

# Lattice Watering: Third Status Report

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# Updates

- Changed the default IPv6 prefix to `fc00::/7`, which is the standardized prefix for local networks, see RFC 4193. So the subnets are now called `fc00:0:0:0:0:0:0:0::/64` and `fc00:0:0:0:0:0:0:1::/64`.
- More HW: On the 17th, we bought battery connectors for an empirical test on battery consumption. In the sadly last Conrad store in Kreuzberg. We will use this to empirically test out the battery usage of a board using our firmware.
- Designed a simple route scheme for the CoAP communication.
- Not related directly, but we filed a bug report:  
<https://github.com/RIOT-OS/RIOT/issues/18228>
- Switched to SQLite since that DBS fits our usecase a bit better and is simpler.

# Updates

- We will leave the HDC1000 out of the project to reduce battery consumption.
- Sensory is working.

All in all, everything is moving towards integration and testing, we have also worked on the report and final presentation. In the next two weeks, we will meet up for integration tests.

# Routes

## Frontend Routes

Route	Method	Description
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‘/data’	POST	Data Route

## Node Routes

Route	Method	Description
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‘/pump_toggle’	POST	Toggle the pump of the node board.

# Frontend

- Node.js, Express and Sqlite3
- Local server handles frontend and db operations
- Asynchronous nature of Node.js (or js in general) leads to implementation of promises with async/await for db operations
- Nodes will be recognized based on their ip

# Issues

- Frontend DTLS is not working and node support is very poor.
- Sensor calibration is *still* not quite solved.
- It has not been tested whether connecting multiple boards yields issues.

# TODO

The frontend is lacking behind. We need:

- Boards join the network and are registered by the first message they send. This registration is not quite functional yet.
- Individual boards need to be accessed, currently this is coded s.t. the user must give a board IP. This will pose no problem at all.
- One has to configure time periods in which the plants are watered or setup humidity thresholds for watering.
- The humidity has to be displayed in a graph. There are dozens of fully capable libraries for this, e.g. Chart.js.