Raspberry Pi - Support #491

Compiling and Installing MariaDB Galera Server on Raspbian

12/10/2014 02:48 PM - Daniel Curtis

Status:	Closed	**Start date:**	12/10/2014
Priority:	High	**Due date:**	
Assignee:	Daniel Curtis	**% Done:**	0%
Category:		**Estimated time:**	6.00 hours
Target version:		**Spent time:**	0.00 hour

Description

First you MUST use GCC >= 4.8

By default, on my Raspbian version : 2013-05-25-wheezy-raspbian, gcc is on version 4.7.2. So, how to install GCC 4.8? You can't use apt-get, so to build gcc from source there is what I did :

Dependencies installation

- Add in /etc/apt/sources.list :

```
deb-src http://archive.raspbian.org/raspbian wheezy main contrib non-free
```

- Then install a few dependencies:

```
sudo apt-get update
sudo apt-get install lsb-release debhelper bison flex libmpfr-dev libmpc-dev zlib1g-dev libgmp
3-dev
sudo apt-get build-dep gcc-4.7 autoconf2.64
```

Install GCC

- Download the latest GCC 4.8

```
wget https://ftp.gnu.org/gnu/gcc/gcc-4.8.1/gcc-4.8.1.tar.gz -O gcc-4.8.1.tar.gz
tar xf gcc-4.8.1.tar.gz
```

- Get and apply patches

```
wget http://anonscm.debian.org/viewvc/gcccvs/branches/sid/gcc-4.7/debian/patches/armhf-triplet
.diff?view=co -O armhf-triplet.diff
wget http://anonscm.debian.org/viewvc/gcccvs/branches/sid/gcc-4.7/debian/patches/gcc-multiarch
-trunk.diff?view=co -O gcc-multiarch-trunk.diff
cd gcc-4.8.1
patch -p2 -i ../armhf-triplet.diff
patch -p2 -i ../gcc-multiarch-trunk.diff
cd gcc
autoconf2.64
cd ../libjava
autoconf2.64
cd ..
```

- GCC configuration

```
cd ..
mkdir obj
cd obj
../gcc-4.8.1/configure --prefix=/opt/gdc --enable-shared --enable-linker-build-id --with-syste
m-zlib --without-included-gettext --enable-threads=posix --enable-nls --enable-clocale=gnu --e
nable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-gnu-unique-object --enable-plugin -
-enable-objc-gc --disable-sjlj-exceptions --with-arch=armv6 --with-fpu=vfp --with-float=hard -
-build=arm-linux-gnueabihf --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --enable-ch
ecking=yes --disable-bootstrap --enable-languages=c,c++
```

- Compilation

```
make 2>&1 | tee build.log
```

- Installation

```
sudo make install
```

- Change symbolic links, this changes your currents gcc and g++ commands to use gcc 4.8

```
sudo ln -s /opt/gdc/bin/gcc /usr/bin/gcc
sudo ln -s /opt/gdc/bin/g++ /usr/bin/g++
```

Verification

- Commands should return GCC version 4.8

```
gcc -v
g++ -v
```

Compile Galera

So, now you have GCC 4.8 with atomic 8 bits operation!
But there is a bug which prevent you to build Galera lib with GCC 4.8

So you must use Galera revision higher than 149. At this time I used 152, but I think you safely use the latest version now.

- Download Galera (>149, in this case 152)

```
wget http://bazaar.launchpad.net/~codership/galera/2.x/tarball/152?start_revid=176 -O galera.t
gz
tar xf galera.tgz
```

- Compilation

```
cd \~codership/galera/2.x/
scons boost_pool=0
```

We move the files later.

Install MariaDB

- Dependencies installation

```
sudo apt-get install cmake make g++ libncurses5-dev mysql-client
```

- MariaDB Download

```
http://ftp.osuosl.org/pub/mariadb/mariadb-galera-5.5.40/source/mariadb-galera-5.5.40.tar.gz
tar xf mariadb-galera-5.5.40.tar.gz
cd mariadb-5.5.40/
```

- Compilation

```
cmake -G "Unix Makefiles" -DWITH_WSREP=ON -DWITH_INNODB_DISALLOW_WRITES=1
make
sudo make install
```

- Move Galera's need file to MariaDB repository

```
sudo cp garb/garbd /usr/local/mysql/bin/
sudo cp libgalera_smm.so /usr/local/mysql/lib/plugin/
```

Now just configure your database with Wsrep configuration and use it.

Resources

- https://groups.google.com/d/msg/codership-team/AzKmEJz7vTQ/JP8D4HXP-IYJ

History

#1 - 12/31/2014 11:13 AM - Daniel Curtis

- Description updated

#2 - 12/31/2014 12:11 PM - Daniel Curtis

- Subject changed from Compiling and Installing MariaDB Galera Server on Raspberry Pi to Compiling and Installing MariaDB Galera Server on Raspbian

#3 - 12/31/2014 12:26 PM - Daniel Curtis

- Description updated

- Status changed from New to In Progress

#4 - 06/04/2017 09:10 PM - Daniel Curtis

- Status changed from In Progress to Closed