

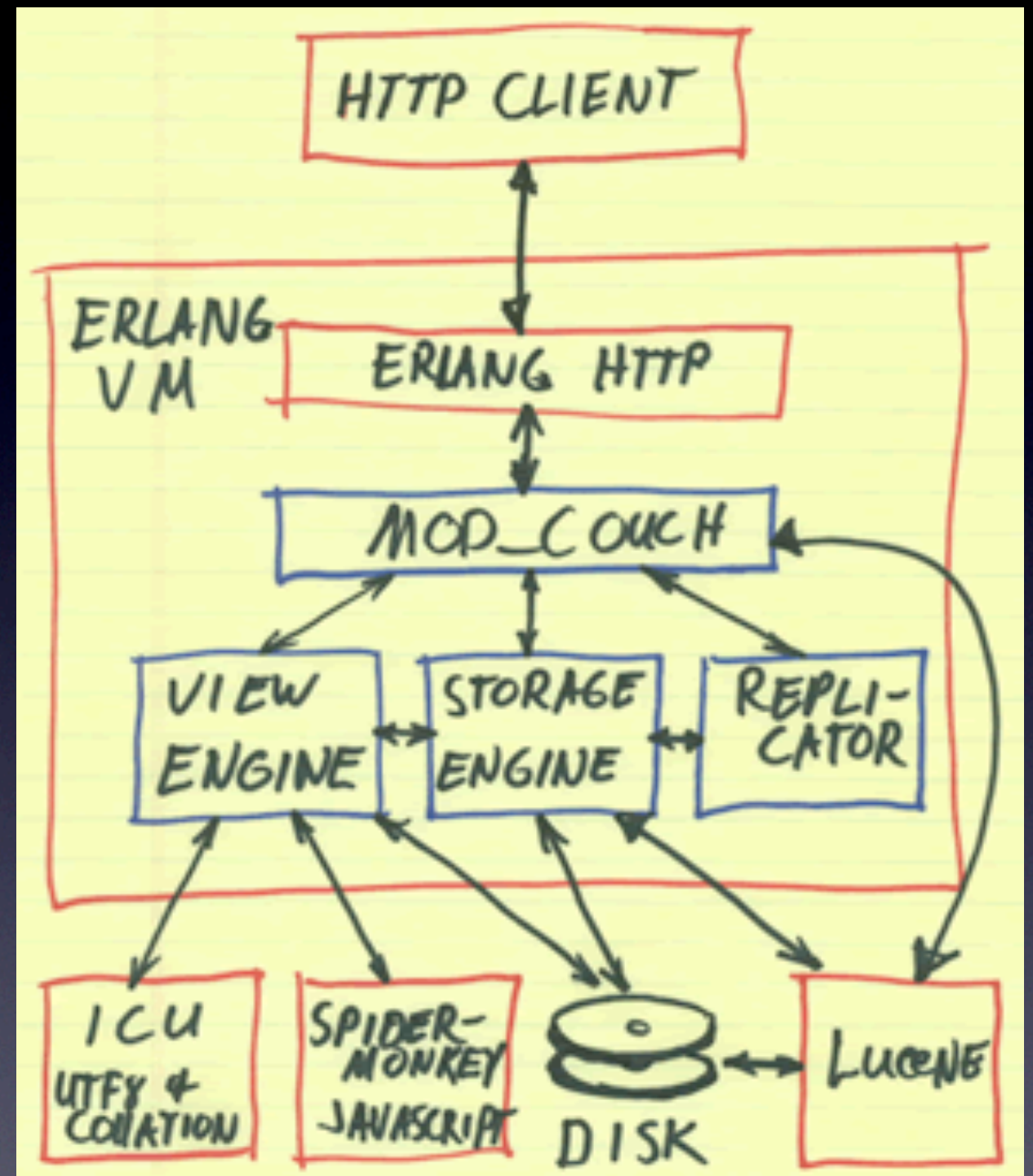
CouchDB

<http://incubator.apache.org/couchdb/>

CouchDB is a Database

- with really crap relational features
- no support for the usual suspects of access APIs
- no tables
- no columns
- no constraints
- stores documents, not records
- JSON document format
- JavaScript “query language”
- does CRUDdy HTTP really well

obligatory architecture diagram



Documents... as in...

