

# FreePBX

FreePBX is a web-based open-source graphical user interface (GUI) that manages Asterisk, a voice over IP and telephony server.

- [fwconsole](#)
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# fwconsole

## Tutorials

- [CLI Commands](#)

## Help

```
fwconsole help

# lists all commands

php /usr/sbin/fwconsole list
```

## Service Start/Stop

```
# Start Asterisk and run other needed FreePBX commands

fwconsole start

# Stop Asterisk and run other needed FreePBX commands

fwconsole stop
```

## Module Admin

```
# Check Online Repository

fwconsole ma listonline

# Install a module

fwconsole ma download ivr
fwconsole ma install ivr

# Installing specific module versions with multiple modules

fwconsole ma install foomodule:15.1.3 barmodule:15.0.9

# Upgrade all modules

fwconsole ma listonline | grep "upgrade"

fwconsole ma upgradeall
```

# Apply the settings changed

fwconsole reload

## Database

????? asterisk (??? /etc/freepbx.conf ??????)

fwconsole m

# Post-Installation

## Set root's password for MySQL

```
mysql_secure_installation
```

## Log File Rotation

If this is not done the log files will keep growing indefinitely.

Edit `/etc/logrotate.d/asterisk`

```
/var/spool/mail/asterisk
/var/log/asterisk/*log
/var/log/asterisk/full
/var/log/asterisk/dtmf
/var/log/asterisk/freepbx_debug
/var/log/asterisk/fail2ban {
    weekly
    missingok
    rotate 4
    #compress
    notifempty
    sharedscripts
    create 0640 asterisk asterisk
    postrotate
        /usr/sbin/asterisk -rx 'logger reload' > /dev/null 2> /dev/null || true
    endsript
    su root root
}
```

## TFTP

If you plan to use hardware SIP phones you will probably want to set up TFTP.

```
yum -y install tftp-server
nano /etc/xinetd.d/tftp
```

```
change server_args = -s /var/lib/tftpboot
to server_args = -s /tftpboot
change disable=yes
to disable=no
```

```
mkdir /tftpboot
chmod 777 /tftpboot
systemctl restart xinetd
firewall-cmd --permanent --zone=public --add-port=69/udp
firewall-cmd --reload
```

## MPG123

This is used in combination with sox to convert uploaded mp3 files to Asterisk compatible wav files.

```
cd /usr/src
wget http://ufpr.dl.sourceforge.net/project/mpg123/mpg123/1.22.4/mpg123-1.22.4.tar.bz2
tar -xjvf mpg123*
cd mpg123*/
./configure --prefix=/usr --libdir=/usr/lib64 && make && make install && ldconfig
```

## Digum addons

To register digium® licenses.

```
cd /usr/src
wget http://downloads.digium.com/pub/register/linux/register
chmod +x register
./register
```

To install the individual addons refer to the README files and ignore the register instructions.

- [http://downloads.digium.com/pub/telephony/codec\\_g729/README](http://downloads.digium.com/pub/telephony/codec_g729/README)
- [http://downloads.digium.com/pub/telephony/res\\_digium\\_phone/README](http://downloads.digium.com/pub/telephony/res_digium_phone/README)
- <http://downloads.digium.com/pub/telephony/fax/README>
- <http://downloads.digium.com/pub/telephony/hpec/README>

## Password protect http access

A simple way to block scanners looking for exploits on apache web servers.

```
mkdir -p /usr/local/apache/passwd
htpasswd -c /usr/local/apache/passwd/wwwpasswd someusername
htpasswd -c /usr/local/apache/passwd/wwwpasswd someotherusername
nano /var/www/html/.htaccess
```

```
# .htaccess files require AllowOverride On in /etc/httpd/conf/httpd.conf
AuthType Basic
AuthName "Restricted Access"
AuthUserFile /usr/local/apache/passwd/wwwpasswd
Require valid-user
```

Alternatively, the above .htaccess config can be added to /etc/httpd/conf/httpd.conf or as a separate file in /etc/httpd/conf.d/ as follows.

```
<Directory /var/www/html>
AuthType Basic
AuthName "Restricted Area"
AuthUserFile /usr/local/apache/passwd/wwwpasswd
Require valid-user
</Directory>
```

## Whitelist protect http access

If http access is only required from certain IP addresses.

NOTE: Apache 2.4 ????????

