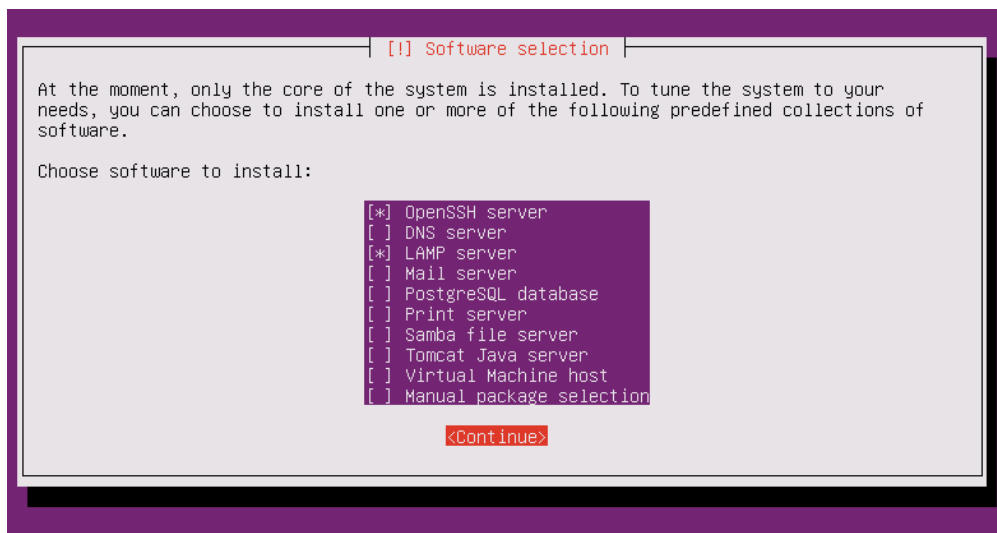


# Installing FreePBX 12 on Ubuntu Server 14.10

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## Initial System Setup

When installing the machine, at package selection make sure you pick - at least - OpenSSH Server, and LAMP Server. You may install others, if wanted.



## Configure your root password.

```
sudo passwd root
```

## Switch to the Root User

```
sudo -i
```

## Update Your System

```
apt-get update && sudo apt-get upgrade -y
```

## Install Required Dependencies

```
apt-get install -y build-essential linux-headers-`uname -r` openssh-server  
apache2 mysql-server\  
mysql-client bison flex php5 php5-curl php5-cli php5-mysql php-pear php-  
db php5-gd curl sox\  
libncurses5-dev libssl-dev libmysqlclient-dev mpg123 libxml2-dev libnewt-  
dev sqlite3\  
libsqlite3-dev pkg-config automake libtool autoconf git subversion  
unixodbc-dev uuid uuid-dev\  
libasound2-dev libogg-dev libvorbis-dev libcurl4-openssl-dev libical-dev  
libneon27-dev libsrtp0-dev\  
libspandsp-dev libiksemel-dev libiksemel-utils libiksemel3
```

## Reboot server

This is to ensure you're running the kernel version that you're going to be building your kernel modules against. You may skip this step if you're sure your running kernel is the latest.

```
reboot
```

## Install PearDB

```
pear uninstall db  
pear install db-1.7.14
```

## Install and Configure Asterisk

### Download Asterisk source files.

```
cd /usr/src
wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete
/dahdi-linux-complete-current.tar.gz
wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-current.tar.
gz
wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-13-
current.tar.gz
git clone https://github.com/akheron/jansson.git
wget http://www.pjsip.org/release/2.2.1/pjproject-2.2.1.tar.bz2
```

## Compile and install DAHDI and LibPRI

If you don't have any physical hardware you don't need to run these commands, however, it is still suggested to compile the modules, to allow you to add hardware later.

```
cd /usr/src
tar xvfz dahdi-linux-complete-current.tar.gz
tar xvfz libpri-current.tar.gz
rm -f dahdi-linux-complete-current.tar.gz libpri-current.tar.gz
cd dahdi-linux-complete-*
make all
make install
make config
cd /usr/src/libpri-*
make
make install
```

## Compile and install pjproject

```
cd /usr/src
tar -xjvf pjproject-2.2.1.tar.bz2
cd pjproject-2.2.1
CFLAGS='-DPJ_HAS_IPV6=1' ./configure --prefix=/usr --enable-shared --
disable-sound\
--disable-resample --disable-video --disable-opencore-amr
make dep
make
make install
```

