

Running

For Linux, requires Python 3.7.0 (or above):

```
$ ./spawn.sh 5 # replace 5 by the number of replicas you want

# In another terminal:
# to add more replicas
$ python replica.py &
# to run the tests (no output = pass)
$ tools/test_all
# to run the client
$ python client.py
```

To remove a replica, just kill the job. (e.g. `kill %3`).

Features

Users can create/read/update/delete their own ratings and tags. They can also search for movies by name and or genres, and create movies. All operations are causally ordered using vector clocks. Thus, if a user creates a rating from the same session and reads a rating (from the same session) then he would receive ratings with his updates applied.

At any time, all replicas are causally consistent. Given enough time, all replicas converge to a common (still causally consistent) global order of events (i.e. all replicas will apply *all* concurrent updates in the same order) and hence the same global state.

The system supports any number of replicas. New replicas can join the cluster at any time. Over time, all replicas receive all updates and the system becomes tolerant to f failures (out of $f+1$ replicas).