

SHARE

Erik Schilling
Philipp
Ostmeyer

Content

Introduction
Architecture
Message-Pathing
Demo

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Introduction

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SHARE

- Non-uniform Storage-Nodes
 - Distributed storage of data
 - Server driven
-
- Allows nodes with different capacities
 - Each node has a interval depending on the capacity
 - Two-level hashing
 - One hash function maps data to an id section
 - Second hash function maps from data to a storage node in this id section

Solution

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Logic

- Internally based on Subject class from exercises
- Websocket server implemented with Java-WebSocket¹
- Serialisation with Gson²

UI

- Web based UI
- Implemented with Angular 2³
- Written in TypeScript

¹<https://github.com/TooTallNate/Java-WebSocket>

²<https://github.com/google/gson>

³<https://angular.io/>

Architecture

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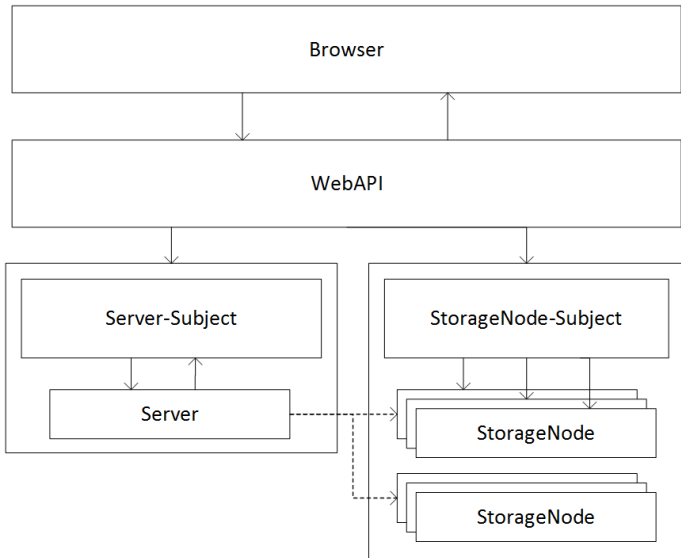
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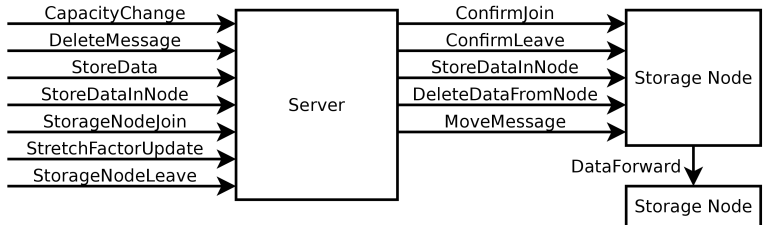


Message-Pathing

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Demo

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☰ A SHARE implementation

Data to store

+

Stretchfactor
2

✓

🔄

Search for id

🔍

⚙️

🔄

Node 1227033752:

└─┬─┐

└─┬─┐

Stored data:

2061564341: Test DELETE	4326936: SHARE DELETE	2039136677: Hello World DELETE
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Capacity:

🗑️

Node 1939637129:

└─┬─┐

└─┬─┐

Stored data:

None...

Capacity:

🗑️

Node 1130217509:

└─┬─┐

└─┬─┐

Stored data:

1750488611: 	1673543678: 	1389598812:
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Capacity:

+

🗑️