uCertify

Course Outline

The Ultimate Kali Linux

26 Apr 2025

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

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   Chapter 3: Building a Penetration Testing Lab

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Videos and How To

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   Here's what you get

1. Pre-Assessment

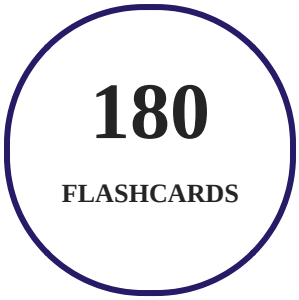
Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

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.

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

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

Chapter 2: Introduction to Ethical Hacking

- Understanding the need for cybersecurity
- Exploring cybersecurity terminology
- Identifying threat actors and their intent

- Understanding what matters to threat actors
- Exploring the importance of penetration testing
- Penetration testing methodologies
- Discovering penetration testing approaches
- Types of penetration testing
- Exploring the phases of penetration testing
- Understanding the Cyber Kill Chain framework
- Summary

Chapter 3: Building a Penetration Testing Lab

- Technical requirements
- An overview of the lab setup and technologies used
- Setting up a hypervisor and virtual networks
- Setting up and working with Kali Linux
- Setting up a vulnerable web application
- Deploying Metasploitable 2 as a vulnerable machine
- Building and deploying Metasploitable 3
- Summary

Chapter 4: Setting Up for Advanced Penetration Testing Techniques

- Technical requirements
- Building an Active Directory red team lab
- Setting up a wireless penetration testing lab
- Summary

Chapter 5: Passive Reconnaissance

- Technical requirements
- The importance of reconnaissance
- Exploring passive reconnaissance
- Creating a sock puppet
- Anonymizing internet-based traffic
- Summary

Chapter 6: Exploring Open-Source Intelligence

- Technical requirements
- Google hacking techniques
- Domain reconnaissance

- Sub-domain harvesting
- Identifying organizational infrastructure
- Harvesting employees’ data using Hunter
- Automating social media reconnaissance with Sherlock
- Summary

Chapter 7: Active Reconnaissance

- Technical requirements
- Understanding active information
- Profiling websites using EyeWitness
- Exploring active scanning techniques
- Using scanning evasion techniques
- Enumerating network services
- Discovering data leaks in the cloud
- Summary

Chapter 8: Performing Vulnerability Assessments

- Technical requirements

- Getting started with Nessus
- Vulnerability identification using Nmap
- Working with Greenbone Vulnerability Manager
- Using web application scanners
- Summary

Chapter 9: Understanding Network Penetration Testing

- Technical requirements
- Introduction to network penetration testing
- Working with bind and reverse shells
- Antimalware evasion techniques
- Working with wireless adapters
- Managing and Monitoring wireless modes
- Summary

Chapter 10: Performing Network Penetration Testing

- Technical requirements
- Exploring password-based attacks
- Performing host discovery

- Identifying and exploiting vulnerable services
- Summary

Chapter 11: Post-Exploitation Techniques

- Technical requirements
- Pass-the-hash techniques
- Post exploitation using Meterpreter
- Data encoding and exfiltration
- Summary

Chapter 12: Delving into Command and Control Tactics

- Technical requirements
- Understanding C2
- Setting up C2 operations
- Post-exploitation using Empire
- Working with Starkiller
- Summary

Chapter 13: Working with Active Directory Attacks

- Technical requirements
- Understanding Active Directory
- Enumerating Active Directory
- Leveraging network-based trust
- Summary

Chapter 14: Advanced Active Directory Attacks

- Technical requirements
- Understanding Kerberos
- Abusing trust on IPv6 with Active Directory
- Attacking Active Directory
- Domain dominance and persistence
- Summary

Chapter 15: Advanced Wireless Penetration Testing

- Technical Requirements
- Introduction to Wireless Networking
- Performing Wireless Reconnaissance

- Compromising WPA/WPA2 Networks
- Performing AP-less Attacks
- Exploiting Enterprise Networks
- Setting Up a Wi-Fi Honeypot
- Exploiting WPA3 Attacks
- Summary

Chapter 16: Social Engineering Attacks

- Technical requirements
- Fundamentals of social engineering
- Types of social engineering
- Planning for each type of social engineering attack
- Defending against social engineering
- Exploring social engineering tools and techniques
- Summary

Chapter 17: Understanding Website Application Security

- Technical requirements
- Understanding web applications

- Exploring the OWASP Top 10: 2021
- Getting started with FoxyProxy and Burp Suite
- Understanding injection-based attacks
- Exploring broken access control attacks
- Discovering cryptographic failures
- Understanding insecure design
- Exploring security misconfiguration
- Summary

Chapter 18: Advanced Website Penetration Testing

- Technical requirements
- Identifying vulnerable and outdated components
- Exploiting identification and authentication failures
- Understanding software and data integrity failures
- Exploring server-side request forgery
- Understanding security logging and monitoring failures
- Understanding cross-site scripting
- Automating SQL injection attacks

- Performing client-side attacks
- Summary

Chapter 19: Best Practices for the Real World

- Technical requirements
- Guidelines for penetration testers
- Penetration testing checklist
- Creating a hacker’s toolkit
- Setting up remote access
- Next steps ahead
- Summary

Chapter 20: Appendix

- Setting Up a Penetration Testing Lab on Ubuntu Desktop
- Technical requirements
- An overview of the lab setup and technologies used
- Setting up a hypervisor and virtual networks
- Setting up Kali Linux on Ubuntu

- Setting up Metasploitable 3 on Ubuntu
- Summary

10. Practice Test

Here's what you get

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

Building a Penetration Testing Lab

- Setting Up a Vulnerable Web Application

Passive Reconnaissance

- Setting Up TOR Services and TOR Browser on Kali Linux
- Setting Up Proxychains

Exploring Open-Source Intelligence

- Performing Automation using SpiderFoot
- Exploiting DNS Zone Transfer
- Using DNSRecon for DNS Enumeration
- Performing Sub-domain Enumeration with Knockpy
- Performing Enumeration with DNSMap
- Performing Live Host Discovery
- Using Netcraft to Profile a Targeted Organization/Domain
- Using theHarvester for Data Collection

Active Reconnaissance

- Changing MAC Address using MAC Changer

Performing Vulnerability Assessments

- Conducting Vulnerability Scanning Using Nessus
- Performing Vulnerability Scanning Using OpenVAS

Understanding Network Penetration Testing

- Setting Up Bind and Reverse Shells
- Working with Remote Shells Using Netcat

Performing Network Penetration Testing

- Performing Host Discovery on a Targeted Network

Post-Exploitation Techniques

- Working with Impacket for Pass-the-Hash Attack

Delving into Command and Control Tactics

- Performing Penetration Testing with the Empire Server and Starkiller

Working with Active Directory Attacks

- Exploiting SMB
- Exploiting SAM Database

Advanced Active Directory Attacks

- Passing the Hash Using Mimikatz

Advanced Wireless Penetration Testing

- Setting Up a Honeypot on Kali Linux

Social Engineering Attacks

- Performing a Phishing Attack
- Performing Social Engineering Attack

Understanding Website Application Security

- Setting Up FoxyProxy for Proxy Configuration
- Exploiting a Website Using SQL Injection

Advanced Website Penetration Testing

- Identifying Vulnerable and Outdated Components
- Attacking a Website Using XSS Injection
- Performing a Client-Side attack Using BeEF

Here's what you get

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LIVE LABS

You can’t stay away! Get in touch with our team to

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