LPIC-2 Exam 202

Course Objective: LPIC-2 is the second certification in the multi-level professional certification program. This is the second part of the two-set course LPIC-2. This course will help you advanced management of block storage and file systems as well as advanced networking and authentication and system security, including firewall and VPN, install and configure fundamental network services, including DHCP, DNS, SSH, Web servers, file servers using FTP, NFS and Samba, email delivery; and supervise assistants and advise management on automation and purchases.

Duration: 3 Days

Topic 207: Domain Name Server

207.1 Basic DNS server configuration

- BIND 9.x configuration files, terms and utilities
- Defining the location of the BIND zone files in BIND configuration files
- Reloading modified configuration and zone files
- Awareness of dnsmasq, djbdns and PowerDNS as alternate name servers

207.2 Create and maintain DNS zones

- BIND 9 configuration files, terms and utilities
- Utilities to request information from the DNS server
- Layout, content and file location of the BIND zone files
- Various methods to add a new host in the zone files, including reverse zones

207.3 Securing a DNS server

- BIND 9 configuration files
- Configuring BIND to run in a chroot jail
- Split configuration of BIND using the forwarders statement
- Configuring and using transaction signatures (TSIG)
- Awareness of DNSSEC and basic tools
- Awareness of DANE and related records

Topic 208: HTTP Services

208.1 Basic Apache configuration

- Apache 2.4 configuration files, terms and utilities
- Apache log files configuration and content
- Access restriction methods and files
- mod_perl and PHP configuration
- Client user authentication files and utilities
- Configuration of maximum requests, minimum and maximum servers and clients
- Apache 2.4 virtual host implementation (with and without dedicated IP addresses)
- Using redirect statements in Apache's configuration files to customise file access

208.2 Apache configuration for HTTPS

- SSL configuration files, tools and utilities
- Generate a server private key and CSR for a commercial CA
- Generate a self-signed Certificate
- Install the key and certificate, including intermediate CAs
- Configure Virtual Hosting using SNI
- Awareness of the issues with Virtual Hosting and use of SSL
- Security issues in SSL use, disable insecure protocols and ciphers

208.3 Implementing Squid as a caching proxy

- Squid 3.x configuration files, terms and utilities
- Access restriction methods
- Client user authentication methods
- Layout and content of ACL in the Squid configuration files

208.4 Implementing Nginx as a web server and a reverse proxy

- Nginx
- Reverse Proxy
- Basic Web Server

Topic 209: File Sharing

209.1 Samba Server Configuration

- Samba 4 documentation
- Samba 4 configuration files
- Samba 4 tools and utilities and daemons
- Mounting CIFS shares on Linux
- Mapping Windows user names to Linux user names
- User-Level, Share-Level and AD security

209.2 NFS Server Configuration

- NFS version 3 configuration files
- NFS tools and utilities
- Access restrictions to certain hosts and/or subnets
- Mount options on server and client
- TCP Wrappers
- Awareness of NFSv4

Topic 210: Network Client Management

210.1 DHCP configuration

- DHCP configuration files, terms and utilities
- Subnet and dynamically-allocated range setup
- Awareness of DHCPv6 and IPv6 Router Advertisements

210.2 PAM authentication

- PAM configuration files, terms and utilities
- passwd and shadow passwords
- Use sssd for LDAP authentication

210.3 LDAP client usage

- LDAP utilities for data management and queries
- Change user passwords
- Querying the LDAP directory

210.4 Configuring an OpenLDAP server

- OpenLDAP
- Directory based configuration
- Access Control
- Distinguished Names
- Changetype Operations
- Schemas and Whitepages
- Directories
- Object IDs, Attributes and Classes

Topic 211: E-Mail Services

211.1 Using e-mail servers

- Configuration files for postfix
- Basic TLS configuration for postfix
- Basic knowledge of the SMTP protocol
- Awareness of sendmail and exim

211.2 Managing E-Mail Delivery (weight: 2)

- Understanding of Sieve functionality, syntax and operators
- Use Sieve to filter and sort mail with respect to sender, recipient(s), headers and size
- Awareness of procmail

211.3 Managing Mailbox Access

- Dovecot IMAP and POP3 configuration and administration
- Basic TLS configuration for Dovecot
- Awareness of Courier

Topic 212: System Security

212.1 Configuring a router

- iptables and ip6tables configuration files, tools and utilities
- Tools, commands and utilities to manage routing tables.
- Private address ranges (IPv4) and Unique Local Addresses as well as Link Local Addresses (IPv6)

- Port redirection and IP forwarding
- List and write filtering and rules that accept or block IP packets based on source or destination protocol, port and address
- Save and reload filtering configurations

212.2 Managing FTP servers

- Configuration files, tools and utilities for Pure-FTPd and vsftpd
- Awareness of ProFTPd
- Understanding of passive vs. active FTP connections

212.3 Secure shell (SSH)

- OpenSSH configuration files, tools and utilities
- Login restrictions for the superuser and the normal users
- Managing and using server and client keys to login with and without password
- Usage of multiple connections from multiple hosts to guard against loss of connection to remote host following configuration changes

212.4 Security tasks

- Tools and utilities to scan and test ports on a server
- Locations and organisations that report security alerts as Bugtraq, CERT or other sources
- Tools and utilities to implement an intrusion detection system (IDS)
- Awareness of OpenVAS and Snort

212.5 OpenVPN

- OpenVPN