



## **FIBERME Communications LLC.**

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Configuring FAG410X with Issabil

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## OVERVIEW

This document describes basic configuration to interconnect Issabil and FAG410X. In this document, we are using FAG4108 as an example. The following methodology can be used for the FAG4104 as well. This is typically applied to the scenario where users would like to add a FAG410X not only as a remote extension but also as an external PSTN trunk.

There are two ways to set up the Issabil IP PBX with the FAG410X.

- **Method 1:** Configure FAG410X as a SIP Peer Trunk.
- **Method 2:** Register FAG410X on Issabil directly as an extension.



# CONNECT Issabil TO FAG410X USING PEER SIP TRUNK

## Create IVR On Issabil

On the Issabil web GUI, create an IVR extension under **PBX->PBX Configuration->IVR**.

In IVR settings, if "Direct Dial" is enabled, the calls dialing into the issabil IVR will be able to reach the internal extensions registered to Issabil. Also, you can assign the "IVR Entries" to different destinations.

Basic

- Class of Service
- Extensions
- Feature Codes
- Outbound Routes
- Trunks

Inbound Call Control

- Announcements
- Blacklist
- Call Flow Control
- CallerID Lookup Sources
- DAHDI Channel DIDs
- Dynamic Routes
- Follow Me
- IVR
- Inbound Routes
- Queue Priorities
- Queues
- Ring Groups
- Set CallerID
- Time Conditions
- Time Groups

Internal Options & Configuration

- Conferences
- Languages
- Misc Applications
- Misc Destinations
- Music on Hold
- PIN Sets
- Paging and Intercom
- Parking
- System Recordings
- Voicemail Blasting

Remote Access

- Callback
- DISA

Advanced

- Asterisk Info
- Asterisk Logfiles
- Custom Destinations
- Custom Extensions
- Dialplan Injection
- Route Congestion Messages
- Voicemail Admin

### Edit IVR: FAG4108

Delete IVR: FAG4108

- IVR General Options

IVR Name: FAG4108

IVR Description:

- IVR Options (DTHF)

Announcement: Welcome

Direct Dial: Disabled

Timeout: 10

Invalid Retries: 3

Invalid Retry Recording: Default

Append Announcement on Invalid:

Return on Invalid:

Invalid Recording: Default

Invalid Destination: Terminate Call Hangup

Timeout Retries: 3

Timeout Retry Recording: Default

Append Announcement on Timeout:

Return on Timeout:

Timeout Recording: Default

Timeout Destination: Terminate Call Hangup

Return to IVR after VM:

- IVR Entries

Ext	Destination	Return	Delete
Reception	Queues	CallCenter <4300>	<input type="checkbox"/>
digits pressed	== choose one ==		<input type="checkbox"/>

Figure 1: Create IVR on Issabil



## Create Peer SIP TRUNK On Issabil

The screenshot displays the Issabil web GUI configuration page for a Peer SIP Trunk. The left sidebar contains a navigation menu with categories like 'Internal Options & Configuration', 'Remote Access', and 'Advanced'. The main configuration area includes the following fields and sections:

- Trunk Name:** FAG410x
- Outbound CallerID:** (empty field)
- CID Options:** Allow Any CID (dropdown)
- Maximum Channels:** (empty field)
- Asterisk Trunk Dial Options:** Tt (text input) with an  Override checkbox.
- Continue if Busy:**  Check to always try next trunk
- Disable Trunk:**  Disable
- Dialed Number Manipulation Rules:** A section with a header bar containing '(prepend)' + prefix | match pattern, a '+ Add More Dial Pattern Fields' button, and a 'Clear all Fields' button.
- Dial Rules Wizards:** (pick one) (dropdown)
- Outbound Dial Prefix:** (empty field)
- Outgoing Settings:** A section with a header bar.
- Trunk Name:** FAG410x
- PEER Details:** A text area containing:

```
host=192.168.1.10
type=peer
port=5060
insecure=very
context=from-trunk
qualify=yes
```

On the Issabil web GUI, create a peer SIP trunk under **PBX->PBX Configuration->Trunks**. In this example, the FAG4108 IP address is 192.168.99.239.

Figure 2: Create Peer SIP Trunk on Issabil

## Configure Outbound Rule on Issabil

On Issabil web GUI, go to **PBX->PBX Configuration->Outbound Routes** to create a new outbound rule. This would allow the extension on Issabil to reach numbers in PSTN network via the peer SIP trunk we just configured.



