# Introduction to the Internet of Everything
## Course Overview

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Cisco Networking Academy
Mind Wide Open

# The Internet of Everything:
## Networked Connections of People, Process, Data, Things

## People
Connecting people in more relevant, valuable ways

## Process
Delivering the right information to the right person (or machine) at the right time
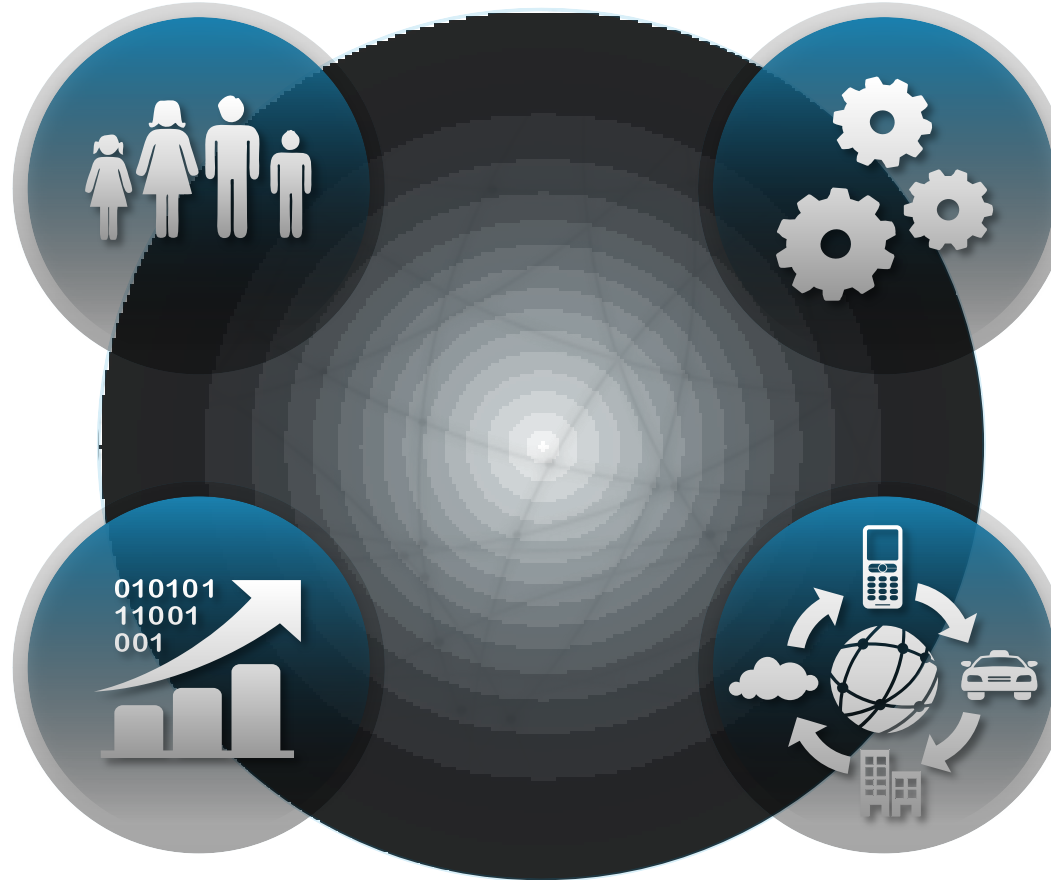
## Data
Turning data into more useful information for decision making

