MT2
Mobile Technology Tomorrow

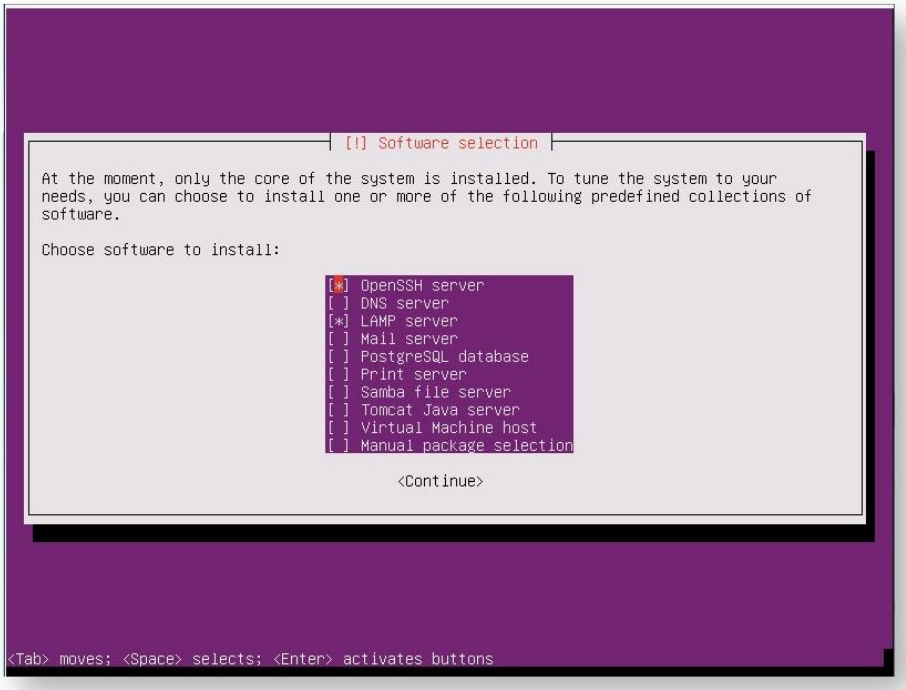
IRC ASTERISK IVR PROJECT

HOW TO INSTALL

Contents

Initial System Setup

When installing the machine, at package selection make sure you pick - at least - 'OpenSSH Server', and 'LAMP Packages'. This installs the base packages required.



Unlock and configure your root password

You may find it helpful to log in directly as root to manage and update your system. We recommend you do set a root password, and enable SSH logins from root, so you don't need to go through secondary steps that may cause problems. This command enables SSH root logins, and prompts you for a new root password.

```
sed -i 's/PermitRootLogin without-password/PermitRootLogin yes/' /etc/sshd/sshd_config
service ssh restart
sudo passwd root
```

Switch to the Root User

THIS IS IMPORTANT! You must run the **entire** process as root. Attempting to use 'sudo' later on **will not work**. Please don't ignore this. You must run this command to switch to an interactive root shell.

```
sudo -i
```

Update Your System

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

Install Required Dependencies

```
apt-get install -y build-essential linux-headers-`uname -r` openssh-server apache2
mysql-client-5.6 mysql-client-core-5.6 mysql-server-5.6 subversion libjansson-dev
bison flex php5 php5-curl php5-cli php5-mysql php-pear php5-gd curl sox libncurses5-
dev libssl-dev libmysqlclient-dev mpg123 libxml2-dev libnewt-dev sqlite3 libsqlite3-
dev pkg-config automake libtool autoconf git unixodbc unixodbc-dev uuid uuid-dev
libasound2-dev libogg-dev libvorbis-dev libcurl4-openssl-dev libical-dev libneon27-
dev libsrtp0-dev libspandsp-dev libmyodbc libgnutls-dev unixodbc-bin
```

Reboot server

```
reboot
```

After the Reboot

Ensure that you re-run 'sudo -i', or log in as the root user. As mentioned above, the entire install process must be run as 'root', and failure to do so will cause unexpected problems.

Install Legacy pear requirements

```
pear install Console_Getopt
```

Install Dependencies for Google Voice (if required)

You may skip this section if you do not require Google Voice support.

