

Kaushalya Technical Training and Consultancy Services
No. 1094, Indushankara, MCECHS Layout,
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Internet Of Things (IoT) - Basics

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Course Details:

Name	Internet of Things
Course Duration	25 hours

Gartner predicts: “World will need IOT professional in millions by the year 2020. Anything we buy that costs over \$100 will be IoT enabled by 2020. As per Gartner....50 billion devices will be connected to Internet by 2020”

Hence, Kaushalya has launched this IoT BootCamp to enable you to build your Career/Business in Internet of Things.

- ✓ This comprehensive training program gives IT professionals, Industry Professionals, Entrepreneurs, Students, Engineers, Managers and anyone else who wants to make a career in IoT a much needed head start.
- ✓ It provides an End to End knowledge on Internet of Things Ecosystem. The technical pieces covered in this training are: (Software + Embedded Concepts) - IoT Architecture, Sensors, Nodes and Gateways, Development boards, and much more.....
- ✓ Also a deep understanding about Business verticals, regulations, IoT platforms, Alliances, Consortiums and business opportunities is given in this training.
- ✓ Mentoring by IoT/Industry experts with more than 20 years' experience
- ✓ 25 hours of theory and practical sessions filled with lots of examples and use cases

Objectives of Training

- Provide minds-on and hands-on training
- Understand IoT and its usages
- Learn hardware and software associated with IoT
- Learn end to end IoT prototype development
- Build sample IoT prototype to solve issues faced by general public

Outcome of Training

- Understand and explore existing IoT products
- Trainees should be able to independently develop IoT applications
- Knowledge on IoT would help them to prepare for placements/switch career.

Syllabus – Basic Course

Module	Topics
<p>Modules 1 – Introduction to IoT and its Architecture</p>	<p><i>Introduction</i></p> <ul style="list-style-type: none"> ✓ What is IoT - In-depth explanation of end to end ecosystem ✓ What is IoT Business? ✓ IoT Applications in different domains ✓ Use cases ranging from Smart Home to Smart Cities ✓ How large is the IoT Market in different domains? ✓ What is Industrial IoT? ✓ Difference between Consumer IoT and Industrial IoT <p><i>IoT Architecture.</i></p> <ul style="list-style-type: none"> ✓ Technology Stack. ✓ Building blocks for Node and gateway ✓ Hardware Development Platforms ✓ Software Development Platforms ✓ Introduction to Communication Protocols ✓ Power Requirements in IoT ✓ Cloud, its components and IoT ✓ Data Streaming and IoT ✓ Data Store and IoT ✓ Analytics & Visualization and IoT ✓ IoT Security ✓ Question and Answers
<p>Module 2 – Sensors and Actuators</p>	<p><i>Introduction</i></p> <ul style="list-style-type: none"> ✓ What is Sensor & Actuator? ✓ What is good sensor? ✓ Sensor properties & their classification. ✓ Types of sensors ✓ Selecting a sensor for your use case ✓ MEMS, RF and Magnetic Sensors ✓ Passive and Active Sensors ✓ Visual sensors & Computer Vision ✓ Application of Sensors

<p>Module 3 – Prototyping using Arduino</p>	<ul style="list-style-type: none"> ✓ Building simple electronic circuits using bread board, battery, LED, Resistor, Potentiometer and Buzzer ✓ Introduction to Arduino ✓ Prototyping using Arduino Board ✓ Basic programming ✓ Programming with sensors <ul style="list-style-type: none"> ○ Temperature and Humidity sensor ○ Ultrasonic Sensor ○ Gas sensor ○ Soil moisture sensor ○ PIR sensor ○ Light Sensor ○ Reed Switch sensor ✓ Programming with Bluetooth module
<p>Module 4 – Prototyping using NodeMCU</p>	<ul style="list-style-type: none"> ✓ Introduction to NodeMCU ✓ Interfacing Sensors with NodeMCU ✓ Programming using NodeMCU <ul style="list-style-type: none"> ○ Controlling LED using Web Application ○ Controlling LED using Mobile Application - BLYNK
<p>Module 5 – Building IoT Solution</p>	<ul style="list-style-type: none"> ✓ Introduction to IoT Protocols ✓ Building End to End applications ✓ Use Cases <ul style="list-style-type: none"> ○ Home Automation ○ Building a Bluetooth Controlled Robot ✓ Assessment