



## Setup P3T - the DMU laboratory AMP stack

### Introduction

All the PCs in the faculty are able and configured to run Apache/PHP as a web-application server and MariaDB as a database-server. The intention is to permit private development effort by the person logged in to the machine. Before any code can be written, it is necessary to setup/update a P3T development environment.

To ensure that you get a clean version of Apache/PHP and a clean version of MariaDB (known as the AMP stack), rather than ones which were 'reconfigured' by the last person to use the machine, there is an installation programme that you must run **each time** you start P3T to download a new Apache/PHP and a new MariaDB over the network onto your machine's C: drive. This updates any existing AMP stack.

The *one-off operations* below are concerned with setting up your personal workspace on the H: drive.

### One-off operations

The following operations need to be carried out just once (hopefully!) at the beginning of the module.

1. Open two folder windows on the Windows desktop. One will display the contents of *L:\P3T-Environment* and the other displays your H: drive.
2. Copy the **p3t** directory (containing the P3T environment) from the L: drive to your H: drive account – it will take a few minutes:  
**NB Do NOT copy the entire P3T-Environment directory, just the inner p3t directory.**

```
L:\P3T-Environment\p3t to H:\p3t
```

3. Check to see that all of the *p3t* files on the L drive have been copied successfully. You should now have the following directory structure under your *H:\p3t* directory.

```
H:\p3t\  
  apache\  
    conf\  
      httpd.conf  
    htdocs\  
      index.html  
  mariadb\  
    data\  
      (other subdirs are in here - this is where your persistent mariadb data goes)  
  php\  
    php.ini  
  phpappfolder\  
  *    includes\  
        vendor\  
        composer.json  
        composer.lock  
    logs\  
      php_errors.log  
  **   public_php\  
        p3ttest.php (plus some other files)
```



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```
var\  
    session\  
    upload\  
    wsdll_cache\  
***  
    \xdebug  
        \cachegrind  
        \profile  
        \trace  
        xdebug library (dll) file
```

---

\* this directory is on your PHP include path (put PHP files that you don't want to be directly browsable in here)

\*\* this is the directory which is aliased by <http://127.0.0.1:6789/> or <http://localhost:6789/>

\*\*\* xdebug output files are configured to be written here. These aid with debugging and optimising your scripts & applications

4. Copy your *P3T-controls* directory from the L drive to your desktop.

**L:\P3T-Environment\P3T-controls            to            desktop\P3T-controls**

5. This folder contains all the command files (batch files in MS Windows parlance) needed to run the P3T development environment.

NB you can also copy the P3T-controls folder to your H: drive, or just run the commands from the L: drive.

6. Once you are confident that all files have been successfully copied into the correct locations you can close all folder windows.



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### Install and start the servers

NB you **MUST** do *step 7* each time you log on to work with P3T.

When you have finished working, close each server down gracefully.

**If you simply close the windows, you may corrupt command or database files.**

7. **Install** the apache/php/mariadb servers.  
*Desktop => P3T-controls => Install*

After the install process has completed, start either or both the servers as required:

8. **Start the apache server** listening on port 6789.  
*Desktop => P3T-controls => apache startup*  
You should be left with an open DOS command window which contains the text *Apache server starting on port 6789*. Minimise this window to leave the server running, waiting for *http* requests to arrive on port 6789.
9. **Open a browser** and confirm that *http://127.0.0.1:6789/* displays a list of PHP scripts:
10. **Select phpinfo.php**  
This displays the configuration settings for the local PHP installation. Scroll quickly through this for a idea of the settings.  
When you have finished, use the browser's back button to return to the home page.
11. **Start the mariadb server.**  
*Desktop => P3T-controls => mariadb startup*  
  
You should be left with an open DOS command window which contains, on the last line, the text *port: 3306 mariadb.org binary distribution*. Minimise this window to leave the database server running, waiting for requests from mariadb clients to arrive on port 3306.
12. **Start a mariadb client** to enter SQL via the command line.  
*Desktop => P3T-controls => mariadb client 'root'*  
Enter the following SQL query to check all is OK.

**SELECT \* FROM p3ttestdb.message;**

You should see the text: *Database p3ttestdb accessed successfully.*

NB you are the MariaDB *root* administrator on the P3T environment, and **no password** has been set.

13. Via your browser, **check the database test hyperlinks.**
14. When you are ready to leave the lab, **stop the Apache & MariaDB servers.**  
**MariaDB:** *Desktop => P3T-controls => mariadb shutdown*  
**Apache:** CTRL-C, wait, then enter 'Y' when prompted.

***NB Doing this will close the two servers “gracefully”. Not doing this may corrupt your data (especially when using a database).***