

# Internet of Things

## 5-Day Session

<b>Title</b>	<b>Internet of Things</b>
<b>Overview</b>	<p>Internet of Things - What, how and Why, Evolution of Technology</p> <p>Architecture - A detailed analysis of the IoT Stack</p> <p>Requirement Analysis and Scoping</p> <p>IoT Device Communication Protocols</p> <p>Wireless Mesh Networking and PAN Protocols</p> <p>Wireless Mesh Networking – ZigBee &amp; BLE</p> <p>Enabling End to End Sensor Use case</p> <p>Security &amp; Privacy Considerations</p> <p>Project Work</p>
<b>Duration</b>	<p>5 Full-Day Session – 40 hours/8 hours a day</p> <p>50% Theory, 50% Practical</p>
<b>Language/Software</b>	C, Python, Assembly
<b>Audience</b>	People who want to be a part of the next big thing - IoT
<b>Pre-requisites</b>	<ul style="list-style-type: none"> <li>• Knowledge of C, Python, Open source technologies, networking programming</li> <li>• Please go through the prerequisites for the course at this location - TBD</li> <li>• Bring your own Laptops so as to be able to have the development environment always</li> </ul>
<b>Pre-Work</b>	<ul style="list-style-type: none"> <li>• Install any flavour of Linux on your laptop e.g. Ubuntu, Fedora, Suse</li> <li>• For those who do not want Linux natively on their laptops can install VirtualBox with Ubuntu guests</li> <li>• Tutorials for Linux Installation and VirtualBox will be uploaded on the site</li> </ul>
<b>Materials Provided</b>	Printed and Soft copy of the presentation material and lab exercises with solutions
<b>Hardware Lab Equipment</b>	<p>The Raspberry Pi 3 Rev B</p> <ul style="list-style-type: none"> <li>• Quad Core 1.2GHz Broadcom BCM2837 64bit CPU</li> <li>• 1GB RAM</li> <li>• BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board</li> <li>• 4 USB 2 ports</li> <li>• Micro SD port for loading your operating system and storing data</li> </ul> <p>Sensors – PWM, Temperature, humidity, occupancy</p> <p>All Lab materials will be provided for training purposes only. Any student willing to buy these for their reference can buy during the workshops.</p>