FIBERME Communications LLC.

Configuring FAG410X with FreePBX

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OVERVIEW

This document describes basic configuration to interconnect FreePBX 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 FreePBX with the FAG410X.

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

CONNECT FreePBX TO FAG410X USING PEER SIP TRUNK

Create IVR On FreePBX

On the FreePBX web GUI, create an IVR extension under **Applications** ->**IVR** ->**Add IVR**.

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

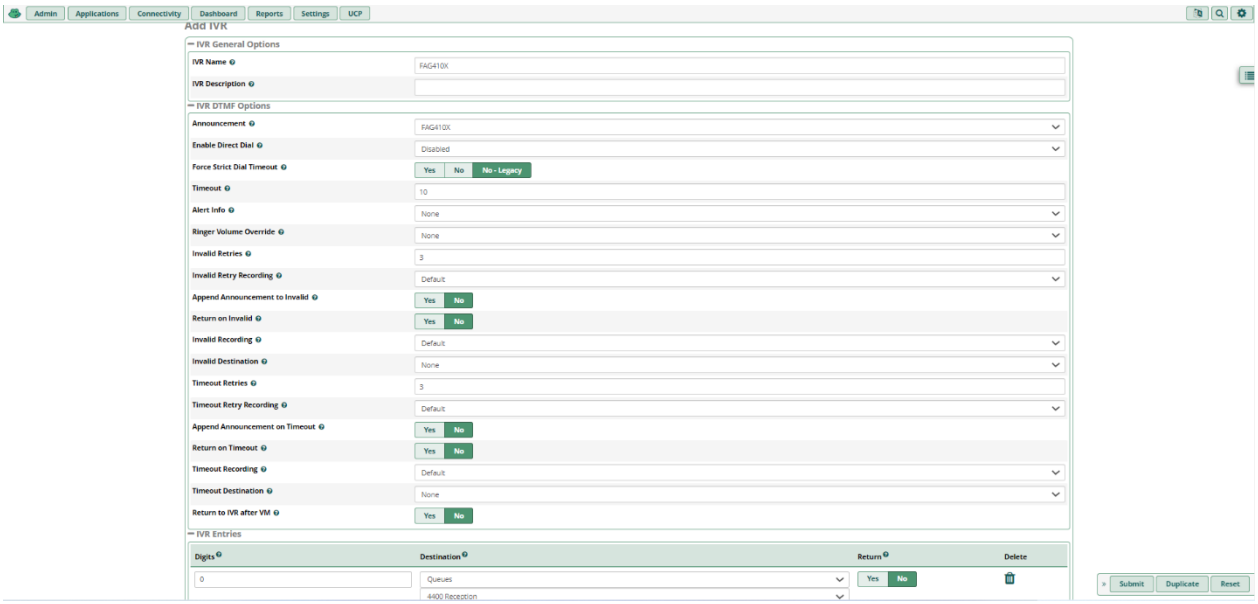

Figure 1: Create IVR on FreePBX

Create Peer SIP TRUNK On FreePBX

On the FreePBX web GUI, create a peer SIP trunk under **Connectivity** ->**Trunks** ->**Add SIP (Chan_pjsip) Trunk**. In this example, the FAG4108 IP address is 192.168.99.239.

