IP Phone Configuration Guide

Yeastar P-Series Appliance Edition

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Contents

Overview

Yeastar P-Series PBX System supports most SIP-based IP phones, allowing you to configure IP phones to work with the PBX system. This topic describes different configuration methods (including phone provisioning and extension registration) to help you understand the configuration process between IP phones and Yeastar P-Series PBX System, and offers the detailed configuration guides for the IP phones of many popular phone vendors.

Configuration methods

Yeastar supports multiple configuration methods to help you connect your IP phones to Yeastar PBX, as the following table shows.

Methods	Description
Auto Provisioning	Provision a large number of identical IP phones at one time to complete general settings (preferences, codecs, etc) and extension registration, which significantly improves deployment efficiency. In addition, the IP phones can be managed centrally on Yeastar P-Series PBX System. This method is applicable for IP phones that support Auto Provisioning.
Manual Registration	Register PBX extension(s) on an IP phone, without additional phone auto provisioning. This method is applicable for IP phones that are compatible with the standard SIP protocol.

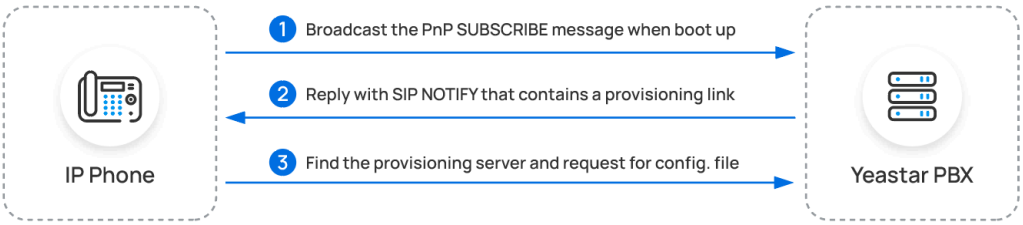
Auto Provisioning

Yeastar supports to auto provision IP phones via **PnP**, **DHCP**, and **RPS** methods, you can select the most suitable auto provisioning method according to different network environment and the IP phone compatibility.

PnP (Plug and Play) method

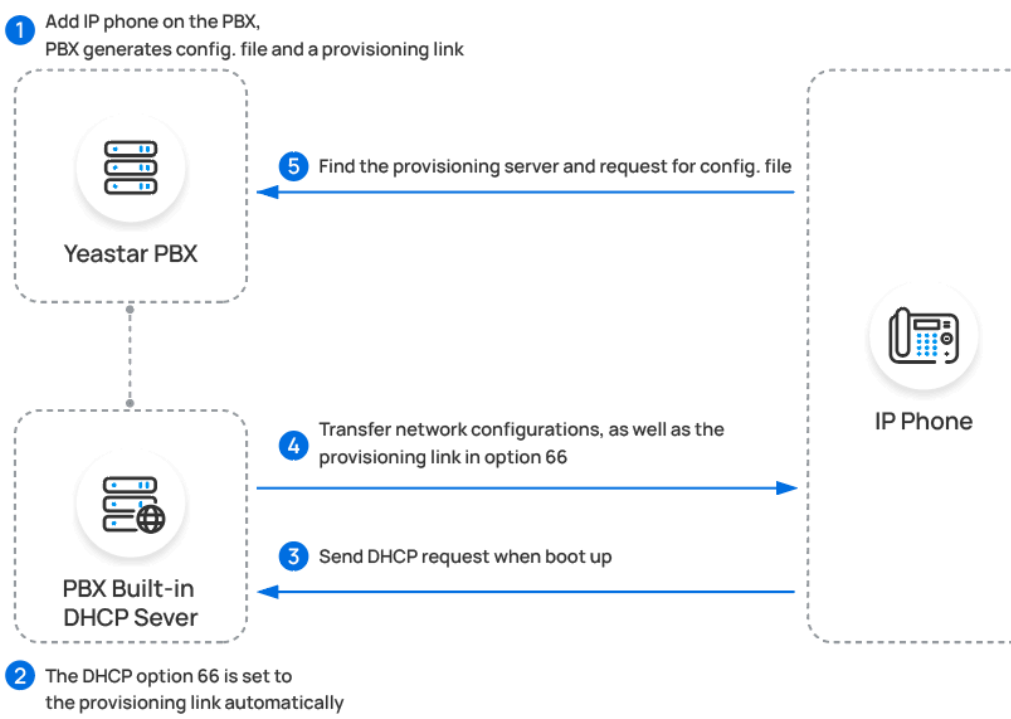
If your IP phone is deployed in the SAME subnet as the PBX and supports PnP provisioning, you can auto provision the phone via **PnP** method.

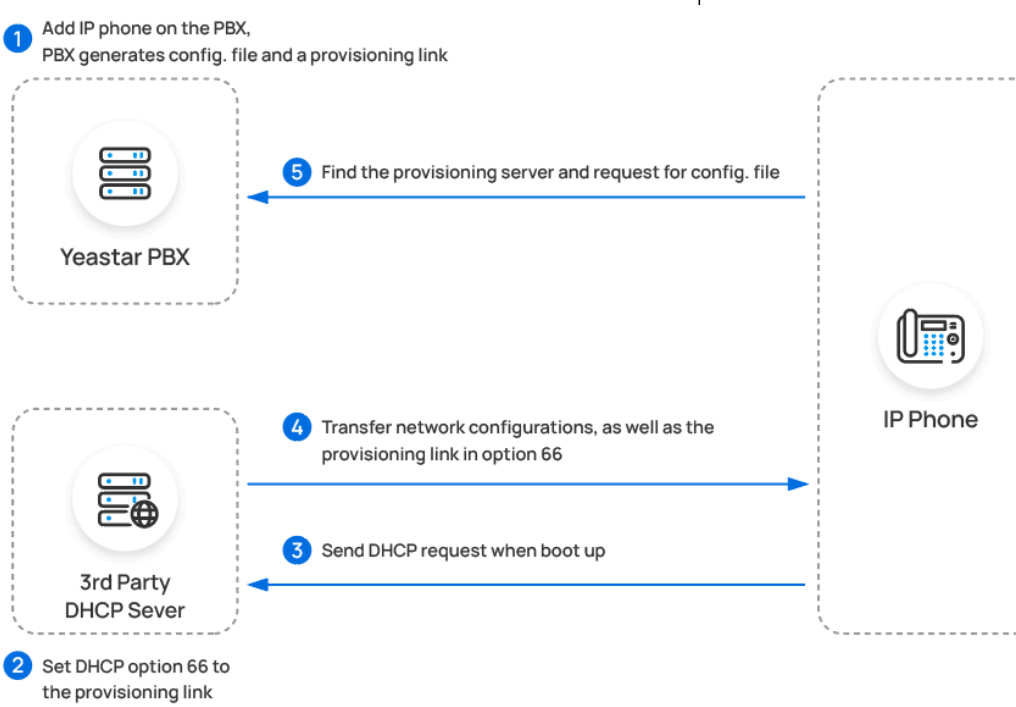
The provisioning process is shown below.



DHCP method

According to the network environment of IP phone and Yeastar PBX, you can auto provision IP phones using the PBX's built-in DHCP server or a third-party DHCP server:

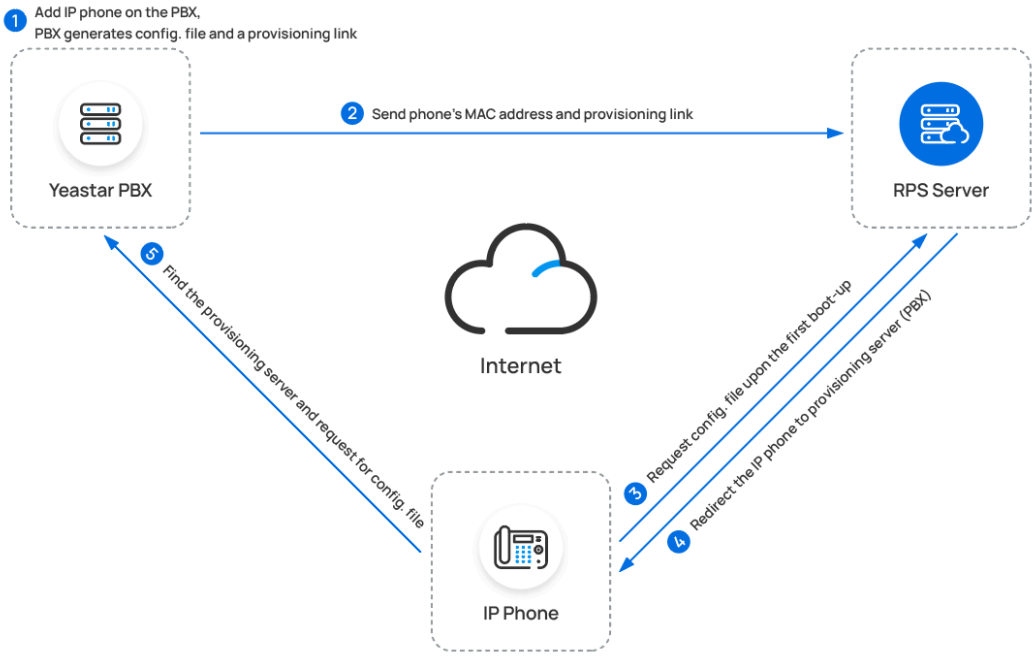
Scenario	Description
IP phone is deployed in the SAME subnet as the PBX, but does NOT support PnP provisioning	In this scenario, you can use the PBX's built-in DHCP server. The provisioning process is shown below: 
IP phone and PBX are deployed in DIFFERENT subnets	In this scenario, you can use a third-party DHCP server. The provisioning process is shown below:

Scenario	Description
	

RPS (Redirection and Provisioning Service) method

If your IP phone is deployed in remote network, you can provision the phone via **RPS** method, either using public IP address or Yeastar FQDN of the PBX.

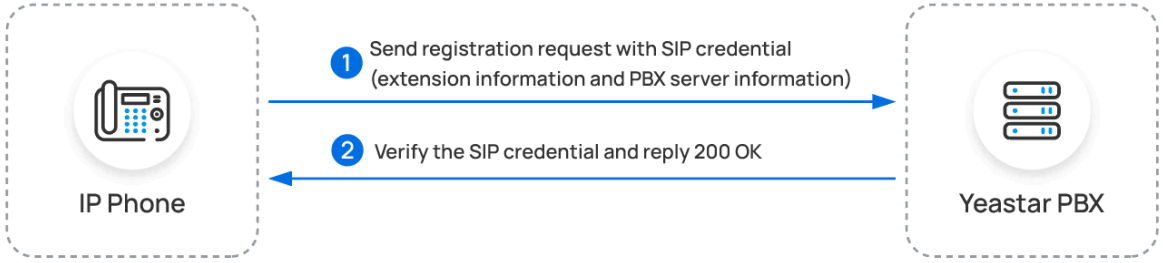
The provisioning process is shown below:



Manual Registration

You can manually register IP phones to Yeastar PBX by entering the SIP credentials (extension information and PBX server information) on the phone's web interface.

The registration process is shown below:



Configuration guides

Based on the configuration methods mentioned above, the following configuration guides offer detailed instructions to assist you in configuring IP phones from various phone vendors.

Yealink Auto Provisioning Manual Registration	Fanvil Auto Provisioning Manual Registration	AVAYA Auto Provisioning
CISCO Auto Provisioning	snom Auto Provisioning Manual Registration	Gigaset Auto Provisioning
GRANDSTREAM Auto Provisioning Manual Registration	Htek Auto Provisioning Manual Registration	tiptel Auto Provisioning Manual Registration
Alcatel·Lucent Enterprise Auto Provisioning Manual Registration	FLYINGVOICE Auto Provisioning Manual Registration	Mitel Auto Provisioning Manual Registration
DINSTAR Auto Provisioning Manual Registration		

Yealink

Auto Provision Yealink IP Phone with Yeastar P-Series PBX System

This topic takes Yealink SIP-T53W (firmware: 96.85.0.5) as an example to introduce how to auto provision a Yealink IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Yealink IP Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
CP920	78.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP925	148.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
CP960	73.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP965	143.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-CP935W	149.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-T19P_E2	53.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21P_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
SIP-T23P	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T23G	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T27G	69.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T29G	46.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T30	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T30P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31W	124.86.0.75 or later	37.11.0.56 or later	• PnP • DHCP • RPS
SIP-T33G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T33P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T34W	124.86.0.75 or later	37.12.0.23 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
SIP-T40P	54.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T40G	76.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41P	36.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42G	29.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T43U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T44U	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T44W	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T46G	28.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T46S	66.85.0.5 or later	37.2.0.7 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
SIP-T46U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48G	35.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T52S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T56A	58.83.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T57W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T58	58.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
SIP-T58W	150.86.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
VP59	91.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W60B (W53P, W41P, W60P, CP930W-Base)	77.83.0.85 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W70B (W79P, W76P, W73P)	146.85.0.20 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W80B	W80DM-103.83.0.80	37.2.0.7 or later	• PnP • DHCP • RPS
W90DM	130.85.0.15 or later	37.2.0.80 or later	• PnP • DHCP • RPS

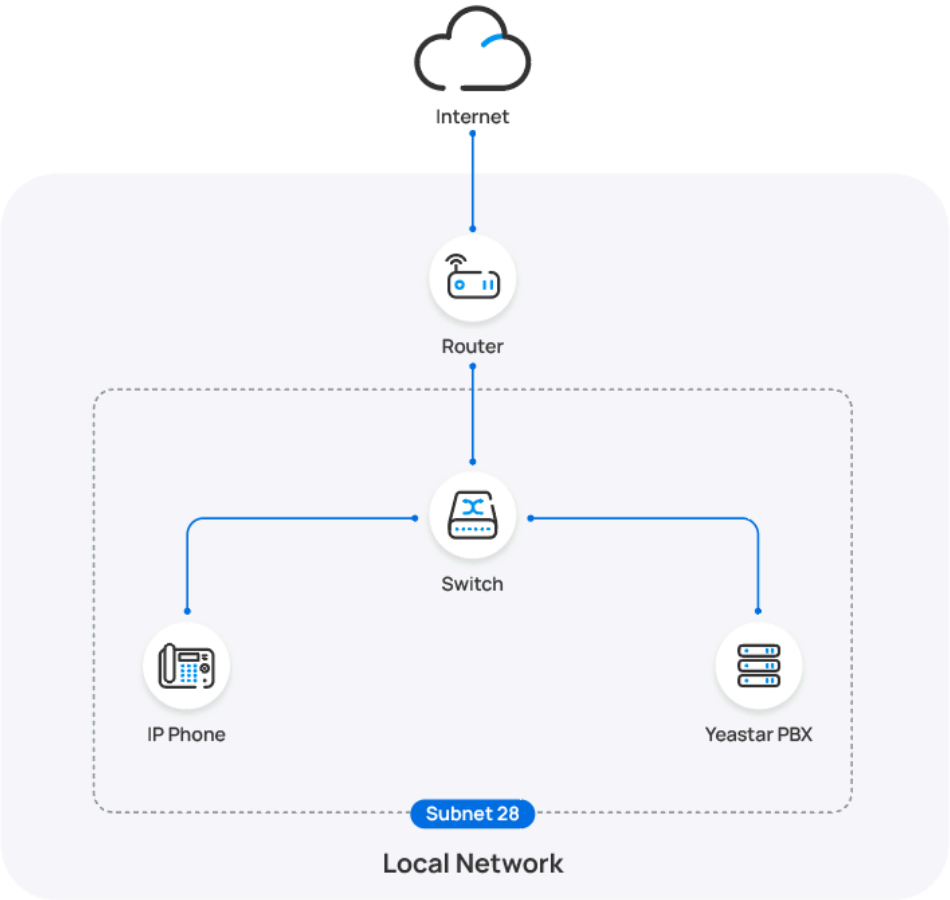
Scenarios

The provisioning methods and operations vary depending on the network environment of **Yealink IP Phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Yealink IP phone with the PBX via **PnP** method. For more information, see Auto provision a Yealink IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Yealink IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Yealink IP phone in the different subnets (DHCP).
IP Phone and PBX are in DIFFERENT network	In this scenario, you can provision the Yealink IP phone with the PBX via **RPS** method. For more information, see Auto provision a Yealink IP phone in remote network (RPS).

Auto provision a Yealink IP phone in the same subnet (PnP)

In this example, the Yealink IP phone (IP: `192.168.28.192`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

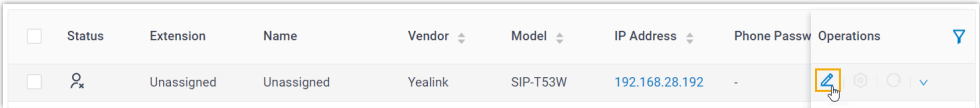
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

The IP phones detected by the PBX via PnP are displayed in the phone list.

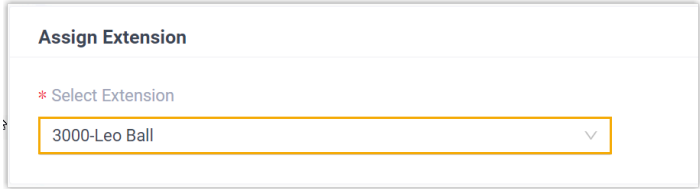
2. Click beside the Yealink IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



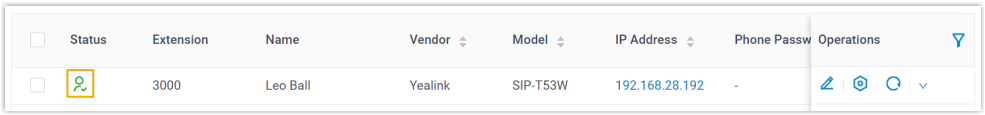
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

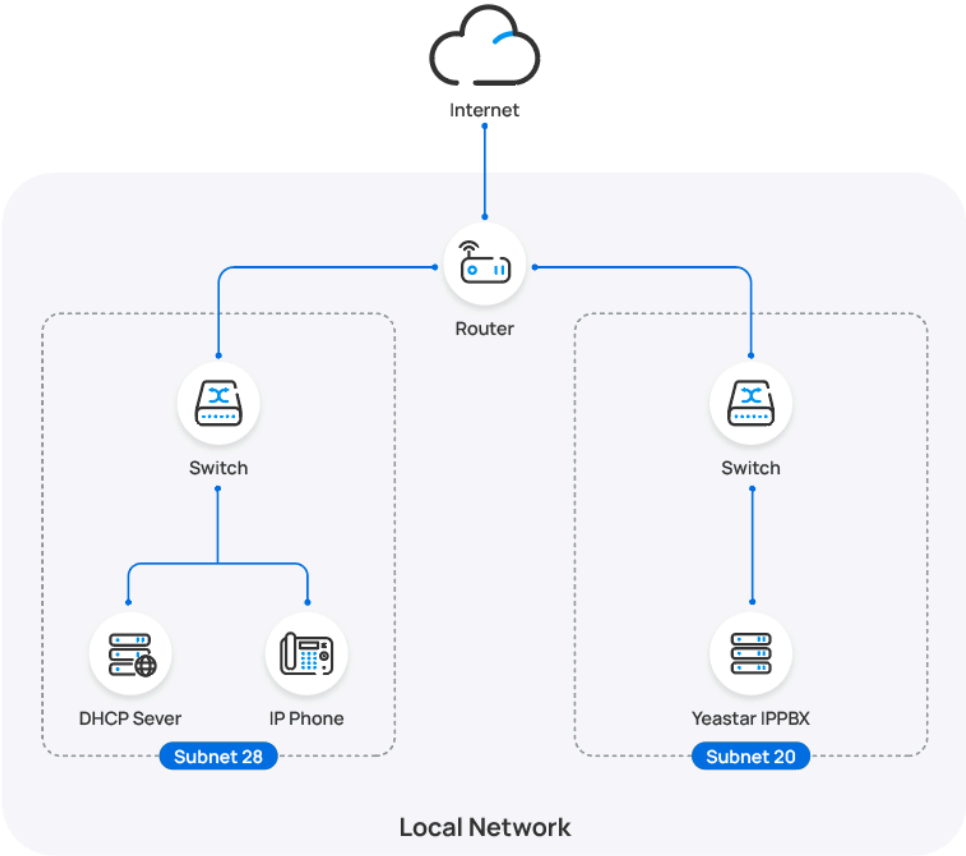
- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Status	Extension	Name	Vendor	Model	IP Address	Phone Passw	Operations
	3000	Leo Ball	Yealink	SIP-T53W	192.168.28.192	-	

Auto provision a Yealink IP phone in the different subnets (DHCP)

In this example, the Yealink IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

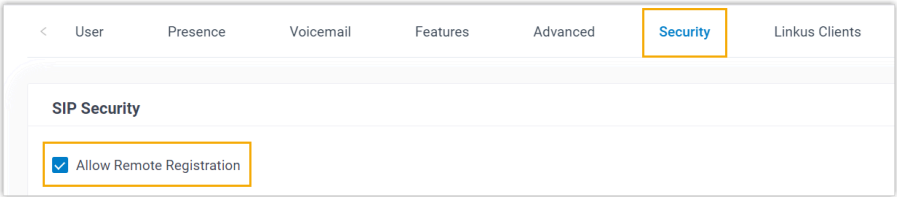
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Yealink IP phone on PBX
- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

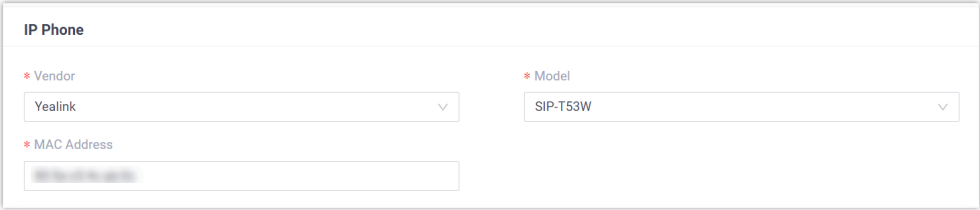


3. Click **Save** and **Apply**.

Step 2. Add the Yealink IP phone on PBX

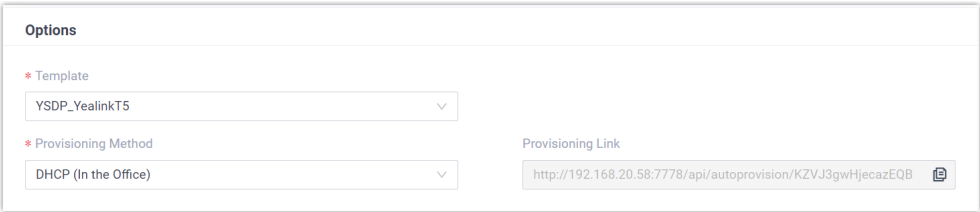
1. On PBX web portal, go to **Auto Provisioning > Phones**.

2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Yealink**.
- **Model**: Select the phone model. In this example, select **SIP-T53W**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



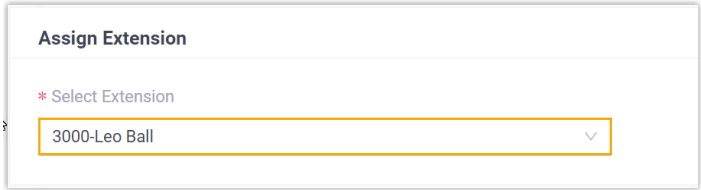
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**

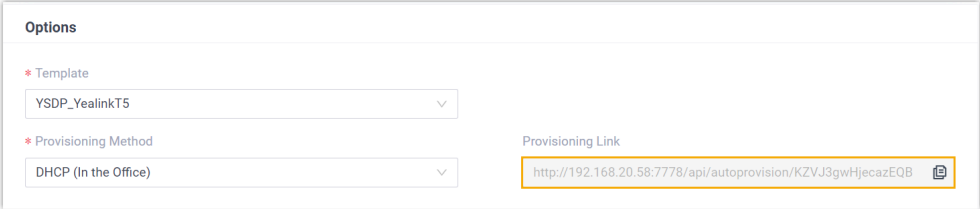
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

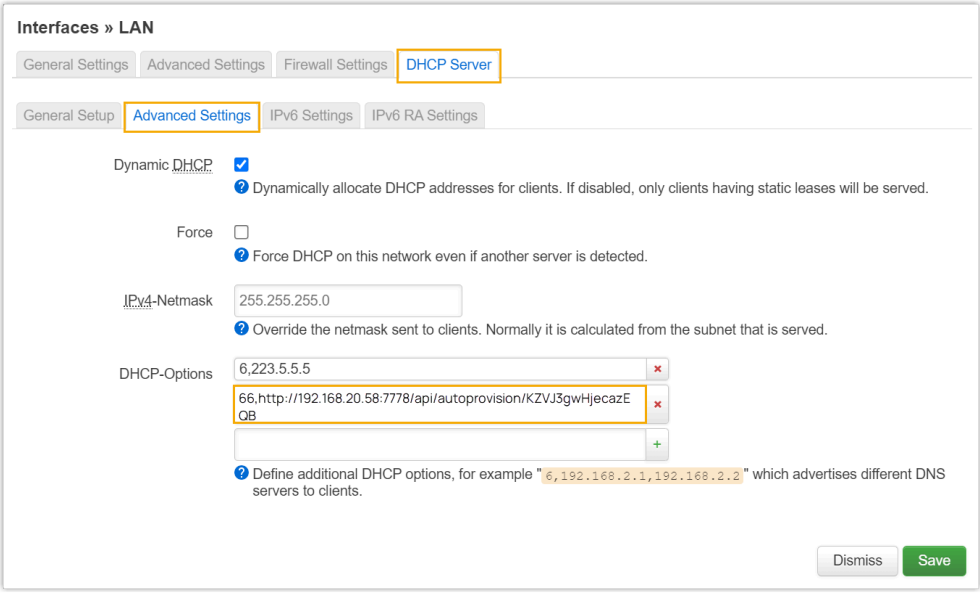
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

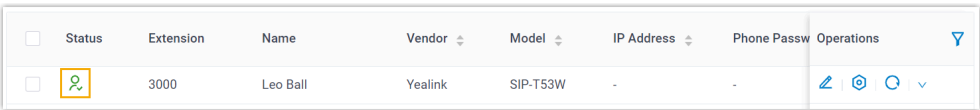
   In this example, the configuration on a router's DHCP server is shown below.



Result

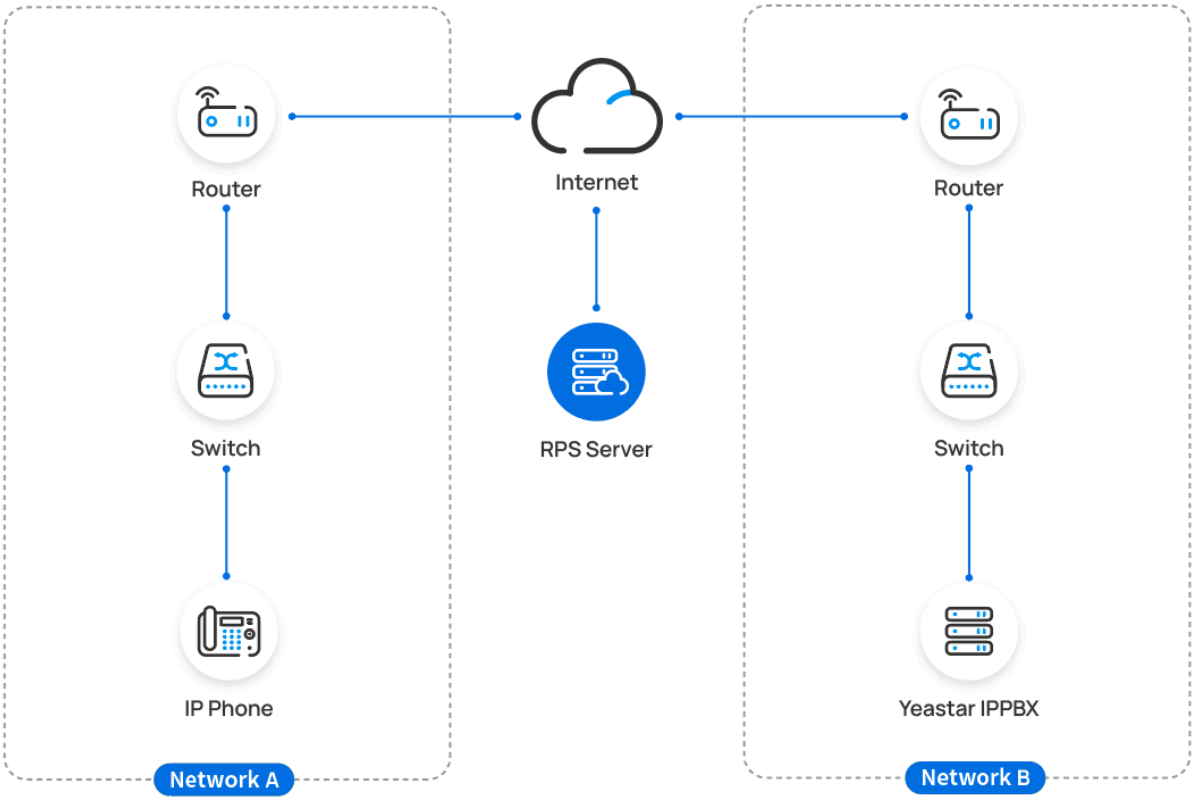
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision a Yealink IP phone in remote network (RPS)

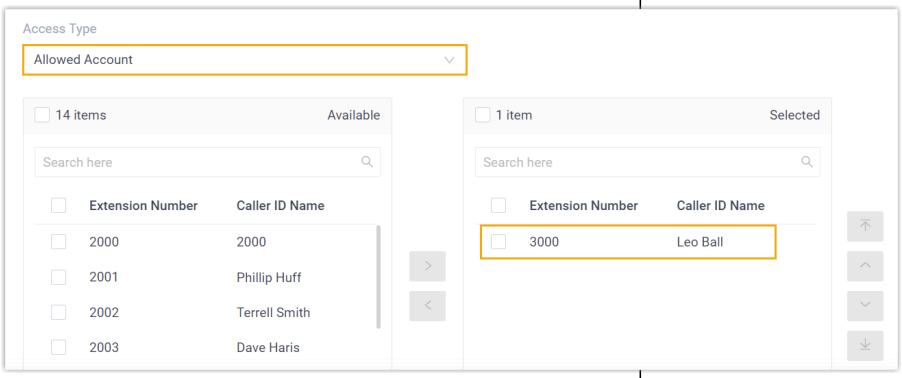
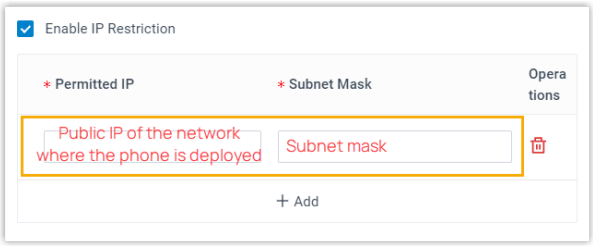
In this example, the Yealink IP phone and the Yeastar PBX are deployed in different network.

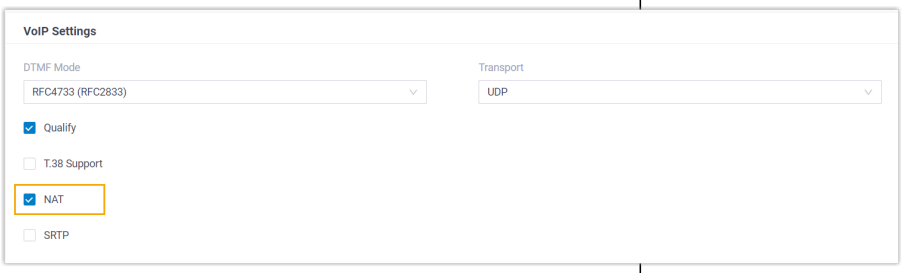
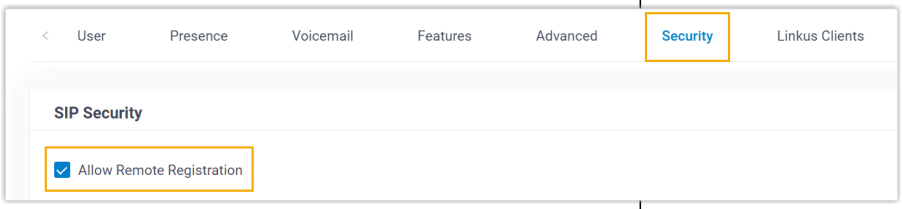


Prerequisites

Yeastar P-Series PBX System supports to auto provision a Yealink phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

Method	Setting
	 ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration.

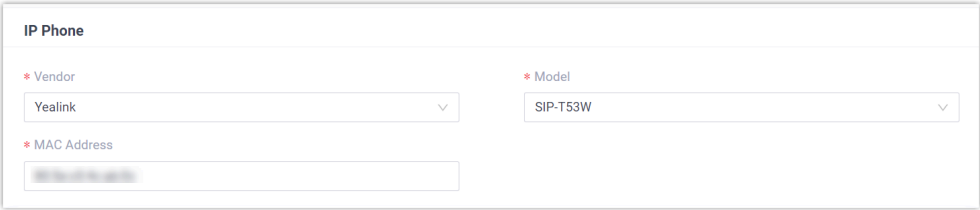
Method	Setting
	◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

- Step 1. Add the Yealink IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Yealink IP phone on PBX

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Yealink**.
- **Model**: Select the phone model. In this example, select **SIP-T53W**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.

Figure 1. **RPS using Yeastar FQDN**

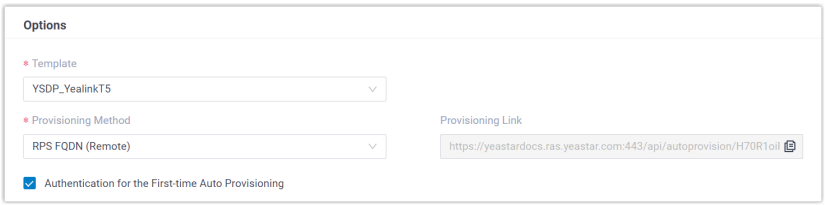
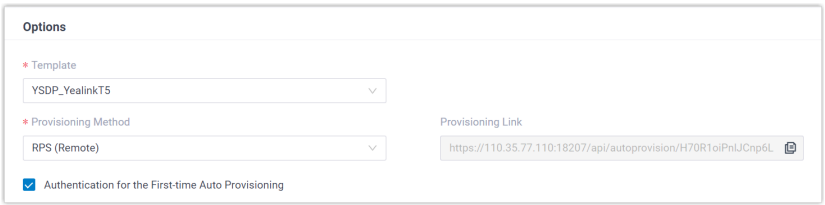


Figure 2. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template].

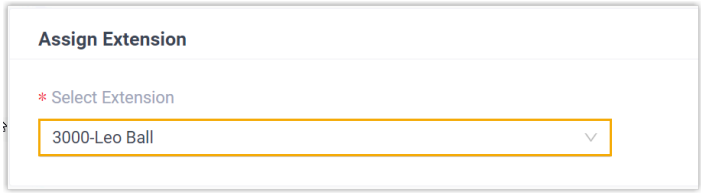
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



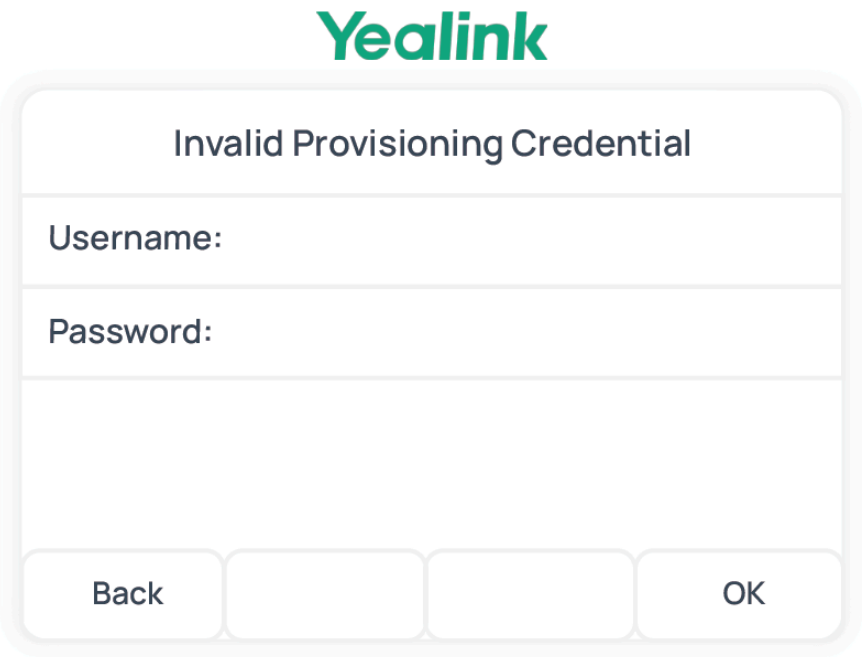
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

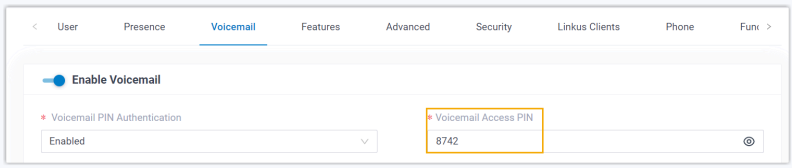
   The PBX will send an event notification of **RPS Request Success**.

Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.
2. If you have enabled **Authentication for the First-time Auto Provisioning** on the PBX, enter the authentication credential on the IP phone.

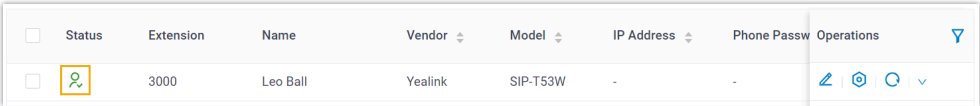


- **Username**: Enter the extension number that is assigned to the phone.
- **Password**: Enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Allow Users to Query Contacts on IP Phones]
[Auto Provision LDAP for IP Phones]
[Auto Provision Yealink Expansion Module with Yeastar P-Series PBX System]
[Auto Provision Yealink DECT Phones with Yeastar P-Series PBX System]

Auto Provision Yealink Expansion Module with Yeastar P-Series PBX System

This topic takes Yealink T53W as an example to describe how to provision Yealink expansion module with Yeastar P-Series PBX System, so as to add extra programmable keys.

Requirements

Refer to the table below to learn about the supported Yealink IP phone models for different expansion modules, as well as the required phone provisioning templates.

Expansion Module	Phone model	Phone provisioning template
EXP40	T46S, T48S	YSDP_YealinkT4 (`1.0.5` or later)
	T46G, T48G	YSDP_YealinkT4xG (`1.0.4` or later)
EXP43	T43U, T46U, T48U	YSDP_YealinkT4 (`1.0.5` or later)
EXP50	SIP-T53, SIP-T53W, SIP-T54W, SIP-T57W	YSDP_YealinkT5 (`1.0.5` or later)
	SIP-T56A	YSDP_YealinkT56 (`1.0.5` or later)
	SIP-T58, SIP-T58W	YSDP_YealinkT58 (`1.0.5` or later)

Prerequisites

- The Yealink expansion module is connected to a Yealink IP phone.
- [The Yealink IP phone is connected to Yeastar P-Series PBX System via Auto Provisioning].