## Things
Physical devices and objects connected to the Internet and each other for intelligent decision making

# Introduction to the Internet of Everything (IoE) Course Overview

**DESCRIPTION**
- Introduces the concepts and challenges of the transformational IoE economy
- Broad focus, not aligned to an industry vertical or certification
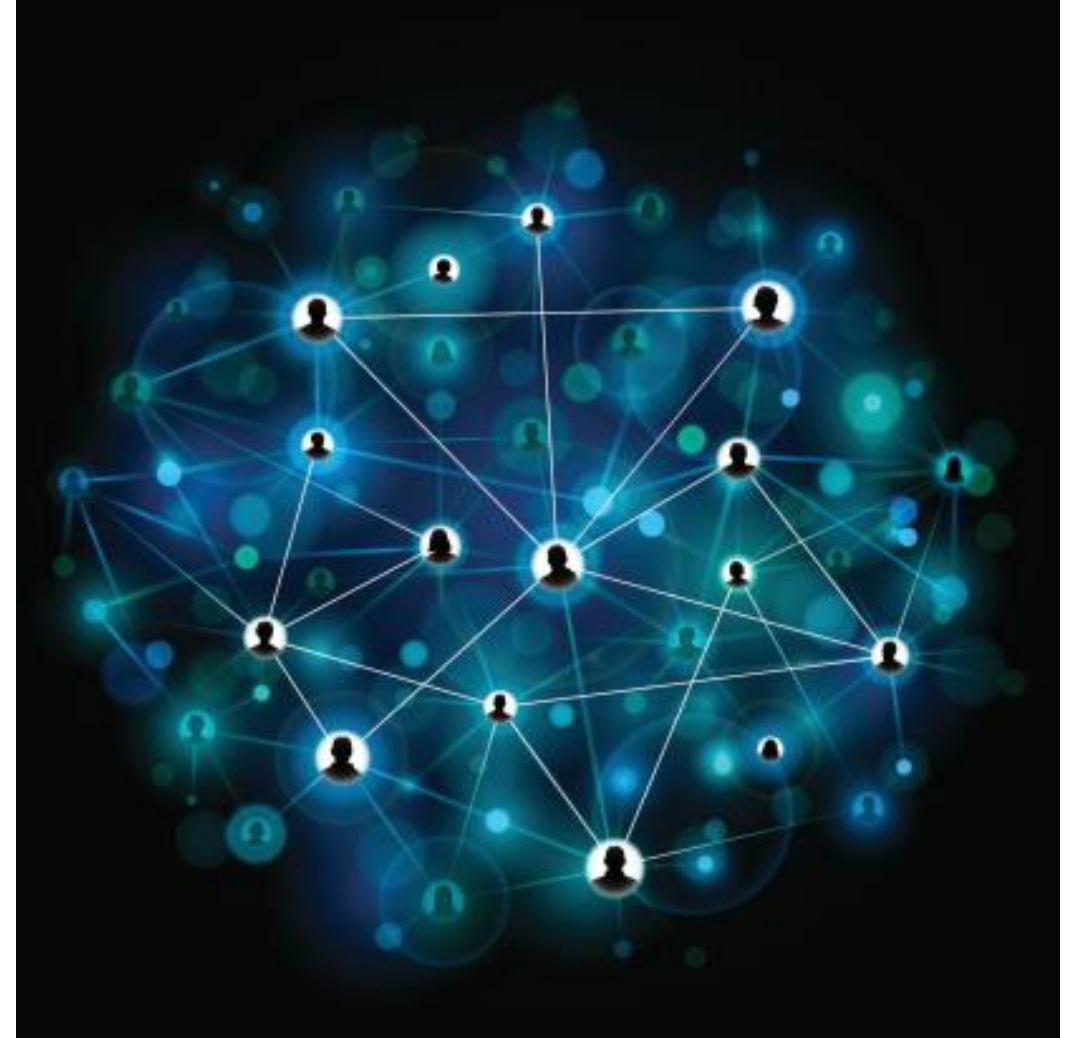
**FEATURES**
- Five modules of interactive instructional content featuring IoE experts
- Activities, videos, and simulation experiences
- Assessments include a pre-test, module quizzes, and final exam
- Class duration: 6 weeks
- Estimated time to complete: 15-20 hours
- No prerequisites

**TARGET AUDIENCE**
- Self-directed learners who want to understand what IoE means for them
- Self-directed learners who want to leverage their technical knowledge into IOE-related functions in the workplace

**AVAILABILITY**
- Available in English
- Students can self-enroll or instructors can teach this course in their classroom