🏠 PBX / PBX Configuration

- Basic
  - Class of Service
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  - Trunks
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  - Announcements
  - Blacklist
  - Call Flow Control
  - CallerID Lookup Sources
  - DAHDI Channel DIDs
  - Dynamic Routes
  - Follow Me
  - IVR
  - Inbound Routes
  - Queue Priorities
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  - Ring Groups
  - Set CallerID
  - Time Conditions
  - Time Groups
- Internal Options & Configuration
  - Conferences
  - Languages
  - Misc Applications
  - Misc Destinations
  - Music on Hold
  - PIN Sets
  - Paging and Intercom
  - Parking
  - System Recordings
  - Voicemail Blasting
- Remote Access
  - Callback
  - DISA
- Advanced
  - Asterisk Info
  - Asterisk Logfiles
  - Custom Destinations
  - Custom Extensions
  - Dialplan Injection
  - Route Congestion Messages
  - Voicemail Admin

## Add Route

Route Settings

Route Name:

Route CID:   Override Extension

Route Password:

Route Type:  Emergency  Intra-Company

Music On Hold:

Time Group:

Route Position:

Additional Settings

PIN Set:

Call Recording:

Dial Patterns that will use this Route

+ Add More Dial Pattern Fields

Dial patterns wizards:

Trunk Sequence for Matched Routes

0

1

Optional Destination on Congestion

Figure 3: Configure Outbound Rule on Issabil

In this example prefix "9", 9 is the first dialing digit and it will be stripped off when the call goes out.

## Configure Inbound Rule on Issabil

On Issabil web GUI, go to **PBX->PBX Configuration->Inbound Routes** to create a new inbound rule. In this example, we set the DID Number as **20000**, which will be used in the FAG410X call forward setting.

🏠 PBX / PBX Configuration

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  - Call Flow Control
  - CallerID Lookup Sources
  - DAHDI Channel DIDs
  - Dynamic Routes
  - Follow Me
  - IVR
  - Inbound Routes
  - Queue Priorities
  - Queues
  - Ring Groups
  - Set CallerID
  - Time Conditions
  - Time Groups

## Add Incoming Route

Add Incoming Route

Description:

DID Number:

CallerID Number:

CID Priority Route:

Options:

Alert Info:

CID name prefix:

Music On Hold:

Signal RINGING:

Pause Before Answer:

Add Incoming Route

All DIDs (toggle sort)

User DIDs

General DIDs

Invited DIDs



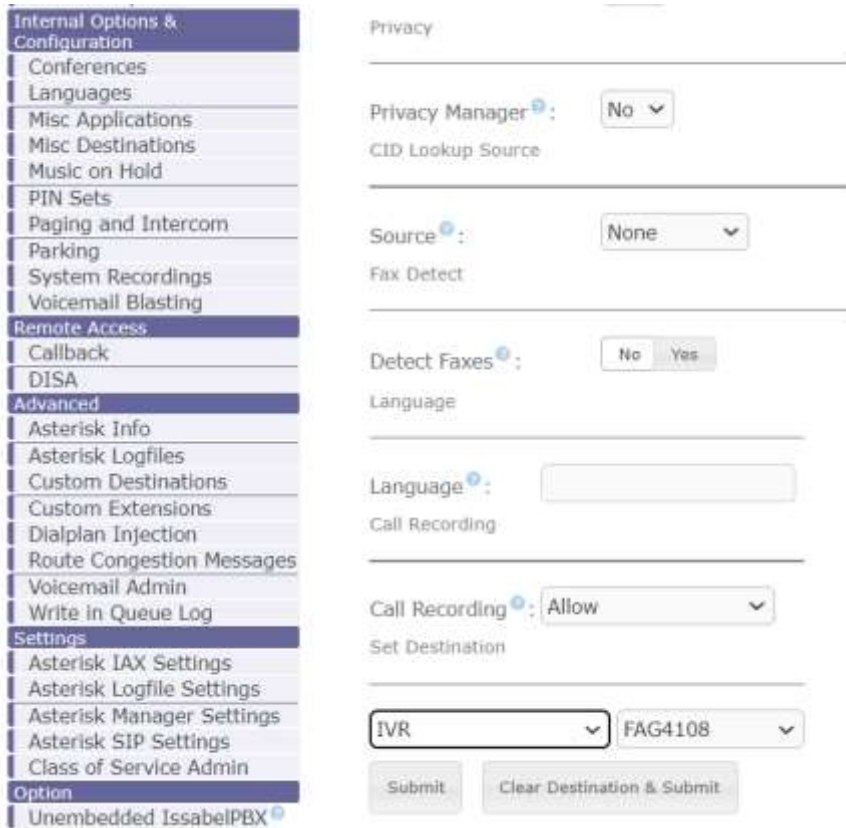


Figure 4: Configure Inbound Rule on Issabil

The default destination is configured to IVR. Ensure to select the proper IVR.