Supported methods

- Provision function keys for Yealink expansion module via web interface
- Provision function keys for Yealink expansion module using auto provisioning template

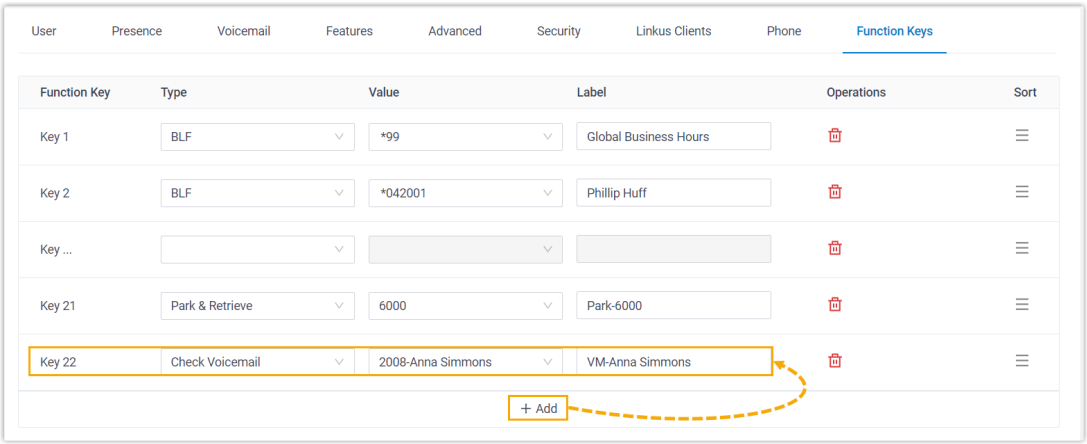
Provision function keys for Yealink expansion module via web interface

On PBX web portal, you can easily customize function keys by directly selecting key types from the menu and setting up specific operation for each function key.

> **Note:**
> Yeastar P-Series PBX System supports to add up to **120** function keys on PBX web portal.

1. Add and configure function keys.
   a. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
   b. Click **Function Keys** tab.
   c. Click **Add** to add and configure function keys for the expansion module.

> **Note:**
> Function key settings that **exceed the supported programmable keys of the IP phone** will be automatically applied to the connected expansion module. For example, Yealink T53W supports 21 programmable keys, then the function key settings starting from the 22nd key will take effect on the expansion module.



- **Type**: Select a key type.
- **Value**: Configure a desired value based on the key type.
- **Label**: Optional. Enter a label, which will be displayed on the LCD screen.

d. Click **Save**.

2. Reprovision the IP phone.
   a. On PBX web portal, go to **Auto Provisioning > Phones**.
   b. Click beside the phone.
   c. In the pop-up window, click **OK**.

Provision function keys for Yealink expansion module using auto provisioning template

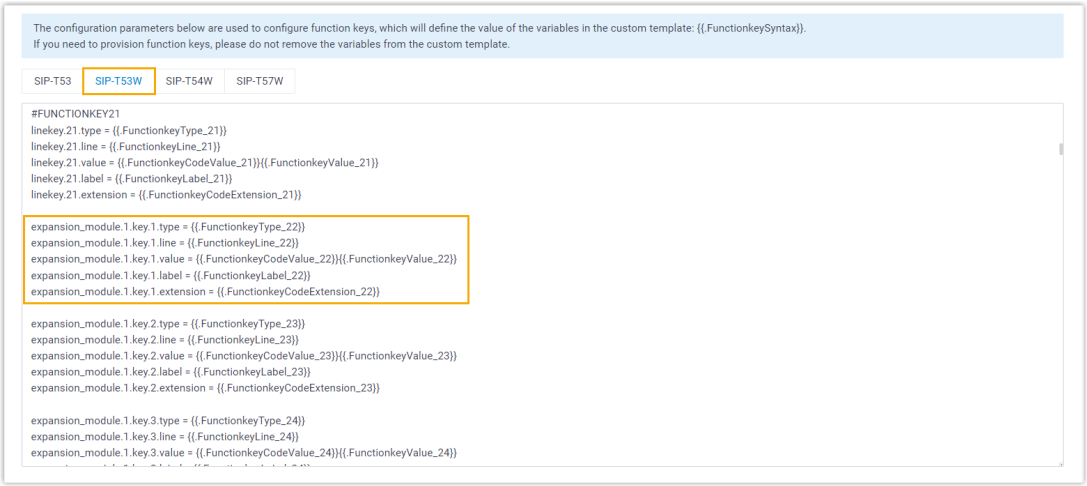
If you are familiar with the configuration parameters of IP phone, you can bulk configure function keys in a template file, via which the function key settings will be applied on the phone and expansion module automatically, thus saving time and effort.

> **Important:**
> As custom auto provisioning template is created based on the default phone provisioning template, make sure that you have updated the default template of the desired phone model to the required version on PBX (Path: **Auto Provisioning > Resource Repository > Default Templates**).

1. Create a custom auto provisioning template.
   a. Log in to PBX web portal, go to **Auto Provisioning > Resource Repository > Custom Templates**.
   b. Click **Add**.
   c. In the **Basic** section, set the basic information.
      - **Template Name**: Enter a name to help you identify the template.
      - **Source Default Template**: Search and select the default template of the phone model. In this example, select **YSDP_YealinkT5**.
      - **Template Type**: Select **Advanced**.
      - **Remark**: Optional. Add a note for the template.
   d. **Optional:** In the **Preference**, **Distinctive Ringtone**, **Codecs**, and **LDAP Directory** sections, configure the settings according to your needs.
   e. In the second text box of the **Customize Configuration Parameters in Text** section, select the specific phone model, then refer to specific IP phone's con-

figuration parameter explanations to add function key settings for the expansion module.

> **Note:**
> Function key settings that **exceed the supported programmable keys of the IP phone** will be automatically applied to the connected expansion module. For example, Yealink T53W supports 21 programmable keys, then the function key settings starting from the 22nd key will take effect on the expansion module.



2. Apply the template to the phone.
   a. On PBX web portal, go to **Auto Provisioning > Phones**, edit the desired phone.
   b. In the **Options** section, select the template from the **Template** drop-down list.
   c. Click **Save**.
3. Reprovision the IP phone.
   a. On PBX web portal, go to **Auto Provisioning > Phones**.
   b. Click beside the phone.
   c. In the pop-up window, click **OK**.

Auto Provision Yealink DECT Phones with Yeastar P-Series PBX System

This topic describes how to provision Yealink DECT base station and DECT handsets with Yeastar P-Series PBX System in the local network.

Requirements

The firmwares of **Yealink DECT Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
CP920	78.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP925	148.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
CP960	73.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP965	143.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-CP935W	149.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-T19P_E2	53.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21P_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T23P	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T23G	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T27G	69.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T29G	46.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
SIP-T30	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T30P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31W	124.86.0.75 or later	37.11.0.56 or later	• PnP • DHCP • RPS
SIP-T33G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T33P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T34W	124.86.0.75 or later	37.12.0.23 or later	• PnP • DHCP • RPS
SIP-T40P	54.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T40G	76.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41P	36.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41S	66.85.0.5 or later	37.2.0.7 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
SIP-T41U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42G	29.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T43U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T44U	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T44W	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T46G	28.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T46S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T46U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48G	35.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
SIP-T48U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T52S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T56A	58.83.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T57W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T58	58.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T58W	150.86.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
VP59	91.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W60B (W53P, W41P, W60P, CP930W-Base)	77.83.0.85 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W70B (W79P, W76P, W73P)	146.85.0.20 or later	37.2.0.7 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
W80B	W80DM-103.83.0.80	37.2.0.7 or later	• PnP • DHCP • RPS
W90DM	130.85.0.15 or later	37.2.0.80 or later	• PnP • DHCP • RPS

This topic takes the following Yealink devices as an example:

Device Model	Firmware Version
Yealink DECT base station	
Yealink W70B	146.85.0.20
Yealink DECT handset	
Yealink W73H	116.85.254.20

Prerequisites

- Make sure that a DHCP Server is enabled in your local network to assign an IP address to the DECT base.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).

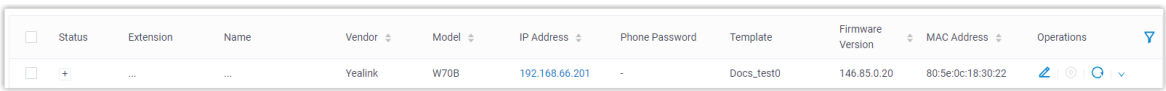
Procedure

- Step1. Provision the DECT base station
- Step2. Register the DECT handset

Step1. Provision the DECT base station

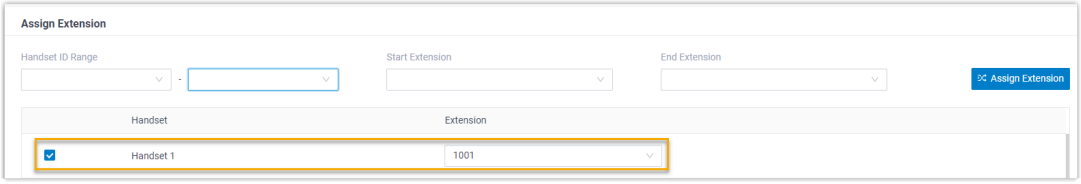
1. Power on PBX first, then power on the DECT base.
2. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The DECT base is detected.



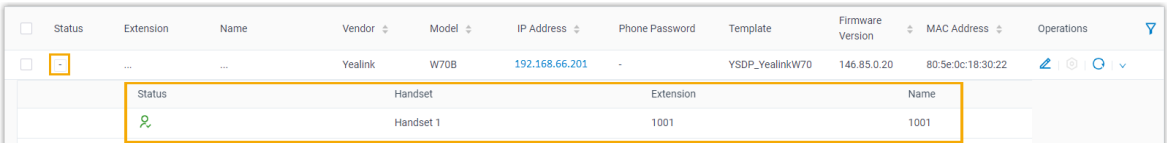
Status	Extension	Name	Vendor	Model	IP Address	Phone Password	Template	Firmware Version	MAC Address	Operations
+	...	...	Yealink	W70B	192.168.66.201	-	Docs_test0	146.85.0.20	80:5e:0c:18:30:22	

3. Click to edit the desired DECT base station.
   a. In the **Options** section, select a desired template from the **Template** drop-down list.
   b. In the **Assign Extension** section, assign an extension for the DECT handset.



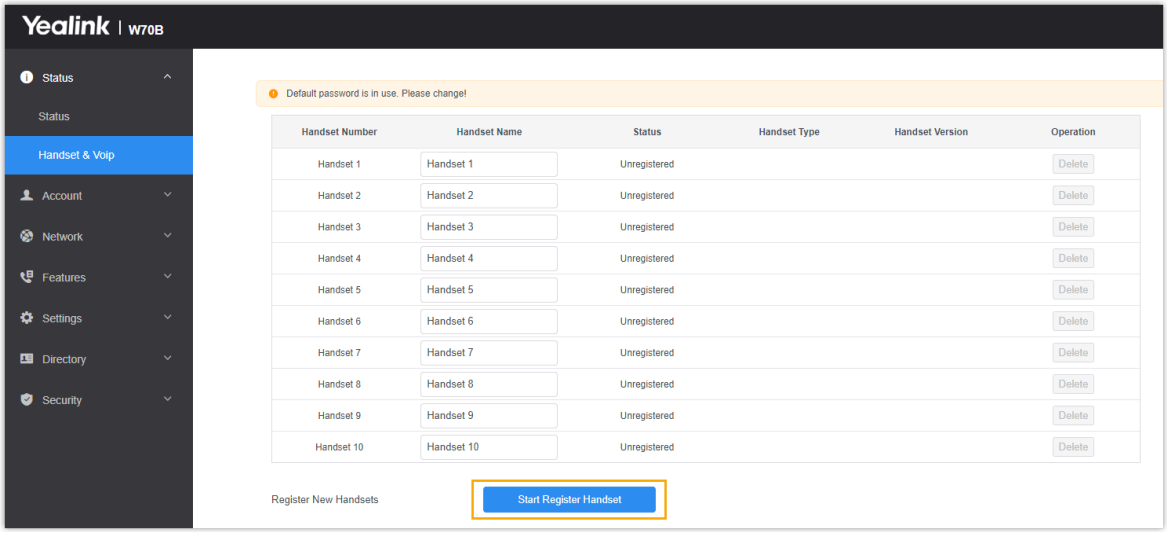
   c. Configure other settings according to your needs.
4. Click **Save**.

   The handset is listed under the DECT base station.



Step2. Register the DECT handset

1. Click on the IP address beside the DECT base station to log in to the web interface.
2. Go to **Status > Handset & Voip** to register the handset.
3. In the **Register New Handsets** section, click **Start Register Handset**.



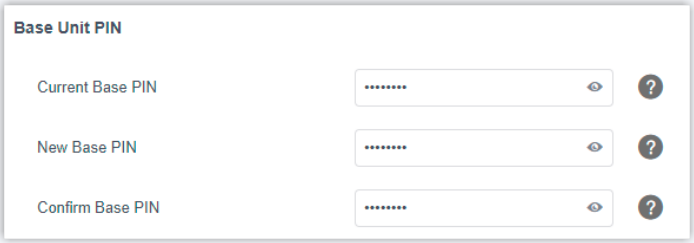
4. Confirm registration on DECT handset.
   a. On the handset, press **OK > Settings > Registration > Register Handset > OK**.

The handset starts to search for a DECT base, and displays the MAC address of the detected DECT base.

b. Press **OK**.

You are requested to enter the PIN of the DECT base.

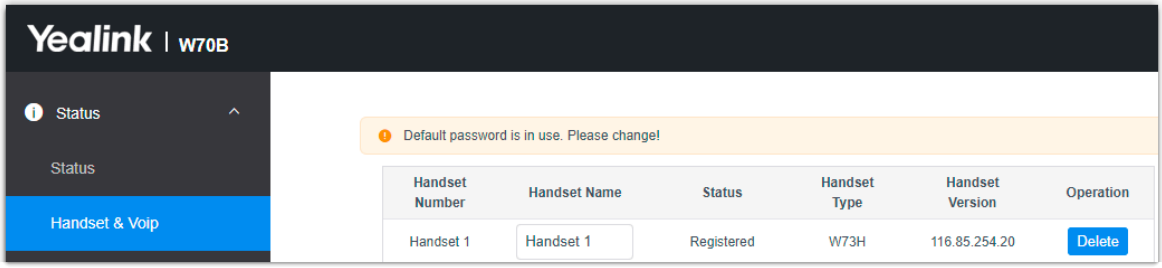
c. Enter the PIN code, and press **Done**.

> **Note:**
> The default PIN is `0000`. You can change the PIN on the DECT base web interface (Path: **Security > Base PIN**).
>
> 
>

The handset prompts **Handset Subscribed**, indicating that the handset is successfully registered.

Result

- You can manage the handset on the DECT base station web interface.



- You can use the handset as an extension to make and receive calls.

Provision Yealink IP Phones on Multiple Servers

When you want to conduct IP phone diagnostics and manage the IP phones on the Yealink device management platform, and assign extension, supply configuration files and upgrade

device firmware for the IP phones on Yeastar P-Series PBX System, you can provision the IP phones on both servers.

Applications

This topic is applied to the remote deployment of the following Yealink IP phones.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
CP920	78.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP925	148.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
CP960	73.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
CP965	143.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-CP935W	149.86.0.5 or later	37.5.0.9 or later	• PnP • DHCP • RPS
SIP-T19P_E2	53.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21P_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T21_E2	52.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T23P	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T23G	44.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T27G	69.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
SIP-T29G	46.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T30	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T30P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T31W	124.86.0.75 or later	37.11.0.56 or later	• PnP • DHCP • RPS
SIP-T33G	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T33P	124.85.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T34W	124.86.0.75 or later	37.12.0.23 or later	• PnP • DHCP • RPS
SIP-T40P	54.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T40G	76.84.0.125 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41P	36.83.0.120 or later	37.2.0.7 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
SIP-T41S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T41U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42G	29.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T42U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T43U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T44U	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T44W	108.86.0.90 or later	37.10.0.32 or later	• PnP • DHCP • RPS
SIP-T46G	28.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T46S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T46U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48G	35.83.0.120 or later	37.2.0.7 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
SIP-T48S	66.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T48U	108.85.0.39 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T52S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T53W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54S	70.84.0.70 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T54W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T56A	58.83.0.15 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T57W	96.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T58	58.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
SIP-T58W	150.86.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
VP59	91.85.0.5 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W60B (W53P, W41P, W60P, CP930W-Base)	77.83.0.85 or later	37.2.0.7 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
W70B (W79P, W76P, W73P)	146.85.0.20 or later	37.2.0.7 or later	• PnP • DHCP • RPS
W80B	W80DM-103.83.0.80	37.2.0.7 or later	• PnP • DHCP • RPS
W90DM	130.85.0.15 or later	37.2.0.80 or later	• PnP • DHCP • RPS

Prerequisites

You have an account of the Yealink Device Management Platform.

Procedure

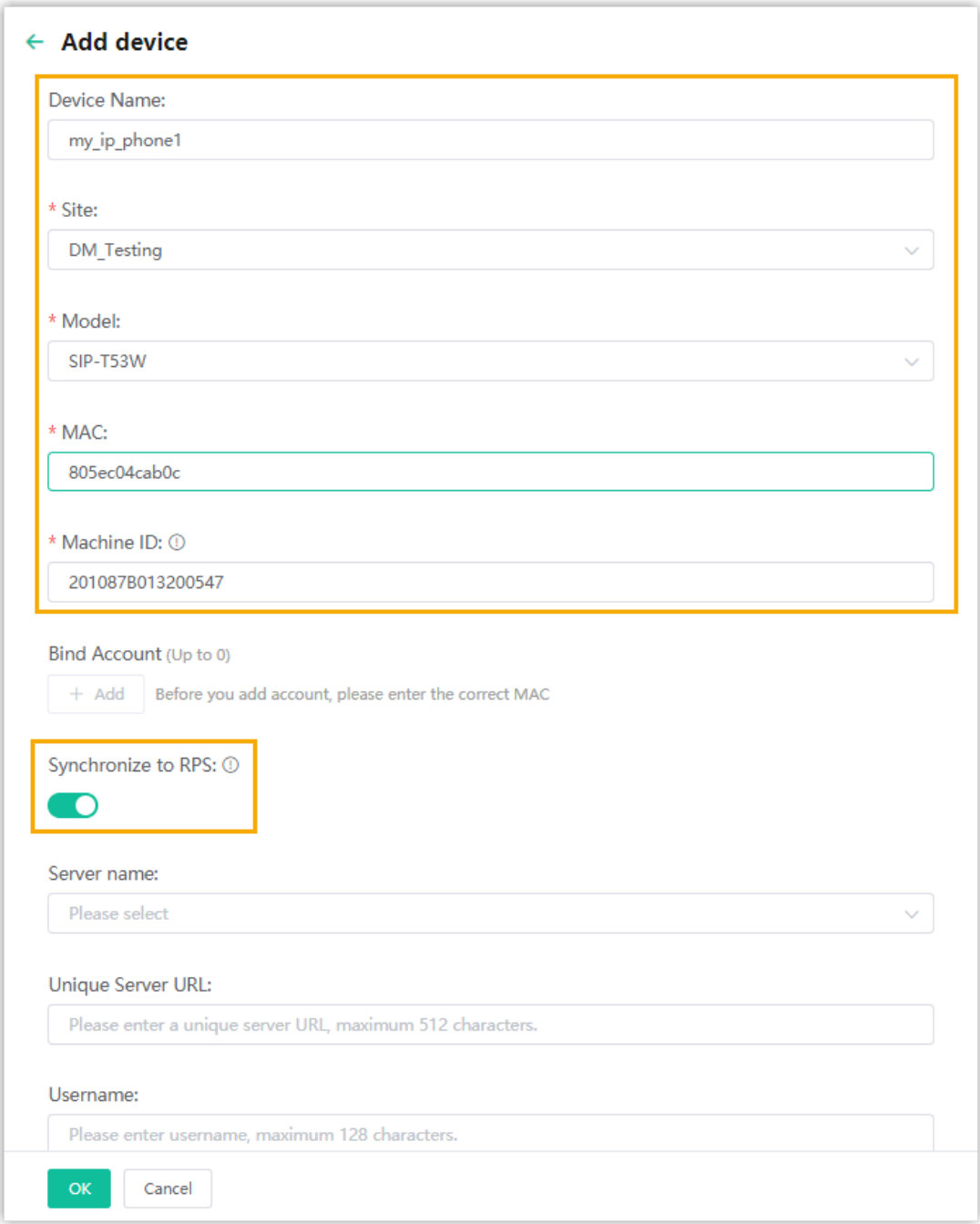
- Step 1. Add IP phones on Yealink Device Management Platform

> **Note:**
> If the IP phone is already added to the PBX, you need to remove it from PBX first.

- Step 2. Add IP phones on the PBX
- Step 3. Configure global Auto Provisioning URL on Yealink Device Management Platform

Step 1. Add IP phones on Yealink device management platform

1. Log in to the Yealink Device Management Platform.
2. Go to **Device Management > Phone Device**, click **Add device** to add a phone.
   a. Complete the following configurations.



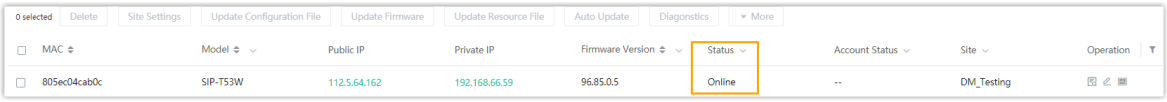
- **Device Name**: Specify a device name.
- **Site**: Select a site in the drop-down list.
- **Model**: Select the phone model in the drop-down list.
- **MAC**: Enter the MAC address of the IP phone.
- **Machine ID**: Enter the serial number of the IP phone.

- **Synchronize to RPS**: Enable this feature to synchronize the IP phone to RPS server.

b. Click **OK**.

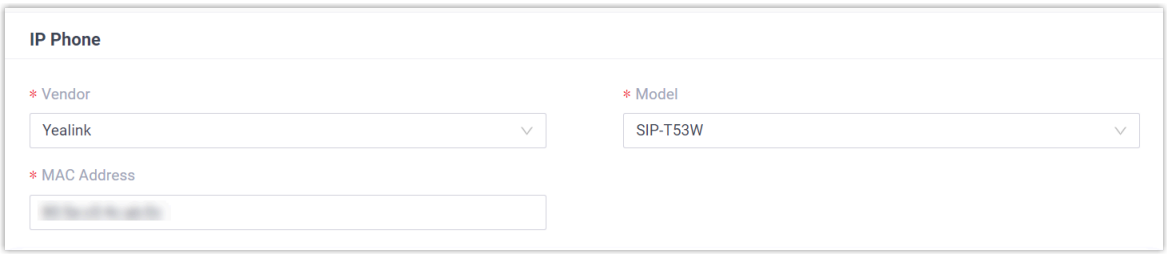
3. Reboot the IP phone.

   The phone is connected to the Device Management Platform, and the status displays "Online" on the platform.



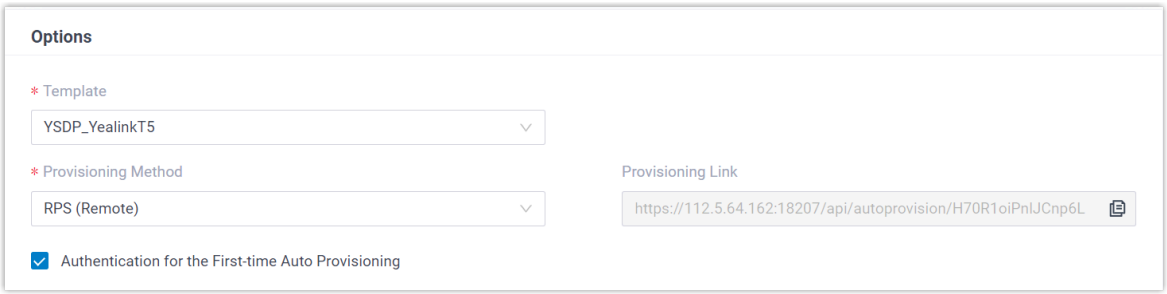
Step 2. Add IP phones on the PBX

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Yealink**.
- **Model**: Select the phone model. In this example, select **SIP-T53W**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



- **Template**: Select a desired template from the drop-down list.

Note:

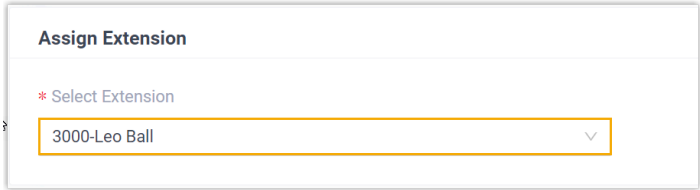
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **RPS (Remote)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.
- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



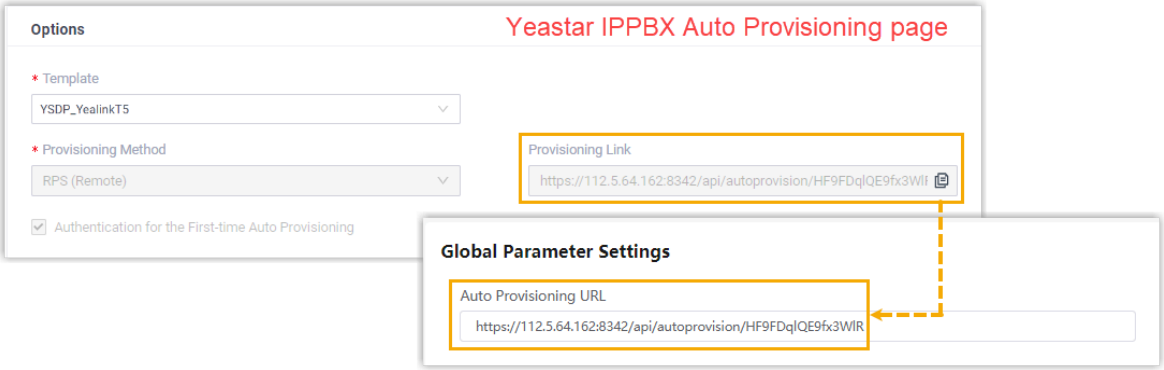
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

   The PBX will send an event notification of **RPS Request Success**.

Configure global Auto Provisioning URL on Yealink Device Management Platform

1. Log in to 'Yealink Device Management Platform.
2. Go to **Device Configuration > Global Parameter Settings**.
3. Paste the PBX provisioning link in the **Auto Provisioning URL**.



4. Click **Save and update**.
5. In the pop-up dialog box, click **OK** to update the settings.

Manually Register Yealink IP Phone with Yeastar P-Series PBX System

This topic takes Yealink SIP-T53W (firmware: 96.85.0.5) as an example to introduce how to manually register an extension on a Yealink IP phone.

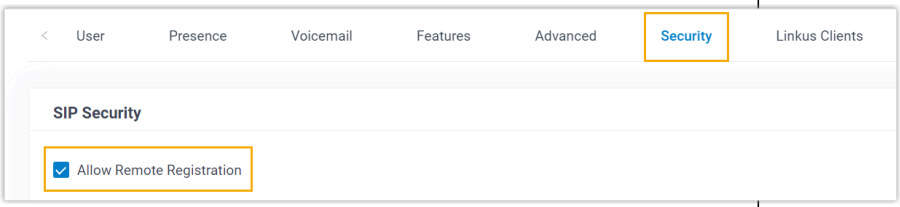
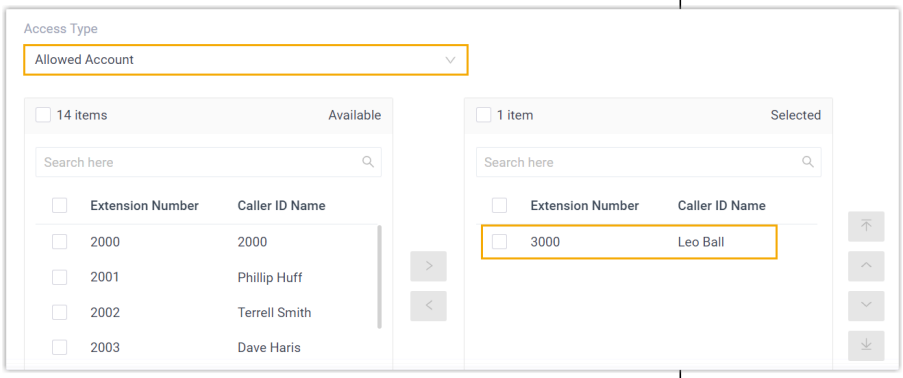
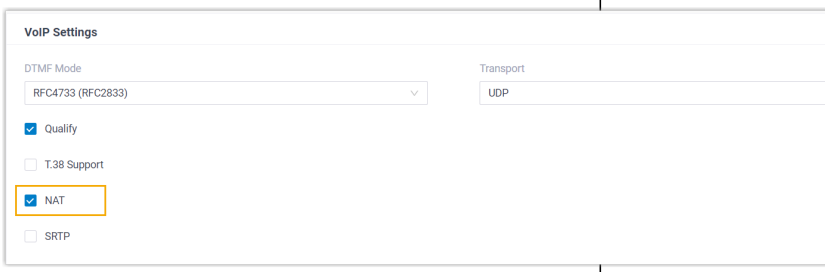
Supported devices

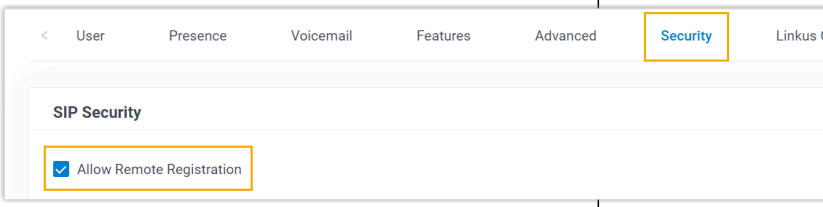
The Yealink IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Yealink IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/

Network Environment		Setting
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk >**

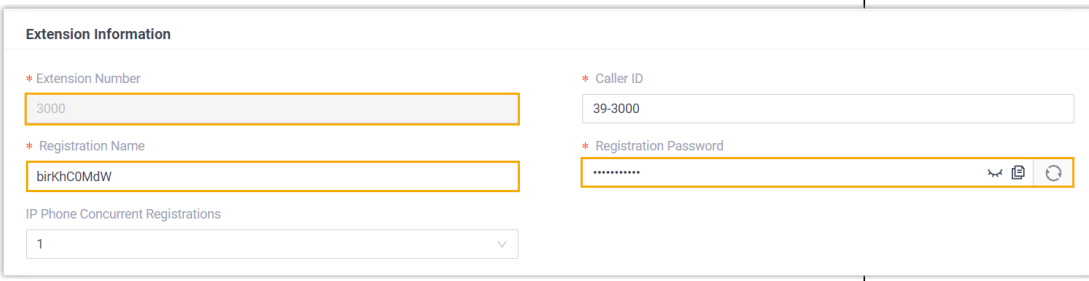
Network Environment		Setting
		Extension > > Security > SIP Security > Allow Remote Registration). 

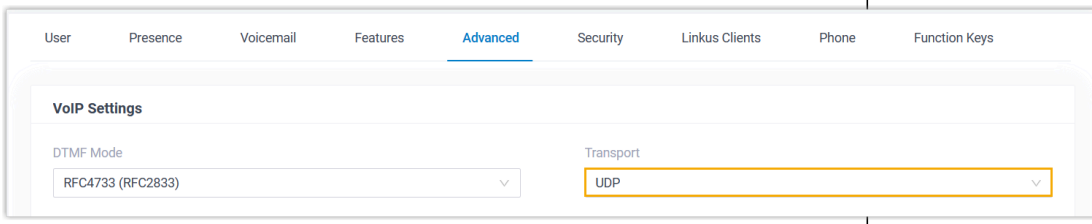
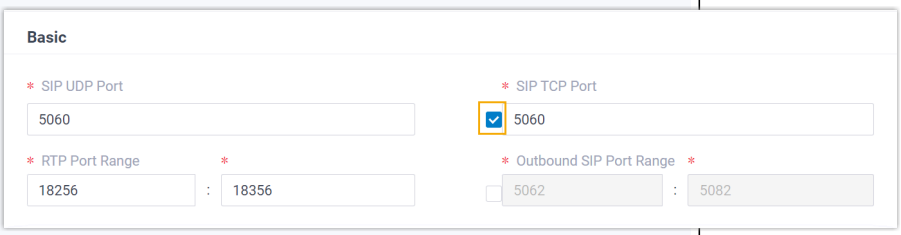
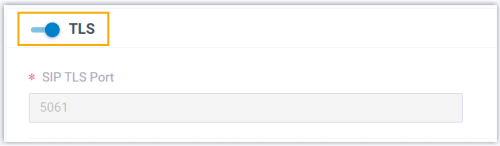
Procedure

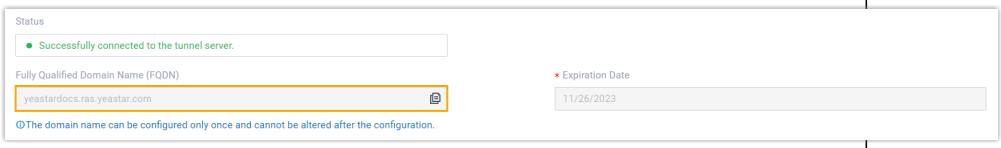
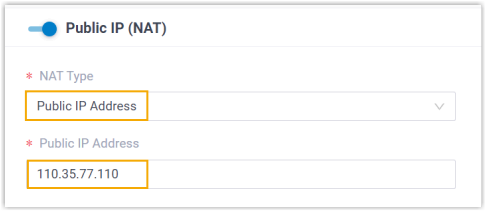
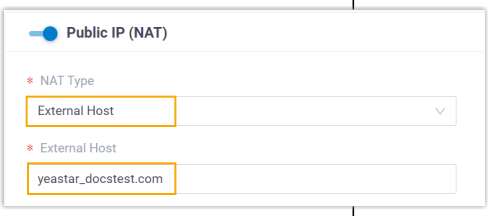
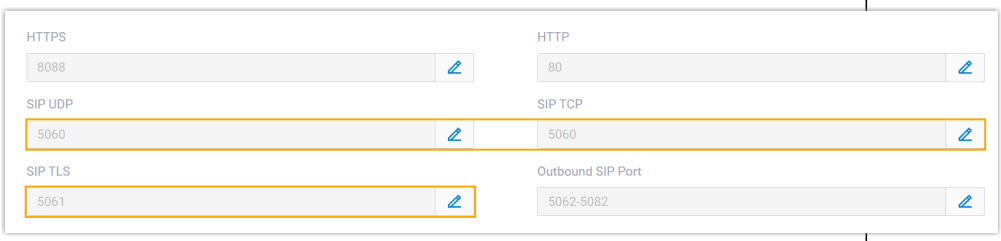
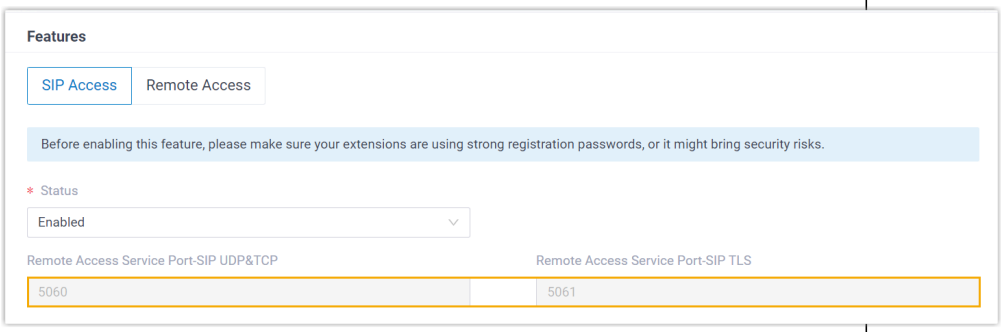
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Yealink IP phone

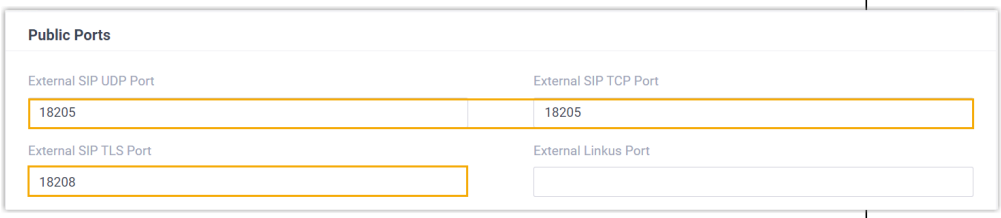
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.

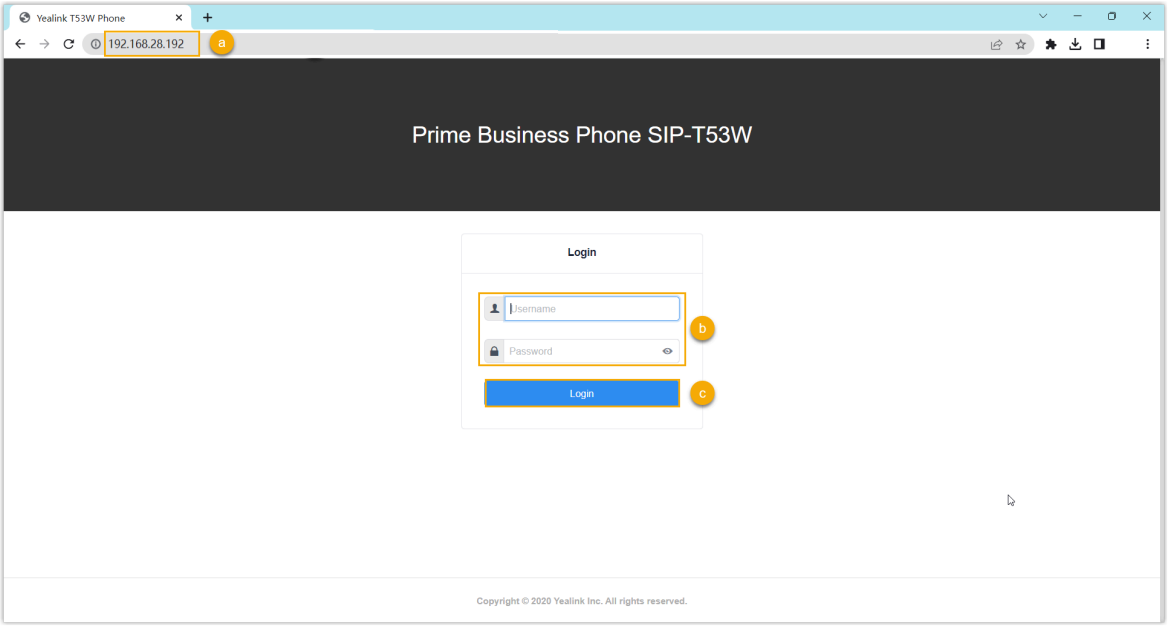
Information	Instruction
	 **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).  • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).

