

Technical stack combinations for the development

1. LoRaWAN + MQTT + AWS IoT + Cloud Storage:

- LoRaWAN for long-range, low-power wireless communication.
- MQTT as the messaging protocol for lightweight communication.
- AWS IoT for device management, data processing, and analytics.
- Cloud storage for storing and retrieving IoT data.

2. Bluetooth Low Energy (BLE) + MQTT + Azure IoT + Edge Computing:

- BLE for short-range communication with low power consumption.
- MQTT for efficient and reliable messaging.
- Azure IoT for device management, data processing, and edge computing capabilities.
- Edge computing to perform real-time analytics and decision-making at the network edge.

3. Thread + CoAP + Google Cloud IoT + Cloud Functions:

- Thread as a low-power, mesh networking protocol for IoT devices.
- CoAP (Constrained Application Protocol) for resource-constrained devices and efficient communication.
- Google Cloud IoT for device registration, management, and integration with Google Cloud services.
- Cloud Functions to trigger serverless functions and perform actions based on IoT data.

4. NB-IoT + MQTT + IBM Watson IoT Platform + Blockchain (not low cost):

- NB-IoT (Narrowband IoT) for wide-area coverage and low-power communication.
- MQTT for lightweight messaging between devices and the cloud.
- IBM Watson IoT Platform for device management, data visualization, and analytics.
- Blockchain for secure and transparent transaction recording and smart contract execution.