



Unleash your potential

Module Presenter's Manual

for

PHP Development with Laravel Framework

Effective From: March 2023

Ver. 1.0

Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	March 2023	New	-

Table of Contents

Sr. No.	Details	Page No.
1.	Introduction	1
2.	Information on Session Allocation	2
3.	Session Deliverables	3
4.	Week-wise Session Schedule	4
5.	Session Coverage	5
6.	Library References	15

1. Introduction

At the end of this course, students will be able to:

- Understand the need and history of PHP
- Learn the Features of PHP and Uses
- Enhancements in PHP 8.0
- Explain the Just In Time (JIT) Compiler
- Explore PHP Installation
- Explain PHP Data Type and Strings
- Describe PHP Functions
- Explore the Variables and Operators in PHP
- Describe PHP Conditional Statements
- Explain how to create a simple HTML Form
- Explain \$_REQUEST variable
- Explain different form validations
- Describe the importance of required fields in PHP forms
- Elaborate the process of validating in PHP forms
- Describe PHP built-in functions
- Describe PHP function arguments
- Identify the purpose of PHP default argument values
- Elaborate on return values in PHP functions
- Describe return type declarations
- Define PHP cookies and how they function
- Explain setting of cookies with PHP through several functions
- Identify how to work with cookies
- Elaborate on PHP Session management
- Describe PHP support for MySQL
- Identify prerequisites for databases in PHP
- Elaborate how to establish MySQL database connection
- Describe how to send an email
- Outline the process of sending a plain text email
- Explain how to send an HTML email
- Describe user authentication
- Describe file uploading and file handling in PHP
- Explain upload script creation and upload form creation
- Explain error and exception handling in PHP
- Explain calling of member methods
- Outline public, private, and protected members
- Explain how to use method overriding
- Elaborate the scope of methods within a class
- Explain inheritance, interfaces, and abstract classes
- Explain Browser and Platform Identification
- Elaborate how to display images randomly
- Identify the recent enhancements in PHP
- Define Browser Redirection
- Elaborate how to display the File Download dialog box
- Describe PHP and JSON
- Elaborate working with AJAX and PHP
- Illustrate working with AJAX and MySQL
- Explain how to use XML with AJAX
- Identify components to set up the development environment

- Learn to set up PHP and Composer
- Understand the basics of VirtualBox, Vagrant, Homestead, and Laravel
- Explain the details of Laravel framework
- Understand the necessity of frameworks
- Describe the features of Laravel
- Learn to view the Laravel Directory structure
- Learn to create simple Web application using Laravel
- Explain how to use routes to serve different Web pages
- Understand how views can enhance presentation of an application
- Use the Blade Templating Engine
- Learn to create a new Laravel application
- Understand integration of Laravel application with database
- Learn to create table schema
- Explain process migration
- Understand Web page creation using Master Blade Layout, Forms, and Routes
- Describe the functionalities offered by Eloquent Object Relational Mapping (ORM)
- Learn to perform database operations using Eloquent ORM
- Understand database testing using Routes and Eloquent ORM
- Explain different aspects of MVC design patterns
- Understand user inputs and its validation
- Implement Session, Request, and Response
- Understand concept of Paginations
- Explain the importance of Authentication

2. Information on Session Allocation

Module	Online (No. of Hrs)	Self-Study (No. of Hrs)
PHP	48	16










Throughout this Presenter's Manual, the module *PHP Development with Laravel Framework* will be referred to as **PHP**.

3. Session Deliverables

To aid the teaching process, following are the deliverables

(Faculties can access eBooks and other components in Onlinevarsity through Aptrack.)

Resources available on Onlinevarsity:

Icons	Feature - Description/Functionality
	Download Book - Student has the option to download the subject related e-book and read offline.
	Glossary - Student can access a list of subject related specialized words with their definitions.
	FAQ - Student can access frequently asked questions and their answers.
	Show Me How - Student can view a step-wise simulation/demonstration of the module related topics.
	Practice 4 Me - Student can test and evaluate their understanding of module related topics.
	Work Assignments - Student can solve scenario based lab assignments (Hands-on). The faculty will evaluate and give their feedbacks.
	References - Student can access additional subject related material for reading.
	Feedback - Student can provide feedback on the course material.
	Ask to Learn – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.

4. Week-wise Session Schedule

- A Session is of 2 hours duration.

