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Videos and How To

9. Practice Test
   - Here's what you get
   - Features

10. Performance Based Labs
    - Lab Tasks
    - Here's what you get

11. Post-Assessment
1. **Course Objective**

Gain hands-on expertise for CompTIA A+ 220-1001 and 220-1002 certification exams with Complete A+ Guide to IT Hardware and Software course and lab. Lab simulates real-world, hardware, software and command line interface environments and can be mapped to any text-book, course or training. The course and lab cover CompTIA A+ certification exam objectives and provide skills to work with mobile devices, networking technology, hardware, installing and configuring operating systems, expanded security, software troubleshooting, and more.

2. **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.

3. **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.

4. **Quizzes**
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.

5. 📚 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.

6. 📚 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.
7. 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.

8. 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.

9. 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 assignments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

10. 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 5 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

11. **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

- What's New in the Eighth Edition?
- Organization of the Text
- Features of This Course
- CompTIA A+ Exam Objectives

Chapter 2: Introduction to the World of IT

- Who Needs This Course?
- Technician Qualities
• Breaking into IT with the CompTIA A+ Certification

• Basic Skills for This Course

• Types of Computers

• Basic Computer Hardware

• Mice and Keyboards

• Common Peripherals

• 1s and 0s

• Safety Notes

• Lesson Summary

• Activities

Chapter 3: Connectivity

• Introduction to Connectivity

• External Connectivity

• Mouse and Keyboard Ports

• Video Ports

• Multipurpose Ports

• Audio Ports
Chapter 4: On the Motherboard

- Introduction to the Motherboard
- Processor Overview
- Processor Basics
- Speeding Up Processor Operations Overview
- Cache
- Clocking
• Threading Technology

• Connecting to the Processor

• Multicore Processors

• Graphics Processing Unit (GPU)

• Introduction to Virtualization

• Intel Processors

• AMD Processors

• CPU Sockets

• Processor Cooling

• Installing a Processor

• Upgrading Processors

• Overclocking Processors

• Installing CPU Thermal Solutions

• Expansion Slots

• PCI (Peripheral Component Interconnect)

• AGP (Accelerated Graphics Port)

• PCIe (Peripheral Component Interconnect Express)

• Chipsets
Chapter 5: Introduction to Configuration

- Configuration Overview
- BIOS Overview
- The Setup Program
- Flash BIOS
- BIOS/UEFI Configuration Settings
- CMOS Memory
- Motherboard Battery
- Firmware Updates: Flashing the BIOS/UEFI
- Clearing CMOS
- Other Configuration Parameters
Hardware Configuration Overview

Installing a USB Device

Installing an eSATA Card

Installing a Network Interface Card

Video Overview

Video Cards

Troubleshooting Configurations

Soft Skills: A Good Technician Practice: Changing Only One Thing At A Time

Lesson Summary

Activities

Chapter 6: Disassembly and Power

Disassembly Overview

Electrostatic Discharge (ESD)

Electromagnetic Interference (EMI)

Tools

Disassembly

Reassembly
• Preventive Maintenance

• Basic Electronics Overview

• Power Supply Overview

• Replacing or Upgrading a Power Supply

• Power Protection

• Symptoms of Power Supply Problems

• Soft Skills: Written Communications Skills

• Lesson Summary

• Activities

Chapter 7: Memory

• Memory Overview

• Memory Physical Packaging

• Planning a Memory Installation

• Installing Memory Overview

• Adding More Cache/RAM

• Windows Disk Caching

• Monitoring Memory Usage in Windows
Chapter 8: Storage Devices

- Storage Devices Overview
- Hard Drive Overview
- Solid State Drive (SSD) Overview
- Hard Drive Interfaces Overview
- M.2 and NVMe
- PATA, SATA, and SAS Connectivity
- Storage Device Configuration Overview
- System BIOS/UEFI Configuration for Hard Drives
- Hard Drive Preparation Overview
- Windows Disk Management
Chapter 9: Multimedia Devices

- Multimedia Devices Overview
- Optical Drive Overview
- Optical Drive Installation
- Troubleshooting Optical Drive Issues
• Introduction to Audio

