

UNIVERSITY OF ST ANDREWS

DISTRIBUTED SYSTEMS

CS4103

Ring-Based Distributed System

Author:

150008022

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Goal

To demonstrate an understanding of leader election and mutual exclusion in distributed systems by developing a ring-based distributed social media application.

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1 Initial Set-up

Java 8 was chosen for this project due to it's friendly socket API, and Maven [1] was used as the build tool. TDD was implemented with JUnit4 as the test suite framework.

1.1 Configuration

Since each node would be running on an isolated machine, the planned testing environment would involve using *ssh* to start the nodes remotely. Providing the configuration as command line arguments was considered simpler than other methods, and was implemented using the Apache Commons CLI library [2].

2 Leader/Coordinator Election

3 Receive/Send Posts

References

- [1] Apache. Apache maven project. <https://maven.apache.org/>.
- [2] Apache Commons. Apache commons cli. <https://commons.apache.org/proper/commons-cli/>.