

# Installing FreePBX 14 on CentOS 7

## 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 \*\*\*\***

For Asterisk 16 you must enable app\_macro in make menuselect

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## Install Centos 7

### Initial System Setup

You **MUST** run all of these commands as the root user!

You **MUST** disable selinux. selinux can cause strange behavior during the install

### Disable selinux

In `/etc/sysconfig/selinux` , change the following lines:

```
sed -i 's/\(^SELINUX=\).*\/\SELINUX=disabled/' /etc/sysconfig/selinux
sed -i 's/\(^SELINUX=\).*\/\SELINUX=disabled/' /etc/selinux/config
```

reboot, and verify the selinux status by running 'sestatus'. It should say:

```
SELinux status: disabled
```

## Update Your System

```
yum -y update
yum -y groupinstall core base "Development Tools"
```

## Add the Asterisk User

```
adduser asterisk -m -c "Asterisk User"
```

## Firewalld Basic Configuration

You must open port 80 so that you can access the administration interface

```
firewall-cmd --zone=public --add-port=80/tcp --permanent
firewall-cmd --reload
```

## Install Additional Required Dependencies

```
yum -y install lynx tftp-server unixODBC mysql-connector-odbc mariadb-
server mariadb \
  httpd ncurses-devel sendmail sendmail-cf sox newt-devel libxml2-devel
libtiff-devel \
  audiofile-devel gtk2-devel subversion kernel-devel git crontabs cronie \
  cronie-anacron wget vim uuid-devel sqlite-devel net-tools gnutls-devel
python-devel texinfo \
  libuuid-devel
```

## Install php 5.6 repositories

```
rpm -Uvh https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.
noarch.rpm
rpm -Uvh https://mirror.webtatic.com/yum/el7/webtatic-release.rpm
```

## Install php5.6w

```
yum remove php*
yum install php56w php56w-pdo php56w-mysql php56w-mbstring php56w-pear
php56w-process php56w-xml php56w-opcache php56w-ldap php56w-intl php56w-
soap
```

## Install nodejs

```
curl -sL https://rpm.nodesource.com/setup_8.x | bash -
yum install -y nodejs
```

## Enable and Start MariaDB

You must have MariaDB running for freepbx to operate normally. It must start automatically, and be running continuously.

```
systemctl enable mariadb.service
systemctl start mariadb
```

Now that our MariaDB database is running, we want to run a simple security script that will remove some dangerous defaults and lock down access to our database system a little bit

```
mysql_secure_installation
```

The prompt will ask you for your current root password. Since you just installed MySQL, you most likely won't have one, so leave it blank by pressing enter. Then the prompt will ask you if you want to set a root password. **Do not set a root password.** We secure the database automatically, as part of the install script. Apart from that you can choose yes for the rest. This will remove some sample users and databases, disable remote root logins, and load these new rules so that MySQL immediately respects the changes we have made.

## Enable and Start Apache

FreePBX uses the Apache web server, so this must be started and running.

```
systemctl enable httpd.service
systemctl start httpd.service
```

## Install Legacy Pear requirements

```
pear install Console_Getopt
```

## 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 -O jansson.tar.gz https://github.com/akheron/jansson/archive/v2.10.
tar.gz
```

### Asterisk 15

```
http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-15-current.
tar.gz
```

### Asterisk 16

```
http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-16-current.
tar.gz
```

## Compile and install DAHDI

If you don't have any physical PSTN hardware attached to this machine, you don't need to install DAHDI (For example, a T1 or E1 card, or a USB device). Most smaller setups will not have DAHDI hardware, and this step can be safely skipped.