## Connect FAG410X with Issabil

1. On the FAG410X web GUI, go to the **VoIP->SIP** page and enter the IP address of the Issabil that you are peering with.

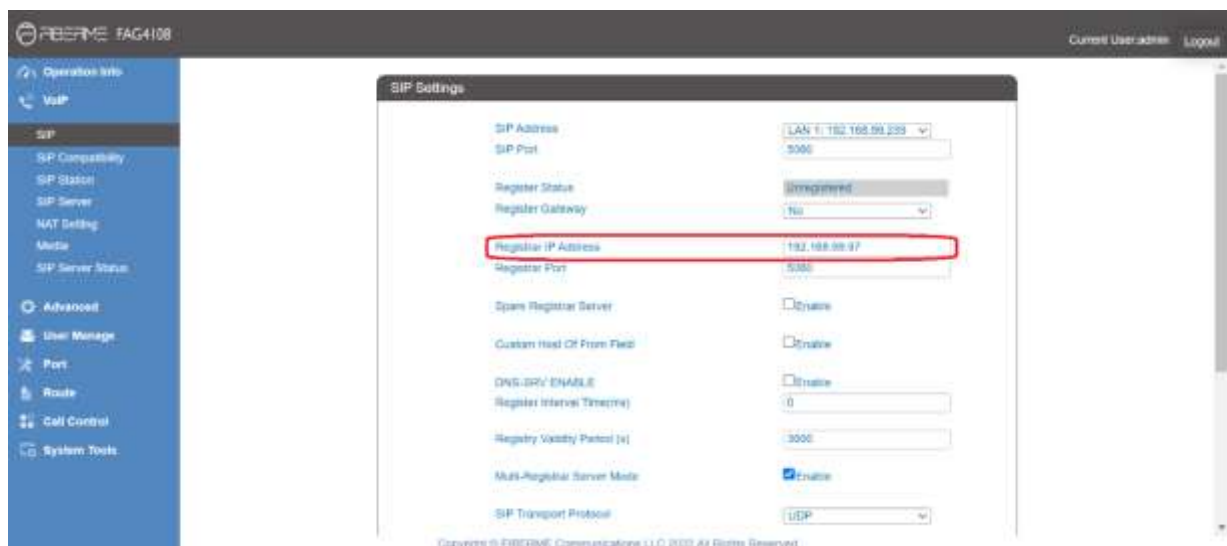


Figure 5: Connect FAG410X with Issabil: Registrar IP Address

2. Please make sure the **Register Gateway** option under **VoIP-> SIP** is set to **No**. In the following example, Issabil Server has IP address 192.168.99.97.