Install iksemel

```
cd /usr/src
wget https://iksemel.googlecode.com/files/iksemel-1.4.tar.gz
tar xf iksemel-1.4.tar.gz
cd iksemel-*
./configure
make
make install
```

Install Asterisk

Download Asterisk source files.

```
cd /usr/src
wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/dahdi-linux-complete
wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4-current.tar.gz
wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-13-current.tar.gz
wget -O jansson.tar.gz https://github.com/akheron/jansson/archive/v2.7.tar.gz
wget http://www.pjsip.org/release/2.4/pjproject-2.4.tar.bz2
```

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
```

```
rm -f dahdi-linux-complete-current.tar.gz
cd dahdi-linux-complete-*
make all
make install
make config
cd /usr/src
tar xvfz libpri-1.4-current.tar.gz
rm -f libpri-1.4-current.tar.gz
cd libpri-*
make
make install
```

Compile and install pjproject

```
cd /usr/src
tar -xjvf pjproject-2.4.tar.bz2
rm -f pjproject-2.4.tar.bz2
cd pjproject-2.4
CFLAGS='-DPJ_HAS_IPV6=1' ./configure --enable-shared --disable-sound --disable-resample --d
amr
make dep
make
make install
```

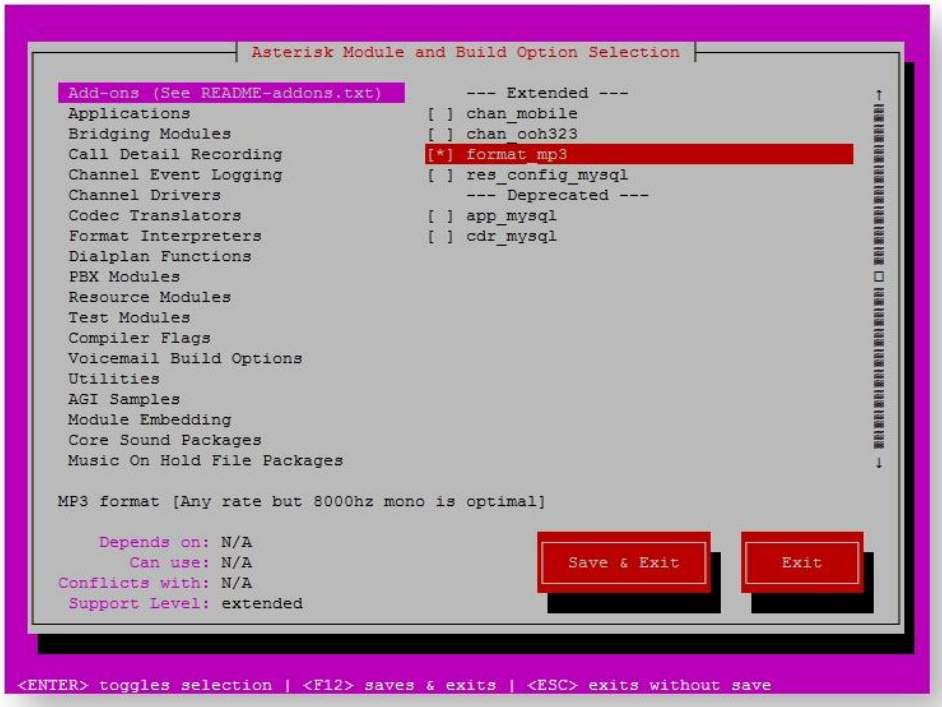
Compile and Install jansson

```
cd /usr/src
tar vxfz jansson.tar.gz
rm -f jansson.tar.gz
cd 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-*
contrib/scripts/install_prereq install
./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 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.



After selecting 'Save & Exit' you can then continue

```
make && make install && make config && make samples
ldconfig
update-rc.d -f asterisk remove
```

Install Asterisk Soundfiles.

