BACKEND GROUP

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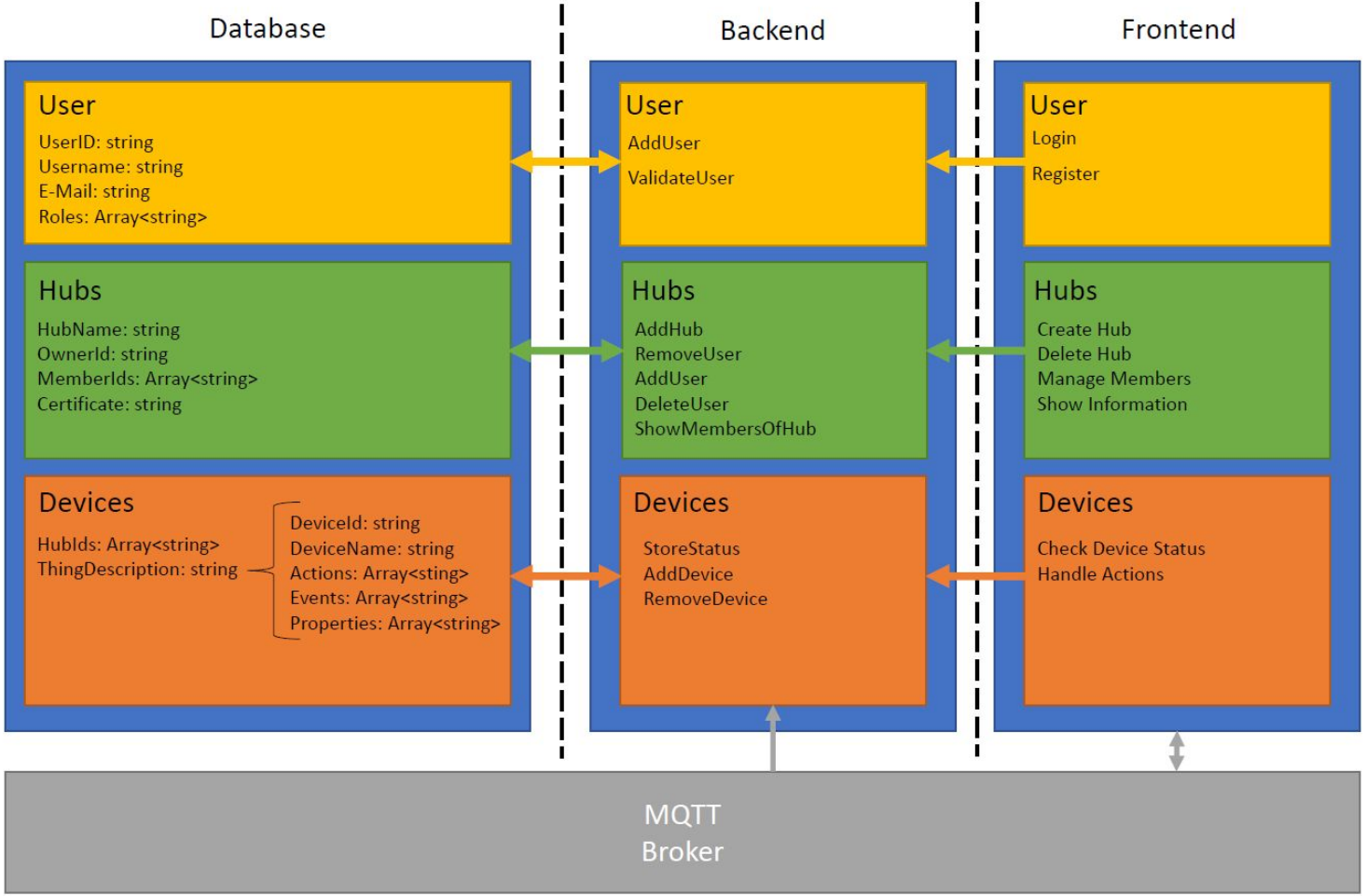
Agenda

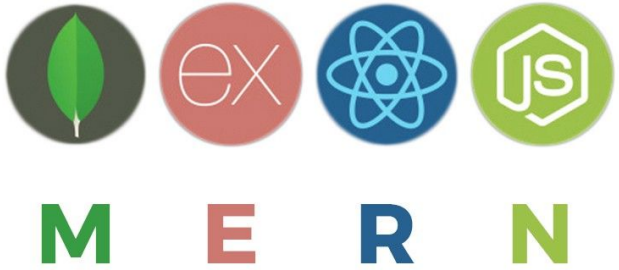
- Structure
- Technologies
- Design Decisions
- Documentation
- Outlook