• Installing Sound Cards

• Sound Cards Using Windows

• Speakers

• Troubleshooting Sound Problems

• Scanners

• KVMs

• Projectors

• Video Recording

• Installing and Configuring Other Peripheral Devices

• Soft Skills: Attitude

• Lesson Summary

• Activities

Chapter 10: Printers

• Printers Overview

• Printer Ports

• Categories of Printers
• Impact Printers

• Inkjet Printers

• Laser Printers

• Thermal Printers

• 3D Printers

• Paper

• Virtual Printing

• Refilling Cartridges, Re-inking Ribbons, and Recycling Cartridges

• Upgrading Printers

• Printer Maintenance

• USB Printer Installation

• Installing a Local Printer

• Printers in the Windows Environment

• Printers in the macOS Environment

• Printing Device Sharing

• Cloud Printing

• General Printer Troubleshooting
Chapter 11: Mobile Devices

- Mobile Device Overview
- Using Mobile Devices
- Cell Phones
- Mobile Apps
- Mobile Device Wired Connectivity
- Mobile Device Wireless Connectivity
- Mobile Device Email Configuration
- Mobile Device Synchronization and Backup
• Other Mobile Software Tools

• Laptops Overview

• Laptop Hardware

• Laptop Power

• Laptop Repairs Overview

• Laptop Display

• Mobile Device Security

• Mobile Device Travel and Storage

• Mobile Device Troubleshooting Overview

• Soft Skills: A Word About Appearance

• Lesson Summary

• Activities

Chapter 12: Computer Design and Troubleshooting Review

• Design Overview

• Computer System Design

• Motherboard and Associated Component Design

• Power Supply and Case Design
Storage Subsystem Design

Audio Subsystem Design

Display Subsystem Design

Troubleshooting Overview

Step 1. Identify the Problem

Step 2. Establish a Theory of Probable Cause (Question the Obvious)

Step 3. Test the Theory to Determine the Cause

Step 4. Establish a Plan of Action to Resolve the Problem and Implement the Solution

Step 5. Verify Full System Functionality and, if Applicable, Implement Preventive Measures

Step 6. Document Findings, Actions, and Outcomes

Sample Troubleshooting Flowcharts

Soft Skills: Dealing With Irate Customers

Lesson Summary

Activities

Chapter 13: Internet Connectivity, Virtualization, and Cloud Technologies

Internet Connectivity Overview

Dial-up Overview
Chapter 14: Networking

- Serial Communication Overview
- Configuring Traditional Serial Devices
- 56 kbps Modems
- Digital Modems and ISDN
- VoIP
- Cable Modems
- xDSL Modems
- Satellite Modems
- Modem Preventive Maintenance
- Mobile Connectivity Overview
- Virtualization Basics
- Cloud Computing
- Web Browsers
- Basic Web Browser Issues
- Soft Skills: Mentoring
- Lesson Summary
- Activities
- Networking Overview

- Attaching to Different Types of Networks

- Network Topologies

- Network Media Overview

- Copper Media

- Protecting Your Network and Cable Investment

- Ethernet Concepts

- Ethernet over Power

- The OSI Model

- The TCP/IP Model

- Network Addressing

- More IPv4 Addressing

- Wireless Networks Overview

- Wireless Network Standards

- Bluetooth

- Wireless Network Components

- Wireless Network Design
- Antenna Basics
- End-User Device Configuration Overview
- Adding a Computer to a Windows Domain
- Configuring an End-User Device: Addressing
- Wireless NIC-Specific Settings
- Advanced NIC Properties
- NIC Configuration When Using Virtualization
- Thin or Thick Client Installation Overview
- Wireless AP/Router Basic Configuration
- WWAN Cellular Configuration
- IoT and Smart Devices
- Network Troubleshooting
- Troubleshooting Cable and DSL Modems
- Network Printers
- Network Printer Troubleshooting
- Network Servers
- Embedded and Legacy Systems
• Network Terminology

• The TCP/IP Model in Action

• Using the Network and Sharing Center Section of the Control Panel

• Introduction to Shared Folders

• Network Connectivity

• Soft Skills: Being Proactive

• Lesson Summary

• Activities

Chapter 15: Introduction to Operating Systems

• Operating Systems Overview

• User Interaction with Operating Systems

• Overview of Popular Operating Systems

• 32-bit vs. 64-bit Operating Systems

• Windows 7/8/8.1/10 Versions

• Workstation Operating Systems

• Operating Systems for Mobile Devices

• End-of-Life Concerns
- Update Concerns

- Compatibility Concerns

- Corporate Operating System Needs

- Basic Windows Usage Overview

- Shortcuts and Tiles

- Windows 7 Desktop Components

- Windows Desktop/Start Screen Components

- Windows 10 Desktop Components

- Interactions Within a Window

- Managing Windows Files and Folders

- Searches and Indexing

- Attributes, Compression, and Encryption

- Introduction to Windows Control Panel Utilities

- Determining the Windows Version

- Windows Registry

- Editing the Windows Registry

- Backing Up Data

- Recovering the Windows OS
Chapter 16: Introduction to Scripting

- Scripting Overview
- Command Prompt Overview
- Command Prompt Basics
- Moving Around from a Command Prompt
- The md and rd Commands
- Two Useful Commands: del and type
- Copying Files
- The attrib Command
- Why Learn Commands?
- PowerShell
- Other Commands You Should Look Over
- Command Format
• Introduction to Scripting

