Smartcard 2.0
Mysql replication for redundancy

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1 Install of database replication

1.1 Prerequisites

First node must be installed and running.
Install node2 but **dont run htmf-setup!!!**

1.2 Syscheck Installation

Unpack syscheck 1.5 and make it the default

```
username@smartcard20-node1:/usr/local> sudo unzip /home/username/syscheck-1.5.0.zip
username@smartcard20-node1:/usr/local> rm syscheck
username@smartcard20-node1:/usr/local> sudo ln -s syscheck-1.5.0 syscheck
```

1.3 Syscheck configuration

Copy old config

```
root@smartcard20-node1:/usr/local/syscheck # ./lib/copy-config-from-old-version.sh ../syscheck-<last-version>/config ./config/
```

Copy enabled scripts

```
root@smartcard20-node1:/usr/local/syscheck # cp -a ../syscheck-<last-version>/related-enabled/* ./ related-enabled/
root@smartcard20-node1:/usr/local/syscheck # cp -a ../syscheck-<last-version>/scritps-enabled/* ./ scritps-enabled/
```

Config database parameters, you can get the database-username/password information from ejbca it's in the file:

```
/usr/local/ejbca/conf/database.properties
```

Enter the ejbca-db user information into syscheck resources.sh

```
smartcard20-node2:/usr/local/syscheck # vi resources.sh

# Database replication user and password
DBREP_USER=ejbcarep
DBREP_PASSWORD="foo123"

#Path to mysql binary
MYSQL_BIN=/usr/bin/mysql
```

```
# path to mysqladmin
MYSQLADMIN_BIN=/usr/bin/mysqladmin

#Path to mysqldump binary
MYSQLDUMP_BIN=/usr/bin/mysqldump

#Password for Mysql root
MYSQLROOT_PASSWORD="foo123"

#Name of the mysql backup file.
MYSQLBACKUPFILE=/backup/mysql/ejbcabackup
MYSQLBACKUPFULLFILENAME="${MYSQLBACKUPFILE}-${DATE}.sql"


#IP address or hostname to primary and secondary cluster nodes.
THIS_NODE=NODE1
# master node
HOSTNAME_NODE1=10.15.251.246
# slave node
HOSTNAME_NODE2=10.15.251.247
```

1.4 Node2 Syscheck installation

Redo steps 1.2 and 1.3 on node2, but set “THIS_NODE=**NODE2”** in resources.sh tough”

1.5 Firewall configuration

On both nodes open port 3306 tcp
Start “yast” -> “Security and Users” -> “Firewall” -> “Allowed Services” -> “Advanced”
Add “3306” make sure to use space as a separator between the ports

1.6 Create an empty db on node2

If you got a db do drop it and the create a empty ejbca db

```
username@smartcard20-node2:/usr/local/syscheck/database-replication> ./801-drop-existing-ejbca-db.sh
root's password:
are you really sure you want to drop and replace the ejbca db on this host?
enter 'im-really-sure' to continiue or ctrl-c to abort
im-really-sure
I-9041-PKI 20090309 14:44:11 smartcard20-node1: INFO - Backed up db ok (file:/backup/mysql/
ejbcabackup-2009-03-09_14.44.10.sql.gz)
Dropping the database is potentially a very bad thing to do.
```

```
Any data stored in the database will be destroyed.

Do you really want to drop the 'ejbca' database [y/N] y
Database "ejbca" dropped
I-8011-PKI 20090309 14:44:13 smartcard20-node1: INFO - Dropped the db ok
```

And create an empty one:

```
username@smartcard20-node1:/usr/local/syscheck/database-replication> sudo ./800-create-mysql-ejbca-db.sh
I-8001-PKI 20090309 14:44:18 smartcard20-node1: INFO - Created the db ok
```

1.7 Backup the db from node1 and transfer the dump to node2

The three following steps you should complete as fast as possible since you lock the database from writing.

