Titel:

Participants: Kasper R, Kasper K & Jonas N.

Specs

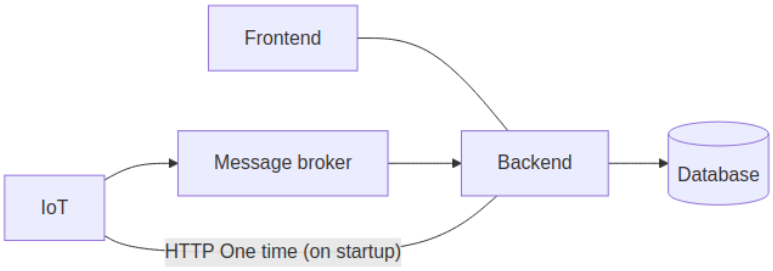
1. **Project Description:** We want to create a system to collect data from physical stores. The data we are interested in collecting are:

   - How many people have entered the store
   - How many products have been sold
   - What types of products have been sold
   - The total value of sold products
   - How many packages have been picked up and delivered to the store if the store has a package delivery spot

   The purpose is to collect data from stores and display it in an intuitive way where a user can filter and search the data.

2. **Domain Model:**

   - IoT devices: Collect data continuously and send it every minute.
   - Server: Runs an nginx web server that directs traffic to a backend written in PHP using the Laravel framework.
   - Backend: Receives data through a message broker and stores it in a MariaDB SQL server.
   - Frontend: Uses Laravel blade templates to display data.



3. **Functional Requirements:**

   - IoT devices must display an ID on a display, which can be used to filter the data.
   - IoT devices must only use HTTP for the initial communication to get a UUID.
   - IoT devices must be able to collect and send data continuously.
   - The server must be able to receive and store data from IoT devices.
   - The frontend must be able to display the collected data.
   - The frontend must have an admin page:
     - Login + logout.

  - Where you can see a list of devices.
  - Where you can group devices as a single unit.
  - Manage devices + grouped devices.
- Data display must include filtering and searching options.
- All data must be accessible to everyone.
- CI/CD Deployment.

4. **Non-functional Requirements:**
   - Usability: The user interface must be intuitive and easy to navigate.
   - Reliability: The system must have an uptime of 99.9%.
   - Performance: The system must handle up to 1000 concurrent devices.
   - Supportability: The code must be well-documented and easy to maintain.
5. **Limitations:**
   - Data predictions
   - Data pagination
   - Data export to csv

Database

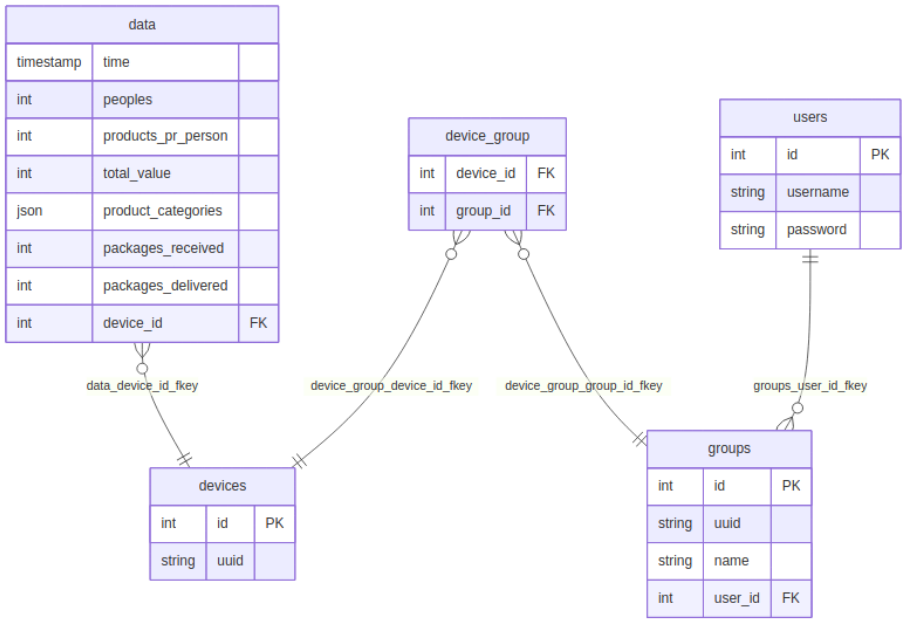


Figure 1: diagram

User guide

Dev setup guide

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