Edit `/etc/httpd/conf.d/whitelist.conf`

```
<Location />
<RequireAny>
## Uncomment the following line to disable the whitelist
#Require all granted
Require ip x.x.x.x
Require ip x.x.x.x x.x.x.x x.x.x.x
Require ip x.x
Require ip x.x.x.0/255.255.255.0
Require host somedomain.com
#
## See http://httpd.apache.org/docs/2.4/mod/mod_authz_host.html for more examples
```

```
#  
</RequireAny>  
</Location>
```

?? Apache ??

NOTE???????? AllowOverride All ??

.htaccess?

```
order deny,allow  
deny from all  
# Alang's IPs  
allow from 123.123.123.1  
allow from 111.222.222.2  
allow from 192.168.99.
```

## G.729 Codec

- <https://www.asterisk.org/products/add-ons/g729-codec/>
- <http://asterisk.hosting.lv/>

# OSS Endpoint Manager

## Links

- Github: <https://github.com/billsimon/endpointman>
- Doc: <https://wiki.freepbx.org/display/FPG/OSS+End+Point+Manager>
- [EPM-Supported Devices](#)
- [Introducing OSS Endpoint Manager for FreePBX 16 & Incredible PBX 2027 – Nerd Vittles](#)

## Installation

### Incredible PBX 2027

```
cd /var/www/html/admin/modules
wget http://incrediblepbx.com/ossepm16.tgz
tar zxvf ossepm16.tgz
rm -f ossepm16.tgz
rm -f /tmp/*
fwconsole ma install endpointman
fwconsole reload
```

### Settings

Module	Version	Track	Publisher	License	Status
➤ Asterisk API	15.0.20	Stable	Sangoma Technologies	GPLv2+	Enabled
➤ Asterisk IAX Settings	15.0.8	Stable	Sangoma Technologies	AGPLv3	Enabled
➤ Asterisk REST Interface Users	15.0.3.20	Stable	Sangoma Technologies	GPLv3+	Enabled
➤ Asterisk SIP Settings	15.0.11	Stable	Sangoma Technologies	AGPLv3+	Enabled
➤ Camp-On	13.0.4.1	Stable	Sangoma Technologies	GPLv3+	Enabled
➤ Extension Settings	13.0.4	Stable	Sangoma Technologies	GPLv3+	Enabled
➤ Fax Configuration	15.0.13	Stable	Sangoma Technologies	GPLv3+	Disabled
➤ Filestore	15.0.7	Stable	Sangoma Technologies	AGPLv3	Enabled
➤ IncrediblePBX	13.0.7	Stable	Clearly IP Inc	AGPLv3+	Enabled
➤ Music on Hold	15.0.22	Stable	Sangoma Technologies	GPLv3+	Enabled
▼ OSS PBX End Point Manager	16.0.0.1	Stable		GPLv3+	Enabled

#### Info

License: GPLv3+

Description: OSS PBX End Point Manager is the free supported PBX Endpoint Manager for FreePBX into the Commercial Endpoint Manager by Sangoma Technologies, Inc. The front end is at <https://github.com/provisioner/Provisioner>. Pull Requests can be made to either of the front end or the back end.

More info: [Get help for OSS PBX End Point Manager](#)

Track: ?

Stable

Action: ?

No Action

Disable

Uninstall

Remove

➤ PHPAGI Config	2.11.0.2	Stable	Sangoma Technologies	GPLv3+	Enabled
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# Configuration

