

## Installing FreePBX 15 Asterisk 16

SangomaOS 7.6 (2002.043)

**FreePBX 15 Installation (Asterisk 16) - Recommended** >  
FreePBX 15 Installation (Asterisk 13) >

FreePBX 15 Advanced Installation >  
Advanced and Troubleshooting options >

Boot from local drive

Press [Tab] to edit options



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FreePBX 15 Installation (Asterisk 16) - Recommended

- Graphical Installation - Output to UGA >
- Graphical Installation via UNC - Output to Serial >
- Graphical Installation via UNC - Output to Serial and UGA >
  
- Fully Automatic Installation - Output to UGA
- Fully Automatic Installation - Output to Serial

Press [Tab] to edit options



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Graphical Installation - Output to UGA

FreePBX Standard

Press [Tab] to edit options

Automatic install of Asterisk 16 and FreePBX 15  
Note that if more than two identically sized HDDs are detected,  
a RAID will be created and they will assigned to it  
This install deletes all existing data on this machine



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```
[ 0.215170] NetLabel: Initializing
[ 0.216003] NetLabel: domain hash size = 128
[ 0.217003] NetLabel: protocols = UNLABELED CIPSOv4
[ 0.218000] NetLabel: unlabeled traffic allowed by default
[ 0.219070] amd_nb: Cannot enumerate AMD northbridges
[ 0.220065] Switched to clocksource kvm-clock
[ 0.226167] pnp: PnP ACPI init
[ 0.227105] ACPI: bus type PNP registered
[ 0.228544] pnp: PnP ACPI: found 5 devices
[ 0.229550] ACPI: bus type PNP unregistered
[ 0.245151] NET: Registered protocol family 2
[ 0.247200] TCP established hash table entries: 16384 (order: 5, 131072 bytes
)
[ 0.251124] TCP bind hash table entries: 16384 (order: 6, 262144 bytes)
[ 0.253465] TCP: Hash tables configured (established 16384 bind 16384)
[ 0.255838] TCP: reno registered
[ 0.258032] UDP hash table entries: 1024 (order: 3, 32768 bytes)
[ 0.259116] UDP-Lite hash table entries: 1024 (order: 3, 32768 bytes)
[ 0.260310] NET: Registered protocol family 1
[ 0.262429] pci 0000:00:00.0: Limiting direct PCI/PCI transfers
[ 0.264355] pci 0000:00:01.0: PIIX3: Enabling Passive Release
[ 0.266315] pci 0000:00:01.0: Activating ISA DMA hang workarounds
[ 0.268678] ACPI: PCI Interrupt Link [LNKC] enabled at IRQ 11
[ 0.270792] Unpacking initramfs...
-
```



# INSTALLATION SUMMARY

SANGOMAOS 7.6 2002 INSTALLATION

us

Help! (F1)

## LOCALIZATION



**DATE & TIME**  
Coordinated Universal Time timezone



**KEYBOARD**  
English (US)



**LANGUAGE SUPPORT**  
English (United States)

## SOFTWARE



**INSTALLATION SOURCE**  
Local media



**SOFTWARE SELECTION**  
Custom software selected

## SYSTEM



**INSTALLATION DESTINATION**  
Custom partitioning selected



**KDUMP**  
Kdump is enabled



**NETWORK & HOST NAME**  
Wired (eth0) connected