• Script File Types

• Environment Variables

• Script Syntax

• Introduction to Script Programming

• Variables

• Data Types

• Examples of Using Variables

• Comments

• Basic Script Constructs

• Decisions: The Selection Structure

• Compound Conditions and Logical Operators

• Loops: The Repetition Structure

• A Brief Look at VBScript and PowerShell

• Soft Skills: Changing Perspective When Troubleshooting

• Lesson Summary

• Activities
Chapter 17: Advanced Windows

- Advanced Windows Overview
- Preinstallation of Windows
- Installation/Upgrade of Windows
- Corporate Windows Deployment
- Verifying the Installation
- Troubleshooting a Windows Installation
- Reloading Windows
- Windows Updates
- Backing Up the Windows Registry and Data
- Configuring Windows Overview
- Configuring Windows
- Adding Devices
- Installing/Removing Software
- Computer Management Console
- System Tools
- User Account Management
• Managing Storage

• Managing Services and Applications

• Data Sources (ODBC)

• Print Management Console

• Overview of the Windows Boot Process

• Speeding Up the Windows Boot Process

• Troubleshooting the Windows Boot Process

• Black Screen/Video Issues

• Recovery Console

• Advanced Boot Options/Startup Settings Menu

• System Configuration Utility

• Task Manager

• Troubleshooting a Service That Does Not Start

• Slow Boot

• Troubleshooting Windows Network Settings

• Windows Reboots

• Shutdown Problems

• Power Options
• Supporting Windows Computers Remotely

• Preventive Maintenance for Your Operating System

• Soft Skills: Avoiding Burnout

• Lesson Summary

• Activities

Chapter 18: macOS and Linux Operating Systems

• Introduction to macOS

• Navigating the User Interface

• Basic System Usage, Updates, and Backups

• Management and Troubleshooting Tools

• Utilities

• Introduction to Linux

• Navigating the User Interface

• Basic System Usage, Updates, and Backups

• Command-Line Interface

• macOS and Linux Best Practices

• Soft Skills: Be Humble
Lesson Summary

Activities

Chapter 19: Computer and Network Security

- Security Overview
- Security Policy
- Physical Security
- Logical Security
- End-User Education
- Protecting Access to Local and Network Resources
- Permissions
- Folder Options
- Protecting the Operating System and Data
- Internet Security
- Parental Controls
- NAT/PAT
- VPN Configuration
- Remote Access to Network Devices
Chapter 20: Operational Procedures

- Operational Procedures Overview
- Adverse Power Conditions
- Surge Protectors
- Line Conditioners
- Battery Backup
- IT Documentation
- Change Management
- Soft Skills: Communication Skills
- Lesson Summary
Activities

Chapter 21: Appendix A: Subnetting Basics

Exercises

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

13 Videos
02:02 Hours

12. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.
Here's what you get

180 PRE-ASSESSMENTS QUESTIONS

180 POST-ASSESSMENTS QUESTIONS

Features

Full Remediation

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.

Learn, Test and Review Mode

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.

13. Performance Based Labs

uCertify's performance-based labs are Live Labs. Learn the real world skills using Live Labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
Labs simulate real world, hardware, software & CLI environment
Flexible and inexpensive alternative to physical Labs
 Comes with well-organized component library for every task
Highly interactive - learn by doing
Explanations and remediation available
Videos on how to perform