Information	Instruction
	 **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 

Information	Instruction
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

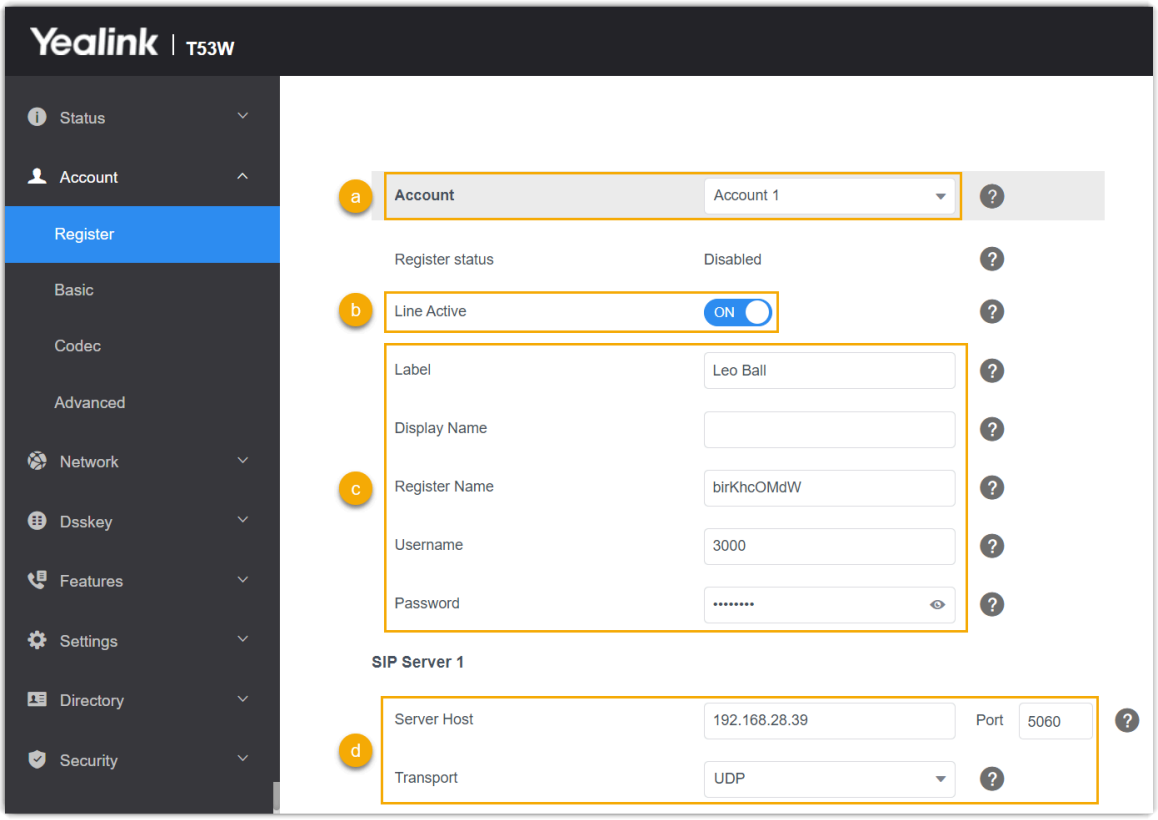
Step 2. Register extension on Yealink IP phone

1. Log in to the web interface of the Yealink IP phone.



   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `admin`.
   c. Click **Login**.
2. On the left navigation bar, go to **Account > Register**, and complete the registration configurations.

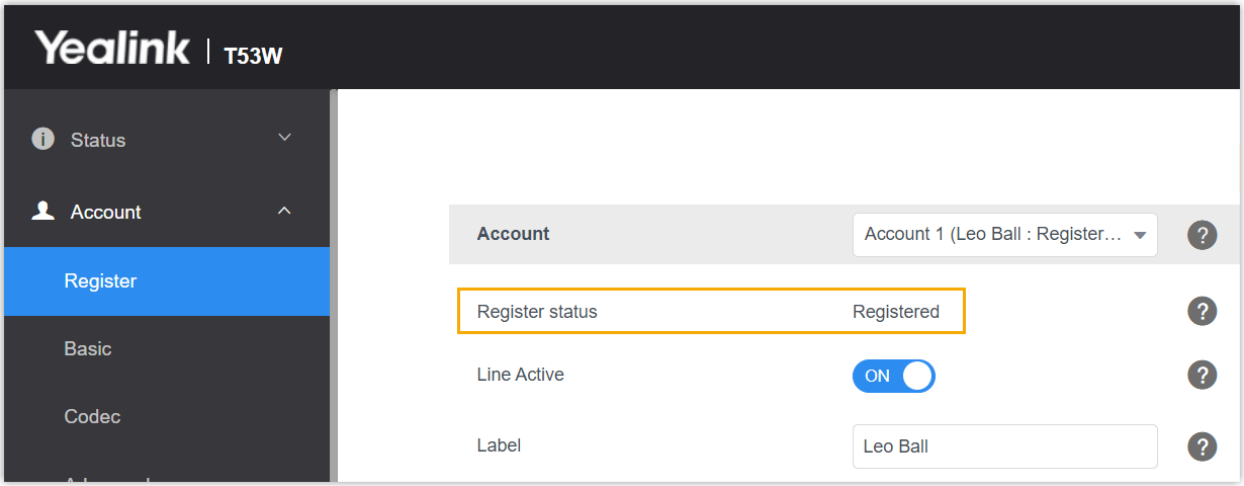


a. In the **Account** drop-down list, select an available account.
b. Turn on the switch of **Line Active** to activate the account.
c. Enter the extension information.
   - **Label**: Enter the name associated with the account, which will be displayed on the phone screen.
   - **Register Name**: Enter the registration name of the extension.
   - **Username**: Enter the extension number.
   - **Password**: Enter the registration password of the extension.
d. Enter the PBX server information.
   - **Server Host**: Enter the IP address / domain name of the PBX.
   - **Port**: Enter the SIP registration port of the PBX.
   - **Transport**: Select the transport protocol of the extension. In this example, select **UDP**.

3. Click **Confirm**.

Result

The extension is registered successfully. You can check the registration status in the **Register status** field.



Fanvil

Auto Provision Fanvil IP Phone with Yeastar P-Series PBX System

This topic takes Fanvil X6U-V2 (firmware: 2.12.1) as an example to introduce how to auto provision a Fanvil IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Fanvil IP Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
A10	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS
A10W	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS
A32	2.6.0.408 or later	37.5.0.9 or later	• PnP • DHCP • RPS
A32i	2.6.0.408 or later	37.5.0.9 or later	• PnP • DHCP • RPS
A320	2.6.0.1402 or later	37.11.0.22 or later	• PnP • DHCP • RPS
A320i	2.6.0.1402 or later	37.11.0.22 or later	• PnP • DHCP • RPS
FH-S01	2.12.8 or later	37.9.0.20 or later	• PnP • DHCP • RPS
H1	2.12.1 or later	37.10.0.32 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
H2U	2.4.7 or later	37.3.0.42 or later	• PnP • DHCP • RPS
H2U-V2	2.4.7.6 or later	37.3.0.42 or later	• PnP • DHCP • RPS
H3	2.12.1.7334 or later	37.3.0.42 or later	• PnP • DHCP • RPS
H3W	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
H5	2.12.1.7334 or later	37.3.0.42 or later	• PnP • DHCP • RPS
H5W	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10	1.2.7 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10D	1.2.7 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10S	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10SD	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10SV	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i10V	1.2.7 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i11S	1.2.7 or later	37.3.0.42 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
i11SV	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i12	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i16S	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i16SV	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i16V	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i18S	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i20S	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i23S	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i30	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i31S	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i32V	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i33V	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i33VF	2.8.2.7009 or later	37.3.0.42 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
i504	2.12.43.13 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i505	2.6.6.391 or later	37.11.0.22 or later	• PnP • DHCP • RPS
i506W	2.12.43.13 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i507W	2.6.6.394 or later	37.11.0.22 or later	• PnP • DHCP • RPS
i51	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i51W	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i52	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i52W	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i53	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i53W	2.8.13 or later	37.3.0.42 or later	• PnP • DHCP • RPS
i55A	1.0.0.45 or later	37.8.0.25 or later	• PnP • DHCP • RPS
i56A	0.3.0.21 or later	37.3.0.42 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
i57A	1.0.0.46 or later	37.8.0.25 or later	• PnP • DHCP • RPS
i61	2.4.0 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i62	2.4.0 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i63	2.4.0 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i64	2.4.0 or later	37.6.0.24 or later	• PnP • DHCP • RPS
i68	2.8.40.22 or later	37.8.0.25 or later	• PnP • DHCP • RPS
PA2	2.8.2.7009 or later	37.3.0.42 or later	• PnP • DHCP • RPS
PA2S	2.8.11 or later	37.3.0.42 or later	• PnP • DHCP • RPS
PA3	2.4.4 or later	37.3.0.42 or later	• PnP • DHCP • RPS
V62	2.4.10 or later	37.6.0.24 or later	• PnP • DHCP • RPS
V63	2.12.16.19 or later	37.11.0.22 or later	• PnP • DHCP • RPS
V64	2.4.10 or later	37.6.0.24 or later	• PnP • DHCP • RPS
V65	2.12.2.4 or later	37.7.0.16 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
V67	2.6.0 or later	37.6.0.24 or later	• PnP • DHCP • RPS
W610W	2.12.0 or later	37.11.0.22 or later	• PnP • DHCP • RPS
W611W	pvt-2.8 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X1S / X1SP	2.2.12 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X1SG	2.2.12 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X2/X2P	2.14.0.7386 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X2C/X2CP	2.14.0.7386 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X210	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X210-V2	2.12.1.3 or later	37.7.0.16 or later	• PnP • DHCP • RPS
X210i	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X210i-V2	2.12.1.3 or later	37.7.0.16 or later	• PnP • DHCP • RPS
X3SG	2.2.12 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3S/X3SP/X3G	2.14.0.7386 or later	37.2.0.80 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
X3S Lite / X3SP Lite	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3S Pro / X3SP Pro	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3SW	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3SG Lite	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3SG Pro	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3U	2.2.12 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X3U Pro	2.4.5 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X301	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X301G	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X301W	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X303	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X303G	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
X303W	0.0.16 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X305	2.12.1.6 or later	37.8.0.25 or later	• PnP • DHCP • RPS
X4/X4G	2.14.0.7386 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X4U	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X4U-V2	2.12.1 or later	37.6.0.24 or later	• PnP • DHCP • RPS
X5U	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X5U-V2	2.12.1 or later	37.6.0.24 or later	• PnP • DHCP • RPS
X5S	2.2.1 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X6	2.2.1 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X6U	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X6U-V2	2.12.1 or later	37.6.0.24 or later	• PnP • DHCP • RPS
X7	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X7A	2.2.0.229 or later	37.2.0.80 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
X7C	2.2.11 or later	37.2.0.80 or later	• PnP • DHCP • RPS
X7-V2	2.12.1.3 or later	37.7.0.16 or later	• PnP • DHCP • RPS
X7C-V2	2.12.1.3 or later	37.7.0.16 or later	• PnP • DHCP • RPS
Y501	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS
Y501W	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS
Y501-Y	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS
Y501-YW	2.12.4 or later	37.11.0.22 or later	• PnP • DHCP • RPS

Scenarios

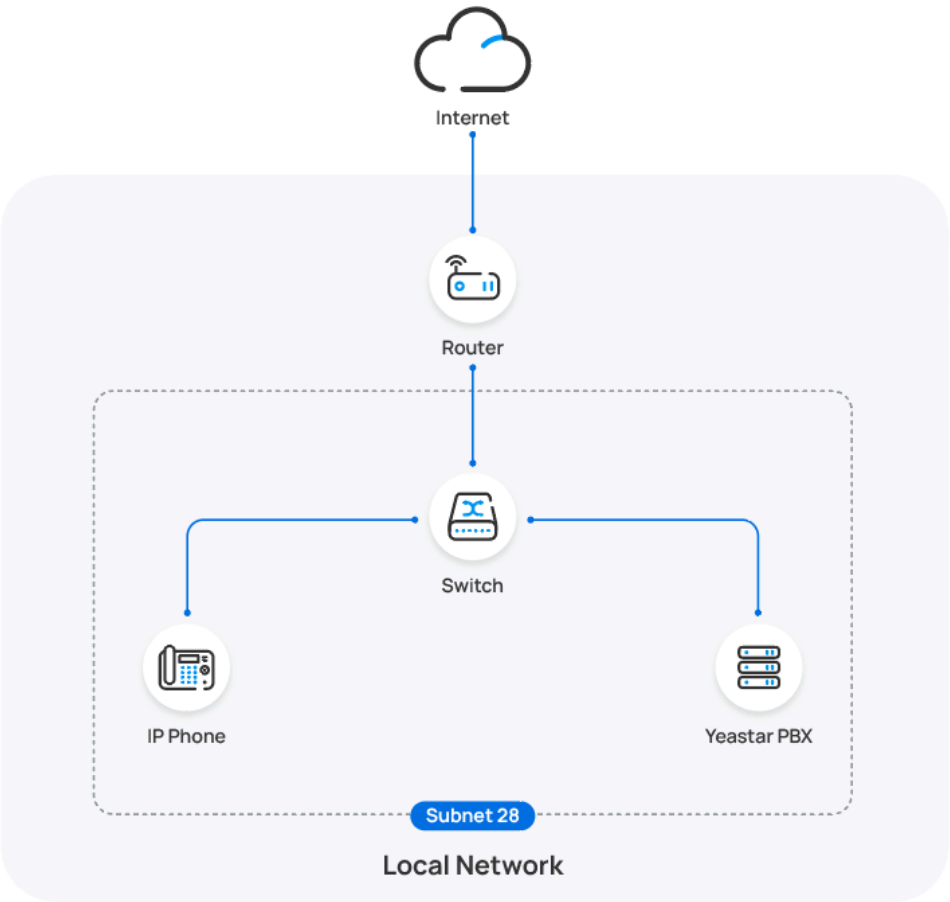
The provisioning methods and operations vary depending on the network environment of **Fanvil IP Phone** and **Yeastar PBX**, as the following table shows:

Scenario	Description
IP Phone and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Fanvil IP phone with the PBX via **PnP** method. For more information, see Auto provision a Fanvil IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Fanvil IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Fanvil IP phone in different subnets (DHCP).

Scenario	Description
IP Phone and PBX are in DIFFERENT network	In this scenario, you can provision the Fanvil IP phone with the PBX via **RPS** method. For more information, see Auto provision a Fanvil IP phone in remote network (RPS).

Auto provision a Fanvil IP phone in the same subnet (PnP)

In this example, the Fanvil IP phone (IP: `192.168.28.206`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

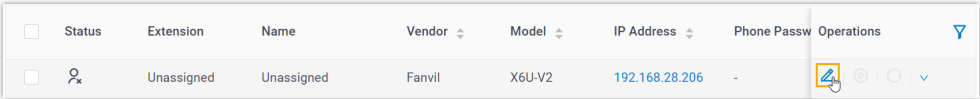
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

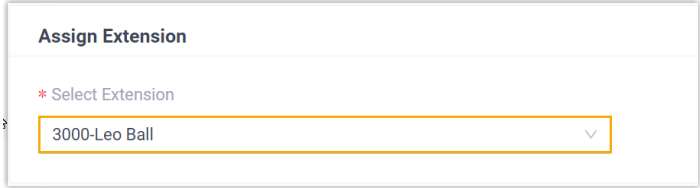
2. Click beside the Fanvil IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



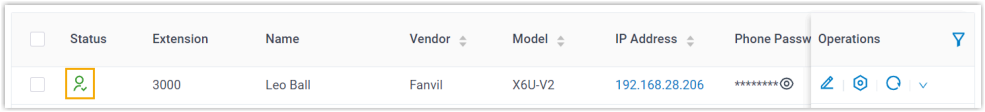
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

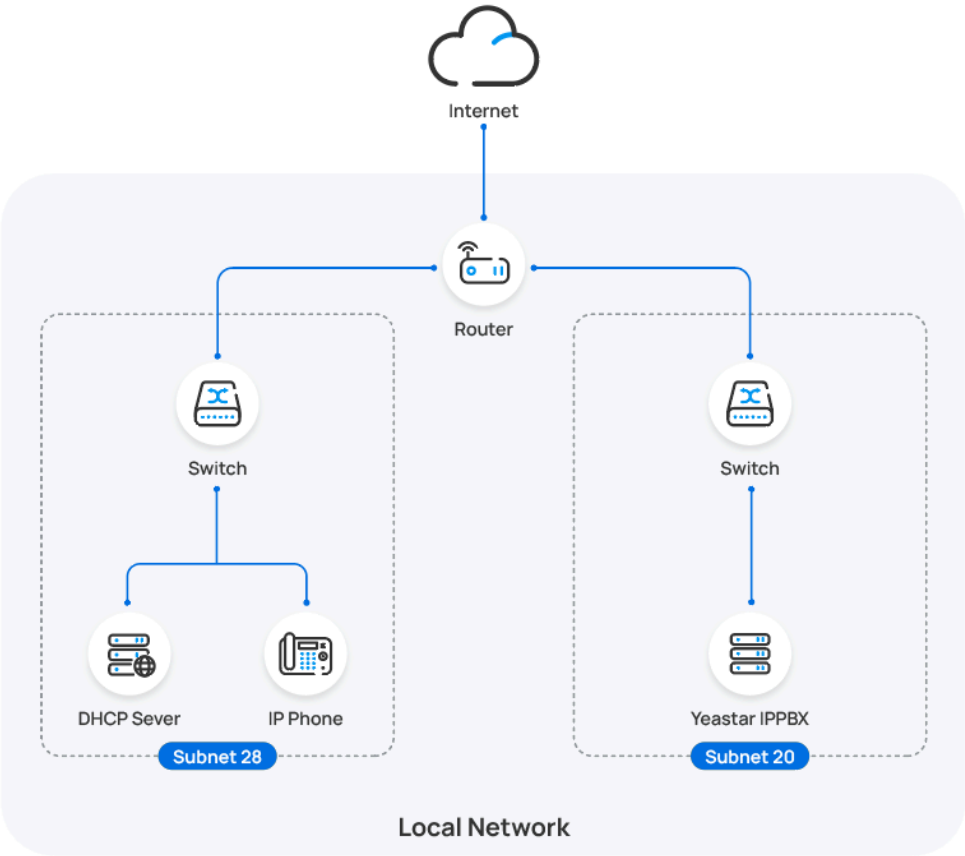
- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Status	Extension	Name	Vendor	Model	IP Address	Phone Passw	Operations
	3000	Leo Ball	Fanvil	X6U-V2	192.168.28.206	********	

Auto provision a Fanvil IP phone in different subnets (DHCP)

In this example, the Fanvil IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

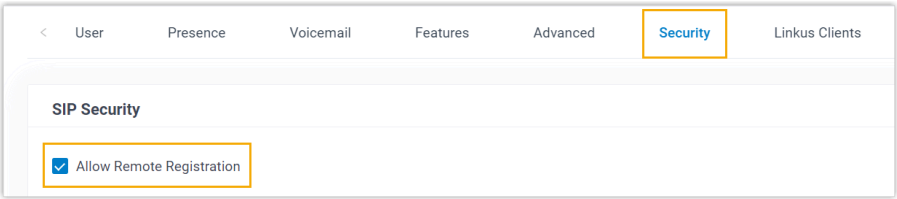
- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Fanvil IP phone on PBX

- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

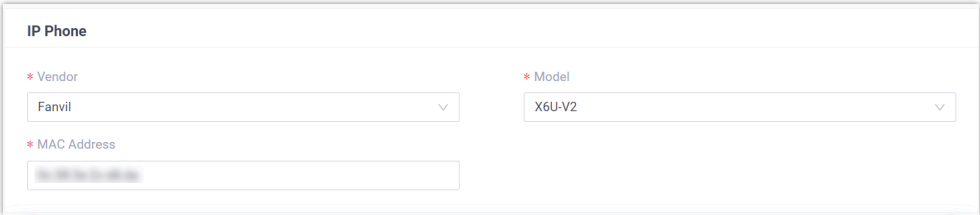


3. Click **Save** and **Apply**.

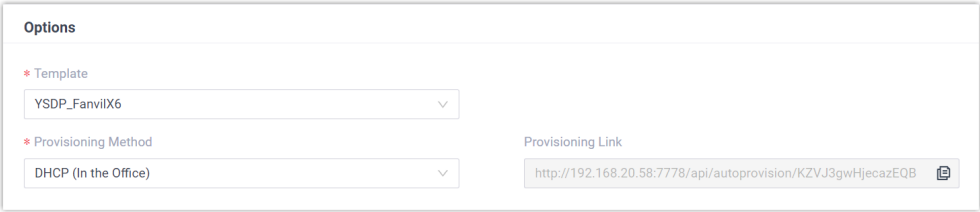
Step 2. Add the Fanvil IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Fanvil**.
   - **Model**: Select the phone model. In this example, select **X6U-V2**.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.



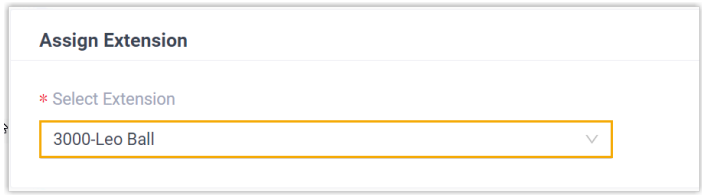
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



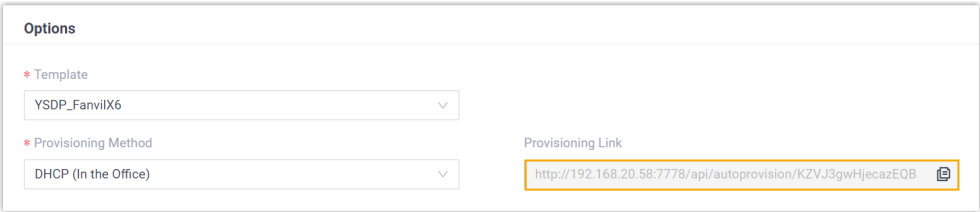
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

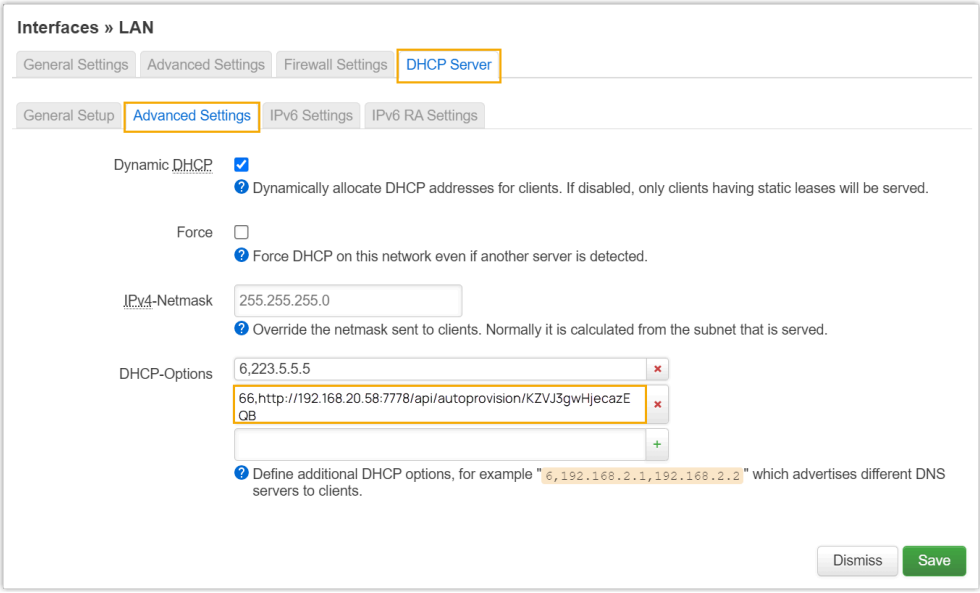
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

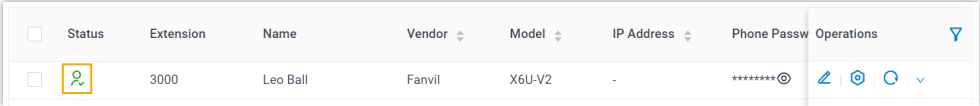
   In this example, the configuration on a router's DHCP server is shown below.



Result

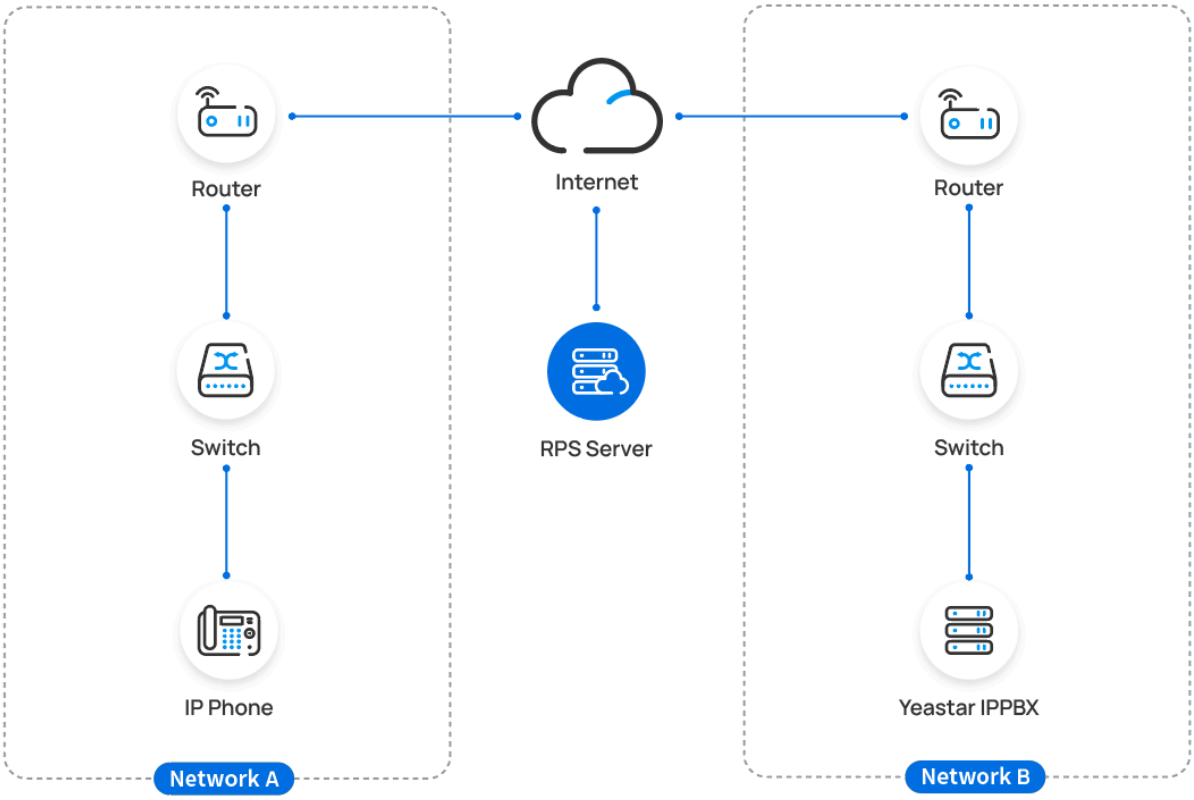
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



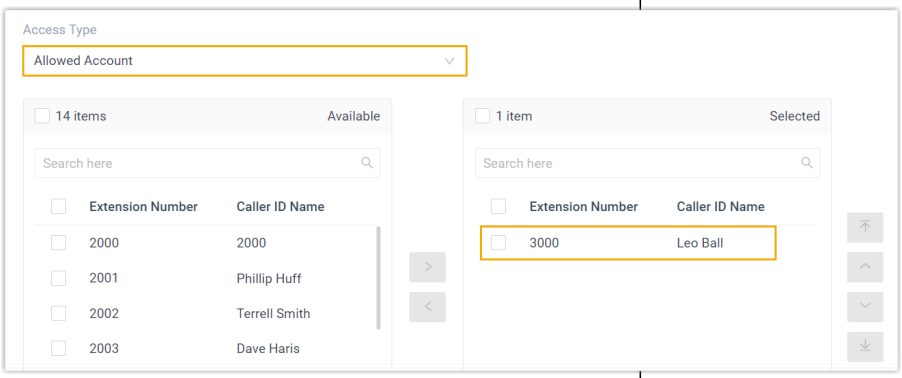
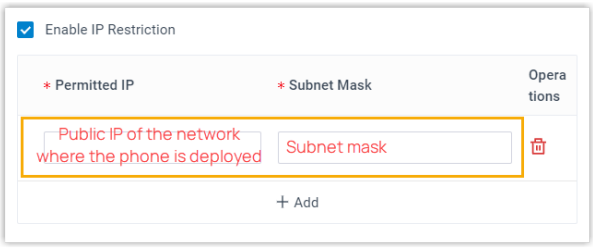
Auto provision a Fanvil IP phone in remote network (RPS)

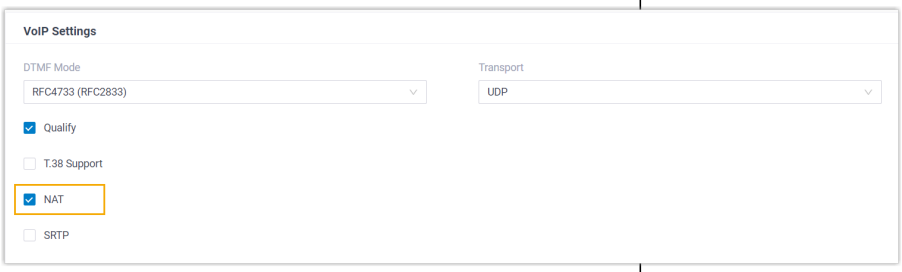
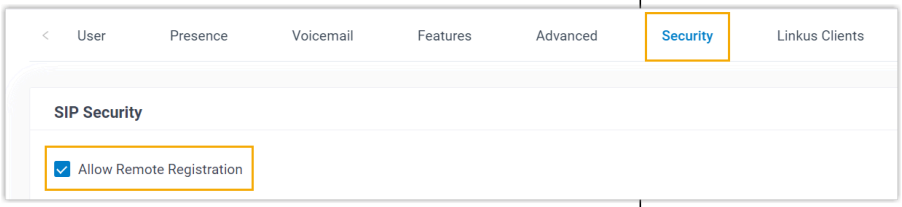
In this example, the Fanvil IP phone and the Yeastar PBX are deployed in different network.



Prerequisites

Yeastar P-Series PBX System supports to auto provision a Fanvil phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).  ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:**

Method	Setting
	The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

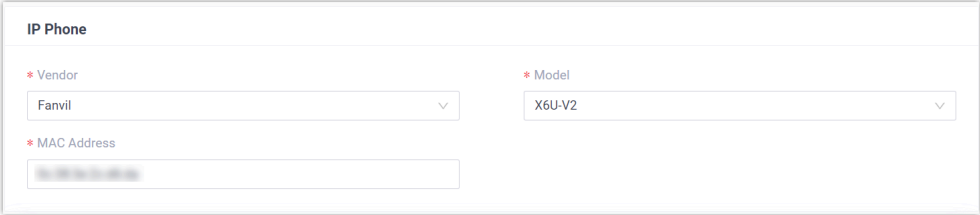
Procedure

- Step 1. Add the Fanvil IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Fanvil IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Fanvil**.
- **Model**: Select the phone model. In this example, select **X6U-V2**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.

Figure 3. **RPS using Yeastar FQDN**

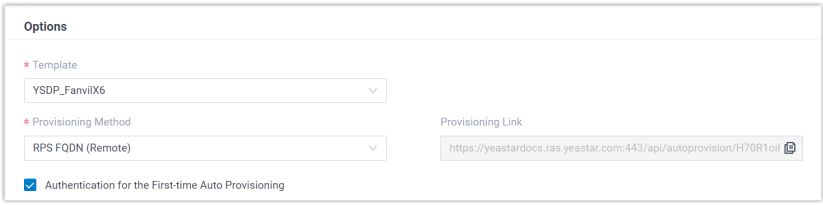
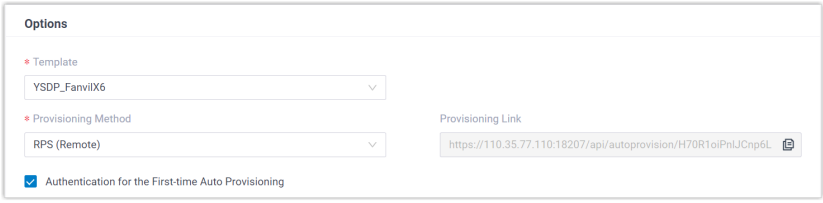


Figure 4. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more

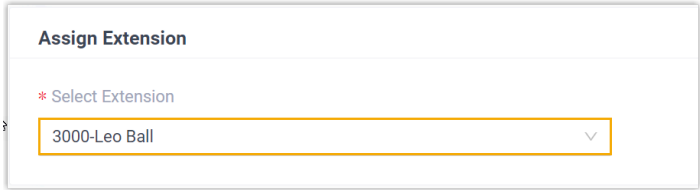
> information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.
- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



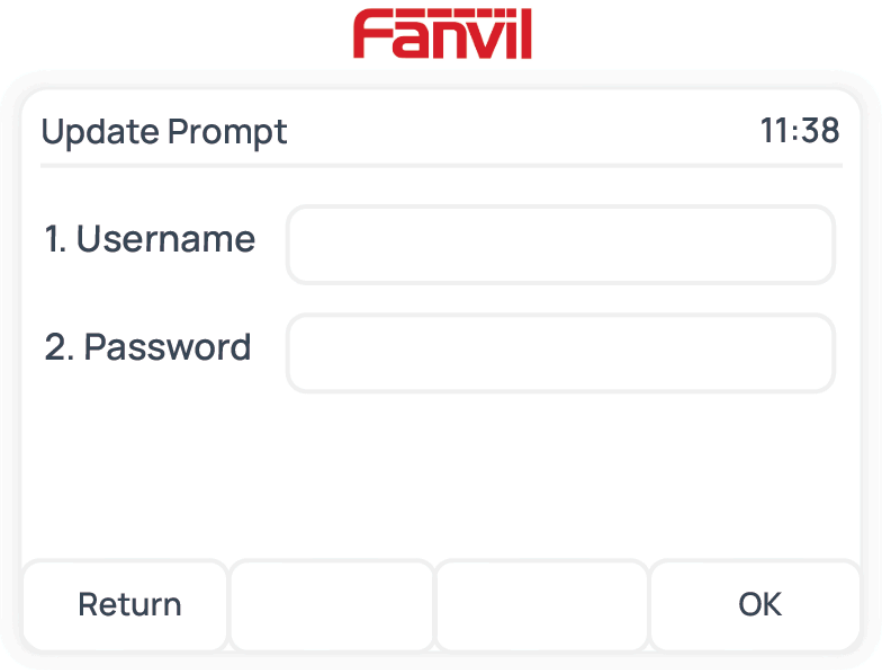
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

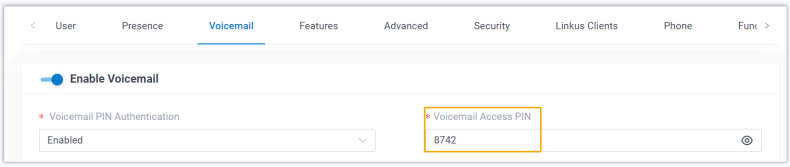
   The PBX will send an event notification of **RPS Request Success**.

Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.
2. If you have enabled **Authentication for the First-time Auto Provisioning** on the PBX, enter the authentication credential on the IP phone.



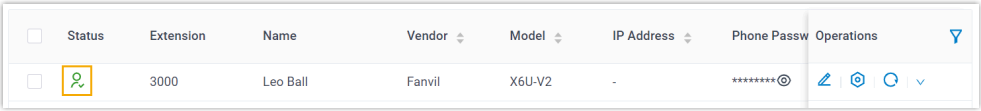
- **Username**: Enter the extension number that is assigned to the phone.
- **Password**: Enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.

- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Fanvil IP Phone with Yeastar P-Series PBX System

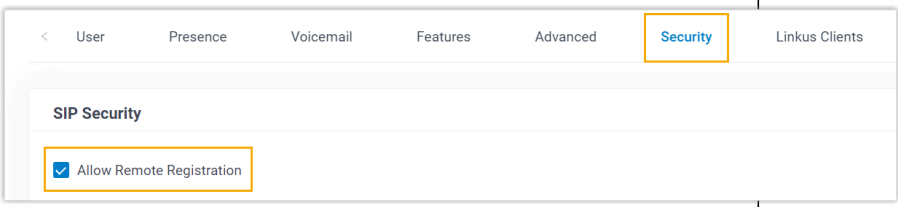
This topic takes Fanvil X6U-V2 (firmware: 2.12.1) as an example to introduce how to manually register an extension on a Fanvil IP phone.

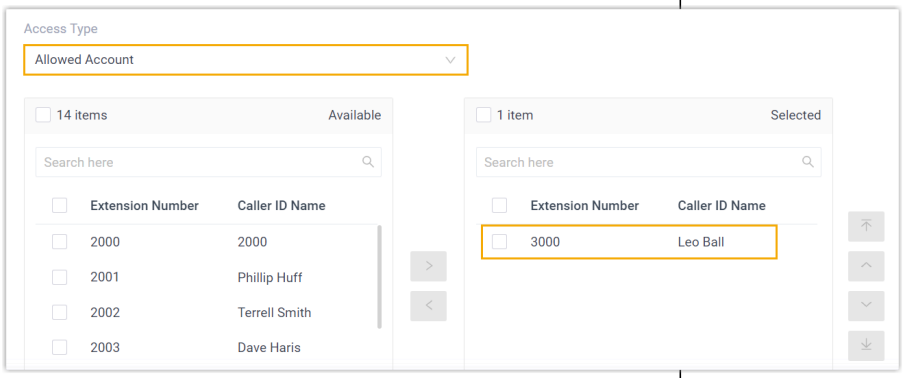
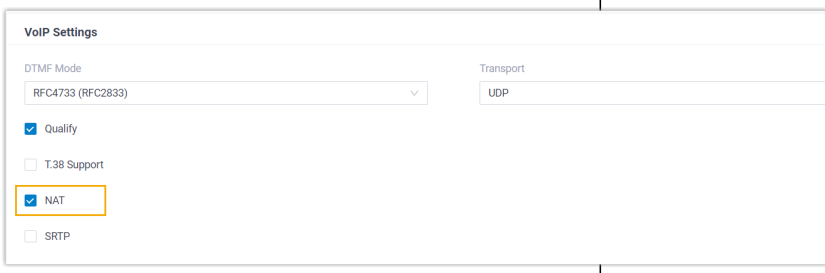
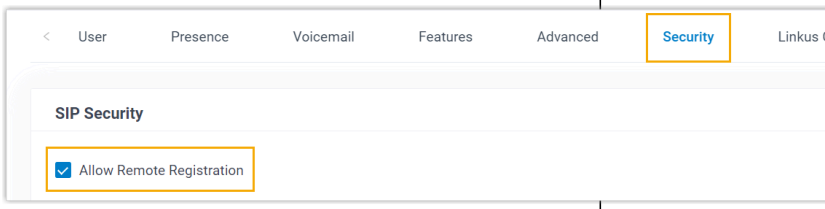
Supported devices

The Fanvil IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Fanvil IP phone** and **Yeastar PBX**.