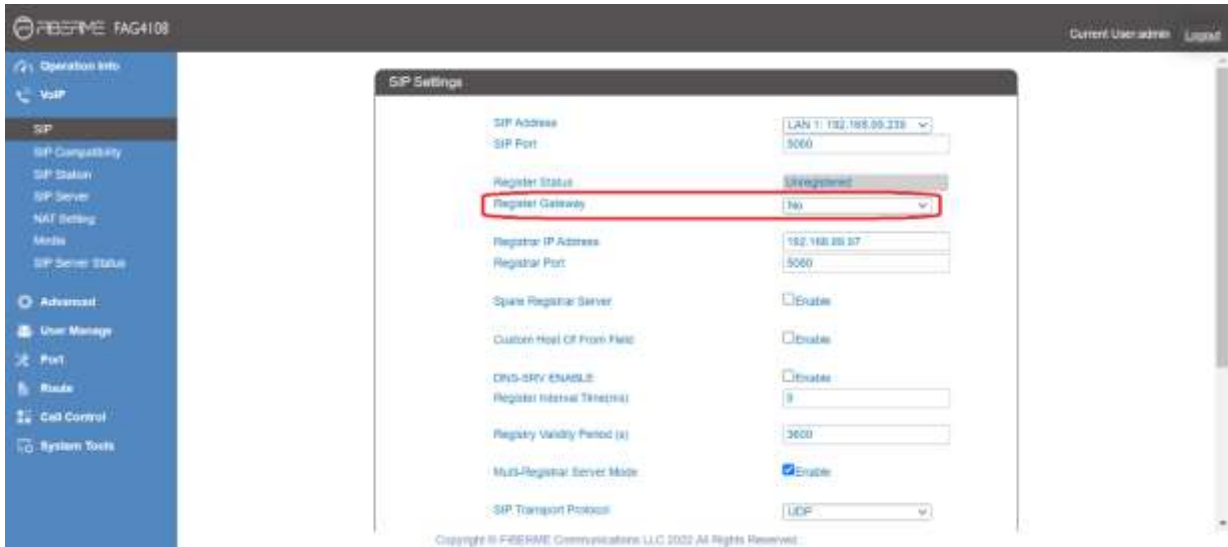


Figure 6: Connect FAG410X with Issabil: Register Gateway

## Configure FXO Port on FAG410X

1. Connect the PSTN line to the FAG410X FXO port.
2. On the FAG410X web GUI, go to the **Port->FXO** page and press Modify on the FXO port you will use.



