

Module Title : **Internet of Things Foundation**

Duration : **2 days**

Overview

Imagine yourself just a couple of years from now, in 2020. Experts believe by then the Internet of Things (IoT) will consist of an estimated 50 billion objects. Though the exact number is up for discussion, there is no doubt that the connectivity of things will grow. This implies the number of people needing to understand how IoT works will also grow. Thus there is a need to teach professionals what IoT is, how to use it to their advantage, and what challenges to expect.

What is the Internet of Things?

The Internet of things can be defined as a pervasive and ubiquitous network which enables monitoring and control of the physical environment by collecting, processing, and analyzing the data generated by sensors or smart objects.

Why the internet of Things Matters?

- Connecting all these devices to the Internet creates new revenue channels, revolutionizes existing business models, creates more engaged communities, and creates a wealth of information
- The internet of things is all about connectivity and generating value from these connections. Governments are building smart grids improving community services, telecom operators are connecting devices to their networks, and consumers are increasingly getting more value from connected home appliances.
- Security is one of the most critical concerns related to IoT as devices many times are inexpensive, and do not have sophisticated physical security protection
- Besides the genuine security challenges that come with IoT, a related concern is related to data - Connected devices not only collect a lot of data but the real question is where this data is stored, who has access to this data, and what can be done with the data
- With over 50 billion connected devices in 2017 every person will have about 6 connected wearables, appliances, or connected modules.

Why this program is relevant for professionals?

- Build confidence in the IoT domain, and obtain an understanding of the capabilities of IoT in a consumer and business environment
- Develop an understanding of the networking, security and data related challenges that are associated with the Internet of Things.

- Obtain a credible certification from the CCC, and laying out the foundations for future career growth.

Target audience

- Business roles: analyst, consultant, users
- IT roles: architects, engineers, application managers, project managers

Learning Objectives

- Define concepts and terminologies of IoT.
- Examine new devices and interfaces that are driving IoT growth.
- Relate to business perspectives of IoT (advantages of early adoption of IoT technologies).
- Predict implications of IoT for your business.
- Examine the role of enabling technologies for IoT, such as Cloud Computing and Big Data.
- Identify security and governance issues with IoT.
- Examine future growth opportunities of IoT in the coming years.

Course Outline

Course Introduction

Concepts and Terminologies

- Introduction: Internet, Things, and IoT
- IoT Types, History and Evolution of IoT
- Cyber-Physical Systems and Differences Among IoE, M2M, and IoT
- Facts and Figures Around IoT and IoT Application Areas

Business Orientation

- Drivers of IoT
- Benefits of a Connected World
- IoT Business: Opportunities, Benefits, and Challenges
- IoT Monetization Strategies and Models

Basic Building Blocks of IoT–Architecture

- Architecture of IoT Components
- Network Protocols Within IoT

Enabling Technologies of IoT + Lab Activities

- Role of Social Media and Mobility in IoT
- Defining SMACT

- Role of Big Data and Analytics in IoT
- Role of Cloud Computing in IoT

IoT Security and Top Governance Issues

- IoT Security Challenges
- Causes of IoT Security Breaches
- IoT Security Risks

IoT Case Studies and Future Predictions

- IoT Usage Scenarios
- IoT Growth Perspectives
- IoT Future Predictions

Exam

- Exam: 1 hour, 40 questions multiple choice, 65% passing score
- Language: English
- Non-native English speakers are provided with 15 minutes extra for taking the exam