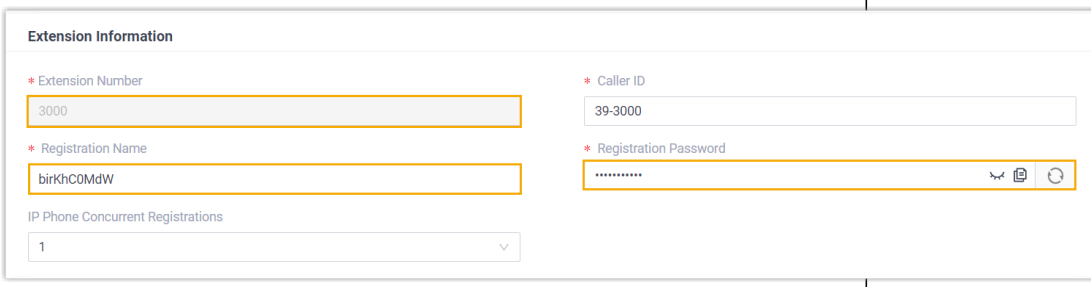
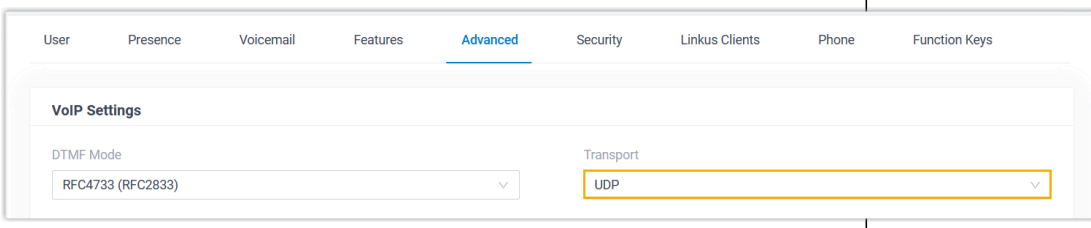
Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

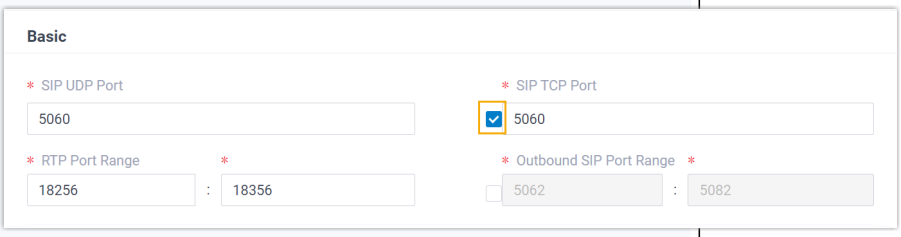
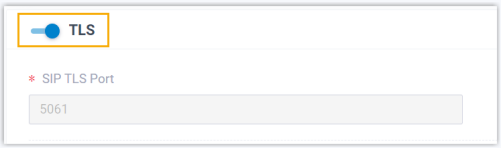
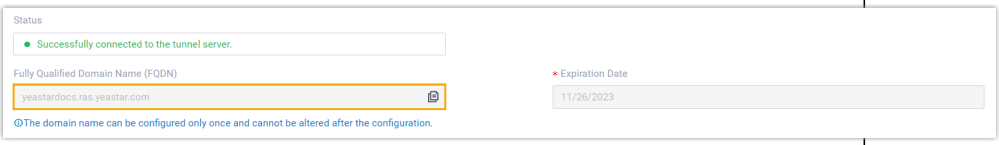
Network Environment		Setting
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

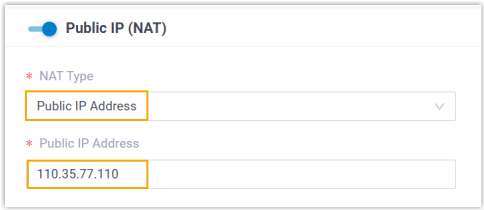
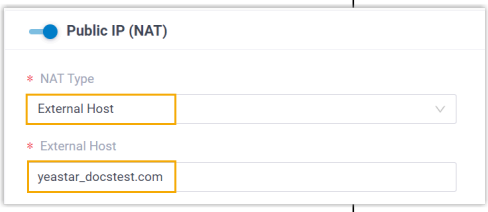
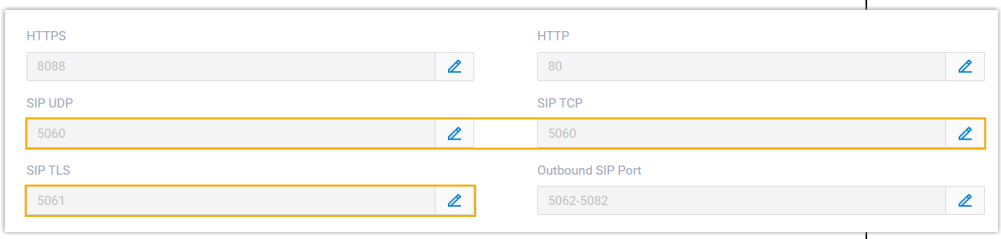
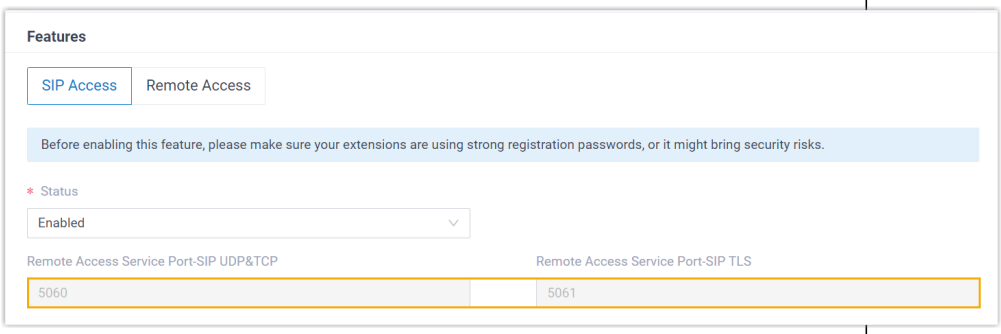
Procedure

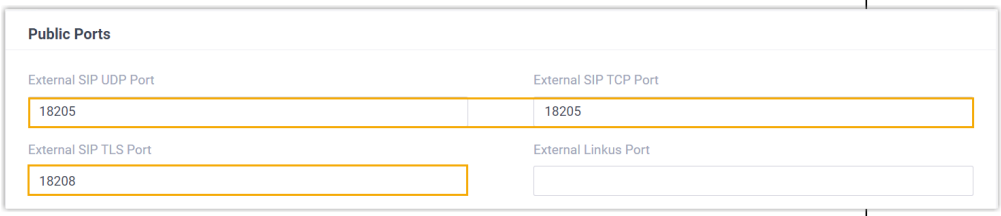
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).

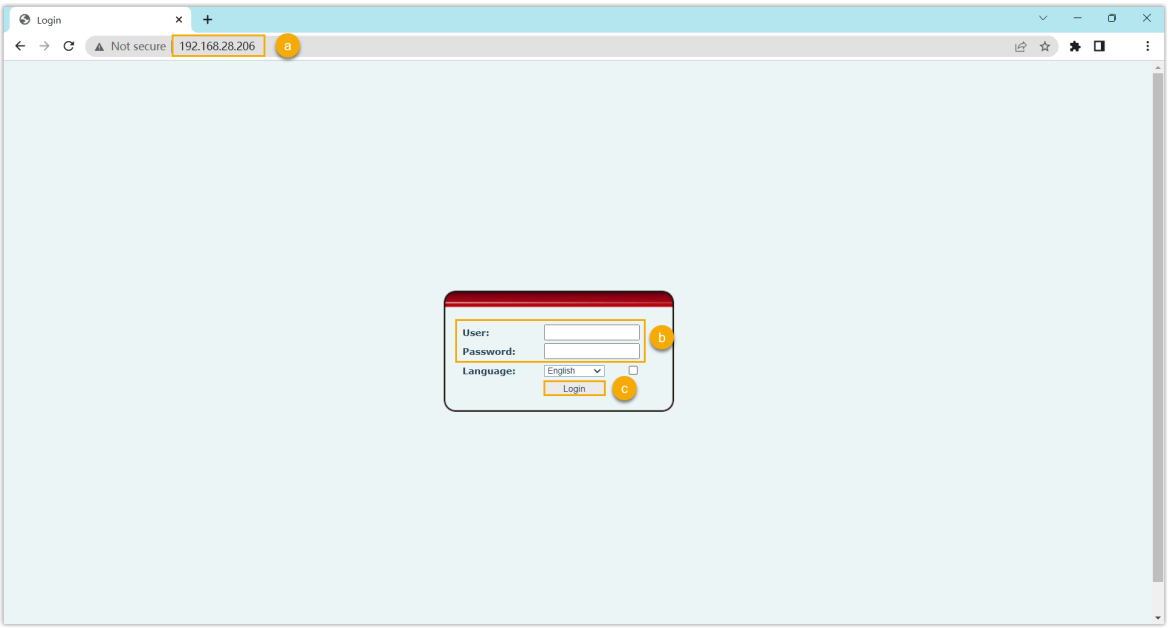
Information	Instruction
	 • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN). 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.

Information	Instruction
	 
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol.

Information	Instruction
	

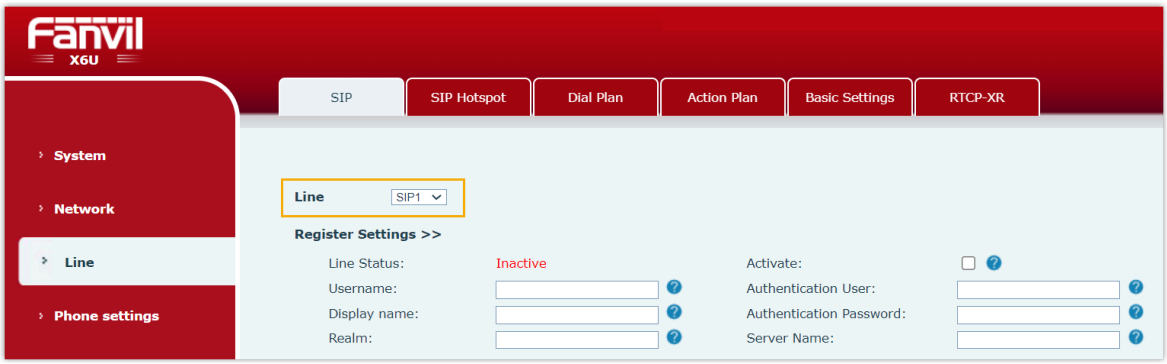
Step 2. Register extension on Fanvil IP phone

1. Log in to the web interface of the Fanvil IP phone.

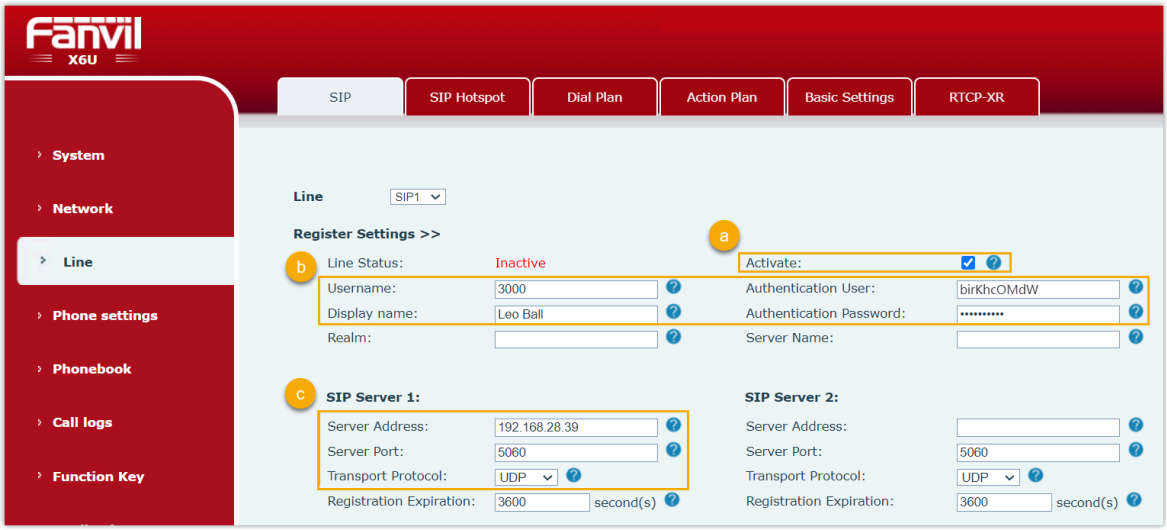


   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `admin`.
   c. Click **Login**.
2. On the left navigation bar, go to **Line > SIP**, and select an available account.



3. In the **Register Settings** section, complete the registration configurations.



a. Select the checkbox of **Activate** to activate the account.

b. Enter the extension information.

- **Username**: Enter the extension number.
- **Display Name**: Enter the name associated with the account, which will be displayed on the phone screen.
- **Authentication User**: Enter the registration name of the extension.
- **Authentication Password**: Enter the registration password of the extension.

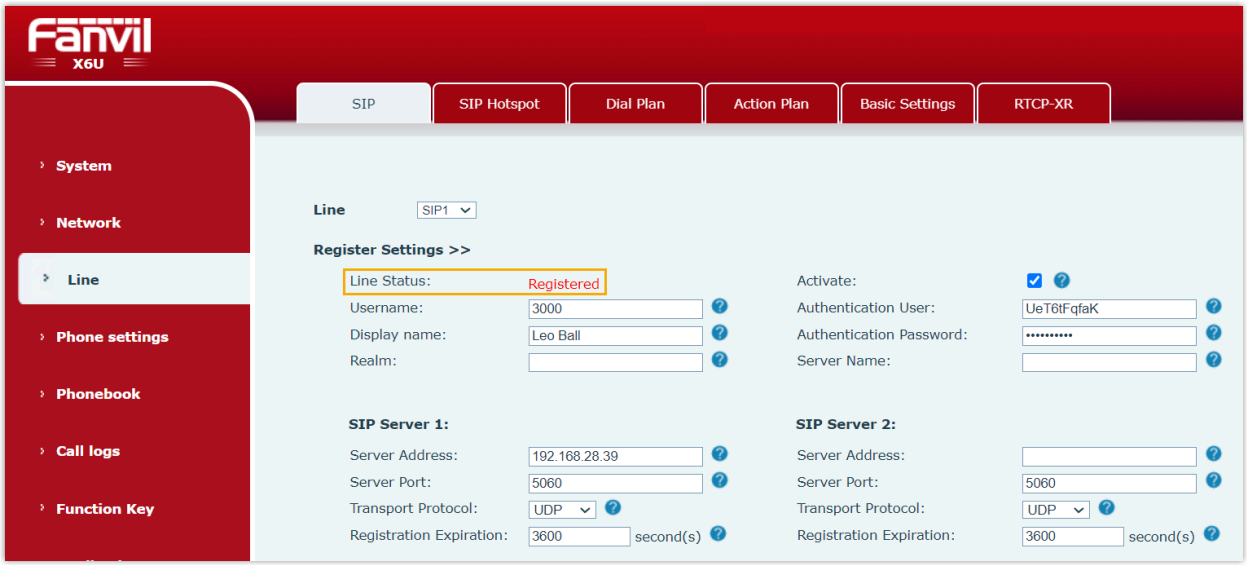
c. Enter the PBX server information.

- **Server Address**: Enter the IP address / domain name of the PBX.
- **Server Port**: Enter the SIP registration port of the PBX.
- **Transport Protocol**: Select the transport protocol of the extension. In this example, select **UDP**.

4. At the bottom of the page, click **Apply**.

Result

The extension is registered successfully. You can check the registration status on the **Line Status** field.



Monitor Extension Status by BLF Key on Fanvil IP Phone

This topic takes Fanvil X6U-V2 (firmware: 2.12.1) as an example to describe how to configure a BLF key for auto-provisioned Fanvil IP phone on PBX web portal, so as to monitor the call status and DND (Do Not Disturb) presence status of a specific extension.

Prerequisites

The phone is connected to Yeastar P-Series PBX System via Auto Provisioning, and has been assigned an extension.

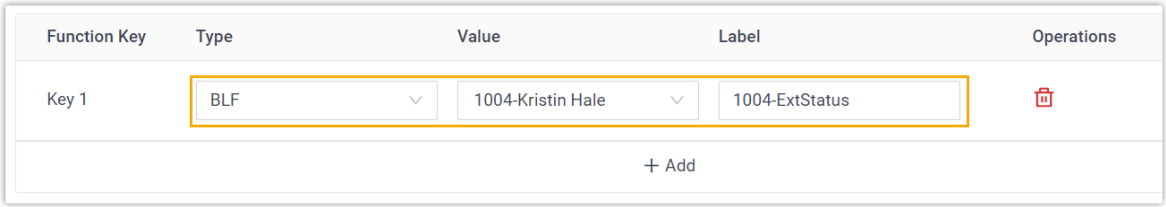
For more information, see [Auto Provision Fanvil IP Phone with Yeastar P-Series PBX System].

Step 1. Set up a function key for extension monitoring

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the extension that is assigned to the phone.
2. Click the **Function Keys** tab.

3. Configure a function key to monitor the status of an extension.

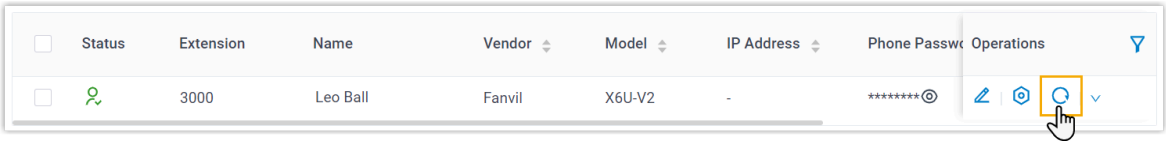
   The following figure shows a configuration example of monitoring extension 1004.



   - **Type**: Select **BLF**.
   - **Value**: In the drop-down list, select an extension to monitor.
   - **Label**: Optional. Enter a value, which will be displayed on the phone screen.
4. Click **Save**.

Step 2. Apply the configuration to the Fanvil IP phone

1. Go to **Auto Provisioning > Phones**, click beside the desired phone.



   The system prompts you whether to reprovision the phone.
2. In the pop-up window, click **OK**.

Result

- The LED of the BLF key shows the real-time status of extension 1004:
  - **Solid Green**: The extension is being monitored, and the status is idle.
  - **Solid Red**: The extension is sending a call or is in a call.
  - **Solid Yellow**: The extension is in DND (Do Not Disturb) status.

    > **Note:**
    > If your Fanvil IP phone does not support differentiated DND status indication, the DND status is indicated by **Solid Red**. For more information regarding the supported phone models and firmware versions, contact your Fanvil IP phone provider.

  - **Flashing Red**: The extension is ringing.

    - **LED off**: The extension is not registered, or the extension has been deleted from the PBX system.

- You can press the BLF key on the phone to achieve the followings:
    - Place a call to the monitored extension.
    - Pick up the monitored extension's incoming calls.

> **Note:**
> To achieve this, make sure that the Extension Pickup feature code is enabled (Path: **Call Features > Feature Code > Call Pickup > Extension Pickup**).

Related information

Linkus Web Client Guide - Configure Function Keys
Linkus Desktop Client Guide - Configure Function Keys

Avaya

Auto Provision Avaya IP Phone with Yeastar P-Series PBX System

This topic takes Avaya J139 (firmware: 4.1.1.0.7) as an example to describe how to auto provision Avaya IP phone with Yeastar P-Series PBX System in Local Area Network (LAN).

Requirements

The firmwares of **Avaya IP phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
J129	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP
J139	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP
J159	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP
J169	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP
J179	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP
J189	4.1.1.0.7 or later	37.12.0.23 or later	• DHCP

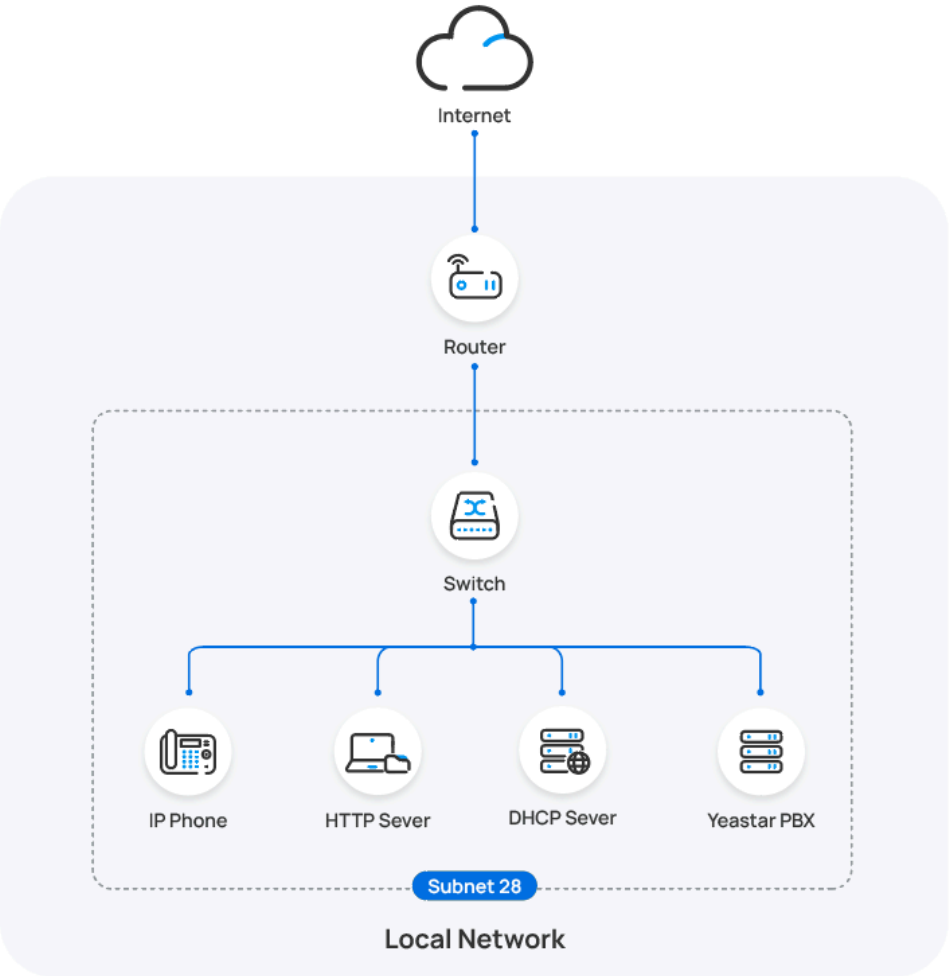
Scenarios

Yeastar P-Series PBX System supports to auto provision Avaya IP phones via **DHCP** method in the local network. The provisioning operations vary depending on the network environment of **Avaya IP phone** and **Yeastar PBX**.

- Auto provision an Avaya IP phone in the same subnet
- Auto provision an Avaya IP phone in different subnets

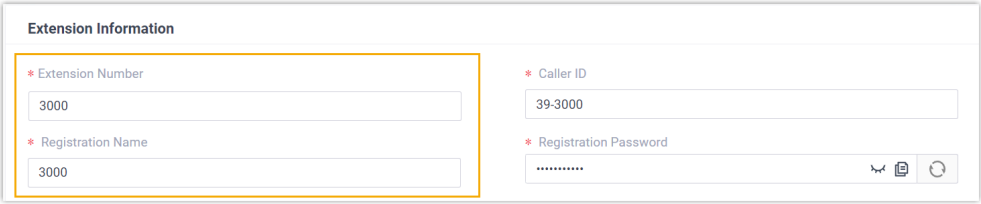
Auto provision an Avaya IP phone in the same subnet

In this example, the Avaya IP phone, a DHCP server, and Yeastar PBX (IP: `192.168.28.39`) are deployed in subnet 28. Additionally, an HTTP server is set up on a PC located in the same subnet, which is used to host the phone's configuration files.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet, or the IP phone would fail to obtain an IP address.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- Gather information of IP phone, including Vendor, Model, and MAC address.
- Set the registration name to the same as the extension number for the extension that will be assigned to the IP phone (Path: **Extension and Trunk > Extension > > User > Extension Information**).



- Prepare an HTTP server on a PC that is located in the same subnet as the Avaya IP phone.

> **Note:**
> In this example, an HFS (HTTP File Server) is used.

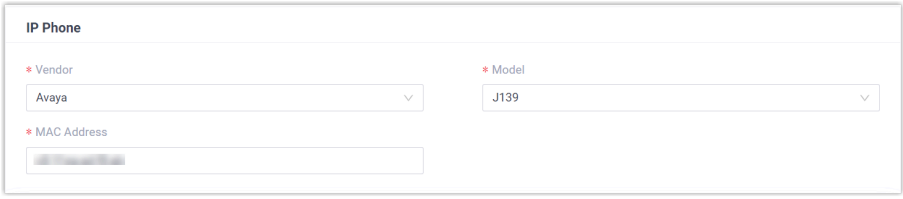
Procedure

- Step 1. Add the Avaya IP phone on PBX
- Step 2. Set up HTTP server on PC
- Step 3. Configure DHCP option 242 on DHCP server
- Step 4. Trigger the IP phone to complete provisioning

Step 1. Add the Avaya IP phone on PBX

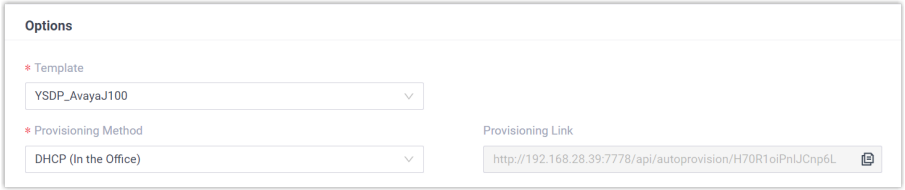
Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address. You need to download the phone's configuration file from the PBX for later use.

1. Add the Avaya IP phone.
   a. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
   b. Click **Add > Add**.
   c. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Avaya**.
   - **Model**: Select the phone model. In this example, select **J139**.
   - **MAC Address**: Enter the MAC address of the IP phone.

d. In the **Options** section, configure the following settings.

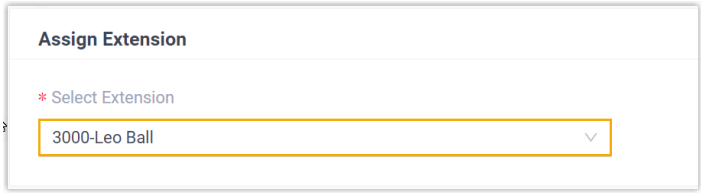


- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

e. In the **Assign Extension** section, assign an extension to the IP phone.



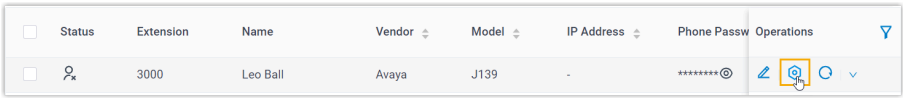
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

f. Click **Save**.

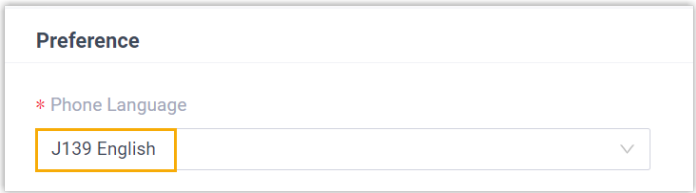
The IP phone is added and displayed in the Auto Provisioning phone list.

2. Set the phone language for the IP phone.

   a. In the Auto Provisioning phone list, click beside the Avaya IP phone.

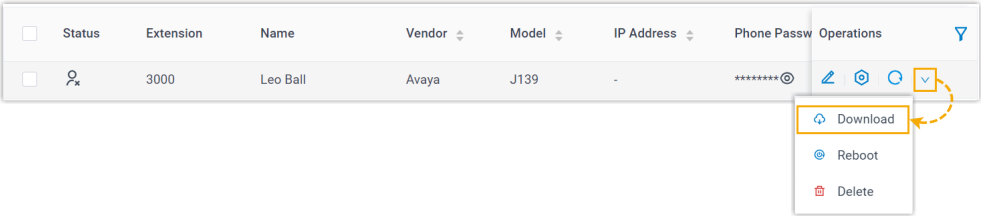


   b. In the phone configuration page, scroll down to the **Preference** section, and select the desired phone language based on the phone model.



   c. Click **Save**.

3. Download the phone's configuration file onto your PC.



   a. Click beside the Avaya IP phone.
   b. In the drop-down list, click **Download** to download the phone's configuration file.

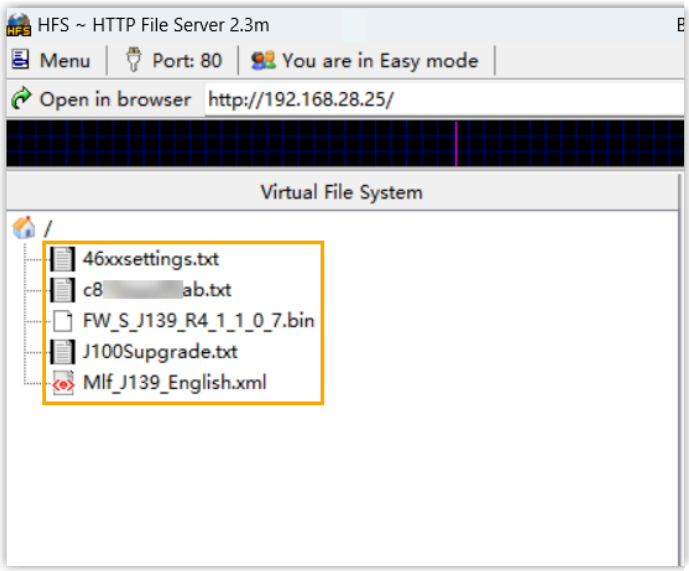
Step 2. Set up HTTP server on PC

Yeastar has prepared a provisioning package to provision Avaya IP phones. You need to download the package and mount the required files in an HTTP server on your PC. In this example, an HFS is used as the HTTP server.

1. Download the provisioning package onto the PC, then extract the package.

The provisioning package contains all the files necessary to provision the Avaya IP phone, where you can mount the files of the corresponding phone model in the HTTP server.

2. On the running HTTP server (HFS), mount the following files to the root directory `/`.

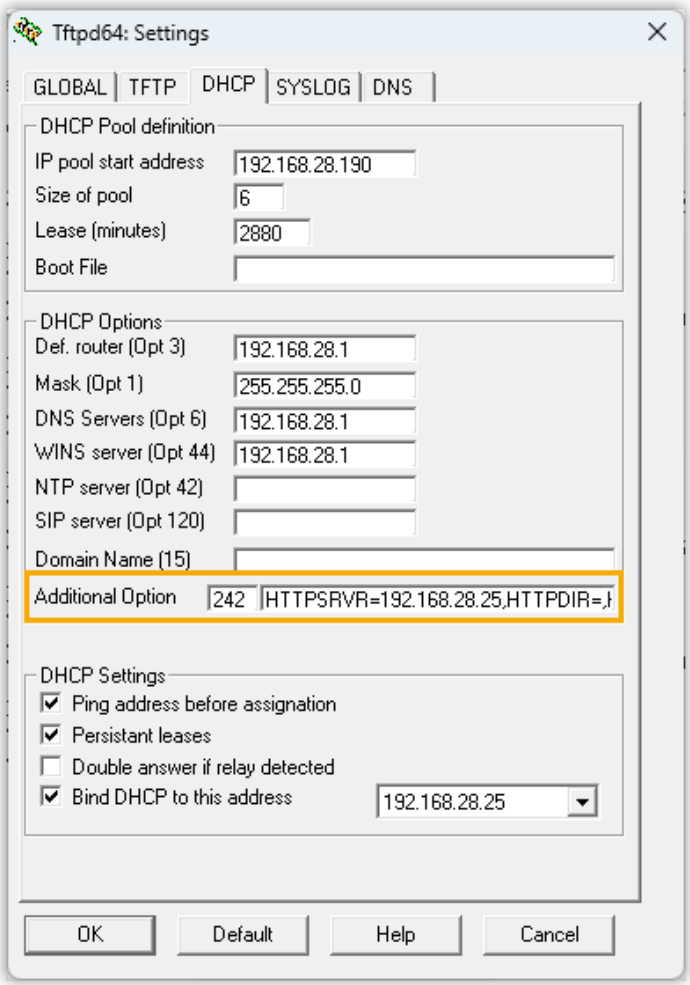


- The following files obtained from the provisioning package.
  - **Setting file**: `46xxsettings.txt`
  - **Upgrade file**: `J100Supgrade.txt`
  - **Firmware file**: Choose the firmware file based on the phone model. In this example, choose `FW_S_J139_R4_1_1_0_7.bin`.
  - **Language file**: Choose the desired language file based on the phone model. In this example, choose `Mlf_J139_English.xml`.
- The phone's configuration file *{mac}*.txt downloaded from PBX.

Step 3. Configure DHCP option 242 on DHCP server

Configure DHCP option 242 to point to the HTTP server. In this way, the Avaya IP phone can automatically retrieve its configuration files from the HTTP server. The following instructions take Tftpd64 DHCP server as an example to show how to configure the option 242.

1. On the running Tftpd64 software, go to **Settings > DHCP > DHCP Options**.
2. Add option 242 and define the location of the configuration files.



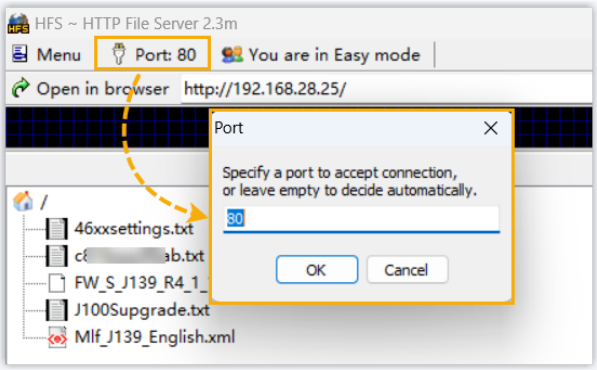
a. In the **Additional Option** field, enter `242`.
b. In the string value field, enter the HTTP server address at the following format:

```
HTTPSRVR=192.168.28.25,HTTPDIR=,HTTPPORT=80,SIG=2
```

- **HTTPSRVR**: The IP address of the PC where the HTTP server is running.
- **HTTPDIR**: The path of the mounted files in the HTTP server. In this example, leave it blank as the files are mounted in the root directory.
- **HTTPPORT**: The port of the HTTP server. In this example, enter the default port is 80.

Tip:

You can check the port, or specify a port as needed in the HFS software.



- **SIG**: The software version of the Avaya IP phone. Set the value to 2.

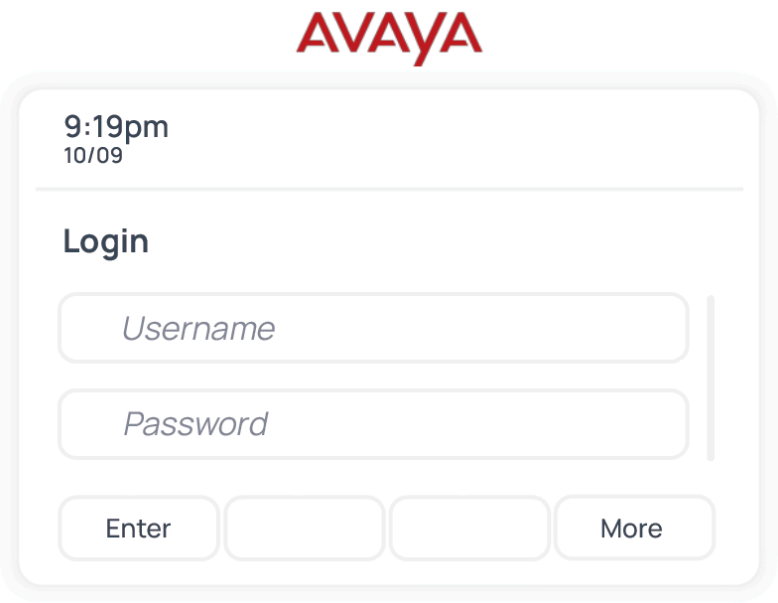
Step 4. Trigger the IP phone to complete provisioning

Reset the IP phone, and enter authentication information on the phone screen to complete provisioning.

1. On the phone screen, access the Admin menu and reset the IP phone to factory default.
   a. On the IP phone, go to **Main menu > Administration**.
   b. In the **Access code** field, enter the administrator password, then press **Enter**. In this example, enter the default password `27238`.
   c. In the Admin menu, select **Reset to defaults**, then select **Reset** when the phone prompts for confirmation.

   The phone is reset to default settings. After booted up, the phone displays a prompt asking whether to activate auto provisioning now.
2. Select **No** to proceed.

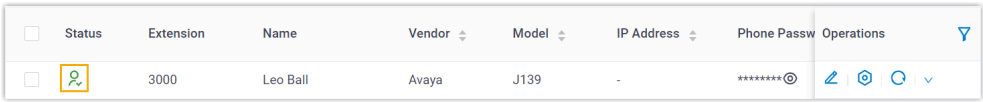
   The IP phone goes on searching for DHCP server for network configuration, which will take about 2-3 minutes.
3. In the **Login** page, enter the authentication information of the extension, then press **Enter**.



- **Username**: Enter the Extension Number.
- **Password**: Enter the Registration Password of the extension.

