

An-Najah National University

Faculty of Engineering

Department of Computer Engineering

Distributed and Operating Systems

Bazar.com: A Multi-tier Online Book Store

Team members:

Hamzi damide (11612453)

Dania Aqel(11642509)

Chapter 1: Cache

We add the Cache functionality in frontend server using the lumen built-in function, so lets see the result for each operations with and without Cache:

Operation	Without Cache	With Cache
Successful Search	0.09806	0.0124
Unsuccessful Search	0.05726	0.0044
Successful Lookup	0.0608	0.0037
Unsuccessful Lookup	0.0266	0.00392
Successful buy	0.1881	0.0147
Unsuccessful buy	0.1161	0.00266

In read operation (Search , Lookup) the expired time for cache is 5 minutes and it is sufficient to handle the problem. However, in buy operation it just 1 minute for cache to be expired and if it is done successfully last time then the system send buy request to order server otherwise just return the reason of failure from the cache.

Chapter 2: Replication:

We add two Replication server one for order it's name Rorder and another one for catalogue server it's name Rcatalogue.

Operation	Without Cache	With Cache
Successful Search	0.0075	0.0034
Unsuccessful Search	0.06145	0.00357
Successful Lookup	0.0162	0.00036
Unsuccessful Lookup	0.02142	0.009785
Successful buy	0.02094	0.005243
Unsuccessful buy	0.01902	0.00736