Submission for Milestone 1 of project

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Current Status:

For now, I have a setup where a client can upload and download files from a single shard. The client and shard communicate using the JSON protocol that we developed in class. The client and the shard setup that I have developed for now does the following:

Shard:

- Ability to read configuration information from the JSON configuration file
- Ability to receive and store files uploaded by the client
- Ability to send files to a requesting client
- Ability to read and write to a basic metadata file

For now, the metadata file is a basic JSON file which stores information about each incoming file upload request.

Client:

- Ability to read configuration information from the JSON configuration file
- Ability to receive and store files downloaded from shard
- Ability to upload files to a shard

I have provided a makefile for the client and the server modules. The makefile for the client currently is given for upload functionality. To download a file from the shard, please change the -u flag to -d and the filename appropriately.

What is not working:

The client and shard communicate using JSON to upload and download files. Also the shard maintains a very rudimentary metadata file for all data stored at its end. The process of updating the metadata needs to be refined so as to handle corner cases. Upload and download of files is being done successfully, however I still need to do extensive testing of the code for corner cases. The code needs to be modified to incorporate load-balancing, replication and metadata. The monitor module needs to be developed.

Plans for the rest of the project:

Over the next month I will be working on the following:

- Although my client is setup to upload and download from 3 shards, I have to refine the load balancing algorithm
- Enhancing the shards to support replication
- As the shards code changes I will be changing the structure of the metadata file
- Develop the code for the monitor
- Restructure code to handle corner cases and to create robust code