SIFRAN User Guide

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1 Introduction

Simulation in Internet of Things is becoming very popular, and the network simulator 3 (NS-3)[1] appears to be one the most adopted simulators in the community. However, it can be hard for non-programmers to benefit from its features. This platform solves the problem by making users able to setup and run NS-3 simulations with an intuitive web interface.

1.1 Target users

- Researchers working on networks simulations.
- Product managers and more generally IoT industrials in the domain of IoT.
- Students for educational purposes.

1.2 Key features

- Setup and run customized IoT scenarios with Wi-Fi or LoRaWAN networks.
- Calculate KPIs like throughput, packet latency, packet delivery, energy consumption and battery lifetime.
- Store simulations and KPIs for accessing it at any time.

2 Getting started

1. When entering the platform, the first page that you land on is depicted in Figure 1.

[1] https://www.nsnam.org/

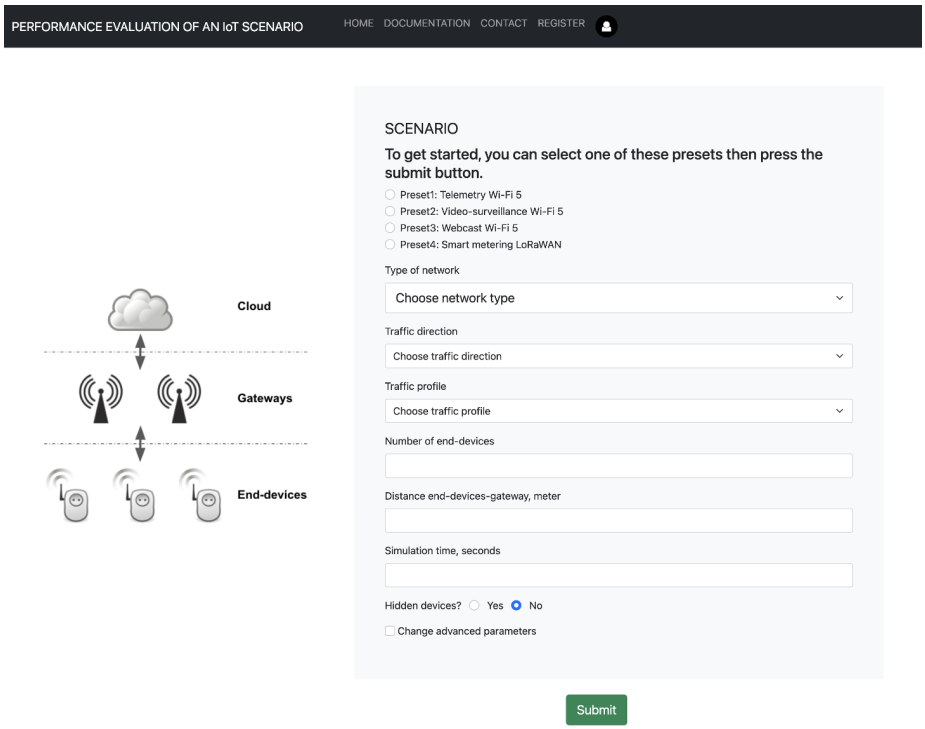

Figure 1: Homepage.

2. From this page, first thing to do is to create an account through the Register button on the top menu. You will be asked to provide a username, a mail address, and a password (Figure 2).

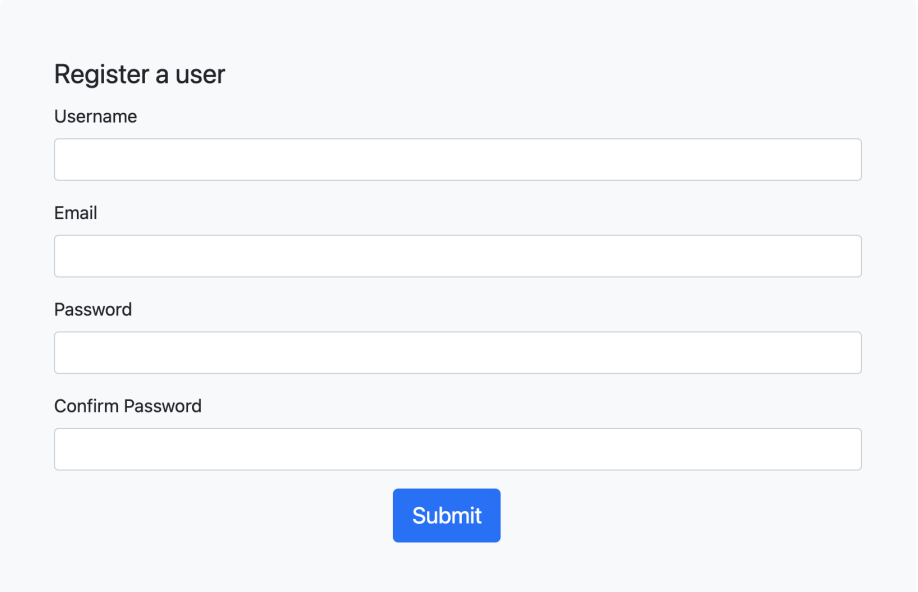

Figure 2: Register page.

