PROJECT REPORT

SERVERLESS COMPUTING FOR IOT 20/21

PLANT TEMPERATURE

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Abstract

The Internet of things describes physical objects that are embedded with sensors, processing ability, software, and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks.

Serverless computing is a method of providing backend services on an as-used basis. A serverless provider allows users to write and deploy code without the hassle of worrying about the underlying infrastructure.

Temperature measurement and analysis is playing a key role in metal processing, as well as monitoring. If the temperature measurement information is not correct, then it can affect quality of the final product, as well as endanger workplace security.
How Temperature Measurement is Important in Different Industries?
An accurate determination of temperature, or the measure of hot or cold, is an important factor in many industries as follows:

Food and Beverage Processing:
Measurement and control of temperature is of utmost importance for both food and beverage processing manufacturers. Temperature is one of the important factors to consider during the bulk production of food items.

Beverage industry
Temperature plays a vital role in deciding the quality of the final product. During the wine making or brewing process, the ambient temperature, as well as fermentation temperature, could have a positive or negative effect. Even in the process of milk pasteurization, the temperature is important to ensure the removal of harmful pathogens, such as Escherichia, Salmonella, and Listeria.

Plastic Production
Temperature plays an important role in the plastic industry. During the manufacturing stages, for example thermoforming, or injection molding, several temperature ranges need to be monitored to ensure a high product quality.

Metal Processing:

Be it any type of metal process plant, temperature measurement is always high on the list for operational excellence. Temperature measurement and analysis is playing a key role in metal processing, as well as monitoring. If the temperature measurement information is not correct, then it can affect quality of the final product, as well as endanger workplace security.

PURPOSE OF PROJECT

The purpose of this project is to observe temperature and monitor those values on an independent platform so we can get information about the plant temperature which save us from many issues.

HOW IT WORKS:
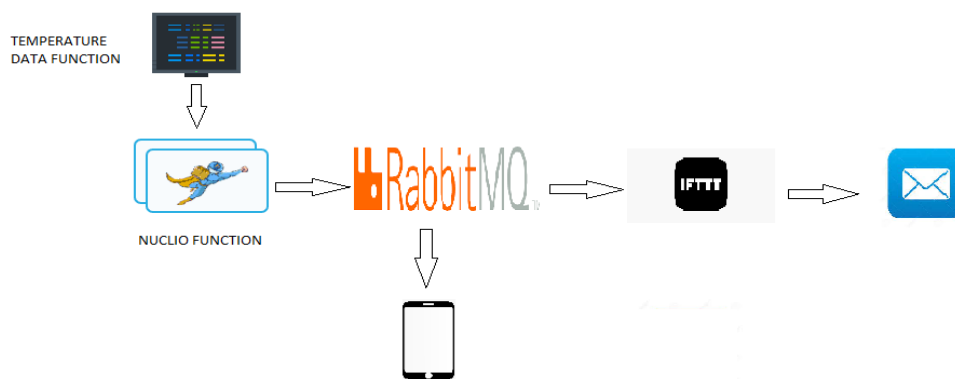
DOCKER:

We install docker desktop on windows.

NUCLIO:

After Installing docker then we install Nuclio serverless platform by using the docker command in command prompt.

RABBIT MQ:

We install RabbitMQ by using the given Docker command in command prompt.

IFTTT:

We make account and make applets on IFTTT webhooks and then we create events on IFTTT applets through webhooks.

- To generate the queues on RabbitMQ we deploy the given function on Nuclio dashboard by setting IP and triggers.
- The deployed function on Nuclio dashboard will generate queues on RabbitMQ of temperature data function.
- MQTIZER android application display the data on Smartphone by setup the IP that will generate messages on phone.
- IFTTT create events on applets through webhooks and sending email.

TOOLS AND LIBRARIES

Docker

Nuclio dashboard

RabbitMQ

Node.js

IFTT

MQTIZER - Free MQTT Client

Install these libraries by using command prompt

npm install mqtt

npm install amqplib

npm install request

GITHUB REPOSITORTY LINK

https://github.com/areebunisa/SCIOT-plant-temperature-.git