

### Web Development/Back End Developer:- PHP, Laravel & My SQL

<u>PHP</u>	
<u>PHP INTRODUCTION</u>	<u>PHP BASIC</u>
<ul style="list-style-type: none"> <li>• What is PHP?</li> <li>• What is a PHP File?</li> <li>• What Can PHP Do?</li> <li>• Why PHP?</li> <li>• What's new in PHP Versions</li> <li>• PHP Installation</li> </ul>	<ul style="list-style-type: none"> <li>• Embedding PHP code on a page</li> <li>• Outputting dynamic text</li> <li>• The operational trail</li> <li>• Inserting code comments</li> </ul>
<u>EXPLORING DATA TYPES</u>	<u>CONTROL STRUCTURES: LOGICAL EXPRESSIONS</u>
<ul style="list-style-type: none"> <li>• Variables</li> <li>• Strings</li> <li>• String functions</li> <li>• Numbers Part One: Integers</li> <li>• Numbers part two: Floating points</li> <li>• Arrays</li> <li>• Associative arrays</li> <li>• Array functions</li> <li>• Booleans</li> <li>• NULL and empty</li> <li>• Type juggling and casting</li> <li>• Constants</li> </ul>	<ul style="list-style-type: none"> <li>• If statements</li> <li>• Else and else if statements</li> <li>• Logical operators</li> <li>• Switch statements</li> </ul>
<u>CONTROL STRUCTURES: LOOPS</u>	<u>USER-DEFINED FUNCTIONS</u>
<ul style="list-style-type: none"> <li>• While loops</li> <li>• For loops</li> <li>• Foreach loops</li> <li>• Continue</li> <li>• Break</li> <li>• Understanding array pointers</li> </ul>	<ul style="list-style-type: none"> <li>• Defining functions</li> <li>• Function arguments</li> <li>• Returning values from a function</li> <li>• Multiple return values</li> <li>• Scope and global variables</li> <li>• Setting default argument values</li> </ul>
<u>DEBUGGING</u>	<u>BUILDING WEB PAGES WITH PHP</u>
<ul style="list-style-type: none"> <li>• Common problems</li> <li>• Warnings and errors</li> <li>• Debugging and</li> </ul>	<ul style="list-style-type: none"> <li>• Links and URLs</li> <li>• Using GET values</li> <li>• Encoding GET values</li> </ul>

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troubleshooting	<ul style="list-style-type: none"> <li>• Encoding for HTML</li> <li>• Including and requiring files</li> <li>• Modifying headers</li> <li>• Page redirection</li> <li>• Output Buffering</li> </ul>
<b><u>WORKING WITH FORMS AND FORM DATA</u></b>	<b><u>WORKING WITH COOKIES AND SESSIONS</u></b>
<ul style="list-style-type: none"> <li>• Building forms</li> <li>• Detecting form submissions</li> <li>• Single-page form processing</li> <li>• Validating form values</li> <li>• Problems with validation logic</li> <li>• Displaying validation errors</li> <li>• Custom validation functions</li> <li>• Single-page form with validations</li> </ul>	<ul style="list-style-type: none"> <li>• Working with cookies</li> <li>• Setting cookie values</li> <li>• Reading cookie values</li> <li>• Unsetting cookie values</li> <li>• Working with sessions</li> </ul>
<b><u>LARAVEL</u></b>	
<b><u>INTRODUCTION TO LARAVEL</u></b>	<b><u>LARAVEL ROUTING AND CONTROLLERS</u></b>
<ul style="list-style-type: none"> <li>• What is Laravel and its features</li> <li>• Installing Laravel and setting up the development environment</li> <li>• Laravel project structure and directory layout</li> <li>• Composer package manager for Laravel</li> </ul>	<ul style="list-style-type: none"> <li>• Defining routes and route parameters</li> <li>• Creating and organizing controllers</li> <li>• Handling HTTP requests and responses</li> <li>• Middleware for request processing</li> <li>• RESTful resource controllers</li> </ul>
<b><u>LARAVEL VIEWS AND BLADE TEMPLATES</u></b>	<b><u>LARAVEL MODELS AND ELOQUENT ORM</u></b>
<ul style="list-style-type: none"> <li>• Creating and rendering views</li> <li>• Working with Blade templates</li> <li>• Passing data to views</li> <li>• Layouts and master templates</li> <li>• Blade directives and control structures</li> </ul>	<ul style="list-style-type: none"> <li>• Defining and using Eloquent models</li> <li>• Database migrations and schema design</li> <li>• Querying and retrieving data with Eloquent</li> <li>• Creating and updating records</li> <li>• Relationships in Eloquent (one-to-many, many-to-many, etc.)</li> </ul>

