MBIAPA KETCHECKMEN
Joël Trésor
Autumn Semester 2024

Project 1 : CoAP Client

The goal of this first programming project is to create a client program capable of interacting with an IoT server via CoAP. We want to program to be able to retrieve data from the server as well as to push data.

In order to produce a viable program, we first decide to implement the client in Java. This client has different functions allowing it to interact with a CoAP server. Firstly, in order to build the messages sent by the client to the server, we implement multiple functions allowing us to create the CoAP header, the CoAP options and the CoAP payload. It's then using another method that we will produce the final message which is a merge of all the different work from the previous functions. With the help of these functions, we can now create specific methods for the different CoAP commands : GET, PUT, POST and DELETE. Once this is done, we now implement the send message function allowing us to build and send the packet to the proper server address, on the specified port (here 5683). This function also handles the reception of the response from the server that will be parsed and displayed on the terminal.

We are now able in the main file to create a client and send multiple requests to the server. Moreover, the program will display the responses of the server on the terminal, but we can see them in detail using Wireshark.