

Table Of Contents

SECTION I: ALL ABOUT THE L.A.M.P. FRAMEWORK

1. INTRODUCTION TO LINUX.....	1
OVERVIEW OF LINUX.....	1
LINUX DISTRIBUTIONS.....	2
LINUX IS.....	3
WHICH DISTRIBUTION SHOULD BE INSTALLED.....	3
Our Recommendation.....	3
OBTAINING CENTOS.....	4
2. INTRODUCTION TO APACHE.....	5
What Is A Web Server.....	5
Unique Address.....	6
Web Hosts.....	6
Request And Response.....	6
HISTORY OF APACHE.....	7
OBTAINING APACHE.....	8
3. INTRODUCTION TO MySQL.....	9
HISTORY OF MySQL.....	10
FEATURES OF MySQL 5.4.....	11
OBTAINING MySQL.....	11
4. INTRODUCTION TO PHP.....	13
PHP Origin.....	14
PHP Revision History.....	15
PHP/FI 2.0.....	15
PHP 3.....	15
PHP 4.....	16
PHP 5.....	17
Object Oriented Support.....	17
Improved MySQL Extension.....	17
Flat File Database, SQLite.....	18
PDO Extension.....	18
Error Handling With Exceptions.....	19
XML Tools.....	19
Iterators.....	19
Code Introspection Using Reflection Classes.....	20
Compliant HTML.....	20
Command-line Processing.....	20
PHP 6.....	20
Improved Unicode support.....	20
Namespaces.....	21

SOAP	21
XML.....	21
Deprecated	21
Benefits In Running PHP As A Server Side Script.....	22
Drawbacks In Running PHP As A Server Side Script.....	22
What Is A PHP File.....	22
Why PHP	23
ZEND AND PHP	23
5. HOW THE L.A.M.P. FRAMEWORK WORKS	25
THE LAMP PROGRAMMING FRAMEWORK	26
The LAMP Framework On Internet.....	28
The Server Side Architecture Decomposed	30
 SECTION II: SETTING UP THE L.A.M.P. ENVIRONMEN	
6. INSTALLING LINUX - CENTOS	31
USING THE BOOT LOADER SOFTWARE.....	46
7. INSTALLING APACHE.....	59
DOWNLOADING APACHE 2.2	59
ERASING AN OLDER VERSION IF IT EXISTS	60
INSTALLING APACHE.....	64
The Configure Command.....	65
The Make Command.....	67
The Make Install Command.....	68
TESTING APACHE 2.2	69
THE DIRECTORY TREE STRUCTURE OF APACHE.....	71
APACHE'S http.conf FILE	72
Modules	72
<IfModule> Block	73
LoadModule Directive	73
Directives In httpd.conf.....	74
Virtual Hosts	77
Name Based Virtual Hosts	78
CONFIGURING APACHE WEB SERVER.....	79
RESTARTING APACHE 2.2	80
Manual Startup Of Apache	80
Automatic Startup of Apache.....	81
8. INSTALLING MySQL.....	83
DOWNLOADING MySQL 5.4	83
ERASING AN OLDER VERSION IF IT EXISTS	84

INSTALLING MySQL.....	88
The MySQL Database - Engine Install Process.....	90
MySQL Database - Interactive Character Based - Client Install	91
MySQL Database - Shared Install	91
MySQL Database - Devel Install.....	92
MySQL Database - Embedded Install	92
MySQL Database - Debuginfo Install	92
MySQL Database - Test Install.....	93
TESTING MySQL.....	93
CHANGING THE DEFAULT DATABASE STORAGE ENGINE.....	94
Starting And Stopping MySQL	96
9. INSTALLING PHP	99
DOWNLOADING PHP.....	99
DOWNLOADING ICU FOR PHP 6.....	99
INSTALLING ICU	100
INSTALLING PHP	105
The Configure Command	107
The MySQL Native Driver [mysqlnd].....	109
The Make Command	110
The Make Install Command.....	111
BINDING PHP WITH APACHE 2.2.....	113
TESTING PHP / APACHE.....	115
10. GETTING STARTED.....	117
CREATING THE CODE SPEC FOLDER	117
CREATING A NAMED VIRTUAL HOST.....	118
ADDING THE NAMED VIRTUAL HOST TO THE hosts FILE.....	119
RESTARTING THE WEB SERVER	120
TESTING THE DEVELOPMENT ENVIRONMENT	120
 SECTION III: UNDERSTANDING THE MySQL DATABASE	
11. DATABASE STORAGE ENGINES	123
ISAM Storage Engine.....	123
MyISAM Storage Engine	124
Heap Storage Engine	124
Merge Storage Engine	125
InnoDB Storage Engine.....	126
BDB Storage Engine.....	127
Example Storage Engine.....	127
Federated Storage Engine.....	127
Archive Storage Engine	128
CSV Storage Engine	128
TRANSACTION-SAFE V/S NON-TRANSACTION-SAFE TABLES.....	129

