

Telephony

PBX, SIP, GSM trunks

- [Asterisk and FreePBX on Debian12](#)

Asterisk and FreePBX on Debian12

Preparations

Database

Create new user in Cloud SQL

```
https://console.cloud.google.com/sql/instances/xxx/users?project=yyy
```

Warning: `-` dashes (hyphens) **can not** be used in the MariaDB databases' naming. To match user to database, only underlines are used.

Add a user account to instance [REDACTED]

Choose how to authenticate

You can manage access to this instance using Cloud IAM or MySQL built-in authentication. [Learn more](#)

Built-in authentication

Creates a new username and password specific to this instance. User account will have `cloudsqlsuperuser` root access, but you can customize that later as needed. [Learn more](#)

User name *
pbx_2dz_fi_asterisk

Password (Optional) [REDACTED]   [Generate](#)

▼ Password Policy

Host name 

- Allow any host (%)
- Restrict host by IP address or address range

Host *
[REDACTED]

Users created with built-in authentication have the same privileges as the root user. [Learn more](#)

Cloud IAM

Adds an existing IAM principal as a user account on this instance. The IAM principal can be an IAM user, Service Account, or a Group. The IAM principal must have `cloudsql.instances.login` permission using the predefined Cloud SQL Instance User IAM role or custom IAM role in the IAM policy of the instance's project.

[Add](#) [Cancel](#)

Verify connection from the host to database server

```
mysql -h 172.21.32.6 -u pbx_2dz_fi_asterisk -p
```

Create database and grante permissions for Asterisk

```
CREATE DATABASE pbx_2dz_fi_asterisk CHARACTER SET utf8 COLLATE utf8_general_ci;  
CREATE DATABASE pbx_2dz_fi_asteriskcdrdb CHARACTER SET utf8 COLLATE utf8_general_ci;
```



```
apt install \  
  php \  
  php-cli \  
  php-mysql \  
  php-gd \  
  php-curl \  
  php-mbstring \  
  php-xml \  
  php-bcmath \  
  php-zip \  
  php-json \  
  php-pear
```

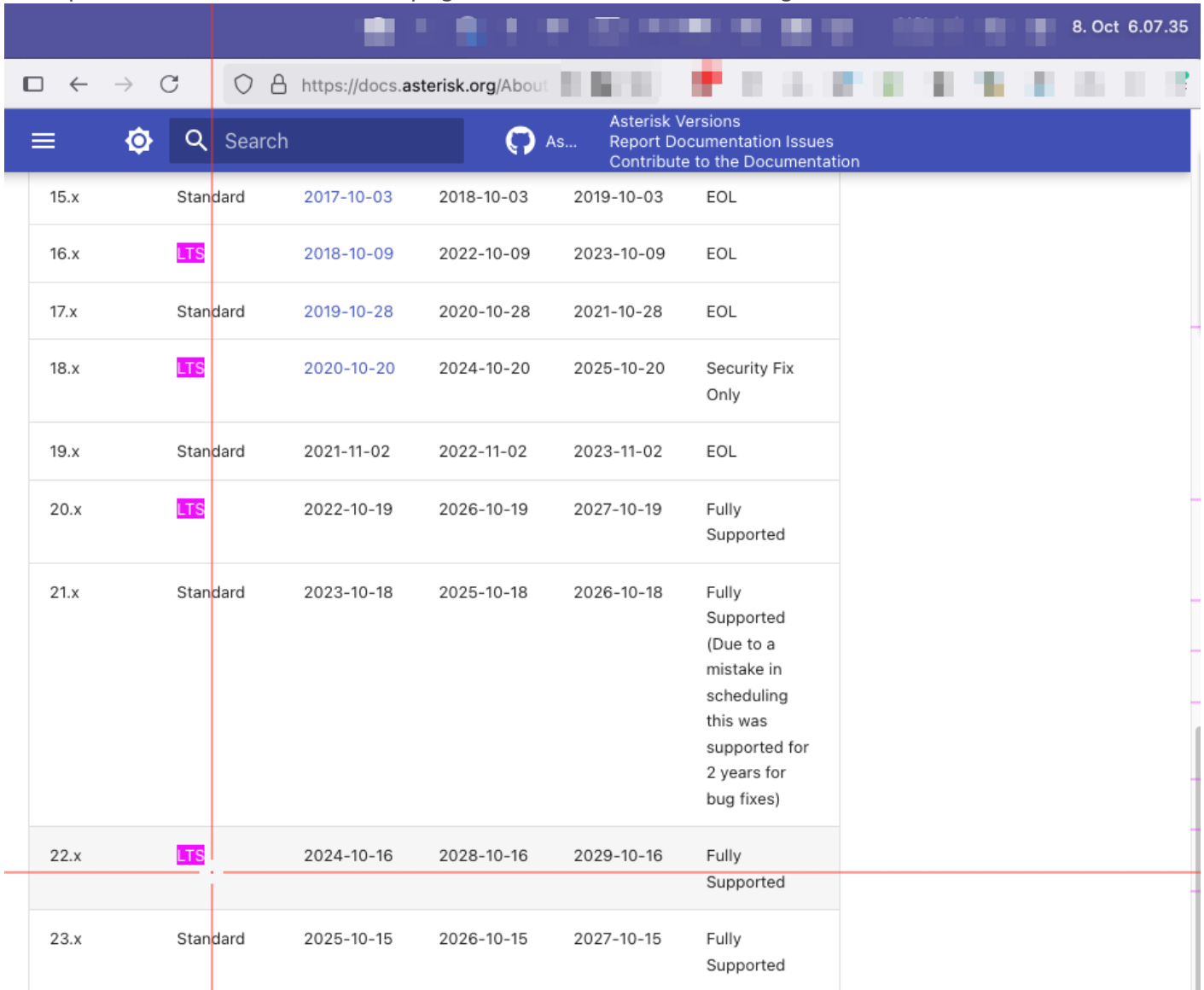
node.js installation

```
export dir="/home/anton/delme"  
mkdir -p ${dir}  
cd ${dir}  
curl -fsSL https://deb.nodesource.com/setup_18.x | sudo -E bash -  
apt install nodejs
```

