

Script utk Backup Otomatis Database Postgresql

Written by ari

Monday, 13 March 2006 12:31 - Last Updated Monday, 13 March 2006 12:51



Postgresql (<http://www.postgresql.org>) adalah salah satu database server yang benar2 bersifat Open Source, dengan feature2 yang tidak kalah dengan database komersil yg kita kenal. Artikel ini akan memandu kamu di dalam membuat script untuk backup otomatis database server kita secara harian, mingguan, bulanan, terkompresi dan ter-rotasi.

Copylah isi script ini ke dalam sebuah file baru, misalkan autopsqlbakup.sh , dan chmod 755 file tersebut. Letakkan di dalam direktori: /usr/local/bin

Buat entry di /etc/crontab untuk otomatis menjalankan script ini di waktu yang kita inginkan, misalnya:

```
00 12 * * * root autopsqlbakup.sh
```

(baris di atas berarti: backup setiap jam 12 siang).

Inilah isi script tersebut:

```
<!-- @page { size: 8.5in 11in; margin: 0.79in } P { margin-bottom: 0.08in } -->
```

Features:

- Automatic backup of Postgresql database

- Daily, weekly, monthly

- Rotation of backup files

Credits:

This program is based on automatic MySQL backup script by Harley

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(wipe_out at users.sourceforge.net). Thanks Harley, your script is really nice.

So, therefore, this program is also released under the GPL which can be obtain

from <http://www.fsf.org>

A little background:

This program is emerged from the need to have an automatic backup process for

postgresql database server. After some extensive searching on Google, I came

across Harley's script. It's for MySQL though. Well, I'm not a bash scriptter,

so, after some discussion in few lists and experimenting, I managed to get this

works.

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Note on postgresql settings:

By default, postgresql setting is not open, which means we must set the authentication

method for the client first. It is done in /var/lib/pgsql/data/pg_hba.conf file.

In order to use this program, we can set the method like this:

host all all 192.168.1.100/32 md5

where 192.168.1.100 is your backup machine IP.

There is also one trick in order to be able to do automatic backup.

Postgresql use it's build-in tools to backup, that is: pg_dump and pg_dumpall.

Because of it's security measure, we cannot specify the password in the pg_dump option.

There is a way though, we can create a file called .pgpass in user directory who runs

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this script, with this content:

dbhost:5432:dbname:username:password, (dbhost is your postgresql server's IP, so in this program,

the .pgpass would look like this:

192.168.1.200:5432:dbname:username:password

Don't forget to chmod the file 600.

Terjemahan Indonesia:

Kredit:

Program ini dibuat berdasarkan script backup MySQL otomatis dari Harley

(wipe_out at users.sourceforge.net). Terima kasih Harley, script kamu benar2 sip.

Oleh karena itu, program ini dirilis juga dibawah lisensi GPL yang dapat kita

peroleh dari <http://www.fsf.org>

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Sedikit latar belakang:

Program ini berawal dari kebutuhan akan proses backup otomatis untuk database server

Postgresql. Setelah mencari2 di Google, ketemulah script Harley itu, namun diperuntukkan

bagi database MySQL. Yah, saya bukan seorang programming bash script, jadinya setelah

bertanya2 di milis dan beberapa eksperimen, akhirnya jadi juga program ini.

Catatan untuk setting postgresql:

Secara default, settingan postgresql adalah tertutup, dalam arti kita mesti menyetel

metode otentifikasinya terlebih dahulu sebelum dapat digunakan. Kita

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menyetelnya di file

/var/lib/pgsql/data/pg_hba.conf. Untuk menggunakan program ini, kita dapat menyetelnya seperti ini:

host all all 192.168.1.100/32 md5

Dimana 192.168.1.100 itu adalah IP tempat kita melakukan backup.

Ada pula satu buah trick agar kita dapat melakukan backup otomatis di postgresql.

Postgresql menggunakan utility build-innya untuk melakukan backup yaitu pg_dump dan pg_dumpall.

Karena tingkat securitynya yang tinggi, kita tidak dapat menyebutkan password postgresql di dalam

option pg_dump. Beruntungnya, postgresql telah menyediakan mekanisme password ini melalui file

**# bername .pgpass. Isi dari file ini adalah:
dbhost:5432:dbname:username:password (dbhost adalah**

IP dari server postgresql kita. Jadi, sehubungan dengan program ini, file .pgpass ini akan berisi:

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192.168.1.200:5432:dbname:username:password

Jangan lupa untuk me-chmod file ini 600.