**SECURITY POLICY**  
No content found

Quit

Begin Installation

We won't touch your disks until you click 'Begin Installation'.

Enter Network and Host Name



USER SETTINGS

 **ROOT PASSWORD**  
*Root password is not set*

 **USER CREATION**  
*User asterisk will be created*

Starting package installation process



 Please complete items marked with this icon before continuing to the next step.

Enter Password for root access of FreePBX



us

Help! (F1)

USER SETTINGS



**ROOT PASSWORD**  
*Root password is set*



**USER CREATION**  
*User asterisk will be created*

Running post-installation scripts

Choose the Sangoma Phone  
That Best Suits Your Needs



CONFIGURATION

SANGOMAOS 7.6 2002 INSTALLATION

us Help!

USER SETTINGS

**ROOT PASSWORD**  
Root password is set

**USER CREATION**  
User asterisk will be created

Complete!

SangomaOS 7.6 is now successfully installed and ready for you to use!  
Go ahead and reboot to start using it!

Reboot

Use of this product is subject to the license agreement found at /usr/share/sangoma-release/EULA

## Reboot

Welcome to FreePBX Administration!

Initial Setup

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

Administrator User

Username: maint

Password: .....

Confirm Password: .....

System Notifications Email: support@questblue.com

System Identification: FreePBX 15

System Updates: Enabled, Email Only, Disabled

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: Saturday, Between 4am and 8am

Setup System

Enter IP address in your Web Browser and begin entering the user credential information





FreePBX Administration



User Control Panel

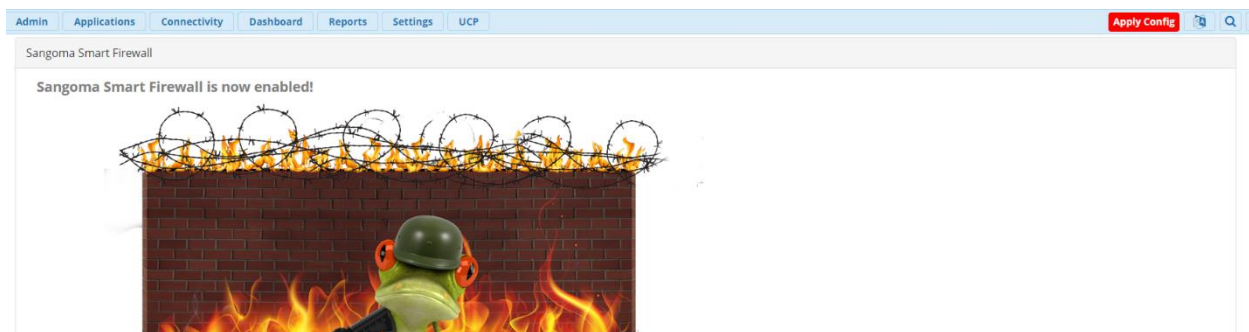


Operator Panel

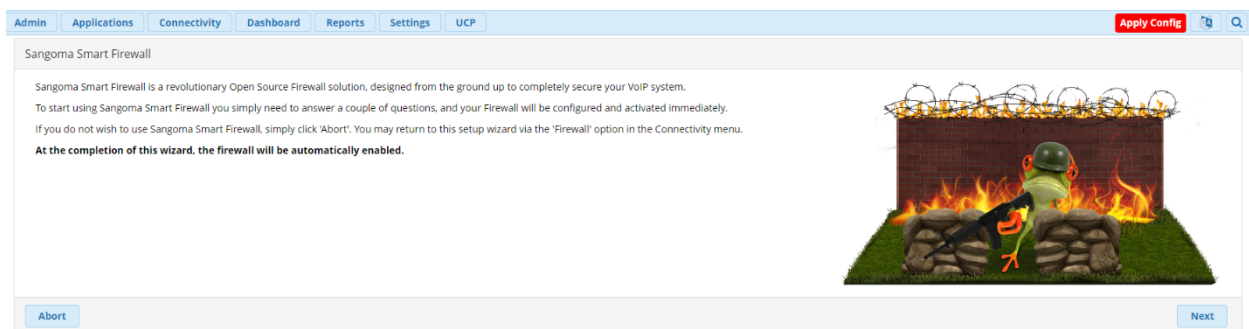


Get Support

Login to GUI by clicking FreePBX Administration



Sangoma Firewall will automatically open select continue




Next

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

Sangoma Smart Firewall

Should the client you're using be trusted?

It is highly recommended that the client you're currently using [ ] should be marked as Trusted. This will ensure that you can not accidentally be locked out of this server.  
You would normally select **Yes** to this question. The only time you would pick No is if you are not using the client machine you will be using in the future to manage this system.



Abort No Yes

Yes


Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

Sangoma Smart Firewall

Should your current network be trusted?

The network you are currently using [ ] to manage this server isn't marked as Trusted.  
If this is a known secure network, you should add it to the Trusted zone

Please ensure that you are not inadvertently allowing unauthorized hosts access to your machine. You should only select 'Yes' if you are sure the network (above) is not accessible by any unknown third parties.



