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CouchDB on neutrino

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Installing CouchDB

Installed CouchDB using MacPorts (also could have used CouchBase / CouchDBX) and couchdb-lucene (v0.6-SNAPSHOT)

Configuring CouchDB-Lucene

Local host binding

I have CouchDB and couchdb-lucene working from localhost on neutrino.

Run couchdb-lucene using this command:

```
/usr/local/couchdb-lucene/bin/run
```

Run CouchDB using this command:

```
/opt/local/bin/couchdb
```

In the CouchDB config file (`/opt/local/etc/couchdb/local.ini`) add the following:

```
[couchdb]
os_process_timeout=60000 ; increase the timeout from 5 seconds.

[external]
fti=/usr/bin/python /usr/local/couchdb-lucene/couchdb-external-hook.py

[httpd_db_handlers]
_fti = {couch_httpd_external, handle_external_req, <<"fti">>}
```

I also have the default setting `bind_address = 127.0.0.1` which binds to the loopback.

This is a test design document:

```
{
  "_id": "_design/test",
  "_rev": "3-570253590b3340acbb40ddf19c5871ca",
```

```

    "fulltext": {
      "by_color": {
        "index": "function(rec) { var doc=new Document(); doc.add(rec.color); return doc; }\n"
      }
    }
  }
}

```

This is a suitable test query:

`http://127.0.0.1:5984/test/_fti/_design/test/by_color?q=pink`

with result:

```

{"q":"default:pink","etag":"11dc5cc10cb27df8","skip":0,"limit":25,"total_rows":1,
"search_duration":25,"fetch_duration":7,"rows":[{"id":"f8eaea07c3cd2bee3496fc070c005dca",
"score":1.4054651260375977}]}

```

External web address binding

Making CouchDB work with an external address is as simple as changing thing `bind_address` in `local.ini` to something like `128.3.2.232` (the IP address of neutrino). However to make couchdb-lucene work one has to make changes to the configuration files for both CouchDB and couchdb-lucene.

This is the change to CouchDB:

```

bind_address = 128.3.2.232
...
fti=/usr/bin/python /usr/local/couchdb-lucene/couchdb-external-hook.py --remote-host 128.3.2.232 --local-key server

```

This is the whole couchdb-lucene configuration file from the `conf` directory:

```

[lucene]
# The output directory for Lucene indexes.
dir=indexes

# The local host name that couchdb-lucene binds to
host=128.3.2.232

# The port that couchdb-lucene binds to.
port=5985

# Timeout for requests in milliseconds.
timeout=10000

# couchdb server mappings

[local]
url = http://localhost:5984/

[server]
url = http://128.3.2.232:5984/

```

I changed the `host` and added the `server` key section.

A note on directory permissions

Permissions of `/usr/local/couchdb-lucene`:

```
drwxr-xr-x  3 couchdb couchdb  102 Oct  7 08:15 bin
drwxr-xr-x  4 couchdb couchdb  136 Oct 13 15:08 conf
-rwxr-xr-x  1 couchdb couchdb 2717 Oct  7 08:39 couchdb-external-hook.py
drwxr-xr-x  3 couchdb couchdb  102 Oct  7 08:21 indexes
drwxr-xr-x 49 couchdb couchdb 1666 Oct  7 08:15 lib
drwxr-xr-x  3 couchdb couchdb  102 Oct  7 08:15 logs
drwxr-xr-x  4 couchdb couchdb  136 Oct  7 08:15 tools
```

Permissions of `/opt/local/var/lib`:

```
drwxrwx--- 10 couchdb couchdb  340 Oct  7 02:18 couchdb
```

Permissions of `/opt/local/bin`:

```
drwxrwx--- 10 couchdb couchdb  340 Oct  7 02:18 couchdb
```

Permission of `/opt/local/var/lib/couchdb`:

```
drwxrwx---  2 couchdb couchdb    68 Oct  6 08:57 .delete
-rwxrwx---  2 couchdb couchdb     0 Oct  6 06:07 .turd_couchdb
-rwxrwx---  1 couchdb couchdb 20569 Oct  7 00:30 _users.couch
-rw-r--r--  1 couchdb couchdb   79 Oct  7 02:18 another.couch
-rwxrwx---  1 couchdb couchdb   25 Oct 13 15:02 couch.uri
-rw-r--r--  1 couchdb couchdb   79 Oct  6 06:32 hello.couch
-rw-r--r--  1 couchdb couchdb 372827 Oct  7 01:25 lbf_public.couch
-rw-r--r--  1 couchdb couchdb 32859 Oct  7 08:21 test.couch
```

Everything is owned by the `couchdb` user. This is a security measure in case one of the two systems is hacked.

Running CouchDB and couchdb-lucene as daemons

Follow the instructions from [here](http://guide.couchdb.org/draft/mac.html), and use `launchctl` / `launchd` to run both packages as daemons:

<http://guide.couchdb.org/draft/mac.html>

Below are the `plist` files from `/Library/LaunchDaemons/`.

`couchdb-lucene.plist`:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN"
  "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
  <dict>
    <key>Label</key>
    <string>couchdb-lucene</string>
    <key>EnvironmentVariables</key>
    <dict>
```

```

    <key>HOME</key>
    <string>~</string>

</dict>
<key>ProgramArguments</key>
<array>
    <string>/usr/local/couchdb-lucene/bin/run</string>
</array>
<key>UserName</key>
<string>couchdb</string>
<key>StandardOutPath</key>
<string>/dev/null</string>
<key>StandardErrorPath</key>
<string>/dev/null</string>
<key>RunAtLoad</key>
<true/>
<key>KeepAlive</key>
<true/>
</dict>
</plist>

```

org.apache.couchdb.plist:

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN"
    "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
    <dict>
        <key>Label</key>
        <string>org.apache.couchdb</string>
        <key>EnvironmentVariables</key>
        <dict>
            <key>HOME</key>
            <string>~</string>

        </dict>
        <key>ProgramArguments</key>
        <array>
            <string>/opt/local/bin/couchdb</string>
        </array>
        <key>UserName</key>
        <string>couchdb</string>
        <key>StandardOutPath</key>
        <string>/dev/null</string>
        <key>StandardErrorPath</key>
        <string>/dev/null</string>
        <key>RunAtLoad</key>
        <true/>
        <key>KeepAlive</key>
        <true/>
    </dict>
</plist>

```

Add these to `launchd` using:

```
sudo launchctl load -w /Library/LaunchDaemons/couchdb-lucene.plist
```

```
sudo launchctl load -w /Library/LaunchDaemons/org.apache.couchdb.plist
```

This blog has some useful general information on `launchd`:

<http://www.reasonablyopinionated.com/2009/06/intro-to-using-launchctl-with-macports.html>

Check what's running with `launchctl list`.

When I first set this up it didn't work (CouchDB said it was running but there was no response to a http request). I did the same commands again and it worked. Strange.

CouchApp

CouchApp is hosted on github at <http://github.com/jchris/couchapp>. With a decent python installation one can just do:

```
easy_install couchapp
```

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