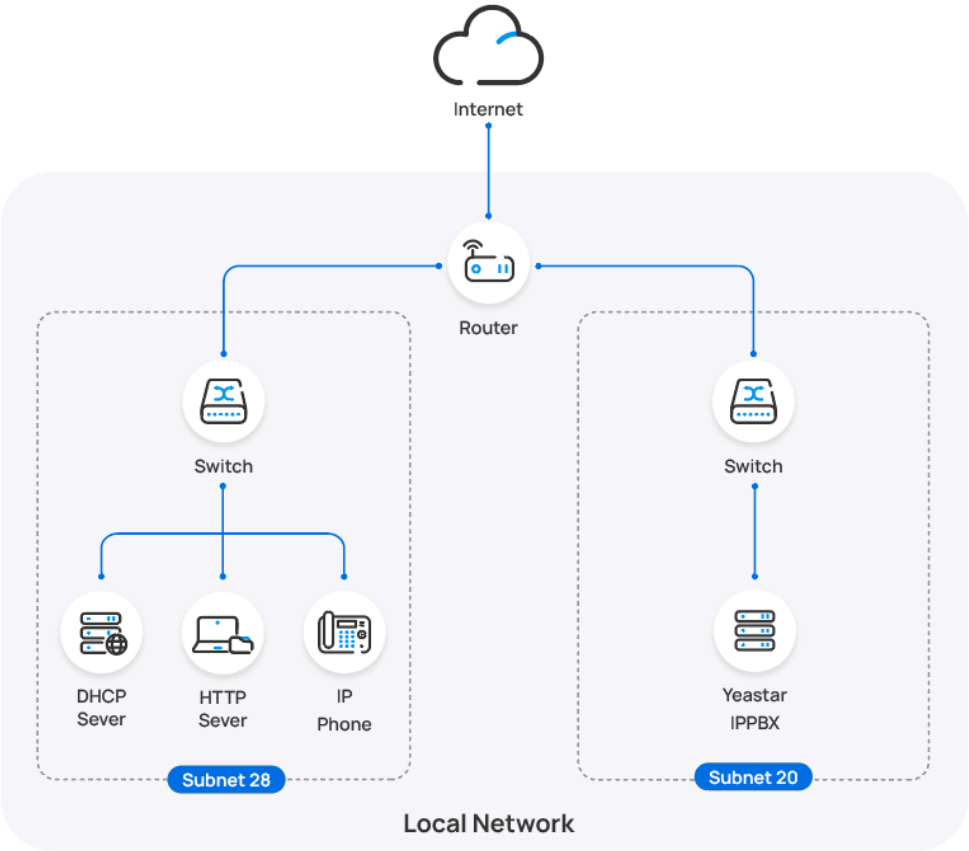
Result

- The IP phone automatically downloads configurations from the HTTP server, and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



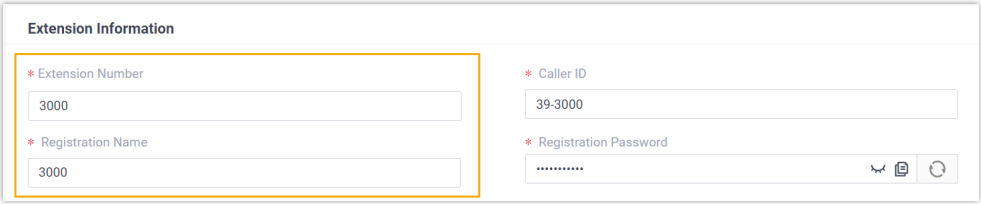
Auto provision an Avaya IP phone in different subnets

In this example, the Avaya IP phone and DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20. Additionally, an HTTP server is set up on a PC located in the same subnet as the IP phone, which is used to host the phone's configuration files.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- Gather information of IP phone, including Vendor, Model, and MAC address.
- Set the registration name to the same as the extension number for the extension that will be assigned to the IP phone (Path: **Extension and Trunk > Extension > > User > Extension Information**).



- Prepare an HTTP server on a PC that is located in the same subnet as the Avaya IP phone.

> **Note:**
> In this example, an HFS (HTTP File Server) is used.

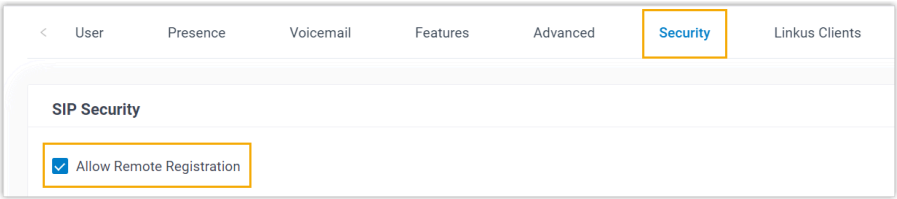
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Avaya IP phone on PBX
- Step 3. Set up HTTP server on PC
- Step 4. Configure DHCP option 242 on DHCP server
- Step 5. Trigger the IP phone to complete provisioning

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

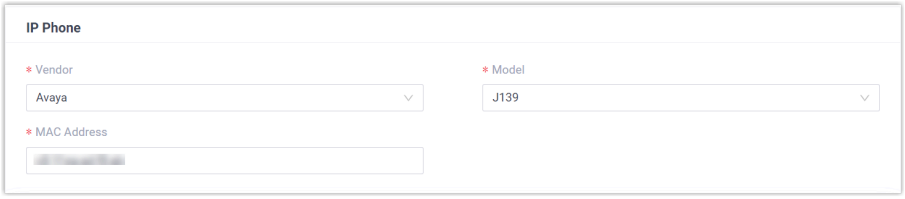


3. Click **Save** and **Apply**.

Step 2. Add the Avaya IP phone on PBX

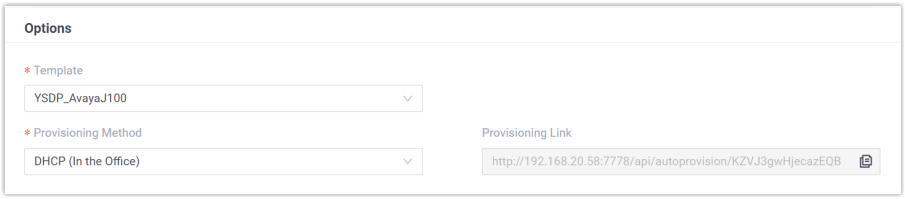
Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address. You need to download the phone's configuration file from the PBX for later use.

1. Add the Avaya IP phone.
   a. On PBX web portal, go to **Auto Provisioning > Phones**.
   b. Click **Add > Add**.
   c. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Avaya**.
   - **Model**: Select the phone model. In this example, select **J139**.
   - **MAC Address**: Enter the MAC address of the IP phone.

   d. In the **Options** section, configure the following settings.

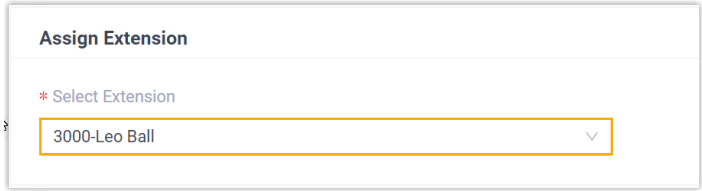


   - **Template**: Select a desired template from the drop-down list.

     > **Note:**
     > You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

   - **Provisioning Method**: Select **DHCP (In the Office)**.

   e. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

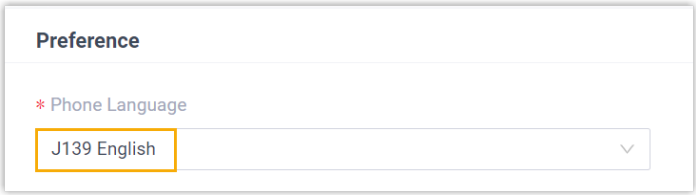
f. Click **Save**.

The IP phone is added and displayed in the Auto Provisioning phone list.

2. Set the phone language for the IP phone.

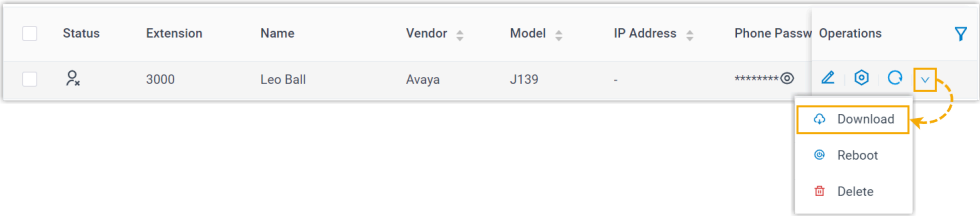
a. In the Auto Provisioning phone list, click beside the Avaya IP phone.

b. In the phone configuration page, scroll down to the **Preference** section, and select the desired phone language based on the phone model.



c. Click **Save**.

3. Download the phone's configuration file onto your PC.



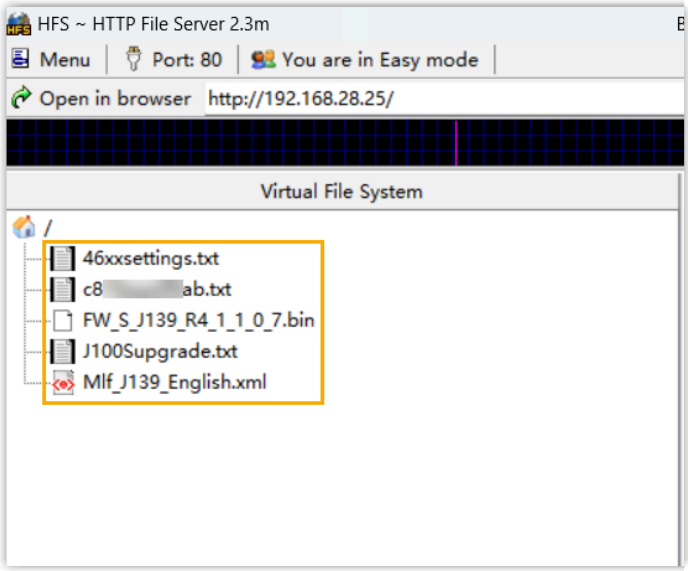
a. Click ˅ beside the Avaya IP phone.
b. In the drop-down list, click **Download** to download the phone's configuration file.

Step 3. Set up HTTP server on PC

Yeastar has prepared a provisioning package to provision Avaya IP phones. You need to download the package and mount the required files in an HTTP server on your PC. In this example, an HFS is used as the HTTP server.

1. Download the provisioning package onto the PC, then extract the package.

   The provisioning package contains all the files necessary to provision the Avaya IP phone, where you can mount the files of the corresponding phone model in the HTTP server.
2. On the running HTTP server (HFS), mount the following files to the root directory /.



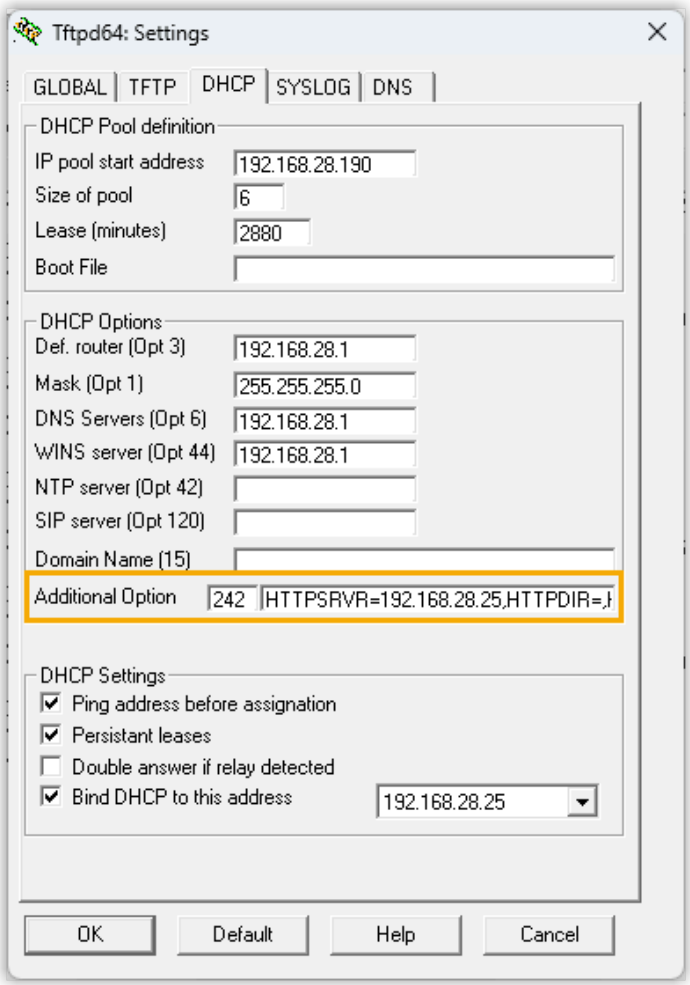
- The following files obtained from the provisioning package.

    - **Setting file**: `46xxsettings.txt`
    - **Upgrade file**: `J100Supgrade.txt`
    - **Firmware file**: Choose the firmware file based on the phone model. In this example, choose `FW_S_J139_R4_1_1_0_7.bin`.
    - **Language file**: Choose the desired language file based on the phone model. In this example, choose `Mlf_J139_English.xml`.
  - The phone's configuration file *{mac}*.txt downloaded from PBX.

Step 4. Configure DHCP option 242 on DHCP server

Configure DHCP option 242 to point to the HTTP server. In this way, the Avaya IP phone can automatically retrieve its configuration files from the HTTP server. The following instructions take Tftpd64 DHCP server as an example to show how to configure the option 242.

1. On the running Tftpd64 software, go to **Settings > DHCP > DHCP Options**.
2. Add option 242 and define the location of the configuration files.



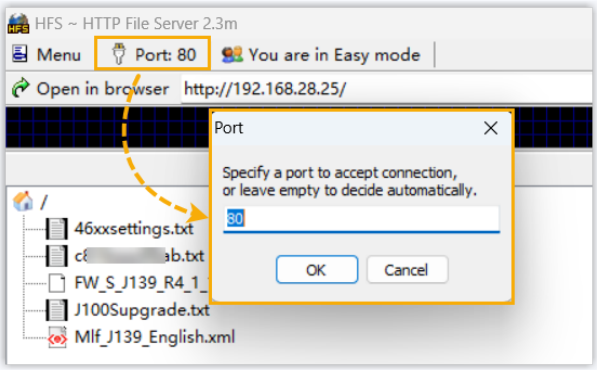
a. In the **Additional Option** field, enter `242`.
b. In the string value field, enter the HTTP server address at the following format:

```
HTTPSRVR=192.168.28.25,HTTPDIR=,HTTPPORT=80,SIG=2
```

- **HTTPSRVR**: The IP address of the PC where the HTTP server is running.
- **HTTPDIR**: The path of the mounted files in the HTTP server. In this example, leave it blank as the files are mounted in the root directory.
- **HTTPPORT**: The port of the HTTP server. In this example, enter the default port is 80.

Tip:

You can check the port, or specify a port as needed in the HFS software.



- **SIG**: The software version of the Avaya IP phone. Set the value to 2.

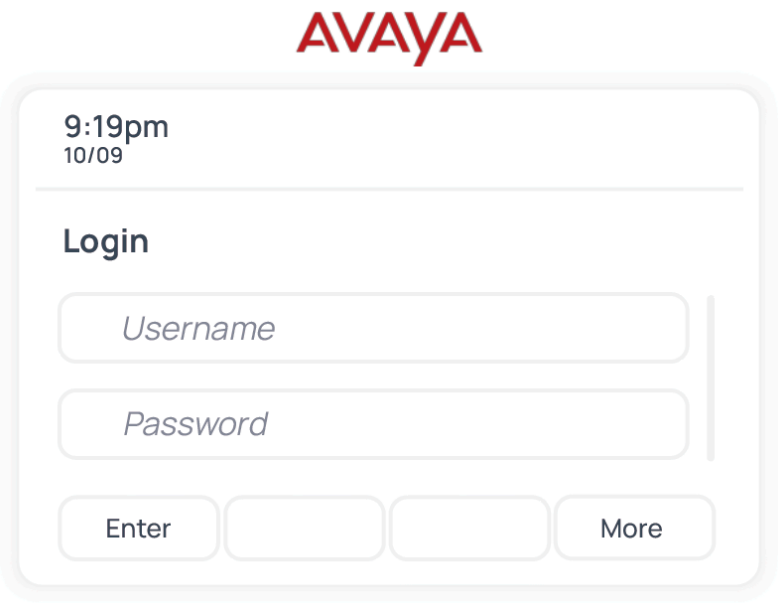
Step 5. Trigger the IP phone to complete provisioning

Reset the IP phone, and enter authentication information on the phone screen to complete provisioning.

1. On the phone screen, access the Admin menu and reset the IP phone to factory default.
   a. On the IP phone, go to **Main menu > Administration**.
   b. In the **Access code** field, enter the administrator password, then press **Enter**. In this example, enter the default password `27238`.
   c. In the Admin menu, select **Reset to defaults**, then select **Reset** when the phone prompts for confirmation.

   The phone is reset to default settings. After booted up, the phone displays a prompt asking whether to activate auto provisioning now.
2. Select **No** to proceed.

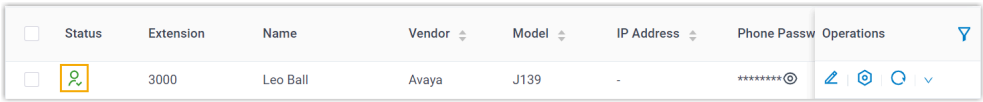
   The IP phone goes on searching for DHCP server for network configuration, which will take about 2-3 minutes.
3. In the **Login** page, enter the authentication information of the extension, then press **Enter**.



- **Username**: Enter the Extension Number.
- **Password**: Enter the Registration Password of the extension.

Result

- The IP phone automatically downloads configurations from the HTTP server, and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Cisco

Auto Provision Cisco IP Phone with Yeastar P-Series PBX System

This topic describes how to auto provision Cisco IP phone with Yeastar P-Series PBX System in Local Area Network (LAN), so as to associate the Cisco IP phone with a Yeastar PBX extension.

Requirements

The firmwares of **Cisco IP phone** and **Yeastar PBX** meet the following requirements.

> **Note:**
> Currently, the programmable line key configuration on Cisco 8811 via auto provisioning is NOT supported.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
3905	9.4(1)SR3 or later	37.12.0.23 or later	• DHCP
7821	14.2(1)SR1 or later	37.12.0.23 or later	• DHCP
7861	SIP78xx.14-2-1-0201-40 or later	37.13.0.29 or later	• DHCP
7942	SIP42.9-4-2SR3-1S or later	37.12.0.23 or later	• DHCP
8811	SIP88xx.12-1-1SR1-4 or later	37.13.0.29 or later	• DHCP
8845	14.2(1)SR1 or later	37.12.0.23 or later	• DHCP

Scenarios

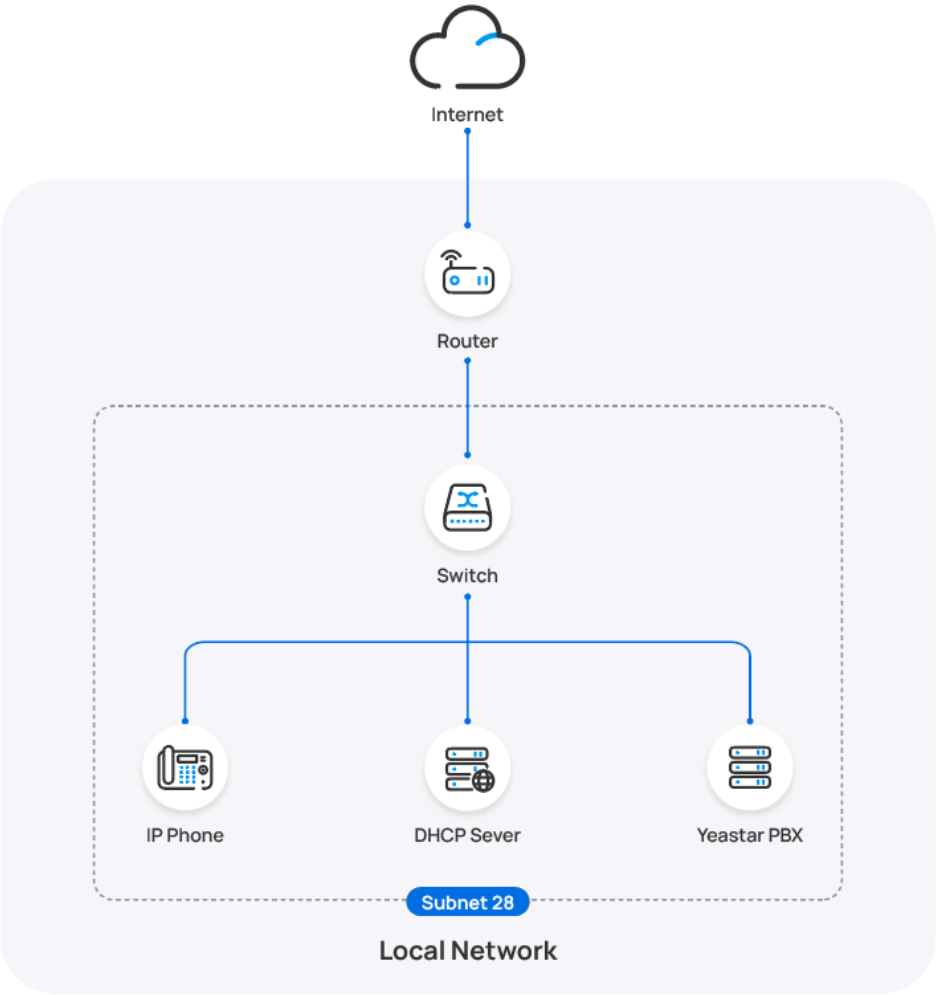
Yeastar P-Series PBX System supports to auto provision Cisco IP phone via **DHCP** method in local network. The provisioning operations vary depending on the network environment of **Cisco IP phone** and **Yeastar PBX**.

- Auto provision a Cisco IP phone in the same subnet

- Auto provision a Cisco IP phone in different subnets

Auto provision a Cisco IP phone in the same subnet

In this example, the Cisco IP phone, a DHCP server, and the Yeastar PBX (IP: `192.168.28.41`) are deployed in subnet 28.

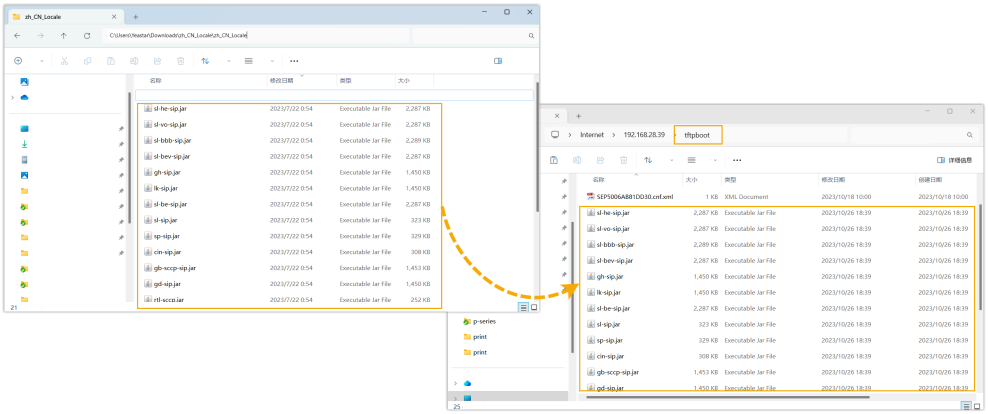


Prerequisites

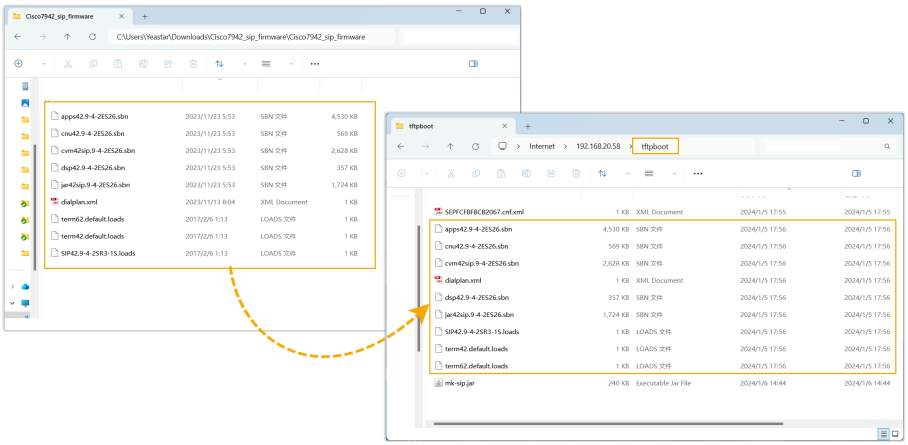
- Make sure that there is only one DHCP server running in the subnet, or the IP phone would fail to obtain an IP address.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- Gather information of IP phone, including Vendor, Model, and MAC address.

- (Optional) Download your desired language files from Cisco website and upload the language files to the folder `tftpboot` in the PBX via FTP.

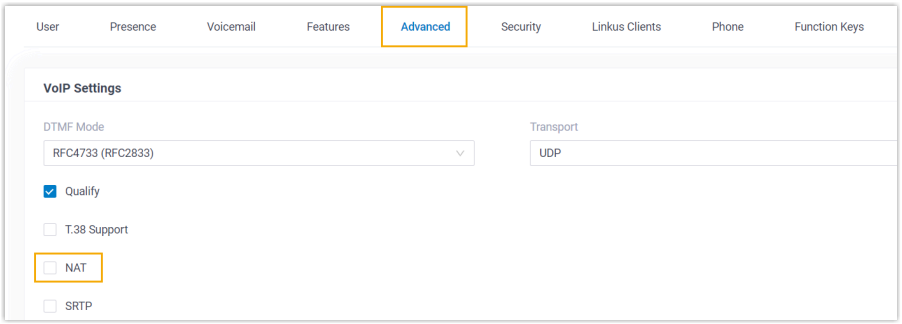
> **Note:**
> By default, Cisco IP phone displays in **English**. If you want it to display in another language after auto provisioning, you can manually upload your language files to PBX.



- If you want to provision **Cisco 7942**, in addition to the above prerequisites, you will also need to complete the followings:
  - Download and extract the Cisco 7942 provisioning package, and put the extracted files into the folder `tftpboot` of the PBX.



  - Disable NAT for the extension on PBX web portal (Path: **Extension and Trunk > Extension > ✎ > Advanced > VoIP Settings**).



Procedure

- Step 1. Enable the TFTP feature on PBX
- Step 2. Add the Cisco IP phone on PBX
- Step 3. Configure DHCP option 66 on DHCP server
- Step 4. (Optional) Reset the Cisco IP phone

Step 1. Enable the TFTP feature on PBX

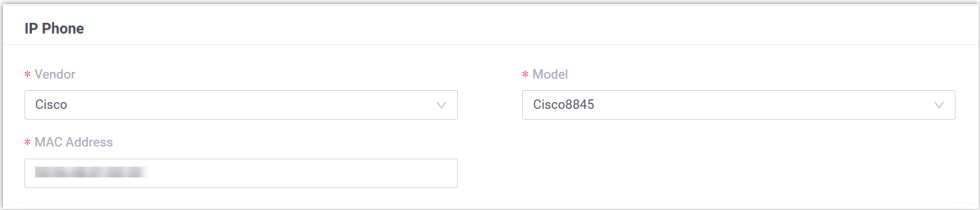
When provisioning a Cisco IP phone, the PBX works as a TFTP server to host the phone's configuration file. You need to enable the TFTP feature on PBX, so that the IP phone can download configurations from the PBX via TFTP.

1. Log in to PBX web portal, go to **System > Storage > File Sharing**.
2. Scroll down to the bottom, turn on the switch of **TFTP**, then click **OK** in the pop-up window.
3. Click **Save**.

Step 2. Add the Cisco IP phone on PBX

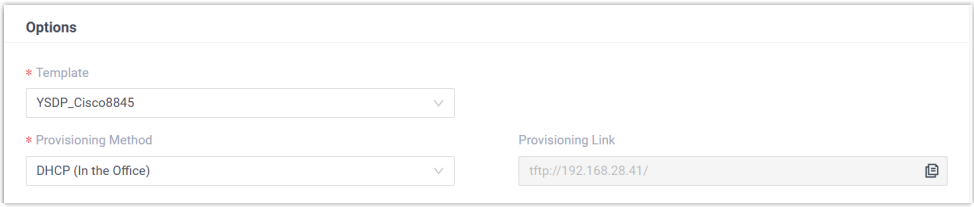
Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Cisco**.
- **Model**: Select the phone model.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



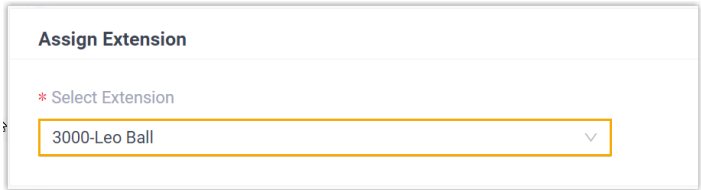
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**

> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

Configure the DHCP option 66 on the DHCP server to deliver the PBX's IP address.

The configuration examples are shown below:

Figure 5. **Configure option 66 on the Tftpd64's DHCP server**

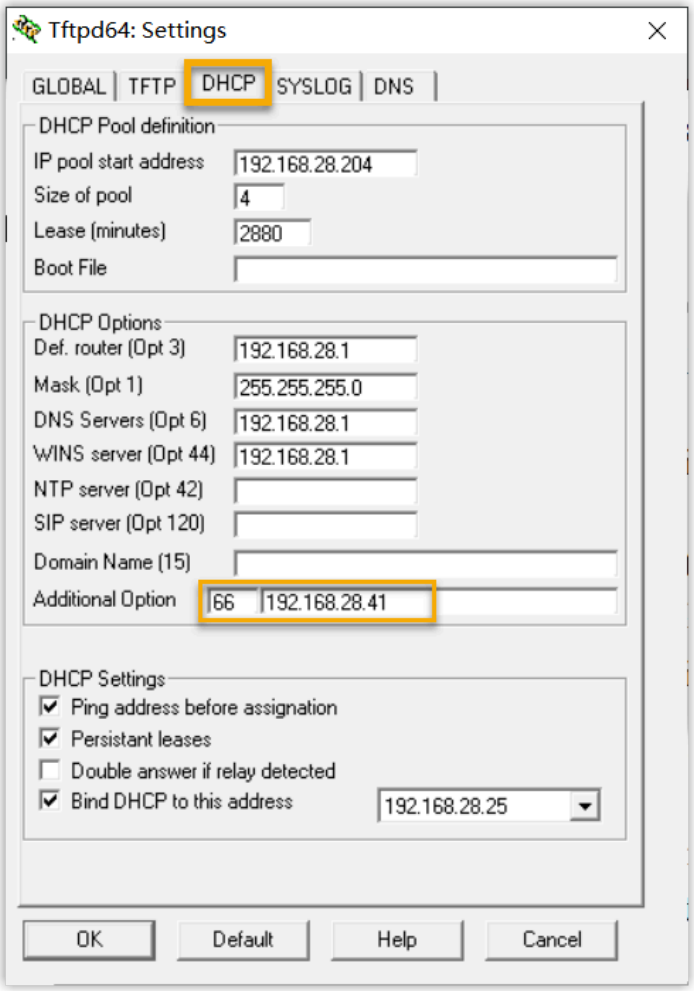
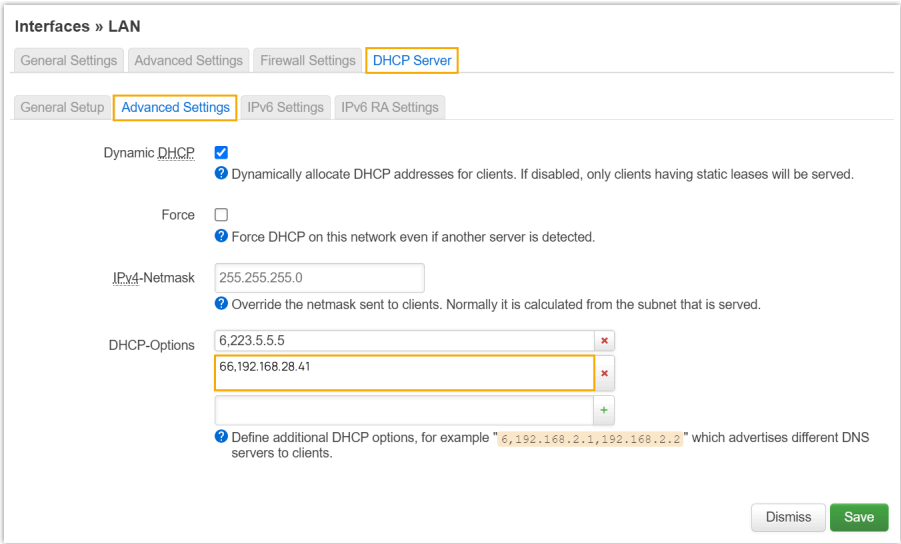


Figure 6. **Configure option 66 on a router's DHCP server**



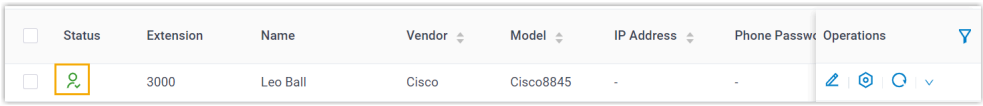
Step 4. (Optional) Reset the Cisco IP phone

If the IP phone is to be deployed for a new user, you need to reset the phone to its default settings to ensure that the configurations from the previous user are removed from the phone.

1. On the IP phone, press the ⚙ button.
2. On the IP phone screen, go to **Admin settings > Reset settings > All settings**.
3. Select **Reset** when the phone prompts for confirmation.

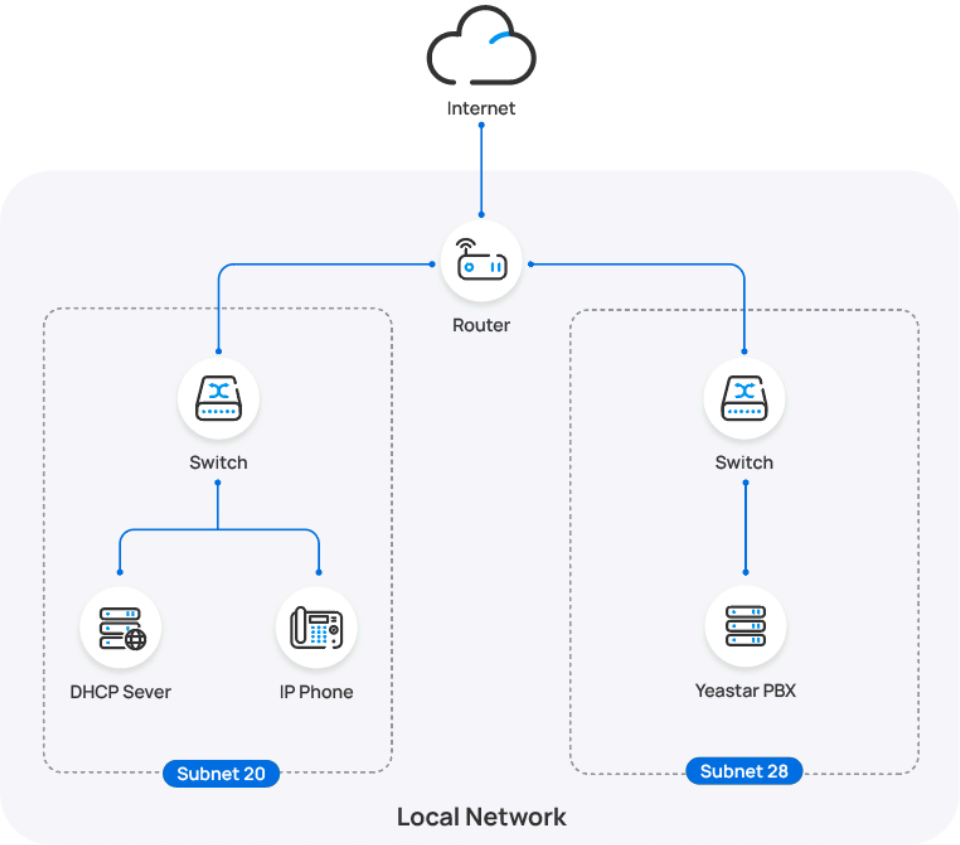
Result

- After boot-up, the IP phone gets an IP address from the DHCP server, downloads configurations from the PBX via TFTP protocol, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision a Cisco IP phone in different subnets

In this example, the Cisco IP phone and DHCP server are deployed in subnet 20, while the Yeastar PBX (IP address: `192.168.28.41`) is deployed in subnet 28.

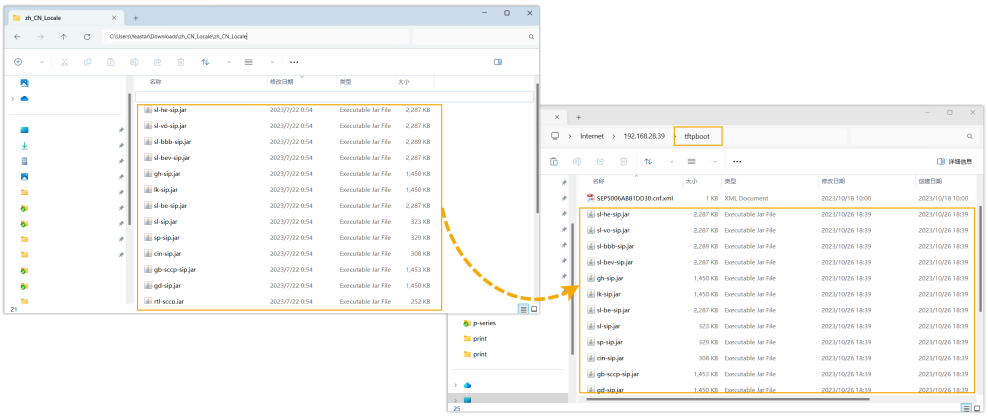


Prerequisites

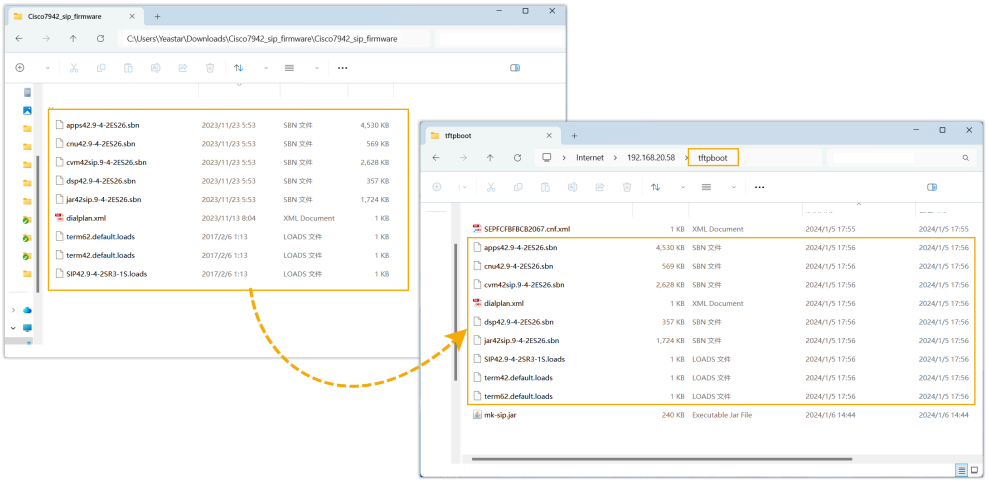
- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- Gather information of IP phone, including Vendor, Model, and MAC address.
- (Optional) Download your desired language files from Cisco website and upload the language files to the folder `tftpboot` in the PBX via FTP.

