

# uCertify

## Course Outline

### Building Cloud and Virtualization Infrastructure



04 Aug 2025

## 1. Exercises, Quizzes, Flashcards & Glossary

Number of Questions

## 2. Expert Instructor-Led Training

### 3. ADA Compliant & JAWS Compatible Platform

### 4. State of the Art Educator Tools

### 5. Award Winning Learning Platform (LMS)

## 6. Chapter & Lessons

Syllabus

Chapter 1: Preface

Chapter 2: Introduction to Cloud

Chapter 3: Cloud Service Models

Chapter 4: Cloud Deployment Models

Chapter 5: Introduction to Hypervisor

Chapter 6: Introduction to Virtualization

Chapter 7: Virtualization on IT Assets

Chapter 8: Experimental Part - Installation and Configuration

Chapter 9: Practical Approach and Experiments

Chapter 10: Resource Management in Cloud

Chapter 11: Security in Cloud

Videos and How To

## 7. Live labs

Lab Tasks

Here's what you get

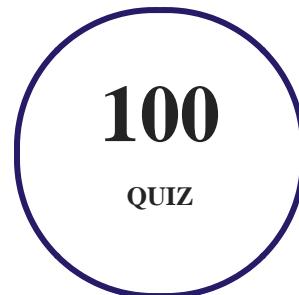
## 1. Exercises

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.



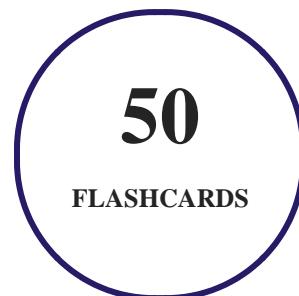
## 2. Quiz

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.



## 3. 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.



## 4. 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.



## 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

Chapter 2: Introduction to Cloud

- Introduction to cloud computing
- Historical perspective
- Statistics of cloud
- Key Drivers Of Cloud Computing
- Definition Of Cloud Computing
- Need For Cloud Computing
- Benefits of cloud computing
- Who can use cloud?
- How to access the cloud?
- Key characteristics of cloud
- Trends in cloud
- Prime uses and examples of cloud computing
- Challenges of Cloud Computing
- Conclusion

- Points to Remember
- Questions

## Chapter 3: Cloud Service Models

- Introduction to service models
- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software as a Service (SaaS)
- Comparison between service models
- Conclusion
- Points to Remember
- Questions

## Chapter 4: Cloud Deployment Models

- Public cloud
- Private cloud
- Hybrid cloud
- Community cloud

- Comparison between deployment models
- Cloud deployment implications
- Conclusion
- Points to Remember
- Questions

## Chapter 5: Introduction to Hypervisor

- Hypervisor
- Types of hypervisors
- Choosing the right hypervisor
- Hypervisor Reference Model
- Conclusion
- Points to Remember
- Questions

## Chapter 6: Introduction to Virtualization

- Introduction to virtualization
- How does virtualization work
- Virtualization structures/tools and mechanisms

- Types of virtualization
- Virtualization support and disaster recovery
- Conclusion
- Points to Remember
- Questions

## Chapter 7: Virtualization on IT Assets

- Virtualization on compute
- Virtualization on storage
- Virtualization on network
- Virtualization on desktop
- Virtualization on user state
- Virtualization on application
- Conclusion
- Points to Remember
- Questions

## Chapter 8: Experimental Part - Installation and Configuration

- Installation of a Hosted Hypervisor
- Installation of Bare-metal Hypervisor
- Create a Virtual Machine Using VMware vSphere Client on ESXi Host-Implementation of Virtual Machine(s)
- Implementation of Virtual Data center (vSphere 6)
- Configuration of Virtual Internetworking Components
- Conclusion
- Points to Remember
- Questions

## Chapter 9: Practical Approach and Experiments

- Deployment of VMs in AWS
- Integration of IoT Components in AWS/Azure
- Exercises
- Creation of VM in OpenNebula
- Conclusion
- Points to Remember
- Practical questions

## Chapter 10: Resource Management in Cloud

- The resource management strategy
- Controlling the cloud
- Virtual clusters and resource management
- Resource provisioning and resource provisioning methods
- Conclusion
- Points to Remember
- Questions

## Chapter 11: Security in Cloud

- Security overview
- Cloud security challenges
- Need for security governance
- Virtual Machine Security
- Identity and access management
- Security standards
- Conclusion
- Points to Remember
- Questions

## 10. 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

### Cloud Service Models

- Deploying a Web Application on a VM
- Creating an App Service Plan
- Exploring SaaS and Data-Driven Application Deployment with Microsoft Power BI

### Cloud Deployment Models

- Launching an EC2 Instance
- Creating a VPC in AWS
- Creating a VPC Peering Connection

### Introduction to Hypervisor

- Installing and Exploring Hyper-V

## **Introduction to Virtualization**

- Installing Docker
- Creating and Customizing an EFS
- Creating a VPN Connection
- Creating a Network ACL
- Creating an Azure Load Balancer

## **Virtualization on IT Assets**

- Connecting an External Hard Disk
- Connecting Internal Components of a Desktop
- Replacing the SSD in a Laptop
- Replacing the Internal HDD
- Creating a VLAN
- Connecting to a Remote Computer using RDC

## **Experimental Part - Installation and Configuration**

- Installing Oracle VirtualBox and Exploring VM Creation
- Installing and Configuring ESXi
- Creating a Virtual Machine
- Installing VCSA
- Creating a Virtual Switch

## **Practical Approach and Experiments**

- Creating an Encrypted EBS Volume
- Creating an IoT Hub in Azure
- Creating a VM in OpenNebula

## **Security in Cloud**

- Creating a Security Group

## **Here's what you get**

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LIVE LABS

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VIDEO TUTORIALS

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MINUTES

You can't stay away! Get



3187 Independence Drive  
Livermore, CA 94551,  
United States



+1-415-763-6300



[support@ucertify.com](mailto:support@ucertify.com)



[www.ucertify.com](http://www.ucertify.com)