3. After creating an account, you can define an IoT scenario either by selecting one of the predefined presets, or by filling customized parameters, like shown in Figure 3.

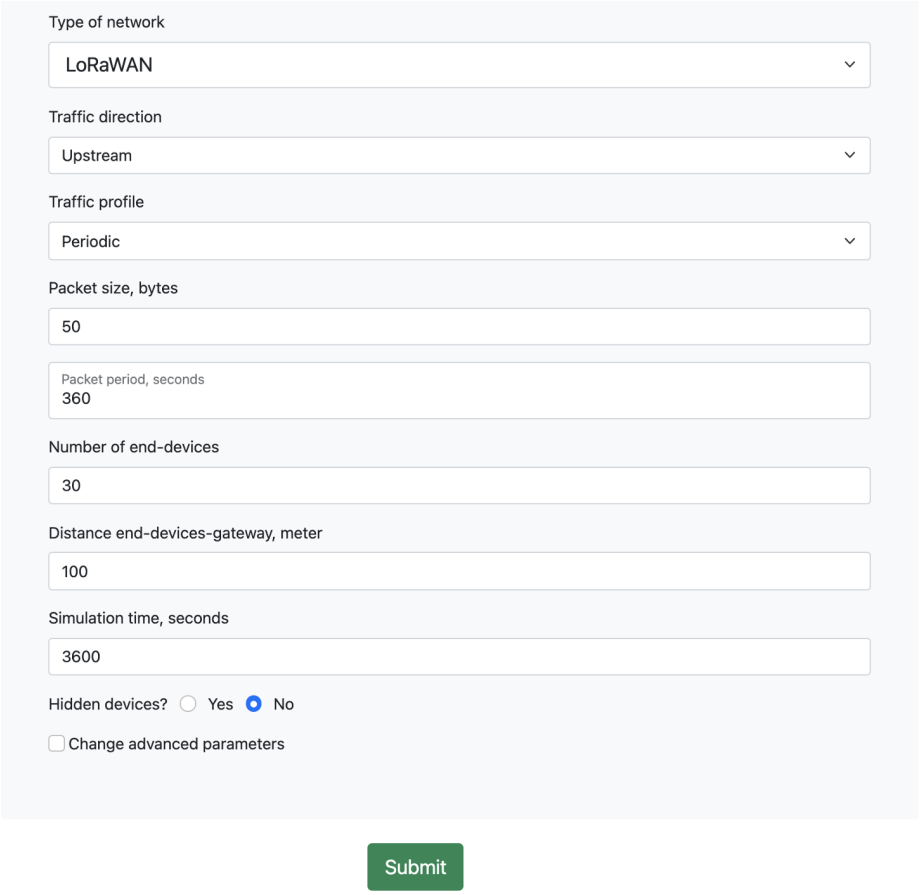

Figure 3: Scenario form.

A list of advanced parameters specific to each IoT technology can be set, for example Figure 4 shows the advanced parameters for LoRaWAN.

