

## Installing The Asterisk PBX And The Asterisk Web-Based Provisioning GUI On Linux

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# Installing The Asterisk PBX And The Asterisk Web-Based Provisioning GUI On Linux

I have read about Asterisk and wanted to test it out as I will be managing/troubleshooting it at work anytime soon, so I thought of getting my hands dirty and getting some basic experience on it. First, I set up a box with Linux RedHat ES4 but I think any Linux distro would do. Kubuntu/Ubuntu, Fedora or Mandriva would work fine.

Here we go:

1) Get linux installed and mark down the IP address of the box.

2) su to root, then download the current tar files from <http://downloads.digium.com/pub> to `/usr/src`:

- Asterisk to `/asterisk`
- Zaptel to `/zaptel`
- Libpri to `/libpri`
- asterisk-addons to `/asterisk-addons`

3) Follow the commands bellow to untar each package in `/usr/src` (in this example I'm using versions that were up-to-date, change the version numbers to what ever versions you downloaded):

```
tar -zxvf asterisk-1.4.4.tar.gz

ln -s asterisk-1.4.4 asterisk

tar -zxvf zaptel-1.4.2.1.tar.gz

ln -s zaptel-1.4.2.1 zaptel
```

```
tar -zxvf libpri-1.4.0.tar.gz

mv libpri-1.4.0 libpri

tar -zxvf asterisk-addons-1.4.1.tar.gz

mv asterisk-addons-1.4.1 asterisk-addons
```

4) Start installing the different packages by following these commands, again, as root:

Should be run before building Asterisk (**NOTE: You may need to reboot if you see errors about missing kernel sources.**):

```
cd /usr/src/zaptel

./configure

make menuselect (make sure your terminal window is set for at least 80x21 or the menu select command will give you an error)

make install

make config
```

Optional (I still did it either way): If you have Zaptel digital cards:

```
cd ../libpri

make clean

make install
```

Must be installed after zaptel and (if you need it) libpri (I did this also):

```
cd ../asterisk

./configure

make menuselect # for extra configuration

make

make install

make samples

make config
```

Optional. Should be run after installing Asterisk:

```
cd ../asterisk-addons

./configure

make

make install
```

5) Now's a good time to go ahead and backup some files. Backup both *sip.conf* and *extensions.conf* which are located in the */etc/asterisk* folder by doing these commands:

```
cd /etc/asterisk
```

```
cp sip.conf sip.backup

cp extensions.conf extensions.backup
```

6) Now that everything is installed (unless you got errors, if so, go to [linuxforums.org](http://linuxforums.org) and post messages there with your issues [BEST LINUX FORUM EVER !]), now's the time to start Asterisk for the first time by entering this command:

```
cd /usr/sbin

asterisk -vvvvc (this will start in debug mode which is good to find out about errors)
```

7) There are several extensions already preconfigured in the basic install, and here they are:

- extension : 1000 (first one to try !)
- extension : 1234 (is a extension. call vmail and enter this as the extention and password 4242)
- extension : 1235 (dial this and leave a message to yourself)
- extension : 1236 (another extension)
- Main Vmail : 8500
- External test for SIP call : 500
- echo test : 600

So make calls to these using an SIP phone like X-Lite or an SIP enabled desk phone like the Mitel 5212/5224. To make a call, you type the extension # followed by the @ sign and the IP address of the box running the Asterisk software. Make sure the firewall is disabled or set up to allow port 5060 inbound/outbound.

CONGRATULATIONS! You did it!

## Asterisk Manager

There also exists an Asterisk manager. To enable this, you need to edit the `/etc/asterisk/manager.conf` and uncomment the four lines below by removing the `;` on:

```
:[mark] (this is the username to use in the astman)
;secret = mysecret (this is the password to use in astman)
;read = system,call,log,verbose,command,agent,user,config
;write = system,call,log,verbose,command,agent,user,config
```

so it would look like :

```
[mark] (this is the username to use in the astman)
secret = mysecret (this is the password to use in astman)
read = system,call,log,verbose,command,agent,user,config
write = system,call,log,verbose,command,agent,user,config
```

Save the file.

You will also need to restart Asterisk. To do this, from the CLI prompt, type

```
restart
```

now.

Once restarted, on the CLI prompt of Asterisk, you can type `manager show users` which will tell you what manager users are configured, hence ours is `mark` with password `mysecret`.

Now bring up a new terminal window, su to root, then type:

```
/usr/sbin/astman localhost
```

```
username = mark
password = mysercet
```

Make a call to `1000` and you will see your call there.