# Introduction to the IoE Course Outline

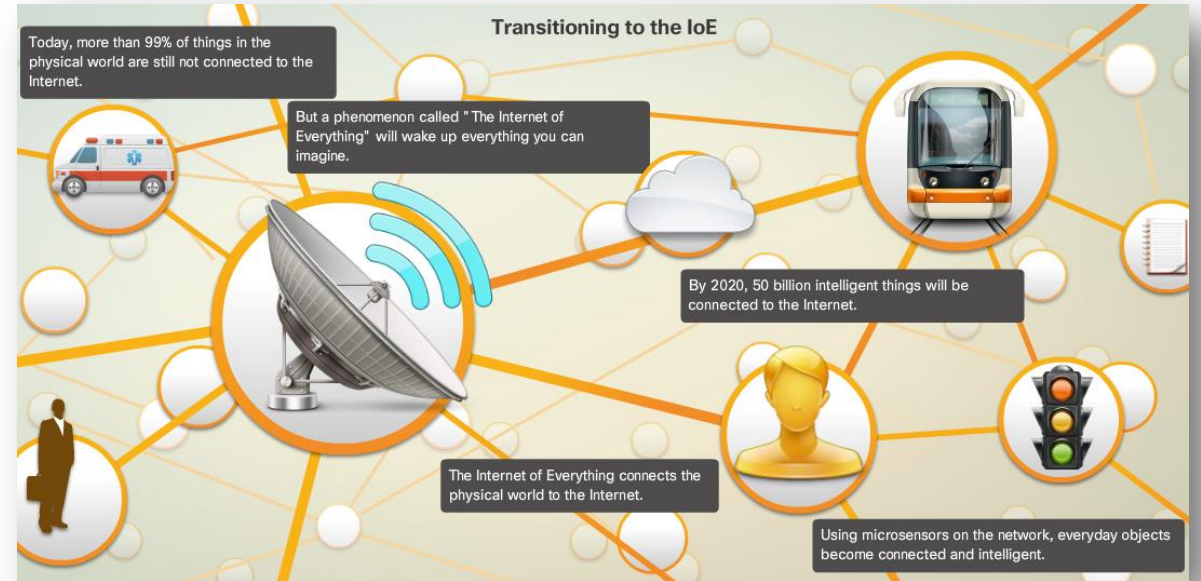| Module | | Objectives |
|---|---|---|
| 1 | What Is the IoE? | • Describe the Internet and its evolution to the Internet of Everything<br><br>• Explain the four pillars of IoE and how its innovations can transform businesses |
| 2 | Pillars of the IoE | • Explain the interconnection of people, process, data, and things that forms the Internet of Everything |
| 3 | Connecting the Unconnected | • Explain how things that are non-IP-enabled and IP-enabled devices can be connected to a network to communicate in the Internet of Things<br><br>• Explain programming and show a simulated version of the Cisco Coffee JavaScript application |
| 4 | Transitioning to the IoE | • Explain the steps to evaluate and implement an IoE solution<br><br>• Explain security concerns that must be considered when implementing IoE solutions |
| 5 | Bringing It All Together | • Describe the M2M, M2P and P2P interactions and review an example of an IoE Healthcare solution model<br><br>• Explain the concept of prototyping and how this is critical in the nascent IoE market |

# Module 1: What Is the IoE?

This module describes the Internet and its evolution to the Internet of Everything. It explains how IoE benefits individuals and organizations and introduces the concept of a network foundation connecting billions of things and trillions of gigabytes of data to enhance our decision-making processes and interactions.

**Learning Objectives**

• Identify the four pillars of IoE and how they interact

• Identify the three primary interactions in the Internet of Everything: people-to-people (P2P), machine-to-people (M2P), and M2M machine-to-machine (M2M

• Describe the different network components and how networks of different sizes form the foundation for the IoE