movies

wiki articles

personals

comments

blog posts

mp3s

auction items

news

obituaries

pictures

source code

DB Layout

host

database

document

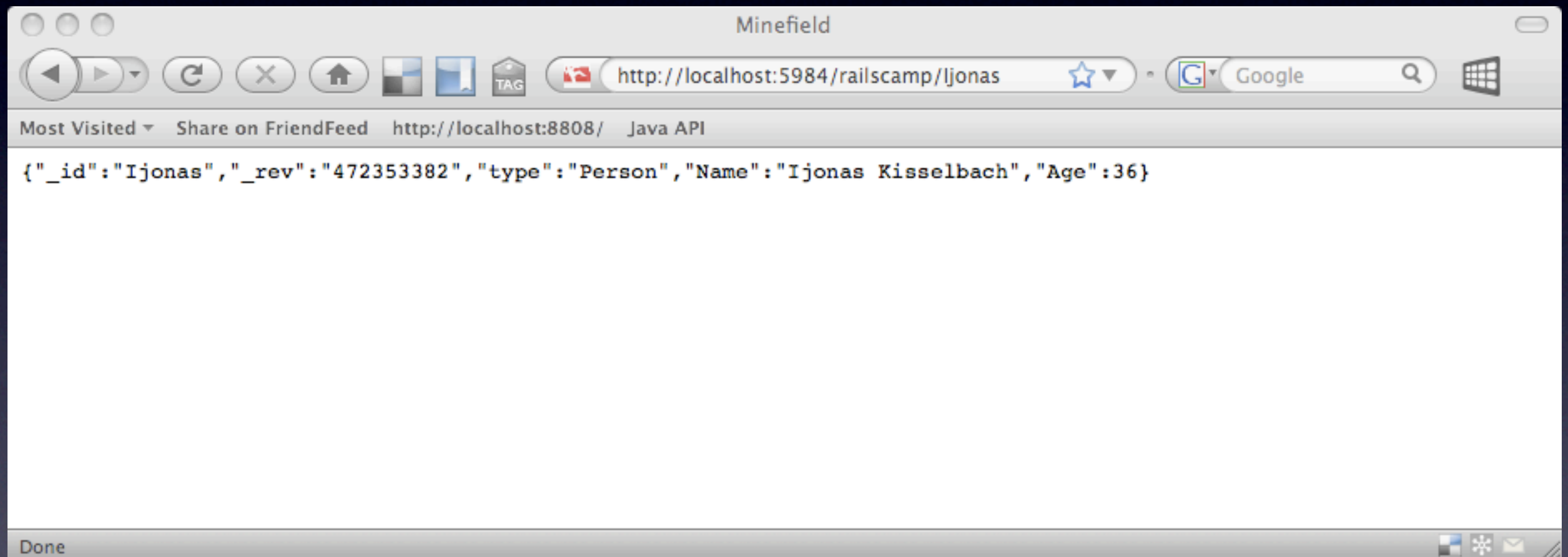
- http://megatron:5984/railscamp/my_doc
- http://megatron:5984/railscamp/your_doc
- http://megatron:5984/railscamp/our_doc
- http://bumblebee:5984/railscamp/their_doc

SELECT by primary key

- <http://127.0.0.1:5984/railscamp/Ijonas/>
- HTTP GET

```
{  
  "_id": "Ijonas",  
  "_rev": "472353382",  
  "type": "Person",  
  "Name": "Ijonas Kisselbach",  
  "Age": 36  
}
```

SELECT by primary key



UPDATES

- <http://127.0.0.1:5984/railscamp/Ijonas/>

- HTTP PUT {
 "_id": "Ijonas",
 "_rev": "472353382",
 "type": "Person",
 "Name": "Ijonas Kisselbach",
 "Age": 36,
 "_attachments": {
 avatar.jpg:
 {
 content_type: "image/jpeg",
 content:
 "VGhpcyBpcyBhIGJhc2U2NCBlbmNvZGVkIH
 RleHQ="