#####

START SCRIPT - MULAI SCRIPT

#####

#!/bin/bash

USERNAME=usernamekamu # username for the connection. username utk koneksinya

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DBHOST=192.168.1.200 # match your postgresql server IP. sesuaikan dengan IP server postgresql kamu

DBNAMES=namadatabase # the database name. nama databasenya

**BACKUPDIR="/home/backup" # the location to put the backup files.
tempat backup files**

MAILCONTENT="stdout";

MAILADDR="me@ohmymy.com";

COMP=gzip

OPT="all";

What do we want to backup.

Apa yg mau di backup:

"all" = schema + data

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"schema" = schema

"data" = data

SEPDIR="yes"

DOWEEKLY=6

On what day we want the weekly backup to be done. 1 = Monday

Pada hari apa kita ingin backup mingguan dilakukan, 1 = Senin

DATE=`date +%Y-%m-%d_%H%Mm` # Datestamp misalnya 2006-03-21

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DOW=`date +%A` # Day of the week, misalnya Sunday

DNOW=`date +%u` # Day number of the week, misalnya Senin = 1

DOM=`date +%d` # Date of the month, misalnya 27

M=`date +%B` # Bulan, misalnya January

W=`date +%V` # Week number, misalnya minggu ke-37

LOGFILE=\$BACKUPDIR/\$DBHOST-`date +%N`.log # Nama logfilenya

LOGERR=\$BACKUPDIR/ERRORS_`date +%N`.log # Nama logfile utk error

BACKUPFILES=""

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OPT="";

Create necessary directory

Create direktori yang diperlukan

if [! -e "\${BACKUPDIR}";]

then

mkdir -p "\${BACKUPDIR}";

fi

if [! -e "\${BACKUPDIR}/daily";] # Check if Daily Directory exists.

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then

mkdir -p "\$BACKUPDIR/daily";

fi

if [! -e "\$BACKUPDIR/weekly"] # Check if Weekly Directory exists.

then

mkdir -p "\$BACKUPDIR/weekly";

fi

if [! -e "\$BACKUPDIR/monthly"] # Check if Monthly Directory exists.

then

mkdir -p "\$BACKUPDIR/monthly";

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fi

Make logfile

Membuat logfile

touch \$LOGFILE

exec 6>&1

exec > \$LOGFILE # Link file descriptor #6 with stdout.

Saves stdout.

touch \$LOGERR

exec 7>&2 # Link file descriptor #7 with stderr.

Saves stderr.

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```
exec 2> $LOGERR # stderr replaced with file $LOGERR.
```

```
if [ &quot;$OPT&quot; = &quot;all&quot; ]; then
```

```
OPT = &quot;&quot;;
```

```
elif [ &quot;OPT&quot; = &quot;data&quot; ]; then
```

```
OPT = &quot;-a&quot;;
```

```
elif [ &quot;OPT&quot; = &quot;schema&quot; ]; then
```

```
OPT = &quot;-s&quot;;
```

```
fi
```

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Database dump function

dbdump () {

pg_dump -O \$OPT -U \$USERNAME -h \$DBHOST -d \$1 > \$2

return 0

}

Compression function plus latest copy

SUFFIX="""

compression () {

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```
if [ &quot;$COMP&quot; = &quot;gzip&quot; ]; then
```

```
gzip -f &quot;$1&quot;
```

```
echo
```

```
echo Backup Information for &quot;$1&quot;
```

```
gzip -l &quot;$1.gz&quot;
```

```
SUFFIX=&quot;.gz&quot;
```

```
elif [ &quot;$COMP&quot; = &quot;bzip2&quot; ]; then
```

```
echo Compression information for &quot;$1.bz2&quot;
```

```
bzip2 -f -v $1 2>&1
```

```
SUFFIX=&quot;.bz2&quot;
```

```
else
```

```
echo &quot;No compression option set, check advanced settings&quot;
```


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fi

return 0

}

Hostname for LOG information

if ["\$DBHOST" = "localhost"]; then

HOST=`hostname`

if ["\$SOCKET"]; then

OPT="\$OPT --socket=\$SOCKET";

fi

else

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HOST=\$DBHOST

fi

Test is seperate DB backups are required

if ["\$SEPDIR" = "yes"]; then

echo Backup Start Time `date`

echo

=====

===

Monthly Full Backup of all Databases

if [\$DOM = "01"]; then

for MDB in \$MDBNAMES

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do

Prepare \$DB for using

MDB="`echo \$MDB | sed 's/%/ /g` ";

if [! -e "\$BACKUPDIR/monthly/\$MDB"] # Check Monthly DB Directory exists.

then

mkdir -p "\$BACKUPDIR/monthly/\$MDB";

fi

echo Monthly Backup of \$MDB...

