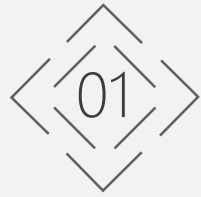


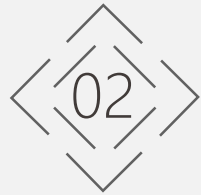
Movie Recommendation System



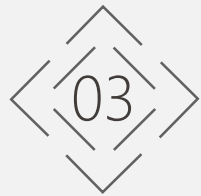
Yunlu Liao Zheng
Lingfeng Zhou
Cheng Jin



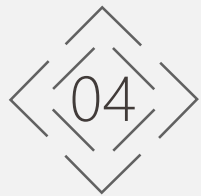
Goal Review and Completion Report



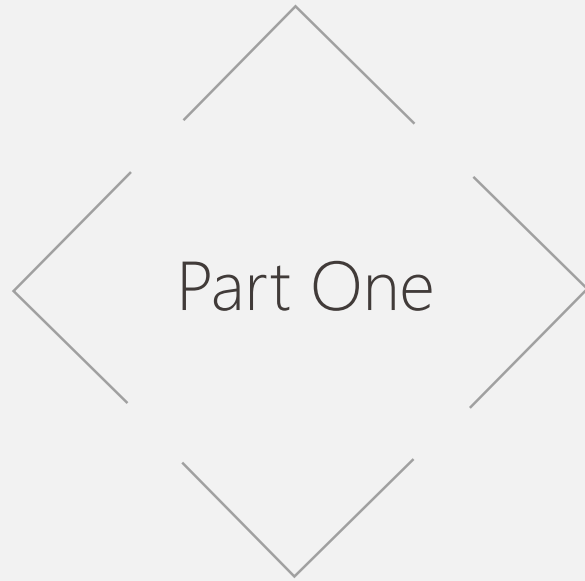
System Structure



Demo Presentation and Test Result



Implementation Detail



Goal Review and Completion Report



Goal

Build a scalable movie recommendation System to answer the question “What movie should I watch tonight?”. It will return some related movies based on the given movie.

The system should return answer in 3 seconds and can handle maximum 10 requests per second.

The system should contain three separated parts: Controller, Model and Datacenter.

Controller: The frontend which contains webserver, user interface, session management, authentication.

Model: The model which contains main logic about how to generate response and how to manipulate data.

Datacenter: The data manager which contains all calculations and low-level data management.

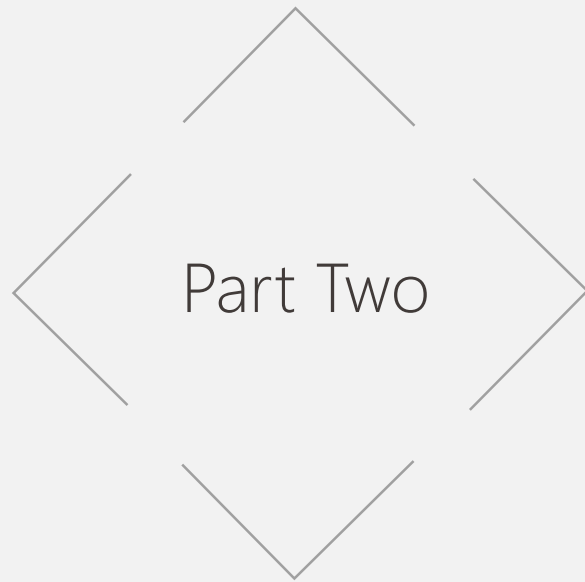


Completion

Controller: Implemented as a stateless server based on Scala Play framework. As it is stateless, it is safe to deploy multiple servers and users can access each of them.