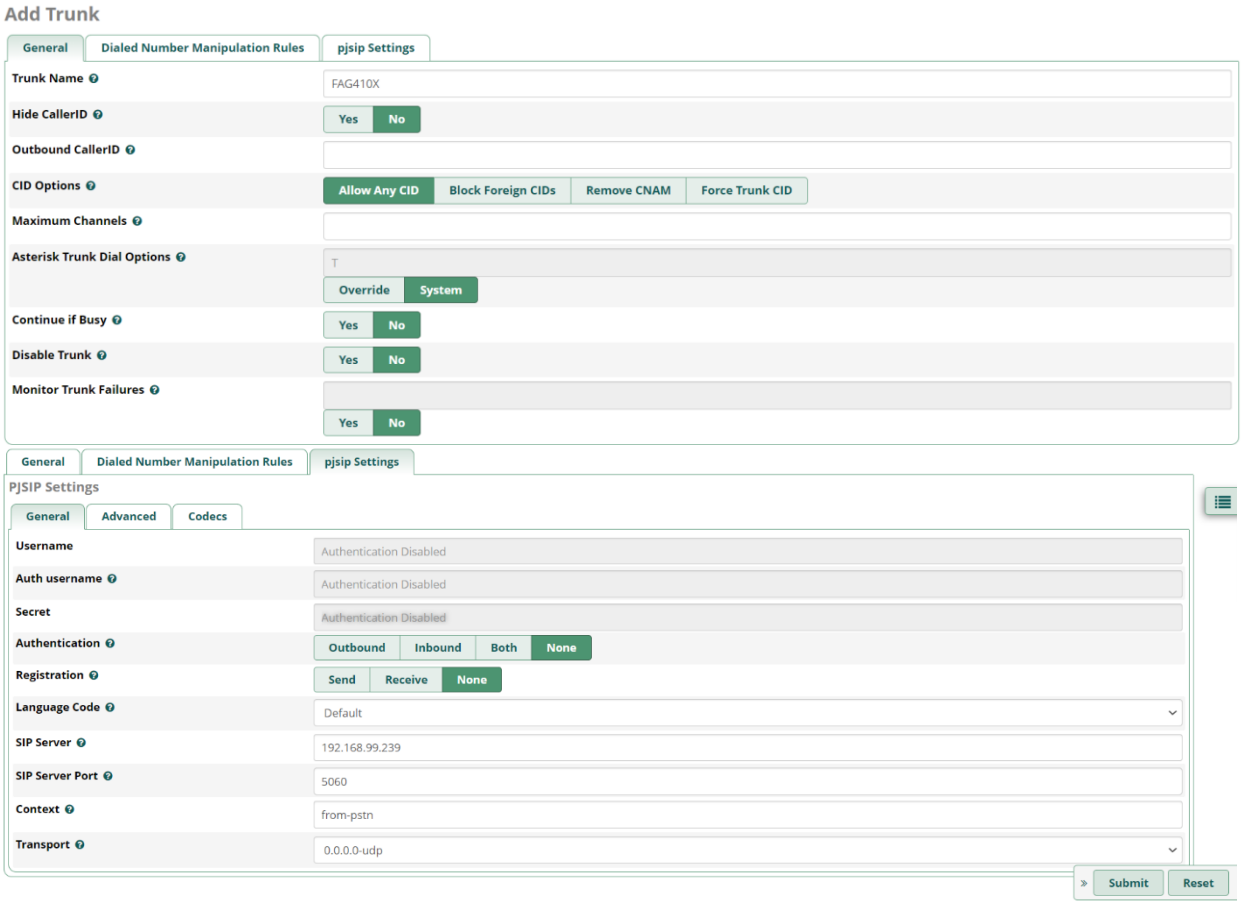

Figure 2: Create Peer SIP Trunk on FreePBX

Configure Outbound Rule on FreePBX

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

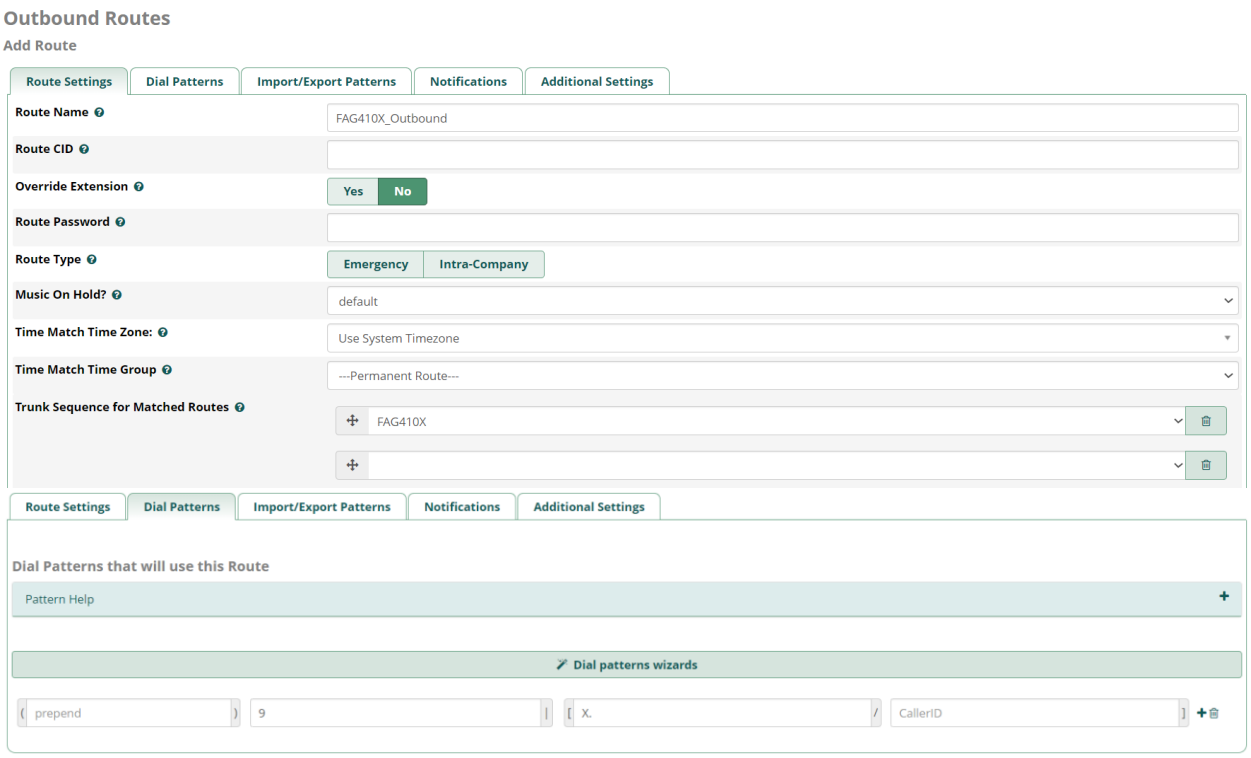

Figure 3: Configure Outbound Rule on FreePBX

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

Configure Inbound Rule on FreePBX

On FreePBX web GUI, go to **Connectivity** ->**Inbound Routes** ->**Add Inbound Route** 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.

