Certified Internet of Things Practitioner (CIoTP) Certification

Duration: 3 Days   Course Code: CIOTP

Overview:

The Internet of Things (IoT) promises a wide range of benefits for industry, energy and utility companies, municipalities, healthcare, and consumers. Data can be collected in extraordinary volume and detail regarding almost anything worth measuring, such as public health and safety, the environment, industrial and agricultural production, energy, and utilities. New data analysis tools have been optimized for the massive amounts of data that IoT produces, enabling wellinformed decisions to be made quickly.

But putting IoT systems into place can be a complicated proposition, and fraught with hazards. Solutions may involve devices and technologies from many different vendors, requiring a good understanding of software and hardware and strategies to integrate them, as well as the risks associated with security, privacy, and the safety of those whose working and living environments are managed by these systems.

IT professionals often have little or no experience working with embedded systems, sensor networks, actuators, real-time systems, and other components that are common to IoT, so this course provides a foundation for understanding how these components work with other systems that IT professionals typically have more experience working with—such as networks, cloud computing, and applications running on servers, desktop computers, and mobile devices. In this course, students will learn general strategies for planning, designing, developing, implementing, and maintaining an IoT system through various case studies and by assembling and configuring an IoT device to work in a sensor network. Students will create an IoT device based on an ESP8266 microcontroller, implementing various common IoT features, such as analog and digital sensors, a web-based interface, MQTT messaging, and data encryption.

Target Audience:

This course is designed for IT professionals with baseline skills in computer hardware, software support, and development who want to learn how to design, develop, implement, operate, and manage Internet of Things devices and related systems. The student is interested in learning more about embedded systems, microcontroller programming, IoT security, and the development life cycle for IoT projects.

While students will gain hands-on experience assembling a prototype IoT device and using software development tools, these activities are closely guided, so previous experience in electronics assembly and programming are not required. This course prepares students for taking the CertNexus® Certified Internet of Things (IoT) Practitioner (Exam ITP-110).

Objectives:

- In this course, you will learn how to apply Internet of Things technologies to solve real-world problems.

- You will:

- Plan an IoT implementation.

- Construct and program an IoT device.

- Communicate with an IoT device using wired and wireless connections.

- Process sensor input and control an actuator on an IoT device.

- Manage security, privacy, and safety risks on IoT projects.

- Manage an IoT prototyping and development project throughout the development lifecycle.

Prerequisites:

To ensure your success in this course, you should be an experienced computer user who is comfortable setting up and configuring computers and electronic devices. You can obtain this level of skills and knowledge by taking either of the following Official CompTIA® Content course offerings available from Logical Operations:

CompTIA® IT Fundamentals® (Exam FC0-U51)

CompTIA® IT Fundamentals® (Exam FC0-U61)

Content:

Lesson 1: Planning an IoT Implementation

Topic A: Select a General Architecture for an IoT Project

Topic B: Identify Benefits and Challenges of IoT

Lesson 2: Constructing and Programming an IoT Device

Topic A: Select and Configure a Processing Unit

Topic B: Select a Microcontroller Power Source

Topic C: Use a Software Development Kit to Program an IoT Device

Lesson 3: Communicating with an IoT Device

Topic A: Communicate Using Wired Connections

Topic B: Communicate Using Wireless Connections

Topic C: Communicate Using Internet Protocols

Lesson 4: Processing IoT Data

Topic A: Process IoT Device Input and Output

Topic B: Process Data in the Cloud

Topic C: Provide M2M Communication

Lesson 5: Managing Risks on IoT Projects

Topic A: Identify IoT Security and Privacy Risks

Topic B: Manage IoT Security and Privacy Risks

Topic C: Manage IoT Safety Risks

Lesson 6: Undertaking an IoT Project

Topic A: Identify Real World Applications for IoT

Topic B: Follow the IoT Development Lifecycle

Appendix A: Mapping Course Content to CertNexus® Certified Internet of Things Practitioner (CIoTP) Exam ITP-110

Further Information:

For More information, or to book your course, please call us on 00 20 (0) 2 2269 1982 or 16142

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