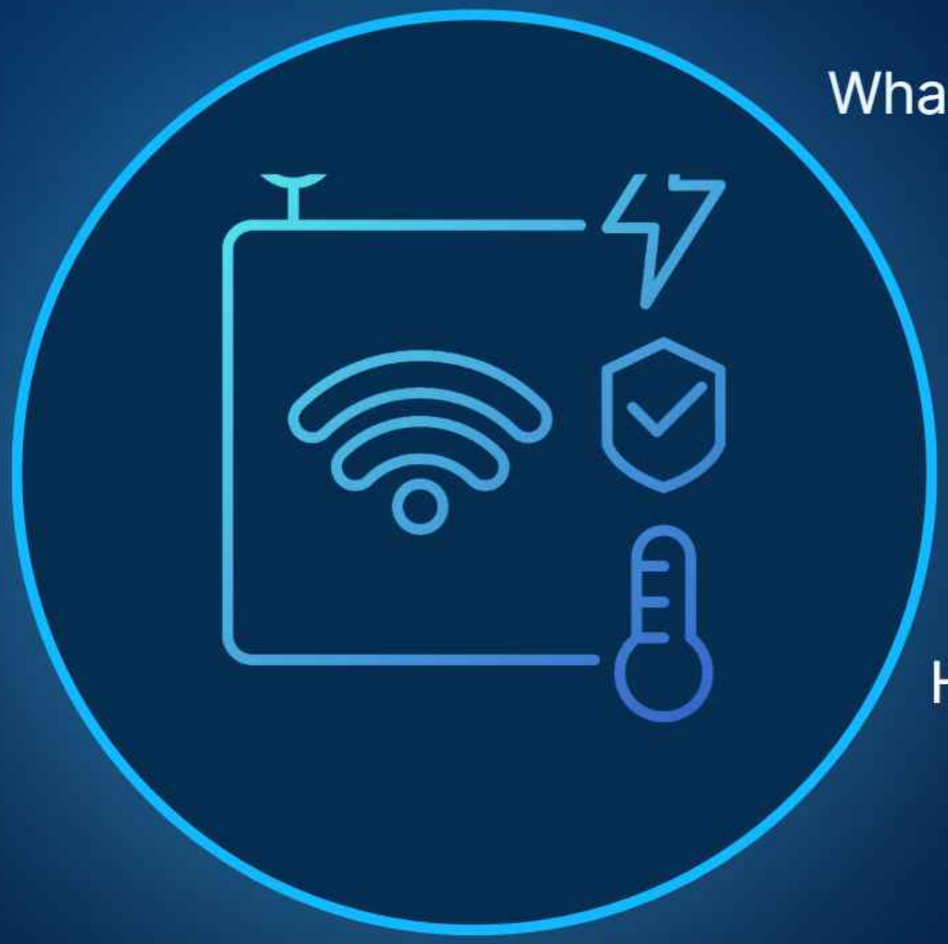
The Internet of Things (IoT)

Curriculum

Introduction



What is IoT?

How IoT is applied in different domains?

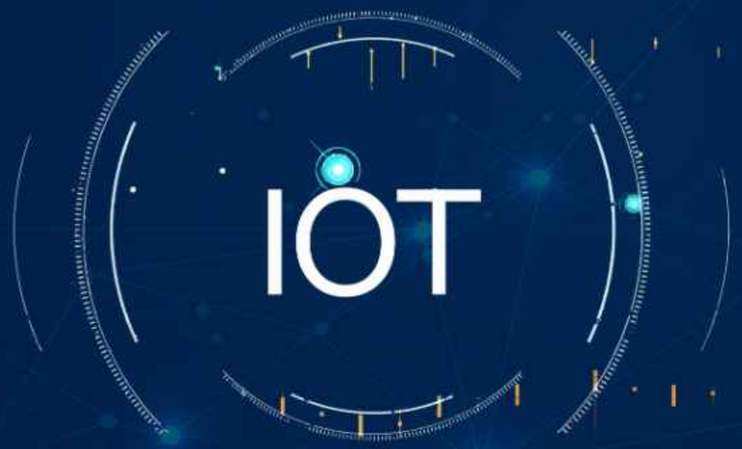
How large is the IoT Market in different domains?

Use cases ranging from Smart Cities to IIoT

CONTENT

- IoT Architecture
- Sensor & Actuator
- Raspberry pi & Arduino Hardware

CONTENT



- Arduino Programming fundamentals
- Interfacing Sensors & Actuators with Hardware
- Program Raspberry Pi board