Abort Yes No


Yes

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

Sangoma Smart Firewall

Enable Responsive Firewall?

Enabling Responsive Firewall allows remote clients to securely register to this server without explicitly whitelisting them.  
It is recommended to turn this on if you have remote clients.  
Further information is available at the PBX Wiki.



Abort No Yes


No

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

Sangoma Smart Firewall

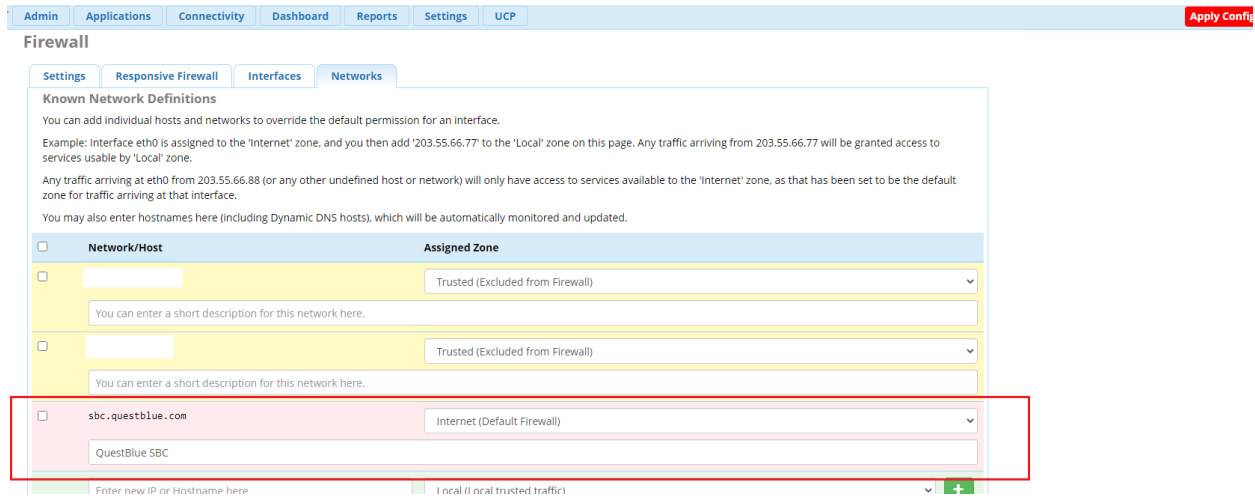
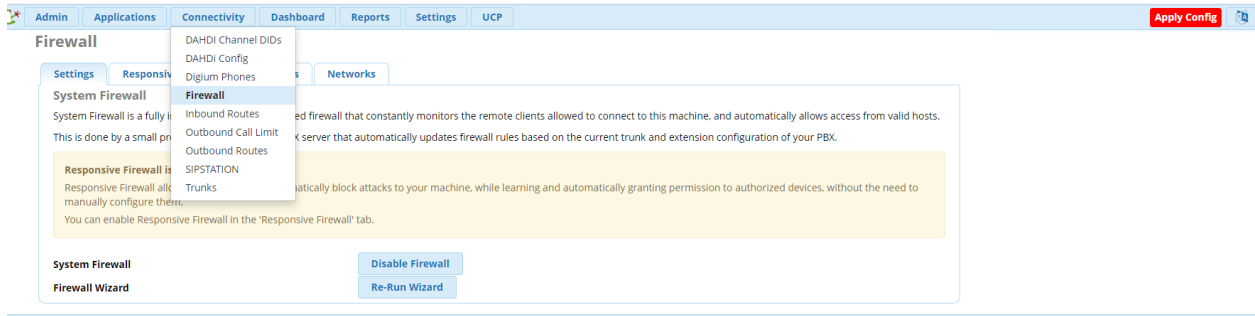
Automatically configure Asterisk IP Settings?

Firewall should now auto-detect and configure External IP settings. This will assist with NAT or Translation issues.  
You should say 'Yes' to this, unless you have an extremely complex network with multiple external default gateways.  
You can verify these settings in Sip Settings after this wizard is complete. If you have a non-static IP address, you may need to use a DDNS provider which will require manual configuration.

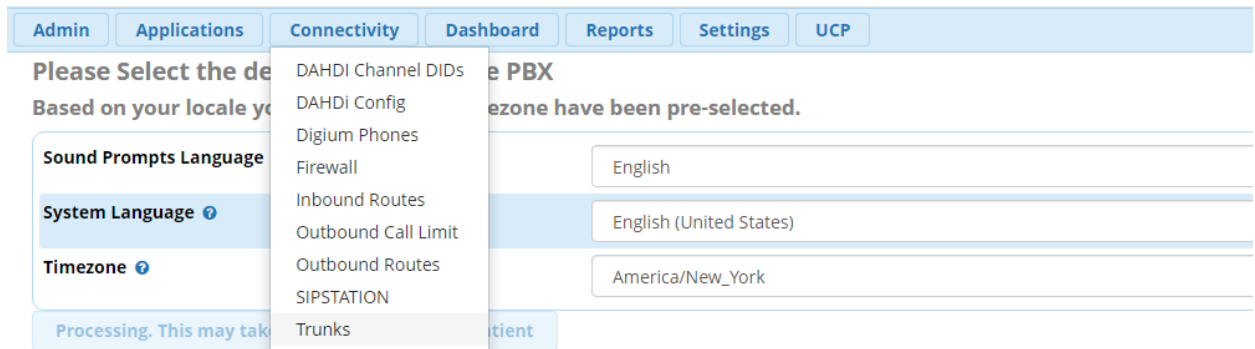


Abort No Yes

Yes



Enter sbc.questblue.com



Create your SIP Trunk

## Trunks

This page is used to manage various system trunks

+ Add Trunk ▾

- + Add SIP (chan\_pjsip) Trunk
- + Add SIP (chan\_sip) Trunk
- + Add DAHDi Trunk
- + Add IAX2 Trunk
- + Add ENUM Trunk
- + Add DUNDi Trunk
- + Add Custom Trunk

Tech	CallerID	Status
No matching records found		

## Add pjsip Trunk

SIP-accounts → Create New SIP Account

### Create new SIP account or SIP Registration

Trunk name \*  [ SIP-accounts ]  
Only alphanumeric value, no spaces

Trunk Type

IP Address \*   
Valid IP address

Dynamic DNS   
Only check if your trunk is DHCP IP

\* required field

[Create SIP account](#)

In your customer.questblue.com account create the SIP Trunk and point to the IP address of your PBX

Below follow the instructions for creating the SIP Trunk in FreePBX

### Add Trunk

General Dialed Number Manipulation Rules pjsip Settings

Trunk Name

Hide CallerID  Yes  No

Outbound callerID

CID Options  Allow Any CID  Block Foreign CIDs  Remove CNAM  Force Trunk CID

Maximum Channels

Asterisk Trunk Dial Options   
 Override  System

Continue if Busy  Yes  No

Disable Trunk  Yes  No

Monitor Trunk Failures  Yes  No

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Add Trunk

General **Dialed Number Manipulation Rules** pjsip Settings

**Dial Number Manipulation Rules**

These rules can manipulate the dialed number before sending it out this trunk. If no rule applies, the number is not changed. The original dialed number is passed down from the route where some manipulation may have already occurred. This trunk has the option to further manipulate the number. If the number matches the combined values in the **prefix** plus the **match pattern** boxes, the rule will be applied and all subsequent rules ignored. Upon a match, the **prefix**, if defined, will be stripped. Next the **prepend** will be inserted in front of the **match pattern** and the resulting number will be sent to the trunk. All fields are optional.