Asterisk installation

Choosing Asterisk version considerations

Pickup LTS version from Versions page. On the moment of writing (2025-10-08), it is v22.



Version	Type	Release Date	End of Standard Support	End of LTS Support	Support Status
15.x	Standard	2017-10-03	2018-10-03	2019-10-03	EOL
16.x	LTS	2018-10-09	2022-10-09	2023-10-09	EOL
17.x	Standard	2019-10-28	2020-10-28	2021-10-28	EOL
18.x	LTS	2020-10-20	2024-10-20	2025-10-20	Security Fix Only
19.x	Standard	2021-11-02	2022-11-02	2023-11-02	EOL
20.x	LTS	2022-10-19	2026-10-19	2027-10-19	Fully Supported
21.x	Standard	2023-10-18	2025-10-18	2026-10-18	Fully Supported (Due to a mistake in scheduling this was supported for 2 years for bug fixes)
22.x	LTS	2024-10-16	2028-10-16	2029-10-16	Fully Supported
23.x	Standard	2025-10-15	2026-10-15	2027-10-15	Fully Supported

New releases of Asterisk will be made roughly once a year, alternating between standard and LTS releases. Within a given release series that is fully supported, bug fix updates are provided roughly every 4 to 6 weeks. For a release series that is receiving only maintenance for security fixes, updates are made on an as needed basis.

<https://docs.asterisk.org/About-the-Project/Asterisk-Versions/>

Observer releases From official Github page

<https://github.com/asterisk/asterisk/releases>

<https://github.com/asterisk/asterisk/releases/tag/22.5.2>

https://github.com/asterisk/asterisk/releases/tag/22.5.2

• res_pjsip_authenticator_digest: Fix SEGV if get_authorization_hdr returns NULL.

Commit Details:































res_pjsip_authenticator_digest: Fix SEGV if get_authorization_hdr returns NULL.

Author: George Joseph
Date: 2025-08-28

In the highly-unlikely event that get_authorization_hdr() couldn't find an Authorization header in a request, trying to get the digest algorithm would cause a SEGV. We now check that we have an auth header that matches the realm before trying to get the algorithm from it.

