

These are the steps to build a hylafax server.

1. Build up your server hardware, preferably with RAID 5 (3 drives) plus 1 hotspare. Use a 3ware raid card, 8000 series is a good choice. Use an external modem connected to Com1 for best results (easy to setup)...
2. Boot using the Debian Net Install cd and when prompted to continue type "linux26", this will load the 2.6 kernel
3. Setup the partitions as follows (hylafax by default puts all faxes and temp files in /var, so we want to give it a lot of space)
 1. #1 primary 32mb ext2 /boot bootable-flag
 2. #2 primary 1gb swap swap
 3. #3 primary 20gb reiserfs /
 4. #4 logical 20gb+ reiserfs /home
 5. #5 logical 100gb+ reiserfs /var
4. Do a normal debian setup, don't select any extra features, just what you need and no more...
5. Once it is installed login as root
6. type "**apt-get install hylafax-server**" to install hylafax
apt-get install hylafax-server hylafax-client
7. type "**faxsetup**" and follow all the prompts, use defaults for everything that you can, customize as little as possible
 1. modem should be ttyS0
 2. use defaults
Protection mode for received fax - enter 0644
Protection mode for session logs - enter 0644
Protection mode for ttySx - enter 0666
8. Next we'll set up HylaFAX to run automatically when you boot the system. Check the configuration file:
9. nano /etc/default/hylafax
to make sure there's no # character at the beginning of the line containing
RUN_HYLAFAX=1.
Exit the editor.
10. One last that item is to let HylaFAX know who is allowed to send faxes. You can use a modified subnet address to let everyone on your network submit faxes to the server. Edit the hosts.hfaxd file with the command:
11. nano /etc/hylafax/hosts.hfaxd
As an example, if your using a subnet address for your network of 192.168.10.0 enter the following line into the hosts.hfaxd file:
192\168\10\:::
Likewise, if your using a subnet address of 172.16.0.0 your hosts.hfaxd file entry would be:
172\16\0\:::
You can enter as "wide" of a network address or multiple narrower address entries as you'd like. If you'd like to restrict access to specific users you can enter their individual IP addresses. When done, save the file and exit the editor.

12. Once you've completed that part of the setup we have to create some users... this is how:

1. type "**faxadduser -a [adminpass] -p [userpass] -u [uid] [username]**"

1. -a adminpass is a password you make up that allows the user to login with admin privileges to the fax server, set it to whatever you like
2. -p userpass is the normal user password for the person logging in
3. -u uid is a # ... FOR EXAMPLE: -u 10
4. HERE IS A SAMPLE USER THAT I SET UP "**faxadduser -a adminpass -p userpass -u 100 username**" ... That will create a user called "username" with the user id of "100" and a password of "userpass" with admin privileges accessible via "adminpass" Does this make sense?

13. Ok, now that we've got our server setup and our users entered lets reboot the server and go over to our client machines... Oh yeah, its going to be important at this point that you either have your NIC setup with a static IP or you have the same IP being assigned everytime via DHCP...

To have hylafax save incoming faxes in pdf format (it will work to copy the whole selection into a executable file and run the script):

```
cd /var/spool/hylafax/bin
```

```
wget http://www.hylafax.org/site2/howto/faxrcvd/faxrcvd-pdf
```

```
wget http://www.hylafax.org/site2/howto/faxrcvd/faxrcvd-mail-pdf
```

```
cp faxrcvd-pdf faxrcvd.original
```

```
cp faxrcvd-mail-pdf faxrcvd-mail-pdf.original
```

```
mv faxrcvd-pdf faxrcvd
```

```
mv faxrcvd-mail-pdf faxrcvd-mail
```

```
/etc/init.d/hylafax restart
```

Setting up a database server

<http://yajhfc.berlios.de/doc/yajhfc-workgroup.shtml>

The commands in this section were tested on Debian/Ubuntu. They should be similar on other distributions, however.

Install PostgreSQL:

If not already done, the first step is to install PostgreSQL.

If you use Debian or Ubuntu you can do this by entering the command:

```
aptitude install postgresql
```

Configure PostgreSQL:

In the next step PostgreSQL has to be configured so that the databases can be accessed over the network using username and password.

To do so, you'll have to edit the files ***pg_hba.conf*** and ***postgresql.conf***. You can find them in the directory ***/etc/postgresql/<version>/main*** if you use Debian/Ubuntu, or in ***/var/lib/pgsql/data*** for OpenSUSE. On other distributions these files might be in a different place.

Make sure that the ***pg_hba.conf*** contains the following line (usually you will have to add it):

```
host all all 192.168.X.0/24 md5
```

192.168.X.0/24 has to be replaced by the addresses of your local network in CIDR notation.

