



**QUILLANCE  
INFOTECH PVT LTD.**

## **Internet of Things (IoT)**

The Quillance Internet of Things (IoT) Program is a complete beginner-to-advanced training program designed to help learners master IoT systems, smart devices, sensors, embedded technologies, cloud connectivity, automation systems, and intelligent applications used in modern industries and smart environments worldwide.



# Program Overview

## What You Will Learn

- Understand IoT systems and smart device concepts
- Learn sensors, actuators, and microcontroller programming
- Build connected IoT applications and automation systems
- Understand cloud connectivity and communication protocols
- Develop real-time monitoring and control systems
- Work with modern smart technologies and industrial IoT workflows

## Career Opportunities

- Beginner-Friendly Live Sessions
- Hands-On IoT Labs & Simulations
- Real-World Smart Device Projects
- Mentor Guidance & Technical Reviews
- Automation Workflow & Cloud Practice
- Career Preparation & Mock Interviews

# Live Projects You'll Build

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- **Project 1 — Smart Home Automation System**

Build automation systems for controlling lights, appliances, and smart devices.

- **Project 2 — Environmental Monitoring System**

Develop IoT systems for temperature, humidity, and air quality monitoring.

- **Project 3 — Smart Security & Surveillance System**

Create IoT-enabled security systems with sensors and alert mechanisms.

- **Project 4 — Industrial IoT Monitoring Dashboard**

Build monitoring platforms for industrial machine performance and analytics.

- **Project 5 — Smart Agriculture IoT System**

Develop intelligent farming solutions using sensors and automation.

- **Project 6 — AI-Powered Smart City IoT Project**

Create advanced IoT systems for smart transportation, energy, and infrastructure management.

## MODULE 1

# IoT & Electronics Fundamentals

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### TOPICS COVERED:

- Introduction to Internet of Things (IoT)
- Basics of Electronics & Circuit Design
- Sensors, Actuators & Components
- Microcontrollers & Embedded Basics
- Smart Device Architecture
- IoT Applications & Industry Use Cases

### SKILLS GAINED:

- IoT Fundamentals
- Electronics Knowledge
- Hardware Component Understanding
- Smart Technology Awareness

### PRACTICAL LEARNING:

- Understand IoT workflows and systems
- Explore electronic components and circuits
- Analyze smart device architecture
- Learn sensor and actuator integration basics



## MODULE 2

# Microcontrollers & Embedded Programming

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### TOPICS COVERED:

- Embedded C Programming Basics
- Arduino & ESP32 Fundamentals
- GPIO, Timers & Interrupts
- Sensor & Display Interfacing
- Serial Communication Protocols
- Embedded Debugging & Testing

### SKILLS GAINED:

- Embedded Programming Skills
- Microcontroller Development Knowledge
- Hardware Interfacing Understanding
- Embedded System Debugging Skills

### PRACTICAL LEARNING:

- Program microcontrollers for IoT systems
- Interface sensors and display modules
- Develop hardware-based automation systems
- Practice debugging and testing workflows

## MODULE 3

# IoT Communication & Cloud Integration

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### TOPICS COVERED:

- Wi-Fi, Bluetooth & Wireless Communication
- MQTT & IoT Communication Protocols
- IoT Cloud Platforms & Connectivity
- Real-Time Data Collection & Monitoring
- API Integration for IoT Systems
- Cloud Dashboard & Data Visualization

### SKILLS GAINED:

- IoT Connectivity Skills
- Cloud Integration Knowledge
- Real-Time Monitoring Understanding
- IoT Dashboard Development Skills

### PRACTICAL LEARNING:

- Connect IoT devices to cloud platforms
- Monitor and visualize sensor data
- Work with IoT communication workflows
- Build cloud-enabled smart systems



## Module 4

# Smart Automation & Industrial IoT

### TOPICS COVERED:

- Automation System Fundamentals
- Industrial IoT (IIoT) Concepts
- Smart Home & Smart Industry Systems
- Sensor Networks & Monitoring Systems
- Remote Device Management
- IoT Security & Data Protection Basics

### SKILLS GAINED:

- Automation Workflow Understanding
- Industrial IoT Knowledge
- Smart System Development Skills
- IoT Security Awareness

### PRACTICAL LEARNING:

- Build automation workflows
- Explore industrial monitoring systems
- Develop remote-controlled smart devices
- Analyze IoT security concepts

## Module 5

# Advanced IoT & Intelligent Systems

### TOPICS COVERED:

- AI & Machine Learning in IoT
- Edge Computing Fundamentals
- Smart City & Smart Mobility Concepts
- IoT Analytics & Predictive Monitoring
- Intelligent Device Optimization
- Future Trends in IoT Technology

### PRACTICAL LEARNING:

- Explore AI-integrated IoT systems
- Analyze intelligent automation workflows
- Understand edge computing concepts
- Work on advanced smart technology projects

### ADVANCED CONCEPTS INCLUDED:

- AI-Powered IoT Systems
- Intelligent Automation Workflows
- Edge & Cloud Computing Integration
- Smart Infrastructure Concepts
- Predictive IoT Analytics
- Next-Generation Connected Systems

### SKILLS GAINED:

- Advanced IoT Development Skills
- Intelligent Automation Knowledge
- Smart Infrastructure Understanding
- AI-IoT Integration Expertise

## Module 6

# Live Project & Agile Development

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### TOPICS COVERED:

- IoT Project Planning Workflow
- Hardware & Cloud Integration
- Real-Time Monitoring System Development
- Automation Workflow Implementation
- Team Collaboration & Technical Documentation
- Final IoT Project Presentation

### SKILLS GAINED:

- Real-World IoT Experience
- Team Collaboration Skills
- Smart System Workflow Understanding
- End-to-End IoT Development Expertise

### PRACTICAL LEARNING:

- Work on real-world IoT applications
- Build cloud-connected smart systems
- Collaborate in engineering teams
- Present IoT solutions professionally



## Module 7

# Placement & Career Preparation

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### TOPICS COVERED:

- Resume Building & ATS Optimization
- LinkedIn & Professional Branding
- IoT & Embedded Interview Preparation
- Hardware & Coding Practice Sessions
- Mock Interviews & HR Preparation
- Career Guidance & Industry Exposure

### CAREER SUPPORT INCLUDES:

- Resume & LinkedIn Reviews
- Mock Technical Interviews
- Internship & Placement Assistance
- IoT Portfolio Guidance
- Career Mentorship Sessions
- Professional Communication Training

### SKILLS GAINED:

Students will be prepared for internships, IoT engineering roles, automation opportunities, and smart technology careers.





**QUILLANCE  
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# Thank You!!

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