Resolves: [#GHS-64qc-9x89-rx5j](#)

Assets 16

 asterisk-22.5.2-patch.md5	sha256:a655f32de15e21a09d949972ad...		63 Bytes	Aug 28
 asterisk-22.5.2-patch.sha1	sha256:b3335a39d3971b569b278b08b7...		71 Bytes	Aug 28
 asterisk-22.5.2-patch.sha256	sha256:125183bc75963a4c49b29026a6...		95 Bytes	Aug 28
 asterisk-22.5.2-patch.tar.gz	sha256:27ed14b8c078eefc1b83005401...		2.73 KB	Aug 28
 asterisk-22.5.2-patch.tar.gz.asc	sha256:5c7a1bed606972721f7b2ee353...		833 Bytes	Aug 28
 asterisk-22.5.2.md5	sha256:e251470b64078fa0c71d1e1d2b...		57 Bytes	Aug 28
 asterisk-22.5.2.sha1	sha256:86492ac477dfa47e04d555ab9b...		65 Bytes	Aug 28
 asterisk-22.5.2.sha256	sha256:d40f9397976362801d7d70433b...		89 Bytes	Aug 28
 asterisk-22.5.2.tar.gz	sha256:5061c852fd850b17e6be9d866c...		25.2 MB	Aug 28
 asterisk-22.5.2.tar.gz.asc	sha256:a3308680e88edf83e7bb6c57d9...		833 Bytes	Aug 28
 ChangeLog-22.5.2.html	sha256:2bb18f79e4f02ddcb875ee9687...		2.02 KB	Aug 28
 ChangeLog-22.5.2.md	sha256:8bfbdc72d336d0d953c0ac271b...		1.67 KB	Aug 28
 README-22.5.2.html	sha256:b6aba0cd388f86e813fc0e004c...		9.07 KB	Aug 28
 README-22.5.2.md	sha256:20bbb45a7c85f9fb0b0a3087e5...		8.16 KB	Aug 28
 Source code (zip)				Aug 28
 Source code (tar.gz)				Aug 28

Download Asterisk

```
export dir="/home/anton/delme"
mkdir -p ${dir}
cd ${dir}

export v="22.5.2"
curl -O -L https://github.com/asterisk/asterisk/releases/download/${v}/asterisk-${v}.tar.gz
curl -O -L https://github.com/asterisk/asterisk/releases/download/${v}/asterisk-${v}.sha256

sha256sum asterisk-${v}.tar.gz
cat asterisk-${v}.sha256
```

Unpack after checksum verification (comparison)

```
tar -xzvf asterisk-${v}.tar.gz
```

Change dir and install prerequisites

```
cd asterisk-${v}
contrib/scripts/install_prereq install
```

```
No schema files found. doing nothing.
Processing triggers for libc-bin (2.36-9+deb12u13) ...
Processing triggers for man-db (2.11.2-2) ...
Setting up libgmime-3.0-dev:amd64 (3.2.13+dfsg-2) ...

#####
## install completed successfully
#####
[06:29:13 Wed Oct 08] @gcp1mx1 /home/anton/delme/asterisk-22.5.2#
```

Configure

```
./configure
```

```
config.status: Creating makeopts
config.status: creating autoconfig.h
configure: Menuselect build configuration successfully completed
```

```

$$$$$$$$$$$$$$$$=..
.7$7..      .7$$7:.
.$$.      ,,$7.7
.$7.      7$$$$      .$$77
..$$      $$$$$      .$$$7
..7$ .7.  $$$$$ .7.  7$$$
$.$.  .$$$7. $$$$7 .7$$$ .$$$
.777.  .$$$$$77$$$77$$$$$7.  $$$
$$$~   .7$$$$$$$$$$$$$7.  .$$$
.$$7   .7$$$$$$$7:  ?$$$
$$$    77$$$$$$$$$$$I  .$$$7
$$$    .7$$$$$$$$$$$$$  :$$$
$$$    $$$$$$7$$$$$$$$$$$  .$$$
$$$    $$$ 7$$$7 .$$$ .$$$
$$$$   $$$7  $$$7 .$$$
7$$$7   7$$$  7$$$
$$$$$   $$$
$$$$$7.  $$ (TM)
$$$$$$$ . 7$$$$$ $$
$$$$$$$$$$$$$7$$$$$$$$$. $$$$$
$$$$$$$$$$$$$$$$.
```

```
configure: Package configured for:
configure: OS type : linux-gnu
configure: Host CPU : x86_64
configure: build-cpu:vendor:os: x86_64 : pc : linux-gnu :
configure: host-cpu:vendor:os: x86_64 : pc : linux-gnu :
[06:34:42 Wed Oct 08] @gcp1mx1 /home/anton/delme/asterisk-22.5.2#
```