First we need to lock the tables from writes

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./811-master-node-flush-tables-with-read-lock.sh
I-8111-PKI 20090326 12:03:58 smartcard20-node1: INFO - Set mysql FLUSH TABLES WITH READ LOCK ok
```

Make a backup

```
smartcard20-node1:/usr/local/syscheck-1.4.3b3-cluster/related-enabled # ./904_make_mysql_db_backup.sh -s
I-9041-PKI 20090309 13:48:14 smartcard20-node1: INFO - Backed up db ok (file:/backup/mysql/ejbcabackup-2009-03-09_13.48.13.sql.gz)
```

Now unlock the tables from writes

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./812-master-node-unlock-tables.sh
I-8121-PKI 20090326 12:03:58 smartcard20-node1: INFO - Set mysql unlock TABLES ok
```

Transfer it to node2:

```
jboss@smartcard20-node1:~> scp /backup/mysql/ejbcabackup-2009-03-09_13.44.55.sql.gz smartcard20-node2:
ejbcabackup-2009-03-09_13.44.55.sql.gz 100% 1459KB 1.4MB/s 00:00
```

1.8 Restore mysql database on node2

```
root@smartcard20-node2:/usr/local/syscheck/related-enabled # ./920_restore_mysql_db_from_backup.sh -s /home/jboss/ejbcabackup-2009-03-09_13.44.55.sql.gz
```

```
root's password:
now we'll backup the current database before we restore the one you specified
I-9041-PKI 20090309 14:51:51 smartcard20-node2: INFO - Backed up db ok (file:/backup/mysql/
ejbcabackup-2009-03-09_14.51.50.sql.gz)
restoring the db from /home/jboss/ejbcabackup-2009-03-09_13.44.55.sql.gz
I-9202-PKI 20090309 14:51:55 smartcard20-node2: INFO - Restored the db from file (/home/jboss/
ejbcabackup-2009-03-09_13.44.55.sql.gz)
```

1.9 Make node1 master

First step is to add the ejbca-db-user in a way it can access the db over the net, it will use information from resourses.sh file to make the statements.

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./802-create-mysql-ejbca-user-db-user.sh
Will now insert these sql:
GRANT ALL ON ejbca.* to 'ejbca'@'10.15.251.246' IDENTIFIED BY 'foo123';
GRANT ALL ON ejbca.* to 'ejbca'@'10.15.251.247' IDENTIFIED BY 'foo123';
GRANT ALL ON ejbca.* to 'ejbca'@'10.15.251.248' IDENTIFIED BY 'foo123';
select * from user where user like '%ejbca%'
Host User Password Select_priv Insert_priv Update_priv Delete_priv Create_priv Drop_priv Reload_priv
Shutdown_priv Process_priv File_priv Grant_priv References_priv Index_priv Alter_priv Show_db_priv
Super_priv Create_tmp_table_priv Lock_tables_priv Execute_priv Repl_slave_priv Repl_client_priv
Create_view_priv Show_view_priv Create_routine_priv Alter_routine_priv Create_user_priv ssl_type
ssl_cipher x509_issuer x509_subject max_questions max_updates max_connections max_user_connections
10.15.251.247 ejbca *1618E643E43E4921AC458E23C5E7728892CCF1A6 N N N N N N N N
N N N N N N N N N N N N N N N N
N N 0 0 0 0
10.15.251.246 ejbca *1618E643E43E4921AC458E23C5E7728892CCF1A6 N N N N N N N N
N N N N N N N N N N N N N N N N
N N 0 0 0 0
localhost ejbca *77805DB3940553564EF23E5EB2231A1BEB02EFC3 N N N N N N N N
N N N N N N N N N N N N N N N N
N N 0 0 0 0
10.15.251.248 ejbca *1618E643E43E4921AC458E23C5E7728892CCF1A6 N N N N N N N N
N N N N N N N N N N N N N N N N
N N 0 0 0 0
I-8021-PKI 20090311 15:57:53 smartcard20-node1: INFO - access rules inserted into mysql db ok
```

Also create the replication user

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./803-create-mysql-replication-user.sh
Host User Password Select_priv Insert_priv Update_priv Delete_priv Create_priv Drop_priv Reload_priv
Shutdown_priv Process_priv File_priv Grant_priv References_priv Index_priv Alter_priv Show_db_priv
Super_priv Create_tmp_table_priv Lock_tables_priv Execute_priv Repl_slave_priv Repl_client_priv
Create_view_priv Show_view_priv Create_routine_priv Alter_routine_priv Create_user_priv ssl_type
ssl_cipher x509_issuer x509_subject max_questions max_updates max_connections max_user_connections
10.15.251.247 ejbcarep *1618E643E43E4921AC458E23C5E7728892CCF1A6 N N N N N N N
N N N N N N N N N N N Y N N N
```

```
N N N 0 0 0 0
10.15.251.248 ejbcarep *1618E643E43E4921AC458E23C5E7728892CCF1A6 N N N N N N N
N N N N N N N N N N N N Y N N N
N N N 0 0 0 0
I-8031-PKI 20090311 15:57:58 smartcard20-node1: INFO - Replication access rules inserted into mysql db ok
```

