IoT Theory and Concepts Training On Internet of Things

Gartner says:

"World will need 300,000 IOT developers by year 2017. Anything we buy that costs over $100 will be IoT enabled by 2018"

Gartner is the same company which predicted in 1992 that India will become an IT superpower by 2015 with exports of over $100 billion. Many people laughed at them at that time. We crossed $100 billion exports in 2013.

We, at Axelta, have launched this Training cum BootCamp to play our part in making India IoT superpower and enable you to build your career in IoT.

Below is the detailed TOC of the steps we take to help solve the Business problem and give you the in-depth IOT understanding.

Topic	Details of the Topic	Sub Topics	Duration
Day 1			
Context setting and Introductions			20 mins
Introduction to IoT	IoT definition and use cases of IoT for different domains	• What is IoT - In-depth explanation • IoT Applications in different domain • How large is the IoT Market in different domains?	60 mins
IoT Architecture	Introduction to IoT Architecture and Technologies	• Architecture. • Tech Stack. • Protocols	60 mins
Sensors	Sensors and Actuators	• What is Sensor & Actuator? • What is good sensor? • Sensor properties. • Types of sensors • Sensor Demo – Proximity and IR sensors	30 mins
Discussions			15 mins
Day 2			
IOT World	What's happening in the Industry	• Recap of Day 1 • Latest updates in the IOT industry. • Available IOT alliances details and the standards that are getting evolved • Multiple IOT applications and solutions available in market • Multiple IOT platform (hardware) example ARM Mbed, Intel, Free scale etc., comparison and usage • Multiple IOT software and cloud platform, Components	45 mins

		of a Platform, Usage, comparison. IOT eco system build around these platforms. OSMOSIS platform and our experience about IOT platform building • Details about your OSMOSIS IOT platform	
Communication	Connectivity Technologies & Communication Protocols	• Introduction to communication architecture- Network protocol stack • Different protocols • RF: ZigBee, Blue Tooth, BLE, Zwave, Mesh network. • Communication Channels: GSM/GPRS, 2G, 3G, LTE, WiFi, PLC • IoT protocols: MQTT/MQTTS, CoAP, 6LoWPAN, like TCP, UDP, HTTP/s. • Comparison of the different IOT protocols, advantages and disadvantages (limitations) of these IOT protocols. • IPv4 addressing problem for IOT and introduction to IPv6 IPv6 is required to address more devices. • Application issues with RF protocol - power consumption, LOS, reliability. Security aspects. Showcase the GSM module.	45 mins
End to End Cold Chain Demo	Business case - More claims being filed by clients – IoT Enabling to resolve problem	• H/w pieces • Osmosis configuration – BCC – Client, Device, Rule, Alarm, Device Data, Event • Sensor data being sent to Osmosis platform • Actuation through BLE • Visualization through real time dashboard • How the problem gets solved through big data and visualization	30 mins
Cloud Computing	What is cloud, different types of cloud , benefits of cloud	• What is cloud? • What is cloud computing? • Benefits of cloud. • History of cloud computing. • Deployment Models. • Top cloud providers. • Service Models • Service Catalogue • Different Services from Amazon • Advantages for different offerings • Our learning in selecting the right service provider	20 mins
Share case study and discussions			30 mins
Day 3			
Cloud computing and Data Analytics	Web services	• Recap of Day 2 • What are Web Services. • Why Web Services. • Types of Web Services. • RESTful web services.	30 mins

		• Design Principles.	
	Introduction to the Big Data and Big data technologies and stream processing.	• Cloud data storage • Introduction to BigData • BigData Definition and Characteristics • Who is Generating BigData • BigData Analytics • Why BigData Analytics • Applications of BigData Analytics • Different Data Stores • BigData Technologies - CouchDB, MongoDB, Node4J	30 mins
	Visual Analytics, predictive analytics.	• Analytics. • What is Visual Analytics? • Visual Analytic Tools for Big Data. • Predictive Analytics. • Predictive tools for Big Data.	15 mins
Design considerations and IoT Security	Design principles w.r.t architecture, power, ruggedness, size, weight and security	• Axelta device manufacturing experience • Experience from building Osmosis platform • How secure is IoT? • Vulnerabilities • Key aspects for Securing IoT solutions	20 mins
IoT Opportunities	Brainstorming on opportunities and how they can be realized		15 mins
Case study presentations, discussions and alternate solutions			60 mins

Trainers Profile

Manish Agarwal - Co Founder - Axelta Systems

- BE Mech – IIT Roorkee – 1994
- PGDBM – IMT, Ghaziabad – 2000
- Executive Management – IIM Bangalore – 2010
- Co – Founder – Axelta Systems Pvt Limited (Oct-2013)
- Group head – Product Development for healthcare products - ADP India
- Platform Architect – Warehouse management, SCM product, Enterprise Cloud Platforms
- End to End IoT Architecture and Technology expertise
- Passionate about Architecting technology solutions.