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<u>LARAVEL VALIDATION AND FORM REQUESTS</u>	<u>LARAVEL MIDDLEWARE AND AUTHENTICATION</u>
<ul style="list-style-type: none"> <li>• Form validation in Laravel</li> <li>• Validation rules and custom validation</li> <li>• Creating and using form requests</li> <li>• Handling form submission and errors AJAX form validation and submission</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding middleware in Laravel</li> <li>• Creating custom middleware</li> <li>• Authentication and user management</li> <li>• Role-based access control (RBAC)</li> <li>• Social media authentication</li> </ul>
<u>LARAVEL DATABASE RELATIONSHIPS</u>	<u>API DEVELOPMENT WITH LARAVEL</u>
<ul style="list-style-type: none"> <li>• One-to-one, one-to-many, and many-to-many relationships</li> <li>• Eager loading and lazy loading</li> <li>• Polymorphic relationships</li> <li>• Querying related data</li> <li>• Advanced relationship techniques</li> </ul>	<ul style="list-style-type: none"> <li>• Building RESTful APIs with Laravel</li> <li>• API authentication and token-based security</li> <li>• API versioning and rate limiting</li> <li>• Testing and documenting APIs</li> <li>• Consuming external APIs in Laravel</li> </ul>
<u>LARAVEL MIDDLEWARE AND AUTHENTICATION</u>	<u>LARAVEL TESTING AND DEBUGGING</u>
<ul style="list-style-type: none"> <li>• Understanding middleware in Laravel</li> <li>• Creating custom middleware</li> <li>• Authentication and user management</li> <li>• Role-based access control (RBAC)</li> <li>• Social media authentication</li> </ul>	<ul style="list-style-type: none"> <li>• Writing unit tests and feature tests</li> <li>• PHP Unit integration for Laravel</li> <li>• Test-driven development (TDD) practices</li> <li>• Debugging techniques and tools</li> <li>• Profiling and optimization</li> </ul>
<u>LARAVEL DEPLOYMENT AND SECURITY</u>	
<ul style="list-style-type: none"> <li>• Preparing Laravel applications for production</li> <li>• Deployment strategies (e.g., shared hosting, VPS, cloud)</li> <li>• Security best practices for Laravel</li> </ul>	

