

Pub/Sub System Project

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Background

- **Publish-Subscribe:** Message distribution paradigm
- **Publishers:** Send to topics
- **Subscribers:** Receive from topics

Pub/Sub System

localhost:8080/app/

Pub/Sub System

Show Instructions Show Available Agents

Config Upload

File Upload Text Input

IncAgent
A
B
DecAgent
B
C
PlusAgent
C.D

Templates:

Simple Counter Calculator Pipeline Advanced Pipeline Data Processor Math Operations

Upload

Publish Message

Topic name (A-Z): A
Message (Floating-point number): 3.14
Publish

Graph Visualization

```
graph TD
    A["A  
3.14"] --> IncAgent["IncAgent  
4.1400000000000001"]
    A --> DecAgent["DecAgent  
2.14"]
    A --> PlusAgent["PlusAgent  
4.1400000000000001"]
    A --> MinusAgent["MinusAgent  
1.14"]
    A --> DoubleAgent["DoubleAgent  
6.28"]
    A --> DivideAgent["DivideAgent  
15.5792000000000004"]
    IncAgent --> J["J  
4.1400000000000001"]
    J --> K["K  
5.28"]
    DecAgent --> F["F  
2.14"]
    F --> M["M  
Agent"]
    PlusAgent --> E["E  
7.2800000000000001"]
    E --> M
    DoubleAgent --> I["I  
6.28"]
    I --> M
    MinusAgent --> H["H  
6.28"]
    H --> M
    M --> K
```

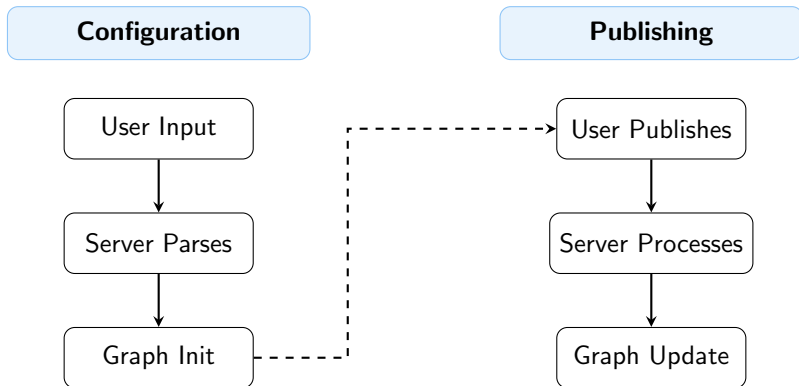
- **Backend:**

- Java HTTP server
- Servlet architecture
- Topic-Agent network
- Graph visualization

- **Frontend:**

- HTML5, CSS3
- vis-network.js
- JavaScript, Fetch API

System Flow



- **Frontend:**

- Dynamic UI, vis-network.js
- Client-server communication

- **Server-Side:**

- Custom HTTP server
- Configuration parsing
- Dynamic HTML

Summary

- Built a flexible pub/sub system
- Intuitive web interface with visualization
- Learned full-stack development