**dbdump "\$MDB";
"\$BACKUPDIR/monthly/\$MDB/\${MDB}_\$DATE.\$M.\$MDB.sql";**

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compression

"\${BACKUPDIR}/monthly/\${MDB}/\${MDB}_\${DATE}.\${M}.\${MDB}.sql";

BACKUPFILES="\${BACKUPFILES

\${BACKUPDIR}/monthly/\${MDB}/\${MDB}_\${DATE}.\${M}.\${MDB}.sql\${SUFFIX}";

echo -----

done

fi

for DB in \$DBNAMES

do

Prepare \$DB for using

DB="`echo \$DB | sed 's/%/ /g`";

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Create Seperate directory for each DB

if [! -e "\$BACKUPDIR/daily/\$DB"] # Check Daily DB Directory exists.

then

mkdir -p "\$BACKUPDIR/daily/\$DB";

fi

if [! -e "\$BACKUPDIR/weekly/\$DB"] # Check Weekly DB Directory exists.

then

mkdir -p "\$BACKUPDIR/weekly/\$DB";

fi

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Weekly Backup

```
if [ $DNOW = $DOWEEKLY ]; then
```

```
    echo Weekly Backup of Database ( $DB )
```

```
    echo Rotating 5 weeks Backups...
```

```
    if [ "$W" -le 05 ];then
```

```
        REMW=`expr 48 + $W`
```

```
    elif [ "$W" -lt 15 ];then
```

```
        REMW=`expr $W - 5`
```

```
    else
```

```
        REMW=`expr $W - 5`
```

```
    fi
```

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```
eval rm -fv &quot;${BACKUPDIR}/weekly/${DB}_week.${REMW}.*&quot;;
```

```
echo
```

```
dbdump &quot;${DB}&quot;  
&quot;${BACKUPDIR}/weekly/${DB}/${DB}_week.${W}.${DATE}.sql&quot;;
```

```
compression  
&quot;${BACKUPDIR}/weekly/${DB}/${DB}_week.${W}.${DATE}.sql&quot;;
```

```
BACKUPFILES=&quot;${BACKUPFILES}  
${BACKUPDIR}/weekly/${DB}/${DB}_week.${W}.${DATE}.sql${SUFFIX}&quot;;
```

```
echo -----
```

```
# Daily Backup
```

```
else
```

```
echo Daily Backup of Database ( ${DB} )
```

```
echo Rotating last weeks Backup...
```

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```
eval rm -fv &quot;${BACKUPDIR}/daily/${DB}/*.${DOW}.sql.*&quot;;
```

```
echo
```

```
dbdump &quot;${DB}&quot;  
&quot;${BACKUPDIR}/daily/${DB}/${DB}_${DATE}.${DOW}.sql&quot;;
```

```
compression &quot;${BACKUPDIR}/daily/${DB}/${DB}_${DATE}.${DOW}.sql&quot;;
```

```
BACKUPFILES=&quot;${BACKUPFILES}  
${BACKUPDIR}/daily/${DB}/${DB}_${DATE}.${DOW}.sql${SUFFIX}&quot;;
```

```
echo -----
```

```
fi
```

```
done
```

```
echo Backup End `date`
```

```
echo
```

```
=====  
===
```


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echo Total disk space used for backup storage..

echo Size - Location

echo `du -hs "\$BACKUPDIR"`

echo

#Clean up IO redirection

exec 1>&6 6>&- # Restore stdout and close file descriptor #6.

exec 1>&7 7>&- # Restore stdout and close file descriptor #7.

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```
if [ &quot;$MAILCONTENT&quot; = &quot;files&quot; ]
```

```
then
```

```
if [ -s &quot;$LOGERR&quot; ]
```

```
then
```

```
# Include error log if is larger than zero.
```

```
BACKUPFILES=&quot;$BACKUPFILES $LOGERR&quot;;
```

```
ERRORNOTE=&quot;WARNING: Error Reported - &quot;;
```

```
fi
```

```
#Get backup size
```

```
ATTSIZE=`du -c $BACKUPFILES | grep &quot;[[:digit:]][:space:]]total$&quot; | sed  
s/s*total//`
```

