



Course Content for 3-Day Workshop on IOT

1. Understanding and Introduction to Raspberry Pi 3 (1Hrs)

- What is SOC?
- Versions of Raspberry Pi & Their Difference
- Raspberry Pi 3
- Basics of Electronics
- Hardware Description
- Pin Configuration

2. OS Installation on SD Card (30Mins)

- Downloading Image
- Study Various Operating Systems Available
- Making SD Card: Formatting and Partitions
- Raspberry Pi SD Installer

3. OS Configuration (30Mins)

- Booting Into Desktop
- GUI Version
- CLI Desktop
- Changing Timezone
- Other Options
- Raspi-Config

- Test
- ## 4. Network Setup (30Mins)
- Setting Up Using GUI
 - Setting Up Using Command Line
 - Finding Pi's IP Address
 - Connecting with Wi-Fi/ LAN/ Datacard

5. GPIO (1hrs)

- Study GPIO Pins
- Libraries Using Git
- Configuring GPIO Pins

6. Pi using SSH (30Mins)

- Enabling SSH
- Logging in using Putty
- Run Basic Commands
- Use GPIO

7. Linux (1Hrs)

- Understanding Linux
- File Structure
- Linux Commands
- Permissions

8. Using Python (4Hrs)

- Understanding Python
- Interpreted Languages
- Variables, Keywords, Operators and Operands
- Data Types in Python
- Flow Control
- Condition Statement
- Loops
- Importing Libraries
- Functions
- Classes

9. Implementing OOP's Using C# (3Hrs)

- Overview to C# constructs

10. Implementing ASP.NET using C# (2Hrs)

- What Is A Web Service
- Technologies
- HTTP

- *Looking At HTTP*
- *XML & SOAP*
- *WSDL*

10.How ASP.NET Web Services Work (3:30 Mins)

- *Consuming Web Services*
- *Creating The Web API Project*
- *Creating The User Controller*
- *Adding Methods*
- *Adding Get And Post*
- *Testing The API*
- *Implementing Put*

