**Development and Deployment**

This doc contains some notes about development and deployment

1. Setting up the process
2. First prototyping
3. Our Software is composed by:

* **account-service**
  + part of the backend
* **Infrastructure service**
  + part of the backend
* **Monitoring service**
  + part of the backend
* **Billing service**
  + part of the backend
* **user-app**
  + part of the frontend
* **company-dashboard**
  + part of the frontend
* **Embedded SW on the Hub**
  + processor installed in the house of the users

2) For practical reasons we decided to focus the prototyping phase on the web app that the users will use to monitor their consumption. We also worked on the back end, initializing the server that handles the "get" requests for the various pages that make up our Web App. In the realization we followed some of the DevOps principles studied in the second module with professor Pianini. In particular, we used Git to work collaboratively on the project.

First of all we created a directory on GitHub and we cloned it on our devices.

Then we installed all the tools needed to develop the back end microservice:

* **Nodejs** as the core platform for developing software systems in JavaScript
* **Expressjs**, a framework based on node js that eases the development of web services, microservices and backend/server side components.
* **Nodemon**, a tool that helps develop Node.js based applications by automatically restarting the node application when file changes

The front end of the application is the HTML pages stored in the public folder. The tools used in this case were:

-**HTML** for the page skeleton

-**CSS** for the style of the pages

-**Javascript** to make the pages dynamic

-**Google Charts and Chart.js** for the creation of charts, simulating the display of consumption by users.

The Web App consists of:

-A page for logging in.

-A Homepage.

-A dedicated page for every consumption (gas, water and electricity), with a line chart with daily consumptions for the current month and a bar chart with the monthly consumptions of the current year.