Define additional features

```
make menuselect
```

Enable mp3 support:

```
+ format_mp3
+ app_macro
```

Download additional libraries

```
contrib/scripts/get_mp3_source.sh
```

Build and install

```
make -j$(nproc)
make install
make samples
```

```
make basic-pbx
make config
ldconfig
```

Create run directory

```
mkdir -p /var/run/asterisk
```

Set permissions

```
useradd -m asterisk
chown -R asterisk:asterisk \
  /var/lib/asterisk \
  /var/spool/asterisk \
  /var/log/asterisk \
  /var/run/asterisk \
  /usr/lib/asterisk
```

Copy default config

```
cp /home/anton/delme/asterisk-22.5.2/configs/samples/asterisk.conf.sample /etc/asterisk/asterisk.conf
```

Modify config

```
vi /etc/asterisk/asterisk.conf
```

```
runuser = asterisk      ; The user to run as.
rungroup = asterisk    ; The group to run as.
```

```
74 ; directly.
75 runuser = asterisk ; The user to run as.
76 rungroup = asterisk ; The group to run as.
77 ;lightbackground = yes ; If your terminal is set for a light-colored
```

Create service override

```
mkdir -p /etc/systemd/system/asterisk.service.d/
vi /etc/systemd/system/asterisk.service.d/override.conf
```

```
[Service]
User=asterisk
Group=asterisk
```

Enable and start the services

```
systemctl daemon-reexec
systemctl enable asterisk
systemctl restart asterisk
systemctl status asterisk
```

```
[15:35:13 Sat Mar 07] @gcp1mx1 /home/anton# systemctl daemon-reexec
systemctl enable asterisk
systemctl restart asterisk
systemctl status asterisk
asterisk.service is not a native service, redirecting to systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable asterisk
● asterisk.service - LSB: Asterisk PBX
   Loaded: loaded (/etc/init.d/asterisk; generated)
   Drop-In: /etc/systemd/system/asterisk.service.d
            └─override.conf
   Active: active (running) since Sat 2026-03-07 15:35:32 EET; 15ms ago
     Docs: man:systemd-sysv-generator(8)
  Process: 1898487 ExecStart=/etc/init.d/asterisk start (code=exited, status=0/SUCCESS)
    Tasks: 1 (limit: 2344)
   Memory: 6.0M
      CPU: 56ms
   CGroup: /system.slice/asterisk.service
            └─1898499 /usr/sbin/asterisk

Mar 07 15:35:32 gcp1mx1 systemd[1]: Starting asterisk.service - LSB: Asterisk PBX...
Mar 07 15:35:32 gcp1mx1 asterisk[1898487]: Starting Asterisk PBX: asterisk
Mar 07 15:35:32 gcp1mx1 asterisk[1898498]: Unable to install capabilities.
Mar 07 15:35:32 gcp1mx1 asterisk[1898487]: .
Mar 07 15:35:32 gcp1mx1 systemd[1]: Started asterisk.service - LSB: Asterisk PBX.
[15:35:32 Sat Mar 07] @gcp1mx1 /home/anton#
```

Verify

```
ps aux | grep asterisk
ss -ntap | grep asterisk
```

```
[15:36:53 Sat Mar 07] @gcp1mx1 /home/anton# ps aux | grep asterisk
asterisk 1898499  3.3  4.1 1228800 83268 ?        Ssl  15:35   0:04 /usr/sbin/asterisk
root      1899514  0.0  0.0  3884  1828 pts/7    S+   15:37   0:00 grep asterisk
[15:37:55 Sat Mar 07] @gcp1mx1 /home/anton# ss -ntap | grep asterisk
LISTEN    0      10      0.0.0.0:5038      0.0.0.0:*      users:(("asterisk",pid=1898499,fd=6))
[15:38:05 Sat Mar 07] @gcp1mx1 /home/anton# █
```