That means: If you use IP addresses of the form ***192.168.115.X*** in your network, you will have to enter ***192.168.115.0/24*** here.

In the ***postgresql.conf*** you have to enable listening on the external network interface (of your local network). To do so, add the following line to the file:

```
listen_addresses = '*'
```

To complete this step you must restart the database server so that the modified configuration takes effect:

```
/etc/init.d/postgresql-<version> restart
```

Creating the database:

First change your user identity to the administrative user of the PostgreSQL system:

```
su postgres
```

Then create a database for YajHFC:

```
createdb yajhfc
```

Finally ***use this script*** to create the necessary database tables and users. As a default the script creates one user named "fax" with password "fax". If you want additional users or a different password (recommended), please edit the script before performing the next command.

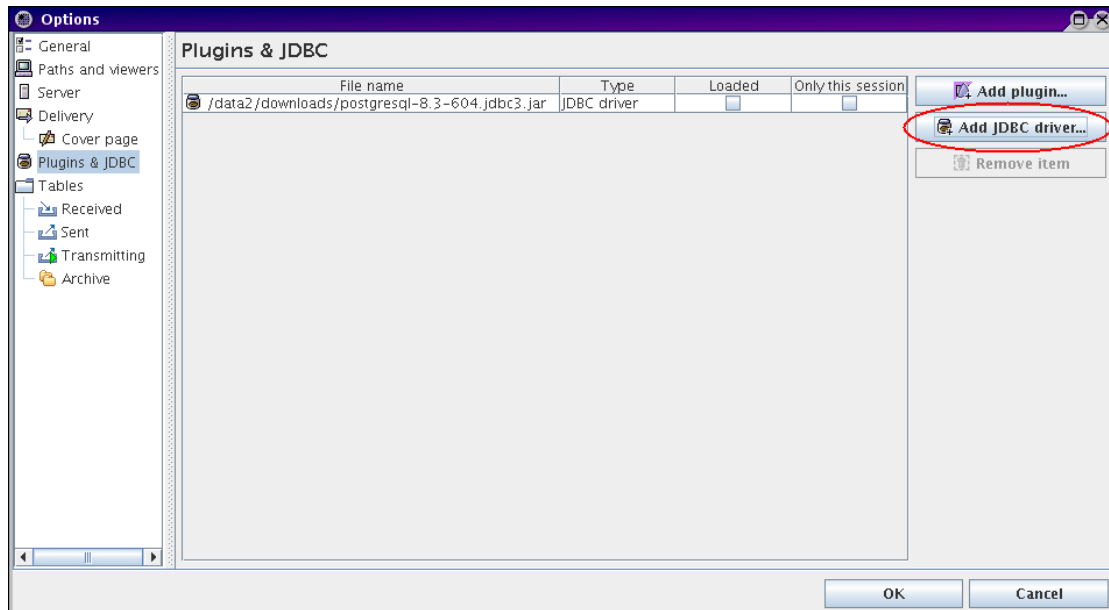
To create the tables, copy ***the createdb.sql*** script on the server and type the following command (as user postgres):

```
psql yajhfc -f createdb.sql
```

