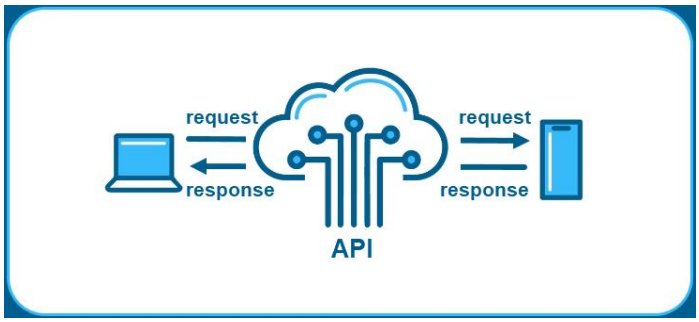
How Does the Cloud System Work?



Cloud

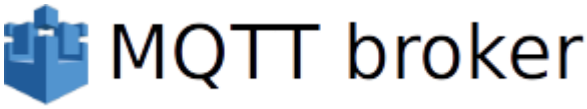
Cloud storage is a model of cloud computing that allows you to store data and files online using a cloud provider that you connect to either through the public internet or through a private network connection. The provider securely stores, maintains, and manages storage, infrastructure, and network servers. This gives you access to data when you need it, at virtually unlimited scale and with elastic volume. With cloud storage, you don't have to buy and maintain your own storage infrastructure, giving you the flexibility, scalability, and reliability to access your data anytime, anywhere.

Cloud API

Cloud storage is provided by a cloud service provider that owns the storage hardware and runs it through large data centers located around the world.

Cloud storage providers are responsible for resource health, security, and reliability, making data available to applications over the Internet in a pay-as-you-go model.

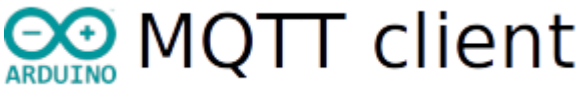
Typically, you connect to cloud storage either over the internet or through a dedicated private connection using an internet portal, website, or mobile app. When customers purchase cloud storage from a service provider, they delegate most aspects of data storage to them, including space, security, data availability, storage servers, computing resources, and network delivery of data. Your applications access cloud storage through traditional storage protocols or directly through an Application Programming Interface (API). Cloud storage providers offer additional services designed to secure, collect, analyze and manage data on a massive scale.



MQTT is located on Cloud providers server. It helps to make a connection between the client's local device and the cloud storage server to send a message in the form of data to store.

In order to be able for the local computer (server) to connect to the Cloud System, it is only possible if there is a public IP address that the local computer is using and open to receive requests from anybody.

That is what AWS basically gives: a computer with a public address - which is MQTT broker.



Then it is possible to put any kind of service, an HTTP server as well as an MQTT broker. The endpoint, in general, is just a specific URL, pointing to e.g. a specific page in the HTTP server, or a particular MQTT broker in this case.

The cloud (AWS) is used to store data, in which case there is a server only there. In the MQTT client (Arduino) there is a client who wants to connect and store the data in the cloud.

For example, AWS_IOT_ENDPOINT is a string with the address of a MQTT broker - presumably one located in some machine of the AWS Cloud

This address is of the same kind as the address for MQTT connection. But it only works for real if someone has created an account on AWS and set it up to serve the MQTT broker in this address