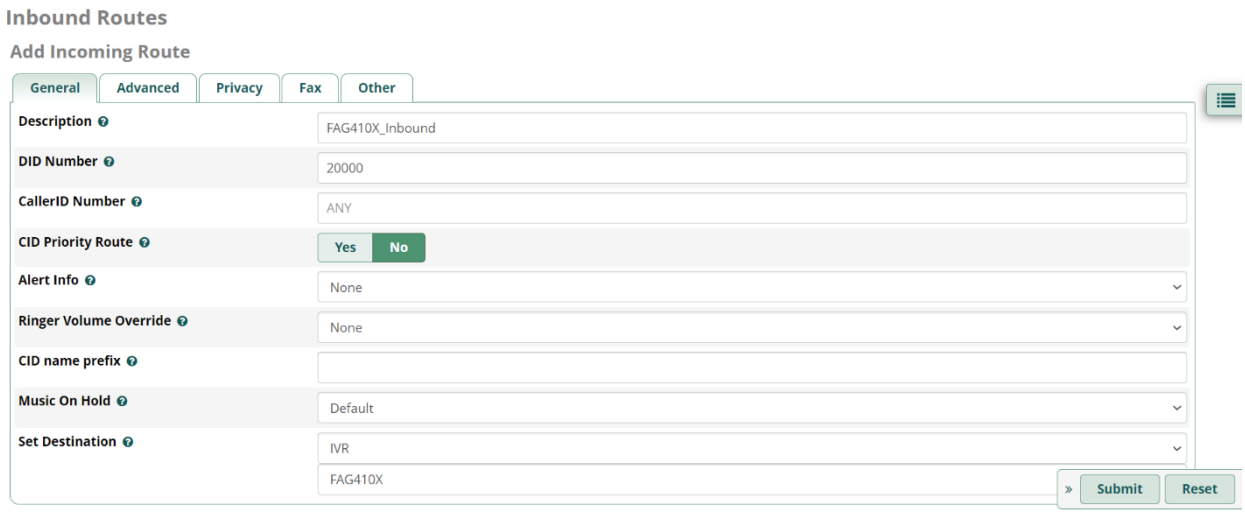

Figure 4: Configure Inbound Rule on FreePBX

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

Connect FAG410X with FreePBX

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

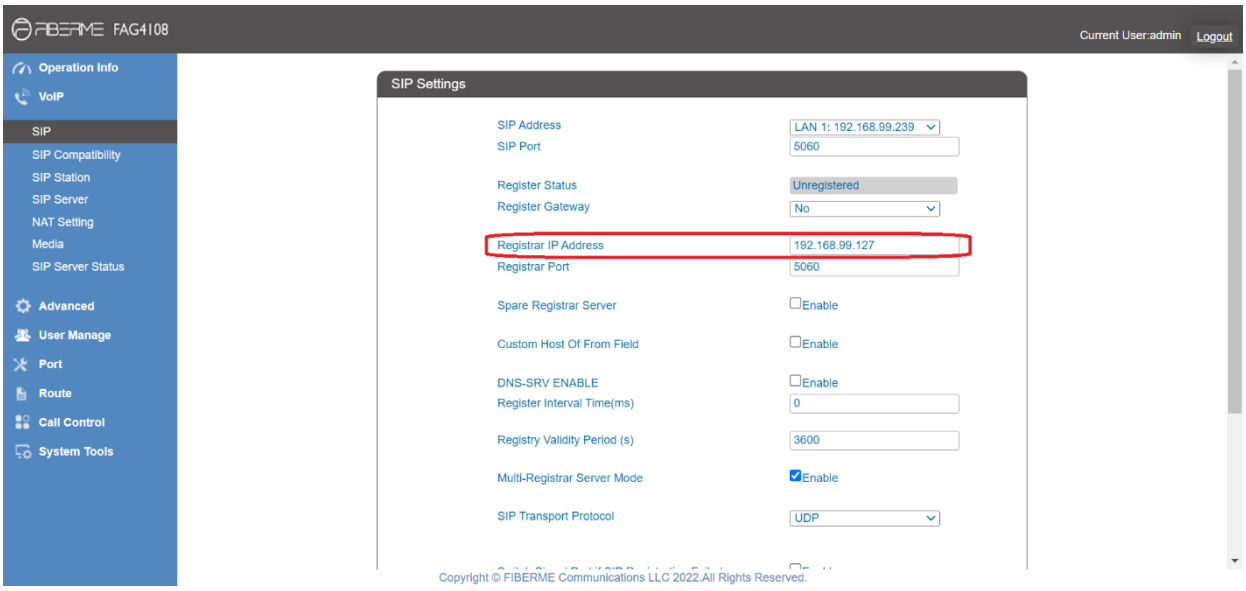

Figure 5: Connect FAG410X with FreePBX: Registrar IP Address

2. Please make sure the **Register Gateway** option under **VoIP-> SIP** is set to **No**. In the following example, FreePBX Server has IP address 192.168.99.127.