Now we need to prepair the mysql config for replication

In /etc/my.cnf set:

```
# Replication Master Server (default)
# binary logging is required for replication
log-bin=mysql-bin

# required unique id between 1 and 2^32 - 1
# defaults to 1 if master-host is not set
# but will not function as a master if omitted
server-id = 1
```

Make sure to restart mysql

```
smartcard20-node1:/usr/local/syscheck/database-replication # /etc/init.d/mysql restart
Restarting service MySQL
Shutting down service MySQL done
Starting service MySQL done
```

Now make this node take the role of mysql master!!

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./804-make-mysql-server-act-as-master.sh
Are you sure you want to make this mysql server act as mysql master?
Press enter to continiue, ctrl-c to abort

I-8041-PKI 20090312 16:34:20 smartcard20-node2: INFO - Mysql server made to act as a master
```

Run the show master status command and note the log: “File” and “position”, you will need them in the next step.

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 98
I-8101-PKI 20090311 15:26:32 smartcard20-node1: INFO - Master status shown
*************************** 1. row ***************************
Id: 3
User: root
Host: localhost
db: mysql
```

```
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090311 15:26:32 smartcard20-node1: INFO - Master status shown
I-8101-PKI 20090311 15:26:32 smartcard20-node1: INFO - Master status shown
```

1.10 Make node 2 slave

In /etc/my.cnf set:

```
# Replication Master Server (default)
# binary logging is required for replication
log-bin=mysql-bin

But do set server-id = 2
# required unique id between 1 and 2^32 - 1
# defaults to 1 if master-host is not set
# but will not function as a master if omitted
server-id = 2
```

Make sure to restart mysql

```
smartcard20-node2:/usr/local/syscheck/database-replication # /etc/init.d/mysql restart
Restarting service MySQL
Shutting down service MySQL done
Starting service MySQL done
```

Now it's time to start the slave

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./805-make-mysql-server-act-as-slave.sh
Are you sure you want to make this mysql server act as mysql slave?
Press enter to continiue, ctrl-c to abort

