Certified Internet of Things Security Practitioner (CloTSP): Exam ITS-110

This document includes instructor led class overview and objectives, identifies target student and prerequisites, course outline, and course specific software and hardware requirements.

Course Length:
3 Days

Overview:
This course is designed for practitioners who are seeking to demonstrate a vendor-neutral, cross-industry skill set that will enable them to design, implement, operate, and/or manage a secure IoT ecosystem.

Target Student:
This course is designed for IoT practitioners who are looking to improve their skills and knowledge of IoT security and privacy. This course is also designed for students who are seeking the CertNexus Certified Internet of Things Security Practitioner (CloTSP) certification and who want to prepare for Exam ITS-110.

Prerequisites:
To ensure your success in this course you should have a fundamental understanding of IoT ecosystems, which you can obtain by taking the following CertNexus course: Certified Internet of Things (IoT) Practitioner (Exam ITP-110)

Course Content
Lesson 1: Managing IoT Risks
   Topic A: Map the IoT Attack Surface
   Topic B: Build in Security by Design
Lesson 2: Securing Web and Cloud Interfaces
   Topic A: Identify Threats to IoT Web and Cloud Interfaces
   Topic B: Prevent Injection Flaws
   Topic C: Prevent Session Management Flaws
   Topic D: Prevent Cross-Site Scripting Flaws
   Topic E: Prevent Cross-Site Request Forgery Flaws
   Topic F: Prevent Unvalidated Redirects and Forwards

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Lesson 3: Securing Data
  Topic A: Use Cryptography Appropriately
  Topic B: Protect Data in Motion
  Topic C: Protect Data at Rest
  Topic D: Protect Data in Use
Lesson 4: Controlling Access to IoT Resources
  Topic A: Identify the Need to Protect IoT Resources
  Topic B: Implement Secure Authentication
  Topic C: Implement Secure Authorization
  Topic D: Implement Security Monitoring on IoT Systems
Lesson 5: Securing IoT Networks
  Topic A: Ensure the Security of IP Networks
  Topic B: Ensure the Security of Wireless Networks
  Topic C: Ensure the Security of Mobile Networks
  Topic D: Ensure the Security of IoT Edge Networks
Lesson 6: Ensuring Privacy
  Topic A: Improve Data Collection to Reduce Privacy Concerns
  Topic B: Protect Sensitive Data
  Topic C: Dispose of Sensitive Data
Lesson 7: Managing Software and Firmware Risks
  Topic A: Manage General Software Risks
  Topic B: Manage Risks Related to Software Installation and Configuration
  Topic C: Manage Risks Related to Software Patches and Updates
  Topic D: Manage Risks Related to IoT Device Firmware
Lesson 8: Promoting Physical Security
  Topic A: Protect Local Memory and Storage
  Topic B: Prevent Physical Port Access

Course-specific Technical Requirements
Hardware
For this course, you will need one Windows PC for each student and one for the instructor. Each computer must have the following minimum hardware configurations:
  1.83 GHz or faster 64-bit (x64) processor with 2 or more CPU cores
  8 gigabytes or more RAM
  At least 30 GB available hard disk space after Windows 10 has been installed on the computer
  1280 x 1024 (or higher) resolution monitor recommended
  Network cards and cabling or Wi-Fi for local network access
  Internet access (contact your local network administrator)
  Keyboard and mouse, trackpad, or other pointing device
  Projection system to display the instructor’s computer screen
Software
If necessary, software for viewing the course slides. (Instructor machine only.)
Windows 10 (Home, Pro, Enterprise, or Education edition), 64 bit. Oracle VirtualBox version 6.0.6, which is included with the course data files.

While it is possible to run Oracle VirtualBox on other operating systems, this course was written and tested using Windows 10. If your classroom computers will use a different operating system, it is highly recommended that you install and test Oracle VirtualBox and the two course VMs on the computers to make sure you can key through the course successfully before delivering a class. The Linux and Android operating systems are already installed on the virtual machines that will be loaded in Oracle VirtualBox.