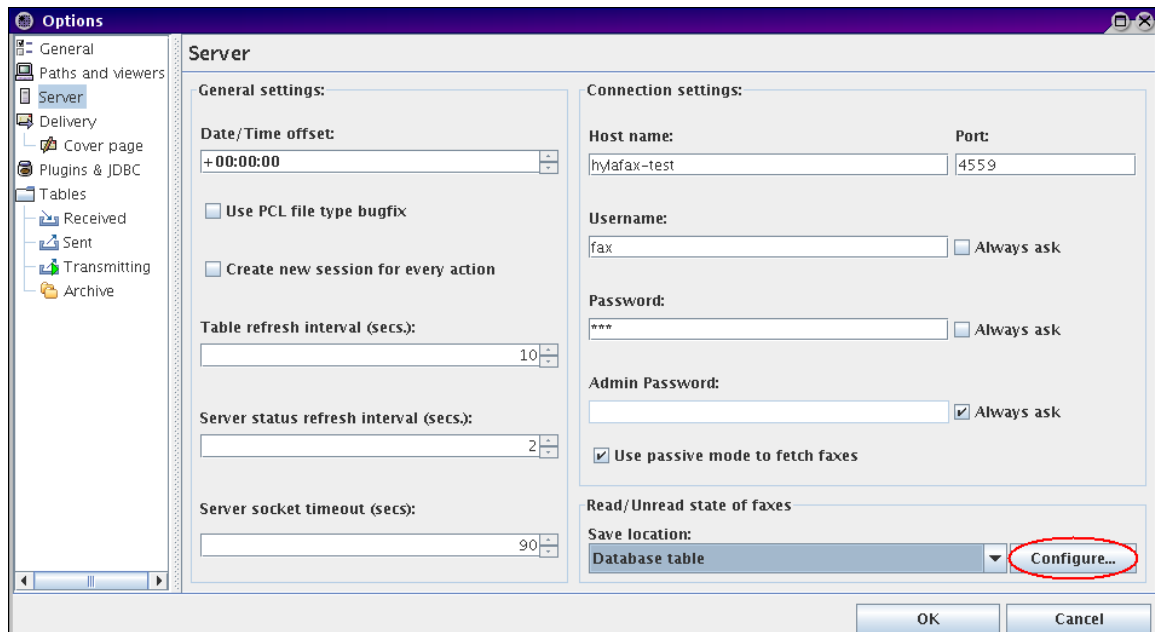
YajHFC Phone Book Java Setup

Download the PostgreSQL JDBC driver: <http://jdbc.postgresql.org/download.html>. (If you are unsure use the JDBC3 driver.)

Start YajHFC, open the Options dialog, add the newly downloaded JAR file as JDBC driver (Options->Plugins & JDBC->Add JDBC driver) and click OK.



Open the Options dialog again, set the save location under Server->Read/Unread state of faxes to "Database table" and click "Configure...".



Enter the following settings in the appearing configuration dialog:

JDBC settings to save read/unread state

Driver class:

Database URL:

Username:

Password: Always ask

Table:

Please select which fields in the table correspond to the necessary fields to save the read/unread state

Fax filename: Read/Unread State:

In the database URL you have to replace hylafax-test with the database server's host name.
Example: If the database server is called server the correct URL is: jdbc:postgresql://server/yajhfc

The other settings shown above can be used without modification (if you set up the database server according to this guide).

Remark: "Test connection" should be successful here.

Close all dialogs by clicking "OK".

Open the phone book and click the menu item Phone book->Add to list->JDBC phone book. Enter the following settings in the appearing configuration dialog and click OK:

New JDBC phone book

Driver class:

Database URL:

Username:

Password: Always ask

Table:

Phone book name to display: Open as read only

Please select which database fields correspond to the phone book entry fields of YajHFC:

Given name:	<input type="text" value="firstname"/>	Name:	<input type="text" value="name"/>
Title:	<input type="text" value="title"/>	Company:	<input type="text" value="company"/>
Position:	<input type="text" value="jobtitle"/>	Department:	<input type="text" value="department"/>
Street:	<input type="text" value="street"/>	Location:	<input type="text" value="location"/>
Country:	<input type="text" value="country"/>	ZIP code:	<input type="text" value="zipcode"/>
State/Region:	<input type="text" value="region"/>	e-mail address:	<input type="text" value="email"/>
Website:	<input type="text" value="website"/>	Fax number:	<input type="text" value="faxnumber"/>
Voice number:	<input type="text" value="voicenummer"/>	Comments:	<input type="text" value="comments"/>

1. You will have to modify the database URL in the same way as above here (use the same URL in both cases).

Remark: "Test connection" should be successful here, too.

2. Done!

Necessary Database Structure

If you wish to create the database tables manually, the necessary database tables and fields are:

Table to save the read/unread state:

<i>Field</i>	<i>Data type</i>
Fax file name	Text (variable length character data), should have space for 20 characters (i.e. VARCHAR(20)). This field should be the table's primary key.
Read/Unread state	Logical/Boolean value (can be either true or false)

Table for the PhoneBook

One database field for every phonebook field. Data type for all fields is text (variable length character data); should be sufficiently long (at least 30-40 characters; for example VARCHAR(40)).
For the comments field, using arbitrary length text is recommended (i.e. a TEXT/MEMO field).

