


WINDOWS TUTORIAL — BEGINNER'S GUIDE



PHP Environment on Windows

Docker Desktop installation guide
and step-by-step usage — Windows 10 or 11 — Intel/AMD (x64) or
Qualcomm (Arm64)

 Apache 2.4

 PHP 7.4

 MariaDB 10.6

 phpMyAdmin


 Portainer

 PHP Site

`http://localhost:8080`

 phpMyAdmin

`http://localhost:8081`

 Portainer (GUI)

`http://localhost:9000`

 Dashboard

`http://localhost:8082`

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About this tutorial

This guide is designed for Windows 10 or 11 — Intel/AMD (x64) or Qualcomm (Arm64) — with Docker Desktop. All operations are performed through graphical interfaces after the initial setup.

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CHAPTER 1

Install Docker Desktop

One-time setup on your Windows PC

↓ Download and installation

1 Go to docker.com → "Download for Windows"

Download the `Docker Desktop Installer.exe` file

2 Run the installer

Follow the on-screen instructions — Docker automatically installs everything it needs (including WSL2)

3 Restart your PC if prompted

Some PCs require a restart to finalize the installation

4 Open Docker Desktop

Start menu → search for "Docker Desktop" → click on it



Automatic setup

Docker Desktop automatically installs and configures WSL2 (Windows Subsystem for Linux) if needed. No manual intervention is required.

✓ Docker Desktop is ready when...

The whale icon  appears in the taskbar

Bottom-right corner of the Windows screen (notification area). It must be stable (not animated = ready).



Docker Desktop must stay open

Docker Desktop must remain running (even in the background) during your entire work session.

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CHAPTER 2

First launch

Launch the environment with the launcher (double-click)



Launch the environment

1

Open Docker Desktop from the Start menu

Wait for the whale icon to appear in the taskbar (bottom-right corner)

2

Double-click on `launcher.bat`

A graphical window opens with all actions: Start, Stop, Restart, Reset Portainer

3

Click "Start"

Wait for the status to turn green — the dashboard opens automatically



Go to Portainer IMMEDIATELY!

Open <http://localhost:9000> within the first 5 minutes to create your account. See Ch.3 for details.



First time: wait 5 to 10 minutes

Docker is downloading all the images (PHP, MariaDB...). This is slow **only the first time**. Subsequent launches: less than 10 seconds.



Manual scripts

The scripts `start.bat` and `stop.bat` are also available if you prefer manual control.



Where is the project folder?

Access from Windows Explorer

If the project is on your Desktop:

```
C:\Users\YourName\Desktop\PHPenv\
```

Your PHP files go in the `htdocs\` subfolder





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CHAPTER 3

Access the web interfaces

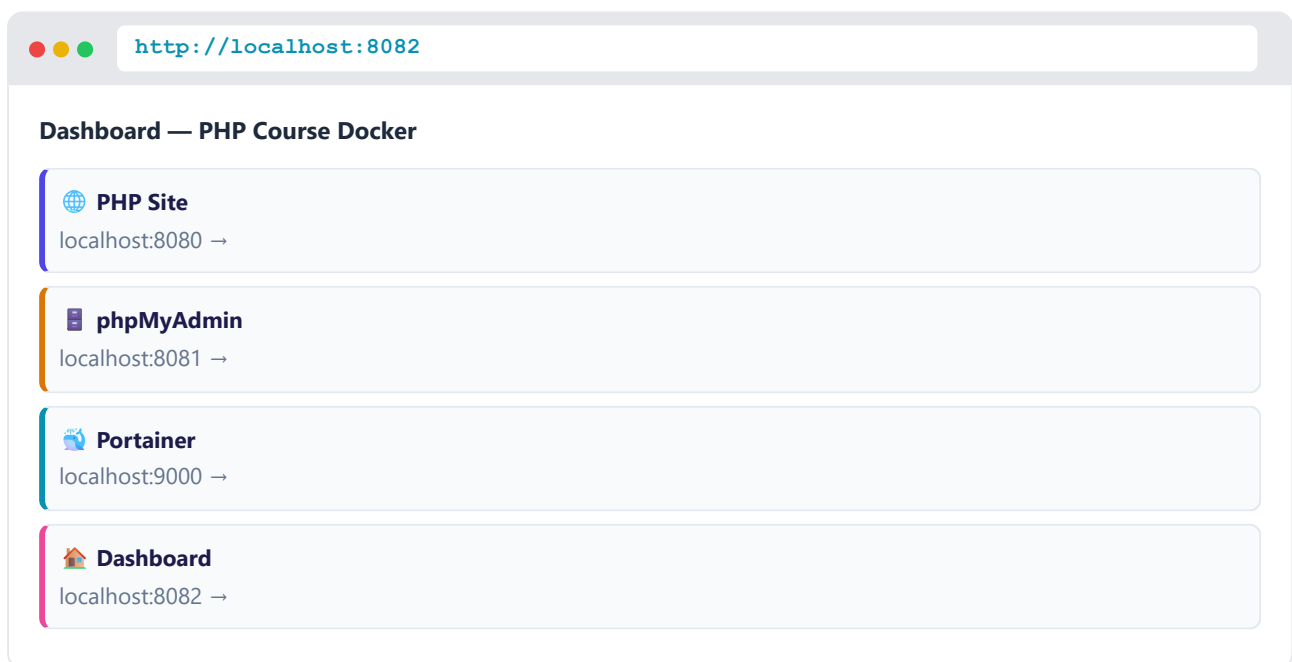
Everything happens in your Windows browser