Structure


Database
Backend
Frontend
User
UserID: string
Username: string
E-Mail: string
Roles: Array<string>
User
AddUser
ValidateUser
User
Login
Register
Hubs
HubName: string
OwnerId: string
MemberIds: Array<string>
Certificate: string
Hubs
AddHub
RemoveUser
AddUser
DeleteUser
ShowMembersOfHub
Hubs
Create Hub
Delete Hub
Manage Members
Show Information
Devices
HubIds: Array<string>
ThingDescription: string
DeviceId: string
DeviceName: string
Actions: Array<sting>
Events: Array<string>
Properties: Array<string>
Devices
StoreStatus
AddDevice
RemoveDevice
Devices
Check Device Status
Handle Actions
MQTT
Broker

Technologies

MERN Stack



MongoDB - document database

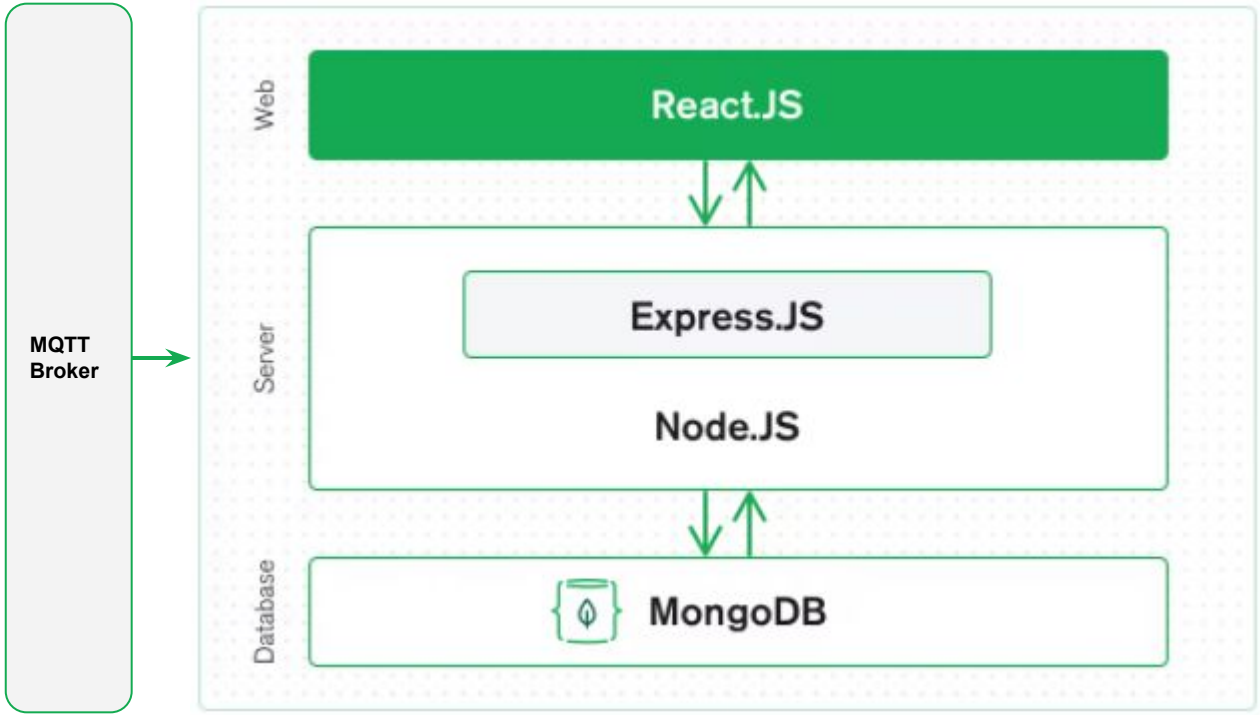
Express(.js) - Node.js web framework

backend

React(.js) - a client-side JavaScript framework

Node(.js) - the premier JavaScript web server

frontend

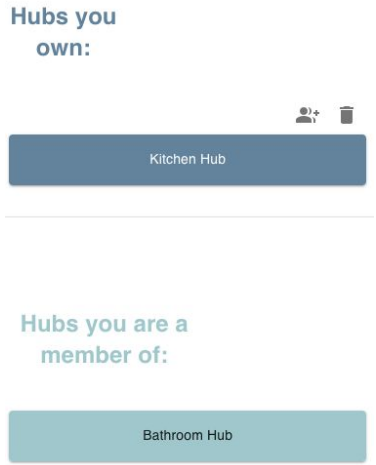

MQTT
Broker
Web
React.JS
Server
Express.JS
Node.JS
Database
MongoDB

Design Decisions

CARP Design Principles

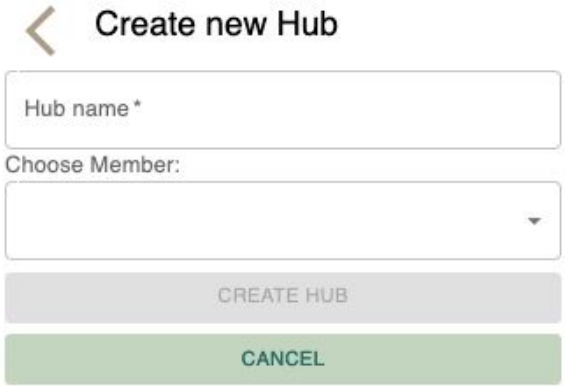
Contrast

Contrast between different Elements



Alignment

Structure of the page is well organised and "clean"



CARP Design Principles

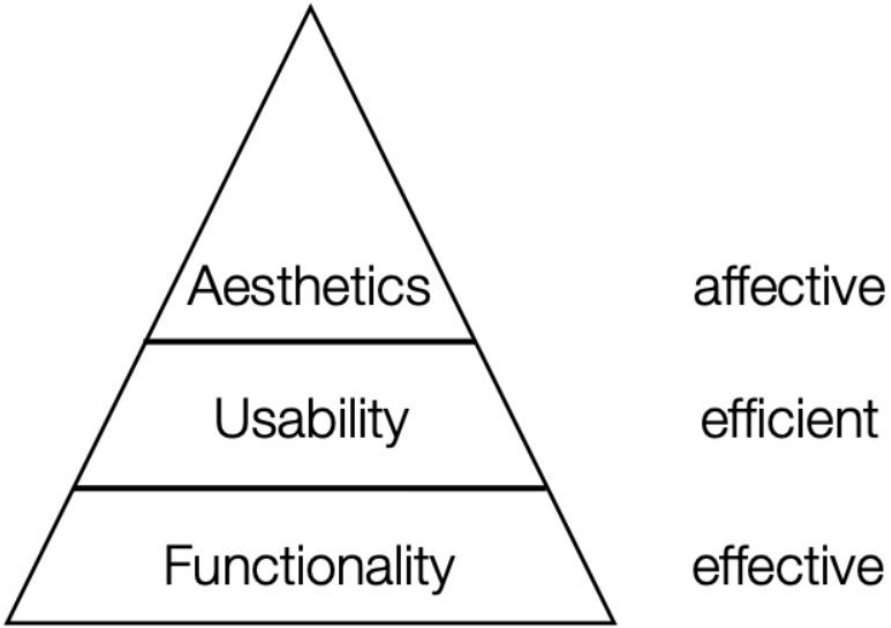
Repetition

Designing the same things "repetitively"

