PREREQUISITES
IBM CLOUD SERVICES

Date	5 November 2022
Team ID	PNT2022TMID19355
Project Name	Project - IoT Based Safety Gadget for Child Safety Monitoring and Notification

IBM CLOUD:

IBM Cloud is the cloud for smarter business trusted by thousands of global enterprises. Its helps us to Learn how you can provide reliable and continuous security for your cloud environment.

Types: Full Stack Cloud Platform, Hybrid Cloud, Data and AI Capabilities

IBM also builds cloud environments for clients that are not necessarily on the SmartCloud Platform. For example, features of the SmartCloud platform—such as Tivoli management software or IBM Systems Director virtualization—can be integrated separately as part of a non-IBM cloud platform. The SmartCloud platform consists solely of IBM hardware, software, services and practices.

IBM IOT PLATFORM:

IBM Watson™ IoT Platform is a fully managed, cloud-hosted service that makes it simple to derive value from Internet of Things (IoT) devices.
Simply register and connect your device, be it a sensor, a gateway, or something else, to Watson IoT Platform and start sending data securely up to the cloud using the open, lightweight MQTT messaging protocol. You can set up and manage your devices using your online dashboard or our secure APIs, so that your apps can access and use your live and historical data.

Device Management:

Using the device management service, we can execute device exertion like restarting or refurbishing firmware, acquire device diagnostics and metadata, and carry out a vast device addition and removal.

Responsive And Scalable Connectivity:

It aids the industry standard MQTT protocol to link devices and requisition.

MQTT is designed for the adequate exchange of data to and from devices in real-time.

Secure Communication:

It helps to Securely receive data from and transmit commands to your devices. It is executed using MQTT with TLS to secure all intercommunication between the gadget and IBM cloud services.

Data Lifecycle Management:

Having access to real-time figures coming from our devices, you can opt to store data for a period of your choice, allowing you to have access to historical and real-time data for your devices.

IBM NODE-RED:

Node-RED is a flow-based programming tool, originally developed by IBM's Emerging Technology Services team and now a part of the OpenJS Foundation.
Node-RED consists of a Node.js based runtime that you point a web browser at to access the flow editor. Within the browser you create your application by dragging nodes from your palette into a workspace and start to wire them together. With a single click, the application is deployed back to the runtime where it is run.

The palette of nodes can be easily extended by installing new nodes created by the community and the flows you create can be easily shared as JSON files.

Browser-Based Flow Editing:

Node-Red facilitates a browser-based flow editor that makes it uncomplicated to wire together. Javascript roles can be created within the editor with the help of a rich text editor. A built-in library permits to save useful function templates or flows for reuse.

Social Development:

The flows created in Node-Red are stoked using JSON which can be easily imported and inspected for sharing with others. An online flow library grants to share the best flows with the world.

IBM CLOUDANT DB:

Cloudant is an IBM software product, which is primarily delivered as a cloud-based service. Cloudant is a non-relational, distributed database service of the same name. Cloudant is based on the Apache-backed CouchDB project and the open source BigCouch project.

Cloudant's service provides integrated data management, search, and analytics engine designed for web applications. Cloudant scales databases on the CouchDB framework and provides hosting, administrative tools, analytics and commercial support for CouchDB and BigCouch. Cloudant's distributed CouchDB service is used the same way as standalone CouchDB, with the added advantage of data being redundantly distributed over multiple machines.

Cloudant was acquired by IBM from the start-up company of the same name. The acquisition was announced on February 24, 2014.The acquisition was completed on March 4 of that year. By March 31, 2018, Cloudant Shared Plan will be retired and migrated to IBM Cloud.[4]

A fully managed, distributed database optimized for heavy workloads and fast- growing web and mobile apps, IBM Cloudant is available as an IBM Cloud® service with a 99.99% SLA. Cloudant elastically scales throughput and storage, and its API and replication protocols are compatible with Apache CouchDB for hybrid or multicloud architectures.

Serverless Web App And Api:

It will produce a serverless web application by having static website content on GitHub pages and executing the application back-end, with the assistance of IBM cloud applications mobile app. It uses IBM cloud functions along with cognitive and data services to construct a serverless back end for a mobile app.

Find Anomalier In Iot Data:

It sets up IoT devices and musters data in the IBM Watson IoT platform. It will create visualizations and use advanced ML services to examine authentic data and disclose anomalier.

Open Hybrid Multicloud:

It displays how to match the API and powerful duplicate protocol of cloudant with Apache clouchDB in a hybrid cloud environment