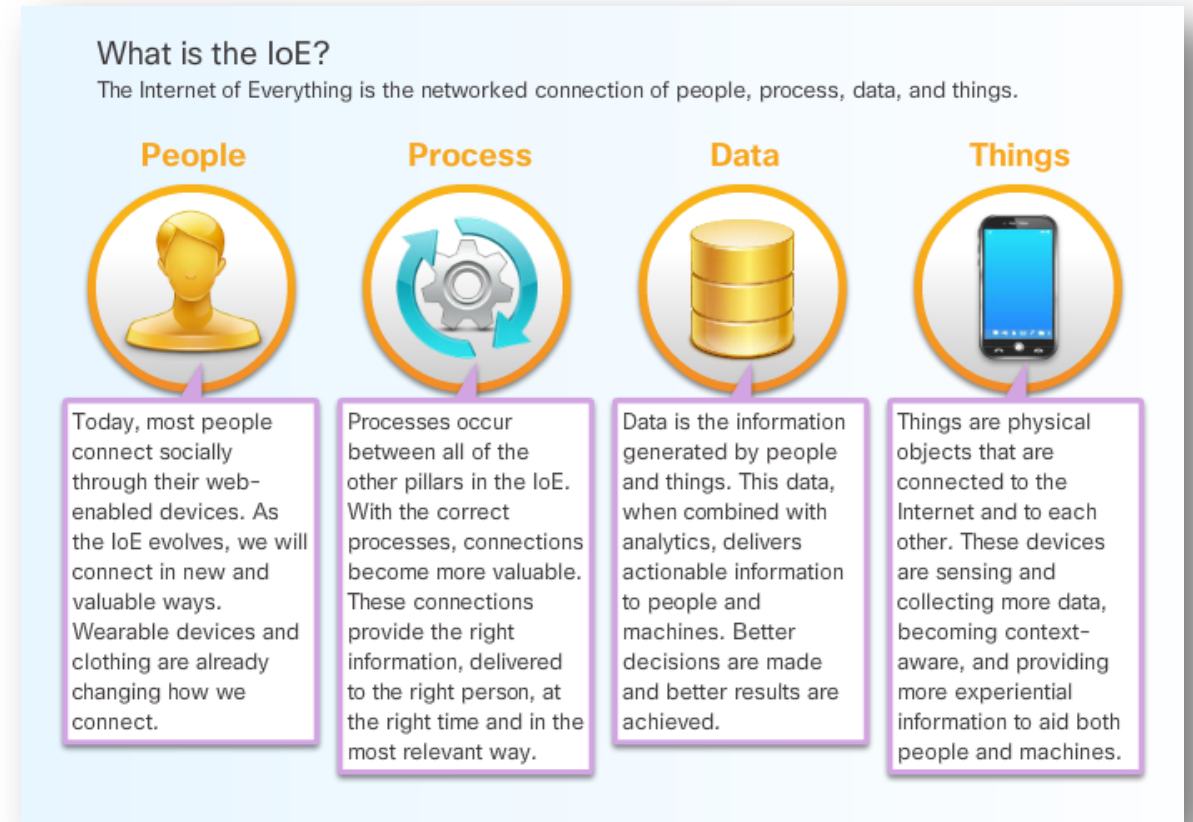**Estimated time to complete:** 2 hours

# Module 2: Pillars of the IoE

This module explains the interconnection of people, process, data, and things that forms the Internet of Everything.

**Learning Objectives**

- Explain how things that are computers and non-computers can be connected to a network

- Explain how data is stored and transported across the network

- Explain how "Big Data" is identified, turned into usable information and managed as an asset to make business decisions

- Describe virtualization and cloud computing

- Describe how IoE enablement of accurate and timely information delivery can transform an individual's and organization's behaviors

- Explain the role of processes in facilitating interactions between people, things, and data by combining machine-to-machine (M2M), machine-to-people (M2P), and people-to-people (P2P) connections

**Estimated time to complete:** 4 hours



What is the IoE?
The Internet of Everything is the networked connection of people, process, data, and things.

**People** — Today, most people connect socially through their web-enabled devices. As the IoE evolves, we will connect in new and valuable ways. Wearable devices and clothing are already changing how we connect.

**Process** — Processes occur between all of the other pillars in the IoE. With the correct processes, connections become more valuable. These connections provide the right information, delivered to the right person, at the right time and in the most relevant way.

**Data** — Data is the information generated by people and things. This data, when combined with analytics, delivers actionable information to people and machines. Better decisions are made and better results are achieved.

**Things** — Things are physical objects that are connected to the Internet and to each other. These devices are sensing and collecting more data, becoming context-aware, and providing more experiential information to aid both people and machines.

# Module 3: Connecting the Unconnected

This module explains how IoE smart "things" are able to capture, share, and analyze data. In some cases, IoE "things" make decisions based on that data, without the need for human intervention.

**Learning Objectives**

- Describe examples of IoT application in the home and industry

- Explain why a protocol suite is necessary for communication to occur across a network

- Explain how the IoE affects the evolution of data storage and access

- Review an example of a Home IoE implementation environment

- Explain programming and show a simulated version of the Cisco Coffee JavaScript application

