TechnoScripts

[An ISO 9001:2008 Certified Company]

GET TRAINED

BECOME EXPERT AND GET PLACED

100% JOB ORIENTED ADVANCE EMBEDDED COURSES

SCAN & CONNECT

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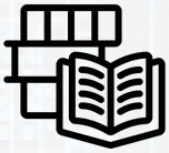
ABOUT US

TechnoScripts is an ISO 9001:2015 certified best training institute for advance courses in Embedded System. We are pioneer of Embedded System training in Pune development. Though we provide many different courses and training in embedded all aim at giving good practical knowledge to students as well help them in career

OUR FEATURES



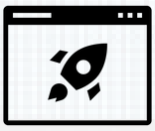
STUDY MATERIAL

ISO 9001:2015 CERTIFIED

100% PLACEMENT SUPPORT

COURSE COMPLETION CERTIFICATE

INTERVIEW PREPERATION



LIVE PROJECTS

STATE OF THE ART LABS

LEARN ONLINE / CLASSROOM

OUR COURSES

Advance Career Track | Automotive Embedded | PG Diploma in Embedded

MATLAB Simulink | MBD Training | IOT Training | Autosar Training

LIVE PROJECTS | INTERVIEW PREPERATION | MOCK INTERVIEWS

CONTACT US FOR DEMO NOW

COURSE SYLLABUS : ADVANCE IOT TRAINING IN PUNE

Module 1: Introduction to IoT

- *Understand the fundamentals of the Internet of Things (IoT), its working principles, and how interconnected devices communicate and exchange data.*
- *Explore the essential building blocks of IoT systems, including hardware, software, connectivity, cloud platforms, and real-time data processing.*
- *Learn about key industry terminologies, practical applications, growth opportunities, and challenges associated with IoT system design.*

Module 2: Linux for IoT Applications

- *Learn the architecture of the Linux operating system, focusing on components like I/O models, virtual file systems, and system commands.*
- *Practice using Linux through command-line operations, piping, redirection, VI editor scripting, and shell programming structures.*
- *Implement hands-on scripting tasks including shell variables, conditionals, autostart scripts, and debugging shell programs.*

Module 3: Python Programming for IoT

- *Understand Python basics, data types, string operations, casting, loops, and functions in the context of embedded and IoT programming.*
- *Work with Python on Raspberry Pi, apply object-oriented programming concepts, and perform file handling operations.*
- *Develop automation scripts and use Python to integrate hardware components for real-time sensor control and data logging.*

Module 4: Arduino Development and Integration

- *Learn to program using Arduino IDE, simulate input/output operations, and develop real-world automation examples.*
- *Review C-based syntax for Arduino and perform hands-on activities involving LEDs, sensors, and actuator interfacing.*
- *Explore app-based control, analog and digital signals, and validate programs through simulation and practical execution.*

Module 5: Sensors, Signals, and Basic Electronics

- *Study analog and digital sensors, signal types, and key differences between serial and parallel communication in embedded systems.*
- *Get introduced to open-source hardware, Arduino board structure, and the basics of signal logic and electronics.*
- *Learn communication protocols including UART, RS232, and TTL, and interface GSM modules for wireless data transmission.*

Module 6: NodeMCU and Wireless Networking

- *Understand NodeMCU architecture and use it for logging sensor data over Wi-Fi in real-time applications.*
- *Learn to configure UART communication on NodeMCU and integrate multiple sensors for wireless interaction.*
- *Implement LED blink applications using MQTT protocol and perform simple publish-subscribe messaging setups.*

Module 7: MQTT Protocol and Messaging

- *Learn the principles of MQTT protocol including its publish/subscribe model, message format, and broker system.*
- *Develop real-time messaging applications using MQTT to enable communication between two or more embedded nodes.*
- *Integrate MQTT with cloud platforms for sensor data transmission and remote device control in IoT systems.*

Module 8: Raspberry Pi for IoT Applications

- *Understand Raspberry Pi hardware setup, OS installation, and use it for executing real-time projects like LED blinking and camera interfacing.*
- *Learn about remote access, Linux device drivers, and Raspberry Pi's compatibility with various input/output modules.*
- *Explore bash command-line utilities and practice basic multimedia and automation tasks with Raspberry Pi.*

Module 9: Google Firebase Integration with IoT

- *Connect devices to Google Firebase to create a real-time database for storing and syncing sensor data.*
- *Develop web-based interfaces using Firebase to control appliances and monitor inputs remotely.*
- *Integrate Google Assistant and Amazon Alexa with Raspberry Pi through Firebase for voice-controlled operations.*

Module 10: Machine-to-Machine (M2M) Communication

- *Understand M2M communication frameworks and how sensor nodes interact with gateways and cloud systems.*
- *Learn to use Node-RED for visual programming and flow-based integration of IoT devices and services.*
- *Build real-time data pipelines and monitor devices through automated M2M control systems.*

Module 11: Multimedia and Voice Processing

- *Use Raspberry Pi to build a multimedia server capable of media streaming and background services.*
- *Design voice-controlled applications and understand how voice assistants like Alexa and Google Assistant work.*
- *Implement security-based IoT solutions like a Raspberry Pi voice-activated surveillance camera.*

Module 12: Amazon AWS IoT and Cloud Integration

- *Learn to deploy and configure AWS EC2 instances and integrate IoT devices using AWS IoT Core and Message Brokers.*
- *Build cloud-based services to store, process, and visualize sensor data for home automation and other use cases.*
- *Work on a comprehensive case study covering node setup, gateway design, and server interaction using Amazon AWS.*

Module 13: Beyond Wi-Fi – Advanced Connectivity

- *Explore short-range wireless technologies such as BLE and their relevance in applications like wearables and smart homes.*
- *Analyze a smart city case study to understand the role of IoT infrastructure in urban planning and public systems.*
- *Compare RF alternatives to Wi-Fi and evaluate their use cases in power-efficient and low-latency communication.*

PLACEMENTS

We provide 100% placement support to every student enrolled for Job oriented courses. We invite top companies for campus interview at our centre as well arrange the interviews for students at company premises.

OUR ALUMNIES ARE PLACED AT

KPIT, SANEPAR, Atos, TCS TATA CONSULTANCY SERVICES, HARMAN, Lenovo, UNISOUL, HCL, American Megatrends, Cummins, innovita, BOSCH, SIEMENS, SAMSUNG, Deloitte., KNORR BREMSE, Honeywell, Tech Mahindra, HITACHI, suntel, Onward TECHNOLOGIES, TATA ELXSI, AVIN SYSTEMS, RENU ELECTRONICS PVT. LTD., JOHN DEERE, infotech Solutions, KALYANI, Qualcomm, Valeo, ASUS, Whirlpool CORPORATION, FORBES MARSHALL, SEDEMAC

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