uCertify
Course Outline

Learn Wireshark

16 Apr 2024

1. 📖 Course Objective

uCertify's course Learn Wireshark is a complete Wireshark tutorial that covers the following concepts thoroughly and provides a hands-on experience of Wireshark: Traffic Analysis, Exploring the Wireshark Interface, Outlining the OSI Model, and so on. This course is for network administrators, security analysts, students, teachers, and anyone interested in learning about packet analysis using Wireshark.

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.

159

EXERCISES

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.

80

QUIZZES
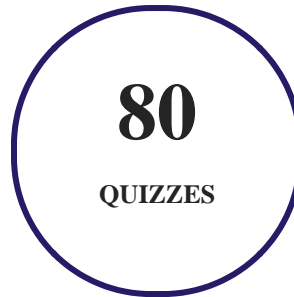
5. ⚡ flashcards

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.

110

FLASHCARDS
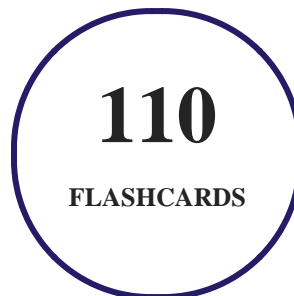
6. 📖 Glossary of terms

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.

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GLOSSARY OF 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 assessments. 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 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

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: Preface

- Who this course is for?

- What does this course cover?

- To get the most out of this course

Chapter 2: Appreciating Traffic Analysis

- Reviewing packet analysis

- Recognizing who benefits from using packet analysis

- Identifying where to use packet analysis

- Outlining when to use packet analysis

- Getting to know Wireshark

- Summary

Chapter 3: Using Wireshark NG

- Discovering the beginnings of today's Wireshark

- Examining the Wireshark interface

- Understanding the phases of packet analysis

- Using command-line tools

- Summary

Chapter 4: Installing Wireshark on a PC or macOS

- Discovering support for different OS

- Comparing different capture engines

- Exploring the encapsulation process

- Demonstrating frame formation in Wireshark

- Summary

Chapter 10: Decoding TCP and UDP

- Reviewing the purpose of the transport layer

- Describing TCP

- Examining the eleven-field TCP header

- Understanding UDP

- Discovering the four-field UDP header

- Summary

Chapter 11: Managing TCP Connections

- Dissecting the three-way handshake

- Learning TCP options

- Understanding TCP protocol preferences

- Tearing down a connection

- Summary

- Exploring ARP headers and fields

- Examining different types of ARP

- Analyzing ARP attacks

- Summary

Chapter 15: Troubleshooting Latency Issues

- Analyzing latency issues

- Understanding the coloring rules

- Exploring the Intelligent Scrollbar

- Discovering the expert system

- Summary

Chapter 16: Subsetting, Saving, and Exporting Captures

- Discovering ways to subset traffic

- Understanding options to save a file

- Recognizing ways to export components

- Identifying why and how to add comments

- Summary

- Diving into an overview of CS

- Sharing captures in CS

- Outlining the various filters and graphs

- Evaluating the different analysis tools

- Discovering where to find sample captures

- Summary

Videos and How To

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

20	**01:57**
VIDEOS	**HOURS**

12. ◎ Practice Test

Here's what you get

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50

PRE-ASSESSMENTS QUESTIONS

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50

POST-ASSESSMENTS QUESTIONS

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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.

13. 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

Using Wireshark NG

- Splitting a File and Work with Filtered File Sets
- Using Tshark to Extract HTTP GET Requests
- Using Tshark to Capture File Sets with an Autostop Condition

Exploring the Wireshark Interface

- Capturing and Classifying Background Traffic
- Opening a Network Monitor .cap File

Tapping into the Data Stream

- Capturing File Sets
- Using a Ring Buffer to Conserve Drive Space

Personalizing the Interface

- Adding a Column to Display Coloring Rules in Use
- Adding the HTTP Host Field as a Column

Using Display and Capture Filters

- Using a Default Filter as a Seed for a New Filter
- Creating, Saving, and Applying a DNS Capture Filter
- Applying Filters to Locate a Set of Keywords in a Trace File
- Exporting a Single TCP Conversation
- Applying Filter on HTTP 404 Responses
- Filtering Traffic to or from Online Backup Subnets
- Filtering HTTP Traffic the Right Way

Decoding TCP and UDP

- Locating TCP Connection Attempts to a Client

Managing TCP Connections

- Using Packets to Build a Picture of a Network

Understanding ARP

- Investigating an arp Cache

Troubleshooting Latency Issues

- Building a Coloring Rule to Highlight FTP User Names, Passwords, and More

Subsetting, Saving, and Exporting Captures

- Exporting Malicious Redirection Packet Comments
- Reading Analysis Notes in a Malicious Redirection Trace File

Here's what you get

22	22	32
LIVE LABS	**VIDEO TUTORIALS**	**MINUTES**

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.

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