uCertify

Course Outline

Mastering Windows Server 2022

05 Oct 2024

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1. Course Objective

The Mastering Windows Server 2022 is a comprehensive course that equips IT professionals with the knowledge and skills to effectively deploy, configure, manage, and maintain Windows Server 2022 environments. The course covers a wide range of topics, including server installation and configuration, Active Directory management, file and print services, network infrastructure, server virtualization with Hyper-V, security and compliance, backup and recovery, Remote Desktop Services, and Windows Server containers. You will gain hands-on experience with the latest features and tools offered by Windows Server 2022, ensuring you can optimize performance, security, and scalability for your organizations.

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. 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.

5. 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.

6. 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.

7. 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.

8. 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

9. 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: Preface

- Who this course is for
- What this course covers
- To get the most out of this course

Chapter 2: Getting Started with Windows Server 2022

- The purpose of Windows Server
- It’s getting cloudy out there
- Windows Server versions and licensing
- Overview of new and updated features
- Features deprecated in Server 2022
- Navigating the interface
- Using the newer Settings screen
- Two ways to do the same thing
- Task Manager
- Task View
- Summary
- Questions

Chapter 3: Installing and Managing Windows Server 2022

- Technical requirements
- Installing Windows Server 2022
- Installing roles and features
- Centralized management and monitoring
- Windows Admin Center (WAC)
- Enabling quick server rollouts with Sysprep
- In-place upgrading to Windows Server 2022
- Summary
- Questions

Chapter 4: Active Directory

- What is a domain controller?
- Creating your first domain
- Multiple domain controllers for redundancy
- Active Directory Users and Computers
- Active Directory Domains and Trusts

- Active Directory Sites and Services
- Active Directory Administrative Center
- Read-only domain controllers
- FSMO Roles
- Demote an old domain controller
- Group Policy
- Summary
- Questions

Chapter 5: DNS and DHCP

- The purpose of DNS
- Types of DNS records
- Split-brain DNS
- Types of DNS zones
- IP addressing with DHCP
- Creating a DHCP scope
- DHCP reservations
- DHCP failover

- IPAM
- Summary
- Questions

Chapter 6: Group Policy

- Group Policy Objects
- Building a GPO
- Scoping a GPO
- Computer settings and user settings
- Policy versus preference
- Default Domain Policy
- Administrative Templates
- The Central Store
- Summary
- Questions

Chapter 7: Certificates

- Common certificate types
- Planning your PKI

- Creating a new certificate template
- Issuing your new certificates
- Obtaining a public authority SSL certificate
- Exporting and importing certificates
- OpenSSL for Linux webservers
- Summary
- Questions

Chapter 8: Networking with Windows Server 2022

- Introduction to IPv6
- Your networking toolbox
- Building a routing table
- NIC Teaming
- Software-defined networking
- Summary
- Questions

Chapter 9: Remote Access

- Regular ol’ VPN
- Always On VPN
- DirectAccess
- Remote Access Management Console
- DA, VPN, or AOVPN? Which is best?
- Web Application Proxy
- Requirements for WAP
- Latest improvements to WAP
- Summary
- Questions

Chapter 10: Hardening and Security

- Microsoft Defender Antivirus
- Windows Defender Firewall – no laughing matter
- Encryption technologies
- Azure AD Password Protection
- Fine-grained password policy
- Advanced Threat Analytics – end of support

- General security best practices
- Summary
- Questions

Chapter 11: Server Core

- Why use Server Core?
- Interfacing with Server Core
- Windows Admin Center to manage Server Core
- The Sconfig utility
- Roles available in Server Core
- Building a Server Core domain controller
- What happened to Nano Server?
- Summary
- Questions

Chapter 12: PowerShell

- Why move to PowerShell?
- Working within PowerShell
- Importing a module

- Using a pipeline
- PowerShell Integrated Scripting Environment
- Remotely managing a server
- Desired State Configuration
- Windows Terminal
- Summary
- Questions

Chapter 13: Redundancy in Windows Server 2022

- Network Load Balancing (NLB)
- Configuring a load-balanced website
- Failover clustering
- Clustering tiers
- Setting up a failover cluster
- Clustering improvements in Windows Server 2022
- Storage Replica (SR)
- Storage Spaces Direct (S2D)
- Summary

- Questions

Chapter 14: Containers

- Understanding application containers
- Container base images
- Windows Server containers versus Hyper-V containers
- Docker and Kubernetes
- Working with containers
- Where is Azure in all this?
- Summary
- Questions

Chapter 15: Hyper-V

- Designing and implementing your Hyper-V Server
- Virtual switches
- Implementing a new virtual server
- Managing a virtual server
- Shielded VMs

- Integrating with Linux
- ReFS deduplication
- Hyper-V Server…2019?
- Summary
- Questions

Chapter 16: Remote Desktop Services

- Wherefore art thou, role?
- Components of an RDS environment
- Publishing RDS sessions
- RDS licensing
- RDS user profiles
- RemoteApp
- RDS maintenance considerations
- Summary
- Questions

Chapter 17: Troubleshooting

- Backup and restore

- Task Manager
- Resource Monitor
- Performance Monitor
- Sysinternals tools
- Windows Firewall with Advanced Security
- System Insights
- Remote toolsets
- Event Logs
- MMC and MSC shortcuts
- Summary
- Questions

10. Practice Test

Here's what you get

10	1
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS

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.

11. 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

Getting Started with Windows Server 2022

- Using Get-NetIPAddress and Get-Command with Format-List
- Navigating the Windows Interface
- Creating a new user through Control Panel

Installing and Managing Windows Server 2022

- Installing a Feature Using PowerShell
- Installing a Role on Windows Server

Active Directory

- Configuring the AD DS Role
- Installing AD DS
- Using Active Directory to Manage Domain User Accounts
- Configuring Active Directory Domains and Trusts
- Transferring FSMO Roles
- Demoting a Domain Controller
- Cleaning Up Active Directory

DNS and DHCP

- Configuring Alias Record (CNAME) in DNS
- Configuring Host Record (A or AAAA) in DNS
- Configuring DNS Zones
- Installing IPAM

Networking with Windows Server 2022

- Tracing Packets Using Wireshark
- Using the netstat Tool
- Using Test-NetConnection to Query a Port

- Using Test-Connection and ping Commands to Check Network Connectivity
- Using tracert and pathping to Diagnose Network Path Issues
- Using Telnet to Build Connection
- Adding and Deleting Routes
- Configuring NIC Teaming

Hardening and Security

- Managing Microsoft Defender Antivirus
- Building a New Inbound Firewall Rule

Server Core

- Setting the Server Hostname
- Using the Sconfig Utility
- Managing IP Addresses with PowerShell cmdlets

PowerShell

- Using Bypass Mode for Execution Policy
- Using Enter-PSSession in PowerShell

Containers

- Using Dockers Commands

Hyper-V

- Creating a Virtual Switch

Here's what you get

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LIVE LABS

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