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<ul style="list-style-type: none"> <li>• Handling security vulnerabilities and attacks</li> <li>• Backup and disaster recovery</li> </ul>	
MYSQL	
MYSQL BASICS	USING PHP TO ACCESS MYSQL
<ul style="list-style-type: none"> <li>• MySQL introduction</li> <li>• Creating a database</li> <li>• Creating a database table</li> <li>• CRUD in MySQL</li> <li>• Populating a MySQL database</li> <li>• Relational database tables</li> <li>• Populating the relational table</li> </ul>	<ul style="list-style-type: none"> <li>• Database APIs in PHP</li> <li>• Connecting to MySQL with PHP</li> <li>• Retrieving data from MySQL</li> <li>• Working with retrieved data</li> <li>• Creating records with PHP</li> <li>• Updating and deleting records with PHP</li> <li>• SQL injection</li> <li>• Escaping strings for MySQL</li> <li>• Introducing prepared statements</li> </ul>
BUILDING A CONTENT MANAGEMENT SYSTEM (CMS)	USING SITE NAVIGATION TO CHOOSE CONTENT
<ul style="list-style-type: none"> <li>• Blueprinting the application</li> <li>• Building the CMS database</li> <li>• Establishing your work area</li> <li>• Creating and styling the first page</li> <li>• Making page assets reusable</li> <li>• Connecting the application to the database</li> </ul>	<ul style="list-style-type: none"> <li>• Adding pages to the navigation subjects</li> <li>• Refactoring the navigation</li> <li>• Selecting pages from the navigation</li> <li>• Highlighting the current page</li> <li>• Moving the navigation to a function</li> </ul>
APPLICATION CRUD	BUILDING THE PUBLIC AREA
<ul style="list-style-type: none"> <li>• Finding a subject in the database</li> <li>• Refactoring the page selection</li> <li>• Creating a new subject form</li> <li>• Processing form values and adding subjects</li> <li>• Passing data in the session</li> <li>• Validating form values</li> <li>• Creating an edit subject form</li> <li>• Using single-page submission</li> <li>• Deleting a subject</li> </ul>	<ul style="list-style-type: none"> <li>• The public appearance</li> <li>• Using a context for conditional code</li> <li>• Adding a default subject behaviour</li> <li>• The public content area</li> <li>• Protecting page visibility</li> </ul>

<ul style="list-style-type: none"> <li>• Cleaning up</li> <li>• Assignment: Pages CRUD</li> <li>• Assignment results: Pages CRUD</li> </ul>	
<u>REGULATING PAGE ACCESS</u>	<u>ADVANCED PHP TECHNIQUES</u>
<ul style="list-style-type: none"> <li>• User authentication overview</li> <li>• Admin CRUD</li> <li>• Encrypting passwords</li> <li>• Salting passwords</li> <li>• Adding password encryption to CMS</li> <li>• New PHP password functions</li> <li>• Creating a login system</li> <li>• Checking for authorization</li> <li>• Creating a logout page</li> </ul>	<ul style="list-style-type: none"> <li>• Using variable variables</li> <li>• Applying more array functions</li> <li>• Building dates and times: Epoch/Unix</li> <li>• Formatting dates and times: Strings and SQL</li> <li>• Setting server and request variables</li> <li>• Establishing global and static variable scope</li> <li>• Making a reference assignment</li> <li>• Using references as function arguments</li> <li>• Using references as function return values</li> </ul>
<u>INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING (OOP)</u>	<u>OOP IN PRACTICE</u>
<ul style="list-style-type: none"> <li>• Introducing the concept and basics of OOP</li> <li>• Defining classes</li> <li>• Defining class methods</li> <li>• Instantiating a class</li> <li>• Referencing an instance</li> <li>• Defining class properties</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding class inheritance</li> <li>• Setting access modifiers</li> <li>• Using setters and getters</li> <li>• Working with the static modifier</li> <li>• Reviewing the scope resolution operator</li> <li>• Referencing the Parent class</li> <li>• Using constructors and destructors</li> <li>• Cloning objects</li> <li>• Comparing objects</li> </ul>
<u>WORKING WITH FILES AND DIRECTORIES</u>	<u>SENDING EMAILS</u>
<ul style="list-style-type: none"> <li>• File system basics</li> <li>• Understanding file permissions</li> <li>• Setting file permissions</li> <li>• PHP permissions</li> <li>• Accessing files</li> <li>• Writing to files</li> </ul>	<ul style="list-style-type: none"> <li>• Configuring PHP for email</li> <li>• Sending email with mail()</li> <li>• Using headers</li> <li>• Reviewing SMTP</li> <li>• Using PHPMailer</li> </ul>

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| <ul style="list-style-type: none"><li>• Deleting files</li><li>• Examining file details</li><li>• Working with directories</li><li>• Viewing directory content</li></ul> |  |
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