12. MySQL DATABASE ADMINISTRATION.....	131
INVOKING MySQL.....	131
ACCESSING COMMAND LINE HELP IN MySQL.....	133
Help On SQL Commands.....	133
SETTING UP THE root PASSWORD IN MySQL.....	134
Setting The root Password.....	135
Using The mysqladmin Utility.....	135
Logging Into MySQL After Setting The root Password.....	135
CREATING A SUPER USER.....	136
ADDING NEW USERS TO MySQL.....	136
Viewing Existing Grants.....	138
MANIPULATING THE MySQL USER PRIVILEGE TABLE DIRECTLY.....	139
DELETING USERS FROM MySQL.....	141
CREATING PASSWORDS FOR USERS.....	142
Setting A Password.....	143
Using UPDATE Statement.....	143
Using SET PASSWORD.....	143
Using GRANT Statement.....	144
USING DATABASES.....	144
Creating A Database.....	145
SHOW DATABASES Command.....	145
Case-Sensitivity.....	146
USE Command.....	147
Database Ownership.....	147
Destroying Database.....	149
BACKING UP MySQL DATABASES AND THEIR CONTENT.....	149
Backing Up MyISAM Tables.....	149
Backing Up InnoDB Tables.....	150
Backing Up Using The mysqldump Utility.....	151
Backup.....	151
Restore.....	153
13. BASIC SQL ELEMENTS.....	155
TEXT TYPES.....	156
Char(size).....	156
Varchar(size).....	156
Blob.....	157
Text.....	157
Binary And Varbinary.....	157
NUMBER TYPES.....	158
Int(size).....	158
Float.....	158
Decimal(p, s).....	159
Double(p, s).....	159

DATE TYPES.....	160
Date.....	160
Datetime.....	160
Timestamp.....	160
Year.....	160
Time.....	161
MISC TYPES.....	162
Enum().....	162
Set.....	162
ENTITY RELATIONSHIP DIAGRAM.....	162
Subscriber Management.....	163
Books, Publishers and Author Management.....	163
Customer, Employee And Order Management.....	164
Sales Management.....	164
Assorted Tables.....	165
14. TABLE CREATION.....	167
RULES FOR CREATING TABLES.....	167
A BRIEF CHECKLIST WHEN CREATING TABLES.....	168
CREATING TABLES.....	168
DISPLAYING A TABLE'S STRUCTURE.....	171
15. WORKING WITH TABLE DATA.....	173
Insert Data In Specific Columns.....	174
LOADING DATA INTO A TABLE.....	176
GLOBALLY RETRIEVING DATA FROM TABLES.....	177
All Rows And All Columns.....	177
Retrieving Filtered Table Data.....	178
Selected Columns And All Rows.....	178
Selected Rows And All Columns.....	179
Selected Columns And Selected Rows.....	180
MULTIPLE SELECT STATEMENTS.....	181
NON-DUPLICATE ROWS.....	182
SORTING DATA IN A TABLE.....	185
SELECTING RECORDS FROM THE BEGINNING OR END OF A RESULT SET.....	187
PULLING A SECTION FROM THE MIDDLE OF A RESULT SET.....	189
DELETING DATA FROM TABLES.....	191
Delete All Rows.....	192
Delete Specific Row(s).....	192
UPDATING DATA IN TABLES.....	192
Updating All Rows.....	193
Update Specific Row(s).....	193
FINDING OUT THE TABLE/S CREATED BY A USER.....	194
SHOW CREATE TABLE Command.....	195
CREATING A TABLE FROM A TABLE.....	196

