everything is correct, you have just created the table structure and put the content into your database.

Frequently Asked Questions (FAQ)

1) The website must correctly work when browsing is performed using the browsers installed in the PCs in the laboratory: Mozilla Firefox 43 or later, Google Chrome 56 or later, Internet Explorer 11 or later.

2) The use of jquery library is allowed and encouraged to simplify the implementation of the features relying on Javascript.

3) The use of AJAX is not required (unless explicitly required in the assignment): every operation can be performed by transmitting the necessary data to the server and displaying the answer in a newly loaded page.

4) The use of HTML5 is allowed if the website correctly operates when browsing is performed with the browsers listed in 1). The use of HTML5 does not grant additional marks on the final score.

5) Use all the good practices and programming techniques taught during the classes (for example,

input validation whenever and wherever necessary, etc.)

6) The use of frameworks to implement the application is not allowed (the exam is about using the techniques explained in the course; frameworks will be taught in another course). If the student would like to use PHP libraries that he/she already implemented for other reasons (e.g., Model-View-Controller implementations or others) it is absolutely necessary to check the compatibility of them with the cclix11.polito.it LABINF server. The server configuration cannot be modified. External CSS style sheets (e.g., Bootstrap) can be used provided that the student, during the discussion, can explain how they have been used and how they implement their functionalities.