Define cert in config

```
TODO: update cert in Asterisk
```

FreePBX installation

Install prerequisites

```
apt install \  
composer \  
unzip
```

Check compatible version

```
https://github.com/FreePBX/framework/tags
```

Download FreePBX

```
export dir="/home/anton/delme"  
mkdir -p ${dir}  
cd ${dir}  
  
git clone -b release/17.0 https://github.com/FreePBX/framework.git freepbx  
cd freepbx
```

Initial FreePBX config

before

```
fwconsole ma list
```

```
[16:14:34 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# fwconsole ma list  
No repos specified, using: [standard] from last GUI settings
```

```
+-----+-----+-----+-----+-----+  
| Module   | Version | Status | License | Signature |  
+-----+-----+-----+-----+-----+  
| builtin  |         | Enabled |         | Unsigned  |  
| framework | 17.0.21.2 | Enabled | GPLv2+  | Unsigned  |  
+-----+-----+-----+-----+-----+  
[16:14:53 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# █
```

List available online

```
fwconsole ma listonline
```

No repos specified, using: [standard] from last GUI settings

Module	Version	Status	License	Signature
amd		Not Installed (Available online: 17.0.1)	GPLv3+	
announcement		Not Installed (Available online: 17.0.2.1)	GPLv3+	
api		Not Installed (Available online: 17.0.5)	AGPLv3+	
asteriskinfo		Not Installed (Available online: 17.0.2)	GPLv3+	
backup		Not Installed (Available online: 17.0.5.71)	GPLv3+	
blacklist		Not Installed (Available online: 17.0.1.2)	GPLv3+	
builtin		Enabled; Not available online		Unsigned
bulkhandler		Not Installed (Available online: 17.0.7.1)	GPLv3+	
calendar		Not Installed (Available online: 17.0.4.23)	GPLv3+	
callforward		Not Installed (Available online: 17.0.1.8)	AGPLv3+	
callrecording		Not Installed (Available online: 17.0.3.8)	AGPLv3+	
callwaiting		Not Installed (Available online: 17.0.3.4)	GPLv3+	
cdr		Not Installed (Available online: 17.0.7)	GPLv3+	
cel		Not Installed (Available online: 17.0.2.13)	GPLv3+	
certman		Not Installed (Available online: 17.0.3.13)	AGPLv3+	
cidlookup		Not Installed (Available online: 17.0.1.1)	GPLv3+	
conferences		Not Installed (Available online: 17.0.3.2)	GPLv3+	
contactmanager		Not Installed (Available online: 17.0.6.2)	GPLv3+	
core		Not Installed (Available online: 17.0.18.40)	GPLv3+	
customappsreg		Not Installed (Available online: 17.0.1)	GPLv3+	
dashboard		Not Installed (Available online: 17.0.4.7)	AGPLv3+	
daynight		Not Installed (Available online: 17.0.1.2)	GPLv3+	
directory		Not Installed (Available online: 17.0.3)	GPLv3+	
donotdisturb		Not Installed (Available online: 17.0.2.3)	GPLv3+	
fax		Not Installed (Available online: 17.0.3.5)	GPLv3+	
featurecodeadmin		Not Installed (Available online: 17.0.2)	GPLv3+	
filestore		Not Installed (Available online: 17.0.3)	AGPLv3	
findmefollow		Not Installed (Available online: 17.0.4.13)	GPLv3+	
firewall		Not Installed (Available online: 17.0.1.35)	AGPLv3+	
framework	17.0.21.2	Online upgrade available (17.0.28)	GPLv2+	Unsigned
hotelwakeup		Not Installed (Available online: 17.0.1.6)	GPLv2	
iaxsettings		Not Installed (Available online: 17.0.2)	AGPLv3	
infoservices		Not Installed (Available online: 17.0.1.1)	GPLv2+	
ivr		Not Installed (Available online: 17.0.9)	GPLv3+	
logfiles		Not Installed (Available online: 17.0.5)	GPLv3+	
manager		Not Installed (Available online: 17.0.9)	GPLv2+	
missedcall		Not Installed (Available online: 17.0.3)	GPLv3+	
music		Not Installed (Available online: 17.0.5)	GPLv3+	
outrouthemsg		Not Installed (Available online: 17.0.1)	GPLv3+	
paging		Not Installed (Available online: 17.0.3)	GPLv3+	
parking		Not Installed (Available online: 17.0.2.7)	GPLv3+	
pinsets		Not Installed (Available online: 17.0.3.2)	GPLv3+	
pm2		Not Installed (Available online: 17.0.3.4)	AGPLv3+	
presencestate		Not Installed (Available online: 17.0.2.4)	GPLv3+	
printextensions		Not Installed (Available online: 17.0.1.3)	GPLv3+	
queues		Not Installed (Available online: 17.0.3)	GPLv2+	
recordings		Not Installed (Available online: 17.0.5)	GPLv3+	
ringgroups		Not Installed (Available online: 17.0.2.8)	GPLv3+	
setcid		Not Installed (Available online: 17.0.1.2)	GPLv3+	
sipsettings		Not Installed (Available online: 17.0.6.10)	AGPLv3+	
sms		Not Installed (Available online: 17.0.1.18)	Commercial	
soundlang		Not Installed (Available online: 17.0.4.1)	GPLv3+	
timeconditions		Not Installed (Available online: 17.0.1.18)	GPLv3+	
ttsengines		Not Installed (Available online: 17.0.2)	AGPLv3	
ucp		Not Installed (Available online: 17.0.4.30)	AGPLv3+	
userman		Not Installed (Available online: 17.0.6.46)	AGPLv3+	
vmlast		Not Installed (Available online: 17.0.2)	GPLv3+	
voicemail		Not Installed (Available online: 17.0.5.34)	GPLv3+	
weakpasswords		Not Installed (Available online: 17.0.1)	GPLv3+	
webrtc		Not Installed (Available online: 17.0.3.2)	GPLv3+	

