

LPI202 - LPIC-2 EXAM PREP (COURSE 2)

This course prepares students to take the LPI 202 exam of the LPIC-2 certification. The Linux Professional Institute (LPI) is the go-to certification body for vendor independent Linux certifications. This course covers more advanced Linux skills such as system management and networking. Students will feel confident taking the LPI LPIC-2 202 exam with in classroom assessments and practice exams.

Prerequisites: LPIC-1 certification or LPI101 "LPIC-1 Exam Prep (Course 1)" and LPI102 "LPIC-1 Exam Prep (Course 2)".

Supported Distributions:

Red Hat Enterprise Linux 6

SUSE Linux Enterprise 11

Course Outline:

1. DNS CONCEPTS

1. LPI Objectives Covered
2. Naming Services
3. DNS â€™ A Better Way
4. The Domain Name Space
5. Delegation and Zones
6. Server Roles
7. Resolving Names
8. Resolving IP Addresses
9. Basic BIND Administration
10. BIND Configuration Files
11. rndc Key Configuration
12. Configuring the Resolver
13. Testing Resolution

LAB TASKS

14. Configuring a Slave Name Server
15. Use rndc to Control named

2. CREATING DNS HIERARCHIES

1. LPI Objectives Covered
2. named.conf Syntax
3. named.conf Options Block

4. Creating a Site-Wide Cache
5. Zones In named.conf
6. Zone Database File Syntax
7. SOA ‘ Start of Authority
8. A, AAAA, & PTR ‘ Address & Pointer Records
9. NS ‘ Name Server
10. TXT, CNAME, & MX ‘ Text, Alias, & Mail Host
11. Abbreviations and Gotchas
12. \$GENERATE, \$ORIGIN, and \$INCLUDE
13. Subdomains and Delegation
14. Subdomains
15. Delegating Zones
16. in-addr.arpa. Delegation
17. Issues with in-addr.arpa.
18. RFC2317 & in-addr.arpa.

LAB TASKS

19. Configuring BIND Zone Files
20. Create a Subdomain in an Existing Domain
21. Subdomain Delegation

3. SECURING DNS

1. LPI Objectives Covered
2. Split Namespaces
3. Split Namespace with Views
4. Address Match Lists & ACLs
5. Restricting Queries
6. Restricting Zone Transfers
7. Running BIND in a chroot
8. Securing DNS With TSIG

LAB TASKS

9. Securing BIND DNS

4. IMPLEMENTING A WEB SERVER

1. LPI Objectives Covered
2. Apache Architecture
3. Dynamic HTTP Content
4. Configuring PHP

5. Securing PHP
6. Security Related php.ini Configuration
7. Installing PHP
8. Apache Configuration Files
9. httpd.conf ' Server Settings
10. httpd.conf ' Main Configuration
11. Adding Modules to Apache
12. Virtual Hosting DNS Implications
13. httpd.conf ' VirtualHost Configuration
14. Port and IP based Virtual Hosts
15. Name-based Virtual Host
16. Apache Logging
17. Log Analysis
18. Delegating Administration
19. Apache Access Controls (mod_access)
20. HTTP User Authentication
21. Standard Auth Modules
22. HTTP Digest Authentication
23. Directory Protection
24. Directory Protection with AllowOverride
25. Common Uses for .htaccess
26. Apache Troubleshooting

LAB TASKS

27. Apache Architecture
28. Apache Content
29. Using .htaccess Files
30. CGI Scripts in Apache

5. MAINTAINING A WEB SERVER

1. LPI Objectives Covered
2. HTTP Virtual Servers
3. Virtual Hosting DNS Implications
4. Virtual Hosting Security Implications
5. Port and IP based Virtual Hosts
6. Name-based Virtual Host
7. Scrubbing HTTP Headers
8. Symmetric Encryption Algorithms
9. Asymmetric Encryption Algorithms

10. Digital Certificates
11. TLS Using mod_ssl.so

LAB TASKS

12. Configuring Virtual Hosts
13. Using TLS Certificates with Apache
14. Using TLS Certificates with Apache
15. Create a TLS CA key pair
16. Using SSL CA Certificates with Apache
17. Enable Apache SSL Client Certificate Authentication

6. NGINX, SQUID, AND DHCP

1. LPI Objectives Covered
2. Nginx
3. Squid Overview
4. Squid File Layout
5. Squid Access Control Lists
6. Applying Squid ACLs
7. Monitoring Squid
8. DHCP Protocol Operation
9. IP to MAC Address Mapping with ARP
10. Configuring a DHCP server

LAB TASKS

11. Nginx Web Basics
12. HTTPS and Reverse Proxy with Nginx
13. Installing and Configuring Squid
14. Squid Cache Manager CGI

7. SAMBA SERVER CONFIGURATION

1. LPI Objectives Covered
2. Introducing Samba
3. Samba Daemons
4. Accessing Windows/Samba Shares from Linux
5. Samba Utilities
6. Samba Configuration Files
7. The smb.conf File
8. Share Authentication
9. Share-Level Access