📖 Overview

| SERVICE | ADDRESS | DESCRIPTION |
|--|-----------------------------|-----------------------------|
|  Dashboard | <code>localhost:8082</code> | Home page with all links |
|  PHP Site | <code>localhost:8080</code> | Your PHP files (htdocs/) |
|  phpMyAdmin | <code>localhost:8081</code> | Visual management of the DB |
|  Portainer | <code>localhost:9000</code> | Docker container management |

🏠 Dashboard — localhost:8082

Your daily **starting point**. It centralizes all links and your credentials.



🌐 PHP Site — localhost:8080

Displays the contents of your `htdocs\` folder. The test page confirms that PHP and the database are working.



http://localhost:8080





Hello PHP ! 🖐️

✅ MySQL connection successful! (MariaDB 10.6.x)

PHP 7.4.x — Linux 64-bit

phpMyAdmin — localhost:8081

Graphical interface to manage your database. Pre-configured connection (automatic).

| | |
|--|------------------------------------|
|  Address | <code>http://localhost:8081</code> |
|  Username | <code>root</code> |
|  Password | <code>root</code> |
|  Database | <code>app</code> |



phpMyAdmin not responding?

The DB takes 10 to 20 seconds to start. Wait and refresh with **Ctrl+R** or **F5**.



Portainer — localhost:9000

Graphical interface to manage your Docker containers (start, stop, restart, view logs).



Act within the first 5 minutes!

Portainer expires its initialization for security reasons. After startup, go **immediately** to `http://localhost:9000` and create your account. If you see the "timeout" page → see the Troubleshooting chapter (p. 10) or double-click on `reset-portainer.bat`.

Create your account (first access)

1

Open `http://localhost:9000`

Portainer asks you to create an administrator account

2

Enter a username and a password

Example: `admin` — Password: 12 characters minimum













3





Click "Create user"

Then choose "Get Started" → "local"

What you can do in Portainer

http://localhost:9000 → Containers

| Container | Status | Available actions |
|------------------|---------|---|
| cours_web | running |     |
| cours_db | running |     |
| cours_phpmyadmin | running |     |

 Start  Stop  Restart  View logs

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CHAPTER 4


Working with PHP

Create, edit and test your PHP scripts on Windows

The htdocs folder — your workspace

All your PHP files must be in the `htdocs\` folder of the project. It is directly accessible from **Windows Explorer**.

Where is htdocs?

```
C:\Users\YourName\Desktop\PHPenv\  
├─  htdocs\      ← YOUR PHP FILES HERE  
│   └─ index.php    ← test page (already created)  
│   └─ hello.php     ← your next file  
└─ docker-compose.yml ← do not modify
```

Create your first PHP file

1 Open the `htdocs\` folder in Windows Explorer

Double-click from your Desktop → `PHPenv` folder → `htdocs`

2 Create a new file `hello.php`

In VS Code, Notepad++, or any editor. The `.php` extension is required.

3 Write your PHP code and save

4 Open in the browser

`http://localhost:8080/hello.php` — refresh with **Ctrl+F5**

```
<?php  
echo "Hello world!";  
?>
```



No need to restart!

Every change to your PHP files is visible immediately after **Ctrl+F5** in the browser.