INSERTING DATA INTO A TABLE FROM ANOTHER TABLE.....	198
Insertion Of A Data Set Into A Table From Another Table.....	198
REMOVAL OF SPECIFIC ROW/S BASED ON THE DATA HELD BY THE OTHER TABLE ..	199
16. WORKING WITH TABLE AND ITS STRUCTURE.....	201
ADDING NEW COLUMNS.....	202
Adding New Columns At A Specific Location.....	203
Adding New Column As The First Column.....	204
DROPPING A COLUMN.....	205
MODIFYING EXISTING COLUMNS	206
Modifying Existing Column And Shifting It To A Specific Location	207
Modifying An Existing Column And Make It The First Column	208
RENAMING EXISTING COLUMNS.....	209
Renaming An Existing Column And Shifting It To A Specific Location.....	210
Renaming An Existing Column And Making It The First Column	212
RENAMING A TABLE USING ALTER TABLE.....	213
CHANGING A TABLE ENGINE	213
RENAMING TABLES	216
TRUNCATING TABLES.....	216
DESTROYING TABLES	217
17. OPERATORS AND REGULAR EXPRESSION.....	219
ARITHMETIC OPERATORS	219
Renaming Columns Used With Expression Lists	221
LOGICAL OPERATORS.....	222
AND Operator.....	222
OR Operator.....	223
Combining AND And OR Operator	223
NOT Operator	225
SEARCHING FOR SPECIFIC DATA	225
Range Searching	225
Pattern Matching	226
LIKE Predicate.....	226
IN And NOT IN Predicates.....	229
Regular Expressions.....	230
18. GROUPING DATA	235
THE CONCEPT OF GROUPING	235
GROUP BY Clause.....	236
HAVING Clause.....	237
Determining Whether Values Are Unique.....	239
GROUPING BY EXPRESSIONS RESULTS	240
GROUPING BY TABLE COLUMN POSITION	241
ADVANCED GROUPING OPERATIONS	242
Group By Using ROLLUP Operator.....	242

19. JOINS	245
JOINING MULTIPLE TABLES [EQUI JOINS].....	245
Join Styles.....	246
Inner Join.....	247
Outer Join.....	249
Cross Join.....	251
GUIDELINES FOR CREATING JOINS.....	253
JOINING A TABLE TO ITSELF [SELF JOINS]	253
20. VIEWS.....	259
Renaming The Columns Of A View.....	261
Viewing Data Using A View.....	262
Filtering Data From Views.....	262
Updateable Views.....	263
Inserting Records Using View.....	263
Updating Records Using Views.....	265
Common Restrictions On Updateable Views.....	266
Deleting Records Using View.....	266
View Creation Using Multiple Tables.....	267
Altering Views.....	268
Destroying A View.....	269
21. FUNCTIONS.....	271
AGGREGATE FUNCTIONS.....	272
NUMERIC FUNCTIONS.....	275
STRING FUNCTIONS.....	282
Retrieve Records Based On Sounds.....	294
Formatting Text Using MySQL Commands.....	297
Manipulating Text Using MySQL Commands.....	299
DATE FUNCTIONS.....	302
Limitations For Column's Default Value.....	303
Datetime Conversion Functions.....	306
Decomposing Dates And Times Using Formatting Functions.....	309
Decomposing Dates Or Times Using Component-Extraction Functions.....	309
Decomposing Dates Or Times Using String Functions.....	310
Converting Between Times And Seconds.....	310
Converting Between Dates And Days.....	311
Performing Leap Year Calculations.....	312
Determining Whether A Date Occurs In A Leap Year.....	312
MISCELLANEOUS FUNCTIONS.....	313
Determining Current Client User.....	313
Determining Current Database.....	314

