Preliminary Research on Team Project  
Category   
Databases to be used

The initial proposal for the NoSql Team project is to use couch DB as the database. We choose couch DB for the following reasons.

1. Couch DB server hosts named database which can be used to store documents, each of which is uniquely named in the database.
2. Document styled databases tend to blend well with an e-commerce system especially for displaying a wide range of products and performing operations on them.
3. It supports RESTful HTTP api for all crud operations.
4. Couch DB supports peer to peer replication model.
5. Changes are replicated bi-directionally after a while.
6. Conflict resolution model is simple and non-destructive allowing a decentralized conflict resolution
7. It is a no locking system and uses multiversion concurrency control for managing concurrent access to database.
8. It uses map reduce for document filteration.

Eg query- {

"\_id": "00a271787f89c0ef2e10e88a0c0001f4",

"\_rev": "1-2628a75ac8c3abfffc8f6e30c9949fd6",

"item": "apple",

"prices": {

"Fresh Mart": 1.59,

"Price Max": 5.99,

"Apples Express": 0.79

}

}

1. All of these factors are ideal for a scalable shopping cart application.

For the existing project, our couch DB will hold the inventory records and will be residing on the AWS instance. It will allow concurrent access and implement partition and version control of data as and when needed. It will directly communicate with the Heroku Front end and implement changes accordingly.

Couch DB on AWS

1. Set up your Amazon AWS EC2 account, firewall ruleset, etc.
2. Start the Amazon linux AMI, ami-5059be39
3. When it is up, copy the public DNS name and run
4. Once logged in, install the prerequisites:
5. Fetch, build, and run CouchDB:
   1. svn checkout http://svn.apache.org/repos/asf/couchdb/trunk couchdb # (Instead of trunk, you could try  tags/0.8.0 ,  tags/0.8.1 , etc.)
   2. cd couchdb
   3. ./bootstrap && ./configure && make && sudo make install
   4. sudo adduser --system --home /usr/local/var/lib/couchdb --no-create-home --shell /bin/bash --group --gecos 'CouchDB account' couchdb
   5. sudo chown -R couchdb.couchdb /usr/local/var/{lib,log}/couchdb
   6. *(Optional)* Enable direct web access. **NOTE: This step makes your CouchDB instance available for everyone. See**[**the FaQ**](http://wiki.apache.org/couchdb/Frequently_asked_questions#secure_remote_server)**for some (but not all) security options.**
      1. sudo vim /usr/local/etc/couchdb/local.ini
      2. Search for "bind\_address", uncomment it, and change it to 0.0.0.0
      3. Save and exit
   7. *(Alternative option)* Set up port forwarding to access your DB, for example with SSH.
      1. ssh -L 5984:localhost:5984 -l ubuntu <public DNS name>
      2. Leave that session open as long as you need the proxy to work
      3. Your new DB URL will be <http://127.0.0.1:5984/> instead.
   8. sudo -i -u couchdb couchdb
6. Test it by going to http://<public dns name>:5984/\_utils/