

PHP PROGRAMMING WITH MYSQL - LEVEL II

CEWP 559

Sep. 21 – Nov. 23, 2017

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COURSE PREREQUISITE: CEWP 459 - PHP PROGRAMMING WITH MYSQL - LEVEL I

Description

This course focuses on advanced topics in web development using PHP7 and MySQL. The goal of the course is to bring students up to speed with the latest technologies and architectures in software development in the Cloud computing world. The course will guide students to develop their secure web services with the best coding practices then build and deploy them in the Cloud Linux servers and optimizing performance through indexing, caching and queuing.

Topics include: SOAP/ RESTful web services, Best Coding Practices, Unit-Testing, Object-Oriented, Regular Expressions, Caching, Build Process, Intro to Cloud, Deployment in Cloud, Logging and Monitoring, MySQL Storage Engines, Replication, Virtualization, Docker / Containerization, Security

Course Objectives

Upon completion of this course, students will be able to:

- Developing and consuming secure SOAP/ RESTful web services
- Object Oriented Design and best coding practices & design patterns including MVC
- Unit-Testing, Dependency Injection
- Understand and utilize Regular Expressions
- Encryption / Decryption of data as well as Encode / Decode
- Performance Optimization through Caching and Queuing
- Build, Deploy and run their applications in the Cloud
- Advanced Understanding of MySQL: Storage engines, Replication, Indexing

Course Methodology

- Lectures
- Final Project

Learning Resources

Course Notes

PHP Official documentation

Recommended Book:

- Expert PHP and MySQL. Publisher: Wrox. ISBN-10: 0470563125
- Modular Programming with PHP 7. Publisher: Packt Publishing. ISBN-10: 1786462958

Course Content

Class	Date	Topic / Content
1	Sept.21	Intro Review Environment setup: Docker, git, Apache, MySQL MySQL Connectivity: PDO, MySQLi
2	Sept.28	Routing Design Patterns: <ul style="list-style-type: none">- MVC- Factory Method Unit-Testing Dependency Injection
3	Oct.05	Modern Web Application Architecture Dependency Management RESTful APIs
4	Oct.12	Introduction to Cloud Computing AWS EC2, VPC, SSH
5	Oct.19	Build, Deploy you application in the Cloud
6	Oct.26	Session management Caching
7	Nov.02	MySQL essentials <ul style="list-style-type: none">- SQL: JOINS, GROUP BY- Storage engines- Indexes- Full Text Search
8	Nov.09	SOAP APIs Regular Expressions
9	Nov.16	Security: SQL Injection, XSS, Replay Attacks, CSRF User Authentication
10	Nov.23	Logging and Monitoring in the Cloud Queuing / NoSQL / MySQL JSON / Docker

Assessment and Evaluation

The evaluation of the class will be based on students delivery of the *final* project, their participation during the class and extra efforts they put preparing for the classes.

Software

PHP Editors: [Visual Studio Code](#) or [Atom](#) or [Sublime Text](#) or [PHPStorm IDE](#)

MySQL Administration: [SQLYog](#) or [MySQL WorkBench](#)

Environment: [Docker](#), [git](#), Terminal (Mac) or git-bash (Windows)

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