IoT Communication Protocol

IoT Wireless Protocols

RFID, NFC, Blue Tooth, BLE, ZigBee, Zwave Mesh network

Comparison of wireless Protocols

How to select a wireless Protocol based on use case

IoT Communication Channels

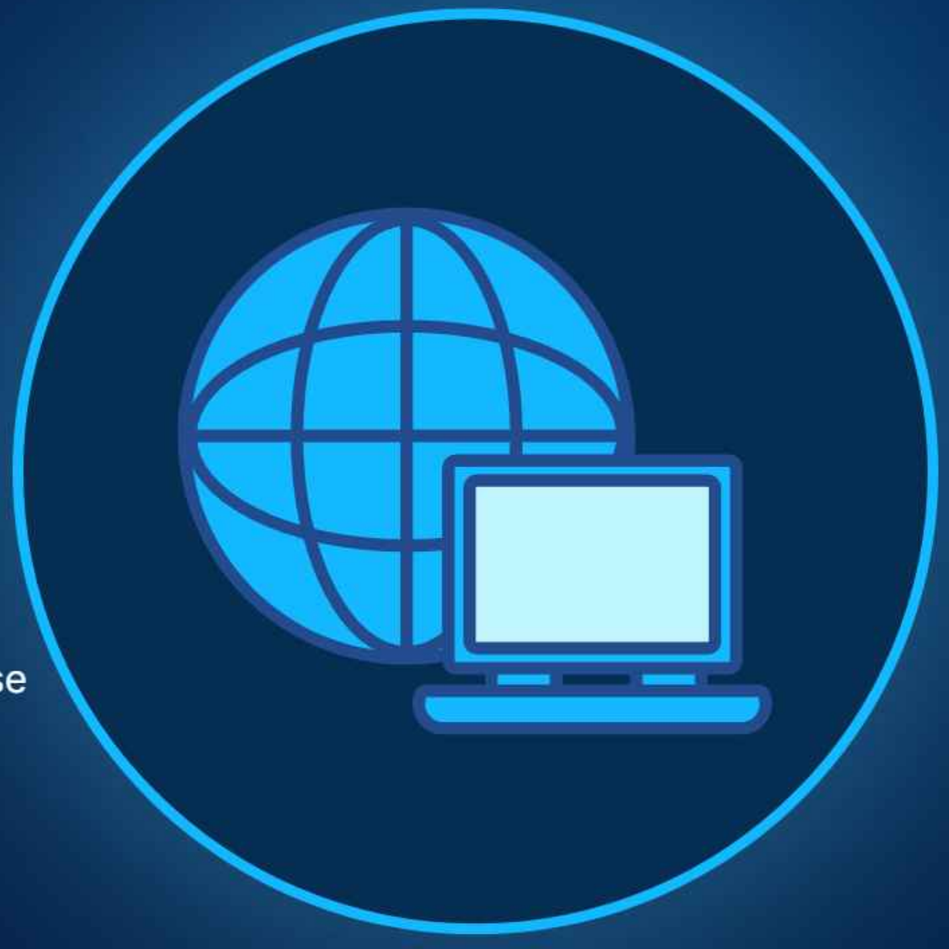
Wi Fi, GSM/GPRS, 2G, 3G, LTE

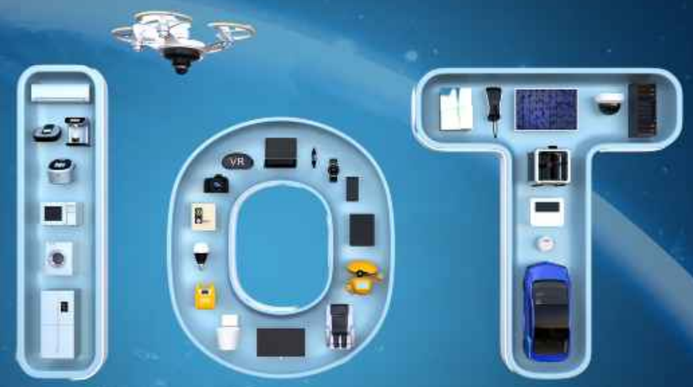
Comparison of Communication Channels

How to select a Communication Channels based on Use Case

IoT Network Protocols

MQTT/MQTTS, CoAP, 6LoWPAN, TCP, UDP, HTTP/s





Introduction to IPv4 and IPv6

TCP/UDP Transport layer Protocol

Introduction of TCP & UDP

Difference between TCP/UDP Transport layer protocol

Practically testing the TCP v/s UDP by python socket programming

HTTP Application layer IOT Protocol

MQTT IOT Protocol

MQTT with Raspberry Pi

CoAP IOT Protocol

IoT Cloud Platform(Ubidot)

Big Data and Big Data Technologies

Cloud Computing

What is cloud?

What is cloud computing?

Benefits of cloud.

Deployment Models.

Top cloud providers.

Service Catalogue, Models

Advantages for different offerings

Introduction to AWSService provided by AWS E2C, SimpleDB RDS, Dynamo DB, Elastic Beanstalk, SNS, Cloud Watch, Route 53, VPC, Elastic Load Balancing, S3, EBS, IAM

BigData

Cloud data storage

Introduction to Big Data

BigData Definition and Characteristics

Who is Generating Big Data

Big Data Analytics

Why Big Data Analytics

Applications of Big Data Analytics

Different Data Stores

Big Data Technologies CouchDB, MongoDB, Node4J

AWS IoT Setup for Application Development

Introduction to AWS IoT
Creating a Thing in AWS IoT
Downloading SDK and configuring RaspberryPi

Preparing the RaspberryPi to connect to AWS IoT

Downloading Certificates from AWS IoT console
Installing certificate in RaspberryPi
Connecting Sensors to RaspberryPi II

Connecting to AWS IoT

Configuring RaspberryPi sketch to connect to AWS IoT through Wi Fi
Establishing MQTT Connection
Publishing Sensor data to AWS IoT Thing Shadow

Send Data from raspberry Pi to AWS IoT

Run Ultrasonic ranger sketch in RaspberryPi and check
Updating of data from RaspberryPi to AWS Thing Shadow

Dynamo DB

Look for hidden objects, solve puzzles, and collect items to advance.

SNS

While attempting to make package deliveries, players must avoid objects on the road and other drivers.

THANK YOU !!

Contact Us

info@gmail.com

www.kapilitshub.com

9889886936/836