22. DATA CONSTRAINTS	315
APPLYING DATA CONSTRAINTS.....	315
Column Level Constraints	316
Table Level Constraints	316
TYPE OF DATA CONSTRAINTS.....	317
I/O Constraints.....	317
Primary Key.....	317
Primary Key Constraint Defined At Column Level.....	318
Primary Key Constraint Defined At Table Level.....	319
Auto Generate Primary Key Values For A Table	321
Foreign Key	322
Foreign Key Constraint Defined At Column Level	325
Foreign Key Constraint Defined At Table Level	326
Foreign Key Constraint Defined With ON DELETE CASCADE.....	327
Unique Key Constraint.....	329
The Unique Constraint Defined At Column Level	330
The Unique Constraint Defined At Table Level	331
NULL Value Concepts.....	332
The NOT NULL Constraint Defined At Column Level	333
Working With NULL Values.....	334
Negating A Condition On A Column That Contains NULL Values.....	336
Replacing NULL Values With Other Values For Display	338
Specifying A Default Value For A Table Column.....	339
Business Rule Constraints.....	341
Check Constraint.....	342
Check Constraint Defined At Column Level	342
Check Constraint Defined At Table Level.....	342
ASSIGNING USER DEFINED NAMES TO CONSTRAINTS	342
Defining Different Constraints On A Table.....	345
DEFINING INTEGRITY CONSTRAINTS USING THE ALTER TABLE COMMAND	347
DROPPING INTEGRITY CONSTRAINTS USING THE ALTER TABLE COMMAND.....	349
EXPLAIN SELECT STATEMENT.....	350
23. SUBQUERY	355
24. UNION.....	365
25. INDEXES.....	371
ADVANTAGES AND DISADVANTAGES OF INDEXING	372
CREATING INDEXES	373
Simple Index	373
Composite Index	374
Unique Index.....	375
MULTIPLE INDEXES	377
Problems With Indexes	378
DROPPING INDEXES.....	378

SHOW INDEX COMMAND	379
MYSQL FULL-TEXT SEARCH.....	380
26. STORED PROCEDURES	385
Why Use Stored Procedures	386
Structure Of Stored Procedure	386
SUPPORTED SQL STATEMENTS IN PROCEDURES	387
Creating Dynamic Procedures	389
Using The IN Parameter	389
Adding Records To The Table Using Procedure With In Parameter	389
Deleting Records Using A Procedure	391
Using The OUT Parameter	393
Using The INOUT Parameter	394
Retrieving Table Data From Stored Procedure Using Variables	396
Dropping A Procedure	397
27. TRANSACTIONS.....	399
MySQL Transactions	400
Closing Transactions.....	400
Automatic Commits.....	400
COMMIT	401
Statements That Cause An Implicit Commit	402
ROLLBACK.....	402
SAVEPOINT	403
28. CURSORS	413
Explicit Cursor.....	414
Declaring Cursors	414
The Functionality Of Open, Fetch And Close Commands	414
Opening A Cursor.....	415
Fetching A Record From The Cursor	415
Closing A Cursor	416
Handlers	416
 SECTION IV: UNDERSTANDING THE PHP LANGUAGE	
29. MIXING PHP AND HTML.....	423
GETTING STARTED	431
Writing PHP.....	431
Naming Files.....	431
Comments	431
The Semicolon	432
Delivering Text As Output.....	432
White Space	432

Running The PHP Script - myFirst.php	433
30. VARIABLES AND OPERATORS	435
DATA TYPES	435
VARIABLES	436
Numbers	438
Strings	439
Joining Strings	442
Variable Scope	443
Variable Variables	447
PHP Super Globals	448
CONSTANTS	449
HERE DOCUMENTS	451
OPERATORS	453
Unary Operators	453
Negation Operators	453
Increment / Decrement Operators	454
Cast Operators	455
Binary Operators	456
Numeric Operators	456
Assignment Operators	457
Concatenation Operator	458
Comparison Operators	459
Logical Operators	460
Bitwise Operators	460
Ternary Operator	461
Operator Precedence	462
References	463
ARRAYS	465
31. FLOW CONTROL STRUCTURES	469
CONDITIONAL STATEMENTS	469
if Statement	470
Executing Multiple Statements	470
elseif Clause	473
switch Statement	476
ITERATIONS	479
for Loop	480
while Loop	483
Controlling An Array Using A while Loop	485
do...while Statement	487
foreach Loop	489
Infinite Loops	491
Special Loop Keywords	492
Loops Within Loops	493
Mixed-Mode Processing	497

