



THE UNIVERSITY OF ZAMBIA

CENTRE FOR ICT CONSULTANCY AND TRAINING UNIT

Course Title:	PHP, MySQL, SYMFONY Web Application Development
Duration:	5 Working Days
Timings:	9:00 -17:00
Start Date:	24/01/2011
Fees:	K2, 000,000.00 per participant NB. Registration on the course will only be done after you pay a commitment fee of K1, 000, 000 or you send us an Order .
Prerequisites:	Basic Computer Knowledge

Course Description:

What are the benefits of attending this PHP / MySQL course?

This code-centric PHP / MySQL training course teaches programming skills and coding best practice. The result is cleaner, faster code and a good introduction to object oriented programming in PHP. Adobe Dreamweaver is used just as a convenient coding environment, although any appropriate environment could be used.

Course Outline

Introduction to PHP

- Installing Php, Apache, Mysql on windows XP
- What PHP looks like – Basic structure

Language Basics

- Structure and Syntax
- Using Variables
- Understanding Arrays
- Processing data using operators

Creating Dynamic Web Content

- Embedding PHP in Web pages
- Retrieving user input through forms, using the GET and POST method

Giving your code life – Control Structures

- Conditional decision making – if, else, and elseif
- True, false, and evaluation of expressions
- Multiple and nested conditions
- Short Circuit Evaluation – break and continue
- Decision making using the switch statement
- Alterations using while, for and for each loops
- Terminating code using exit and die

Using PHP's built-in functions

- Mathematical functions
- Working with Strings

Introduction to Database

- Introducing MySQL and PHPMyAdmin
- Understanding the database structure
- Basic SQL commands

Making PHP and MySQL work for each other

- Connecting to the database
- Displaying database content through PHP
- Inserting and deleting data into the Database
- Updating data in the Database

Installing Php, Apache, MySQL on Linux

Language Basics

Creating Dynamic web content

Using PhP functions

Object-Oriented Programming

Introduction to databases

Making PhP and MySQL work

Symfony Framework

Starting up the project

The project

The Data Model

The Controller and the View

The Routing

The Unit Tests

The Functional Tests

The Forms

The Admin Generator

The User

Feeds

Internationalization and Localization

The Plugins

The Symfony PHP framework

Symfony is a web application framework for PHP projects. It aims to speed up the creation and maintenance of web applications, and to replace the repetitive coding tasks by power, control and pleasure.

The very small number of prerequisites make symfony easy to install on any configuration; you just need Unix or Windows with a web server and PHP installed. It is compatible with almost every database system. In addition, it has a very small overhead, so the benefits of the framework don't come at the cost of an increase of hosting costs.

Using symfony is so natural and easy for people used to PHP and the design patterns of Internet applications that the learning curve is reduced to less than a day. The clean design and code readability will keep your delays short. Developers can apply agile development principles (such

as DRY, KISS or the XP philosophy) and focus on applicative logic without losing time to write endless XML configuration files.

Symfony is aimed at building robust applications in an enterprise context. This means that you have full control over the configuration: from the directory structure to the foreign libraries, almost everything can be customized. To match your enterprise's development guidelines, symfony is bundled with additional tools helping you to test, debug and document your project.

Pair programming

All code to be included in a production release is created by two people working together at a single computer. Pair programming increases software quality without impacting time to deliver. It is counter intuitive, but 2 people working at a single computer will add as much functionality as two working separately except that it will be much higher in quality. With increased quality comes big savings later in the project.

The best way to pair program is to just sit side by side in front of the monitor. Slide the key board and mouse back and forth. One person types and thinks tactically about the method being created, while the other thinks strategically about how that method fits into the class. It takes time to get used to pair programming so don't worry if it feels awkward at first.

Extreme Programming

Extreme Programming (XP) is actually a deliberate and disciplined approach to software development. About eight years old, it has already been proven at many companies of all different sizes and industries world wide.

XP is successful because it stresses customer satisfaction. The methodology is designed to deliver the software your customer needs when it is needed.

XP empowers your developers to confidently respond to changing customer requirements, even late in the life cycle. This methodology also emphasizes team work. Managers, customers, and developers are all part of a team dedicated to delivering quality software. XP implements a simple, yet effective way to enable groupware style development. XP improves a software project in four essential ways; communication, simplicity, feedback, and courage. XP programmers communicate with their customers and fellow programmers. They keep their design simple and clean. They get feedback by testing their software starting on day one. They deliver the system to the customers as early as possible and implement changes as suggested. With this foundation XP programmers are able to courageously respond to changing requirements and technology.

XP is different. It is a lot like a jig saw puzzle. There are many small pieces. Individually the pieces make no sense, but when combined together a complete picture can be seen. This is a significant departure from traditional software development methods and ushers in a change in the way we program.

Agile web development

Agile web development is a model for development of web applications. Its concept is similar to Agile software development, but is limited to web applications. It is more efficient and powerful within a shorter time line than other models,[citation needed] incorporates face-to-face communication, and includes technical personnel as well as customers as part of the team. Agile web development uses project managers, business analysts, emphasizes on clear goals, planning, and iterative delivery. Agile web development ensures the successful completion of product at the end of each iteration.

The agile web development model follows planning, requirement analysis, designing, coding, testing, and documentation developing stages parallel. Successful interaction reaches toward to successful completion of application because of customer involvement hence we never met with the condition where we have to change the product due to changes in requirements, correct decision has to be taken by keeping customers confidence and informed choice, minimizing delays of the product. All the tasks are performed at given period, with just enough documentation to be effective.

- _ Short time line
- _ Refined Team.
- _ Clear planning.
- _ Concise Documentation

Due to the regular involvement and feedback of the customer, the application tends to be more error free, more requirement oriented, and more user friendly. Also, tasks such as planning, development, design, coding, testing, etc. are done simultaneously, driven by the customer's demands. It also reduces the development cycle time. The documentation of the application is less formal, to reduce the time taken and to be more human friendly.

Version control

Revision control (also known as version control, source control or (source) code management (SCM)) is the management of changes to documents, programs, and other information stored as computer files. It is most commonly used in software development, where a team of people may be changing the same files. Changes are usually identified by a number or letter code, termed the "revision number", "revision level", or simply "revision". For example, an initial set of files is "revision 1". When the first change is made, the resulting set is "revision 2", and so on. Each revision is associated with a timestamp and the person making the change. Revisions can be compared, restored, and with some types of files, merged.

Version control systems (VCS) are most commonly stand-alone applications, but revision control is also embedded in various types of software like word processors (e.g. Microsoft Word, OpenOffice.org Writer, KOffice, Pages, Google Docs), spreadsheets (e.g. OpenOffice.org Calc, Google Spreadsheets, Microsoft Excel), and in various content management systems. Integrated revision control is a key feature of wiki software packages such as MediaWiki, DokuWiki, TWiki, etc. In wikis, revision control allows for the ability to revert a page to a previous revision, which is critical for allowing editors to track each other's edits, correct mistakes, and defend

public wikis against vandalism and spam. Software tools for revision control are increasingly recognized as being necessary for the organization of multi-developer projects.