➤ Week-Wise Schedule

Week	Day 1		Day 2	Day 3		Day 4	
1	Session 1 PHP – TL1		Session 2 PHP – TL2	Session 3 PHP – TL3		Session 4 PHP – TL4	
2	Session 5 PHP – TL5	S1 & S2	Session 6 PHP – TL6	Session 7 PHP – TL7		Session 8 PHP – TL8	
3	Session 9 PHP – TL9		Session 10 PHP – TL10	Session 11 PHP – TL11	S3 & S4	Session 12 PHP – TL12	
4	Session 13 PHP – TL13		Session 14 PHP – TL14	Session 15 PHP – TL15		Session 16 PHP – TL16	S5 & S6
5	Session 17 PHP – TL17		Session 18 PHP – TL18	Session 19 PHP – TL19		Session 20 PHP – TL20	
6	Session 21 PHP – TL21		Session 22 PHP – TL22	Session 23 PHP – TL23		Session 24 PHP – TL24	S7 & S8

PHP: PHP Development with Laravel Framework

TL: Online Session

S: Self-Study Session (over and above the module duration)

5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	PHP – TL1	<p>All the topics as listed below from Session 1 and Session 2 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 1 - Introduction to PHP</u></p> <ul style="list-style-type: none"> ➤ Describe the evolution of PHP ➤ List the important milestones in the development of PHP ➤ List the enhancements in PHP 8.0 ➤ Outline JIT Compilation ➤ List the features and uses of PHP 8.0 <p><u>Session 2 – PHP Basics and Syntax</u></p> <ul style="list-style-type: none"> ➤ Describe system requirements for running PHP ➤ Explain installation process of PHP on different platforms ➤ Outline basics of PHP ➤ Compare various tags of PHP ➤ Explain how PHP works with HTML ➤ Illustrate how to write and run PHP scripts ➤ Explain how to add comments in PHP 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG-Session 1 & 2 XP-Session 1 & 2 TG-Session 1 & 2</p>
2	PHP – TL2	<p>All the topics as listed below from Session 3 and Session 4 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 3 – PHP Data Types and Strings</u></p> <ul style="list-style-type: none"> ➤ Identify different data types in PHP and their usage ➤ Explain different types of string functions, numbers, and math functions in PHP ➤ Elaborate on PHP constants and functions used to create constants 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG - Session 3 & 4 XP - Session 3 & 4 TG - Session 3 & 4</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<u>Session 4 – Variables and Operators in PHP</u> <ul style="list-style-type: none"> ➤ Describe variables in PHP ➤ Describe various data types used in PHP ➤ Define the scope of PHP variables ➤ Explain handling of regular expressions ➤ Identify and elaborate on different types of operators used in PHP 	
3	PHP – TL3	<p>All the topics as listed below from Session 5 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <u>Session 5 - Conditional and Flow Control Statements and Arrays</u> <ul style="list-style-type: none"> ➤ List and explain different types of conditional statements and their usage ➤ Distinguish between <code>if</code>, <code>if...else</code>, and <code>if...elseif...else</code> statements ➤ Define and use <code>switch</code> statement ➤ List and explain different types of loop statements and their usage ➤ Distinguish between <code>while</code>, <code>do...while</code> and <code>for</code> loops ➤ Identify use of <code>foreach</code> loop statement ➤ Identify use of <code>break</code> and <code>continue</code> statement ➤ Outline different types of Arrays ➤ List the uses of different types of Sorting functions 	PHP Web Development with Laravel (Architecting Web Applications Using PHP) SG - Session 5 XP - Session 5 TG - Session 5
4	PHP – TL4	<p>All the topics as listed below from Session 6 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <u>Session 6 – Form Handling</u>	PHP Web Development with Laravel (Architecting Web Applications Using PHP)

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Explain how to create a simple HTML Form ➤ Compare GET versus POST methods and identify their uses ➤ Explain \$_REQUEST variable ➤ Explain different form validations ➤ Describe the importance of required fields in PHP forms ➤ Elaborate the process of validating in PHP forms 	SG - Session 6 XP - Session 6 TG - Session 6
5	PHP – TL5	The Try It Yourself questions from Session 2 to Session 6 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.	PHP Web Development with Laravel (Architecting Web Applications Using PHP) Session 2-6
	S1 & S2	All the assignments from Session 2 to Session 6 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> course should be covered in this session.	PHP Web Development with Laravel (Architecting Web Applications Using PHP) (OnlineVarsity) Session 2-6
6	PHP – TL6	All the topics as listed below from Session 7 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session. <u>Session 7 - Working with Functions in PHP</u> <ul style="list-style-type: none"> ➤ Describe PHP built-in functions ➤ Define PHP user-defined functions and explain how to create a userdefined function in PHP ➤ Describe PHP function arguments ➤ Identify the purpose of PHP default argument values ➤ Elaborate on return values in PHP functions ➤ Describe return type declarations 	PHP Web Development with Laravel (Architecting Web Applications Using PHP) SG - Session 7 XP - Session 7 TG - Session 7