DELETEs

- <http://127.0.0.1:5984/railscamp/ljonas/>
- HTTP DELETE

INSERTs - specified id

- <http://127.0.0.1:5984/railscamp/Ijonas/>
- HTTP **PUT** {
 "type": "Person",
 "name": "Ijonas Kisselbach",
 "Age": 36
}

INSERTs - generated id

- <http://127.0.0.1:5984/railscamp/>
- HTTP **POST** {
 "type": "Person",
 "name": "Ijonas Kisselbach",
 "Age": 36
}

HTTP/1.1 201 Created

Date: Thu, 17 Aug 2006 05:39:28 +0000GMT

Content-Type: application/json

Connection: close

{"ok":true, "id":"123BAC", "rev":"946B7D1C"}

Views - Canned Queries

- http://.../railscamp/_design/people

- HTTP **PUT** {
 "_id": "_design/people",
 "views":
 {
 "adults": {
 "map": "function(doc) {
 if (doc.Type == 'Person' &&
 doc.Age > 20)
 emit(null, doc) }"
 },
 }
}

Views - Canned Queries

- http://.../railscamp/_view/people/adults

- HTTP GET

HTTP/1.1 200 OK

Date: Thu, 17 Aug 2006 05:39:28 +0000GMT

Content-Length: 318

Connection: close

{

 "total_rows": 2,

 "offset": 0,

 "rows": [{

 "id": "Ijonas",

 "key": null,

 "value": {

 "type": "Person",

 "Name": "Ijonas Kisselbach",

 "Age": 36}

 },

]

}

CouchDB & Ruby

- CouchObject
- HTTParty (yeah!)
- ActiveRecord port (yuck!)

```
require 'rubygems'  
require 'httparty'
```

```
class CouchHack  
  include HTTParty  
  base_uri 'http://127.0.0.1:5984'  
  format :json
```

```
  def update( path, document )  
    options = { :body => JSON.generate(document) }  
    puts self.class.put(path, options )  
  end
```

```
  def get(path)  
    self.class.get(path)  
  end
```

```
  def create(path, document )  
    options = { :body => JSON.generate(document) }  
    puts self.class.post(path, options )  
  end  
end
```


CouchDBX - binaries for OS X

The screenshot shows the Apache CouchDB Futon Utility Client interface. The browser address bar displays `http://localhost:5984/_utils/`. The main content area shows a document for the database `railscomp` and document `Ijonas`. The document fields are:

Field	Value
<code>_id</code>	<code>"Ijonas"</code>
<code>_rev</code>	<code>"472353382"</code>
<code>Age</code>	<code>36</code>
<code>Name</code>	<code>"Ijonas Kisselbach"</code>
<code>type</code>	<code>"Person"</code>

Below the table, it indicates "Showing revision 2 of 2" with links for "Previous Version" and "Next Version".

On the right sidebar, the CouchDB logo is displayed with the tagline "relax". Below the logo, there are sections for "Tools" (Overview, Replicator, Test Suite) and "Databases" (railscomp, test_suite_db, test_suite_db_a, test_suite_db_b).

The footer of the interface shows "Futon on Apache CouchDB 0.8.0-incubating".

My Interest in CouchDB

- Fast Content & Metadata Processing
- Scale
 - nginx & squid caching
 - HTTP Addressability - “sharding” built-in
 - http://megatron:5984/railscamp/our_doc
 - http://bumblebee:5984/railscamp/their_doc

Getting Started

- CouchDB @ <http://incubator.apache.org/couchdb/>
- CouchDBX @ <http://jan.prima.de/~jan/plok/archives/142-CouchDBX-Revival.html>
- CouchDB wiki @ <http://wiki.apache.org/couchdb/>
- IRC channel - #couchdb on freenode
- HTTParty & CouchObject gems