Lab Tasks

• Adding a Keyboard Layout
• Configuring Mouse Settings
• Installing Motherboard Components
• Installing a PCI Sound Card
• Identifying a PCI-Bus Slot
• Viewing the Processor Information
• Enabling Hardware Virtualization
• Identifying a CPU Socket
• Providing Cooling and Ventilation to a Motherboard
• Installing a processor
• Installing Expansion Cards on a Motherboard
• Installing a NIC
• Supplying Power to a SATA Drive
• Installing Firewire Cards
• Installing an Optical Drive and a PCI Sound Card
• Installing a USB 3.0 PCI Express Card (2.0 x4)
• Connecting the Hub with Different Devices Using USB Cables
• Changing the Resolution Setting
• Assembling Computer Components
• Replacing the Power Supply
• Installing SMPS and Connecting it to the Motherboard
• Replacing the Battery of a Smartphone and Inserting a Memory Card
• Using a UPS to Power the Computer Components and Ensure the Network Connectivity
• Installing Memory Modules
• Verifying RAM Usage
• Connecting the Motherboard to the Internal Hard Drive
• Accessing BIOS Setup in Windows 10
• Converting a FAT32 Partition to NTFS
• Viewing the Status of a Disk
• Inserting a Pen Drive into the USB Port
• Removing a Pen Drive from a Computer
• Inserting a CD on a Laptop
• Copying Files to a Disc Using File Explorer
• Connecting Speakers to a Computer
• Installing a Printer
• Inserting Ink Cartridges into a Printer
• Connecting a USB Printer to a Computer
• Removing an Account in Android
• Configuring an Email in Android
• Viewing the iOS Version of an iPhone
• Setting Up a VPN in Android
• Turning on Airplane Mode of an iPhone
• Installing Laptop Components
• Locking an iPhone with a Password
• Connecting the Cable Modem to Access Internet
• Installing Ubuntu
• Installing Windows 10
• Using OneDrive
• Configuring OneDrive
• Configuring an IPv4 address
• Configuring an IPv6 address
• Installing a DHCP Server
• Assigning Different Classes of IP Address
• Scanning using Wireshark
• Connecting a Workstation to the LAN and Configuring IPv4 Properties
• Connecting Systems to the Internet Through a Firewall Router
• Connecting a Router to the Laptop
- Using the `nbtstat` command
- Using the `netstat` Command
- Using the `nslookup` Command
- Using the `ping` Command
- Tracing Route Using `Tracert`
- Joining Workgroups or Domains
- Changing Network Locations
- Managing Offline Files
- Sharing a Printer
- Sharing Folders
- Using the `net` Command
- Creating a Dial-up Connection
- Connecting to a Server using Remote Desktop Connection
- Creating a Remote Access VPN Connection
- Configuring a Proxy Server
- Executing the Basic Commands through a `ps1` File
- Working with Variables
- Creating a Loop in PowerShell
- Creating and Running a `ps1` File
- Enabling BranchCache
- Encrypting File System (EFS)
- Displaying Windows Versions
- Adding an MMC snap-in
- Displaying Windows PowerShell snap-ins
- Creating a Restore Point
- Using Cortana
- Using Windows Event Viewer
- Configuring Screensavers
- Securing User Accounts
- Creating a New User
- Using BitLocker
- Disabling AutoPlay
- Using a Symmetric Encryption Algorithm
- Using an Asymmetric Encryption Algorithm
- Observing the Control Panel options in different views
- Uninstalling a Program
- Enabling a Device Driver
- Disabling a Device Driver
- Setting Automatic Windows Update
- Configuring Computer Management Services
- Editing a Drive Letter
- Mounting a Drive to a Folder
- Converting a Basic Disk to a Dynamic Disk
- Creating a Swap Partition
- Disabling a Service
- Setting Up a Boot Device Priority
- Using MSConfig
- Using Task Manager to Start an Application
- Configuring a Power Plan
- Configuring Screen Resolution Setting
- Listing Files and Directories
- Verifying the Working Directory
- Listing Files of the Current Directory
- Performing a Text Search
- Using Basic Linux Commands
- Using cmd Commands
- Using Windows Security
- Reviewing the Top 10 OWASP Attacks
- Conducting a Dos Attack using Smurf Attack
- Performing a MITM Attack
- Conducting IP Spoofing
- Identifying Current Virus Threats
- Configuring an Audit Group Policy
- Configuring an Account Password Policy
- Managing NTFS Permissions
- Stopping Permissions Inheritance
- Propagating Permissions
- Removing a Credential
- Backing up Files
- Restoring Files
• Configuring Windows Defender Firewall
• Performing Network Address Translation (NAT)
• Configuring VLANs
• Configuring a Router
• Configuring Port Security on an Access Port
• Examining an Intrusion Detection Policy
• Configuring SSH in a Router
• Setting Up a Surge Protected Computer System

Here's what you get

135
PERFORMANCE BASED LAB

128
VIDEO TUTORIALS

18:29
HOURS

14. 🔄 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.

Have Any Query? We Are Happy To Help!

GET IN TOUCH:

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