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Playing JEE on the Pi

Java JEE technologies are about distributed computing across the enterprise. The Raspberry Pi is a low cost ARM based computer. It runs Linux and works in a network. A couple of Pis in a network are a very interesting environment for playing around with the latest JEE stuff. That's what this blog is about: running JEE technologies on small devices and making distributed computing tangible.

Sunday, 10 August 2014

Installing CouchDB 1.6.0 on the Raspberry Pi

Update 03.11.2015

The Erlang Solutions Repository now contains a new version of Erlang. The major version is now 18. This is too high for the couch in version 1.6.x. For this reason, please omit the step of including the Erlang Solutions Repository. Just rely on what you get from the default Raspbian/Debian repos. I still have to verify this with Wheezy, but for the new Raspbian Jessie image this does the trick.

Also please note that the couch is now available in version 1.6.1. The instructions below are valid for this version too, as described [here](#).

Building CouchDB 1.6.0 On Your Pi

CouchDB 1.6.0 has been released and of course we want to have it running on our Pis.

I guess my previous [blog on installing version 1.5.1](#) is still valid but couchDB 1.6.0 is now able to run on Erlang 1.17 and that makes for a slight difference during installation.

Preparing the Pi

Nothing new here...

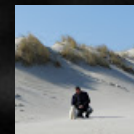
- I used a brand new 16 GB card.
- Download the latest Raspbian Wheezy from www.raspberrypi.org/downloads
At the time of this writing, the image version was 2014-06-20
- Install the image on your Pi and do the regular raspi-config
 - Extend the partition
 - Set your locales
 - ...
 - Btw, I did not change the default memory split nor did I overclock
- Re-boot the Pi for the partition extension to take effect
- update and upgrade your installation

The Pi is now ready.

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Volker Koster

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Add Erlang Solutions' Repository (omit this step, see update 03.11.2015 hint)

Again, we will not add the Cloudant repository for Spidermonkey, but this time add the [Erlang Solutions](#) repository in order to install their Erlang package. This will get you an Erlang 1.17 version which is now ok for couchDB 1.6.0.

The following instructions have been taken from [Erlang Solutions' download](#) section:

```
#
# Add the following line to your /etc/apt/sources.list:
deb http://packages.erlang-solutions.com/debian wheezy contrib

#Next, add the Erlang Solutions public key for apt-secure using
following commands:
wget http://packages.erlang-solutions.com/debian/erlang_solutions.asc
sudo apt-key add erlang_solutions.asc

# update repository cache
sudo apt-get update
#
```

Install what's needed

Install the following packages:

```
#
# Install Compilers
sudo apt-get install erlang-nox
sudo apt-get install erlang-dev
# Spidermonkey JS engine as lib
sudo apt-get install libmozjs185-1.0
# Development headers for spidermonkey lib
sudo apt-get install libmozjs185-dev
# Dev files for libcurl (openssl)
sudo apt-get install libcurl4-openssl-dev
# Dev files for icu (Unicode and Locales)
sudo apt-get install libicu-dev
#
```

Create an account for couchDB

Next we have to create an account for couchDB:

```
#
# Create couchDB account
sudo useradd -d /var/lib/couchdb couchdb

sudo mkdir -p /usr/local/{lib,etc}/couchdb /usr/local/var/{lib,log,run}/couchdb /var/lib/couchdb

sudo chown -R couchdb:couchdb /usr/local/{lib,etc}/couchdb /usr/local/var/{lib,log,run}/couchdb

sudo chmod -R g+rw /usr/local/{lib,etc}/couchdb /usr/local/var/{lib,log,run}/couchdb
#
```

The next step is downloading the source code and unpacking it:
(find an appropriate mirror near you)

```
#  
# Download source and unpack  
wget http://ftp-stud.hs-esslingen.de/pub/Mirrors/ftp.apache.org/dist/couchdb/source/1.6.0/apache-couchdb-1.6.0.tar.gz  
tar xzf apache-couchdb-*.tar.gz  
#
```

In order to start the "configure" and "make" process, switch into the couchDB directory:

```
#  
# Change into the couchDB directory  
cd apache-couchdb-1.6.0  
#
```

Now configure the build:

```
#  
#Configure the build  
./configure --prefix=/usr/local --with-js-lib=/usr/lib --with  
-js-include=/usr/include/js --enable-init  
#
```

When configure is through, you should see this message:

```
"You have configured Apache CouchDB, time to relax.  
Run 'make && sudo make install' to install."
```

This also tells you what the next step will be: running make and make install.

```
#  
# running make and make install  
make && sudo make install  
#
```

This will take a couple of minutes. But when its done, you have couchDB 1.6.0 compiled on your pi.