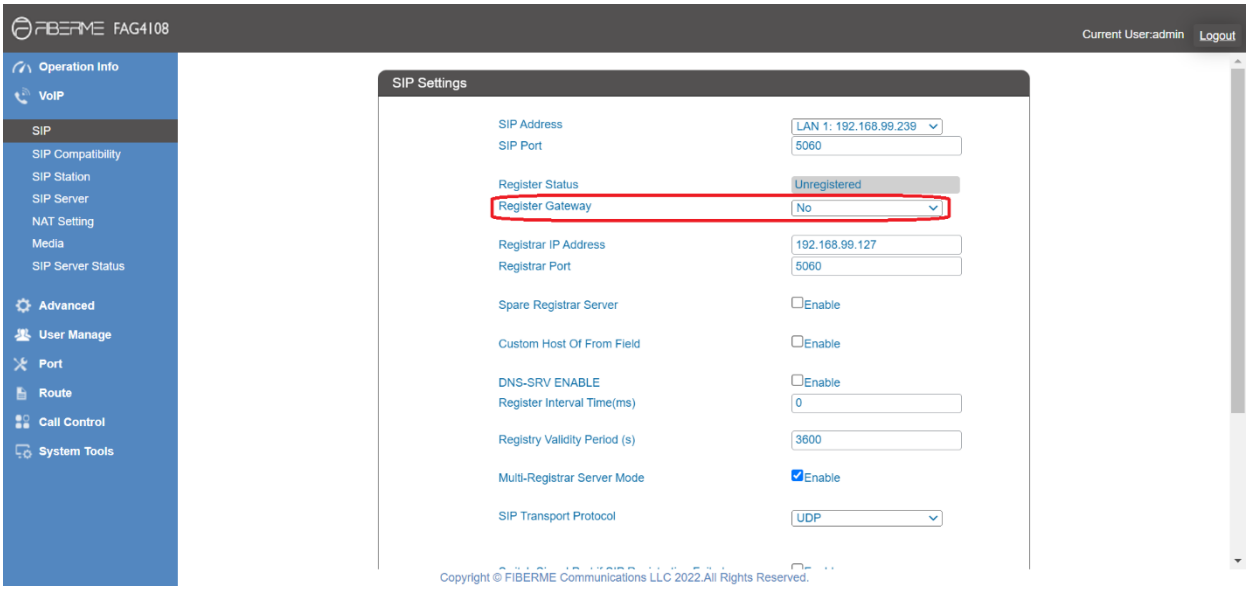

Figure 6: Connect FAG410X with FreePBX: Register Gateway

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.