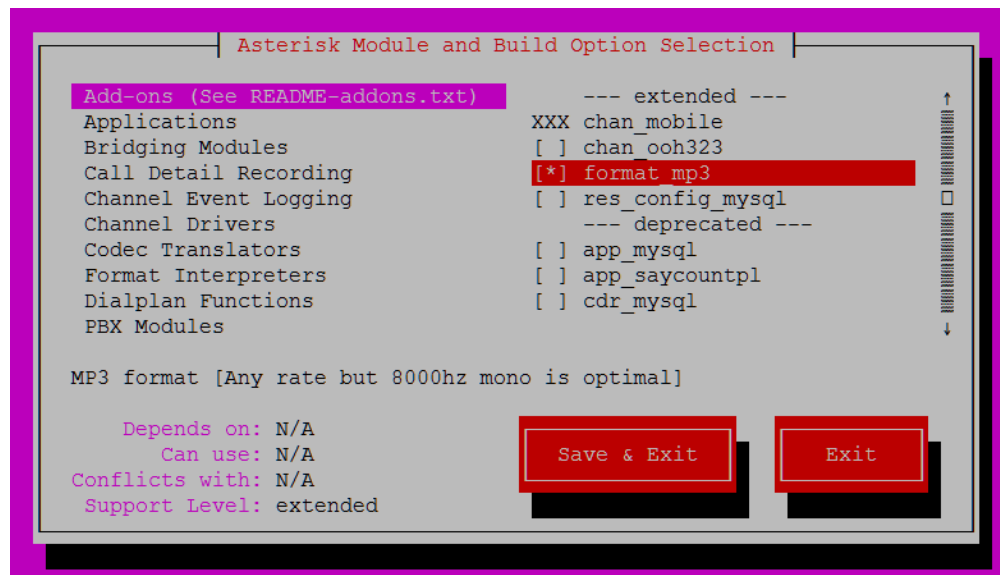
## Compile and Install jansson

```
cd /usr/src/jansson
autoreconf -i
./configure
make
make install
```

## Compile and install Asterisk

```
cd /usr/src
tar xvfz asterisk-13-current.tar.gz
rm -f asterisk-13-current.tar.gz
cd asterisk-*
./configure
contrib/scripts/get_mp3_source.sh
make menuselect
```

You will be prompted at the point to pick which modules to build. Most of them will be enabled, but if you want to have MP3 support, you need to manually turn on 'format\_mp3' on the first page.



After selecting 'Save & Exit' you can then continue

```
make
make install
make config
ldconfig
```

## Install Asterisk-Extra-Sounds

Note that this installs the (8khz) 'wav' soundfiles and G722 (High Definition 'Wideband') audio.

```
mkdir -p /var/lib/asterisk/sounds
cd /var/lib/asterisk/sounds
wget http://downloads.asterisk.org/pub/telephony/sounds/asterisk-extra-sounds-en-wav-current.tar.gz
tar xzf asterisk-extra-sounds-en-wav-current.tar.gz
rm -f asterisk-extra-sounds-en-wav-current.tar.gz
# Wideband Audio download
wget http://downloads.asterisk.org/pub/telephony/sounds/asterisk-extra-sounds-en-g722-current.tar.gz
tar xzf asterisk-extra-sounds-en-g722-current.tar.gz
rm -f asterisk-extra-sounds-en-g722-current.tar.gz
```

## Install and Configure FreePBX

### Download and extract FreePBX.

```
wget http://mirror.freepbx.org/modules/packages/freepbx/freepbx-12.0-latest.tgz
tar vxzf freepbx-12-latest.tgz
```

### Now create the Asterisk user and set ownership permissions.

```
useradd -m asterisk
chown asterisk. /var/run/asterisk
chown -R asterisk. /etc/asterisk
chown -R asterisk. /var/{lib,log,spool}/asterisk
chown -R asterisk. /usr/lib/asterisk
rm -rf /var/www/html
```

### A few small modifications to Apache.

```
sed -i 's/(\^upload_max_filesize = \).*/\120M/' /etc/php5/apache2/php.ini
cp /etc/apache2/apache2.conf /etc/apache2/apache2.conf_orig
sed -i 's/^\(User\|Group\).*/\1 asterisk/' /etc/apache2/apache2.conf
service apache2 restart
```

## Prepare MySQL

You now need to generate a secure password for FreePBX to use to talk to MySQL.

```
export ASTERISK_DB_PW=`dd if=/dev/urandom bs=1 count=32 2>/dev/null |
base64 - | cut -c2-18`
```

That will generate a quasi-random 16 character long password, which should be secure enough for most things. If you had set the MySQL 'root' password to be something when you were installing the machine, you will need to add a `-p $yourpassword$`  flag to the following lines

## Configure Asterisk database in MYSQL.

```
mysqladmin -u root create asterisk
mysqladmin -u root create asteriskcdrdb
```

## Set permissions on MYSQL database.

```
mysql -u root -e "GRANT ALL PRIVILEGES ON asterisk.* TO
asteriskuser@localhost IDENTIFIED BY '${ASTERISK_DB_PW}';"
mysql -u root -e "GRANT ALL PRIVILEGES ON asteriskcdrdb.* TO
asteriskuser@localhost IDENTIFIED BY '${ASTERISK_DB_PW}';"
mysql -u root -e "flush privileges;"
```

## Restart Asterisk and install FreePBX.

```
./start_asterisk start
./install_amp --installdb --username=asteriskuser --
password=${ASTERISK_DB_PW}
amportal chown
amportal a ma installall
amportal a reload
amportal a ma refreshsignatures
amportal chown
```

## Finally, one last mod and start FreePBX.

```
ln -s /var/lib/asterisk/moh /var/lib/asterisk/mohmp3
amportal restart
```

## Start FreePBX

### Navigate:

Now FreePBX is installed, it will be available via Apache. Open up your web browser and visit:

<http://Address.Of.FreePBX.Server/admin>