YajHFC Phone Book LDAP Setup

New LDAP phone book ✖

Server name: Port:

Root (Base DN):

Use authentication

User name (Bind DN):

Password: Always ask

Phone book name to display:

Object filter: Also search subtrees

Load all entries when opened Count limit:

Please enter which LDAP attributes correspond to the phone book entry fields of YajHFC (default should usually work):

Given name:	<input type="text" value="givenName"/>	Name:	<input type="text" value="sn"/>
Title:	<input type="text"/>	Company:	<input type="text" value="company"/>
Position:	<input type="text" value="title"/>	Department:	<input type="text" value="ou"/>
Street:	<input type="text" value="streetAddress"/>	Location:	<input type="text"/>
Country:	<input type="text" value="c"/>	ZIP code:	<input type="text" value="postalCode"/>
State/Region:	<input type="text" value="st"/>	e-mail address:	<input type="text" value="mail"/>
Website:	<input type="text" value="URL"/>	Fax number:	<input type="text" value="facsimileTelephoneNumber"/>
Voice number:	<input type="text" value="telephoneNumber"/>	Comments:	<input type="text" value="description"/>

Appendix

Note A

```
-- Create a group for the users created below:
CREATE ROLE yajhfc_user;

-- Users to create: Duplicate this line if you want several users
CREATE USER fax WITH PASSWORD 'fax' IN ROLE yajhfc_user;

-- Example: Create an additional user named "user" with password
"password":
-- CREATE USER user WITH PASSWORD 'password' IN ROLE yajhfc_user;
-- ...

-- Creates tables:
CREATE TABLE Phonebook (
  SerialNr      SERIAL PRIMARY KEY,
  FirstName    VARCHAR(50) NOT NULL,
  Name         VARCHAR(50) NOT NULL,
  Title        VARCHAR(40) NOT NULL,
  JobTitle     VARCHAR(40) NOT NULL,
  Company      VARCHAR(50) NOT NULL,
  Department   VARCHAR(40) NOT NULL,
  Street       VARCHAR(50) NOT NULL,
  Location     VARCHAR(50) NOT NULL,
  ZIPCode      VARCHAR(10) NOT NULL,
  Region       VARCHAR(30) NOT NULL,
  Country      VARCHAR(30) NOT NULL,
  VoiceNumber  VARCHAR(50) NOT NULL,
  FaxNumber    VARCHAR(50) NOT NULL,
  EMail        VARCHAR(30) NOT NULL,
  Website      VARCHAR(40) NOT NULL,
  Comments     TEXT
);

CREATE TABLE ReadState (
  Faxname      VARCHAR(20) PRIMARY KEY,
  isRead       BOOLEAN NOT NULL
);

-- Grant all users created above full privileges on the table
GRANT ALL PRIVILEGES ON Phonebook, ReadState, phonebook_serialnr_seq
TO GROUP yajhfc_user;
```

Backup/Restore Hylafax Server

Create the Backup Mount Directory in Linux:

```
mkdir -p /mnt/winbackup (assumes a share on windows server called \\server\winbackup\  
mount -t cifs //192.168.16.10/winbackup/ -o username=faxbackup,password=F4x2001  
/mnt/winbackup
```

To Backup Postgres Database:

```
su postgres #login as postgres  
pg_dump > /mnt/winbackup/hylafaxdb/hylafax.backupdb
```

To unmount

```
umount /mnt/winbackup
```

To force an unmount

```
umount -l /mnt/winbackup
```

Schedule the backup

```
add to cron.daily
```

```
crontab -v #view Schedule  
crontab -e #edit Schedule  
00 20 * * 1-6 /etc/cron.daily/hylafax #everyday 8pm Mon - Sun Inclusive
```

Actual Backup File (hylafax Files)

```
/etc/init.d/hylafax stop  
tar czvf /mnt/winbackup/backup.tar.gz /var/spool/hylafax  
/etc/init.d/hylafax start
```

Actual Backup File (hylafax Database)

Login as:

```
su postgres
```

Create new file as:

```
pg_dump > /mnt/winbackup/hylafaxdb/hylafax.backupdb
```

Security Access:

```
groupadd faxgrp
```

Add Group to Folder:

```
chgrp faxgrp hylafaxdb
```

Add Users to Group:

```
useradd -G faxgrp postgres
```

Restore Fax Server

Mount USB Stick

```
mkdir /mnt/import
```

```
sudo mount -t vfat /dev/sdb1 /mnt/import -o uid=1000,gid=100,utf8,dmask=027,fmask=137
```

1. Install Ubuntu
2. Install Hylafax as per install instructions above
3. Backup the /var/spool/hylafax on restore server
mv /var/spool/hylafax hylafaxbackup
4. cd /
5. tar xzvf /etc/hylafax/backup.tar.gz
6. ls /var/spool/hylafax
7. cd /home/<username>/
8. /etc/init.d/hylafax stop
9. /etc/init.d/hylafax start

Remove existing Database

```
su postgres
```

```
#login as postgres
```

```
dropdb yajhfc
```

```
#To remove existing database
```

```
psql -f /etc/hylafax/hylafax.backupdb postgres
```

```
rm -r /var/spool/hylafax
```

```
#Remove a non empty dir
```