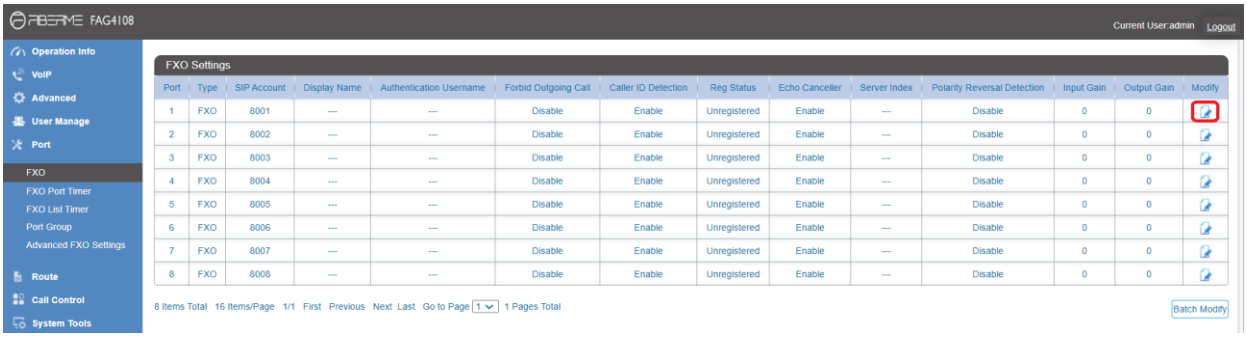

Figure 7: Configure FXO Port on FAG410X: Modify Port

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

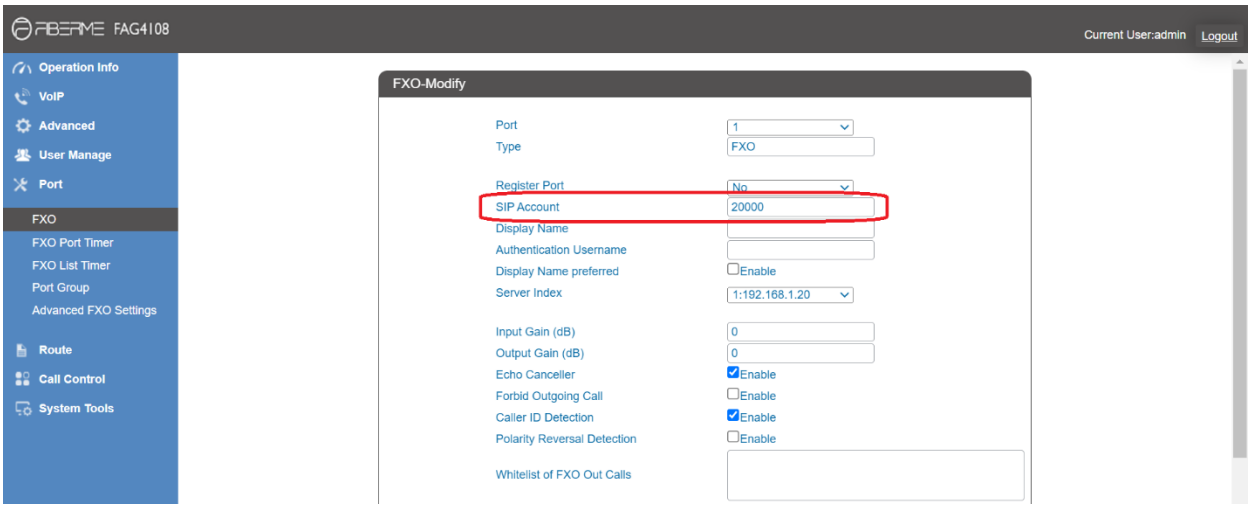

Figure 8: Configure FXO Port on FAG410X: Port Configurations

Create Port Group on FAG410X

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

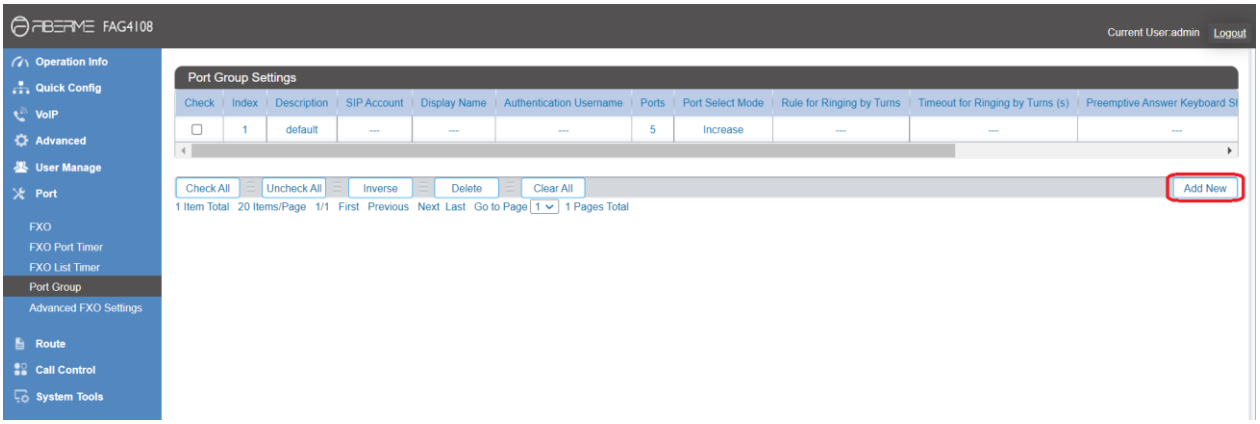

Figure 9: Create Port Group on FAG410X: Add New

2. Select the FXO port you will use.

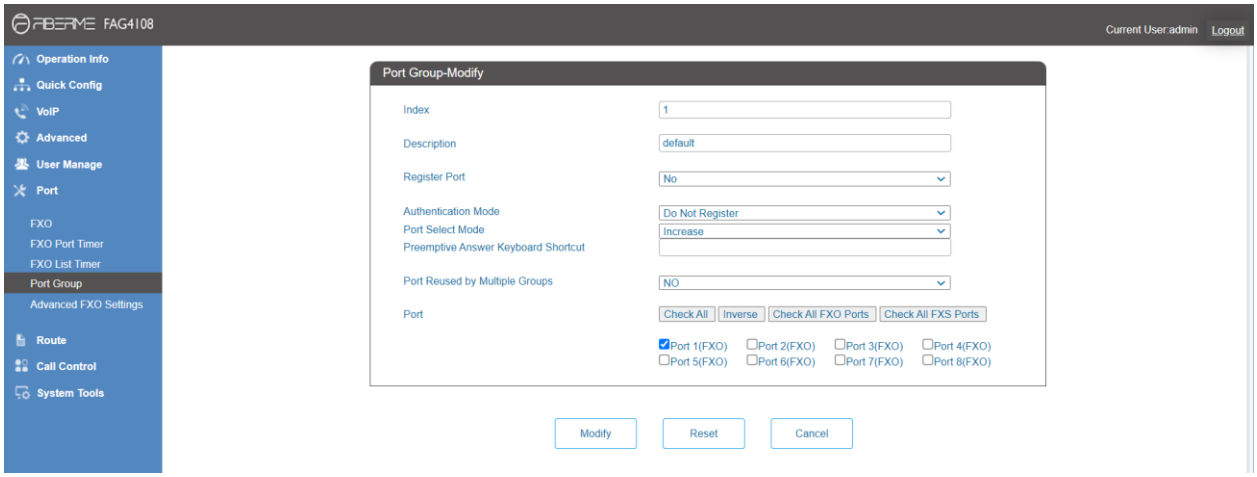

Figure 10: Create Port Group on FAG410X: Group Configurations

REGISTER FAG410X ON FreePBX AS AN EXTENSION

Create SIP Extension on FreePBX

To manually create new SIP user, go to FreePBX web GUI **Applications** ->**Extensions** ->**Add New SIP [chan_pjsip] Extension**. A new dialog window will show for users to fill in the extension information.