```
if [ $MAXATTSIZE -ge $ATTSIZE ]
```

```
then
```

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```
BACKUPFILES=`echo &quot;$BACKUPFILES&quot; | sed -e &quot;s# # -a  
#g&quot;` #enable multiple attachments
```

```
mutt -s &quot;$ERRORNOTE MySQL Backup Log and SQL Files for $HOST -  
$DATE&quot; $BACKUPFILES $MAILADDR < $LOGFILE #send via mutt
```

```
else
```

```
cat &quot;$LOGFILE&quot; | mail -s &quot;WARNING! - MySQL Backup exceeds  
set maximum attachment size on $HOST - $DATE&quot; $MAILADDR
```

```
fi
```

```
elif [ &quot;$MAILCONTENT&quot; = &quot;log&quot; ]
```

```
then
```

```
cat &quot;$LOGFILE&quot; | mail -s &quot;MySQL Backup Log for $HOST -  
$DATE&quot; $MAILADDR
```

```
if [ -s &quot;$LOGERR&quot; ]
```

```
then
```

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```
cat &quot;${LOGERR}&quot; | mail -s &quot;ERRORS REPORTED: MySQL  
Backup error Log for $HOST - $DATE&quot; $MAILADDR
```

```
fi
```

```
elif [ &quot;${MAILCONTENT}&quot; = &quot;quiet&quot; ]
```

```
then
```

```
if [ -s &quot;${LOGERR}&quot; ]
```

```
then
```

```
cat &quot;${LOGERR}&quot; | mail -s &quot;ERRORS REPORTED: MySQL  
Backup error Log for $HOST - $DATE&quot; $MAILADDR
```

```
cat &quot;${LOGFILE}&quot; | mail -s &quot;MySQL Backup Log for $HOST -  
$DATE&quot; $MAILADDR
```

```
fi
```

```
else
```

```
if [ -s &quot;${LOGERR}&quot; ]
```

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then

cat "\${LOGFILE}";

echo

echo "##### WARNING #####";

echo "Errors reported during AutoMySQLBackup execution.. Backup failed";

echo "Error log below..";

cat "\${LOGERR}";

else

cat "\${LOGFILE}";

fi

fi

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```
if [ -s &quot;$LOGERR&quot; ]
```

```
then
```

```
STATUS=1
```

```
else
```

```
STATUS=0
```

```
fi
```

```
fi
```

```
# Clean up Logfile
```

```
eval rm -f &quot;$LOGFILE&quot;;
```

```
eval rm -f &quot;$LOGERR&quot;;
```

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exit \$STATUS

Well, I'm not a bash scriptter, so I'm sure there must be a much better way to do it, even I'm also quite sure

that this program has some bug to be found. So, any suggestion is most welcome. Please contact me

at: fajarpri at arinet dot org, and pls do stop by my website at <http://linux2.arinet.org>. Thanks.

Saya bukan programmer bash script, dan karenanya saya yakin banget ada cara yang jauh lebih baik di dalam

mencapai apa yang diinginkan oleh program ini, dan juga pasti ada beberapa bug di dalam program ini. Oleh karena

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itu, semua saran/koreksi sangat diharapkan. Saya dapat dihubungi melalui email fajarpri at arinet dot org, dan

website <http://linux2.arinet.org>

Knowledge belongs to everyone.

Version

0.1 -- 13 March 2006 -- Initial release

Ketika selesai backup, akan terlihat ini:

Backup Start Time Mon Mar 13 15:17:26 WIT 2006

=====
Daily Backup of Database (contohdatabase)

Rotating last weeks Backup...

removed

`/home/fajar/sore/daily/contohdatabase/contohdatabase_2006-03-13_15h10m.Monday.sql.gz'

Backup Information for

/home/fajar/sore/daily/contohdatabase/contohdatabase_2006-03-13_15h17m.Monday.sql

compressed	uncompressed	ratio	uncompressed_name
------------	--------------	-------	-------------------

9124876	66687046	86.3%	
---------	----------	-------	--

/home/fajar/sore/daily/contohdatabase/contohdatabase_2006-03-13_15h17m.Monday.sql

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Backup End Mon Mar 13 15:17:45 WIT 2006
=====

Total disk space used for backup storage..

Size - Location

8.8M /home/fajar/sore

Selamat mencoba :)



v.0.1 by ari_stress a.k.a tiger74 a.k.a Fajar Priyanto

Bukit Sentul, 13 March 2006. Email: fajarpri at arinet dot org

He is a Microsoft Certified Professional who falls in love with Linux. Working at an automotive dealer in Jakarta