32. FUNCTIONS.....	499
USER-DEFINED FUNCTIONS.....	500
Functions With Arguments.....	501
Functions With Multiple Arguments.....	501
Functions Accepting And Returning Values By Reference.....	504
Functions Accepting And Returning Values By Value.....	506
Accessing Global Variables Within A Function.....	507
Globalizing Functions.....	507
Functions In Files.....	508
Recursion.....	509
Anonymous Functions.....	512
BUILT-IN FUNCTIONS.....	512
print().....	513
include().....	513
header().....	514
phpinfo().....	515
PHP SERVER VARIABLES.....	516
Functions For Variables.....	521
Controlling Script Execution.....	524
Array Functions.....	526
WORKING WITH DATE AND TIME.....	533
date().....	533
time().....	536
Converting From A String.....	536
Converting From Components.....	539
PERFORMING MATHEMATICAL OPERATIONS.....	540
Rounding Up A Number.....	540
Randomization.....	542
Other Mathematical Conversion Functions.....	544
Mathematical Constants.....	546
WORKING WITH STRING FUNCTIONS.....	547
Extracting Part Of A String.....	547
Finding A String Within A String.....	548
Returning The First Occurrence Of A String.....	550
Replacing Parts Of A String.....	551
Converting To And From ASCII.....	552
Measuring Strings.....	552
Trimming Whitespace.....	555
Wrapping Lines In Text Messages.....	556
Changing String Case.....	557
Secure Data Hash.....	558
Printing Number Formats.....	561
String Padding.....	562
Complex String Printing.....	564
Pausing Script Execution.....	565

33. REGULAR EXPRESSIONS.....	569
Regular Expression Engine.....	570
Common Uses Of Regular Expressions.....	570
Types Of Regular Expressions.....	571
Regular Expression Functions.....	572
Symbols Used In Regular Expressions.....	573
Using ^ and \$.....	573
Using *, + and ?.....	573
Using Bounds { }.....	573
Using Quantifiers.....	574
Using The OR Operator.....	574
Using . The Period.....	574
Using [] Bracket Expressions.....	575
Using Regular Expression Functions.....	575
Matching Patterns.....	575
Replacing Patterns.....	582
Array Processing.....	585
34. WORKING WITH DATABASE [MySQL].....	601
THE PHP MySQL ARCHITECTURE.....	602
THE PHP API.....	603
GETTING STARTED.....	603
Creating MySQL DB Table.....	603
Connecting To The MySQL Db Engine.....	604
Persistent Connection.....	605
Selecting The Database.....	607
Executing Commands.....	608
Inserting Data.....	609
Extracting Data.....	610
Updating Data.....	614
Deleting Data.....	615
Closing The Database Connection.....	616
DEMONSTRATING PHP AND MySQL INTERACTION USING A FORM.....	616
Form Specification.....	617
Files Included.....	617
Functions Declared.....	617
Form Details.....	617
Data Fields.....	618
Data Controls.....	618
Skeleton Of The Code Spec.....	618
The GuestBook Form Code Spec.....	623
dosql.php Which Processes The Output Of The HTML Form.....	630
Connecting To The MySQL DB.....	630
Inserting Data Into GuestBook.....	631

Updating Data In GuestBook.....	632
Deleting Data From GuestBook.....	634
Logic Flow Of The GuestBook.php Code Spec.....	635
35. WORKING WITH MySQLi.....	639
The PHP API	640
GETTING STARTED	641
Creating MySQL DB Table	641
Connecting To A MySQL Db Engine Running In Memory	642
Persistent Connections	644
Selecting The Database.....	646
Executing Commands	649
Inserting Data.....	650
Extracting Data	652
Updating Data.....	660
Deleting Data	661
Freeing Up The ResultSet.....	662
Closing The Database Connection.....	663
DEMONSTRATING PHP AND MySQLi INTERACTION USING A FORM	664
Form Specification.....	665
Files Included.....	665
Functions Declared	665
Form Details	665
Data Fields	665
Data Controls	665
The GuestBook Form Code Spec	666
dosql.php Which Processes The Output Of The HTML Form	669
Connecting To The MySQL DB.....	669
Inserting Data Into GuestBook	670
Updating Data In GuestBook.....	671
Deleting Data From GuestBook.....	673
36. WORKING WITH PDO [PHP DATA OBJECT]	675
THE PHP PDO API	678
Getting Started	678
Creating DB Table.....	679
Connecting To The Database.....	679
Closing The Database Connection.....	680
Executing Commands	681
Inserting Data.....	682
Extracting Data	683
Updating Data.....	686
Deleting Data	687
DEMONSTRATING PHP AND MySQL INTERACTION USING A FORM.....	688
Form Specification.....	689
Files Included.....	689