Figure 7: Configure FXO Port on FAG410X: Modify Port

3. Enter the SIP Account Number **20000** to be matched with the DID number we configured in Issabil Inbound Route.

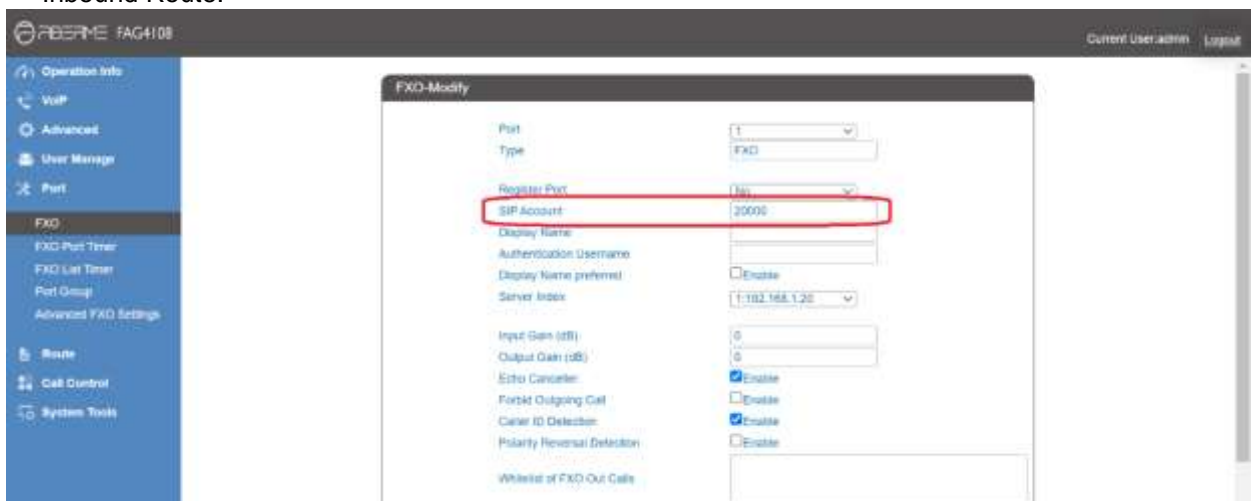


Figure 8: Configure FXO Port on FAG410X: Port Configurations



## Create Port Group on FAG410X

1. On the FAG410X web GUI, go to the **Port->Port Group** page and press “Add New”.



Figure 9: Create Port Group on FAG410X: Add New

2. Select the FXO port you will use.

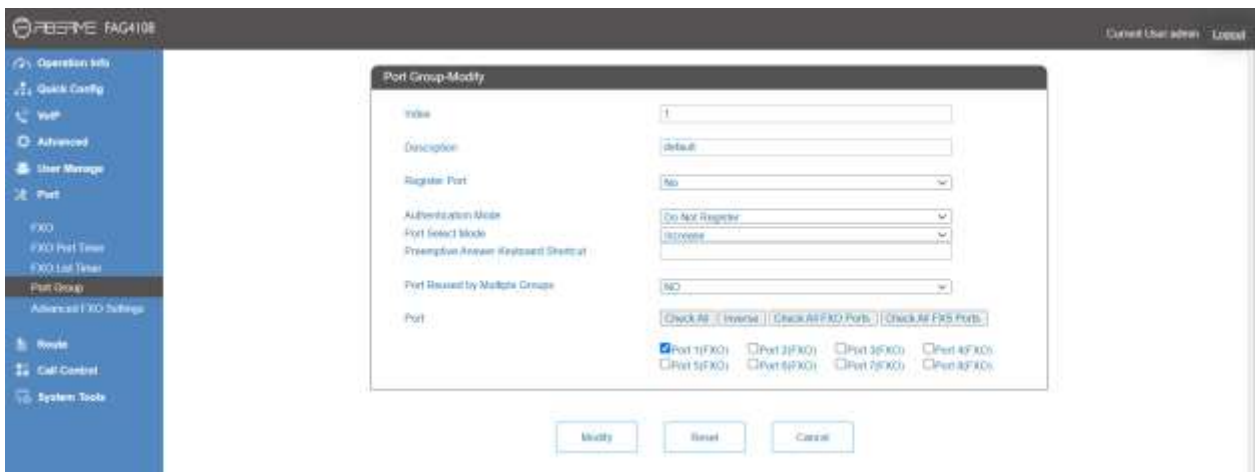


Figure 10: Create Port Group on FAG410X: Group Configurations



# REGISTER FAG410X ON Issabil AS AN EXTENSION

## Create SIP Extension on Issabil

To manually create new SIP user, go to Issabil web GUI **PBX->PBX Configuration->Extensions**. Click on "Add" and a new dialog window will show for users to fill in the extension information.

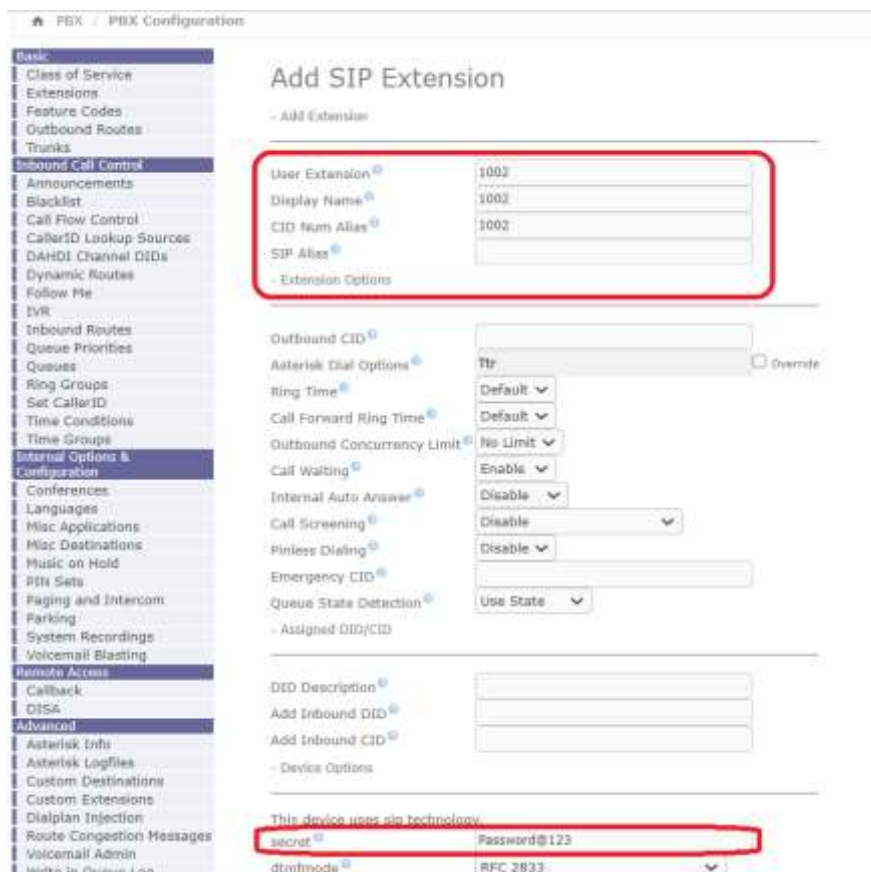


Figure 11: Create SIP Extension on Issabil

## Configure FAG410X SIP Account as a Registered Extension on Issabil

Under FAG410X **web GUI->VoIP->SIP**, please set Register Gateway to Yes, then enter SIP Extension information created earlier in Issabil. In this example, extension 1002 is used in order to register FAG410X as an extension user on Issabil.

