How to Install FreePBX 16 on Debian 11 with Asterisk 16

READ FIRST

Manual installations of FreePBX is considered an EXPERTS ONLY exercise. This method of installation is enough to get CORE functionality of FreePBX. Non-commercial modules may not function as expected or detailed in the Wiki's. Certain modules and features may require additional software to be installed and configured on the server.

**** COMMERCIAL MODULES CANNOT BE INSTALLED ON THIS OS ****

This manual-install method builds a FreePBX system with the following specifications:

- FreePBX 16
- Asterisk 16 from the Debian Bullseye package repository
- PHP 7.4, standard with Debian Bullseye
- 64-bit Intel/AMD (x86_64) platform

Step-by-step guide

All commands are to be run as the root user, either by directly logging in as root or by using `sudo su -`.

Start from a base Debian 11 installation. All necessary packages will be installed through the following commands.

Prerequisite recommended OS update

Update the OS to current.

- `apt-get update`
- `apt-get upgrade`

Install all the necessary packages


Prepare Asterisk

- `systemctl stop asterisk`
- `systemctl disable asterisk`
- `cd /etc/asterisk`
- `mkdir DIST`
- `mv * DIST`
- `cp DIST/asterisk.conf .`
- `sed -i 's/(!)//' asterisk.conf`
- `touch modules.conf`
- `touch cdr.conf`

Configure Apache web server

- `sed -i '/upload_max_filesize = \d*/s/[^\d]*\d{1,3}/120M/' /etc/php/7.4/apache2/php.ini`
- `sed -i '/memory_limit = \d*/s/[^\d]*\d{1,3}/1256M/' /etc/php/7.4/apache2/php.ini`
- `sed -i '/^\(User\|Group\)/\1 asterisk/' /etc/apache2/apache2.conf`
- `sed -i '/^AllowOverride None/AllowOverride All/' /etc/apache2/apache2.conf`
- `a2enmod rewrite`
- `systemctl restart apache2`
- `rm /var/www/html/index.html`

Configure ODBC
cat <<EOF > /etc/odbcinst.ini
[MySQL]
Description = ODBC for MySQL (MariaDB)
Driver = /usr/lib/x86_64-linux-gnu/odbc/libmaodbc.so
FileUsage = 1
EOF

cat <<EOF > /etc/odbc.ini
[MySQL-asteriskcdrdb]
Description = MySQL connection to 'asteriskcdrdb' database
Driver = MySQL
Server = localhost
Database = asteriskcdrdb
Port = 3306
Socket = /var/run/mysqld/mysqld.sock
Option = 3
EOF

Install FreePBX

- cd /usr/local/src
- wget http://mirror.freepbx.org/modules/packages/freepbx/7.4/freepbx-16.0-latest.tgz
- tar zxvf freepbx-16.0-latest.tgz
- cd /usr/local/src/freepbx/
- ./start_asterisk start
- ./install -n

Get the rest of the modules

Only a very basic system is installed at this point. You will probably want to install all the modules. Alternatively, you can skip this and pick-and-choose the individual modules you want later.

- fwconsole ma installall

Note on modules that fail to install

digiumaddoninstaller, firewall, and xmpp will not install. Firewall will not work without sysadmin (a free but commercial module); xmpp will not work without MongoDB. If you want XMPP, install MongoDB from the vendor's repo first.

ucp will install but the UCP node server will not start due to an incompatibility with NodeJS 12.x. A ticket and patch have been submitted to resolve the incompatibility and this note will be removed when ucp has been updated.

Apply the current configuration

- fwconsole reload

Set symlinks to the correct sound files

- cd /usr/share/asterisk
- mv sounds sounds-DIST
- ln -s /var/lib/asterisk/sounds sounds

Perform a restart to load all Asterisk modules that had not yet been configured

- fwconsole restart

Set up systemd (startup script)

- cat <<EOF > /etc/systemd/system/freepbx.service
  [Unit]
  Description=FreePBX VoIP Server
  After=mariadb.service
  [Service]
  Type=oneshot
  RemainAfterExit=yes
  ExecStart=/usr/sbin/fwconsole start -q
  ExecStop=/usr/sbin/fwconsole stop -q
  [Install]
Asterisk and FreePBX 16 are installed! Go to the web interface at http://YOUR-IP to finish setup.