## Package Server

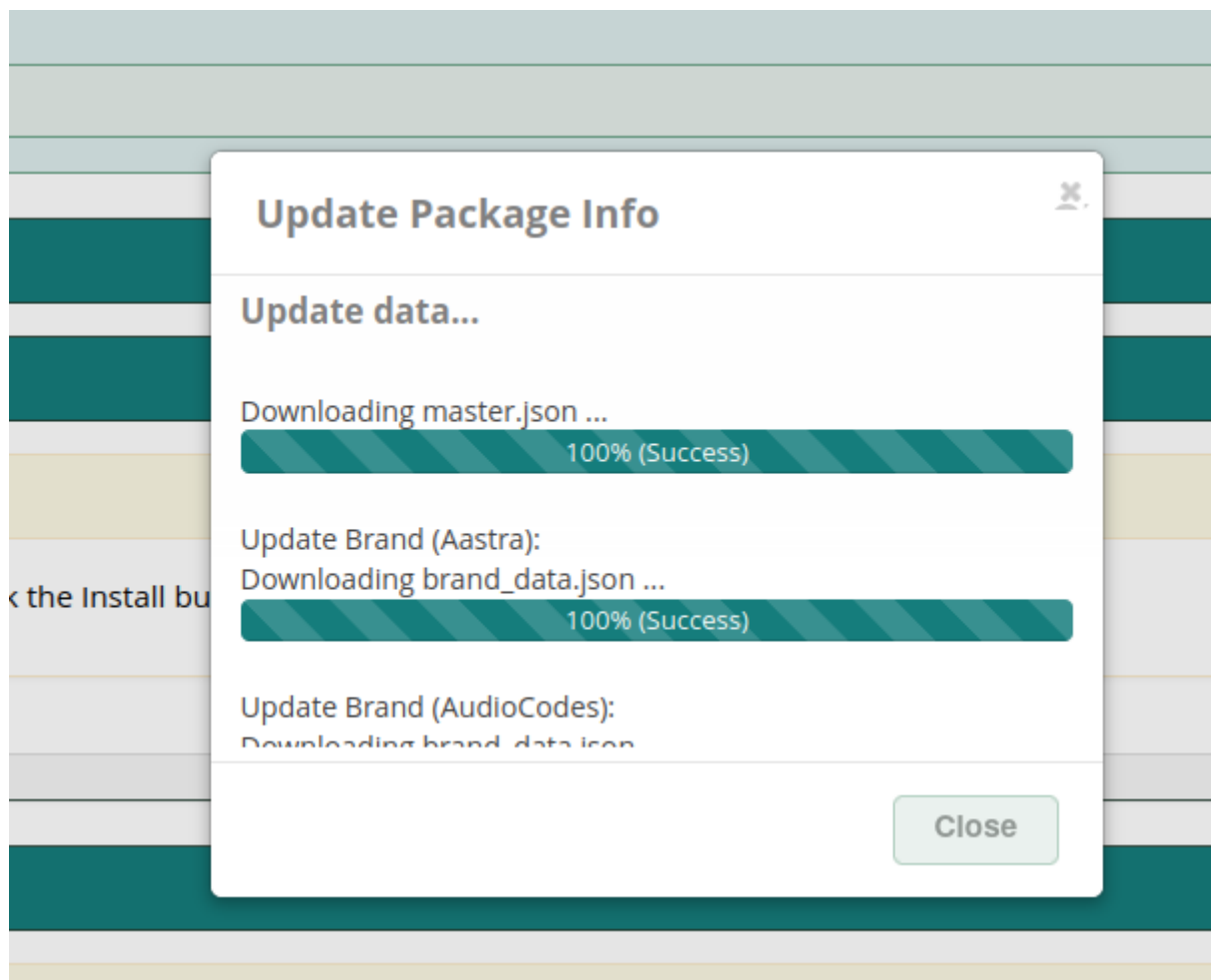
FreePBX GUI > Settings > OSS Endpoint Manager > Settings

- Package Server:

FreePBX GUI > Settings > OSS Endpoint Manager > Package Manager

- Click the Check for Update

????????????????????????