Pyush Jain - Co Founder - Axelta Systems

- BE Mech – IIT Roorkee – 1995.
- Co – Founder – Axelta Systems Pvt Limited (Oct-2013)
- Business Head and Principal Consultant – Tech Mahindra - B2B-EDI-Tech solutions
- Tech Architect and Solution Architect (TCS, Williams Energy, Technova)
- Passionate about creating unique solutions for Indian market.
- Technical expertise in B2B integrations
- Passionate about Business development and idea to market dynamics.
- End to End IoT solution development expertise

FAQs

Q1.How do I register for the Bootcamp / Training?

You can register online through our IoT Academy page - http://axelta.com/AxAcademy.php

Seat will be confirmed only after paying full advance into our account. We will be sending you the training material through Fed Ex after confirmation of your seat. Please send your mailing address to our email - **ksmbasha@axelta.com**

Q2. How can I pay for this Boot Camp and how much?

Ans:

Bootcamp Cost: USD 400 / INR 25,000

Payment Mechanism 1 - Direct Account Transfer
ICICI Bank
Axelta Systems Pvt Ltd
A/c no – 000805014884
Khairatabad Branch, Hyderabad [IFSC Code – ICIC0000008]

Payment Mechanism 2 - Paypal

Once we get a confirmation of your registration, we will send a link to Paypal Site for payment transfer

For more information, contact us at: +91-9949923705, +91-9908112221

Q4. Who will benefit from this program?

Ans. Internet of Things is applicable to all verticals and specializations. That's the beauty and attraction of IoT. Some of the people who can make the most from the program are.

• **Students:**Who are looking to build a better career in technology. There is going to be a very high demand for people who have knowledge and the ability to contribute to IoT projects in the organizations. This program helps them develop an understanding that they can further deepen through learning and experimentation to ride the IoT wave.

• **Govt/PSU:**Employees can take this input and explore how Govt can make a difference in governance using IoT. Given the vast application of IoT in social sector, healthcare, environment, smart-city and quality management there is a huge scope for Govt employees to experiment and implement and propose new schemes.

• **Software professionals:**Who are looking to expand their horizons by getting exposure to latest technologies like Big Data, Analytics, Mobile computing, Cloud computing, etc. along with in-depth understanding of IoT. Most IT companies have started their IOT competencies and this training will be a very good career booster for them.

• **Electronics engineers:** Who are aware that a golden period is coming for them soon and want to reach out beyond their current scope that limits them to just electronics. Getting an understanding of the electronic side of the IoT technologies and standards and also getting an exposure to the cloud / software side of things will enable them to play a key role in time to come when the demand for electronicengineers with IoT experience and knowledge will skyrocket.

• **Existing or Budding Entrepreneurs:**Who have any IoT ideas (e.g. Remote controlled things, home automation, wearable tech devices, etc.) that they would like to bring to a reality. They will get a very good understanding of all technologies and most importantly, how these technologies work together to make it possible. They will also get technical support from Axelta experts and limited period free access to Axelta Osmosis platform to experiment and build their solutions.

• **Industry professionals:**Working in pharmaceutical, real estate, manufacturing, electrical, retail, healthcare and a number of other verticals and businesses who are foresighted to see the disruption that it will bring in the way their business operates in the near future and want to be the early adopters or change agents in their respective industries. Through the insight that they build on the working and the possibilities of IoT, they can spearhead the adoption of it in their business areas.

Q5. What are the prerequisites for the boot-camp?

Ans. There is no specific pre-req. The sessions have been structured in a manner that anyone with zeal to learn can go through them. We will help you understand the end to end IOT. The program gets you a conceptual understanding about the Internet of Things on different technologies and applications.

Q6. Will I get a job after doing this program?

Ans: We are going to cover multiple technologies like Hardware platforms, sensors, Protocols, Big data, embedded programming, cloud deployment, analytics, etc. Surely this will provide a window of opportunity in the up and coming tech industry and a huge number of startups coming up in the area. Companies/startups working on wearable tech, etc are looking out for guys trained in IOT as first choice.

Q7. What would be the next steps after the Bootcamp?

Ans. The answer to this can vary significantly based what you intend to do with the competence you build on IoT. Here are some thoughts:

• Software professionals will get a lot of hands on insights on the latest technologies. While they prepare themselves and develop further depth for the IoT wave to hit our shores, they can leverage the insights on specific technologies to further build depth on them and transform their careers in that direction

• Start up enthusiasts and students can immediately get started with implementing their ideas. They can buy our IoT Kit / Osmosis Gateway and with free access to Osmosis Platform, they can start putting together their proof of concept. This is the most time and cost effective way to experiment and convert their ideas to reality

• Govt/PSU employees can take this input and explore how Govt can make a difference in governance using IOT. How better data can be collected using IOT. Given the vast application of the IOT in social sector, healthcare, environment and quality management, huge scope for Govt employees to experiment and implement.

• Industry people can go back and start exploring on ideas through which they can create disruptive innovation in their businesses and work with our consulting / solutions division to develop solutions for their needs

Besides this, we are open to work with passionate people on their ideas and if you are keen on putting further effort in realizing those ideas, we are going to back you up through technical support, mentoring, access to infrastructure, etc. for translating these ideas into a reality.

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