

# PHP Syllabus

Pre-requisite: Website Development (HTML, CSS, Bootstrap)

## Overview Of PHP

- Static vs. Dynamic Web Sites
- Dynamic Content from Databases
- Developing Dynamic Internet Applications
- Client-Side Scripting vs. Server-Side Scripting
- Overview of PHP Advantages and Capabilities
- Configuring php.ini
- PHP vs. ASP

## Basic Scripting and Looping Constructs

- PHP Scripting Fundamentals
- Print Statement
- Code Blocks
- Primitive Data Types
- Defining Constants and Variables
- Looping Constructs
  - while
  - do... while
  - for
  - exit and break

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## **Conditional Constructs**

- True and False Expressions
- if, else and elseif
- switch/case Statement
- The ? (Ternary) Operator
- Timestamps

## **Windows IIS Server or Apache Web Server**

- Server Configuration Files
- Configuring IIS or Apache for PHP
- WWW Sites within IIS or Apache
- Apache Virtual Hosts
- IIS Virtual Directories
- Website Properties

## **Modularity through Include Files**

- Using Include Files
- The Require Statement
- Modularizing Code with Functions
- Defining and Using Basic Functions

## **PHP Operators**

- Logical Operators
- Relational Operators

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- Bitwise Operators
- Other Operators
- PHP7 Null Coalescing operator
- PHP7 Spaceship Operator

## **PHP Functions**

- Introduction to Functions
- Declaring Functions
- Scope
- Passing Arguments to Functions
- Local and Global Scope
- Passing Arguments to Functions by Value and Reference
- Variable Scoping and Return Values
- Recursion
- Coercive and Strict Type Declarations for Parameters and Return
- Optional and REST Parameters
- Argument Unpacking
- Generator Return Expressions
- Dynamic Function Calls
- Predefined PHP Functions

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## **Working with Databases and Forms**

- Configuring PHP For Database Support
- PHP's Database APIs
- PHP's SQL API
- MySQL vs. Access
- MySQL vs. SQL Server
- Database Drivers
- Database Driver Class Wrappers
- ODBC
- Simple SQL Queries via PHP
- Tracking Visitors with Session IDs
- Populating Forms
- Retrieving Data from Forms

## **PHP 7 New Features**

- Function Improvements
- New Operators
- Unicode Codepoint Syntax
- Filtered Unserialize
- IntlChar Support
- Expectations

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## **Arrays in PHP**

- What are Arrays?
- Usage of Arrays in PHP
- Array Indexing
- Initializing Arrays
- Operating on Arrays
- Sorting Arrays
- One-Dimensional Arrays
- Multi-Dimensional Arrays
- Associative Arrays
- Array Functions
- Forms and Arrays in Web Applications

## **Basic OOP in PHP**

- Defining Object Oriented Programming
- Creating New Objects in PHP
- PHP Object Syntax
- Using Predefined PHP OOP Libraries

## **Writing OOP PHP**

- Implementing New Classes
- Extending Classes
- Understanding Private, Public and Protected

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- Inheriting Methods and Properties
- Overriding Methods and Properties

## **Working with Data Files in PHP**

- Searching File Contents With Regular Expressions
- Changing and Editing File Contents
- Splitting and Joining Information Inside Files
- String Functions
- Regular Expression Functions
- Reading, Writing and Deleting Files
- Handling File Permissions
- File Locking
- Reading Directory Contents
- Creating and Deleting Directories

## **Enabling E-Commerce**

- Required Characteristics of an E-Commerce Site
- Authentication and Authorization
- Data Validation
- Building a Custom Shopping Cart
- Persisting Shopping Cart Data Over Multiple Pages
- Criteria for Evaluating Third Party Shopping Cart Solutions
- Open Source vs. Commercial Shopping Cart Solutions

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- Order Processing via the Web
- Implementing Order System Security using SSL
- Using Mail Servers (SMTP and Sendmail) for Client Communication
- Configuring E-mail Output Parameters

## **Configuring and Using MySQL**

- MySQL as a Client/Server Solution
- Introduction to MySQL Capabilities as a Powerful RDBMS
- Installing and Configuring MySQL
- Connecting to MySQL
- PHP Functions Specific to MySQL
- Executing SQL Calls
  - SELECT
  - INSERT
  - FETCH
  - UPDATE
  - DELETE
- Using PHP MyAdmin to Configure MySQL

## **Using Cookies with PHP**

- Purpose of Cookies
- Cookie Myths
- Setting Cookies

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- Retrieving Cookies
- Expiring Cookies
- Deleting Cookies
- Storing Arrays in Cookies

## **Miscellaneous PHP Tasks**

- Error Logging
- Session Management and Maintaining State
- Web Application Architecture
- Using Environment Variables
- Changing Execution by Redirecting to Other URLs
- Embedding JavaScript within PHP
- Using the HTTP Protocols to Pass Data
- Showing Different Content to Different Browsers
- Getting IP Addresses from Visitors

## **Implementing RESTful Servers with PHP**

- Understanding RESTful Servers
- Benefits of PHP for Implementing RESTful Servers
- Using HTTP Verbs to Access Data
- Understanding RESTful URIs
- Defining PHP Objects to Access RESTful URIs
- Effective Use of OOP Inheritance
- Implementing a RESTful Server in PHP for a Small Application