Functions Declared	689
Form Details	689
Data Fields	689
Data Controls	689
The GuestBook Form Code Spec.....	689
dosql.php Which Processes The Output Of The HTML Form	693
Connecting To The MySQL DB.....	693
Inserting Data Into MySQL Db Table	694
Updating Data In GuestBook.....	695
Deleting Data From GuestBook.....	697
37. COOKIES.....	699
MARKING OF THE BROWSER BY THE WEB SERVER.....	700
THE CONTENTS OF A COOKIE.....	701
DIFFERENT TYPES OF COOKIES	701
Permanent / Persistent Cookies.....	701
Session / Transient Cookies	702
WHERE COOKIES ARE USED	702
Where Are Cookies Placed	703
Understanding How Cookies Are Used	703
Yahoo.com And Cookies	704
ADVANTAGES OF COOKIES	707
CREATING COOKIES USING PHP	707
Domain Information.....	708
Path Information	708
Expiry Information.....	708
Secure Parameter	708
WORKING WITH COOKIES	709
An Open Bug In PHP 6 [Development Snapshot]	709
Setting Cookies Using PHP	710
Destroying A Cookie	711
Assigning Multiple Values To A Cookie.....	711
Retrieving Multiple Values From A Cookie.....	712
AUTOMATIC LOGIN	714
The Focus.....	715
The Solution.....	715
The RunTime	722
The Working	731
38. SESSIONS	735
PHP SESSION MANAGEMENT RULES	737
THE PHPSESSID COOKIE	738
VERIFYING SESSION SUPPORT IN PHP.....	738
STORING, RETRIEVING AND DELETING DATA FROM SESSION VARIABLES	739
Storing Values In Session Variables	739

Retrieving Values From A Session Variable	740
Deleting Values From A Session Variable	741
PHP SESSION FUNCTIONS	741
session_start()	742
session_destroy()	745
session_id()	746
A MINI SHOPPING CART	747
The Focus.....	749
The Solution.....	750
The RunTime	760
The Working	768
39. OBJECT ORIENTED PROGRAMMING	781
BASIC UNDERSTANDING.....	782
Objects	782
Defining A Class.....	782
INSTANTIATION AND ACCESSING METHODS AND PROPERTIES.....	784
CONSTRUCTORS	786
DESTRUCTORS	787
CLASS CONSTANTS.....	788
\$THIS KEYWORD	790
SCOPE RESOLUTION OPERATOR [::].....	791
SELF AND PARENT KEYWORDS	791
EXTENDING A CLASS	792
CLASS ABSTRACTION	794
OBJECT INTERFACES.....	795
implements Keyword.....	796
instanceof Operator.....	797
OBJECT CLONING	797
OBJECT COMPARISON.....	799
FINAL KEYWORD	801
final Methods	801
final Class	801
MAGIC METHODS	802
__sleep and __wakeup	802
NAMESPACE	803
Referring To A Class In A Namespace.....	805
Importing Namespace	805
Sub Namespaces	806
Adding Functions.....	807
Empty Namespace	807
Constant Namespace.....	808
Adding A Class.....	809
Rules For Resolving Names inside Namespace.....	809
OBJECT ORIENTED PROGRAMMING WITH MySQL Db	811

