

Delco-server installation manual

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1 Introduction

These instructions have been tested with Debian Etch RC1 (GNU/Linux). Earlier stable versions of Debian might not include all required packages and libraries.

This manual includes installation instructions for MySQL, PHP5, Apache2, BitTorrent tracker and the DelCo-server application.

2 Installation instructions

The software mentioned next can be distributed for example to four (4) different computers that are:

- Apache2 web server (version 2.2.x or later) with PHP (version 5.2.x or later)
- MySQL server (version 5.0.x or later)
- BitTorrent tracker (version 3.4.x or later)
- DelCo-server

NOTE: The DelCo-server application **MUST** have a web server running on the same computer. The web server is required for delivering the metadata files (.sdp, .torrent, .delco). If you wish to install the report server to a different computer than the DelCo-server application, a web server for each machine is required.

NOTE: We had some issues when BitTorrent tracker was located on the same machine as the DelCo-server application. Because of this it is **RECOMMENDED** to have the tracker running on separate machine.

NOTE: Some of the Debian packages that need to be installed require other packages as well. These will be automatically installed by aptitude. Aptitude prompts for confirmation when installing the packages.

NOTE: These instructions assume require root privileges on the installation system (a *root* account or using *sudo*). If command requires root privileges, they have sudo command before the actual command. If you do not have sudo rights or you do not have root user access on the computer you are using, ask the root user to add following line to */etc/sudoers*.

```
username ALL=(ALL) ALL
```

Where *username* is your username.

For the actual installation, first go to the directory where the installation package for Delco-server locates and uncompress it

```
tar xvf delcoserver.tar
```

Next, go to the installation directory

```
cd server_installation/
```

Further parts of this document assume that you are located in this directory.

2.1 MySQL server

2.1.1 Installation

MySQL-server is installed with aptitude

```
sudo aptitude install mysql-server-5.0
```

Now you should have MySQL server installed and running. This can be ensured by issuing following command:

```
sudo /etc/init.d/mysql start
```

2.2 Importing data

Next we import the delco server databases to the MySQL server

```
mysql -u root -p < db_structure_YYYY_MM_DD.sql
```

where YYYY_MM_DD is the date of the database structure file in the installation package. This command will ask your mysql root password which is not set by default (password is empty). After issuing this command you should not get any messages to console.

Next we import the users to database. Before this you SHOULD edit the password you want the server to use when connecting to the database. This is done by replacing the "some_password" string in db_users.sql file with your own password. If empty quotes ("") are entered, no password is used.

```
nano db_users_YYYY_MM_DD.sql
```

If you wish to restrict access of hosts that can use the delco username when connecting to database. You CAN replace %-character in db_users_YYYY_MM_DD.sql file like follow (hosts separated with commas):

```
CREATE USER 'delco'@'localhost,10.0.0.5' IDENTIFIED BY  
'some_password';
```

After this you can close *nano* text editor (ctrl+x) and save the changes by pressing y. When nano asks confirmation for the filename to be written, just press *enter*. Now you can add the needed users to database by issuing

```
mysql -u root -p < db_users_YYYY_MM_DD.sql
```

INFO (OPTIONAL): If you have restricted access to your MySQL server machine with hosts.deny/allow files, you MUST add one line to hosts.allow.

```
sudo nano -w /etc/hosts.allow
```

The line that you need to add is

```
mysqld: x.y.z.k
```

where *x.y.z.k* is the IP address of the machine which needs the rights. If you have more than one computer that needs to access the database, multiple IP addresses can be entered, separated with spaces. Now exit nano (ctrl+x) and save changes.

More info about editing these files can be found with man command

```
man hosts.allow
```

```
man hosts.deny
```

At this point your MySQL server and all its components should be configured properly for usage.

2.3 Apache2 and PHP5

2.3.1 Installation & configuration

Install apache2 web server and all required packages with aptitude

```
sudo aptitude install apache2 php5 php5-mysql
```

After this you should have apache2 running on your computer, if everything went well. You can confirm the installation by going to <http://localhost/> address with your web browser, which should tell you that apache2 is working correctly.