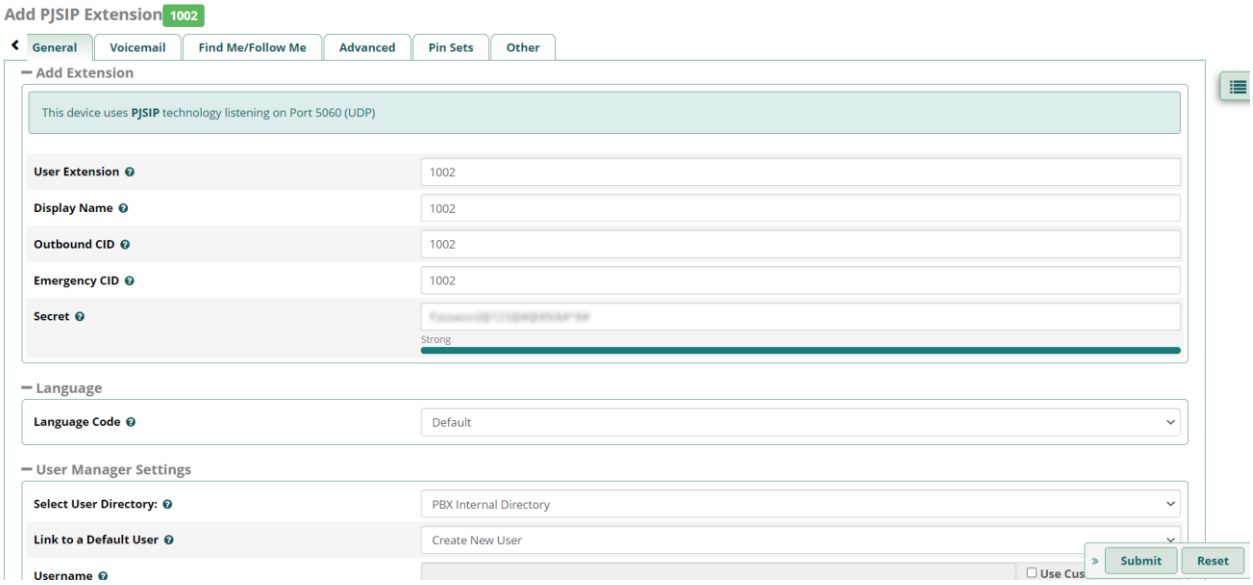

Figure 11: Create SIP Extension on FreePBX

Configure FAG410X SIP Account as a Registered Extension on FreePBX

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

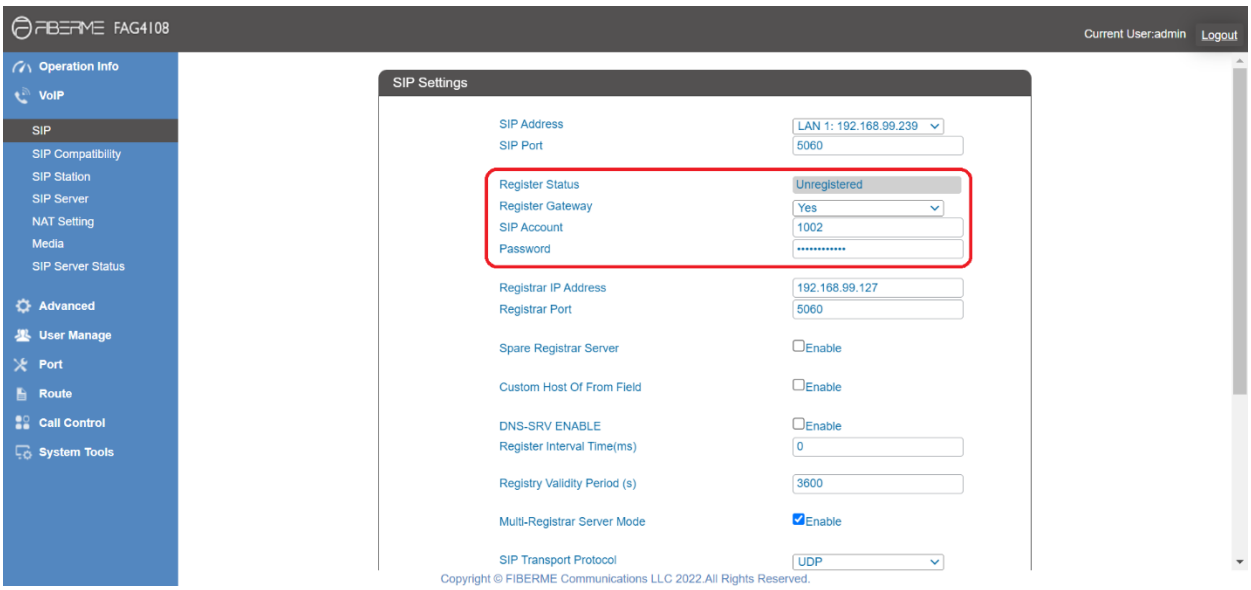

Figure 12: FAG410X SIP Account Settings

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

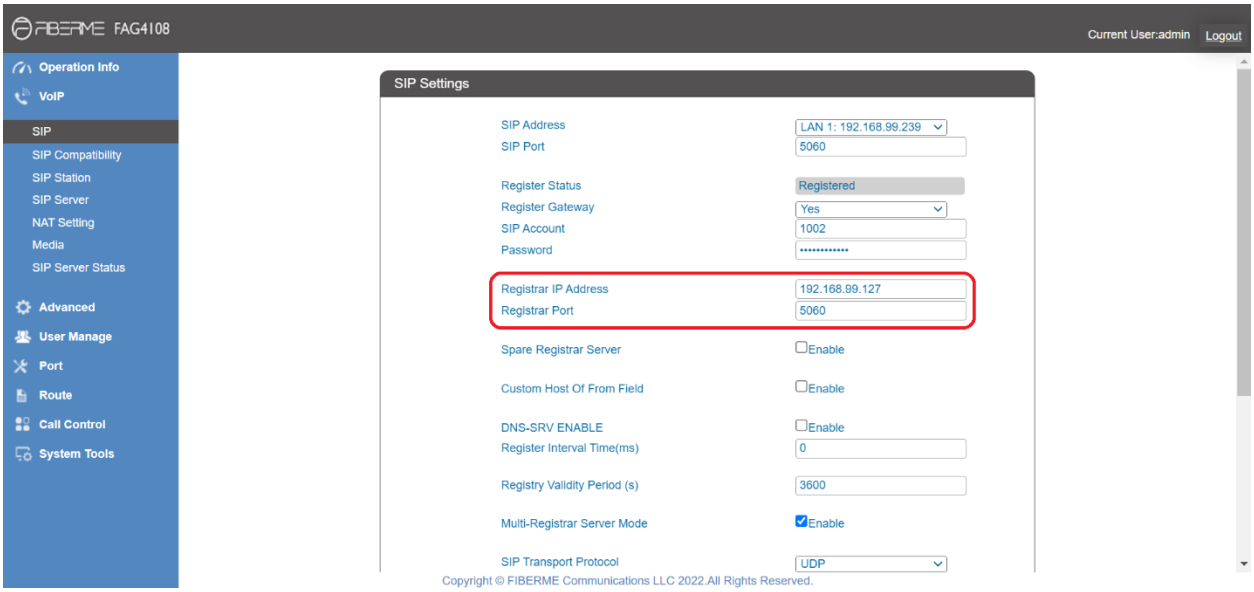

Figure 13: FAG410X Registrar IP Address

