Open Source Software Certification

Certification Domain Details

1. Linux installation – Hardware

1.1 Configuring devices

Maps to LPI

LPI 1.101.3 Configure Modem and Sound cards

LPI 1.101.4 Setup non-IDE Devices

LPI 1.101.6 Configure Communication Devices

Description

Candidates is able to configure the serial port, sound card and fundamental devices.

Key Knowledge Areas

Know about Win-modems, modem tools, sound systems, SCSI devices and serial devices. Be able to detect devices. Know about IRQ, DMA and I/O ports. Know about the /proc, lspci, lsusb. Able to identify detected network card.

1.2 Plugable devices

Maps to LPI

LPI 1.101.5 Setup different PC expansion cards

LPI 1.101.7 Configure USB devices

Description

Candidates are able to activate USB support and plugable devices.

Key Knowledge Areas

Know about hotplug devices, hotplug configuration. Identify and load the correct USB

driver module.

2. Linux installation – Design

2.1 Hard disk layout

Maps to LPI

LPI 1.102.1 Design hard disk layout

LPI 1.102.2 Install a boot manager

Description

Candidates are able to design a disk partition scheme for a Linux system.

Key Knowledge Areas

Know about file systems and swap space. The /boot partition that conforms to the BIOS requirements.

2.2 Using boot manager

Maps to LPI

LPI 1.102.2 Install a boot manager

Description

Candidates are able to install and configure a boot manager

Key Knowledge Areas

Know standard boot loaders, boot devices and Master Boot Record. Configure GRUB or LILO.

2.3 Runlevel

Description

Candidates are able to configure and use runlevels

Key Knowledge Areas

Know how to view and change existing runlevels. Able to identify services to run for

selected runlevels.

3. Linux Software Packaging

3.1 Manage shared libraries

Maps to LPI

1.102.4 Manage shared libraries

Description

Candidates are able to determine the shared libraries that executable programs depend on and install them when necessary.

Key Knowledge Area

Know how to identify shared libraries and load shared libraries. Identify the location of system libraries.

3.2 Install programs from source

Maps to LPI

1.102.3 Make and install programs from source

Description

Candidates are able to unpack and install executable programs from source.

Key Knowledge Areas

Know how to unpack source files and compile. Editing the Makefile, configure the source, compile and install executable programs. Compile a RPM package from source.

3.3 Use Debian package management

Maps to LPI

1.102.5 Use Debian package management

Description

Candidates are be able to use the Debian package tools.

Key Knowledge Areas

Know how to install, upgrade and uninstall Debian binary packages. Obtain package information of installed packages or the binary package.

3.4 Use Red Hat Package Manager (RPM)

Maps to LPI

1.102.6 Use Red Hat Package Manager (RPM)

Description

Candidates are be able to use the RPM package tools.

Key Knowledge Areas

Know how to install, upgrade and uninstall RPM binary packages. Obtain package information of installed packages or the binary package.

4. GNU Linux & Unix Commands

4.1 Work on the command line

Maps to LPI

1.103.1 Work on the command line

1.103.2 Process text streams using filters

1.103.4 Use streams, pipes and redirects

Description

Candidates are able to interact with bash shell and commands using the command line.

Key Knowledge Areas

Know how to use the command line interface to perform basic task. Send text output streams through text utility filters.

4.2 Basic file management

Maps to LPI

1.103.3 Perform basic file management

Description

Candidates are able to use basic Linux commands to manage files and directories.

Key Knowledge Areas

know how to copy, move, remove files and directories.

4.3 Process management

Maps to LPI

1.103.5 Create, monitor and kill processes

1.103.6 Modify process execution priorities

Description

Candidates are able to perform basic process management

Key Knowledge Areas

know how to manage jobs in foreground and background. Monitor processes and send signals to process. Change priority of a program or a running process.

4.4 Search text files using regular expressions

Maps to LPI

1.103.7 Search text files using regular expressions

Description

Candidates are able to use regular expressions to manipulate or searct text files.

Key Knowledge Areas

know how to use regular expressions with grep. Able to use sed to manipulate files.

4.5 Use the vi editor

Maps to LPI

1.103.8 Perform basic file editing operations using vi

Description

Candidates are able to edit with the vi editor.

Key Knowledge Area

Know how to navigate with and use the modes (command, insert and last line).

5. Filesystems

5.1 Create partitions and filesystems

Maps to LPI

1.104.1 Create partitions and filesystems

1.104.2 Maintain the integrity of filesystems

Description

Candidates are able to configure disk partitions and then create filesystems on media such as hard disks. This includes the handling of swap partitions.

Key Knowledge Areas

Use various *mkfs* commands to set up partitions and create various filesystems, including *ext2*, *ext3*, *reiserfs*, *vfat* and *xfs*. Verify the integrity of filesystems. Monitor free space and inodes. Repair simple filesystem problems.

5.2 Mounting and Unmounting Filesystems

Maps to LPI

1.104.3 Control mounting and unmounting filesystems

Description

Candidates are able to configure the mounting of a filesystem.

Key Knowledge Areas

Manually mount and unmount filesystems.

Configure filesystem mounting on bootup.

Configure user mountable removeable filesystems such as tape drives, floppies and CDROMs.

5.3 Disk quota

Maps to LPI

1.104.4 Managing disk quota

Description

Candidates are able to manage disk quota for users

Key Knowledge Areas

Know how to setup disk quota for a filesystem.

5.4 File permissions to control access to files

Maps to LPI

1.104.5 Use file permissions to control access to files

Description

Candidates are able to control file access through the proper use of permissions.

Key Knowledge Areas

Manage access permissions on regular and special files as well as directories.

Use access modes such as *suid*, *sgid* and the *sticky bit* to maintain security.

Use the group field to grant file access to workgroups.

Basic knowledge of ACL.

Know how to change the default file creation mode of the shell.

5.5 Manage file ownership

Maps to LPI

1.104.6 Manage file ownership

Description

Candidates are able to edit user and group ownership of files and directories.

Key Knowledge Areas

Know how to manage access permissions on files and directories.

5.6 Create and change hard and symbolic links

Maps to LPI

1.104.7 Create and change hard and symbolic links

Description

Candidates are able to create and manage hard and symbolic links to a file.

Key Knowledge Areas

Know how to create links and identify hard and symbolic links.

5.7 Find system files and place files in the correct location

Maps to LPI

1.104.8 Find system files and place files in the correct location

Description

Candidates are able to search, identify file location and directory and familiar with the Hilesystem Hiearchy Standard (FHS).

Key Knowledge Areas

Know how to use the tools to search for files and directories. Know the important files and directories as defined in FHS.

6. X Window System

6.1 Install & Configure X11

Maps to LPI

1.110.1 Install & Configure X11

Description

Candidates are able to install and configure X server

Key Knowledge Areas

Know how to configure the video card, monitor and font server.

6.2 Setup a display manager

Maps to LPI

1.110.2 Setup a display manager

Description

Candidates are able to setup and customize a display manager.

Key Knowledge Areas

Know how to enable the display manager, configure XDM and GDM.

6.3 Install & Customize a Window Manager Environment

Maps to LPI

1.110.4 Install & Customize a Window Manager Environment

Description

Candidates are able to customize a system-wide desktop environment and/or window manager.

Key Knowledge Areas

Know how to customise window manager menus and the x-terminal. Able to export the X display.