

# Linux Essentials

Linux Essentials is a professional development certificate program that covers basic knowledge for those working and studying Open Source and various distributions of Linux.

**Exam Objectives Version:** Version 1.5 (last updated: May 2015)

**Exam Covered:** Linux Essentials (LPI-010); Exam 1 of 1 to obtain Linux Essentials Professional Development Certificate

**Objectives Reflected in Published Exam:** May 2015

**Required Prerequisite:** None

## Linux Essentials Objectives Topics:

- 1 – The Linux community and a career in open source
- 2 – Finding your way on a Linux system
- 3 – The power of the command line
- 4 – The Linux operating system
- 5 – Security and file permissions

## Topic 1: The Linux Community and a Career in Open Source

### 1.1 Linux Evolution and Popular Operating Systems

**Description:** Knowledge of Linux development and major distributions.

**Key Knowledge Areas:**

- Open Source Philosophy
- Distributions
- Embedded Systems

### 1.2 Major Open Source Applications

**Description:** Awareness of major applications as well as their uses and development.

**Key Knowledge Areas:**

- Desktop Applications
- Server Applications
- Development Languages
- Package Management Tools and repositories

## **1.3 Understanding Open Source Software and Licensing**

**Description:** Open communities and licensing Open Source Software for business.

**Key Knowledge Areas:**

- Licensing
- Free Software Foundation (FSF), Open Source Initiative (OSI)

## **1.4 ICT Skills and Working in Linux**

**Description:** Basic Information and Communication Technology (ICT) skills and working in Linux.

**Key Knowledge Areas:**

- Desktop Skills
- Getting to the Command Line
- Industry uses of Linux, Cloud Computing and Virtualization

# **Topic 2: Finding Your Way on a Linux System**

## **2.1 Command Line Basics**

**Description:** Basics of using the Linux command line.

**Key Knowledge Areas:**

- Basic shell
- Command line syntax
- Variables
- Globbing
- Quoting

## **2.2 Using the Command Line to Get Help**

**Description:** Running help commands and navigation of the various help systems.

**Key Knowledge Areas:**

- Man
- Info

## 2.3 Using Directories and Listing Files

**Description:** Navigation of home and system directories and listing files in various locations.

**Key Knowledge Areas:**

- Files, directories
- Hidden files and directories
- Home
- Absolute and relative paths

## 2.4 Creating, Moving and Deleting Files

**Description:** Create, move and delete files and directories under the home directory.

**Key Knowledge Areas:**

- Files and directories
- Case sensitivity
- Simple globbing and quoting

# Topic 3: The Power of the Command Line

## 3.1 Archiving Files on the Command Line

**Description:** Archiving files in the user home directory.

**Key Knowledge Areas:**

- Files, directories
- Archives, compression

## 3.2 Searching and Extracting Data from Files

**Description:** Search and extract data from files in the home directory.

**Key Knowledge Areas:**

- Command line pipes
- I/O re-direction
- Basic Regular Expressions ., [ ], \*, ?

### **3.3 Turning Commands into a Script**

**Description:** Turning repetitive commands into simple scripts.

**Key Knowledge Areas:**

- Basic shell scripting
- Awareness of common text editors

## **Topic 4: The Linux Operating System**

### **4.1 Choosing an Operating System**

**Description:** Knowledge of major operating systems and Linux distributions.

**Key Knowledge Areas:**

- Windows, Mac, Linux differences
- Distribution life cycle management

### **4.2 Understanding Computer Hardware**

**Description:** Familiarity with the components that go into building desktop and server computers.

**Key Knowledge Areas:**

- Hardware

### **4.3 Where Data is Stored**

**Description:** Where various types of information are stored on a Linux system.

**Key Knowledge Areas:**

- Programs and configuration, packages and package databases
- Processes, memory addresses, system messaging and logging

### **4.4 Your Computer on the Network**

**Description:** Querying vital networking configuration and determining the basic requirements for a computer on a Local Area Network (LAN).

**Key Knowledge Areas:**

- Internet, network, routers
- Querying DNS client configuration
- Querying Network configuration

## **Topic 5: Security and File Permissions**

### **5.1 Basic Security and Identifying User Types**

**Description:** Various types of users on a Linux system.

**Key Knowledge Areas:**

- Root and Standard Users
- System users

### **5.2 Creating Users and Groups**

**Description:** Creating users and groups on a Linux system.

**Key Knowledge Areas:**

- User and group commands
- User IDs

### **5.3 Managing File Permissions and Ownership**

**Description:** Understanding and manipulating file permissions and ownership settings.

**Key Knowledge Areas:**

- File/directory permissions and owners

### **5.4 Special Directories and Files**

**Description:** Special directories and files on a Linux system including special permissions.

**Key Knowledge Areas:**

- Using temporary files and directories
- Symbolic links