**Estimated time to complete:** 4 hours
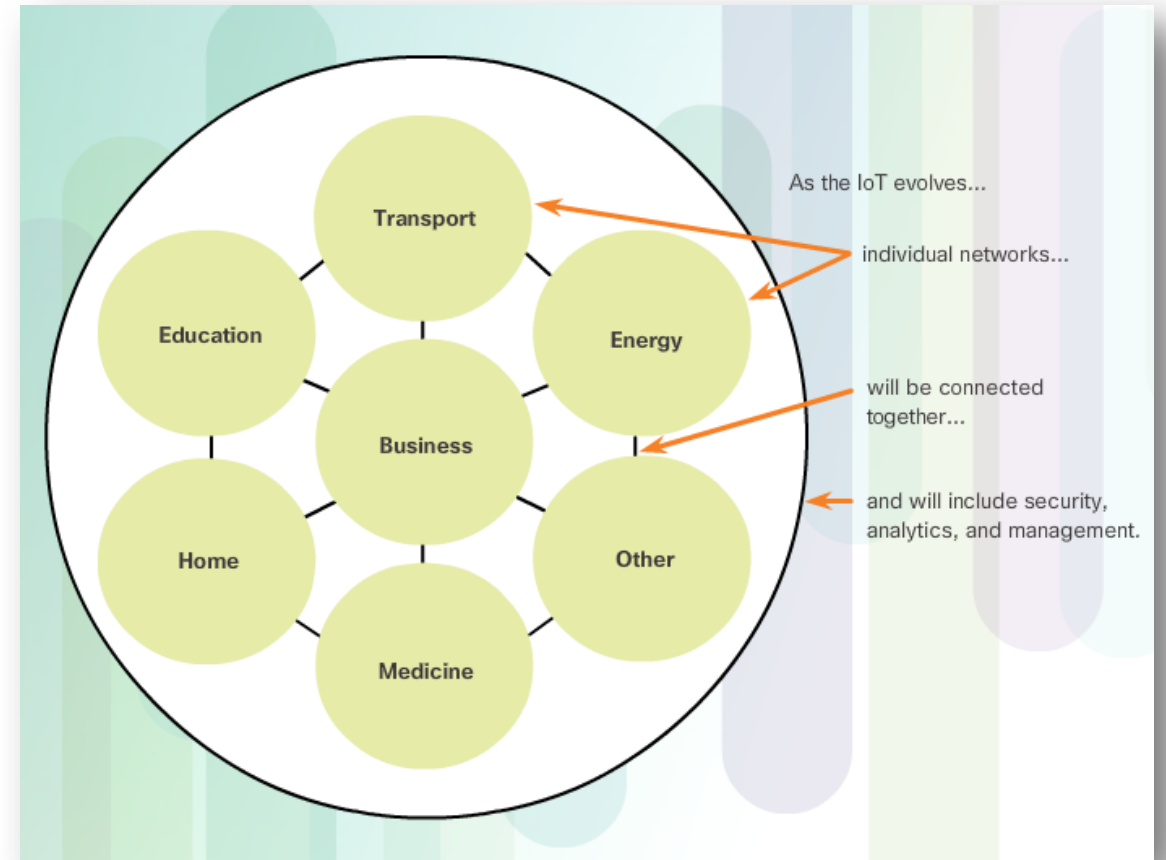
# Module 4: Transitioning to the IoE

This module explains the steps to evaluate and implement an IoE solution. It also describes the security measures needed to secure people, processes, data, and things.

**Learning Objectives**

- Describe how the Internet of Everything (IoE) drives the convergence between an organization's operational technology (OT) and information technology (IT) systems

- Describe the M2M, M2P, and P2P interactions in an IoE solution

- Describe the business processes for evaluating a problem that can be solved with IoE

- Explain the necessary architectural structure to implement an IoE solution

- Explain security concerns that must be considered when implementing IoE solutions

**Estimated time to complete:** 4 hours

# Module 5: Bringing It All Together

This module explains how modeling is critical to identify and implement an IoE Healthcare solution model. It also encourages an entrepreneurial mindset when prototyping a solution for the nascent IoE market.

**Learning Objectives**

- Explain how modeling identifies "what if" scenarios that can help a business understand the benefits and impediments to implementing a new solution

- Describe the physical topology and logical topology of an IoE Healthcare solution model

- Describe the M2M, M2P and P2P interactions of an IoE Healthcare solution model

- Explain the concept of prototyping and why this is critical in the nascent IoE market

**Estimated time to complete:** 4 hours

# Enrollment and Support

**Students:**

- Please visit the [Self-Enroll Courses page](#) on Cisco NetSpace to enroll in the self-paced version of this course

- If you need assistance, please post questions on the [Cisco Networking Academy Facebook page](#)

**Instructors:**

- Instructors can enroll students and teach Introduction to the Internet of Everything in their classrooms through the same process used for other NetAcad courses

- If you need assistance, please contact your Academy Support Center (ASC)

Thank you.

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