uCertify

Course Outline

CompTIA Linux (XK0-005)

21 May 2024

1. Pre-Assessment

2. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions

3. Expert Instructor-Led Training

4. ADA Compliant & JAWS Compatible Platform

5. State of the Art Educator Tools

6. Award Winning Learning Platform (LMS)

7. Chapter & Lessons

   Syllabus

   Chapter 1: Introduction

   Chapter 2: Understanding Linux Fundamentals

   Chapter 3: Managing Files and Directories

   Chapter 4: Configuring and Managing Storage

   Chapter 5: Managing Processes and Services

   Chapter 6: Using Network Tools and Configuration Files

   Chapter 7: Building and Installing Software

   Chapter 8: Managing Software Configurations

   Chapter 9: Understanding Linux Security Best Practices

   Chapter 10: Implementing Identity Management

   Chapter 11: Implementing and Configuring Firewalls

   Chapter 12: Using Remote Connectivity for System Management

   Chapter 13: Understanding and Applying Access Controls

   Chapter 14: Automating Tasks via Shell Scripting

   Chapter 15: Perform Basic Container Operations

   Chapter 16: Performing Basic Version Control Using Git

   Chapter 17: Understanding Infrastructure as Code

   Chapter 18: Understanding Containers, Cloud, and Orchestration

   Chapter 19: Analyzing and Troubleshooting Storage Issues

1. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

2. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

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EXERCISES

3. ⏱️❓ Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

238
QUIZ
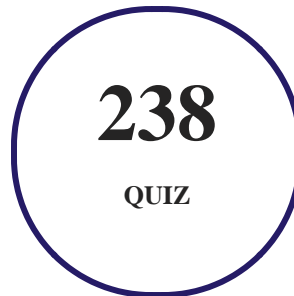
4. ⚡ flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

230
FLASHCARDS
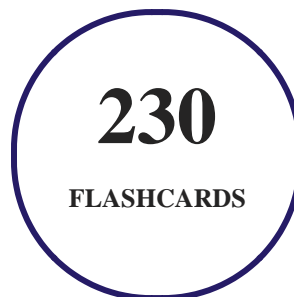
5. 📖 Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

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GLOSSARY OF TERMS

6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution
    2. Best Virtual Learning Solution
    3. Best Student Assessment Solution
    4. Best Postsecondary Learning Solution
    5. Best Career and Workforce Readiness Solution
    6. Best Instructional Solution in Other Curriculum Areas
    7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution

6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**
  1. Best Overall Education Solution
  2. Best Student Assessment Solution
  3. Best Corporate/Workforce Learning Solution
  4. Best Higher Education LMS or Learning Platform

- **2018**
  1. Best Higher Education LMS or Learning Platform
  2. Best Instructional Solution in Other Curriculum Areas
  3. Best Learning Relationship Management Solution

- **2019**
  1. Best Virtual Learning Solution
  2. Best Content Authoring Development or Curation Solution
  3. Best Higher Education Learning Management Solution (LMS)

- **2020**
  1. Best College and Career Readiness Solution
  2. Best Cross-Curricular Solution
  3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- Goals and Methods

- The Linux+ Domains and Objectives

- How This Course Maps to the Exam Objectives

- Course Features

- What's New?

- Who Should Read This Course?

- Strategies for Exam Preparation

- Pearson Test Prep Practice Test Software

Chapter 2: Understanding Linux Fundamentals

- Filesystem Hierarchy Standard

- Basic Boot Process

- Boot Loaders and Files

- When Kernels Panic

- Device Types in /dev

Chapter 4: Configuring and Managing Storage

- Foundation Topics

- Determining Storage Hardware

- Performing Disk Partitioning

- Inspecting and Managing Software RAID

- Using Logical Volume Manager (LVM)