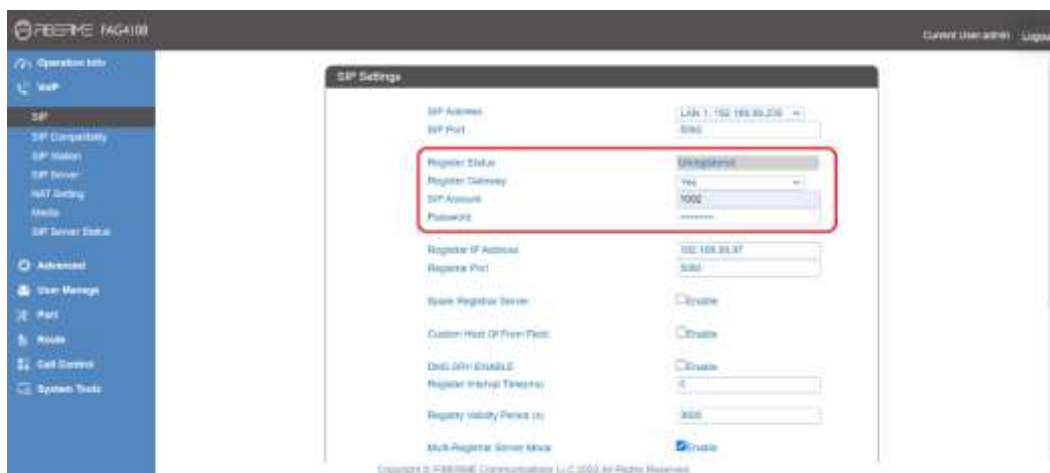


Figure 12: FAG410X SIP Account Settings



Under FAG410X web GUI, **VoIP->SIP**, please fill in Issabil information as explained in method 1.

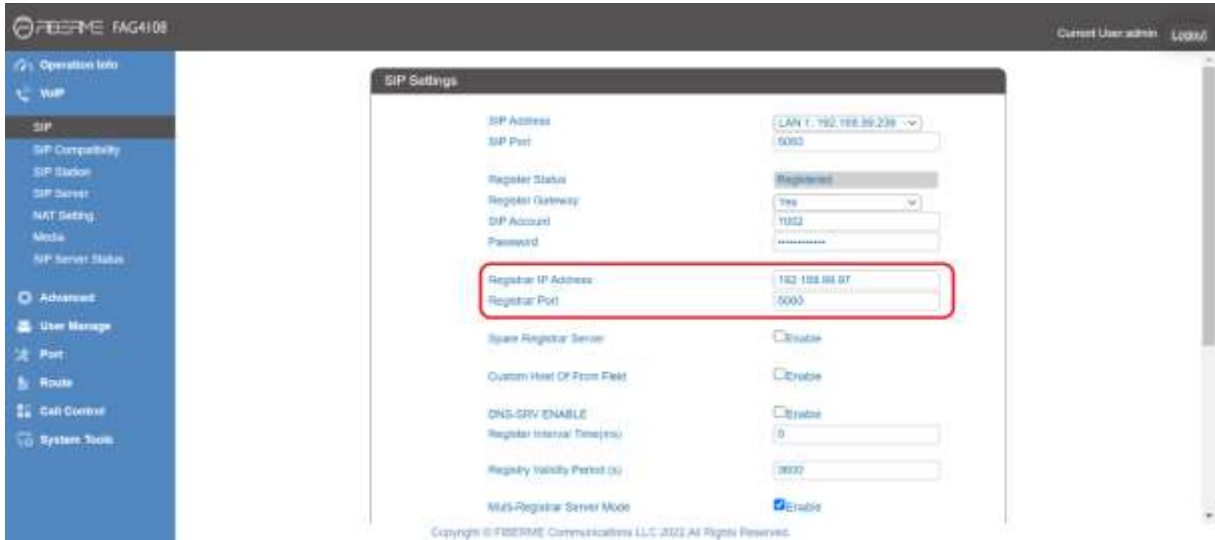


Figure 13: FAG410X Registrar IP Address

We can check Issabil SIP Extension Status to see if FAG410X has been successfully registered as an extension device. go to **PBX->Tools->Asterisk-Cli**, In Command write “sip show peers” and press Execute. “OK” under Status means that the extension is registered successfully as below screenshot.