2.3.2 Configuring

If you wish to publish files in *public_html/* directory under users home directories (*/home/*/public_html/*) you must enable Apache2 userdir module

```
sudo a2enmod userdir
```

WWW pages also require apache rewrite module

```
sudo a2enmod rewrite
```

Rewrite module needs some configuration to work properly. You need to edit */etc/apache2/sites-enabled/000-default* file

```
sudo nano /etc/apache2/sites-enabled/000-default
```

and replace line

```
AllowOverride None
```

with

```
AllowOverride All
```

that matches the directory (<Directory *>) where you are going to place the reportserver web pages (usually / or /var/www).

Next you should add mime type for the .delco files to */etc/mime.types*. This tells the web server to inform the way clients to recognize the files to start delcoclient straight from web pages.

```
sudo nano /etc/mime.types
```

The line that you should add is

```
application/x-delco                delco
```

Again exit from nano and save. After this you MUST also edit *php.ini* file in

```
sudo nano /etc/php5/apache2/php.ini
```

Search (ctrl+w) line

```
magic_quotes_gpc = On
```

and change it to

```
magic_quotes_gpc = Off
```

Search also following line

```
;extension=mysql.so
```

and add following line after that

```
extension=mysqli.so
```

After these changes close (ctrl+x) the text editor (remember to save the changes). Because of these changes you MUST restart apache

```
sudo /etc/init.d/apache2 force-reload
```

Next thing is to edit the *config.xml* file in *report/* subdirectory of installation package.

```
nano report/config.xml
```

You MUST add your own password, that you entered also into *db_users_YYYY_MM_DD.sql* file earlier, to this file and replace both of *some_password* strings with it.

Next thing is that you move the actual files under *report/* subdirectory of the installation package to location where apache2 finds them. For example to */var/www/report/*

```
sudo cp -r report/ /var/www/
```

After this you should be able to access reportserver web pages with your internet browser for example <http://localhost/report/>. Test also that rewrite module works by accessing address <http://localhost/report/channel/1>, you should see small xml document.

2.4 BitTorrent tracker

Tracker is RECOMMENDED to reside on a different machine than the DelCo-server application.

2.4.1 Installation

BitTorrent tracker can be installed easily with aptitude

```
sudo aptitude install bittorrent
```

2.4.2 Configuration

To start bttracker there is a *start_tracker.sh* script in the installation directory.

```
./start_tracker.sh
```

You can check that tracker is running by going to <http://localhost:6969/> with your web browser.

2.5 DelCo-server application installation

The DelCo-server application binary is included in the installation package. Before running DelCo-server following libraries must be installed:

- libexpat (libexpat1)
- libxerces (libxerces27 NOTE: Version must be 2.7.x)
- libtorrent
- libmysqlpp (libmysql++2c2a)
- libboost-filesystem (libboost-filesystem1.33.1)
- libboost-thread (libboost-thread1.33.1)

All of these except libtorrent can be installed using aptitude

```
sudo aptitude install libexpat1 libxerces27
libmysql++2c2a libboost-filesystem1.33.1 libboost-
thread1.33.1
```

Libtorrent MUST be compiled manually. The source code is provided in the installation package. Before you can compile libtorrent you must install some software with aptitude:

```
sudo aptitude install g++ libboost-date-time-dev
libboost-filesystem-dev libboost-thread-dev libboost-
serialization-dev
```

First uncompress the libtorrent-x.xx.tar.gz source package by typing

```
tar zxvf libtorrent-x.xx.tar.gz
```

where x.xx is version number. Next let's compile and install it

```
cd libtorrent-x.xx/  
./configure --enable-debug=no  
make  
sudo make install  
cd ..
```

Next open */etc/ld.so.conf* file

```
sudo nano /etc/ld.so.conf
```

and add line

```
/usr/local/lib/
```

to it and exit. Next, *ld* must be reconfigured to allow runtime linking of libraries. Reconfiguration is done by issuing

```
sudo ldconfig
```

After this everything needed SHOULD be installed and you should be able to start the DelCo-server application in the installation basedir by issuing

```
./delcoserver
```

Further instructions for server application usage in DelCo-server users manual.