

# Foundations to Deployment

## What is PHP?

PHP stands for **Hypertext Preprocessor**.

It is a **server-side scripting language** mainly used to build dynamic websites and web applications.

## Process

When someone visits a website:

1. The browser sends a request.
2. The server processes the request.
3. PHP runs on the **server**, generates HTML.
4. The server sends that HTML back to the browser.

The browser never sees the PHP code — only the output.

## What PHP Is Used For

- Creating dynamic websites
- Connecting to databases (like MySQL)
- Building login systems
- Handling forms
- Managing sessions
- Creating APIs
- Backend development

Tools we need:

1. XAMPP Server
2. VS Code

Syntax:

```
<?php  
echo "Hello, World!";  
?>
```

What is a Variable in PHP?

A **variable** is a container used to store data. Which can be changed according to the user need

How to Declare a Variable in PHP

In PHP:

- Variables always start with \$
- No need to declare data type separately

### Variable Naming Rules

1. Must start with \$
2. Must begin with a letter or underscore
3. Cannot start with a number
4. Case-sensitive (\$name and \$Name are different)
5. Can be alphanumeric
6. Cannot contain space in between variable name.
7. It cannot be a Keyword

Data Types Stored in Variables

PHP automatically detects type.

- **String** → "Hello"
- **Integer** → 10
- **Float** → 10.5
- **Boolean** → true/false
- **Array** → ["A", "B"]
- **NULL** → empty value

What is Variable Scope?

**Variable scope defines where a variable can be accessed in your code.**

## What Are Operators in PHP?

Operators are symbols used to perform operations on variables and values.

1. Arithmetic Operators
2. Assignment Operators
3. Comparison Operators
4. Logical Operators
5. Increment / Decrement
6. String Operators

### Precedence Order

From highest → lowest

1. () → Parentheses
2. \*\* → Exponent
3. \* / %
4. + -
5. < > <= >=
6. == != === !==
7. &&
8. ||
9. =

### Practice

- Create a PHP file
- Perform arithmetic operations
- Build a simple calculator page