AWS IOT FRAMEWORK

AWS offers IOT services and solutions to connect and manage billions of devices. It collects, store and analyze IOT data for industrial, consumer and automotive workloads.

AWS IOT SERVICES

1. FREE RTOS

* It is an open source, real time operating system for microcontroller that makes small, low power edge devices to perform, display, secure, connect and manage.
* A microcontroller contains a simple resource constraint processor that can be found in many devices including appliances, sensors, automobiles etc.
* These devices can get a lot of benefit if they are connected to cloud. But as microcontroller do not have built-in functionality to connect with cloud it becomes difficult.
* Hence to avoid this we can use FREE RTOS by providing the kernel to run low power devices as well as software libraries that make it easy to securely connect to the cloud.

1. AWS IOT GREENGRASS

* AWS IOT GREENGRASS is an open-source edge runtime and cloud service for building, deploying and managing device software.
* AWS IOT Greengrass can act as a gateway that lets local devices communicate with each other even when they are not connected to internet.
* It enables you to add features and quickly connect to AWS services or third-party applications at the edge.

1. AWS IOT CORE

* By AWS IOT CORE we can connect billions of IOT devices and route trillion of messages to AWS services without managing infrastructure.
* Messages are transmitted and received using MQTT protocol which reduces the network between requirements.

1. AWS IOT DEVICE MANAGEMENT

* Many IOT deployments consists of millions of devices, it is necessary to track, monitor and manage these connected devices.
* AWS IOT DEVICE MANAGEMENT makes it easy to securely register, organize, monitor and remotely manage IOT devices at scale.
* It reduces the cost and effort of managing large and diverse IOT device deployments.

1. AWS IOT DEVICE DEFENDER

* AWS IOT DEVICE DEFENDER continuously audits IOT configurations to make sure that they aren’t deviating from the actual work.
* Device defender is a fully managed service that helps you secure your IOT devices.
* If something went wrong accordingly to the defined behavior then device defender gives an alarm so that we can solve the issue.

1. AWS IOT ANALYTICS

* AWS IOT ANALYTICS is a fully managed service that makes it easy to run and operationalize sophisticated analysis on massive volumes of IOT data.
* It includes data preparation techniques that make it easy to prepare and process your data for analysis.
* AWS IOT analytics is integrated with AWS core to easily ingest device data directly from connected devices.