Note:

> By default, Cisco IP phone displays in **English**. If you want it to display in another language after auto provisioning, you can manually upload your language files to PBX.



- If you want to provision **Cisco 7942**, you will also need to download and extract the Cisco7942 provisioning package, and put the extracted files into the folder `tftpboot` of the PBX.



Procedure

- Step 1. Enable the TFTP feature on PBX
- Step 2. Enable the Remote Registration feature for the extension on PBX
- Step 3. Add the Cisco IP phone on PBX
- Step 4. Configure DHCP option 66 on DHCP server
- Step 5. (Optional) Reset the Cisco IP phone

Step 1. Enable the TFTP feature on PBX

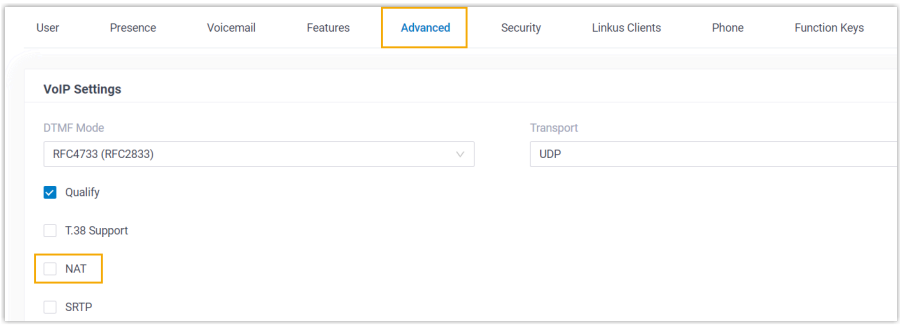
When provisioning a Cisco IP phone, the PBX works as a TFTP server to host the phone's configuration file. You need to enable the TFTP feature on PBX, so that the IP phone can download configurations from the PBX via TFTP.

1. Log in to PBX web portal, go to **System > Storage > File Sharing**.
2. Scroll down to the bottom, turn on the switch of **TFTP**, then click **OK** in the pop-up window.
3. Click **Save**.

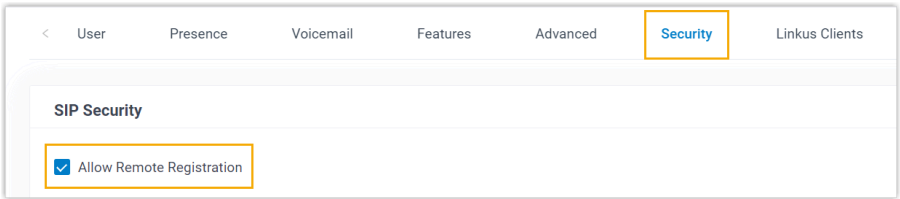
Step 2. Enable the Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. If you want to provision **Cisco 7942**, click the **Advanced** tab, then unselect the checkbox of **NAT** in the **VoIP Settings** section.



3. Click the **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

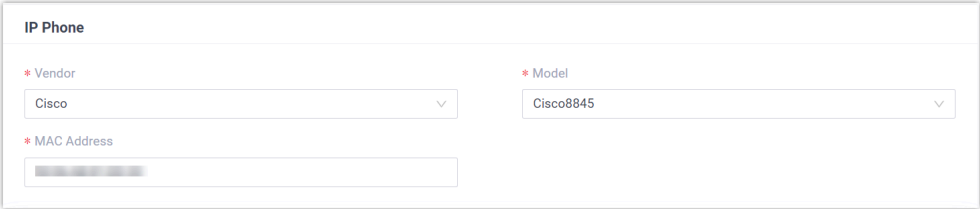


4. Click **Save** and **Apply**.

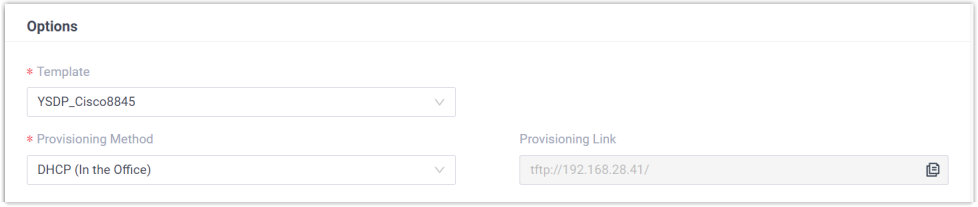
Step 3. Add the Cisco IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Cisco**.
   - **Model**: Select the phone model.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.

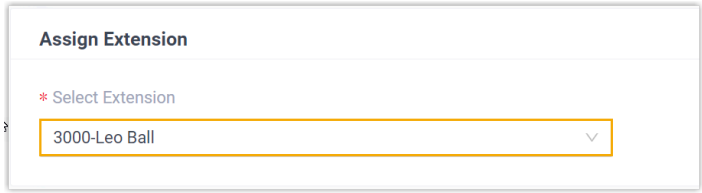


   - **Template**: Select a desired template from the drop-down list.

     > **Note:**
     > You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template](#).

   - **Provisioning Method**: Select **DHCP (In the Office)**.

     A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.
5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 4. Configure DHCP option 66 on DHCP server

Configure the DHCP option 66 on the DHCP server to deliver the PBX's IP address.

The configuration examples are shown below:

Figure 7. **Configure option 66 on the Tftpd64's DHCP server**

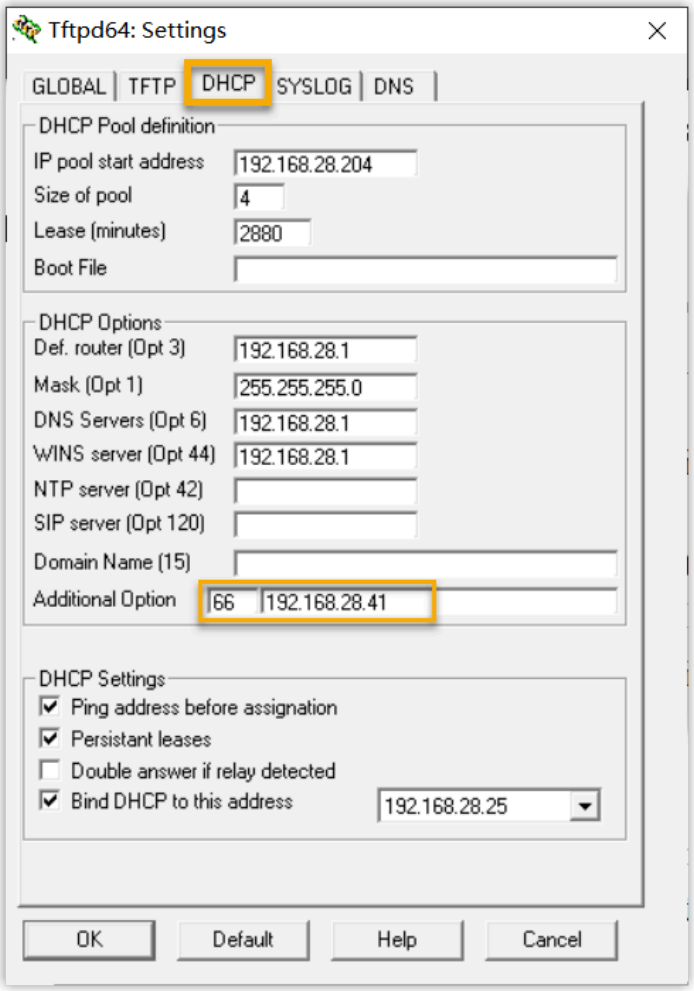
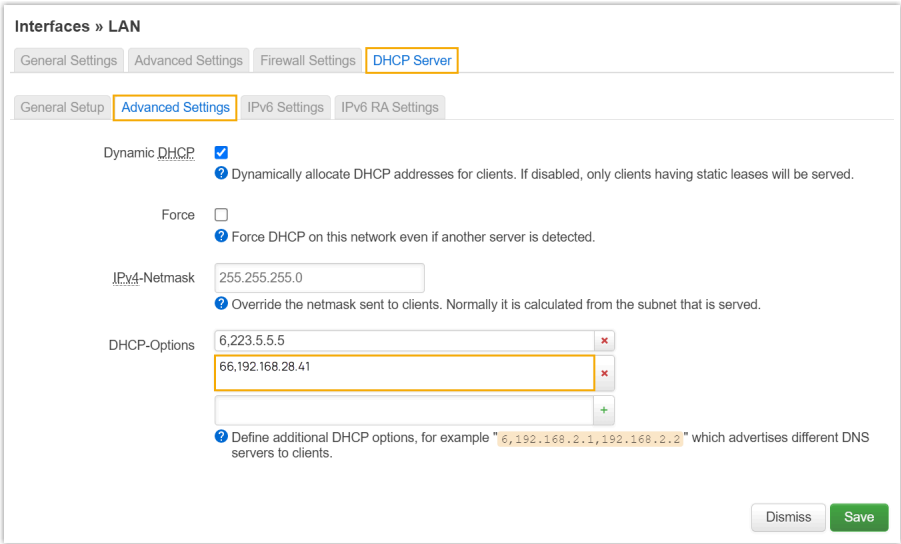


Figure 8. **Configure option 66 on a Router's DHCP server**



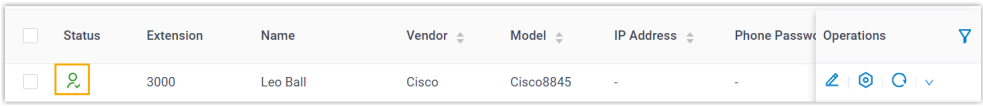
Step 5. (Optional) Reset the Cisco IP phone

If the IP phone is to be deployed for a new user, you need to reset the phone to its default settings to ensure that the configurations from the previous user are removed from the phone.

1. On the IP phone, press the ⚙ button.
2. On the IP phone screen, go to **Admin settings > Reset settings > All settings**.
3. Select **Reset** when the phone prompts for confirmation.

Result

- After boot-up, the IP phone gets an IP address from the DHCP server, downloads configurations from the PBX via TFTP protocol, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Snom

Auto Provision Snom IP Phone with Yeastar P-Series PBX System

This topic takes Snom D865 (firmware: 10.1.137.15) as an example to introduce how to provision a Snom IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Snom IP phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
D120	10.1.54.13 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D140	10.1.148.1 or later	37.12.0.33 or later	• PnP • DHCP • RPS
D150	10.1.148.1 or later	37.12.0.33 or later	• PnP • DHCP • RPS
D315	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D335	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D385	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D713	10.1.73.16 or later	37.6.0.46 or later	• PnP • DHCP • RPS
D717	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
D735	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D785	10.1.73.16 or later	37.4.0.17 or later	• PnP • DHCP • RPS
D862	10.1.137.15 or later	37.9.0.22 or later	• PnP • DHCP • RPS
D865	10.1.137.15 or later	37.9.0.22 or later	• PnP • DHCP • RPS
M100 KLE	1.0.5.7 or later	37.14.0.24 or later	• PnP • DHCP • RPS
M500	1.12.2 or later	37.14.0.24 or later	• PnP • DHCP • RPS
M300	BSV530B2 or later	37.8.0.25 or later	• PnP • DHCP • RPS
M400	BSV610B5 or later	37.8.0.25 or later	• PnP • DHCP • RPS
M900	BSV530B7 or later	37.8.0.25 or later	• PnP • DHCP • RPS

Scenarios

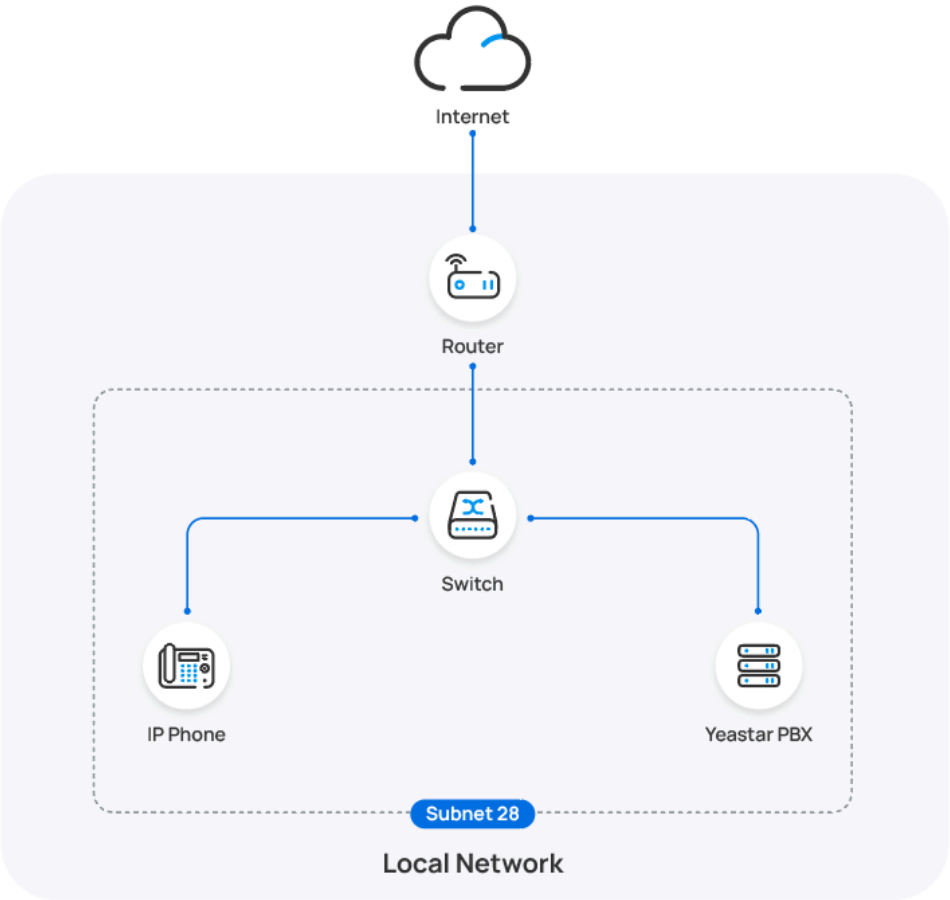
The provisioning process can be different depending on the network environment of **Snom IP phone** and **Yeastar PBX**, as the following table shows:

Scenario	Description
IP phone and PBX are in the SAME subnet (LAN)	In this scenario, you can directly provision the Snom IP phone via **PnP** method. For more information, see Auto provision a Snom IP phone in the same subnet (PnP).

Scenario	Description
IP phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Snom IP phone using a third-party DHCP server via **DHCP** method. For more information, see Auto provision a Snom IP phone in different subnets (DHCP).
IP phone and PBX are in DIFFERENT network	In this scenario, you can provision the Snom IP phone remotely via **RPS** method. For more information, see Auto provision a Snom IP phone in remote network (RPS).

Auto provision a Snom IP phone in the same subnet (PnP)

In this example, the Snom IP phone (IP: `192.168.28.205`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

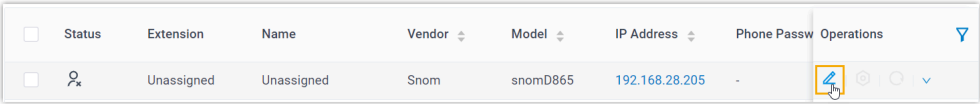
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

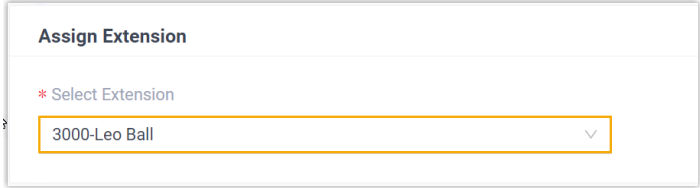
2. Click beside the Snom IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.

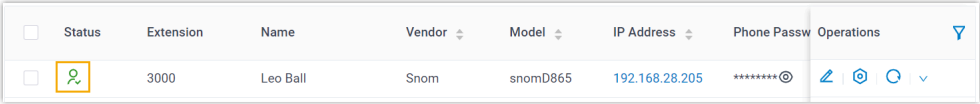
- To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

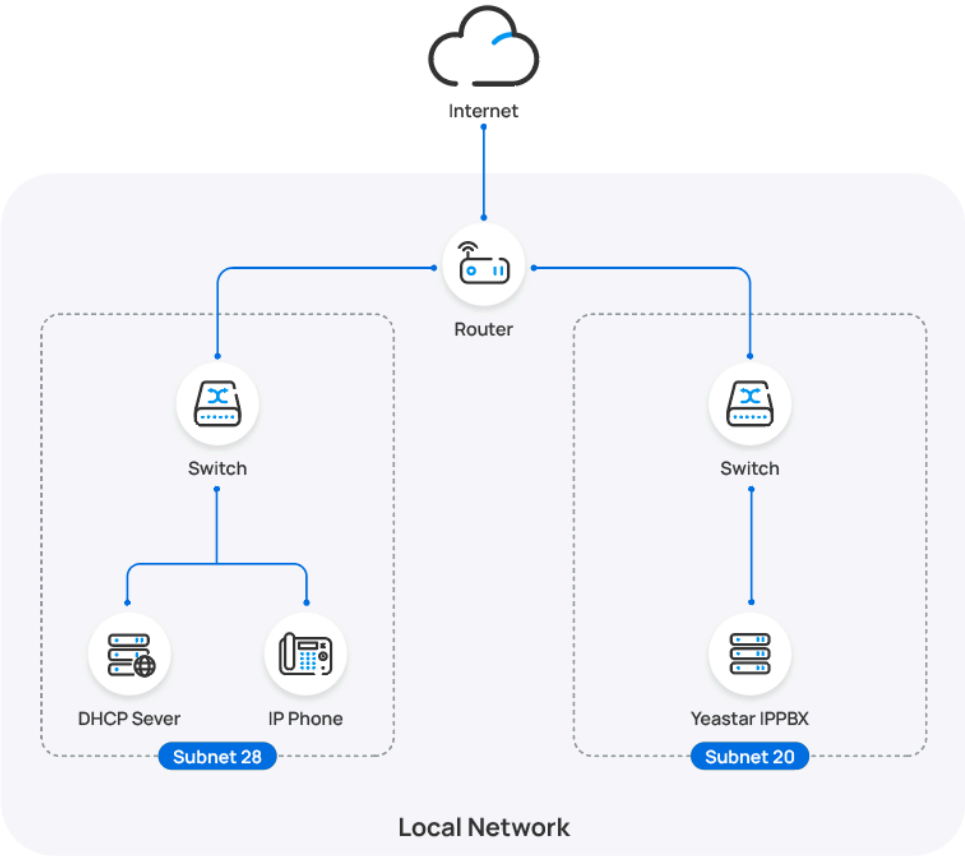
Note:
Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone, you can check the registration status on **Auto Provisioning > Phone**.



Auto provision a Snom IP phone in different subnets (DHCP)

In this example, the Snom IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

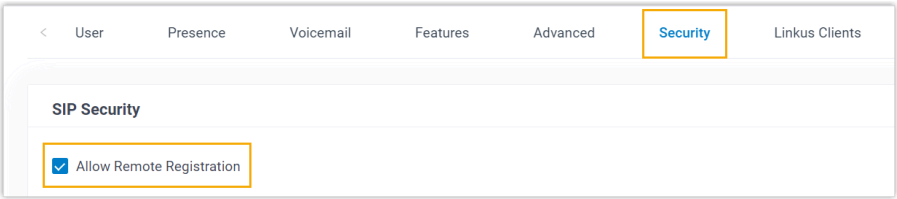
- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Snom IP phone on PBX

- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

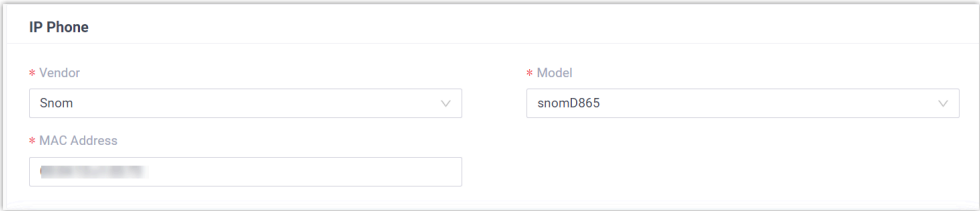


3. Click **Save** and **Apply**.

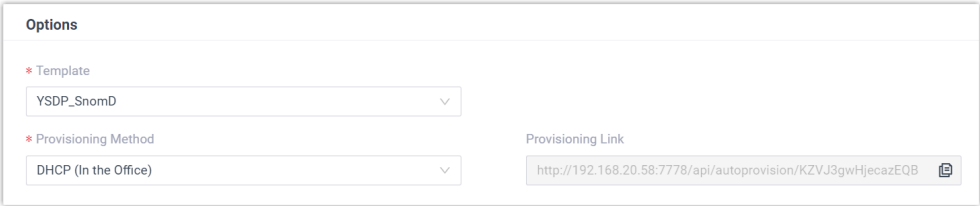
Step 2. Add the Snom IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Snom**.
   - **Model**: Select the phone model. In this example, select **snomD865**.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.



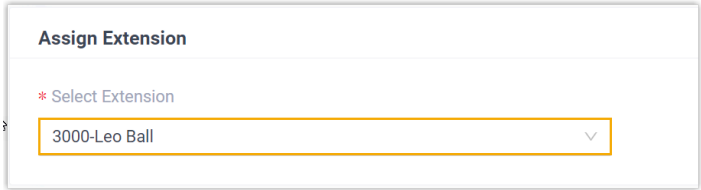
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



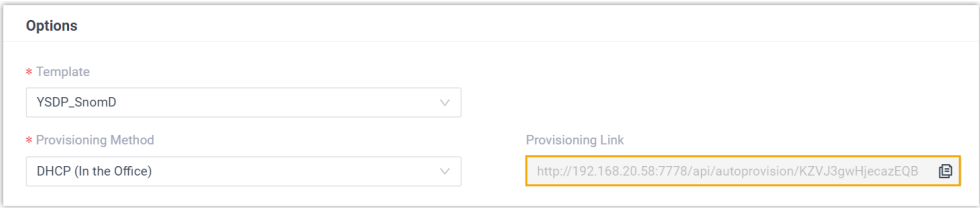
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.

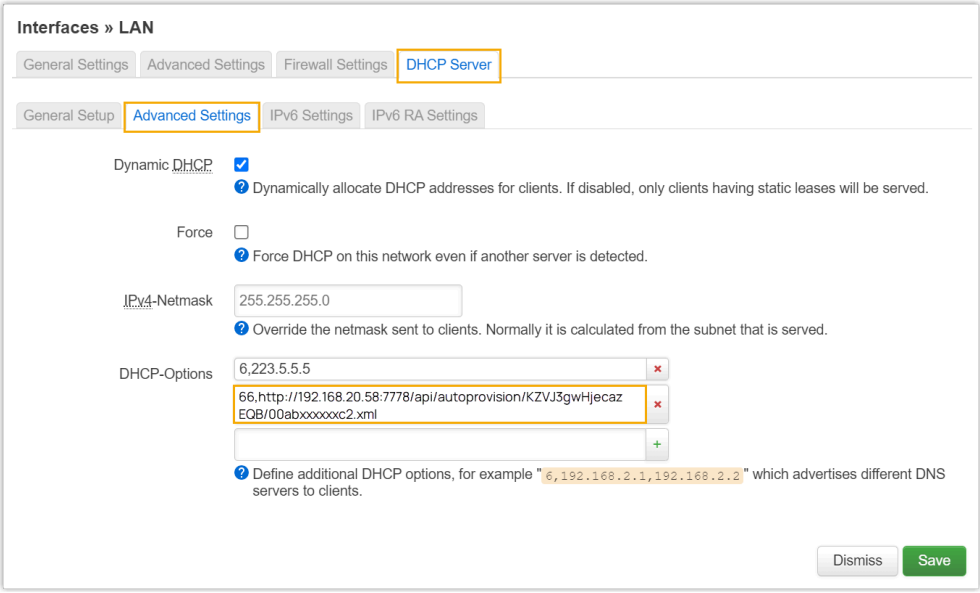


2. On the DHCP server, set up option 66 by entering the provisioning link followed by the configuration file name of the phone (*mac*.xml), as the following example shows:

```
http://192.168.20.58:7778/api/autoprovision/KZVJ3gwHjecazEQ
B/00abxxxxxxc2.xml
```

> **Note:**
> - The letters in the MAC address must be in lowercase.
> - If you need to provision multiple Snom IP phones, you can directly use a placeholder `{mac}` in the configuration file name. For example:
>
> ```
> http://192.168.20.58:7778/api/autoprovision/KZ
> VJ3gwHjecazEQB/{mac}.xml
> ```

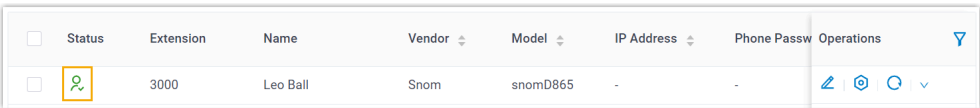
In this example, the configuration on a router's DHCP server for provisioning a single Snom IP phone is shown below.



Result

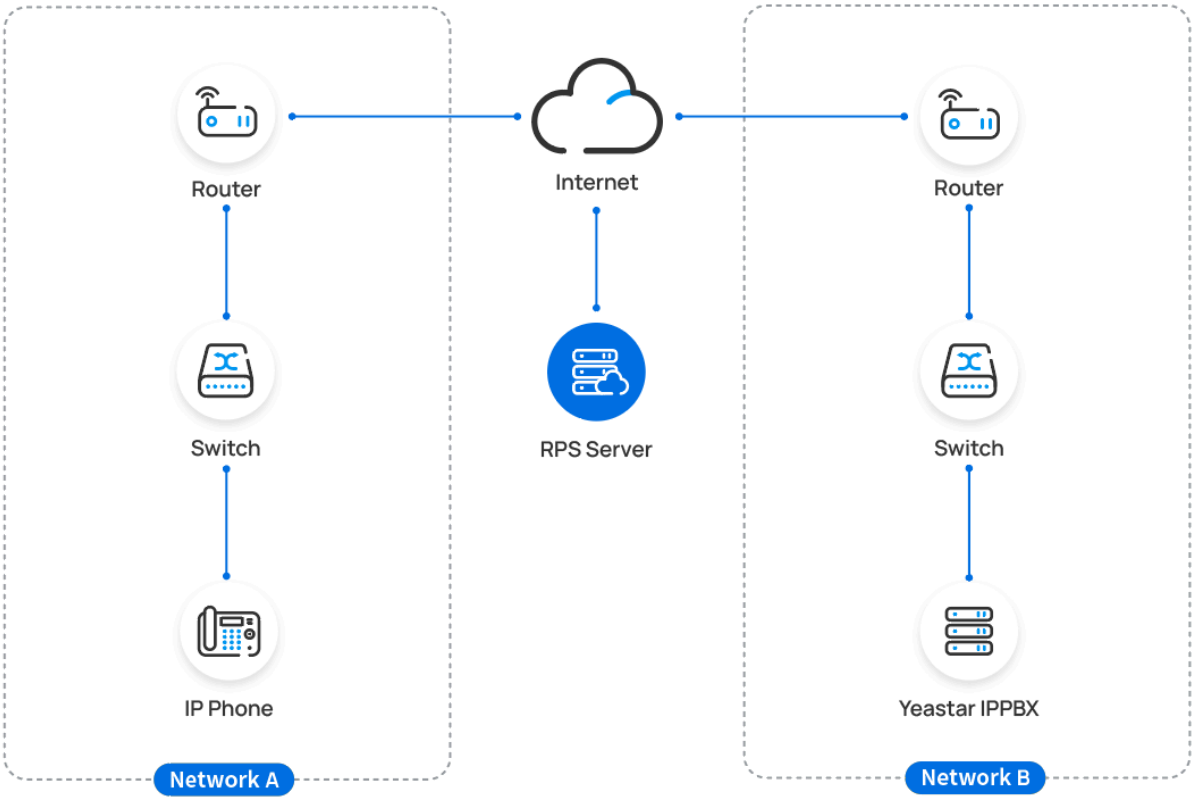
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision a Snom IP phone in remote network (RPS)

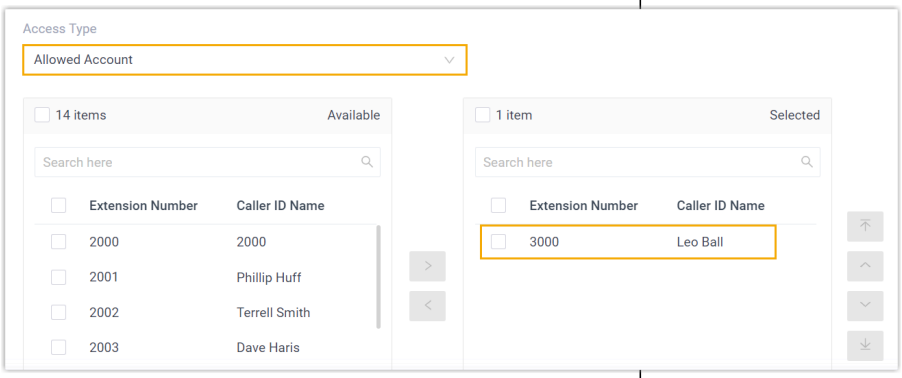
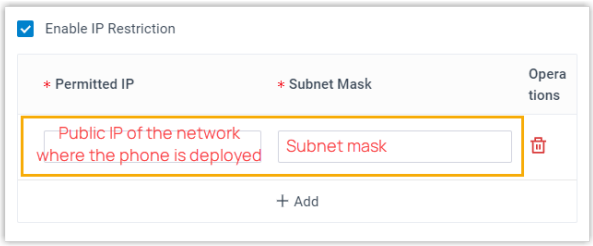
In this example, the Snom IP phone and the Yeastar PBX are deployed in different network.

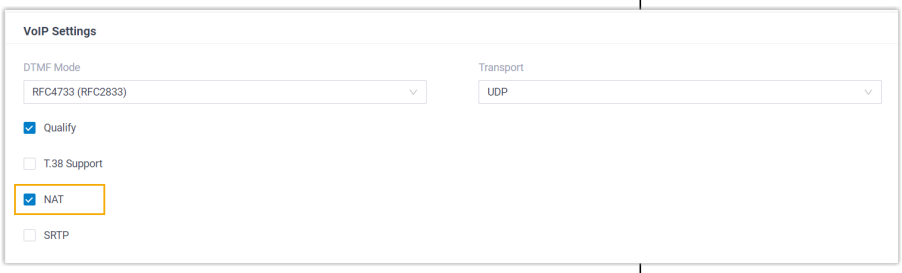
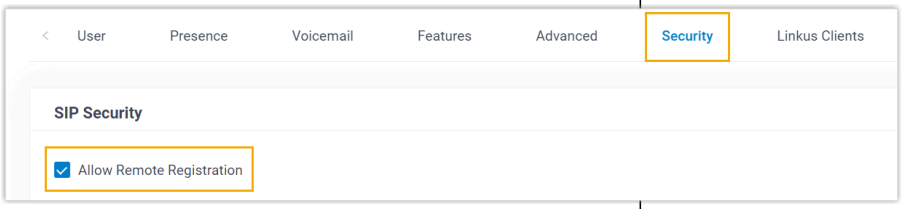


Prerequisites

Yeastar P-Series PBX System supports to auto provision a Snom phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

Method	Setting
	 ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration.

Method	Setting
	◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

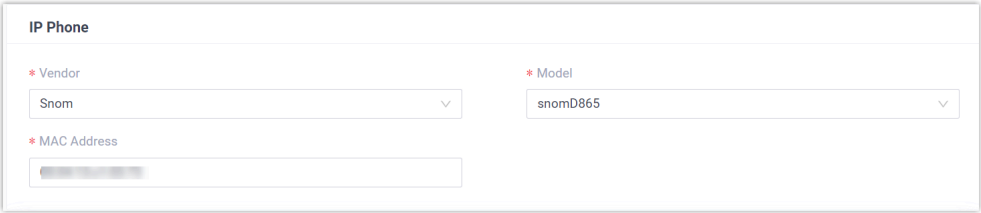
- Step 1. Add the Snom IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Snom IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.

3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Snom**.
- **Model**: Select the phone model. In this example, select **snomD865**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Option** section, configure the following settings.

Figure 9. **RPS using Yeastar FQDN**

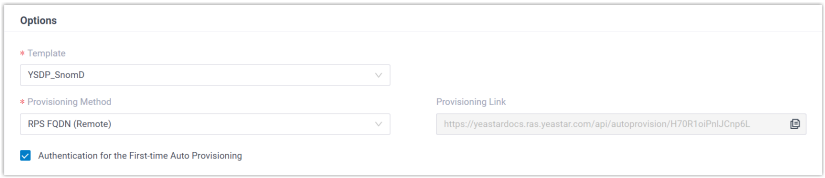
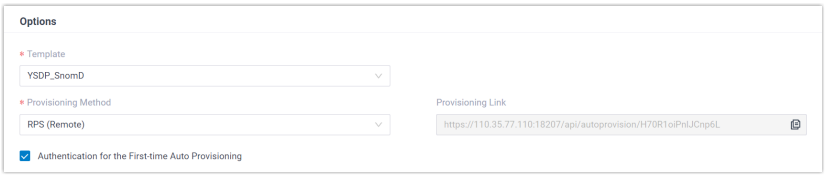


Figure 10. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template].

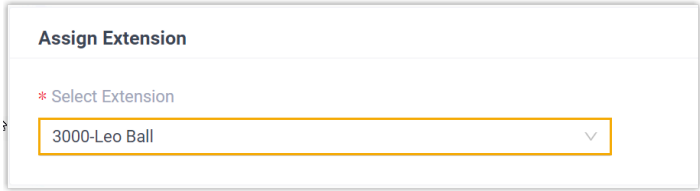
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



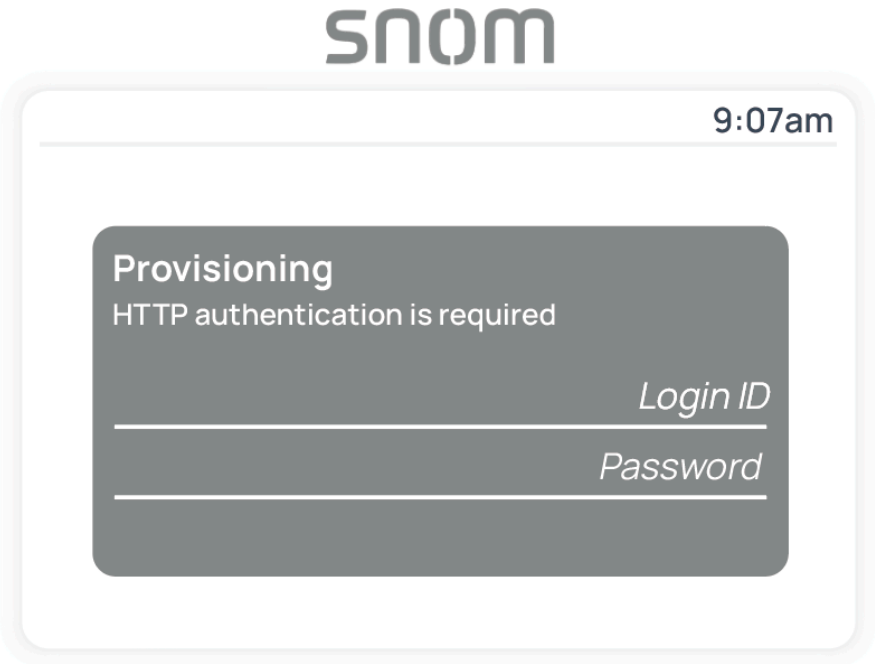
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

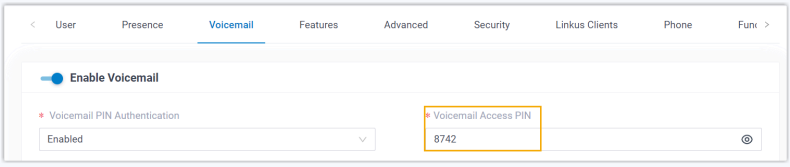
   The PBX will send an event notification of **RPS Request Success**.

Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.
2. If you have enabled **Authentication for the First-time Auto Provisioning** on the PBX, enter the authentication credential on the IP phone.

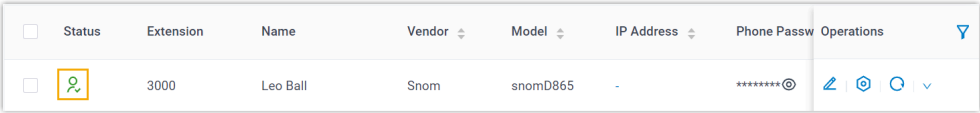


- **Login ID**: Enter the extension number that is assigned to the phone.
- **Password**: Enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Snom IP Phone with Yeastar P-Series PBX System

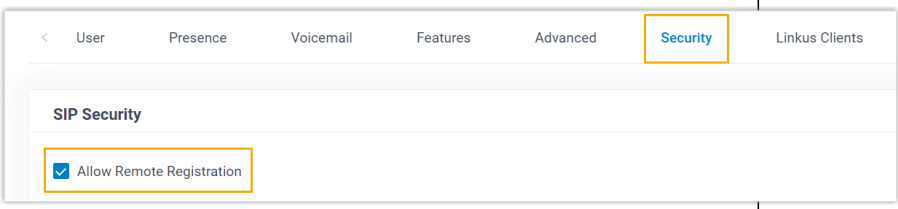
This topic takes Snom D865 (firmware: 10.1.137.15) as an example to introduce how to manually register an extension on a Snom IP phone.

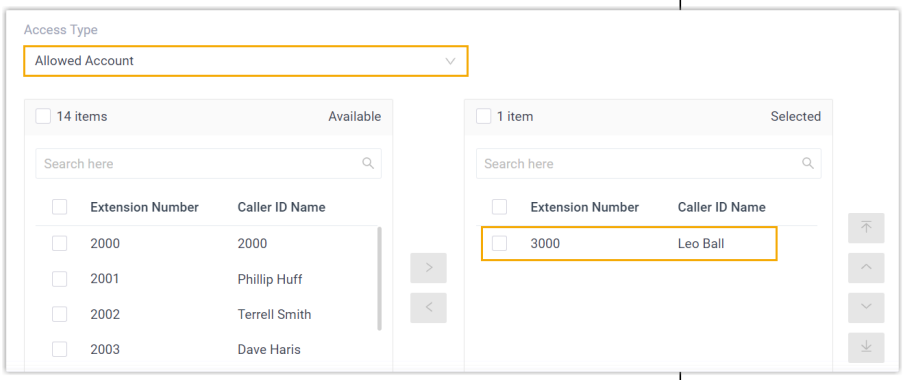
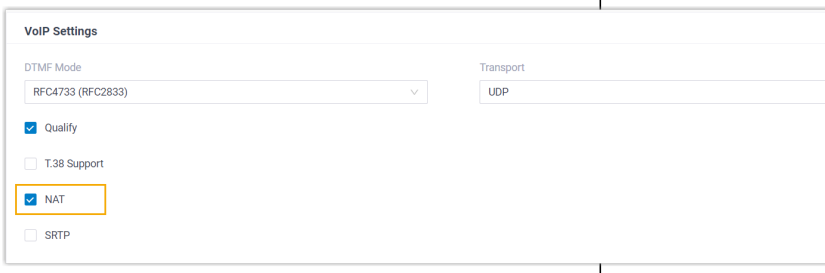
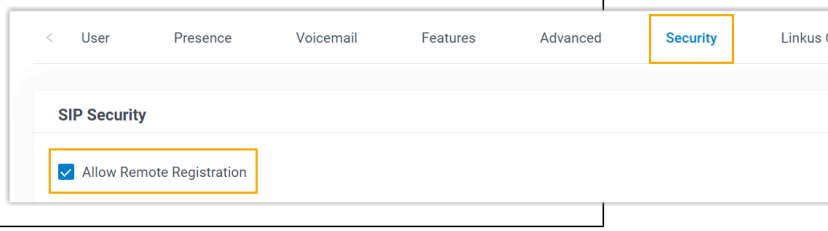
Supported devices

The Snom IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings according to the network environment of **Snom IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX.