now you need to run 810-show-mysql-master-status.sh on the master node
For a first time setup (master has never had a slave) default file='' and pos=4 is the values to use
then enter File and Position
Enter Log File default:[]>
mysql-bin.000001
Enter Log Pos default:[4]>
98
I-8051-PKI 20090312 16:48:09 smartcard20-node2: INFO - Mysql server made to act as a slave
```

1.11 Verify replication

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 4439
I-8101-PKI 20090311 16:02:33 smartcard20-node1: INFO - Master status shown
*************************** 1. row ***************************
Id: 73
User: ejbcarep
Host: 10.15.251.247:6265
db: NULL
Command: Binlog Dump
Time: 1015
State: Has sent all binlog to slave; waiting for binlog to be updated
Info: NULL
*************************** 2. row ***************************
Id: 88
User: ejbca
Host: localhost:24797
db: ejbca
Command: Sleep
Time: 306
State:
Info: NULL
*************************** 3. row ***************************
Id: 89
User: ejbca
Host: localhost:24798
db: ejbca
Command: Sleep
Time: 306
State:
Info: NULL
*************************** 4. row ***************************
Id: 90
User: ejbca
Host: localhost:24799
db: ejbca
Command: Sleep
Time: 306
State:
Info: NULL
*************************** 5. row ***************************
Id: 99
User: ejbca
Host: localhost:28104
db: ejbca
```

Command: Sleep
Time: 6
State:
Info: NULL
*************************** 6. row ***************************
Id: 100
User: ejbca
Host: localhost:28105
db: ejbca
Command: Sleep
Time: 6
State:
Info: NULL
*************************** 7. row ***************************
Id: 102
User: root
Host: localhost
db: mysql
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090311 16:02:33 smartcard20-node1: INFO - Master status shown
I-8101-PKI 20090311 16:02:33 smartcard20-node1: INFO - Master status shown

Check the slave

smartcard20-node2:/usr/local/syscheck/database-replication # **./809-show-mysql-slave-status.sh**
Slave_IO_State Master_Host Master_User Master_Port Connect_Retry **Master_Log_File Read_Master_Log_Pos** Relay_Log_File Relay_Log_Pos Relay_Master_Log_File Slave_IO_Running Slave_SQL_Running Replicate_Do_DB Replicate_Ignore_DB Replicate_Do_Table Replicate_Ignore_Table Replicate_Wild_Do_Table Replicate_Wild_Ignore_Table Last_Errno Last_Error Skip_Counter Exec_Master_Log_Pos Relay_Log_Space Until_Condition Until_Log_File Until_Log_Pos Master_SSL_Allowed Master_SSL_CA_File Master_SSL_CA_Path Master_SSL_Cert Master_SSL_Cipher Master_SSL_Key Seconds_Behind_Master
Waiting for master to send event 10.15.251.246 *ejbcarep 3306 60* ***mysql-bin.000001 4439***
smartcard20-node2-relay-bin.000003 2057 mysql-bin.000001 Yes Yes 0 0
4439 2057 None 0 No 0
I-8091-PKI 20090311 16:02:25 smartcard20-node2: INFO - Slave status shown

2 Verification and Troubleshooting

2.1 Check the log file:

```
smartcard20-node2:/usr/local/syscheck/database-replication # less /var/log/mysqld.log
090311 15:45:37 mysqld ended

090311 15:45:37 mysqld started
090311 15:45:38 InnoDB: Started; log sequence number 0 43665
090311 15:45:38 [Warning] Neither --relay-log nor --relay-log-index were used; so replication may break when this MySQL serve
r acts as a slave and has his hostname changed!! Please use '--relay-log=smartcard20-node2-relay-bin' to avoid this problem.
090311 15:45:38 [Note] /usr/sbin/mysqld: ready for connections.
Version: '5.0.26' socket: '/var/lib/mysql/mysql.sock' port: 3306 SUSE MySQL RPM
090311 15:45:38 [Note] Slave SQL thread initialized, starting replication in log 'mysql-bin.000001' at position 2617, relay l
og './smartcard20-node2-relay-bin.000001' position: 98
090311 15:45:38 [Note] Slave I/O thread: connected to master 'ejbcarep@10.15.251.246:3306', replication started in log 'mysq
l-bin.000001' at position 2617
```