You can also use the web version called AJAM:

## Aynchronous Javascript Asterisk Manager (AJAM)

AJAM is a new technology available in Asterisk 1.4 which allows web browsers or other HTTP enabled applications and web pages to directly access the [Asterisk Manager Interface](#) (AMI) via HTTP. Setting up your server to process AJAM involves a few steps:

Set up the Asterisk HTTP server:

- 1) Uncomment the line `enabled=yes` in `/etc/asterisk/http.conf` to enable Asterisk's built-in micro HTTP server.
- 2) If you want Asterisk to actually deliver simple HTML pages, CSS, JavaScript, etc. you should uncomment `enablestatic=yes`
- 3) Adjust your `bindaddr` and `bindport` settings as appropriate for your desired accessibility or leave them as default.
- 4) Adjust your `prefix` if appropriate, which must be the beginning of any URI on the server to match. The default is `asterisk` and the rest of these instructions assume that value.

## Allow Manager Access via HTTP

- 1) Make sure you have both `enabled = yes` and `webenabled = yes` set up in `/etc/asterisk/manager.conf`.
- 2) You may also use `httptimeout` to set a default timeout for HTTP connections.
- 3) Make sure you have a manager username/secret.

Once these configuration changes are complete you can reload or restart Asterisk and you should be able to point your web browser to specific URI's which will allow you to access various web functions. A complete list can be found by typing `show http` at the Asterisk CLI.

**Examples:**

```
http://localhost:8088/asterisk/manager?action=login&username=mark&secret=mysecret
```

This logs you into the manager interface's "HTML" view. Once you're logged in, Asterisk stores a cookie on your browser (valid for the length of *httptimeout*) which is used to connect to the same session.

```
http://localhost:8088/asterisk/rawman?action=status
```

Assuming you've already logged into manager, this URI will give you a "raw" manager output for the "status" command.

```
http://localhost:8088/asterisk/mxml?action=status
```

This will give you the same status view but represented as AJAX data, theoretically compatible with RICO (<http://www.openrico.org>).

```
http://localhost:8088/asterisk/static/ajamdemo.html
```

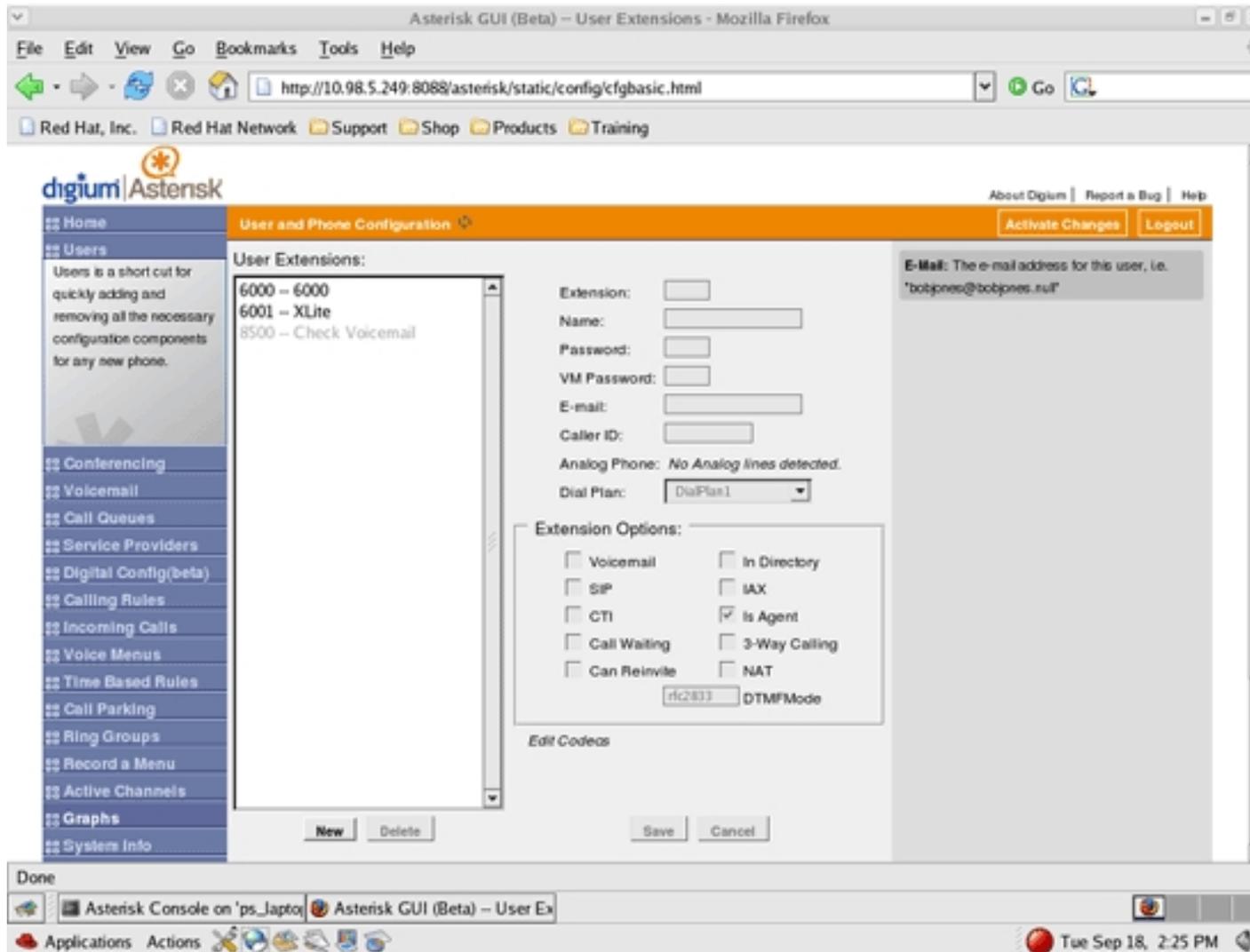
If you have enabled static content support and have done a make install, Asterisk will serve up a demo page which presents a live, but very basic, "astman" like interface. You can login with your username/secret for manager and have a basic view of channels as well as transfer and hangup calls. It's only tested in Firefox, but could probably be made to run in other browsers as well.