Network Environment		Setting
		• Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

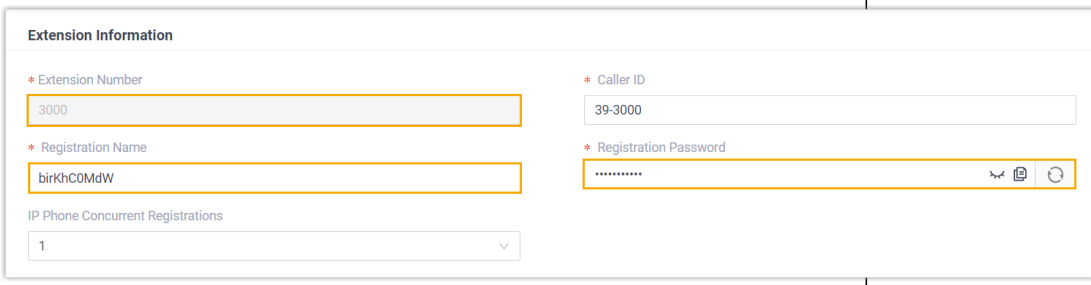
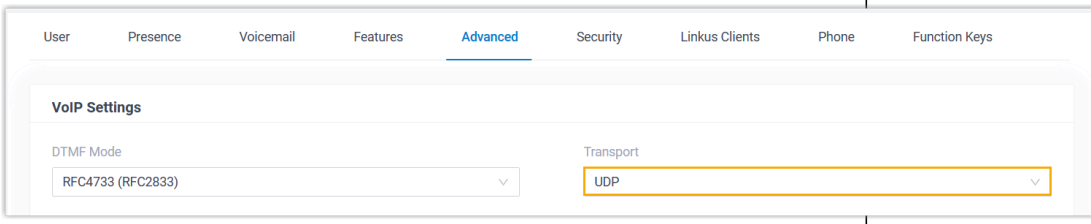
Procedure

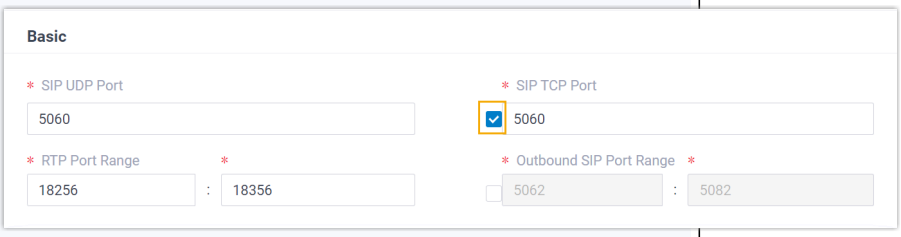
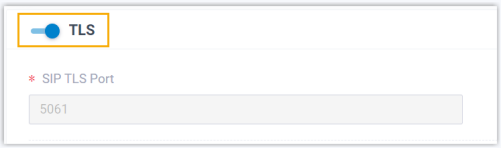
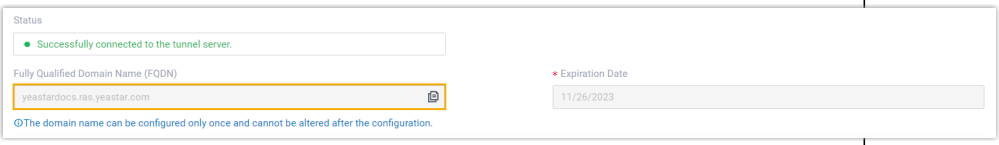
- Step 1. Gather registration information on Yeastar PBX

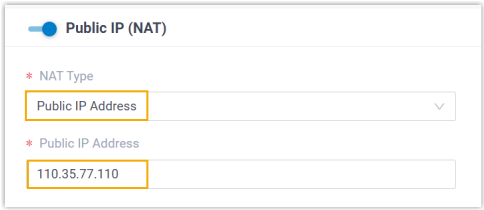
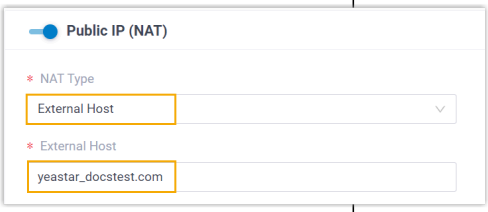
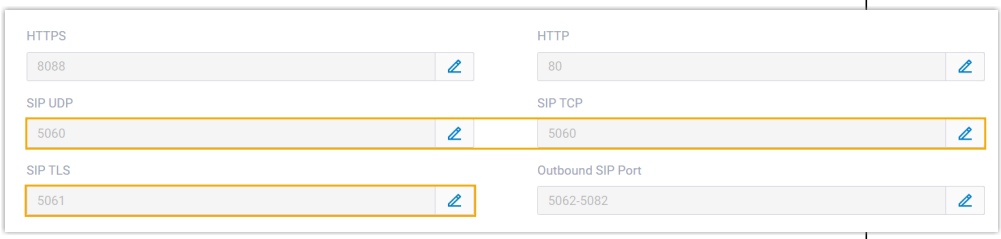
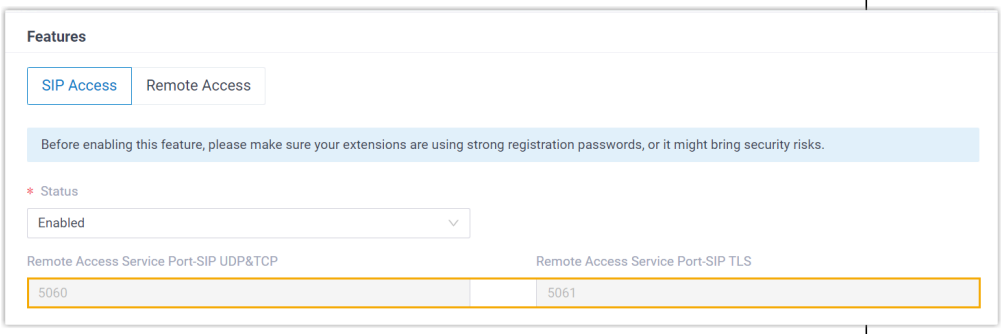
- Step 2. Register extension on Snom IP phone

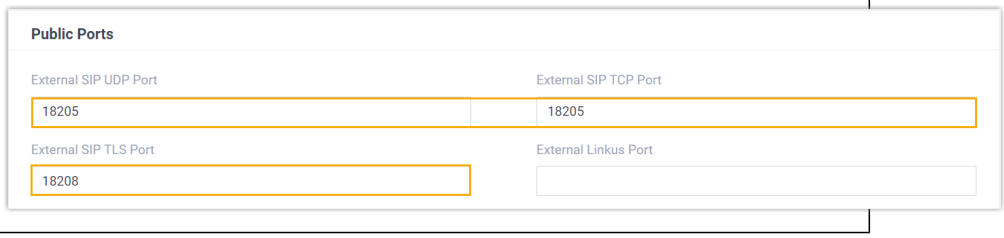
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).

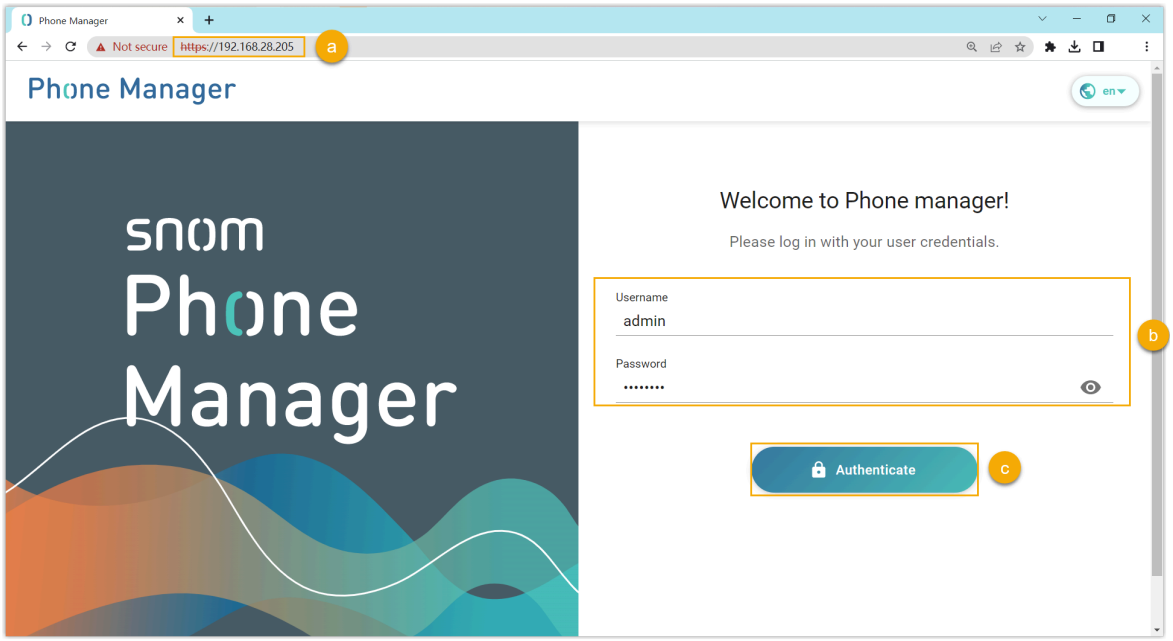
Information	Instruction
	 • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN). 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.

Information	Instruction
	 
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol.

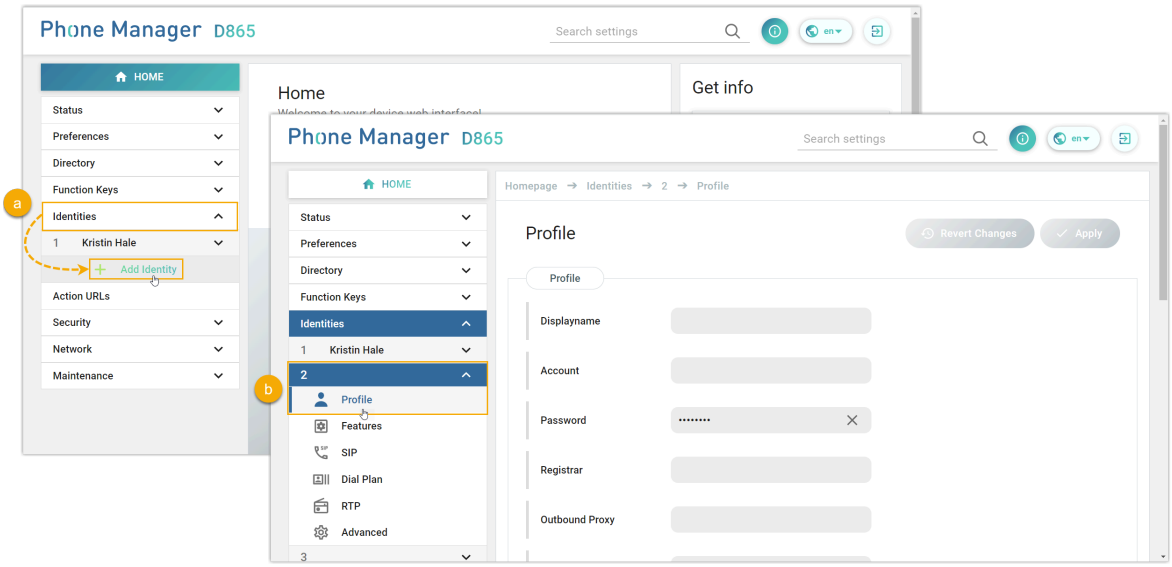
Information	Instruction
	

Step 2. Register extension on Snom IP phone

1. Log in to the web interface of the Snom IP phone.



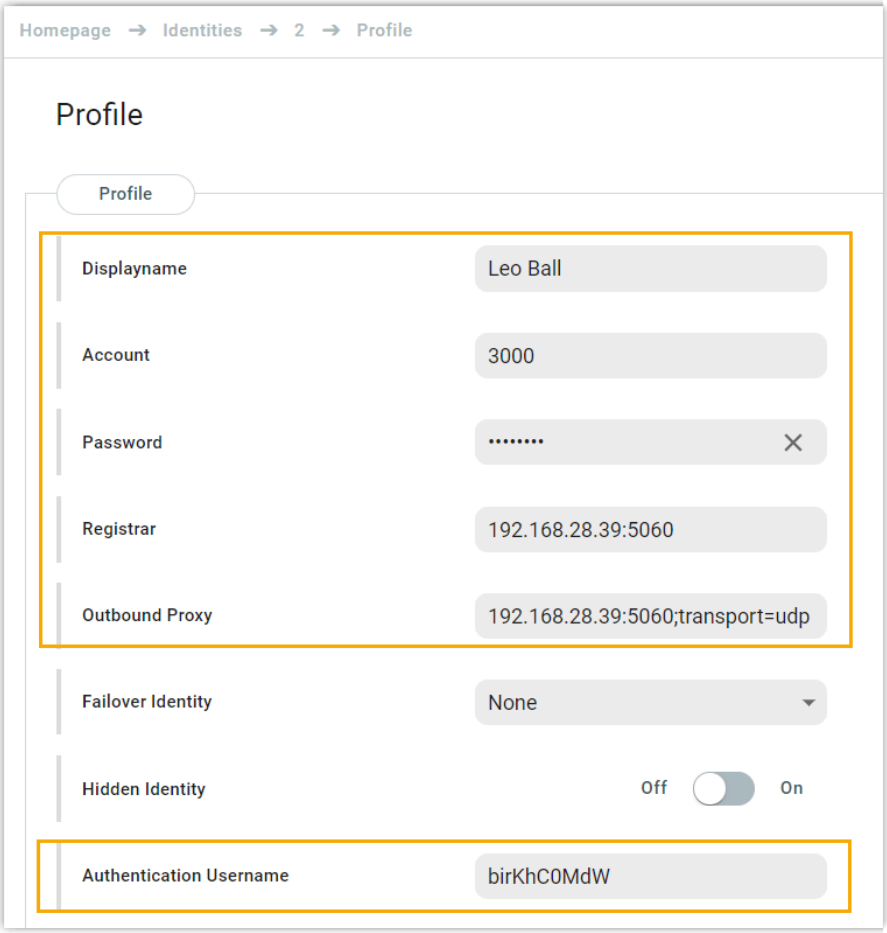
   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.
   c. Click **Authenticate**.
2. Add an identity for the extension.



a. On the left navigation bar, go to **Identities**, and click **Add Identity**.

b. Select an available identity, and go to the **Profile** page.

3. Complete the registration configurations.



- **Displayname**: Enter the name associated with the account, which will be displayed on the phone screen.
- **Account**: Enter the extension number.
- **Password**: Enter the registration password of the extension.
- **Registar**: Enter the IP address / domain name of the PBX along with the SIP registration port.
- **Outbound Proxy**: Enter the IP address / domain name of the PBX, along with the SIP registration port and the transport protocol of the extension.

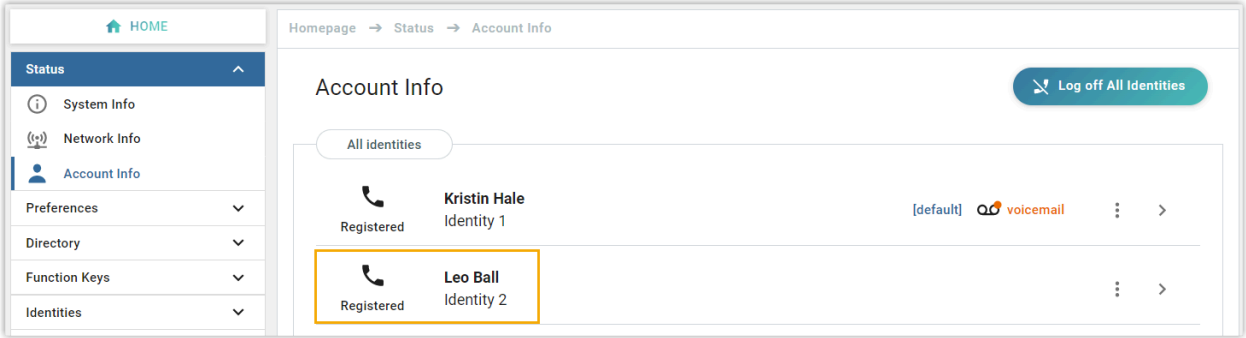
> **Note:**
> The format should be `PBX IP address / domain name:sip registration port;transport=udp/tcp/tls`.

- **Authentication Username**: Enter the registration name of the extension.

4. At the top-right corner of the **Profile** page, click **Apply**.

Result

The extension is registered successfully. You can check the registration status on **Status > Account Info** on the phone's web interface.



Gigaset

Auto Provision Gigaset DECT System with Yeastar P-Series PBX System

A DECT system consists of two parts, DECT base station and DECT handsets (namely DECT phones). This topic describes how to provision the Gigaset DECT base station with Yeastar P-Series PBX System, so that the Gigaset DECT handsets can be connected to the PBX via the base station, allowing users to utilize the handsets as PBX extensions to make and receive calls.

Requirements

The firmwares of **Gigaset DECT base station** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
N870 IP PRO	2.38.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS
N870 VI PRO	2.38.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS
N670 IP PRO	2.38.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS
N610 IP PRO	2.52.0 or later	37.3.0.42 or later	• PnP • DHCP • RPS
Maxwell Basic PRO	3.18.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS
Maxwell 2 PRO	3.18.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS
Maxwell 3 PRO	3.18.1 or later	37.3.0.42 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
Maxwell 4 PRO	3.18.1 or later	37.3.0.42 or later	• PnP • DHCP • RPS

The device model and firmware version of the Gigaset DECT system used in this example are shown in the table below.

Device Model	Firmware Version
Gigaset DECT base station	
N870 IP PRO	v2.38.1
Gigaset DECT handset	
S650H PRO	v114.074.04
SL750H PRO	v116.074.04

Scenarios

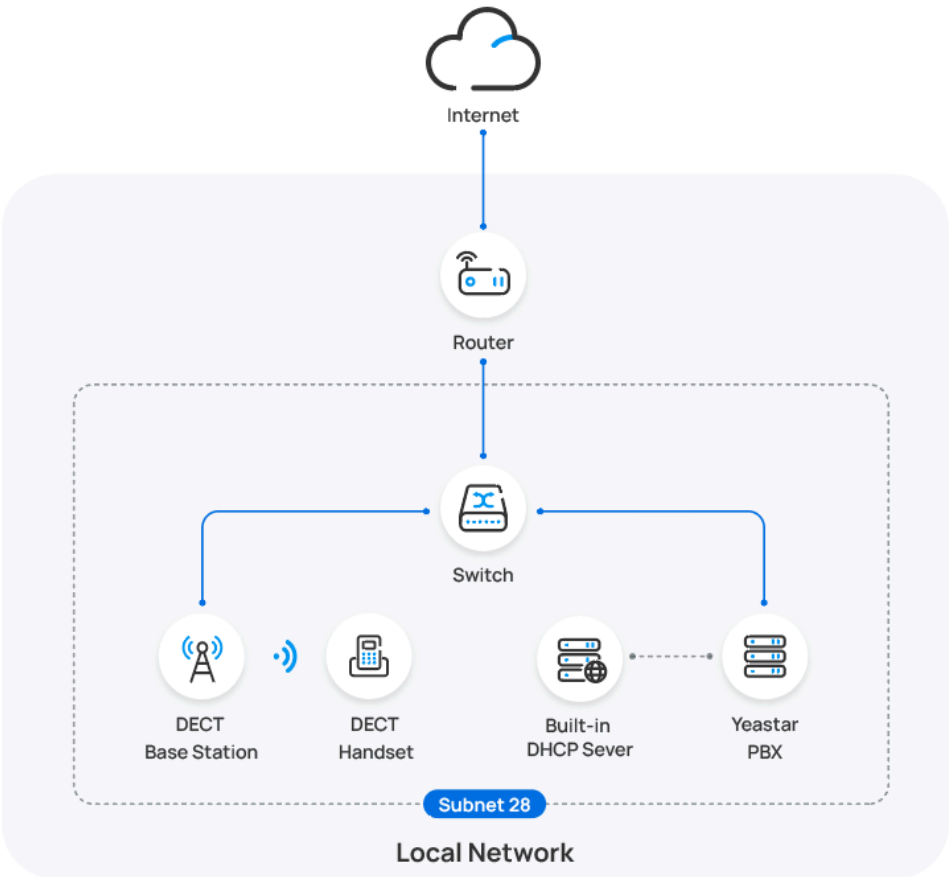
The provisioning method and operations vary depending on the network environment of **Gigaset DECT system** and **Yeastar PBX**, as the following table shows.

Scenario	Description
DECT system and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Gigaset DECT system with Yeastar PBX via **PnP** method. For more information, see Auto provision Gigaset DECT system in the same subnet (PnP).
DECT system and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Gigaset DECT system with Yeastar PBX via **DHCP** method. For more information, see Auto provision Gigaset DECT system in different subnets (DHCP).
DECT system and PBX are in DIFFERENT networks	In this scenario, you can provision the Gigaset DECT system with Yeastar PBX via **RPS** method. For more information, see Auto provision Gigaset DECT system in remote network (RPS).

Auto provision Gigaset DECT system in the same subnet (PnP)

In this example, the Gigaset DECT system (base station and handset) and the Yeastar PBX (IP: `192.168.28.39`) are deployed in subnet 28.

> **Note:**
> This example uses the PBX's built-in DHCP server to assign an IP address to the DECT base station. If there is already a third-party DHCP server running in the subnet, you can use the existing DHCP server for the IP address assignment.



Prerequisites

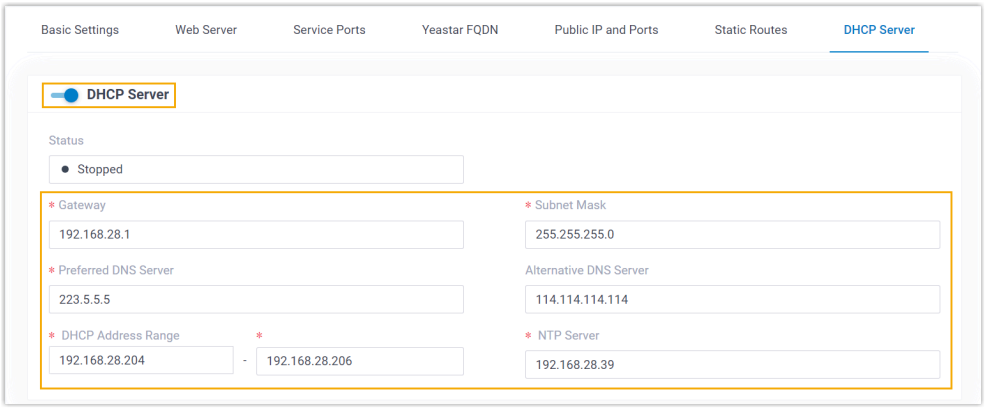
- Make sure that there is only one DHCP server running in the subnet, or the DECT base station would fail to obtain an IP address.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).

Procedure

Step 1. Set the PBX as a DHCP Server

Configure the built-in DHCP server in the PBX, so that the PBX can act as a DHCP server to assign an IP address to the DECT base station.

1. Log in to PBX web portal, go to **System > Network**, click **DHCP Server** tab.
2. Turn on the **DHCP Server**, and complete the following network configurations.



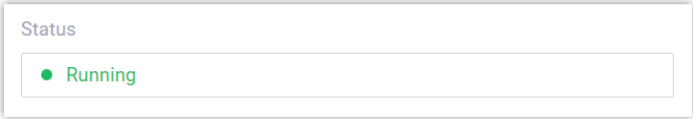
- **Gateway**: Specify the IP address of the default gateway for the DHCP server.
- **Subnet Mask**: Specify the subnet mask used to subdivide your IP address.
- **Preferred DNS Server**: Specify a DNS server for the DHCP server.
- **Alternative DNS Server**: Optional. Specify a secondary DNS server for the DHCP server.
- **DHCP Address Range**: Specify the IP address range that will be allocated to DHCP clients.
- **NTP Server**: Enter the IP address of an NTP server.

Note:

> The default value is the IP address of the PBX, which can synchronize the network time of the client devices with the PBX.

3. Click **Save**.

   The **Status** field displays **Running**, indicating the DHCP server is running.



Step 2. Enable dynamic IP setting for Gigaset DECT base station

On the DECT base station, use the device button to change the device role, so that the base station can obtain an IP address from a DHCP server in the subnet.

1. Press and hold the device button for at least 10 seconds until both LEDs turn off, then release the button.

   The device is now in programming mode.
2. Short press the device button until both LEDs become blue, then release the button.

   The device role is switched to **Integrator/DECT Manager** with dynamic IP setting enabled.
3. Press and hold the device button until both LEDs turn red, then release the button.

   The base station is reset, and it takes several minutes for the device to boot up with the selected device role; After booted up, the device gets an IP address from the DHCP server.

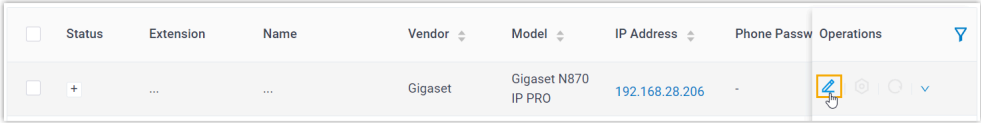
Step 3. Configure Gigaset DECT base station on PBX

On PBX web portal, configure the provisioning settings for the DECT base station, and assign extensions to the DECT handsets.

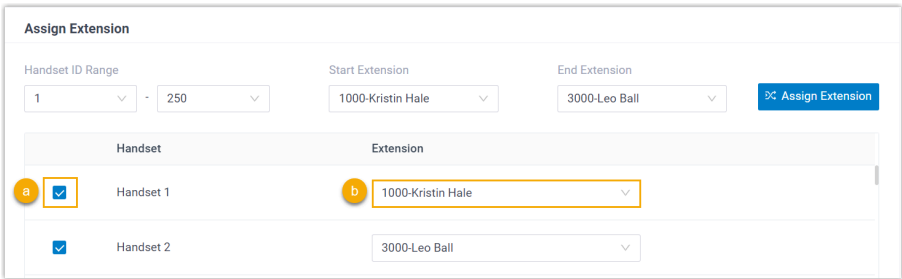
1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The DECT base station detected by the PBX via PnP is displayed in the phone list.

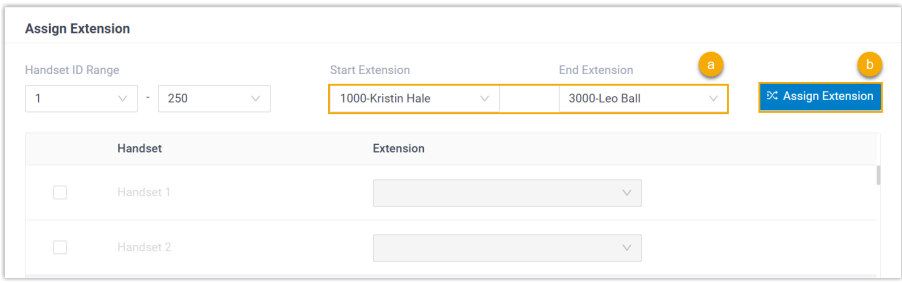
2. Click to edit the DECT base station.



3. In the **Assign Extension** section, assign extensions for the DECT handsets.
   - To assign extensions one by one, select the checkbox of corresponding handset, then select the desired extension in the **Extension** drop-down list.



   - To assign extensions in bulk, set the extension range in the **Start Extension** and **End Extension** drop-down lists, then click **Assign Extension**.

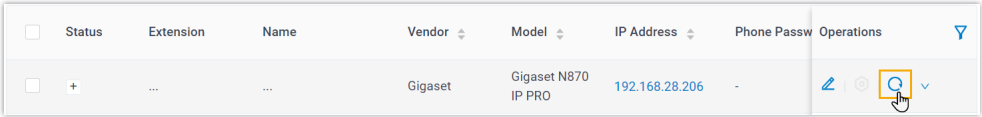


In this example, assign extension 1000 to Handset 1 and extension 3000 to Handset 2.

> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see [Release an Extension from a Provisioned IP Phone/Gateway].

- To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

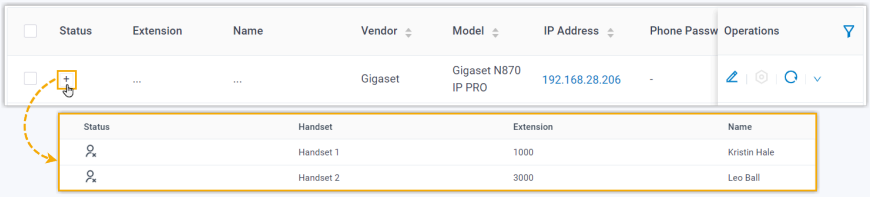
4. **Optional:** Configure other settings according to your needs.
5. Click **Save**.
6. In the phone list, click beside the Gigaset DECT base station to reprovision the device.



The DECT base station automatically downloads the configurations from the PBX and applies the settings.

Tip:

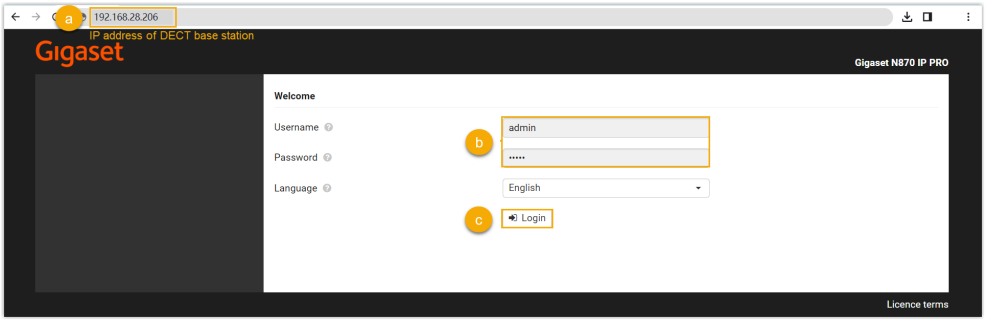
You can click + in front of the DECT base station to see the extensions assigned to the DECT handsets.



Step 4. Register the Gigaset DECT handsets to DECT base station

Enable the registration mode of DECT base station and confirm the registration on DECT handsets, so that the Gigaset DECT handsets can be registered to the DECT base station.

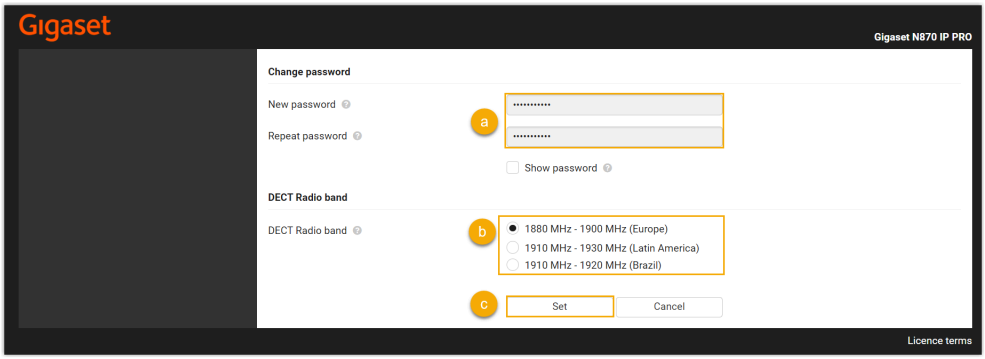
1. Log in to the web interface of DECT base station.



a. In the browser's address bar, enter the IP address of the base station.
b. Enter the username `admin` and the default password `admin`.
c. Click **Login**.

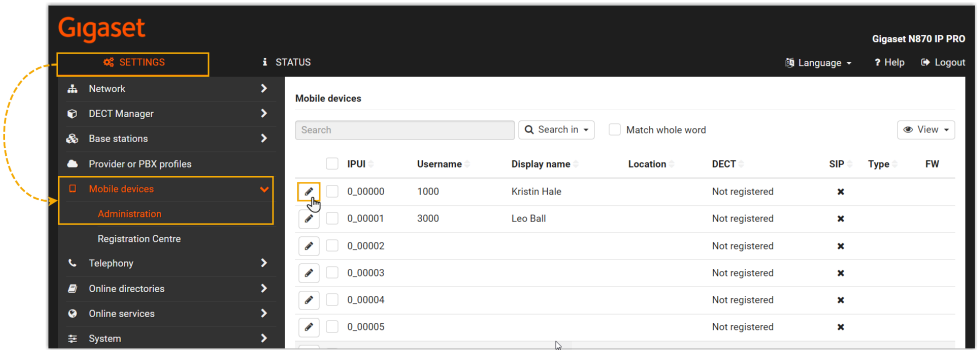
2. Change the default password, select a radio frequency band, then click **Set**.

> **Note:**
> For the DECT radio band, select the radio frequency band used in your region.



You are redirected to the web interface of the DECT base station.

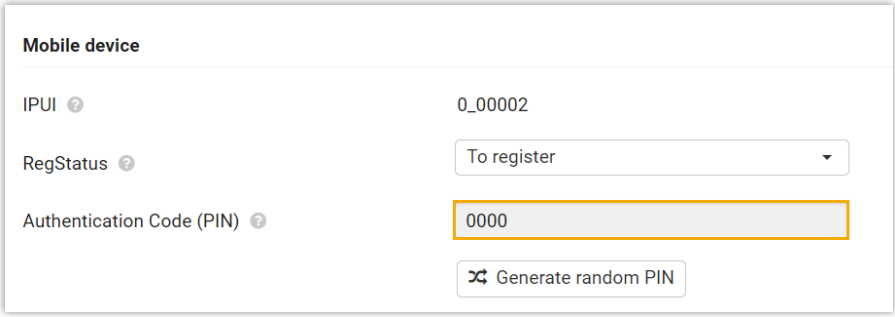
3. Under the **SETTINGS** tab, go to **Mobile devices > Administration**, click ✎ to edit a handset with an extension assigned.



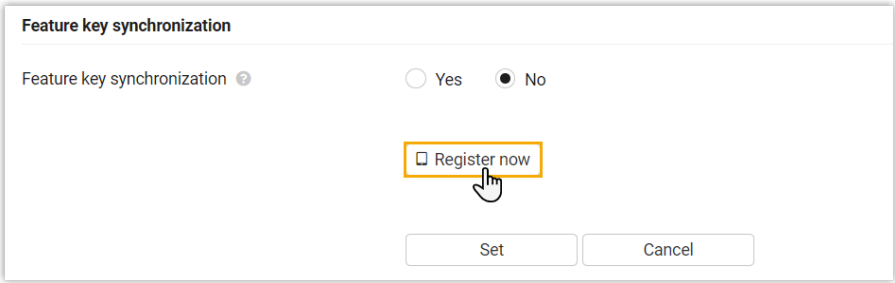
a. In the **RegStatus** drop-down list, select **To register**.

b. In the **Authentication Code (PIN)** field, set and note down a PIN code, which will be used on handset later for registration.

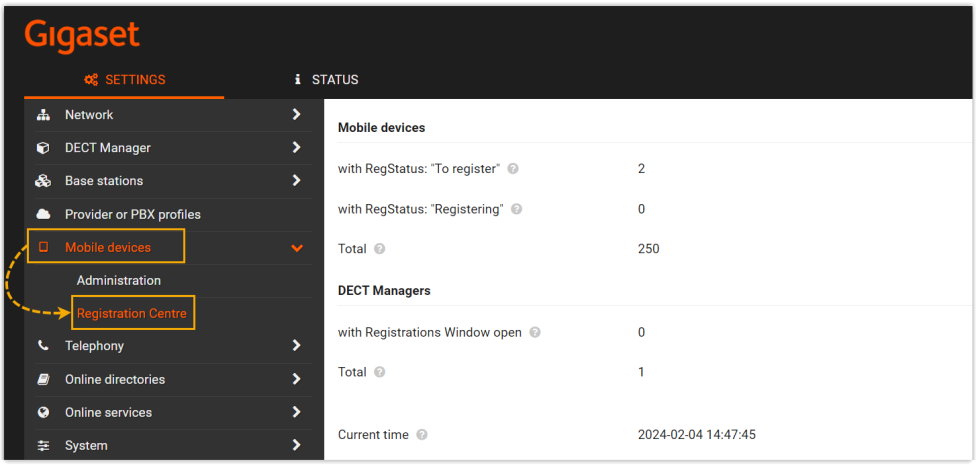
In this example, use the default PIN code `0000`.



c. Scroll down to the bottom, click **Register now**.

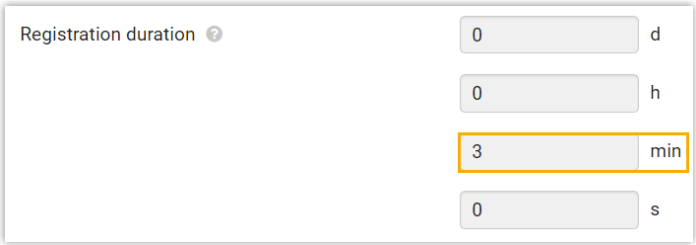


4. Repeat the above steps to edit other handsets with extensions assigned until all the handsets are in **To register** status.
5. Go to **Mobile devices > Registration Centre > DECT Managers**, complete the following settings.



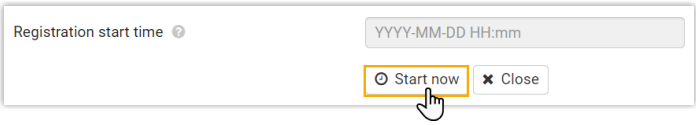
a. In the **Registration duration** section, set how long the DECT base station should stay in registration mode.

   In this example, keep the default value (3 minutes).

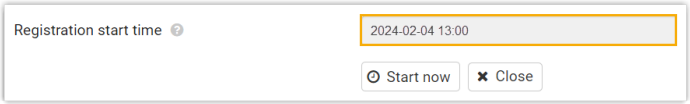


b. In the **Registration start time** section, enable the registration mode of DECT base station.

