

LPIC-2 Exam Prep (Course 2)

Topics

1. Capacity Planning

- Naming Services
- DNS – A Better Way
- The Domain Name Space
- Delegation and Zones
- Server Roles
- Resolving Names
- Resolving IP Addresses
- Basic BIND Administration
- BIND Configuration Files
- rndc Key Configuration
- Configuring the Resolver
- Testing Resolution
 - LAB TASKS
- Configuring a Slave Name Server
- Use rndc to Control named
- Creating Dns Hierarchies
- LPI Objectives Covered
- named.conf Syntax
- named.conf Options Block
- Creating a Site-Wide Cache
- Zones In named.conf
- Zone Database File Syntax
- SOA – Start of Authority
- A, AAAA, & PTR – Address & Pointer Records
- NS – Name Server
- TXT, CNAME, & MX – Text, Alias, & Mail Host
- Abbreviations and Gotchas
- \$GENERATE, \$ORIGIN, and \$INCLUDE
- Subdomains and Delegation
- Subdomains
- Delegating Zones
- in-addr.arpa. Delegation
- Issues with in-addr.arpa.
- RFC2317 & in-addr.arpa.
 - LAB TASKS
- Configuring BIND Zone Files
- Create a Subdomain in an Existing Domain
- Subdomain Delegation

2. Securing DNS

- Split Namespaces
- Split Namespace with Views
- Address Match Lists & ACLs
- Restricting Queries
- Restricting Zone Transfers
- Running BIND in a chroot
- Securing DNS With TSIG
 - LAB TASKS
- Securing BIND DNS

3. Implementing A Web Server

- Apache Architecture
- Dynamic HTTP Content
- Configuring PHP
- Securing PHP
- Security Related php.ini Configuration
- Installing PHP
- Apache Configuration Files
- httpd.conf – Server Settings
- httpd.conf – Main Configuration
- Adding Modules to Apache
- Virtual Hosting DNS Implications
- httpd.conf – VirtualHost Configuration
- Port and IP based Virtual Hosts
- Name-based Virtual Host
- Apache Logging
- Log Analysis
- Delegating Administration
- Apache Access Controls (mod_access)
- HTTP User Authentication
- Standard Auth Modules
- HTTP Digest Authentication
- Directory Protection
- Directory Protection with AllowOverride
- Common Uses for .htaccess
- Apache Troubleshooting
 - LAB TASKS
- Apache Architecture
- Apache Content
- Using .htaccess Files
- CGI Scripts in Apache

4. Maintaining A Web Server

- HTTP Virtual Servers
- Virtual Hosting DNS Implications
- Virtual Hosting Security Implications
- Port and IP based Virtual Hosts
- Name-based Virtual Host
- Scrubbing HTTP Headers
- Symmetric Encryption Algorithms
- Asymmetric Encryption Algorithms
- Digital Certificates
- TLS Using mod_ssl.so
 - LAB TASKS
- Configuring Virtual Hosts
- Using TLS Certificates with Apache
- Using TLS Certificates with Apache
- Create a TLS CA key pair
- Using SSL CA Certificates with Apache
- Enable Apache SSL Client Certificate Authentication

5. NGINX, SQUID, AND DHCP

- Nginx
- Squid Overview
- Squid File Layout
- Squid Access Control Lists
- Applying Squid ACLs
- Monitoring Squid
- DHCP Protocol Operation
- IP to MAC Address Mapping with ARP
- Configuring a DHCP server
 - LAB TASKS
- Nginx Web Basics
- HTTPS and Reverse Proxy with Nginx
- Installing and Configuring Squid
- Squid Cache Manager CGI

6. SAMBA Server Configuration

- Introducing Samba
- Samba Daemons
- Accessing Windows/Samba Shares from Linux
- Samba Utilities
- Samba Configuration Files
- The smb.conf File
- Share Authentication
- Share-Level Access
- User-Level Access
- Mapping Users
- Samba Account Database
- User Share Restrictions
 - LAB TASKS
- Samba Share-Level Access