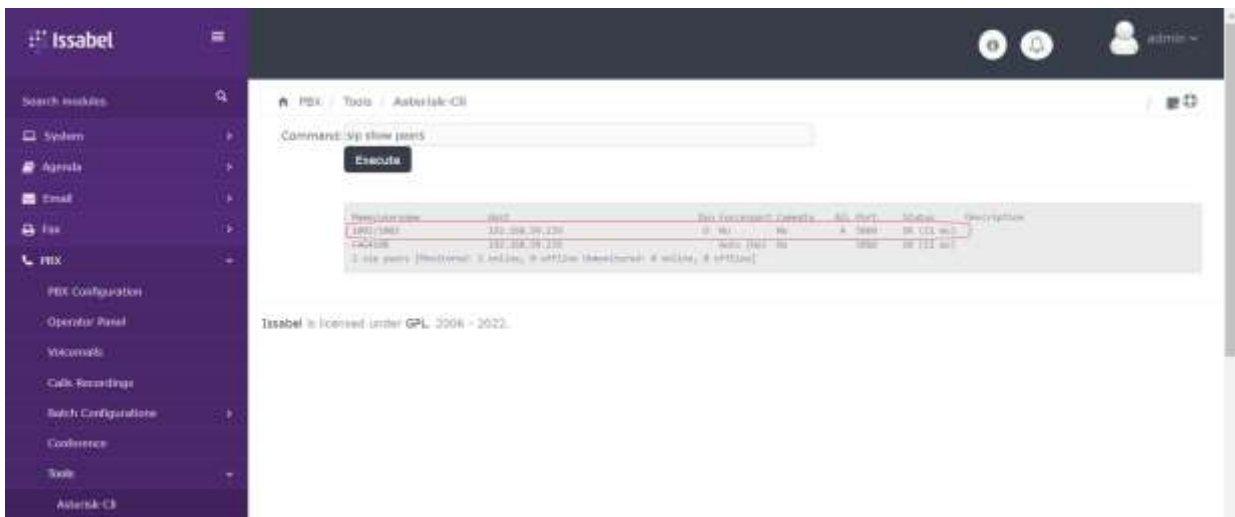


Figure 14: Issabil - SIP Extension Status

Now FAG410X is registered at Issabil as an extension device. Please refer to method 1 in the previous section to configure FXO Port settings on FAG410X.



# FAG410X CALL Routing

## Configure IP to Tel on FAG410X

1. On the FAG410X web GUI, go to the **Route-> IP→TEL** page, Press “Add New”.

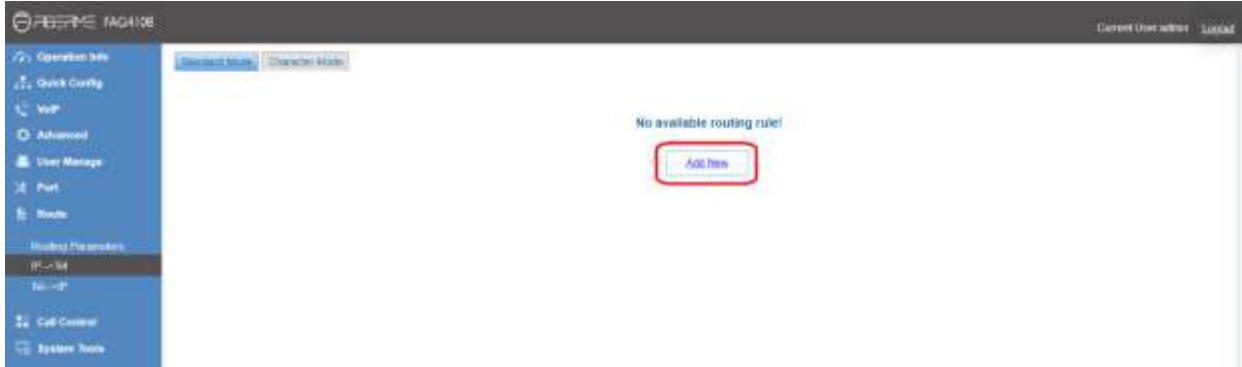


Figure 15: FAG410X – IP to TEL

2. Enter the Issabil Server IP address in “Source IP” and select the Port Group you will use from “Call Destination”.

The screenshot shows the 'IP->Tel Routing Rule' configuration form. It has several input fields: 'Index' (value: B3), 'Description' (value: default), 'Source IP' (value: 192.168.99.97, highlighted with a red box), 'CallerID Prefix' (value: \*), 'CalleeID Prefix' (value: \*), 'Route by Number' (checkbox: Enable), and 'Call Destination' (dropdown: 1, highlighted with a red box). Below the fields are 'Save' and 'Close' buttons. A red text message says 'We suggest you input Source IP here.'