Database connection (PDO)

```
// Connect to the database

$pdo = new PDO(
    "mysql:host=db;dbname=app;charset=utf8mb4",
    "app",    // username
    "app"     // password
);

// Retrieve data
$stmt = $pdo->query("SELECT * FROM my_table");
foreach ($stmt as $row) {
    echo $row['name'] . "<br>";
}
```



The host is "db", not "localhost"

In Docker, services communicate via their name. The database is called `db` — even on Windows.

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CHAPTER 5

Manage the database

Create tables and manipulate data with phpMyAdmin

🔑 Log in to phpMyAdmin

Go to **http://localhost:8081**. Automatic connection (pre-configured).

| | |
|------------|------------------------------------|
| 🌐 Address | <code>http://localhost:8081</code> |
| 👤 Username | <code>root</code> |
| 🔑 Password | <code>root</code> |
| 📁 Database | <code>app</code> |

🔧 Create a table

1 In the left column, click on "app"

This is your database

2 "Structure" tab → "Create table"

Give it a name (e.g.: `users`) and choose the number of columns

3 Define your columns, then "Save"

Always add an `id` column as INT AUTO_INCREMENT as the primary key

📊 Example "users" table

| COLUMN | TYPE | LENGTH | OPTIONS |
|---------------------------|----------|--------|-----------------------------|
| <code>id</code> | INT | 11 | PRIMARY KEY, AUTO_INCREMENT |
| <code>name</code> | VARCHAR | 100 | — |
| <code>email</code> | VARCHAR | 150 | — |
| <code>date_created</code> | DATETIME | — | DEFAULT CURRENT_TIMESTAMP |

Execute an SQL query

"SQL" tab in phpMyAdmin:

```
-- Insert data

INSERT INTO users (name, email)
VALUES ('Alice Martin', 'alice@example.com');

-- Read all data

SELECT * FROM users;
```

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CHAPTER 6

Stop and restart

Manage the environment without the command line

□ Stop the environment

Option A — Launcher (recommended)

Double-click on `launcher.bat` → click **"Stop"**. You can also Restart or Reset Portainer from this window.

Option B — Via Portainer

1. Open `localhost:9000`
2. **"Containers"** tab
3. Check all containers
4. Click **"Stop"**



Your data is preserved!

Stopping the services does not delete your PHP files or your database data. Everything is preserved for the next launch.

↺ Restart a specific service

1 Portainer → `http://localhost:9000` → **"Containers"**

2 Find the container to restart

`cours_web` = Apache+PHP | `cours_db` = DB | `cours_phpmyadmin`

3 Click the ↺ (Restart) button

The service restarts in a few seconds



Daily Windows routine

Morning: Open Docker Desktop → double-click `launcher.bat` → Start

Evening: `launcher.bat` → Stop

Common issues

✗ Portainer — "timeout" page (/timeout.html)

Solution A: Use "Reset Portainer" in the launcher.

Solution B: Double-click on `reset-portainer.bat` in the project folder.

Then go **immediately** to <http://localhost:9000> to create your account.

✗ Docker Desktop not detected

Open **Docker Desktop** from the Start menu → wait for the whale in the taskbar → relaunch

`launcher.bat`.

✗ start.bat closes immediately

Right-click → "Run as administrator". Or open CMD in the folder and type `start.bat`.

✗ "port already in use" / "bind failed" error

Another program is using port 8080 or 8081. Close Skype, IIS, WAMP, or any other server. Restart and relaunch `start.bat`.









✗ PHP files are not displayed / not updating

Verify that your files are in `htdocs\` of the project. Refresh with **Ctrl+F5** (clears cache).

✗ phpMyAdmin — connection error

The DB takes 10 to 20 seconds to start → wait and refresh (F5 or Ctrl+R).

Credentials summary

| | |
|--|------------------------------------|
|  PHP Site | <code>http://localhost:8080</code> |
|  phpMyAdmin | <code>http://localhost:8081</code> |
|  Portainer | <code>http://localhost:9000</code> |
|  Dashboard | <code>http://localhost:8082</code> |
|  DB Host (in PHP) | <code>db</code> |
|  Database | <code>app</code> |
|  DB Username | <code>app</code> |
|  DB Password | <code>app</code> |
|  Root password | <code>root</code> |

Windows Tutorial — Apache 2.4 + PHP 7.4 + MariaDB 10.6 + phpMyAdmin 5.2 + Portainer CE
Windows 10 or 11 — Intel/AMD (x64) or Qualcomm (Arm64) — Docker Desktop