A sample library (*astman.js*) is included to help ease the creation of manager HTML interfaces.

Note that for the demo, there is no need for *\*any\** external web server.

## How To Install The Asterisk Web-Based Provisioning GUI

Not sure if you're like me, but command line is all good, but GUI is a lot faster. Here is a list of procedures to install the Asterisk GUI on a running clean install of Asterisk.



You'll need:

- Concurrent Versions System ([CVS](#))

- asterisk 1.4 - and all modules needed to compile and install asterisk 1.4

## Preparation

Go to your installation directory (for example `/usr/src`) and download the latest version of asterisk-gui. To do this just execute the command:

```
svn checkout http://svn.digium.com/svn/asterisk-gui/trunk asterisk-gui
```

By executing this command the sources of Asterisk GUI will be downloaded (see our sample output log [svn.log](#)) into `./asterisk-gui/` directory.

## Configuring, Compiling And Installing

You first need to go into the src directory where you downloaded the files, ie: `/usr/src/asterisk-gui`, then you need to configure, so type

```
./configure
```

Now, you need to compile the sources by executing the command:

```
make
```

Then distribute the compiled code by executing the command

```
make install
```

With this step you will finish the installation of the asterisk-gui (see our sample output log [make install.log](#)).

## Configuration

It is recommended to back up your configuration files before you continue. To achieve this just copy `/etc/asterisk` under a different name:

```
cp -r /etc/asterisk /etc/asterisk.backup
```

It is recommended to run:

```
make samples
```

This command will modify some of your Asterisk configuration files. After that you'll have to finish the configuration modification manually.

There are two files which you should modify that are located in */etc/asterisk/*:

*manager.conf*

```
enabled = yes  
webenabled = yes
```

We will have to add a new user to *manager.conf* (we will use the *mark* user as previously set up when we installed Asterisk):

```
[mark]  
secret = mysecret  
read = system,call,log,verbose,command,agent,user,config  
write = system,call,log,verbose,command,agent,user,config
```

Now we need to make some modifications to the *http.conf* file:

*http.conf*

```
enabled=yes  
enablestatic=yes  
bindaddr=0.0.0.0
```

(If you set the *bindaddr* to *127.0.0.1* (loopback) you will only be able to access the GUI from the server itself.)

After that run

```
make checkconfig
```

in your *asterisk-gui* directory. This script will check if your GUI is correctly configured.

## Running asterisk-gui

In order to load the asterisk-gui, Asterisk must restart/reload. You can reload your Asterisk server from your CLI console by executing the command

```
reload
```

You can use the asterisk-gui from these addresses (*127.0.0.1* is the loopback IP if you're accessing the page from the server itself, or from a different system, type the Asterisk server IP address):

```
http://127.0.0.1:8088/asterisk/static/config/cfgbasic.html
```

```
http://127.0.0.1:8088/asterisk/static/config/cfgadvanced.html
```