```
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 jansson

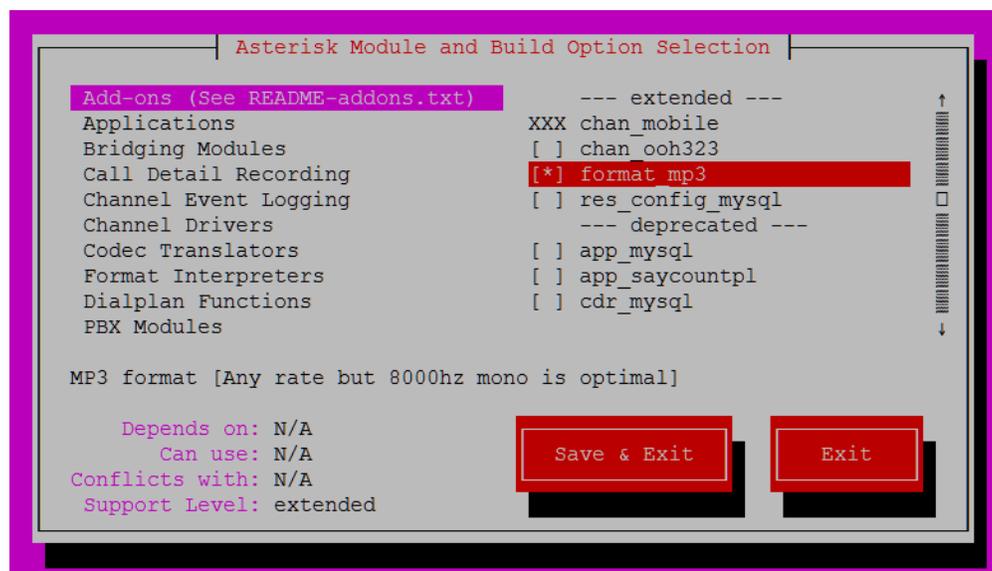
```
cd /usr/src
tar vxzf jansson.tar.gz
rm -f jansson.tar.gz
cd jansson-*
autoreconf -i
./configure --libdir=/usr/lib64
make
make install
```

## Compile and install Asterisk

```
cd /usr/src
tar xvfz asterisk-14-current.tar.gz
rm -f asterisk-*-current.tar.gz
cd asterisk-*
contrib/scripts/install_prereq install
./configure --libdir=/usr/lib64 --with-pjproject-bundled
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 already be enabled, but if you want to have MP3 support (eg, for Music on Hold), you need to manually turn on 'format\_mp3' on the first page.

If you are using Asterisk 16, enable app\_macro.



After selecting 'Save & Exit' you can then continue

```
make
make install
make config
ldconfig
chkconfig asterisk off
```

### Set Asterisk ownership permissions.

```
chown asterisk. /var/run/asterisk
chown -R asterisk. /etc/asterisk
chown -R asterisk. /var/{lib,log,spool}/asterisk
chown -R asterisk. /usr/lib64/asterisk
chown -R asterisk. /var/www/
```

## Install and Configure FreePBX

### A few small modifications to Apache.

```
sed -i 's/(\^upload_max_filesize = \).*\/\120M/' /etc/php.ini
sed -i 's/^\(User\|Group\).*\/\1 asterisk/' /etc/httpd/conf/httpd.conf
sed -i 's/AllowOverride None/AllowOverride All/' /etc/httpd/conf/httpd.conf
systemctl restart httpd.service
```

### Download and install FreePBX.

```
cd /usr/src
wget http://mirror.freepbx.org/modules/packages/freepbx/freepbx-14.0-
latest.tgz
tar xzf freepbx-14.0-latest.tgz
rm -f freepbx-14.0-latest.tgz
cd freepbx
./start_asterisk start
./install -n
```

### That's it!

You can now start using FreePBX. Open up your web browser and connect to the IP address or hostname of your new FreePBX server. You will see the Admin setup page, which is where you set your 'admin' account password, and configure an email address to receive update notifications.

We hope you enjoy using FreePBX 14!

## Automatic Startup

Please note you need to set up FreePBX to start asterisk (and it's associated services) on bootup. You can view an example systemd startup script [here](#).