**Rules:**  
 X matches any digit from 0-9  
 Z matches any digit from 1-9  
 N matches any digit from 2-9  
 [1237-9] matches any digit or letter in the brackets (in this example, 1,2,3,7,8,9)  
 . wildcard, matches one or more characters (not allowed before a | or +)

Dial patterns wizards

1	prefix	NXXXXXXX	+ □
prepend	prefix	1NXXXXXXX	+ □

Outbound Dial Prefix

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Add Trunk

General **Dialed Number Manipulation Rules** pjsip Settings

**PJSIP Settings**

General **Advanced** Codecs

**Username** Authentication Disabled

**Secret** Authentication Disabled  
Really Weak

**Authentication** Outbound Inbound Both **None**

**Registration** Send Receive **None**

**Language Code** Default

**SIP Server** sbc.questblue.com

**SIP Server Port** 5060

**Context** from-trunk

**Transport** 0.0.0.0-udp

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Add Trunk

General **Dialed Number Manipulation Rules** pjsip Settings

**PJSIP Settings**

General **Advanced** Codecs

**DTMF Mode** Auto

**Send Connected Line** Yes **No**

**Permanent Auth Rejection** Yes **No**

**Forbidden Retry Interval** 30 Seconds

**Fatal Retry Interval** 30 Seconds

**General Retry Interval** 60 Seconds

**Expiration** 3600 Seconds

**Max Retries** 10000

**Qualify Frequency** 60 Seconds

**Outbound Proxy**

**Contact User**

**From Domain** sbc.questblue.com

**From User**

Enter the settings above for the pjsip page. All other features are optional

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Add Trunk

General Dialed Number Manipulation Rules **pjsip Settings**

PJSIP Settings

General **Advanced** Codes

Check the desired codecs, all others will be disabled. Drag to re-order.

- alaw
- alaw
- gsm
- g726
- g722
- g723
- speex
- speex16

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Trunks

This page is used to manage various system trunks

[+ Add Trunk](#) Search

Name	Tech	CallerID	Status	Actions
QuestBlue	pjsip	...	Enabled	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 result

Apply setting and click Apply Config.

Next, create your inbound route from Connectivity > Inbound Routes

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Inbound Routes

Route: Test

Edit Extension 1000 (Test)

General **Advanced** Privacy Fax Other

Description

DID Number

CallerID Number

CID Priority Route  Yes  No

Alert Info

Ringer Volume Override

CID name prefix

Music On Hold

Set Destination

Create your inbound route with DID number in the format NXXNXXXXXX

Submit, apply config