Finally create some soft links, make the service start up at boot-time and start couchDB:

```
#  
# Start couchDB  
sudo ln -s /usr/local/etc/init.d/couchdb /etc/init.d/couchdb  
sudo /etc/init.d/couchdb start  
sudo update-rc.d couchdb defaults  
# see if its running...  
curl http://127.0.0.1:5984/  
#
```

As you can see, the couchDB service binds to localhost.
If you want to reach couchDB from another machine, maybe from another Pi :-), change this.

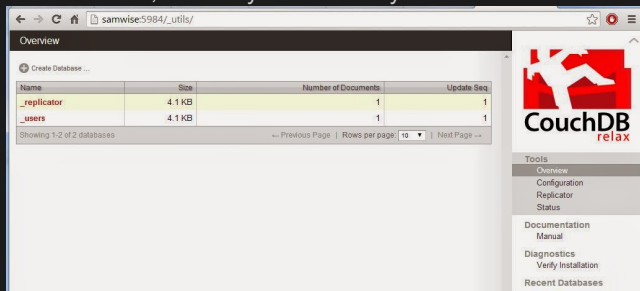
Open local.ini, find the [httpd] section, activate the binding_address and set it to the IP of your Pi:

```
#
# make couchDB accessible within your network
sudo vi /usr/local/etc/couchdb/local.ini
#
```

Within this file, find the [httpd] section, activate bind_address and set it to 0.0.0.0
It should now look like this:

```
[httpd]
;port = 5984
bind_address = 0.0.0.0
```

As a final test, re-boot your Pi and try to reach couchDB Futon:



And that's it. CouchDB 1.6.0 is running on your Pi.

There is one additional step suggested by a kind reader:

```
#
# Now including this hint sent by anonymous
# make couchdb user (created above) owner of local ini-file
sudo chown couchdb:couchdb /usr/local/etc/couchdb/local.ini
#
```

Credits

The instructions above are based on an installation guide compiled by Dave Cottlehuber on the new couchDB Confluence Wiki. It describes the process of installing couchDB on a Debian system.

The Wiki entry is [here](#).

I slightly adjusted this process to be working for the Pi too and now with the Erlang Solutions repository included, this guide is even closer to the Wiki than the one for version 1.5.1.

Posted by [Volker Koster](#) at 14:26

  +6 Recommend this on Google

Labels: [build](#), [couchdb](#), [couchdb 1.6.0](#), [install](#), [pi](#), [raspberry](#), [raspberry pi](#)

20 comments:

Anonymous 6 March 2015 at 13:30

Thanks!

"sudo vi /usr/local/etc/couchdb/local.ini."
The last do is too much.

[Reply](#)



Marc Geh 20 April 2015 at 16:35

This comment has been removed by the author.

[Reply](#)



Marc Geh 20 April 2015 at 16:47

why does my terminal not accept the following command?

```
pi@pi01 ~ $ sudo /etc/init.d/couchdb start
```

```
sudo: /etc/init.d/couchdb: command not found
```

any ideas?

[Reply](#)



Volker Koster 21 April 2015 at 08:05

Hi Marc...out of the box, I'm afraid I have no idea. Did you follow the softlink and checked if couchdb is really there? Did you try to start couchdb from its original directory?

[Reply](#)



Greg Miller 30 July 2015 at 15:26

I too got the command not found error. However, couchdb does exist in the bin folder inside the original directory. I can't seem to run it from there, should i just copy it to /etc/init.d ?

[Reply](#)

▼ [Replies](#)



Volker Koster 5 August 2015 at 12:14

Hi Greg,

I'm a little bit worried now.

I've configured all my pi's this way without ever facing an issue. But that's quite a while ago now.

On next occasion I will verify the process.

Are you using the original Pi or the new mode Pi2B?



Greg Miller 5 August 2015 at 13:08

I'm using the original Pi with a fresh install of the most recent version of Raspbian (installed through NOOBS).

I was able to get CouchDB running from the original downloaded location, it won't run automatically but I can manually start it up.