- Mounting Local and Remote Devices

- Monitoring Storage Space and Disk Usage

- Filesystem Management

- Storage Area Networks/Network-Attached Storage

- Summary

- Review All Key Topics

Chapter 5: Managing Processes and Services

- Foundation Topics

- Managing Processes

- systemd

- Scheduling Services

Chapter 8: Managing Software Configurations

- Updating Configuration Files

- Configuring Kernel Options

- Configuring Common System Services

- Representing Locales

- Summary

- Review All Key Topics

Chapter 9: Understanding Linux Security Best Practices

- Public Key Infrastructure

- Certificate Use Cases

- Authentication

- Linux Hardening

- Summary

- Review All Key Topics

Chapter 10: Implementing Identity Management

- Account Creation and Deletion

- Review All Key Topics

Chapter 15: Perform Basic Container Operations

- Container Management

- Container Image Operations

- Summary

- Review All Key Topics

Chapter 16: Performing Basic Version Control Using Git

- Version Control Concepts

- Using Git for Version Control

- Summary

- Review All Key Topics

Chapter 17: Understanding Infrastructure as Code

- File Formats

- Infrastructure as Code Concepts

- Continuous Integration/Continuous Deployment

- Advanced Git Topics

- Summary

- Review All Key Topics

Chapter 18: Understanding Containers, Cloud, and Orchestration

- Kubernetes Benefits and Application Use Cases

- Single-Node Multicontainer Use Cases

- Container Persistent Storage

- Container Networks

- Service Mesh

- Bootstrapping

- Container Registries

- Summary

- Review All Key Topics

Chapter 19: Analyzing and Troubleshooting Storage Issues

- High Latency Issues

- Low Throughput Issues

- Input/Output Operations per Second Scenarios

- Capacity Issues

11. ◎ Practice Test

Here's what you get

90	2	90
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

12. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Understanding Linux Fundamentals

- Booting Linux into Single-User Mode

- Updating Ubuntu
- Managing GRUB2 Parameters

Managing Files and Directories

- Finding a File
- Exploring the Contents of the Anaconda File
- Using Basic Linux Commands
- Using the tar Command for Backups

Configuring and Managing Storage

- Creating Partitions and Filesystems
- Creating a Physical Volume, Volume Group, Logical Volume, and File System
- Viewing Disk Usage

Managing Processes and Services

- Displaying Process Information
- Viewing Processes
- Using the Foreground Mode
- Managing a Process
- Finding the System Initialization Method
- Managing Services with systemctl

Using Network Tools and Configuration Files

- Capturing Network Packets Using tcpdump

Building and Installing Software

- Using Red Hat Package Management Tools
- Exploring Basic RPM Commands

Managing Software Configurations

- Managing Kernel Modules

- Using the timedatectl Command to Set the System Time

Understanding Linux Security Best Practices

- Exploring PAM
- Changing Permissions on a File

Implementing Identity Management

- Managing Users and Groups
- Querying about Users
- Using usermod to Lock an Account
- Reviewing Account Settings

Implementing and Configuring Firewalls

- Using the firewalld Service

Using Remote Connectivity for System Management

- Configuring an SSH Server
- Configuring a Proxy Server

Understanding and Applying Access Controls

- Assigning Additional ACLs to a File
- Exploring SELinux

Automating Tasks via Shell Scripting

- Running Scripts in Background Mode
- Creating a Simple Script File
- Creating an Advanced Script
- Processing a Text File

Perform Basic Container Operations

- Installing and Verifying the Container Tools

Performing Basic Version Control Using Git

- Using Git

Understanding Infrastructure as Code

- Managing the NGINX Server

Analyzing and Troubleshooting Storage Issues

- Diagnosing High Latency Issues with the vmstat Command

Analyzing and Troubleshooting Network Resource Issues

- Performing Basic Network Troubleshooting

Analyzing and Troubleshooting CPU and Memory Issues

- Analyzing CPU Utilization

Analyzing and Troubleshooting User and File Permissions

- Inspecting Account Details
- Viewing the System Logs

Analyzing and Troubleshooting Common Problems Using Systemd

- Enabling Core Dumps on a systemd-based System
- Managing the Stopped Processes

Here's what you get

46	**46**	**51**
LIVE LABS	VIDEO TUTORIALS	MINUTES

13. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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