The 'make install' above installs a standard low-quality base sound file by default. This is suitable if you are on a small, underpowered system (such as a Rasberry Pi), but on a larger system you should install higher quality soundfiles. Note that this installs the (8khz) 'wav' soundfiles and G722 (High Definition 'Wideband') audio.

```
cd /var/lib/asterisk/sounds
wget http://downloads.asterisk.org/pub/telephony/sounds/asterisk-core-sounds-en-wav-curren
wget http://downloads.asterisk.org/pub/telephony/sounds/asterisk-extra-sounds-en-wav-curre
tar xvf asterisk-core-sounds-en-wav-current.tar.gz
rm -f asterisk-core-sounds-en-wav-current.tar.gz
tar xfz 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-core-sounds-en-g722-curre
wget http://downloads.asterisk.org/pub/telephony/sounds/asterisk-extra-sounds-en-g722-curr
tar xfz asterisk-extra-sounds-en-g722-current.tar.gz
rm -f asterisk-extra-sounds-en-g722-current.tar.gz
tar xfz asterisk-core-sounds-en-g722-current.tar.gz
rm -f asterisk-core-sounds-en-g722-current.tar.gz
```

Configure Asterisk

Create the Asterisk user and set base file 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
```

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
sed -i 's/AllowOverride None/AllowOverride All/' /etc/apache2/apache2.conf
service apache2 restart
```

Configure ODBC

Edit /etc/odbcinst.ini and add the following. Note that this command assumes you are installing to a new machine, and that the file is empty. If this is not a freshly installed machine, please manually verify the contents of the file, rather than just copying and pasting the lines below. The 'EOF' does no go in the file, it simply signals to the 'cat' command that you have finished pasting.

```
cat >> /etc/odbcinst.ini << EOF
[MySQL]
Description = ODBC for MySQL
Driver = /usr/lib/x86_64-linux-gnu/odbc/libmyodbc.so
Setup = /usr/lib/x86_64-linux-gnu/odbc/libodbcmyS.so
FileUsage = 1

EOF
```

You may need to verify these paths, if you're not on a x86_64 machine. You can use the command `find / -name libmyodbc.so` to verify the location

Edit or create /etc/odbc.ini and add the following section. Note that, again, this command assumes you are installing to a new machine, and the file is empty. Please manually verify the contents of the files if this is not the case.

```
cat >> /etc/odbc.ini << EOF
[MySQL-asteriskcdrdb]
Description=MySQL connection to 'asteriskcdrdb' database
driver=MySQL
server=localhost
database=asteriskcdrdb
Port=3306
Socket=/var/run/mysqld/mysqld.sock
option=3
```

Configure PHP Script

```
Move the "IRC-IVR" Folder to your asterisk agi-bin directory
       mv IRC-IVR /var/lib/asterisk/agi-bin/

Ensure IrcIvrRefugee.php and IrcIvrSP.php are executable
       chmod +x /var/lib/asterisk/agi-bin/IRC-IVR/IrcIvrRefugee.php
       chmod +x /var/lib/asterisk/agi-bin/IRC-IVR/IrcIvrSP.php

Create a symlink to IrcIvrRefugee.php and IrcIvrSP.php in the agi-bin
directory
       ln -s /var/lib/asterisk/agi-bin/IRC-IVR/IrcIvrRefugee.php
/var/lib/asterisk/agi-bin/runRefugee
       ln -s /var/lib/asterisk/agi-bin/IRC-IVR/IrcIvrSP.php
/var/lib/asterisk/agi-bin/runSP

Ensure files are readable by the asterisk server.
       chown asterisk:asterisk /var/lib/asterisk/agi-bin/IRC-IVR -R

Locate IRC sounds in folder /var/lib/asterisk/sounds/
Digits folder should be like the below
For Arabic: /var/lib/asterisk/sounds/IRC/1/digits
For French: /var/lib/asterisk/sounds/IRC/2/digits
For English: /var/lib/asterisk/sounds/IRC/3/digits
```

Please find the below example to call php script in extension.cfg

```
[default]
exten => 1115,1,Answer()
exten => 1115,2,Ringing()
exten => 1115,3,Wait(1)
exten => 1115,4,AGI(runSP)
exten => 1115,5,Hangup()
```

Note: you will need a SIP software to test the service i.e.: X-lite

Important notes

Call Record location

The recorded voice for the SP(name, address, etc…) and the Feedback (Extra Comments) are located in the following paths:
/tmp/asterisk/records/SP
/tmp/asterisk/records/REFUGEES

Please note that these folders must be shared so you can be able to rerecord and add the files.

NOTE:

Kindly note that records IRC0100 and above are missing in French language

Also note that number zero is missing too in French language so please when you record it save it in /var/lib/asterisk/sounds/IRC/2/digits under name 0.mp3