Volker Koster 13 August 2015 at 12:31



Hi Greg,
last weekend I was busy getting the couch running on a Pi on Archlinux, so I did not manage to reproduce your problem.
But if couchdb is missing in /etc/init.d, then earlier on there must have been some problem with creating the soft link. Can you trace back to where the problems started, e.g. is couchdb present in /usr/local/etc/init.d/ ?

Reply



Volker Koster 5 August 2015 at 12:22

Was playing around with Archlinux lately. For the Pi, the Archlinux ARM project is relevant.

It's a little bit more of an effort to install it on the Pi, but once you have it, you should be able to install the couch from their repo. It's version 1.6.1-4 which sounds cool.

Guess I'll try this path next...

Reply



Unknown 16 October 2015 at 17:52

Hi Volker,

I tried to follow your instructions on a Pi B Rev2, but I get the following error when configuring the build:

checking Erlang version compatibility... detected Erlang version: 7.1.0...configure: error: The installed Erlang version must be >= R14B (erts-5.8.1) and =< 17 (erts-6.0) major_version does not match

I have very little experience with the Pi. Is there a way to solve this?

Thanks

Rodrigo

Reply

▼ Replies



Volker Koster 19 October 2015 at 10:28

Hi Rodrigo,
from the message I figure that your erlang version is too new for couch 1.6.0.

Try to install couch 1.6.1. This should work.

If not, than you have to install an older erlang version.

Hope this helps.

I'm going to check repositories and versions tonight. Maybe I can give you another hint tomorrow.

best

volker



Volker Koster 19 October 2015 at 22:52

Hi Rodrigo,
I just checked my couch 1.6.1 installation for the installed erlang-nox

package: version is 1:17.5.3.
Please install version 1.6.1 of couchdb and you should be fine.
best
volker

 **Unknown** 24 October 2015 at 19:22

Hi,
I just downloaded CouchDB 6.1.1 instead of 6.1.0 and still got the same error with Erlang compatibility.
How can I install older Erlang version that can work with CouchDB?

best
Toncl

Reply

 **Anže Bertoneclj** 29 October 2015 at 23:55


Hi,
I just downloaded CouchDB 6.1.1 instead of 6.1.0 and still got the same error with Erlang compatibility.
How can I install older Erlang version that can work with CouchDB?

best
Toncl

Reply

▼ **Replies**



Volker Koster  1 November 2015 at 22:28

Hi,
can you please run this:
sudo apt-cache policy erlang-nox
and post the result?
best
volker

 **Anže Bertoneclj** 1 November 2015 at 23:30

Here you go;

```
~ $ sudo apt-cache policy erlang-nox
erlang-nox:
Installed: 1:18.1
Candidate: 1:18.1
Version table:
*** 1:18.1 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
100 /var/lib/dpkg/status
1:17.5.3 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:17.5 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
```

```

Packages
1:17.4 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:17.3.2 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:17.3 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:17.1 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:16.b.3-3 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:16.b.3 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:16.b.2 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:16.b 0
500 http://packages.erlang-solutions.com/debian/ wheezy/contrib armhf
Packages
1:15.b.1-dfsg-4+deb7u1 0
500 http://mirrordirector.raspbian.org/raspbian/ wheezy/main armhf
Packages

```



Volker Koster 2 November 2015 at 23:10

ok, seems like Erlang Solutions Repository now contains a new major version 1:18.1.

This means that my tutorial does no longer work correctly. Sorry.

What you can do is to leave out the first step: including the Erlang Solutions Repo.

You will then fall back to using the version in the regular raspbian repository. I tried this today with the brand new Jessie based raspbian and it worked well.

Hope this helps.

I will update the tutorial as soon as possible.

Thanks for the hint and sorry for your trouble.

best

volker

Reply



comdotdom 10 November 2015 at 21:04

This comment has been removed by the author.

Reply



comdotdom 10 November 2015 at 21:05

I just wanted to say thank you.

I have just seamlessly installed CouchDB 1.6.1 on Raspbian Jessie on a Pi 2.

All sorted in the time it took to heat up a bowl of soup.

I'm very grateful for your well written, easy to follow instructions.

[Reply](#)

▼ [Replies](#)



Volker Koster 11 November 2015 at 07:50

Thank you very much for your kind feedback.
You made my day :-)

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