upgrade framework due to security vulnerability GHSA-p42w-v77m-hfp8, GHSA-9jvh-mv6x-w698...

In Moduleadmin.class.php line 582:

Undefined array key "total"

Install core module

```
fwconsole ma downloadinstall core
```

```
[16:34:26 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# fwconsole ma downloadinstall core
No repos specified, using: [standard] from last GUI settings

Downloading module 'core'
Processing core
Downloading...
 1181070/1181070 [=====] 100%
Finished downloading
Extracting...Done
Download completed in 7 seconds
Updating tables trunks, pjsip, sip, dahdi, iax, indications_zonelist, devices, users, incoming, dahdichandids, outbo
und_route_patterns, outbound_route_sequence, outbound_route_trunks, outbound_routes, outbound_route_email, trunk_dia
lpatterns...Done
Starting Call Transfer Monitoring Service
PM2 is not installed/enabled. Unable to start Call transfer monitoring
Adding emergencydevices table..Done
Migrating pickup groups to named pickup groups
Migrating call groups to named call groups
Checking for possibly invalid emergency caller id fields..none found
Migrating old media encryption values...done
Removing encoding on incoming routes alertinfo values...done
Generating CSS...Done
Module core version 17.0.18.40 successfully installed
Updating Hooks...Done
Chowning directories...Done
[16:34:46 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx#
```

Update framework

```
fwconsole ma downloadinstall framework
```

after

```
[17:50:12 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# fwconsole ma list
No repos specified, using: [standard] from last GUI settings

+-----+-----+-----+-----+-----+
| Module   | Version   | Status  | License | Signature |
+-----+-----+-----+-----+-----+
| builtin  |           | Enabled |         | Unsigned  |
| core     | 17.0.18.40 | Enabled | GPLv3+  | Sangoma  |
| framework | 17.0.28   | Enabled | GPLv2+  | Sangoma  |
+-----+-----+-----+-----+-----+
[17:50:30 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx#
```

Install FreePBX

```
rm -rf /etc/freepbx.conf
rm -rf /etc/ampportal.conf

./start_asterisk start
```