2.2 Write to the test table and verify both servers answers the same number

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./807-test-table-create-table.sh
creating the test table:
smartcard20-node1:/usr/local/syscheck/database-replication # ./808-test-table-update-and-check-master-and-slave.sh
cleaning and inserting new val: 1236784263
values from 10.15.251.246
value
1236784263
values from 10.15.251.247
value
1236784263
```

2.3 Use the show master and show slave scripts

Run this script on the master!

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 6106
I-8101-PKI 20090311 16:22:44 smartcard20-node1: INFO - Master status shown
*************************** 1. row ***************************
```

Id: 73
User: ejbcarep
Host: 10.15.251.247:6265
db: NULL
Command: Binlog Dump
Time: 2226
State: Has sent all binlog to slave; waiting for binlog to be updated
Info: NULL
*************************** 2. row ***************************
Id: 141
User: ejbca
Host: localhost:27370
db: ejbca
Command: Sleep
Time: 317
State:
Info: NULL
*************************** 3. row ***************************
Id: 142
User: ejbca
Host: localhost:27371
db: ejbca
Command: Sleep
Time: 317
State:
Info: NULL
*************************** 4. row ***************************
Id: 143
User: ejbca
Host: localhost:27372
db: ejbca
Command: Sleep
Time: 167
State:
Info: NULL
*************************** 5. row ***************************
Id: 144
User: ejbca
Host: localhost:27373
db: ejbca
Command: Sleep
Time: 167
State:
Info: NULL
*************************** 6. row ***************************
Id: 145
User: ejbca
Host: localhost:27374

db: ejbca
Command: Sleep
Time: 167
State:
Info: NULL
*************************** 7. row ***************************
Id: 148
User: root
Host: localhost
db: mysql
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090311 16:22:44 smartcard20-node1: INFO - Master status shown
I-8101-PKI 20090311 16:22:44 smartcard20-node1: INFO - Master status shown

It's important the master show status says:
State: Has sent all binlog to slave; waiting for binlog to be updated

And then compare the logfilename and log_pos with slave show status

Run this script on the slave!

smartcard20-node2:/usr/local/syscheck/database-replication # **./809-show-mysql-slave-status.sh**
Slave_IO_State Master_Host Master_User Master_Port Connect_Retry **Master_Log_File Read_Master_Log_Pos** Relay_Log_File Relay_Log_Pos Relay_Master_Log_File Slave_IO_Running Slave_SQL_Running Replicate_Do_DB Replicate_Ignore_DB Replicate_Do_Table Replicate_Ignore_Table Replicate_Wild_Do_Table Replicate_Wild_Ignore_Table Last_Errno Last_Error Skip_Counter Exec_Master_Log_Pos Relay_Log_Space Until_Condition Until_Log_File Until_Log_Pos Master_SSL_Allowed Master_SSL_CA_File Master_SSL_CA_Path Master_SSL_Cert Master_SSL_Cipher Master_SSL_Key Seconds_Behind_Master
Waiting for master to send event 10.15.251.246 ejbcarep 3306 60 **mysql-bin.000001 6106** smartcard20-node2-relay-bin.000003 3724 mysql-bin.000001 *Yes* Yes 0 0
6106 3724 None 0 No 0
I-8091-PKI 20090311 16:23:24 smartcard20-node2: INFO - Slave status shown

Here it's important the slave states it waits for master to send updates, has the right ip to the master and the same Logfilename and log_pos is the same as master show status shows.

3 Fail over and fail back

3.1 Fail over, make the slave master

Master has problems, thus we need to make the slave accept updates i.e. make it mysql master
(to simulate master problems just shut it down /etc/init.d/mysql stop)

Slave now shows it cand connect to master:

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./809-show-mysql-slave-status.sh
Slave_IO_State Master_Host Master_User Master_Port Connect_Retry Master_Log_File
Read_Master_Log_Pos Relay_Log_File Relay_Log_Pos Relay_Master_Log_File Slave_IO_Running
Slave_SQL_Running Replicate_Do_DB Replicate_Ignore_DB Replicate_Do_Table Replicate_Ignore_Table
Replicate_Wild_Do_Table Replicate_Wild_Ignore_Table Last_Errno Last_Error Skip_Counter
Exec_Master_Log_Pos Relay_Log_Space Until_Condition Until_Log_File Until_Log_Pos
Master_SSL_Allowed Master_SSL_CA_File Master_SSL_CA_Path Master_SSL_Cert Master_SSL_Cipher
Master_SSL_Key Seconds_Behind_Master
Reconnecting after a failed master event read 10.15.251.246 ejbcarep 3306 60 mysql-bin.000001 822
smartcard20-node2-relay-bin.000002 235 mysql-bin.000001 No Yes 0
0 822 235 None 0 No NULL
I-8091-PKI 20090312 16:33:15 smartcard20-node2: INFO - Slave status shown
```

Now make this node take the role of mysql master

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./804-make-mysql-server-act-as-master.sh
Are you sure you want to make this mysql server act as mysql master?
Press enter to continiue, ctrl-c to abort

I-8041-PKI 20090312 16:34:20 smartcard20-node2: INFO - Mysql server made to act as a master
```

Check the master status

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 98
I-8101-PKI 20090312 16:34:35 smartcard20-node2: INFO - Master status shown
*************************** 1. row ***************************
Id: 64
User: ejbca
Host: smartcard20-node2.a-intra.fmv.se:23152
db: ejbca
Command: Sleep
Time: 313
State:
Info: NULL
*************************** 2. row ***************************
Id: 65
```

```
User: ejbca
Host: smartcard20-node2.a-intra.fmv.se:23153
db: ejbca
Command: Sleep
Time: 313
State:
Info: NULL
*************************** 3. row ***************************
Id: 66
User: ejbca
Host: smartcard20-node2.a-intra.fmv.se:21656
db: ejbca
Command: Sleep
Time: 163
State:
Info: NULL
*************************** 4. row ***************************
Id: 67
User: ejbca
Host: smartcard20-node2.a-intra.fmv.se:21657
db: ejbca
Command: Sleep
Time: 163
State:
Info: NULL
*************************** 5. row ***************************
Id: 70
User: ejbca
Host: smartcard20-node2.a-intra.fmv.se:21660
db: ejbca
Command: Sleep
Time: 13
State:
Info: NULL
*************************** 6. row ***************************
Id: 73
User: root
Host: localhost
db: mysql
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090312 16:34:35 smartcard20-node2: INFO - Master status shown
I-8101-PKI 20090312 16:34:35 smartcard20-node2: INFO - Master status shown
```

Since there is no slave we wont see that process in the list!

Failover VIP

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./TODO
```

Failover jboss datasource configuration

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./TODO
```

3.2 Fail-back, make the old master master again

Make a backup of the data at node2, transfer it to node1

```
smartcard20-node2:/usr/local/syscheck/related-available # ./904_make_mysql_db_backup.sh -s
I-9041-PKI 20090312 16:44:14 smartcard20-node2: INFO - Backed up db ok (file:/backup/mysql/
ejbcabackup-2009-03-12_16.44.14.sql.gz)
smartcard20-node2:/usr/local/syscheck/related-available # ./906_ssh-copy-to-remote-machine.sh -s /backup/
mysql/ejbcabackup-2009-03-12_16.44.14.sql.gz smartcard20-node1 /home/jboss jboss /home/jboss/.ssh/
id_rsa
I-9061-PKI 20090312 16:44:39 smartcard20-node2: INFO - file transfered ok
```

Back at node1 restore the database

