

WaCC: Architecture

Distributed (smart) electric charging poles

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Client types

- Electric charging poles: sending heartbeat + charge sessions
- Web browsers: requesting information about poles. Where to charge cheapest, fastest, free places etc.

Client



Charging Pole



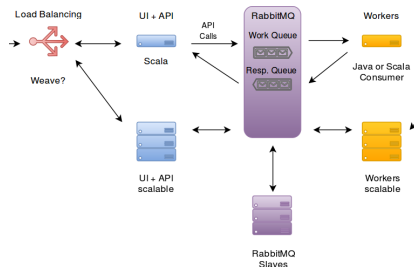
Pole message: data structure

- Is the pole free or charging?
- Last n charging sessions
- Per session: id, time, amount, plate number etc.

```
1  {  
2    "poleid": "123ABCD",  
3    "status": "charging",  
4    "chargingsessions": [  
5      {  
6        "sessionid": "ACBD123",  
7        "starttime": "9-9-2015 15:00",  
8        "endtime": "9-9-2015 17:30",  
9        "plate": "KK-RM-15",  
10       "kwh": 123,  
11       "price": 12.5  
12     }  
13   ]  
14 }
```

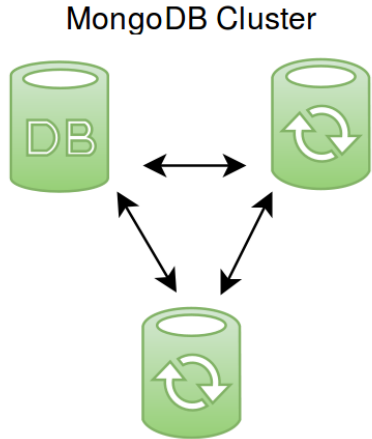
Backend architecture

- Load balancing with weave (or similar)
- UI + API: scala + bootstrap
- Workers: java or scala
- Connected by a queue: RabbitMQ
- Can scale with both UI and Worker servers



Database

- MongoDB
- Using master slave replication or shard cluster



Overview

