

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

i 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.

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

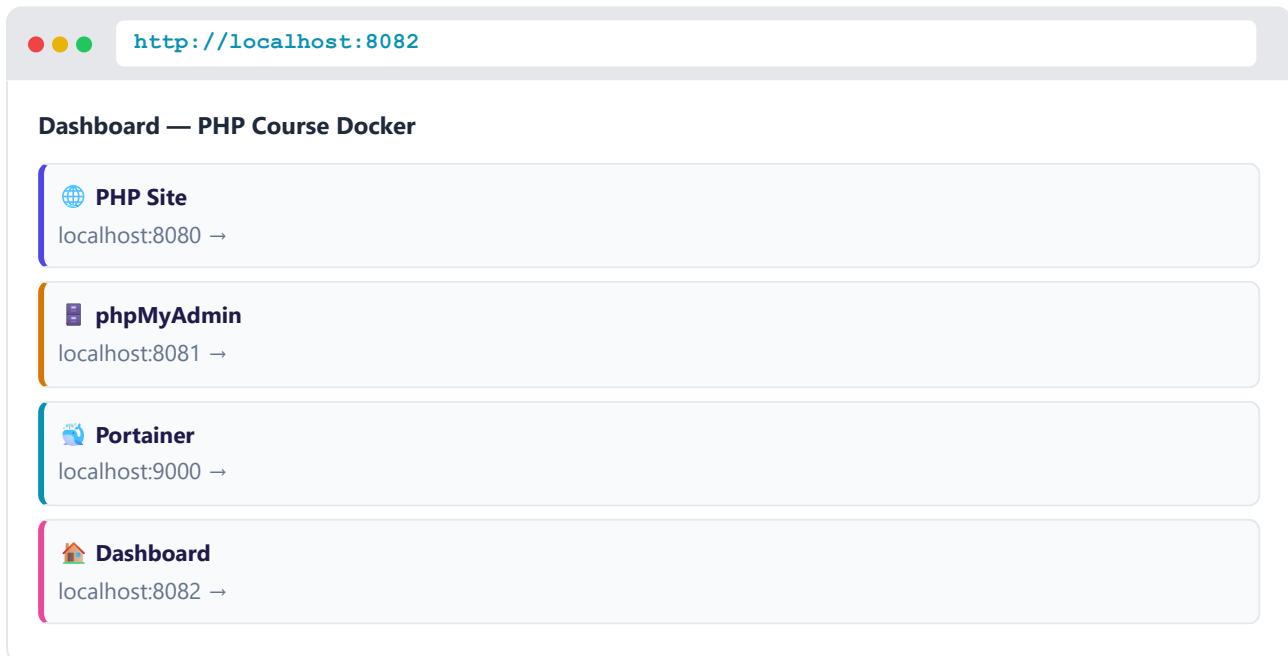
Everything happens in your Windows browser

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.

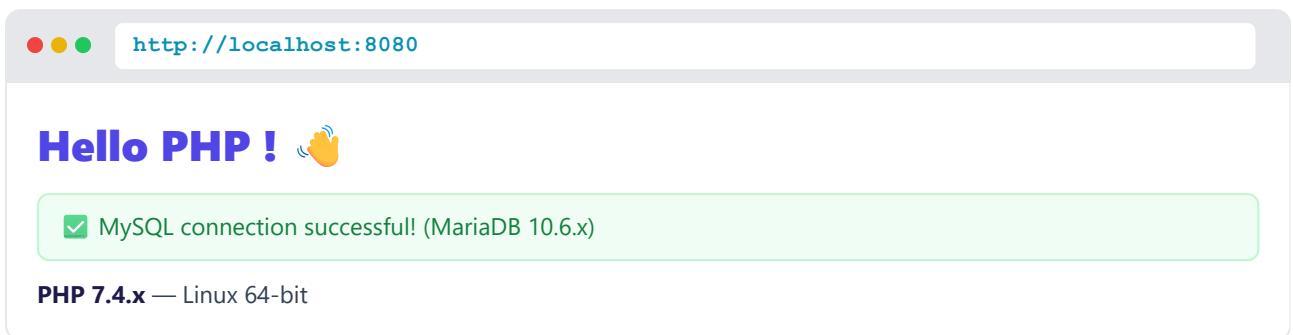


The screenshot shows a browser window with the address bar containing `http://localhost:8082`. The main content area is titled "Dashboard — PHP Course Docker". It lists four items in a grid:

-  **PHP Site**
localhost:8080 →
-  **phpMyAdmin**
localhost:8081 →
-  **Portainer**
localhost:9000 →
-  **Dashboard**
localhost:8082 →

PHP Site — localhost:8080

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



💻 phpMyAdmin — localhost:8081

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

🌐 Address	http://localhost:8081
👤 Username	root
🔑 Password	root
🗃 Database	app



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

The screenshot shows the Portainer interface at <http://localhost:9000>. The title bar indicates "Containers". The main area displays a table of three containers:

Container	Status	Available actions
cours_web	running	▶ ■ ⚡ 📜
cours_db	running	▶ ■ ⚡ 📜
cours_phpmyadmin	running	▶ ■ ⚡ 📜

Below the table, there is a footer with icons for Start, Stop, Restart, and 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

Windows Troubleshooting

Solutions to the most common issues

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