./install

```
[17:27:49 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# ./install
Database engine [mysql]:
Database name [asterisk]: pbx_2dz_fi_asterisk
Database server address [localhost]: 172.21.32.6
Database server port [3306]:
CDR Database name [asteriskcdrdb]: pbx_2dz_fi_asteriskcdrdb
Database username [root]: pbx_2dz_fi_asterisk
Database password: 
File owner user [asterisk]:
File owner group [asterisk]:
Filesystem location from which FreePBX files will be served [/var/www/html]:
Filesystem location from which Asterisk configuration files will be served [/etc/asterisk]:
Filesystem location for Asterisk modules [/usr/lib/asterisk/modules]:
Filesystem location for Asterisk lib files [/var/lib/asterisk]:
Filesystem location for Asterisk agi files [/var/lib/asterisk/agi-bin]:
Location of the Asterisk spool directory [/var/spool/asterisk]:
Location of the Asterisk run directory [/var/run/asterisk]:
Location of the Asterisk log files [/var/log/asterisk]:
Location of the FreePBX command line scripts [/var/lib/asterisk/bin]:
Location of the FreePBX (root) command line scripts [/usr/sbin]:
Location of the Apache cgi-bin executables [/var/www/cgi-bin]:
Directory for FreePBX html5 playback files [/var/lib/asterisk/playback]:
Checking if SELinux is enabled...Its not (good)!
Reading /etc/asterisk/asterisk.conf...Done
Checking if Asterisk is running and we can talk to it as the 'asterisk' user...Yes. Determined Asterisk version to be: 22.5.2
Checking if NodeJS is installed and we can get a version from it...Yes. Determined NodeJS version to be: 18.20.8
Preliminary checks done. Starting FreePBX Installation
Checking if this is a new install...Yes (No /etc/freepbx.conf file detected)
Database installation checking credentials and permissions..Connected!
Empty pbx_2dz_fi_asterisk Database going to populate it
Updating tables admin, ampusers, cronmanager, featurecodes, freepbx_log, freepbx_settings, globals, module_xml, modules, notifications, cron_jobs...Done
Empty pbx_2dz_fi_asteriskcdrdb Database going to populate it
Initializing FreePBX Settings
  Changing AMPMGRUSER [admin] to match what was given at install time: e[redacted]29
  Changing AMPMGRPASS [amp111] to match what was given at install time: d5[redacted]57
Finished initializing settings
Copying files (this may take a bit)....
 8240/8240 [=====] 100%
Done
bin is: /var/lib/asterisk/bin
sbin is: /usr/sbin
Finishing up directory processes...Done!
Running variable replacement...Done
Creating missing #include files...Done
Setting up Asterisk Manager Connection...Done
Running through upgrades...
Checking for upgrades..
No further upgrades necessary
Finished upgrades
Setting FreePBX version to 17.0.21.2...Done
Writing out /etc/ampportal.conf...Done
Writing out /etc/freepbx.conf...Done
Chowning directories...
Taking too long? Customize the chown command, See https://sangomakb.atlassian.net/wiki/spaces/FP/pages/10289397/FreePBX+Chown+Conf
Setting Permissions...
Setting base permissions...Done in 1 seconds
Setting specific permissions...
 1001 [=====]
Finished setting permissions
Done
Installing framework...
Updating tables admin, ampusers, cronmanager, featurecodes, freepbx_log, freepbx_settings, globals, module_xml, modules, notifications, cron_jobs...Done
Determined Asterisk version to be: 22.5.2
No directory /var/www/html/admin/modules/framework/amp_conf/htdocs, install script not needed
Generating CSS...Done
Module framework version 17.0.21.2 successfully installed
Updating Hooks...Done
Chowning directories...Done
Updating tables admin, ampusers, cronmanager, featurecodes, freepbx_log, freepbx_settings, globals, module_xml, modules, notifications, cron_jobs...Done
Determined Asterisk version to be: 22.5.2
No directory /var/www/html/admin/modules/framework/amp_conf/htdocs, install script not needed
Generating CSS...Done
Module framework version 17.0.21.2 successfully installed
Updating Hooks...Done
Chowning directories...Done
Done
Building Packaged Scripts...Done
Trusting FreePBX...Trusted
Taking too long? Customize the chown command, See https://sangomakb.atlassian.net/wiki/spaces/FP/pages/10289397/FreePBX+Chown+Conf
Setting Permissions...
Setting base permissions...Done in 1 seconds
Setting specific permissions...
 1001 [=====]
Finished setting permissions
Taking too long? Customize the chown command, See https://sangomakb.atlassian.net/wiki/spaces/FP/pages/10289397/FreePBX+Chown+Conf
Setting Permissions...
Setting base permissions...Done in 1 seconds
Setting specific permissions...
 1001 [=====]
Finished setting permissions
Generating default configurations...
Finished generating default configurations
You have successfully installed FreePBX
[17:28:54 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# [
[0] 0:mutt 1:sudo 2:sudo 3:sudo 4:sudo*
```