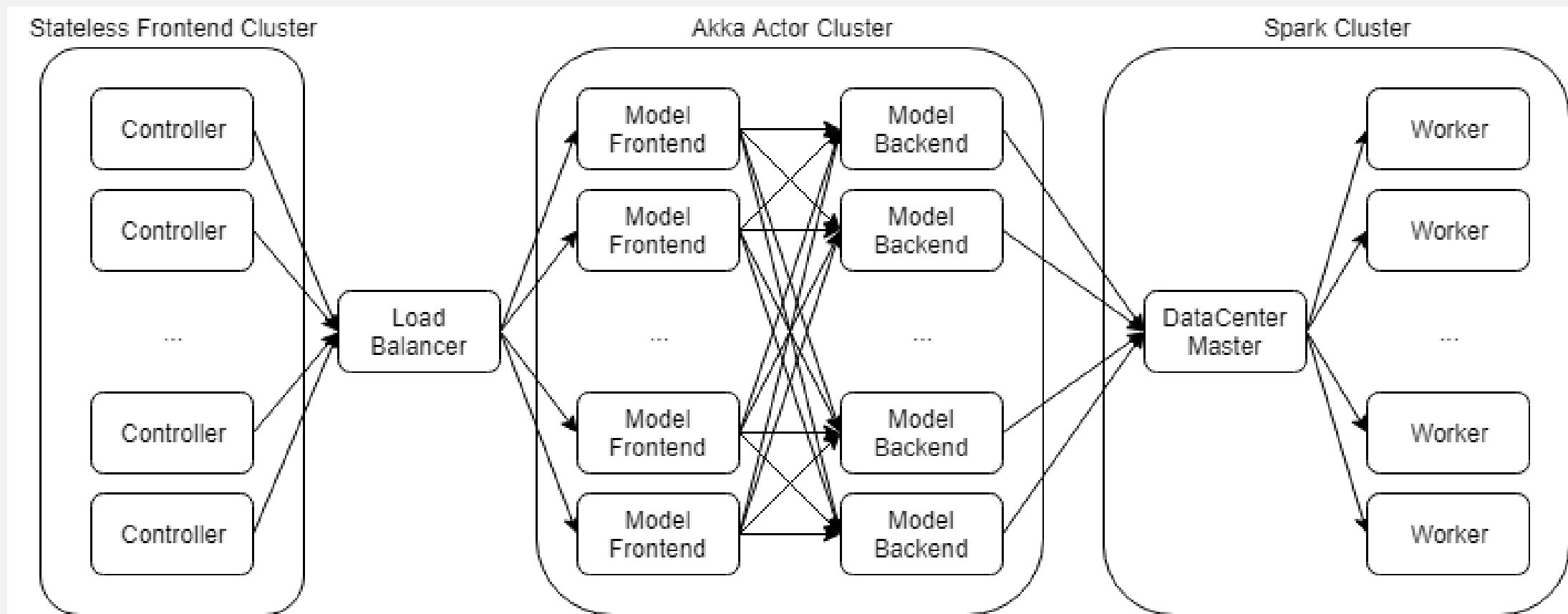
Model: Implemented as a frontend/backend cluster based on Akka Actor Cluster. The frontend is used to handle requests and forward to backend. The backend is used to do real works.

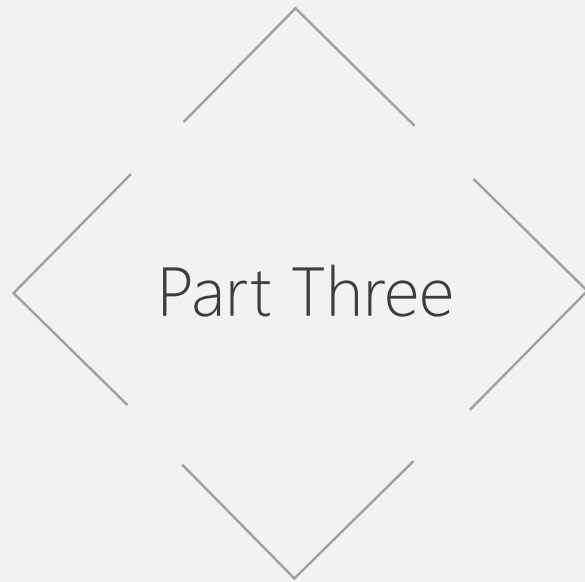
Datacenter: Implemented as a Spark Cluster. Which manages over 1M movies.



System Structure

System Structure





Demo Presentation and Test Result

Test Result

Summary Report.jmx (/home/sraw/Summary Report.jmx) - Apache JMeter (2.13.20170723)

File Edit Search Run Options Help

0 0 / 10

Test Plan
Thread Group
HTTP Header Manager
HTTP Request
Summary Report
View Results Tree
WorkBench

Summary Report

Name: Summary Report

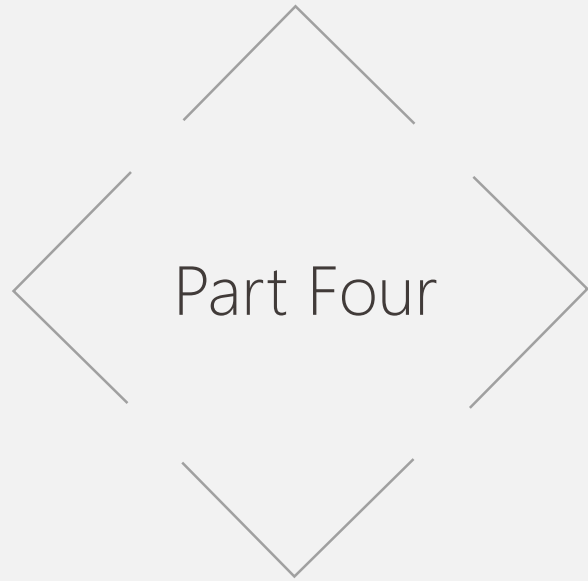
Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	KB/sec	Avg. Bytes
HTTP Request	10	1578	449	2574	697.62	0.00%	2.9/sec	3.64	1295.0
TOTAL	10	1578	449	2574	697.62	0.00%	2.9/sec	3.64	1295.0

☐ Include group name in label? ☒ Save Table Header



Implementation Detail



Thanks!