



DEPARTMENT OF INTERNET OF THINGS

IoT CLOUD PROCESSING & DATA ANALYTICS LAB

OBJECTIVE: The objective of the IoT Cloud Processing & Data Analytics Lab is to provide hands-on experience in processing IoT data using cloud platforms and performing advanced analytics. The lab focuses on enabling students to:

1. Understand the fundamentals of IoT data collection and cloud integration.
2. Perform data processing and visualization on IoT cloud platforms.
3. Apply data analytics techniques to derive meaningful insights from IoT data.
4. Develop solutions for real-world IoT applications using cloud-based tools.

PHOTOS:





LAB OUTCOMES:

Course Outcomes:

By the end of the lab sessions, students will:

1. Gain proficiency in connecting IoT devices to cloud platforms such as AWS IoT, Google Cloud IoT, and Azure IoT Hub.
2. Learn data pre-processing techniques for cleaning and organizing IoT datasets.
3. Develop skills in real-time data visualization using dashboards like ThingSpeak, Node-RED, and Grafana.
4. Implement predictive analytics and machine learning models on IoT data using tools like Python and cloud-based ML services.
5. Build scalable IoT solutions for sectors like smart cities, healthcare, and industrial automation.

Lab Infrastructure

IoT CLOUD PROCESSING&DATA ANALYTICS LAB	SOFTWARE REQUIREMENTS
Room No.: 2-303	No of systems: 90 working: 90
	Processor : Intel(R) Core(TM) i5-10400 CPU @ 2.90GHz, 2904 Mhz, 6 Core(s), 12 Logical Processor(s)
	Installed RAM : 8.00 GB (7.75 GB usable)
	HDD :- 931.51 GB x-64based pc
	System Type : 64-bit operating system, x64-based processor
	Operating Systems: Windows 10 pro
	OS Version : 22H2, Edition-Windows 10 pro
	Mouse : DELL, 90
	Keyboard : DELL, 90
	Monitor : DELL
	LG - Smart Board with Internet Connection Audio System with cordless mic

Software Requirements

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1	AWS Educate	Cloud platform for learning and deploying IoT applications, data processing, and analytics.
2	Contiki OS	Open-source operating system for IoT devices, enabling simulation and application development.
3	VMware Workstation	Virtualization software for running multiple operating systems and IoT simulations on a single system.

COORDINATORS:

The lab is coordinated by a dedicated team of faculty members who ensure the smooth conduct of lab sessions:

- **Dr.B.Nageshwar Rao**
- **Mrs. Priyanka Chandragiri**
- **Dr.Ohmi Neralla**