Proximity

Elements that belong together stand together

Design Pyramide



Style Guide

STYLE GUIDE

COLOURS

Main Platte

#3D6A66 #999999 #69849B #A8C7CB

Secondary Platte

#7C9A92 #CBC3BE #DCDCDD #AB9C8A #314448

FONT

Lucida Grande

ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
abcdefghijklmnopqrstuvwxyz

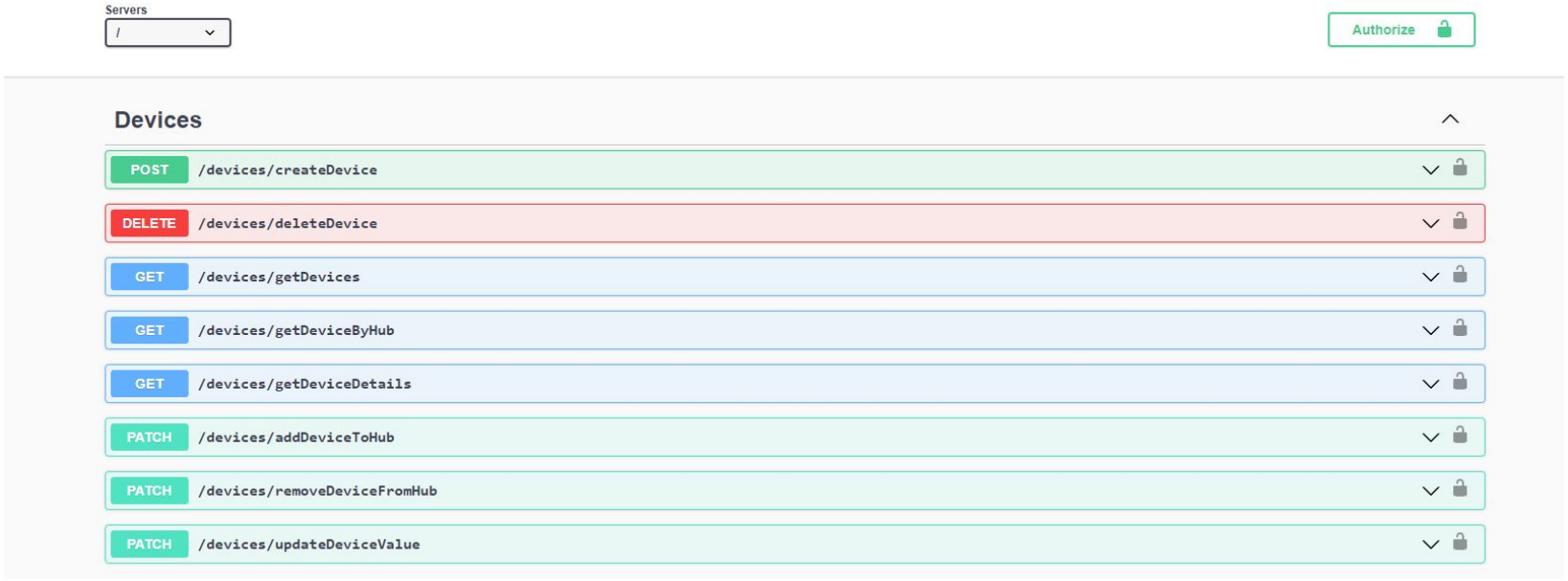
ICONS

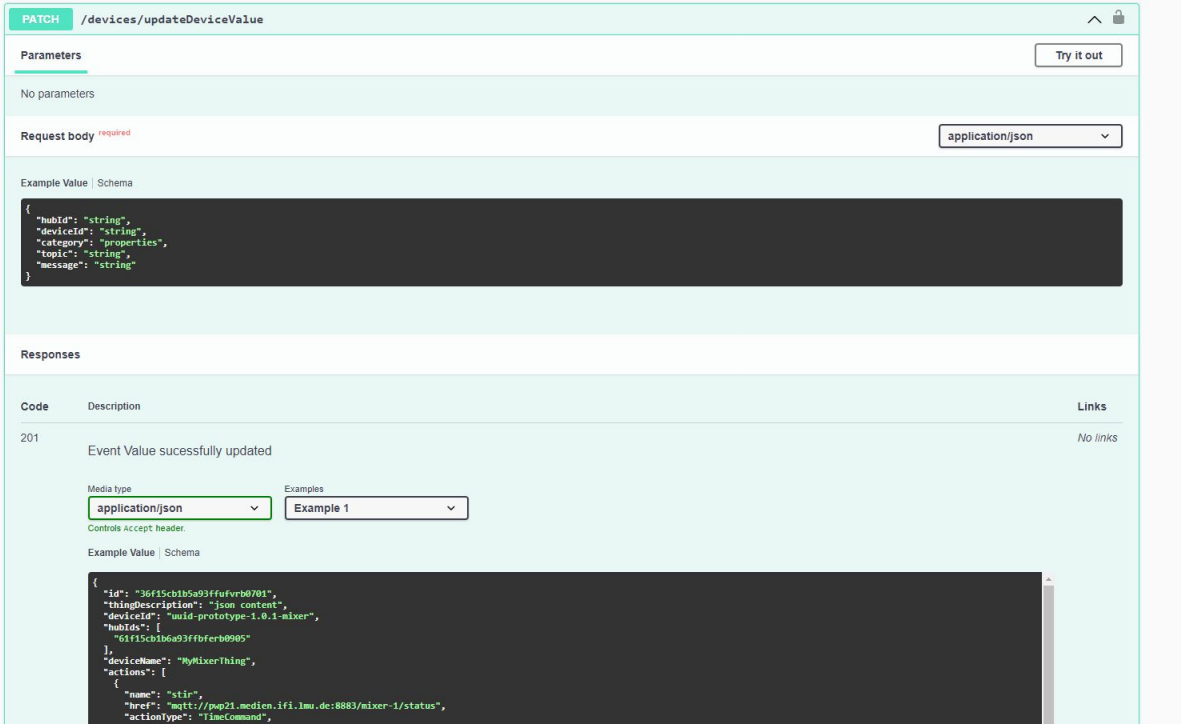
Material UI

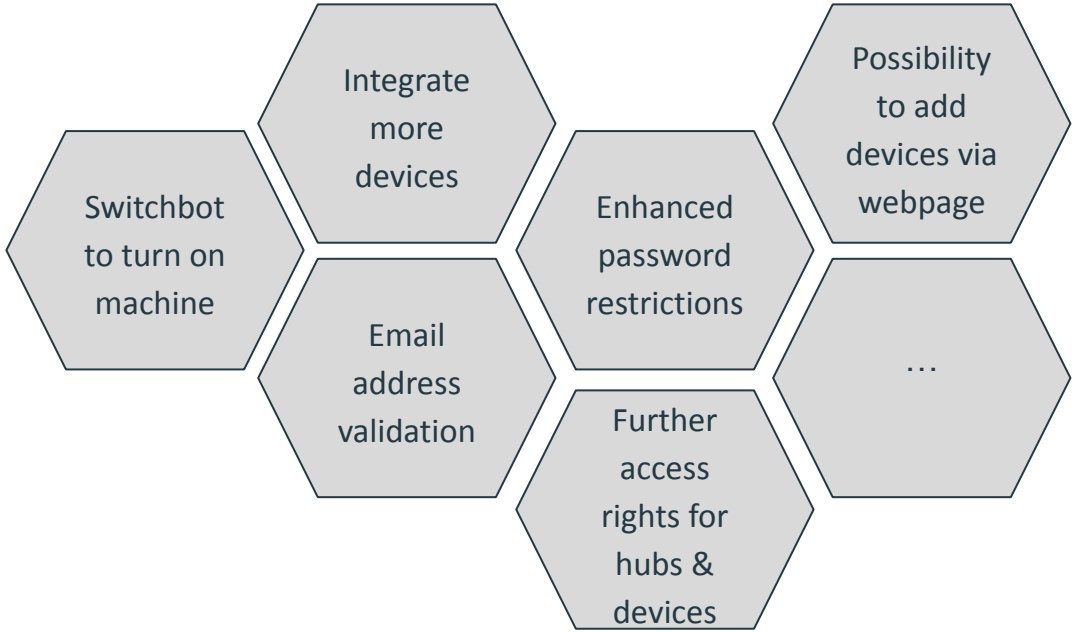
Delete
Information
Add User

Documentation

Swagger


Servers
/
Authorize
Devices
POST /devices/createDevice
DELETE /devices/deleteDevice
GET /devices/getDevices
GET /devices/getDeviceByHub
GET /devices/getDeviceDetails
PATCH /devices/addDeviceToHub
PATCH /devices/removeDeviceFromHub
PATCH /devices/updateDeviceValue


PATCH
/devices/updateDeviceValue
Parameters
Try it out
No parameters
Request body
required
application/json
Example Value | Schema
{
"hubId": "string",
"deviceId": "string",
"category": "properties",
"topic": "string",
"message": "string"
}
Responses
Code
Description
Links
201
Event Value sucessfully updated
No links
Media type
application/json
Controls Accept header.
Examples
Example 1
Example Value | Schema
{
"id": "36f15cb1b5a93ffufvrb0701",
"thingDescription": "json content",
"deviceId": "uuid-prototype-1.0.1-mixer",
"hubIds": [
"61f15cb1b6a93ffbferb0905"
],
"deviceName": "MyMixerThing",
"actions": [
{
"name": "stir",
"href": "mqtt://pwp21.medien.ifi.lmu.de:8883/mixer-1/status",
"actionType": "TimeCommand",

Outlook

What could come next?