Course Description: This comprehensive course provides an in-depth understanding of full-stack web development using PHP. Participants will learn how to build dynamic and scalable web applications using PHP for backend development and JavaScript for frontend interactivity. Through a combination of lectures, hands-on exercises, and projects, students will gain the skills necessary to develop and deploy their own full-stack web applications with PHP.

Full-Stack Web Development with PHP

1. Introduction to Web Development

- Overview of web development technologies and concepts
- Understanding the client-server model and the role of backend development
- Setting up a development environment for PHP

2. PHP Fundamentals

- Introduction to PHP programming language
- Variables, data types, and basic operations in PHP
- Control structures (if-else, loops) and functions in PHP
- Working with arrays, strings, and files in PHP
- Handling form data and processing user input

3. Database Integration with MySQL

- Introduction to relational databases and MySQL
- Connecting PHP to MySQL databases
- Executing SQL queries and retrieving data in PHP
- Implementing CRUD operations with PHP and MySQL
- Database normalization and relationships

4. Frontend Interactivity with JavaScript

- Introduction to JavaScript programming language
- DOM manipulation and event handling with JavaScript
- Implementing interactivity and form validation with JavaScript

5. Security and Authentication

- Common security vulnerabilities and best practices
- Implementing secure user authentication and password hashing
- Protecting against SQL injection and cross-site scripting (XSS)
- Handling user authorization and access control
- Securing PHP applications with encryption and HTTPS

6. RESTful APIs and Web Services

- Introduction to RESTful APIs and their role in web development
- Building and consuming RESTful APIs with PHP
- Implementing CRUD operations with RESTful APIs
- Working with JSON and XML data formats
- Authentication and authorization in API development

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7. Project Development

- ➢ Collaborative project development to apply the concepts learned
- ➢ Developing a complete full-stack web application using PHP and JavaScript
- ➢ Integrating frontend and backend components with PHP and MySQL

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