We can check FreePBX SIP Extension Status to see if FAG410X has been successfully registered as an extension device. go to **Admin** ->**Asterisk-Cli**, In CLI Command write “pjsip list contacts” and press Send Command. “Avail” under Status means that the extension is registered successfully as below screenshot.

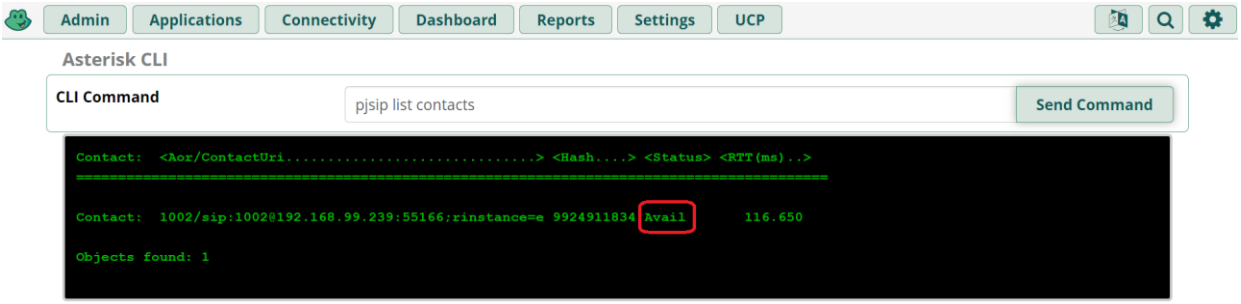

Figure 14: FreePBX - SIP Extension Status

Now FAG410X is registered at FreePBX 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”.