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Outline how to pass arguments by reference ➤ Identify the use of named arguments ➤ Define dynamic function calls - date() and time() 	
7	PHP – TL7	<p>All the topics as listed below from Session 8 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 8 - Cookies and Sessions Management in PHP</u></p> <ul style="list-style-type: none"> ➤ Define PHP cookies and how they function ➤ Explain setting of cookies with PHP through several functions ➤ Identify how to work with cookies ➤ Elaborate on PHP Session management 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG - Session 8 XP - Session 8 TG - Session 8</p>
8	PHP – TL8	<p>All the topics as listed below from Session 9 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 9 - Database Management in PHP</u></p> <ul style="list-style-type: none"> ➤ Describe PHP support for MySQL ➤ Identify prerequisites for databases in PHP ➤ Elaborate how to establish MySQL database connection ➤ Describe how to create and delete MySQL Database and tables using MySQL in PHP ➤ Explain data insertion and data retrieval to/from MySQL database ➤ Explain how to update data into MySQL database ➤ List and explain the three ways to backup MySQL database 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG - Session 9 XP - Session 9 TG - Session 9</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Explain selecting and filtering data from MySQL database using <code>WHERE</code>, <code>ORDER BY</code>, and <code>LIMIT</code> clauses 	
9	PHP – TL9	<p>All the topics as listed below from Session 10 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 10 – Advanced Features of PHP</u></p> <ul style="list-style-type: none"> ➤ Identify the process to set up a local server for sending email ➤ Describe how to send an email ➤ Outline the process of sending a plain text email ➤ Explain how to send an HTML email ➤ Elaborate the process of sending an attachment with an email <input type="checkbox"/> Describe user authentication 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG - Session 10 XP - Session 10 TG - Session 10</p>
10	PHP – TL10	<p>All the topics as listed below from Session 11 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 11 - File Handling and Exception Handling in PHP</u></p> <ul style="list-style-type: none"> ➤ Describe file uploading and file handling in PHP ➤ Explain upload script creation and upload form creation ➤ Explain files in PHP through the <code>readfile()</code> function ➤ Define file open/read/close in PHP ➤ Identify and explain various file functions ➤ Elaborate the process of file upload using PHP ➤ Explain error and exception handling in PHP ➤ Illustrate <code>die()</code> function, <code>try...catch</code> statement, exception object, and <code>try...catch...finally</code> statement 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG - Session 11 XP - Session 11 TG - Session 11</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
11	PHP – TL11	The Try It Yourself questions from Session 7 to Session 11 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.	PHP Web Development with Laravel (Architecting Web Applications Using PHP) Session 7-11
	S3 & S4	All the assignments from Session 7 to Session 11 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> course should be covered in this session.	PHP Web Development with Laravel (Architecting Web Applications Using PHP) (OnlineVarsity) Session 7-11
12	PHP – TL12	All the topics as listed below from Session 12 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session. <u>Session 12 - Object-Oriented Concepts in PHP</u> <ul style="list-style-type: none"> ➤ Explain Object-Oriented Programming Features in PHP ➤ Explain about PHP Constructors and Destructors ➤ Describe PHP Traits ➤ Elaborate on PHP Namespaces and Iterables 	PHP Web Development with Laravel (Architecting Web Applications Using PHP) SG - Session 12 XP - Session 12 TG - Session 12
13	PHP – TL13	All the topics as listed below from Session 13 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session. <u>Session 13 - Methods in PHP and Other OOP Concepts</u> <ul style="list-style-type: none"> ➤ Explain calling of member methods ➤ Outline public, private, and protected members ➤ Explain how to use method overriding ➤ Elaborate the scope of methods within a class 	PHP Web Development with Laravel (Architecting Web Applications Using PHP) SG - Session 13 XP - Session 13 TG - Session 13