40. DEBUGGING AND ERROR HANDLING.....	837
GOOD PROGRAMMING PRACTICES.....	838
Visual Examination Of Code Spec	838
Coding Style	838
To Improve Code Spec Readability	839
Commenting Code Spec.....	840
Meaningful Variable Names	840
Functions.....	841
PHP Code Block Indicators	841
ERROR HANDLING IN PHP	841
Displaying Errors	842
Type Of Errors	843
Syntax Or Parse Errors.....	844
Fatal Errors.....	846
Warnings	847
Notices	848
Logical Errors	849
Environmental Errors.....	851
Runtime Errors.....	852
Core Errors.....	853
Compile Errors.....	854
User Defined Errors	854
Error Levels In PHP.....	854
Setting Error Reporting Level Via php.ini.....	855
Setting Error Reporting Level Using error_reporting().....	857
Logging Errors.....	861
What Is A Log.....	861
error_log()	861
Using php.ini To Set Error Log File Path	863
Logging Errors To A File.....	864
Logging Errors Using syslog	866
trigger_error()	870
Return Values.....	870
Ignoring Errors.....	871
Acting On Errors / Exceptions	873
Try Block	873
Catch Block.....	874
Throw Statement.....	874
41. WEB SERVICES USING SOAP	879
SOAP	880
SETTING UP PHP AND SOAP ENVIRONMENT.....	881
BUILDING A WEB SERVICE	882
Creating MySQL DB Table	882
Creating A SOAP Server [server.php]	883

Creating A WSDL Document 885
 What Is A WDSL Document 885
 Anatomy Of WSDL Document 885
 Definitions 886
 Types..... 887
 Messages..... 888
 Relationship Between Types And Messages 890
 Port Types 890
 Relationship Between Client and Server Code Spec, Messages And Port Types 892
 Bindings..... 892
 Relationship Between Port Types And Bindings 894
 Services..... 895
 Creating bookdetails.wsdl 895
 Creating A SOAP Client [client.php] 897
 RUNNING THE WEB APPLICATION 899

SECTION V: APPLICATION DEVELOPMENT

42. CONTACT MANAGEMENT 901
 Platform Specifications 902
 Virtual Host Configuration 903
 Table Creation In The MySQL Db 903
 ContactMst..... 903
 Column Definition 903
 Table Description..... 903
 MailLog 904
 Column Definition 904
 Table Description..... 905
 ZipCode 905
 Column Definition 905
 Table Description..... 906
 The Code Spec And The Functionality Of The Files Included 906
 style.css 906
 database.php..... 908
 databaseTables.php 910
 general.php..... 910
 configure.php 911
 zipCode.php 913
 reminder.php 914
 sendBulkEmail.php 916
 jquery-1.1.4.js 917
 FORM SPECIFICATIONS 918
 contacts.php 918
 Files Included..... 918
 Form Details 918

xxviii LAMP Programming For Professionals

Data Fields	918
Data Controls	919
Code Spec	919
contactsConfirm.php	935
Files Included.....	935
Form Details	935
Data Controls	935
Code Spec	936
contactThankYou.php	944
Files Included.....	944
Code Spec	944
EXECUTING THE APPLICATION	945
43. CONSTRUCTING AN RSS WIDGET	955
BUILDING AN RSS WIDGET	956
Expected Program Flow.....	960
Files Used	961
Form Specifications	962
Data Fields	962
Data Controls	962
Code Spec And The Functionality	962
index.html	962
style.css	964
ajaxfunctions.js	967
placeholders.js.....	974
readRSS.php	1000
EXECUTING / RUNNING THE APPLICATION	1003
44. CONSTRUCTING NEWSLETTER DELIVERY SYSTEM.....	1017
REQUIREMENTS.....	1018
Platform Specifications	1018
Virtual Host Configuration	1018
Table Creation In The MySQL Db	1019
Newsletter Table	1019
Members Table	1019
Form Specifications And Code Specs	1020
index.php.....	1020
Files Included.....	1020
Data Controls	1020
Code spec	1020
addnews.php	1022
Files Included.....	1022
Functions Declared	1022
Form Details.....	1022
Data Fields	1022