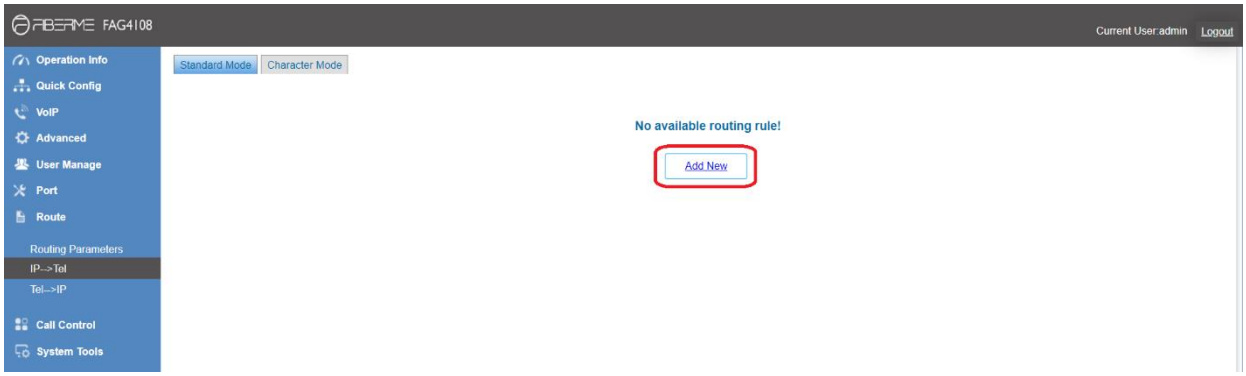

Figure 15: FAG410X – IP to TEL

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

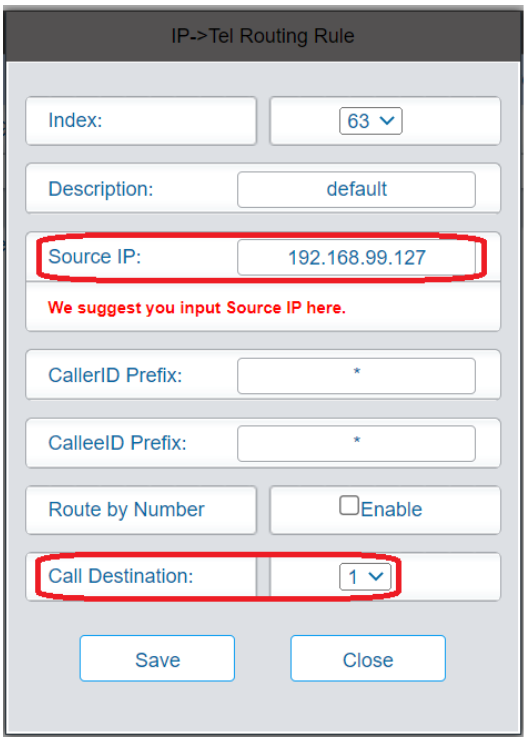

Figure 16: IP to TEL Settings

Configure TEL to IP on FAG410X

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

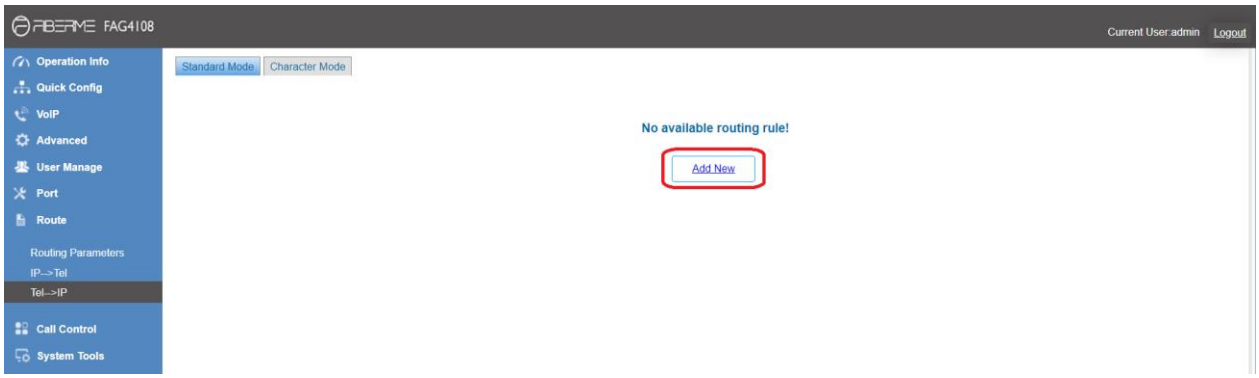

Figure 17: FAG410X – TEL to IP

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

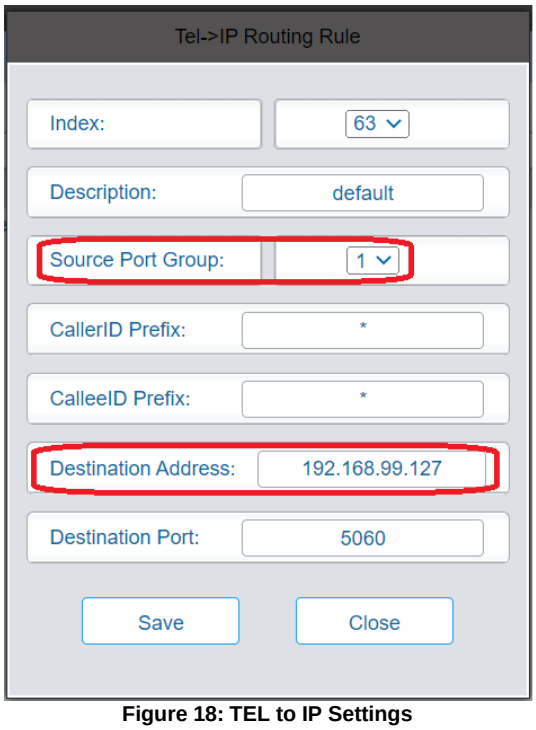

Figure 18: TEL to IP Settings