

System architecture

Project HagiDooP - Report

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I. Quick summary:

- **Finished all required features:** Split.java connect with Socket, Launch.java can use RMI and Socket, unlimited number of parallel clients/servers.
- Split/Launch can be called in any order, as many times as the client want.
- The Servers can serve unlimited number of clients. A client can use any number of servers.
- **Clients are served in parallel.** All clients are served at once (as long as the servers have enough CPU). If one client crashes, others are not affected.

*Error handling:

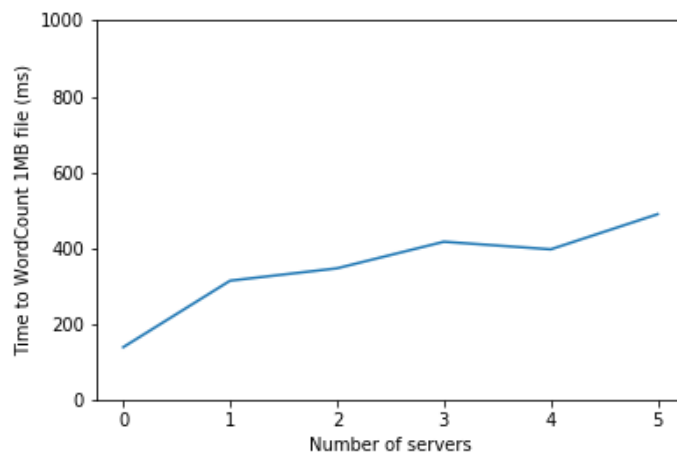
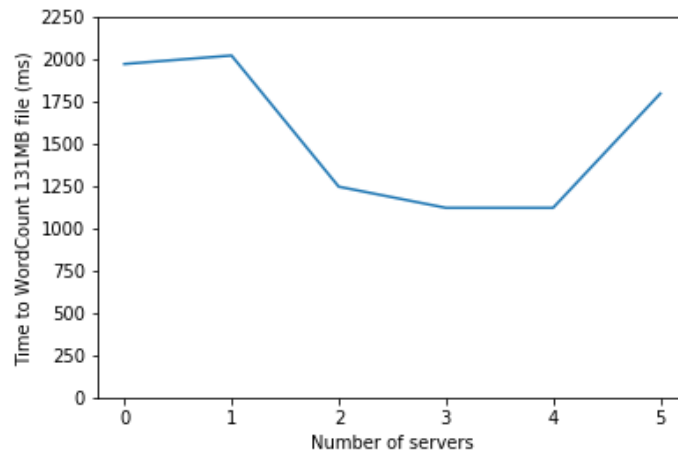
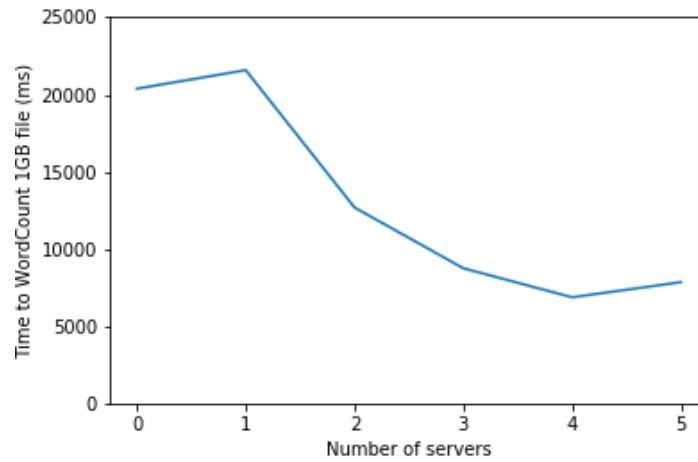
- Split/Launch processes will not crash. If there's an error (network problem, file not found, ...) the program will output an error message and exit.
- Server processes will not crash. If something is wrong (client suddenly exit, client can't connect, ...) the Daemon will output an error message. The Server will keep serving as normal.
- **Independent servers.** If one server stops, others are not affected. But since this project doesn't ask for *data redundancy/replication*, those extra features are not implemented.

II. How to run:

- See **howtorun.txt** in the LeHuyduc-Hagidoop.rar

III. Benchmark results:

- Benchmarked on an i7 laptop, 4 cores 8 threads. "0 server" means local Launch.



- Performance decreases when we have more servers than CPU cores.
- For small file, we lose performance when we use more servers due to overhead.