7. NFS Server Configuration & Securing Ftp Servers

- File Sharing via NFS
- NFSv4+
- NFS Clients
- TCP Wrappers
- The /etc/hosts.allow & /etc/hosts.deny Files
- /etc/hosts.{allow,deny} Shortcuts
- Advanced TCP Wrappers
- NFS Server Configuration
- The FTP Protocol
- Active Mode FTP
- Passive Mode FTP
- vsftpd
- Configuring vsftpd
- Anonymous FTP with vsftpd
- Pure-FTPd
- ProFTPD
 - LAB TASKS
- NFS Server Configuration
- Configuring vsftpd

8. Pam Authentication

- PAM Overview
- PAM Module Types
- PAM Order of Processing
- PAM Control Statements
- PAM Modules
- pam_unix
- pam_limits.so
- pam_cracklib.so
- pam_listfile.so
- pam_tally2.so
- pam_console.so
 - LAB TASKS
- Setting Limits with the pam_limits Modules
- Using pam_limits to Restrict Simultaneous Logins

9. Configuring An Openldap Server And Client

- LDAP
- What LDAP Provides
- LDAP Concepts
- LDAP Organization
- Entry Referencing
- Online LDAP Data Manipulation
- Querying LDAP Databases
- OpenLDAP: Server Architecture
- OpenLDAP: Backends
- OpenLDAP: Replication
- OpenLDAP: Configuration Options
- OpenLDAP: Configuration Sections
- OpenLDAP: Global Parameters
- OpenLDAP: Database Parameters
- OpenLDAP Server Tools
- Enabling LDAP-based Login
- System Security Services Daemon (SSSD)
 - LAB TASKS
- Querying LDAP
- Building An OpenLDAP Server
- Enabling TLS For An OpenLDAP Server
- Enabling LDAP-based Logins

10. Using E-Mail Servers

- SMTP
- SMTP Terminology
- SMTP Architecture
- SMTP Commands
- SMTP Session
- Sendmail Architecture
- Sendmail Configuration
- Sendmail Remote Configuration
- Controlling Access
- Sending Email with sendmail
- Exim
- Postfix Features
- Postfix Architecture

- Postfix Components
- Postfix Configuration
- master.cf
- main.cf
- Virtual Domains
- Configuration Commands
- Postfix Logging
- Advanced Postfix Options
 - LAB TASKS
- Configuring Sendmail
- Configuring Postfix
- Postfix Virtual Host Configuration
- Postfix Network Configuration
- Postfix SMTP AUTH Configuration
- Postfix STARTTLS Configuration
- SUSE Postfix Configuration Cleanup

11. Managing Local And Remote E-Mail Delivery

- Filtering Email
- Procmail
- SpamAssassin
- Accessing Email
- The IMAP4 Protocol
- Courier IMAP
- Dovecot POP3/IMAP Server
 - LAB TASKS
- Configuring Procmail & SpamAssassin
- Dovecot Setup
- Configuring A Router And Security Tasks
- LPI Objectives Covered
- IPv4 Fundamentals
- TCP/UDP Fundamentals
- Security Advisories
- Discovering Hosts
- nmap
- Netcat
- Nessus/OpenVAS Insecurity Scanner
- Configuring OpenVAS
- Intrusion Detection Systems
- Snort Rules
- Writing Snort Rules
- Linux as a Router
- Configuring Routing Tables
- SUSE Basic Firewall Configuration
- Using the iptables Command
- Netfilter Rule Syntax
- Netfilter Concepts
- Targets
- Common match_specs
- Netfilter: Stateful Packet Filter Firewall
- Connection Tracking
- Address Translation
- Configuring NAT and PAT
 - LAB TASKS
- NMAP
- OpenVAS

- Securing Services with SuSEfirewall2
- Securing Services with Netfilter

12. OPENSSSH & OPENVPN

- Secure Shell
- OpenSSH Client & Server Configuration
- Accessing Remote Shells
- SSH Port Forwarding
- Transferring Files
- SSH Key Management
- ssh-agent
- OpenVPN
 - LAB TASKS
- Introduction to ssh and scp
- SSH Key-based User Authentication
- Using ssh-agent
- OpenVPN