```
username@smartcard20-node1:/usr/local/syscheck-1_5_0/related-enabled> sudo
./920_restore_mysql_db_from_backup.sh -s /backup/mysql/ejbcabackup-2009-03-27_11.09.08.sql.gz
now we'll backup the current database before we restore the one you specified
I-9041-PKI 20090327 11:09:46 sles20sp2-2: INFO - Backed up db ok (file:/backup/mysql/
ejbcabackup-2009-03-27_11.09.46.sql.gz)
restoring the db from /backup/mysql/ejbcabackup-2009-03-27_11.09.08.sql.gz
I-9202-PKI 20090327 11:09:47 sles20sp2-2: INFO - Restored the db from file (/backup/mysql/
ejbcabackup-2009-03-27_11.09.08.sql.gz)
```

Now lets make the old master master again

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./804-make-mysql-server-act-as-master.sh
Are you sure you want to make this mysql server act as mysql master?
Press enter to continiue, ctrl-c to abort

I-8041-PKI 20090312 16:47:00 smartcard20-node1: INFO - Mysql server made to act as a master

smartcard20-node1:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 98
I-8101-PKI 20090312 16:47:08 smartcard20-node1: INFO - Master status shown
*************************** 1. row ***************************
```

```
Id: 5
User: root
Host: localhost
db: mysql
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090312 16:47:08 smartcard20-node1: INFO - Master status shown
I-8101-PKI 20090312 16:47:08 smartcard20-node1: INFO - Master status shown
```

Make the old slave slave again, enter YOUR values from the last commnd!

```
smartcard20-node2:/usr/local/syscheck/database-replication # ./805-make-mysql-server-act-as-slave.sh
Are you sure you want to make this mysql server act as mysql slave?
Press enter to continiue, ctrl-c to abort

now you need to run 810-show-mysql-master-status.sh on the master node
For a first time setup (master has never had a slave) default file='' and pos=4 is the values to use
then enter File and Position
Enter Log File default:[]>
mysql-bin.000001
Enter Log Pos default:[4]>
98
I-8051-PKI 20090312 16:48:09 smartcard20-node2: INFO - Mysql server made to act as a slave
```

Failback VIP

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./TODO
```

Failback jboss datasource configuration

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./TODO
```

Verify replication status

```
smartcard20-node1:/usr/local/syscheck/database-replication # ./810-show-mysql-master-status.sh
File Position Binlog_Do_DB Binlog_Ignore_DB
mysql-bin.000001 98
I-8101-PKI 20090312 16:50:51 smartcard20-node1: INFO - Master status shown
*************************** 1. row ***************************
Id: 7
User: ejbcarep
Host: 10.15.251.247:19174
db: NULL
Command: Binlog Dump
Time: 162
State: Has sent all binlog to slave; waiting for binlog to be updated
Info: NULL
```

*************************** 2. row ***************************
Id: 9
User: root
Host: localhost
db: mysql
Command: Query
Time: 0
State: NULL
Info: SHOW PROCESSLIST
I-8101-PKI 20090312 16:50:51 smartcard20-node1: INFO - Master status shown
I-8101-PKI 20090312 16:50:51 smartcard20-node1: INFO - Master status shown

smartcard20-node2:/usr/local/syscheck/database-replication # **./809-show-mysql-slave-status.sh**
Slave_IO_State Master_Host Master_User Master_Port Connect_Retry Master_Log_File
Read_Master_Log_Pos Relay_Log_File Relay_Log_Pos Relay_Master_Log_File Slave_IO_Running
Slave_SQL_Running Replicate_Do_DB Replicate_Ignore_DB Replicate_Do_Table Replicate_Ignore_Table
Replicate_Wild_Do_Table Replicate_Wild_Ignore_Table Last_Errno Last_Error Skip_Counter
Exec_Master_Log_Pos Relay_Log_Space Until_Condition Until_Log_File Until_Log_Pos
Master_SSL_Allowed Master_SSL_CA_File Master_SSL_CA_Path Master_SSL_Cert Master_SSL_Cipher
Master_SSL_Key Seconds_Behind_Master
Waiting for master to send event 10.15.251.246 ejbcarep 3306 60 **mysql-bin.000001 98**
smartcard20-node2-relay-bin.000002 235 mysql-bin.000001 Yes Yes 0 0
98 235 None 0 No 0
I-8091-PKI 20090312 16:48:16 smartcard20-node2: INFO - Slave status shown