Check that application installed

```
ls -la /var/www/html/admin  
fgrep -irn freepbx.conf /var/www/html/admin/config.php
```

```
[15:44:34 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# ls -la /var/www/html/admin  
total 192  
drwxrwxr-x 10 asterisk asterisk 4096 Mar  7 15:41 .  
drwxrwxr-x  3 asterisk asterisk 4096 Mar  7 15:41 ..  
-rw-rw-r--  1 asterisk asterisk 1657 Mar  7 15:41 .htaccess  
-rw-rw-r--  1 asterisk asterisk   21 Mar  7 15:41 .user.ini  
-rw-rw-r--  1 asterisk asterisk 1799 Mar  7 15:41 ajax.php  
drwxrwxr-x  2 asterisk asterisk 4096 Mar  7 15:41 api  
drwxrwxr-x  7 asterisk asterisk 4096 Mar  7 15:41 assets  
-rw-rw-r--  1 asterisk asterisk 15101 Mar  7 15:41 bootstrap.php  
-rw-rw-r--  1 asterisk asterisk 33222 Mar  7 15:41 config.php  
-rw-rw-r--  1 asterisk asterisk 20342 Mar  7 15:41 functions.inc.php  
drwxrwxr-x  2 asterisk asterisk 4096 Mar  7 15:41 helpers  
drwxrwxr-x 23 asterisk asterisk 4096 Mar  7 15:41 i18n  
drwxrwxr-x  2 asterisk asterisk 4096 Mar  7 15:41 images  
-rw-rw-r--  1 asterisk asterisk   185 Mar  7 15:41 index.php  
drwxrwxr-x 10 asterisk asterisk 4096 Mar  7 15:41 libraries  
-rw-rw-r--  1 asterisk asterisk   398 Mar  7 15:41 module-builtin.xml  
drwxrwxr-x  4 asterisk asterisk 4096 Mar  7 15:41 modules  
-rw-rw-r--  1 asterisk asterisk 58396 Mar  7 15:41 page.modules.php  
drwxrwxr-x  4 asterisk asterisk 4096 Mar  7 15:41 views  
[15:44:34 Sat Mar 07] @gcp1mx1 /home/anton/delme/freepbx# fgrep -irn freepbx.conf /var/www/html/admin/config.php  
130:// call bootstrap.php through freepbx.conf  
131:include_once '/etc/freepbx.conf';
```

Enable host on Nginx webserver

```
cd /etc/nginx/sites-available  
cp default pbx.2dz.fi.conf  
ln -s /etc/nginx/sites-available/pbx.2dz.fi.conf /etc/nginx/sites-enabled/
```

Modify virtual host file to point to

```
TODO: move to /var/www/pbx.2dz.fi  
root /var/www/html;
```

Test config and reload webserver

```
nginx -t  
nginx -s reload
```

Request cert from LE (this will create additional SSL block in virtual server config)

```
certbot --nginx -d pbx.2dz.fi
```

Permissions fix

Initial page

FreePBX Administration

pbx.2dz.fi/admin/config.php

FreePBX Support

Welcome to FreePBX Administration!

Initial Setup

Please provide the core settings that will be used to administer and update your system

Administrator User

Username

Password

Confirm Password

System Notifications Email

Notifications Email address

System Identification

System Identifier

System Updates

Automatic Module Updates Enabled Email Only Disabled



Automatic Module Security Updates Enabled Email Only

Send Security Emails For Unsigned Modules Enabled Disabled

Check for Updates every

[Setup System](#)

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Welcome page

FreePBX Administration

Get Support

freePBX

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Sangoma

No nodules found

Admin Connectivity Advanced Settings Apply Config

Module Not Found

We are unable to find any information on the module you are looking for.

SIP configuration

Install modules

```
fwconsole ma downloadinstall sipsettings
```

Upgrade:

fwconsole ma listonline

fwconsole ma upgrade framework

fwconsole ma refreshsignatures

fwconsole chown

#? fwconsole backup --list

fwconsole reload