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Explain inheritance, interfaces, and abstract classes ➤ Outline static and final keyword ➤ Explain static method ➤ Describe method overloading 	
14	PHP – TL14	<p>All the topics as listed below from Session 14 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 14 – PHP Web Concepts</u></p> <ul style="list-style-type: none"> ➤ Explain Browser and Platform Identification ➤ Elaborate how to display images randomly ➤ Identify the recent enhancements in PHP ➤ Define Browser Redirection ➤ Elaborate how to display the File Download dialog box ➤ Describe PHP and JSON 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG-Session 14 XP-Session 14 TG-Session 14</p>
15	PHP – TL15	<p>All the topics as listed below from Session 15 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> book should be covered in this session.</p> <p><u>Session 15 – PHP - AJAX</u></p> <ul style="list-style-type: none"> ➤ Explain AJAX, work with AJAX, and Internet standards of AJAX ➤ Elaborate working with AJAX and PHP ➤ Illustrate working with AJAX and MySQL ➤ Explain how to use XML with AJAX ➤ Explain a program to perform AJAX live search technique 	<p>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</p> <p>SG-Session 15 XP-Session 15 TG-Session 15</p>
16	PHP – TL16	<p>The Try It Yourself questions from Session 12 to Session 15 of <i>PHP Web Development with Laravel (Architecting</i></p>	<p>PHP Web Development with Laravel</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<i>Web Applications Using PHP</i> book should be covered in this session.	(Architecting Web Applications Using PHP) Session 12-15
	S5 & S6	All the assignments from Session 12 to Session 15 of <i>PHP Web Development with Laravel (Architecting Web Applications Using PHP)</i> course should be covered in this session.	PHP Web Development with Laravel (Architecting Web Applications Using PHP) (OnlineVarsity) Session 12-15
17	PHP – TL17	<p>All the topics as listed below from Session 1 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 1 – Setting up the Environment</u></p> <ul style="list-style-type: none"> ➤ Identify components to set up the development environment ➤ Learn to set up PHP and Composer ➤ Understand the basics of VirtualBox, Vagrant, Homestead, and Laravel ➤ Learn how to verify installations and versions of various software 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG-Session 1 XP-Session 1 TG-Session 1</p>
18	PHP – TL18	<p>All the topics as listed below from Session 2 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 2 – Introduction to Laravel</u></p> <ul style="list-style-type: none"> ➤ Explain the details of Laravel framework ➤ Understand the necessity of frameworks ➤ Describe the features of Laravel ➤ Learn to view the Laravel Directory structure 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG-Session 2 XP-Session 2 TG-Session 2</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
19	PHP – TL19	<p>All the topics as listed below from Session 3 and Session 4 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 3 – Writing a Simple Application</u></p> <ul style="list-style-type: none"> ➤ Learn to create simple Web application using Laravel ➤ Explain how to use routes to serve different Web pages ➤ Understand how views can enhance presentation of an application ➤ Use the Blade Templating Engine ➤ Learn to Add Master Template and Nested Views 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG-Session 3 XP-Session 3 TG-Session 3</p>
20	PHP – TL20	<p>All the topics as listed below from Session 4 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 4 – Creating A Web Application</u></p> <ul style="list-style-type: none"> ➤ Learn to create a new Laravel application ➤ Understand integration of Laravel application with database ➤ Learn to create table schema ➤ Explain process migration ➤ Understand Web page creation using Master Blade Layout, Forms, and Routes 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG-Session 4 XP-Session 4 TG-Session 4</p>
21	PHP – TL21	<p>All the code snippets from Session 1 to Session 4 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p>	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>Session 1-4</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
22	PHP – TL22	<p>All the topics as listed below from Session 5 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 5 – The Eloquent ORM</u></p> <ul style="list-style-type: none"> ➤ Describe the functionalities offered by Eloquent Object Relational Mapping (ORM) ➤ Learn to perform database operations using Eloquent ORM ➤ Understand database testing using Routes and Eloquent ORM 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG - Session 5 XP - Session 5 TG - Session 5</p>
23	PHP – TL23	<p>All the topics as listed below from Session 6 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p> <p><u>Session 6 – Implementing CRUD Operations</u></p> <ul style="list-style-type: none"> ➤ Explain different aspects of MVC design patterns ➤ Understand user inputs and its validation ➤ Implement Session, Request, and Response ➤ Understand concept of Paginations ➤ Explain the importance of Authentication 	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>SG - Session 6 XP - Session 6 TG - Session 6</p>
24	PHP – TL24	<p>All the code snippets from Session 5 and Session 6 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p>	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p> <p>Session 5 & 6</p>
	S7 & S8	<p>All the assignments from Session 1 to Session 6 of <i>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</i> book should be covered in this session.</p>	<p>PHP Web Development with Laravel (Laravel Framework for Web Applications with PHP)</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<i>Applications with PHP</i>) course should be covered in this session.	Web Applications with PHP) (OnlineVarsity) Session 1-6

6. Library References

➤ Programming PHP by Kevin Tatroe & Peter Macintyre
➤ PHP 8 Solutions: Dynamic Web Design and Development Made Easy by David Powers
➤ The PHP Framework For Web Artisans: Laravel For Beginners by Julius Sumbler
➤ Laravel Up & Running: A Framework for Building Modern PHP Apps by Matt Stauffer

~~~ End of Document ~~~