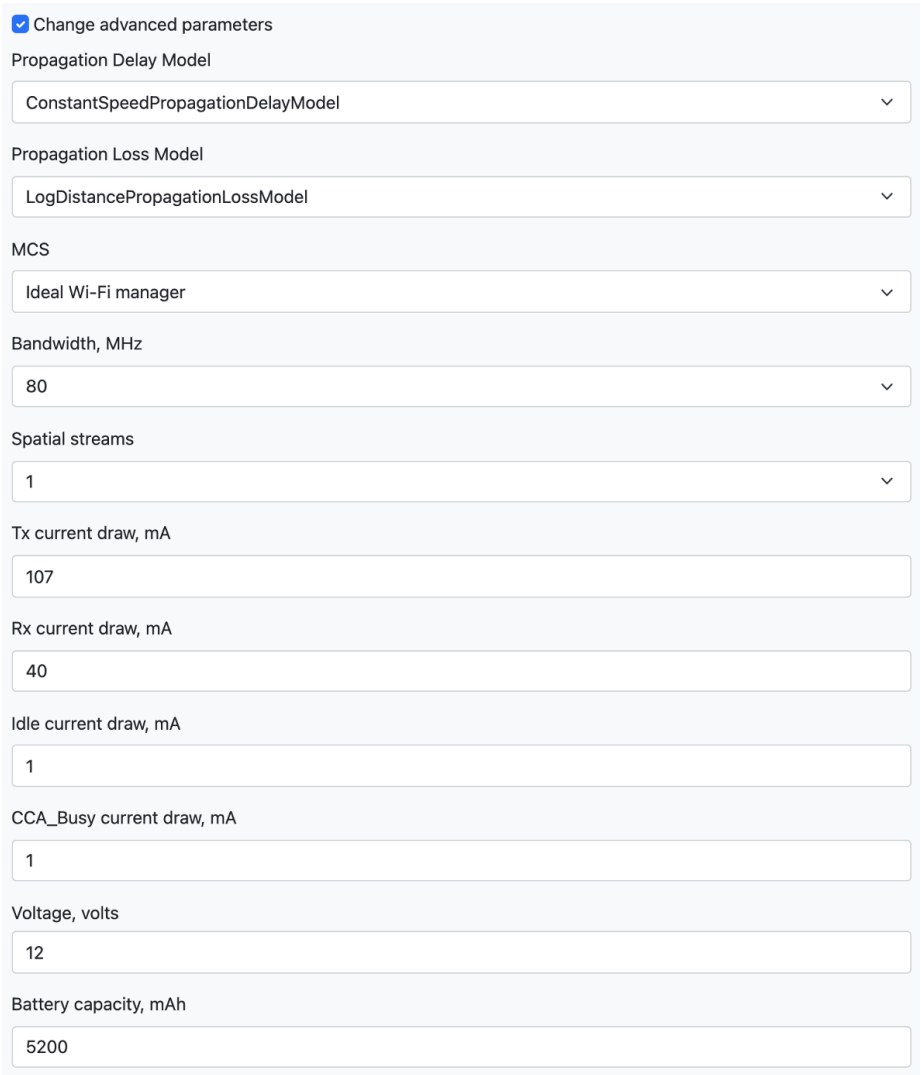

Figure 4: Advanced parameters form.

4. After clicking on the Submit button, if you values are validated in terms of type and range, you will be redirected to the result page, containing a summary of you scenario and the obtained results (Figure 5).

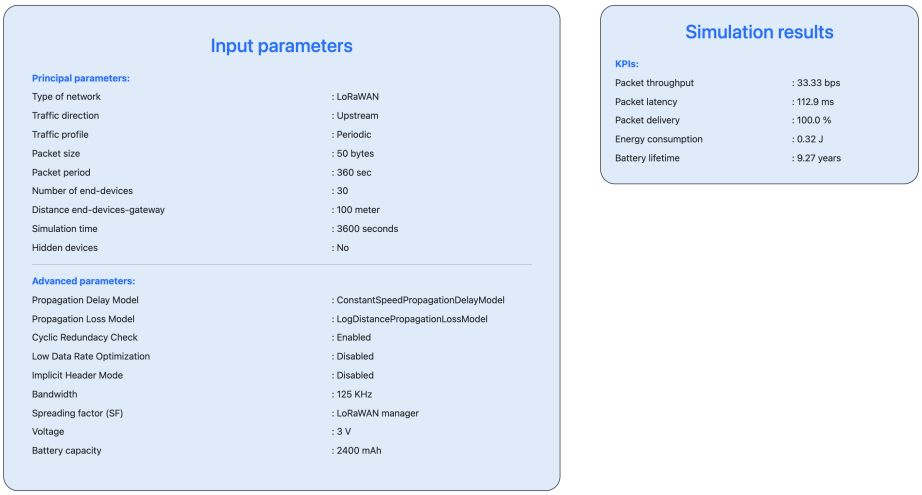

Figure 5: Results page.

5. At any moment, you can get access to your previous simulations using the User button, which will redirect you to a page holding the list of your previous tests, like shown in Figure 6. Each one of the record will redirect you to exactly the same page you obtained after running the corresponding scenario.

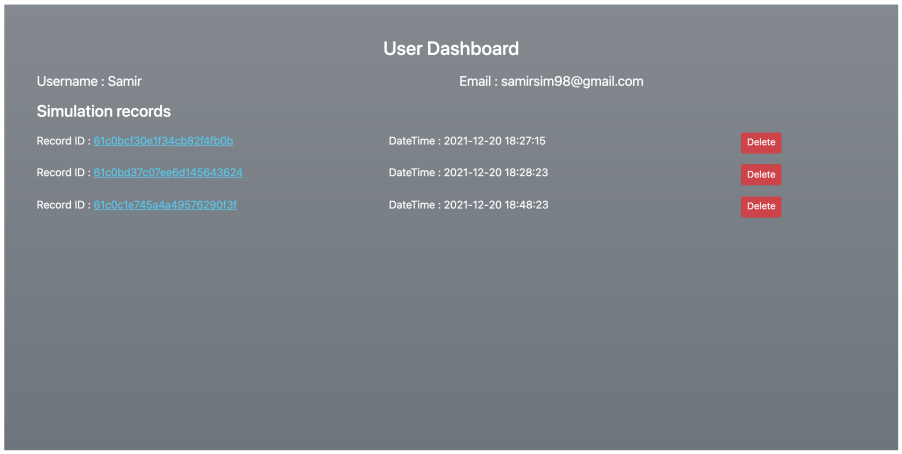

Figure 6: Simulation records page.

6. Beside this, you have access to a contact page through the Contact button in order to send feedback or just contact the authors of the platform.