INT301:OPEN SOURCE TECHNOLOGIES

L:0   T:0   P:4   Credits:2

Course Outcomes: Through this course students should be able to

CO1 :: administer tasks of a LINUX administrator.

CO2 :: integrate and apply different LAMP technologies like Apache, MySQL and PHP in web development.

CO3 :: develop websites using PHP and MySQL

CO4 :: apply branching and merging concepts in your projects using Git

CO5 :: understand how to work on projects using Git

List of Practicals / Experiments:

Introduction to open source
- Open source technologies
- Open source history
- Benefits and disadvantages of open source technologies
- Comparison between open source technologies and other technologies
- Licensing types, licensing issues, GNU, GPL.

Different Open Source Licensing Schemes
- General Public License (GPL)
- BSD License
- Apache License
- Creative Commons Zero(CCO)
- License Approval Process
- uses of different licenses

Linux OS
- Basic linux commands: ls, touch,cat,mkdir,rm,rmdir,grep,cp,mv

Linux system administration
- File system checking, mounting and unmounting
- File system components
- Partitions and file systems
- Devices and device names
- Administrator's privileges
- Maintaining security
- Tape archive program
- Shell scripting
- Owner, Groups, others Permissions
- Run levels
- Managing Users and Groups

MySQL
- Introduction to RDBMS
- SQL (General queries)
- Mysql advanced queries
- MySQL Administration and user creation

- Query optimisation
- The SHOW DATABASES, CREATE DATABASE, USE commands
- The CREATE TABLE, SHOW TABLES, DESCRIBE commands
- Other DDL, DML, DCL commands
- Some Administrative details
- Table JOINS

Apache
- Introduction to apache web server
- Installation and configuration apache web server
- Securing apache web server
- Hosting webpages
- Webpage modification
- Apache log files: use of .htaccess
- Use of HTML to create web pages
- Configuration: Modifying the Default Configuration
- Starting, Stopping and Restarting Apache
- Securing Apache
- Hosting Webpage using Apache

Server side includes
- Introduction
- How it works
- Configurations
- Security Considerations

PHP
- Introduction and configuration
- PHP identifiers, data types
- Operators
- Flow controls
- Language Syntax: Web variables, Operators
- Embedding PHP into HTML
- User-defined and built in functions
- Built in PHP functions: Important Functions, Array Functions,String Functions,Other Functions

PHP validations
- PHP form
- Validations
- Connecting PHP with MySQL
- Inserting data into sql
- Reading data from SQL
- Regular expressions in PHP
- Payment gateway
- Shopping Cart

Introduction to Git and GitHub
- Introduction— what are Git and GitHub?
- Installing Git using Linux
- Getting started on GitHub

- Configuring Git
- Creating a Git repository
- Creating and editing files
- Adding files to your Git repository
- Making changes and tracking them
- Synchronizing your local Git repository with GitHub
- Deleting and renaming files
- Undoing changes
- Branching
- Tags and releases
- Downloading a repository
- Managing multiple copies of a repository

Text Books:
1. PHP,MYSQL AND APACHE by JULIE C. MELONI, PEARSON

2. FUNDAMENTALS OF OPEN SOURCE SOFTWARE by M. N. RAO, PHI Learning Pvt Ltd

References:
1. OPEN SOURCE WEB DEVELOPMENT WITH LAMP by JAMES LEE, BRENT WARE, PEARSON EDUCATION, PEARSON

2. BEGINNING PHP6, APACHE, MYSQL WEB DEVELOPMENT by TIMOTHY BORONCZYK, ELIZABETH NARAMORE, JASON GERNER, YANN LE SCOUARNEC, JEREMY STOLZ, MICHAEL K.GLASS, WILEY

3. UNIX CONCEPTS AND APPLICATIONS by SUMITABHA DAS, MC GRAW HILL