10. User-Level Access
11. Mapping Users
12. Samba Account Database
13. User Share Restrictions

LAB TASKS

14. Samba Share-Level Access

8. NFS SERVER CONFIGURATION & SECURING FTP SERVERS

1. LPI Objectives Covered
2. File Sharing via NFS
3. NFSv4+
4. NFS Clients
5. TCP Wrappers
6. The /etc/hosts.allow & /etc/hosts.deny Files
7. /etc/hosts.{allow,deny} Shortcuts
8. Advanced TCP Wrappers
9. NFS Server Configuration
10. The FTP Protocol
11. Active Mode FTP
12. Passive Mode FTP
13. vsftpd
14. Configuring vsftpd
15. Anonymous FTP with vsftpd
16. Pure-FTPd
17. ProFTPD

LAB TASKS

18. NFS Server Configuration
19. Configuring vsftpd

9. PAM AUTHENTICATION

1. LPI Objectives Covered
2. PAM Overview
3. PAM Module Types
4. PAM Order of Processing
5. PAM Control Statements
6. PAM Modules
7. pam_unix

8. pam_limits.so
9. pam_cracklib.so
10. pam_listfile.so
11. pam_tally2.so
12. pam_console.so

LAB TASKS

13. Setting Limits with the pam_limits Modules
14. Using pam_limits to Restrict Simultaneous Logins

10. CONFIGURING AN OPENLDAP SERVER AND CLIENT

1. LPI Objectives Covered
2. LDAP
3. What LDAP Provides
4. LDAP Concepts
5. LDAP Organization
6. Entry Referencing
7. Online LDAP Data Manipulation
8. Querying LDAP Databases
9. OpenLDAP: Server Architecture
10. OpenLDAP: Backends
11. OpenLDAP: Replication
12. OpenLDAP: Configuration Options
13. OpenLDAP: Configuration Sections
14. OpenLDAP: Global Parameters
15. OpenLDAP: Database Parameters
16. OpenLDAP Server Tools
17. Enabling LDAP-based Login
18. System Security Services Daemon (SSSD)

LAB TASKS

19. Querying LDAP
20. Building An OpenLDAP Server
21. Enabling TLS For An OpenLDAP Server
22. Enabling LDAP-based Logins

11. USING E-MAIL SERVERS

1. LPI Objectives Covered
2. SMTP

3. SMTP Terminology
4. SMTP Architecture
5. SMTP Commands
6. SMTP Session
7. Sendmail Architecture
8. Sendmail Configuration
9. Sendmail Remote Configuration
10. Controlling Access
11. Sending Email with sendmail
12. Exim
13. Postfix Features
14. Postfix Architecture
15. Postfix Components
16. Postfix Configuration
17. master.cf
18. main.cf
19. Virtual Domains
20. Configuration Commands
21. Postfix Logging
22. Advanced Postfix Options

LAB TASKS

23. Configuring Sendmail
24. Configuring Postfix
25. Postfix Virtual Host Configuration
26. Postfix Network Configuration
27. Postfix SMTP AUTH Configuration
28. Postfix STARTTLS Configuration
29. SUSE Postfix Configuration Cleanup

12. MANAGING LOCAL AND REMOTE E-MAIL DELIVERY

1. LPI Objectives Covered
2. Filtering Email
3. Procmal
4. SpamAssassin
5. Accessing Email
6. The IMAP4 Protocol
7. Courier IMAP
8. Dovecot POP3/IMAP Server

LAB TASKS

9. Configuring Procmal & SpamAssassin
10. Dovecot Setup

13. CONFIGURING A ROUTER AND SECURITY TASKS

1. LPI Objectives Covered
2. IPv4 Fundamentals
3. TCP/UDP Fundamentals
4. Security Advisories
5. Discovering Hosts
6. nmap
7. Netcat
8. Nessus/OpenVAS Insecurity Scanner
9. Configuring OpenVAS
10. Intrusion Detection Systems
11. Snort Rules
12. Writing Snort Rules
13. Linux as a Router
14. Configuring Routing Tables
15. SUSE Basic Firewall Configuration
16. Using the iptables Command
17. Netfilter Rule Syntax
18. Netfilter Concepts
19. Targets
20. Common match_specs
21. Netfilter: Stateful Packet Filter Firewall
22. Connection Tracking
23. Address Translation
24. Configuring NAT and PAT

LAB TASKS

25. NMAP
26. OpenVAS
27. Securing Services with SuSEfirewall2
28. Securing Services with Netfilter

14. OPENSSSH AND OPENVPN

1. LPI Objectives Covered
2. Secure Shell

3. OpenSSH Client & Server Configuration
4. Accessing Remote Shells
5. SSH Port Forwarding
6. Transferring Files
7. SSH Key Management
8. ssh-agent
9. OpenVPN

LAB TASKS

10. Introduction to ssh and scp
11. SSH Key-based User Authentication
12. Using ssh-agent
13. OpenVPN