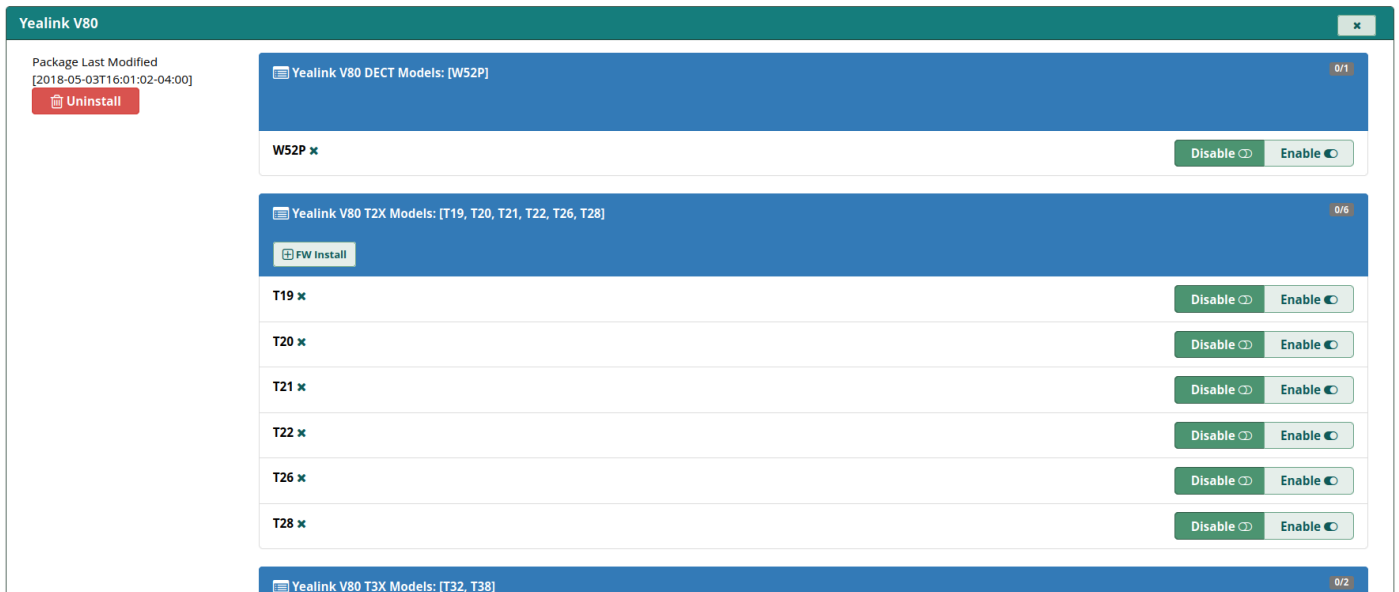


## Additional brands (Grandstream & Yealink V80)

- Download: [SourceForge](#)

FreePBX GUI > Settings > OSS Endpoint Manager > Settings > Package Import/Export

- Brand Package: `grandstream.tgz` `yealinkv80.tgz`



## IP & NTP & Type

FreePBX GUI > Settings > OSS Endpoint Manager > Settings

- IP address of phone server: `<server-ip-addr>`
- Internal IP address of phone server: `<server-ip-addr>`
- Configuration Type: Web (HTTP)
- Time Zone: Asia/Taipei
- Time Server: `tw.pool.ntp.org`

???????? Settings ?????? Template Editor????????????? Extension Mapping??? Selected Phone Options ?? Global Phone Options??? Rebuild?????????????????????????

## Extension Provisioning

### Add Device: Linksys PAP2T

FreePBX GUI > Settings > OSS Endpoint Manager > Package Manager

- Cisco/Linksys - PAP2T : Enable

### Create Template: my-pap2t

????????????? PAP2T ?????????????????????? my-pap2t?

????? template ????????????? Extension Mapping ?????????????  
Save????????????????

FreePBX GUI > Settings > OSS Endpoint Manager > Template Manager

- Template Name: my-pap2t
- Product Select: Linksys/Cisco
- Clone Template From: PAP2T

Edit the template: my-pap2t

- Profile Resync: 3600 (?????? Resync\_Periodic ??????????????????)
- Enable Webserver: Yes
- Enable Webserver Admin: Yes
- Administrator Password: <set-your-password>
- User Password: <set-your-password>

????? template ?????? Edit Global Setting Overrides????????? template???????? ??  
template????? template ??????????

???template ???????? ( spa\$mac.xml ) ????????????????????? HTTP ??????????  
http://freepbx-ip-addr/provisioning/p.php/spaxxxxxxx.xml ?xxxxxxx ???? MAC address  
????????????????????

## Extension Mapping

FreePBX GUI > Settings > OSS Endpoint Manager > Extension Mapping

- MAC Address: <pap2t-mac-addr>
- IPEI: <blank>
- Brand: Cisco/Linksys
- Model: PAP2T
- Line: 1
- Extension Number: <select-your-extension>
- Template: my-pap2t

## PAP2T ??

?? PAP2T ???? (advanced view) > Provisioning

- Provision Enable: yes
- Profile Rule: http://<freepbx-ip-addr>/provisioning/p.php/spa\$MA.xml

????????????????

# Provisioning Template Files

## SPA-3102/PAP2T

File: [spa\\$mac.xml](#)

????????? /var/www/html/admin/modules/\_ep\_phone\_modules/endpoint/cisco/linksysata/

?????

1. ?????????????
2. ?? LAN ?? DHCP?SPA3102 ?????
3. ????????????????????? tftp ???