Data Controls	1023
Code spec	1023
editletter.php	1027
Files Included	1027
Form Details	1027
Data Fields	1027
Data Controls	1028
Code spec	1028
deleteletter.php	1032
Code spec	1032
show.php	1032
Files Included	1032
Functions Declared	1032
Form Details	1033
Data Controls	1033
Code spec	1033
sendletter.php	1038
Files Included	1038
Form Details	1038
Data Controls	1038
Code spec	1038
connect.php	1042
Code spec	1042
common.css	1043
Code spec	1043
EXECUTING THE APPLICATION	1043
45. CONSTRUCTING AN AUTOMATIC EMAIL DISPATCHER	1053
WHAT IS MAIL DISPATCHER	1054
HOW DOES MAIL DISPATCHER WORK	1054
UNATTENDED MAIL DISPATCHING	1054
REQUIREMENTS	1055
Platform Specifications	1055
Virtual Host Configuration	1055
Table Creation In The MySQL Db	1056
Table Definition	1056
Column Definition	1056
Table Description	1057
Form Specifications	1058
Files Included	1058
Functions Declared	1058
Form Details	1058
Data Fields	1058
Data Controls	1059
Code Specs	1059
EmailDispatcher.php	1059

dosql.php.....	1077
sendBulkEmail.php.....	1080
WHAT IS A MAIL SERVER	1082
EXECUTING / RUNNING THE APPLICATION	1084
Sending Mails Manually	1088
Automatically Sending The Mails	1091
Creating A Cron Job	1091

46. PROGRAMMING USING THE MODEL VIEW CONTROLLER ARCHITECTURE... 1095

THE MVC ARCHITECTURE.....	1096
Model.....	1096
View.....	1097
Controller.....	1097
MVC IN WEB APPLICATION.....	1097
LOGIN FORM USING MVC ARCHITECTURE.....	1098
PLATFORM SPECIFICATIONS.....	1099
VIRTUAL HOST CONFIGURATION	1100
MODEL - TABLE CREATION IN THE MySQL Db.....	1100
Table Definition	1100
Column Definition	1100
CODE SPEC	1101
common.css.....	1101
configure.php	1101
VIEW - THE LOGIN FORM.....	1102
Form Specifications	1102
Files Included.....	1102
Form Details	1102
Data Fields	1103
Data Controls	1103
View 1 - login1.xsl.....	1103
View 2 - login2.xsl.....	1105
View 3 - login3.xsl.....	1107
PAGE CONTROLLER - login.php.....	1109
TRANSACTION CONTROLLER - login.int.php	1111
index.html	1112
EXECUTING THE APPLICATION	1113

SECTION VI: LINUX ON VIRTUAL MACHINE

47. CENTOS ON SUN VIRTUALBOX 1119

INTRODUCTION TO VIRTUALIZATION	1119
SUN VIRTUALBOX.....	1120
Supported Hosts	1120
Windows Hosts	1120
Apple Mac OS X Hosts.....	1121

Linux Hosts [32-bit and 64-bit]	1121
Solaris Hosts [32-bit and 64-bit]	1121
Supported Guests	1121
DOWNLOADING SUN VIRTUALBOX	1122
INSTALLING SUN VIRTUALBOX ON A WINDOWS OS [HOST]	1122
SETTING UP A NEW VIRTUAL MACHINE	1126
INSTALLING CENTOS 5.3 ON THE VIRTUAL MACHINE	1133
Obtaining CentOS	1133
Loading CentOS ISO Into Virtual Machine	1134
Running The VM	1136

SECTION VII: APPENDIX

A. phpMyAdmin	1139
HISTORY	1139
DOWNLOADING	1140
INSTALLING phpMyAdmin	1140
STARTING phpMyAdmin	1143
GETTING STARTED WITH phpMyAdmin	1145
Creating Database	1145
Destroying Database	1146
Creating A User And Granting Permissions	1147
Working With Tables	1150
Creating A Table	1150
Populating The Table With Data	1153
Retrieving Data From Tables	1156
Retrieving All Rows and Columns	1156
Retrieving Selected Columns And All Rows	1157
Retrieving Selected Rows And All Columns	1159
Retrieving Selected Columns And Selected Rows	1161
Deleting Data From Tables	1162
Updating Data In Tables	1163
The Structure Of A MySQL Database	1165
The Structure Of A MySQL Table	1166
Restructuring Tables	1167
Adding New Columns	1167
Dropping A Table Column	1170
Modifying Existing Table Columns	1170
Renaming A Table	1173
Truncating A Table	1175
Destroying A Table	1176
LOGGING OUT FROM phpMyAdmin	1177