Figure 16: IP to TEL Settings



## Configure TEL to IP on FAG410X

1. On the FAG410X web GUI, go to the **Route-> TEL->IP** page, Press “Add New”.

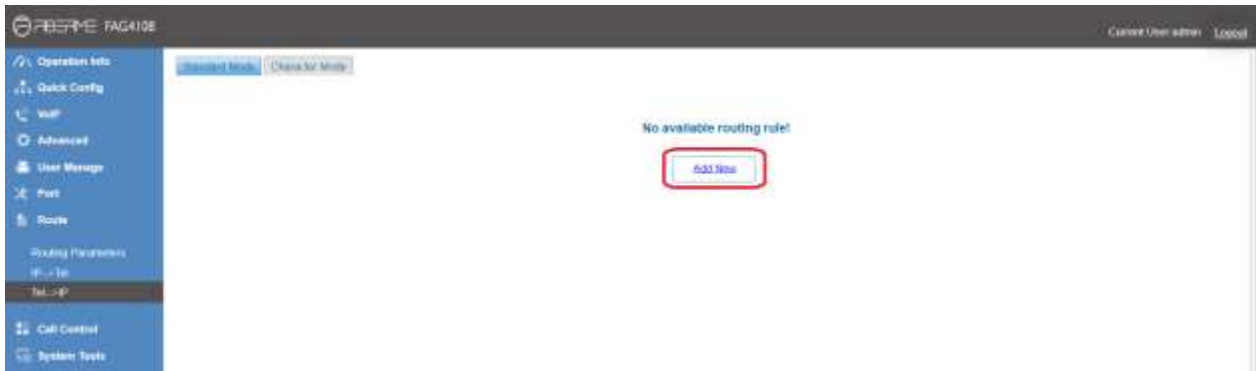


Figure 17: FAG410X – TEL to IP

2. Select the Port Group you will use from “Source Port Group” and enter the Issabil Server IP address in “Destination Address”.

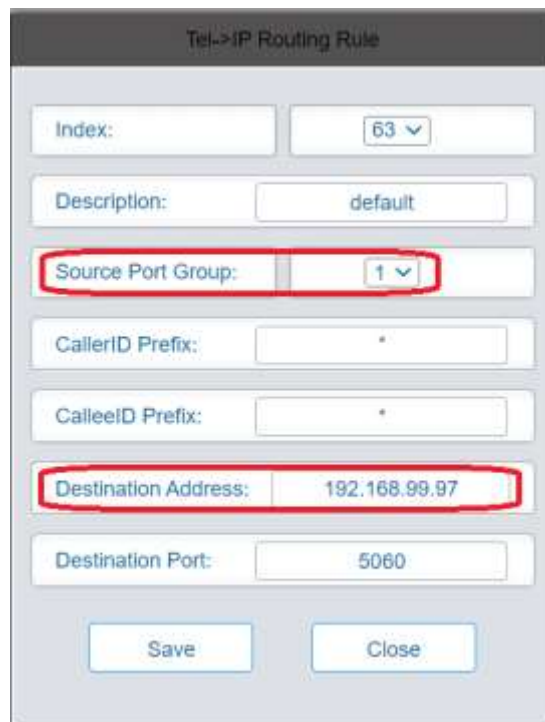
The screenshot shows a configuration dialog titled 'Tel->IP Routing Rule'. It contains several input fields: 'Index' (63), 'Description' (default), 'Source Port Group' (1), 'CallerID Prefix' (.), 'CalleeID Prefix' (.), 'Destination Address' (192.168.99.97), and 'Destination Port' (5080). At the bottom are 'Save' and 'Close' buttons. The 'Source Port Group' and 'Destination Address' fields are highlighted with red boxes.

Figure 18: TEL to IP Settings