   - To start registration right now, click **Start now**.

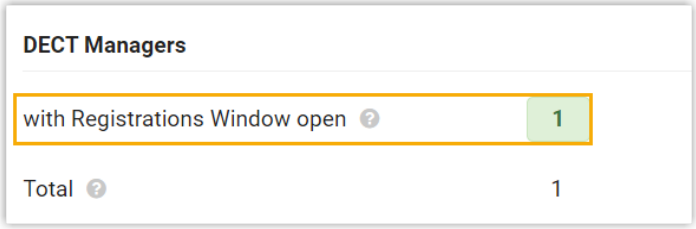


   - To schedule a time to start registration, set a time in the time field, then click **Set** at the bottom of the page.



   In this example, click **Start now**.

The **with Registrations Window open** field displays **1**, indicating that the DECT base station is in registration mode at the given time duration.

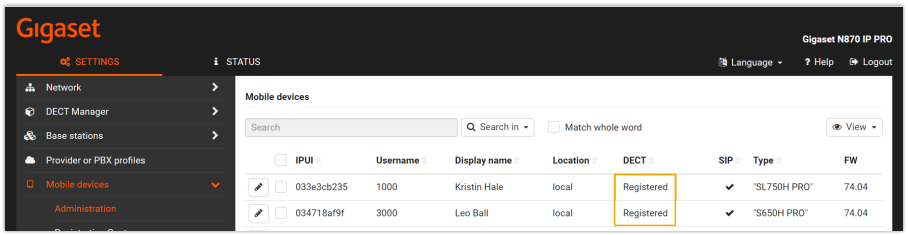


6. Confirm registration on DECT handsets.
   a. On the handset, go to **Menu > Settings > Registration > Register Handset**.

      The DECT handset starts to search for a base station that is in registration mode. When it finds the base station, there is a prompt asking you to enter a system PIN.
   b. Enter the PIN code obtained from the DECT base station, and press **OK**.

Result

- The handsets are successfully registered to the DECT base station, and associated with the assigned PBX extensions via the base station.
  - On the web interface of DECT base station, you can check the registration status of the handsets on **SETTINGS > Mobile devices > Administration**.

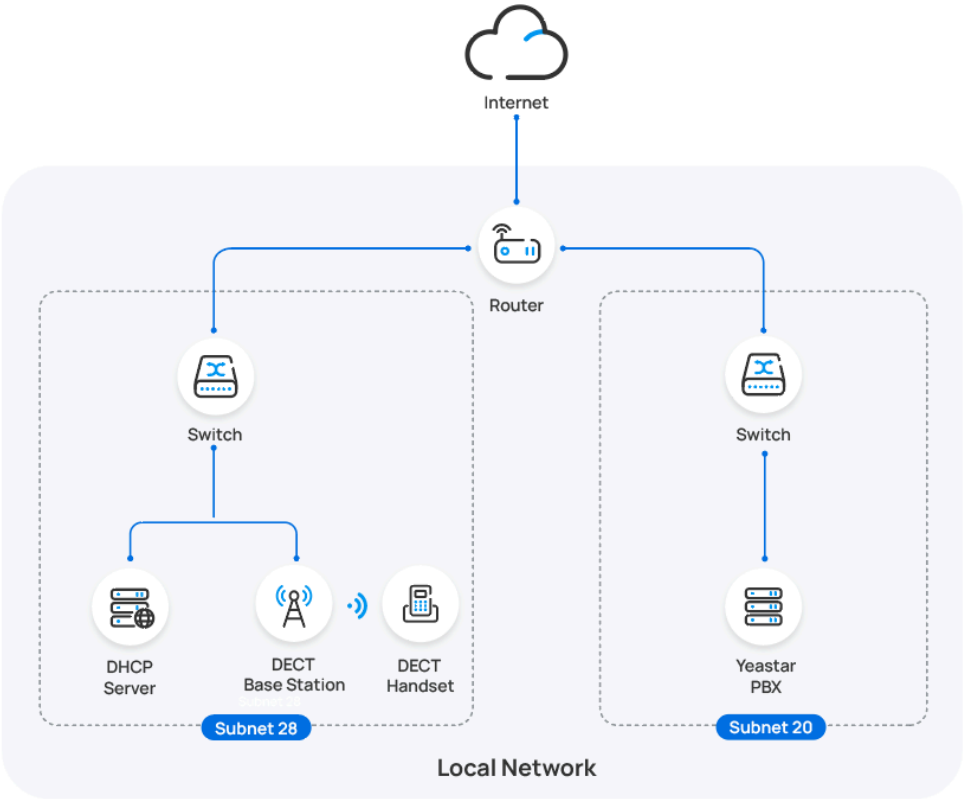


  - On PBX web portal, you can check the registration status of the extensions on **Auto Provisioning > Phones**.

- The registered DECT handsets can be used as extensions to make and receive calls.

Auto provision Gigaset DECT system in different subnets (DHCP)

In this example, the DECT system (base station and handset) and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

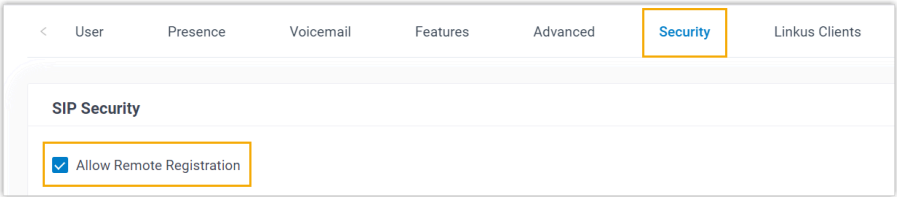
- Make sure that there is only one DHCP server running in the subnet where the DECT system is deployed, or the base station would fail to obtain an IP address.
- Make sure that the DECT system and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- Gather information of the DECT base station, including Vendor, Model, and MAC address.

Procedure

Step 1. Enable Remote Registration feature for extensions on PBX

Enable the Remote Registration feature for the extension to be assigned to DECT handsets, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

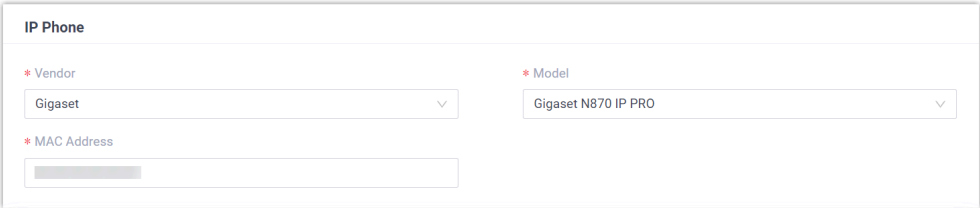


3. Click **Save** and **Apply**.

Step 2. Add the Gigaset DECT base station on PBX

Add the DECT base station on PBX. The PBX will generate a configuration file based on the device's MAC address.

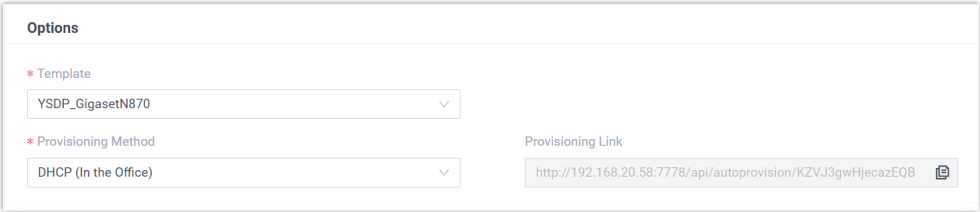
1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following information.



- **Vendor**: Select **Gigaset**.

- **Model**: Select the device model. In this example, select **Gigaset N870 IP PRO**.
- **MAC Address**: Enter the MAC address of the DECT base station.

4. In the **Options** section, configure the following settings.



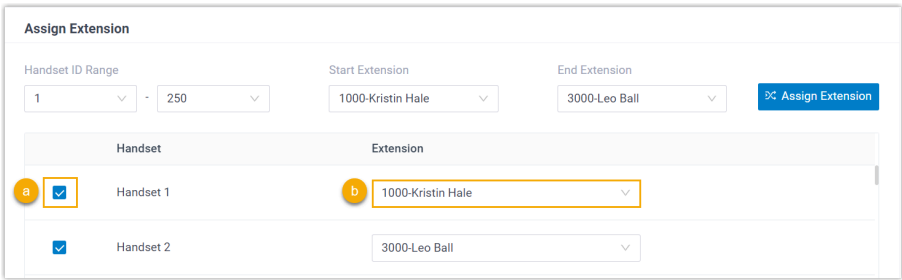
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template](#).

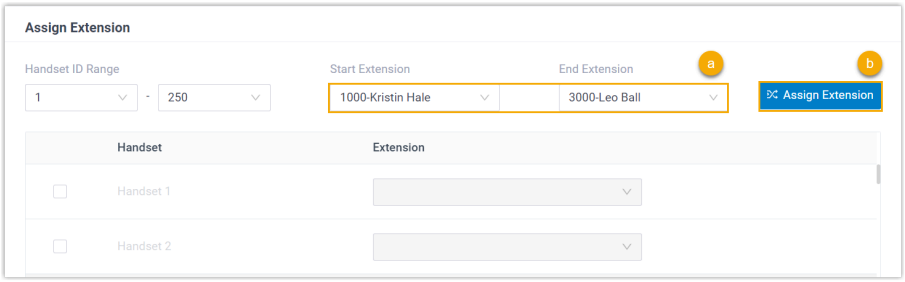
- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign extensions for the DECT handsets.
   - To assign extensions one by one, select the checkbox of corresponding handset, then select the desired extension in the **Extension** drop-down list.



   - To assign extensions in bulk, set the extension range in the **Start Extension** and **End Extension** drop-down lists, then click **Assign Extension**.

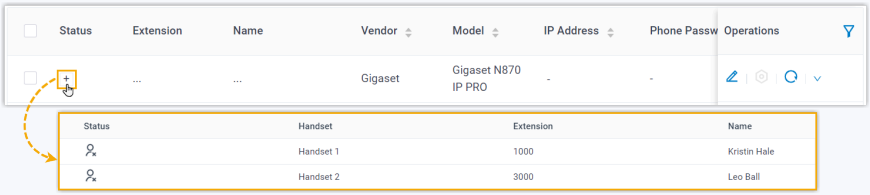


In this example, assign extension 1000 to Handset 1 and extension 3000 to Handset 2.

> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.
   The DECT base station is added to the PBX, and displayed in the Auto Provisioning phone list.

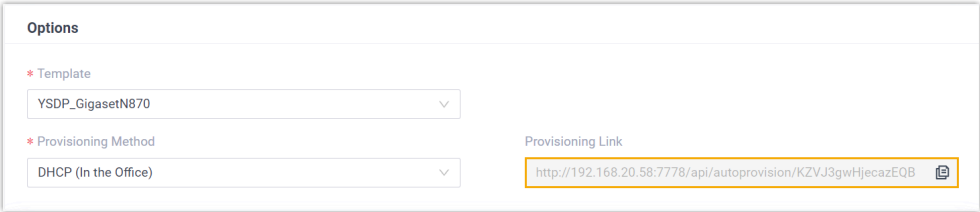
> **Tip:**
> You can click + in front of the DECT base station to see the extensions assigned to the DECT handsets.



Step 3. Configure DHCP option 66 on DHCP server

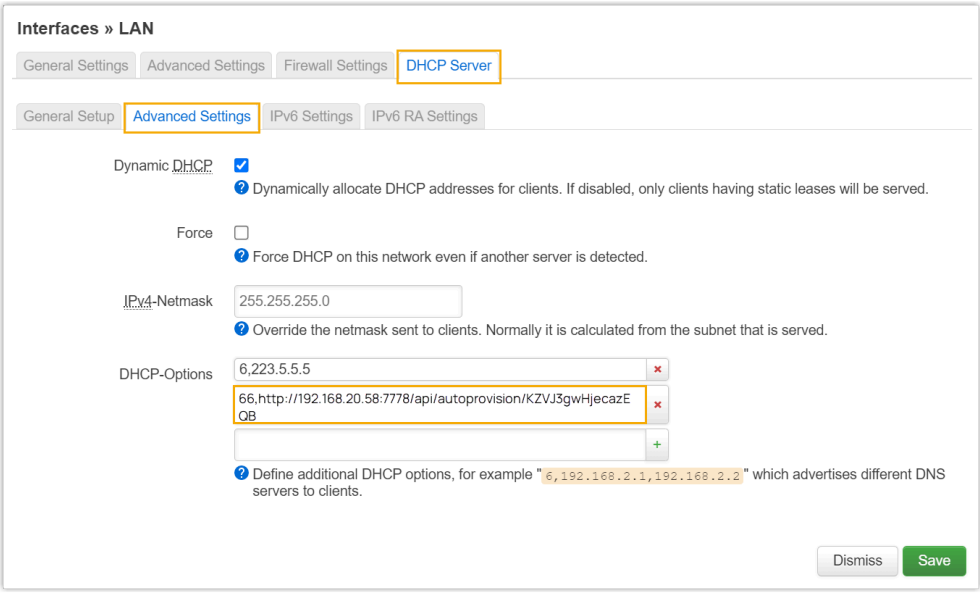
Use the generated provisioning link to configure option 66 on the DHCP server in the subnet where the DECT system is deployed.

1. On PBX web portal, copy the provisioning link from the device's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

   In this example, the configuration on a router's DHCP server is shown below.



Step 4. Enable dynamic IP setting for Gigaset DECT base station

On the DECT base station, use the device button to change the device role, so that the base station can obtain an IP address from a DHCP server in the subnet.

1. Press and hold the device button for at least 10 seconds until both LEDs turn off, then release the button.

   The device is now in programming mode.

2. Short press the device button until both LEDs become blue, then release the button.

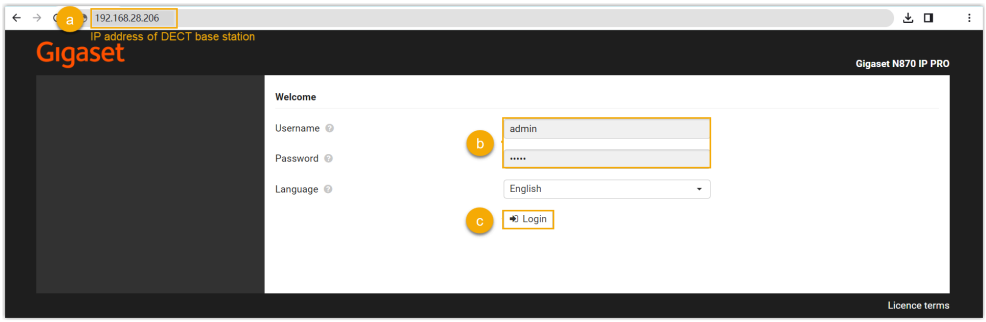
   The device role is switched to **Integrator/DECT Manager** with dynamic IP setting enabled.
3. Press and hold the device button until both LEDs turn read, then release the button.

   The base station is reset, and it takes several minutes for the device to boot up with the selected device role; After booted up, the device gets an IP address from the DHCP server, and automatically downloads configurations from the PBX.

Step 5. Register the Gigaset DECT handsets to DECT base station

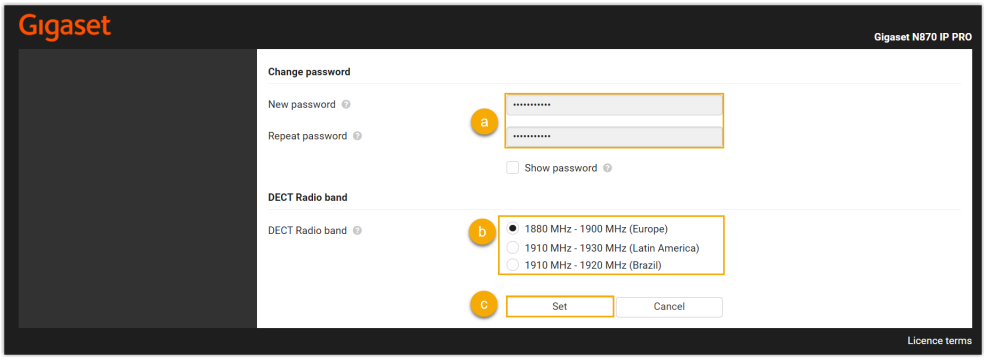
Enable the registration mode of DECT base station and confirm the registration on DECT handsets, so that the Gigaset DECT handsets can be registered to the DECT base station.

1. Log in to the web interface of DECT base station.



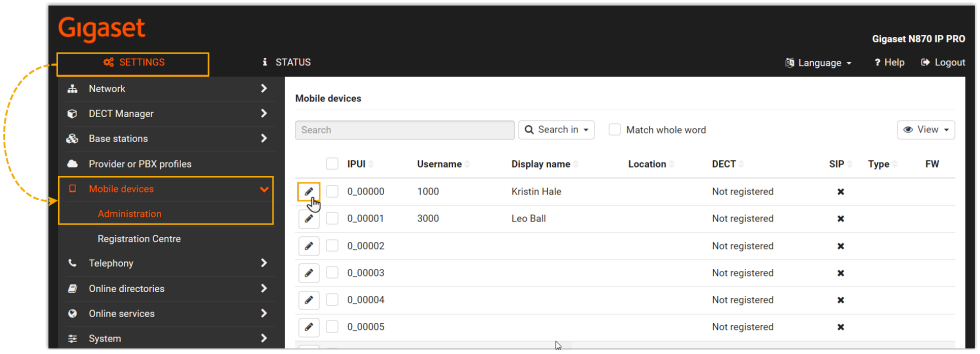
   a. In the browser's address bar, enter the IP address of the base station.
   b. Enter the username `admin` and the default password `admin`.
   c. Click **Login**.
2. Change the default password, select a radio frequency band, then click **Set**.

> **Note:**
> For the DECT radio band, select the radio frequency band used in your region.

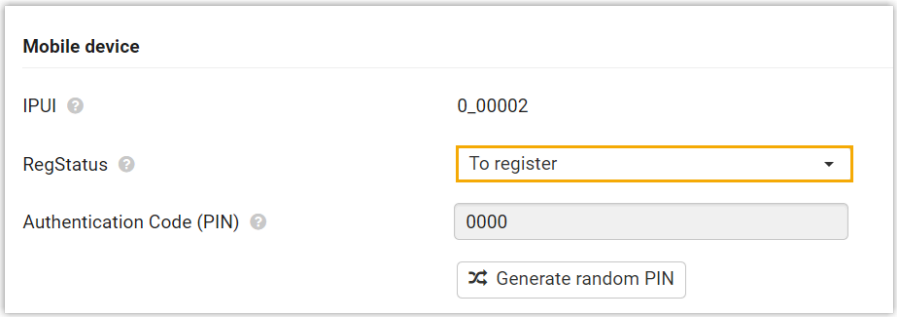


You are redirected to the web interface of the DECT base station.

3. Under the **SETTINGS** tab, go to **Mobile devices > Administration**, click ✎ to edit a handset with an extension assigned.

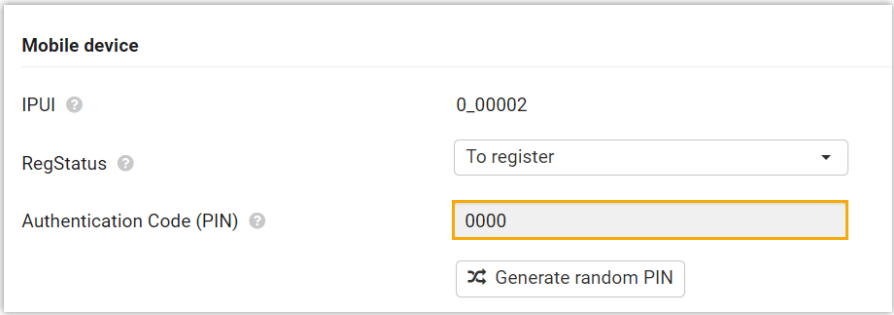


a. In the **RegStatus** drop-down list, select **To register**.

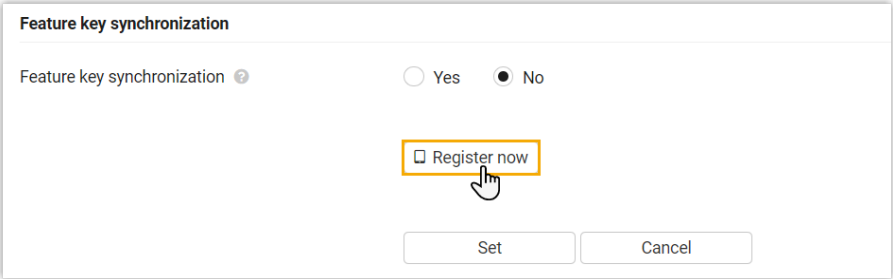


b. In the **Authentication Code (PIN)** field, set and note down a PIN code, which will be used on handset later for registration.

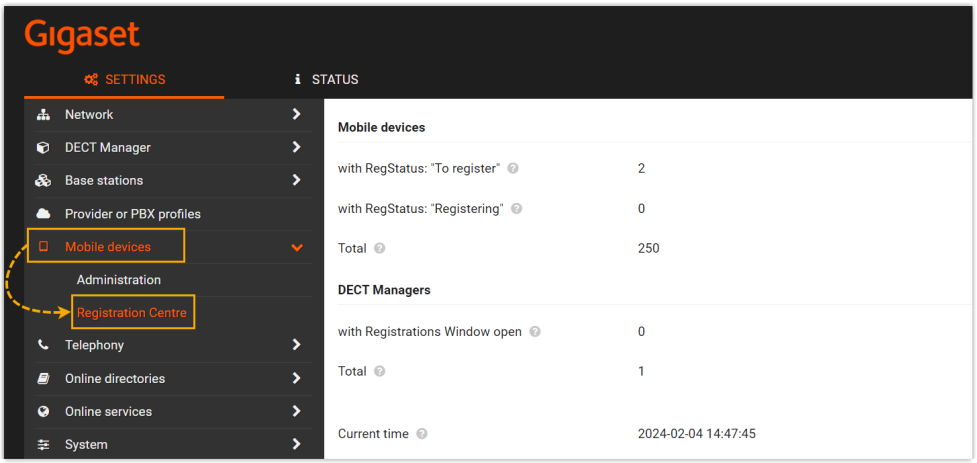
In this example, use the default PIN code `0000`.



c. Scroll down to the bottom, click **Register now**.

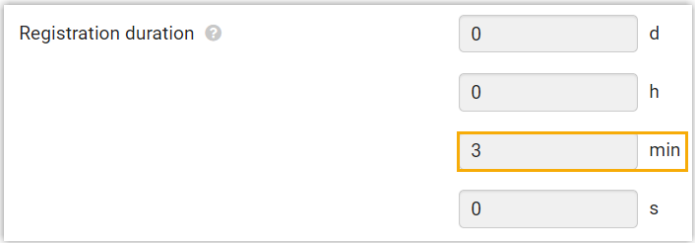


4. Repeat the above steps to edit other handsets with extensions assigned until all the handsets are in **To register** status.
5. Go to **Mobile devices > Registration Centre > DECT Managers**, complete the following settings.



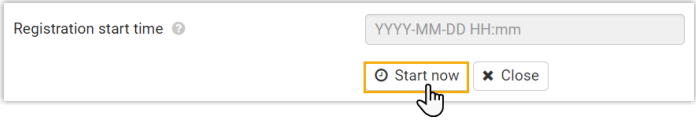
a. In the **Registration duration** section, set how long the DECT base station should stay in registration mode.

   In this example, keep the default value (3 minutes).

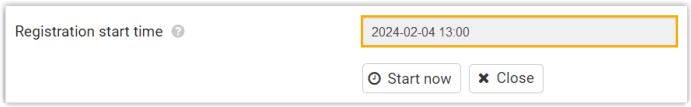


b. In the **Registration start time** section, enable the registration mode of DECT base station.

- To start registration right now, click **Start now**.

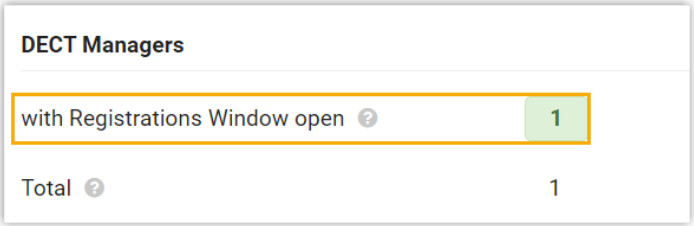


- To schedule a time to start registration, set a time in the time field, then click **Set** at the bottom of the page.



In this example, click **Start now**.

The **with Registrations Window open** field displays **1**, indicating that the DECT base station is in registration mode at the given time duration.



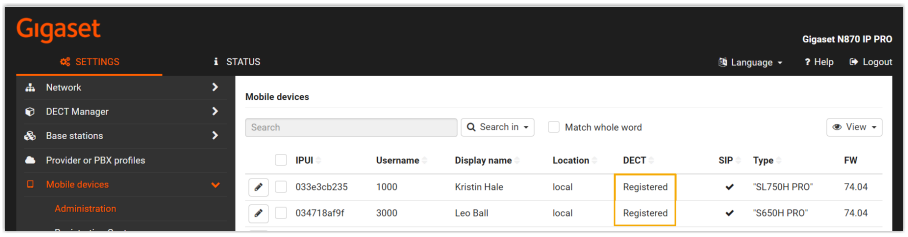
6. Confirm registration on DECT handset.
   a. On the handset, go to **Menu > Settings > Registration > Register Handset**.

      The DECT handset starts to search for a base station that is in registration mode. When it finds the base station, there is a prompt asking you to enter a system PIN.

   b. Enter the PIN code obtained from the base station, and press **OK**.

Result

- The handsets are successfully registered to the DECT base station, and associated with the assigned PBX extensions via the base station.
    - On the web interface of DECT base station, you can check the registration status of the handsets on **SETTINGS > Mobile devices > Administration**.

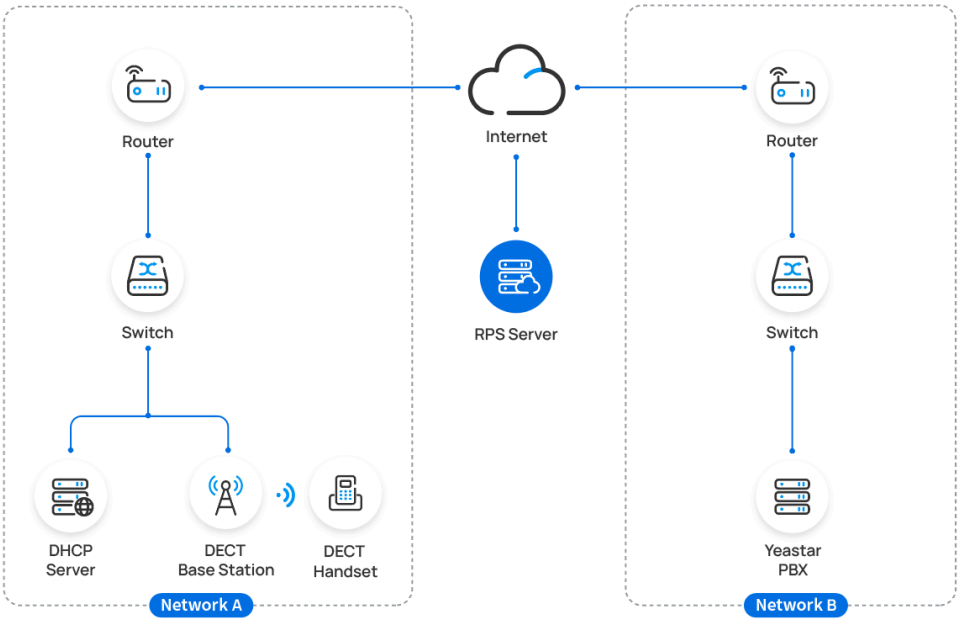


    - On PBX web portal, you can check the registration status of the extensions on **Auto Provisioning > Phones**.

- The registered DECT handsets can be used as extensions to make and receive calls.

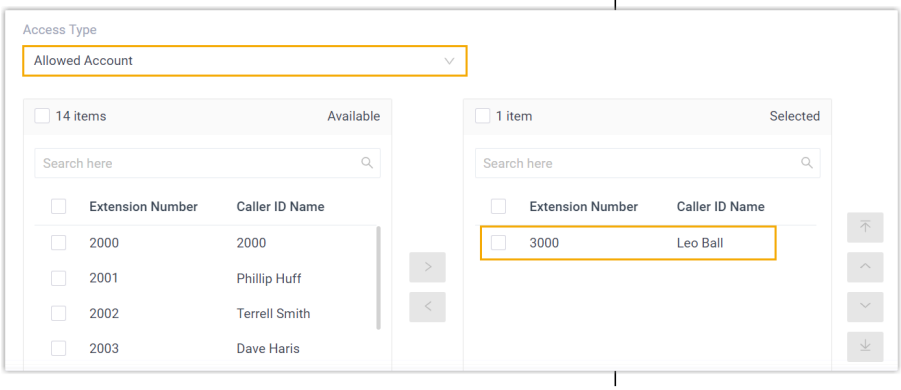
Auto provision Gigaset DECT system in remote network (RPS)

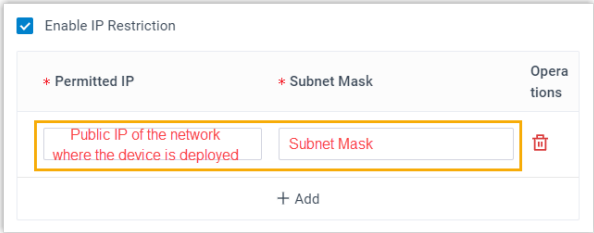
In this example, the Gigaset DECT system (base station and handset) and a DHCP server are deployed in Network A, and the Yeastar PBX is deployed in Network B.

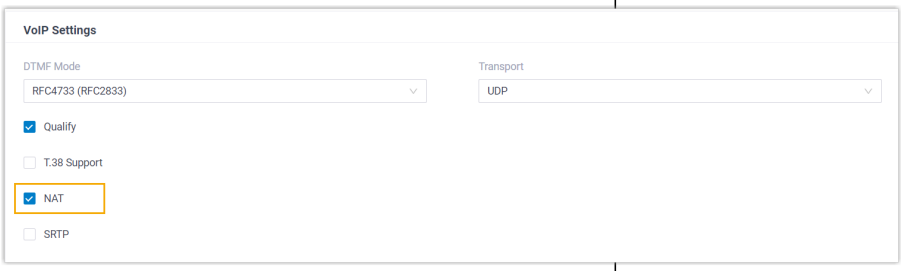
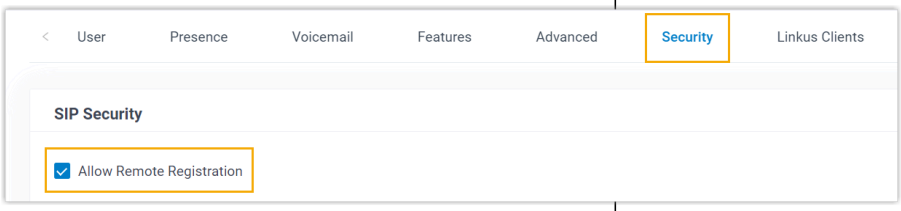


Prerequisites

Yeastar P-Series PBX System supports to auto provision Gigaset DECT system remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for the extension to be registered and the DECT base station: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 

Method	Setting
	◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the DECT base station's IP address to the permitted IP list, so that the device can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that there is only one DHCP server running in the subnet where the Gigaset DECT system (base station and handset) is deployed, or the base station would fail to obtain an IP address. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • Gather information of DECT base station, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).

Method	Setting
	 ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that there is only one DHCP server running in the subnet where the Gigaset DECT system (base station and handset) is deployed, or the base station would fail to obtain an IP address. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • Gather information of DECT base station, including Vendor, Model, and MAC address.

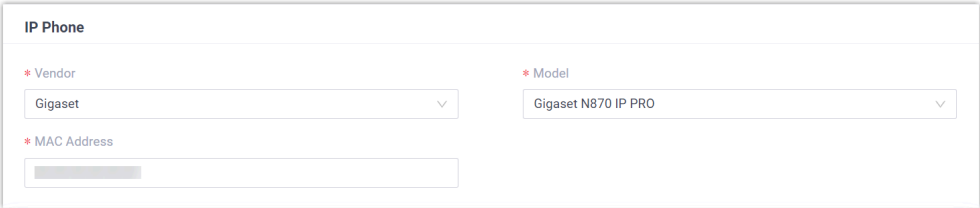
Procedure

- Step 1. Add the Gigaset DECT base station on PBX
- Step 2. Enable dynamic IP setting for Gigaset DECT base station
- Step 3. Register the Gigaset DECT handsets to DECT base station

Step 1. Add the Gigaset DECT base station on PBX

Add the DECT base station on PBX. The PBX will generate a configuration file based on the device's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following information.



- **Vendor**: Select **Gigaset**.
- **Model**: Select the device model. In this example, select **Gigaset N870 IP PRO**.
- **MAC Address**: Enter the MAC address of the DECT base station.

4. In the **Options** section, configure the following settings.

Figure 11. **RPS using Yeastar FQDN**

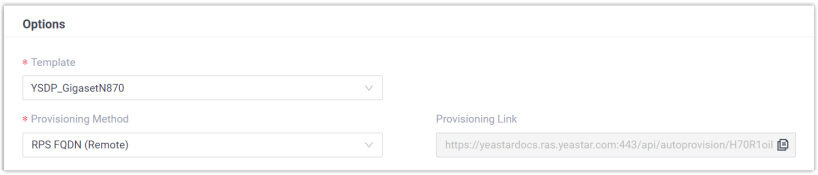
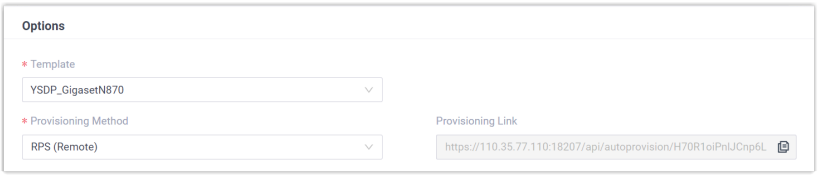


Figure 12. **RPS using Public IP Address / External Host domain name**



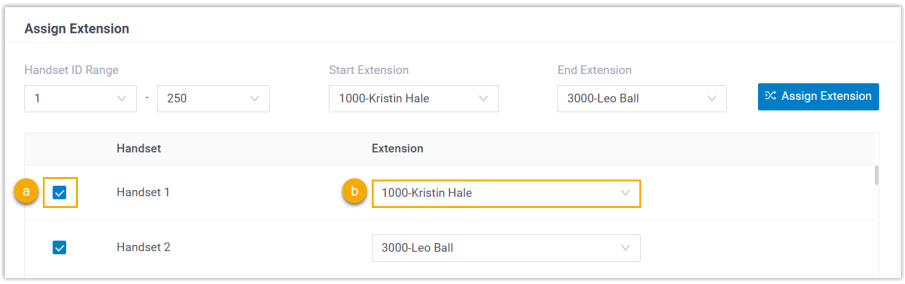
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

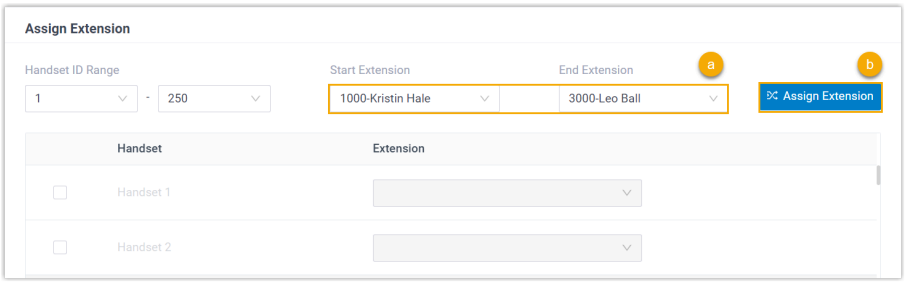
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign extensions for the DECT handsets.
   - To assign extensions one by one, select the checkbox of corresponding handset, then select the desired extension in the **Extension** drop-down list.



   - To assign extensions in bulk, set the extension range in the **Start Extension** and **End Extension** drop-down lists, then click **Assign Extension**.

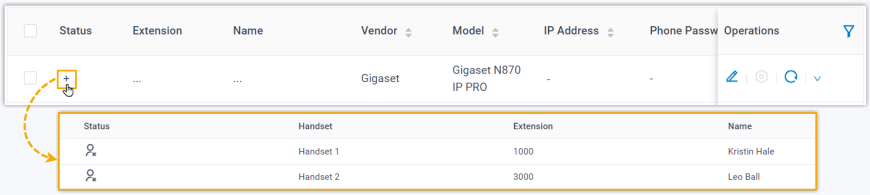


In this example, assign extension 1000 to Handset 1 and extension 3000 to Handset 2.

> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

   The DECT base station is added to the PBX, and displayed in the Auto Provisioning phone list; The PBX will send an event notification of **RPS Request Success**.

> **Tip:**
>
> You can click + in front of the DECT base station to see the extensions assigned to the DECT handsets.
>
> 
>

Step 2. Enable dynamic IP setting for Gigaset DECT base station

On the DECT base station, use the device button to change the device role, so that the base station can obtain an IP address from a DHCP server in the subnet.

1. Press and hold the device button for at least 10 seconds until both LEDs turn off, then release the button.

   The device is now in programming mode.
2. Short press the device button until both LEDs become blue, then release the button.

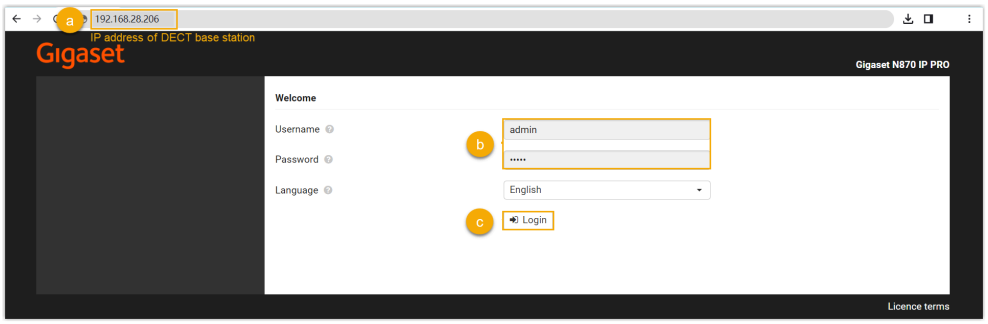
   The device role is switched to **Integrator/DECT Manager** with dynamic IP setting enabled.
3. Press and hold the device button until both LEDs turn read, then release the button.

   The base station is reset, and it takes several minutes for the device to boot up with the selected device role; After booted up, the device gets an IP address from the DHCP server, and automatically downloads configurations from the PBX.

Step 3. Register the Gigaset DECT handsets to DECT base station

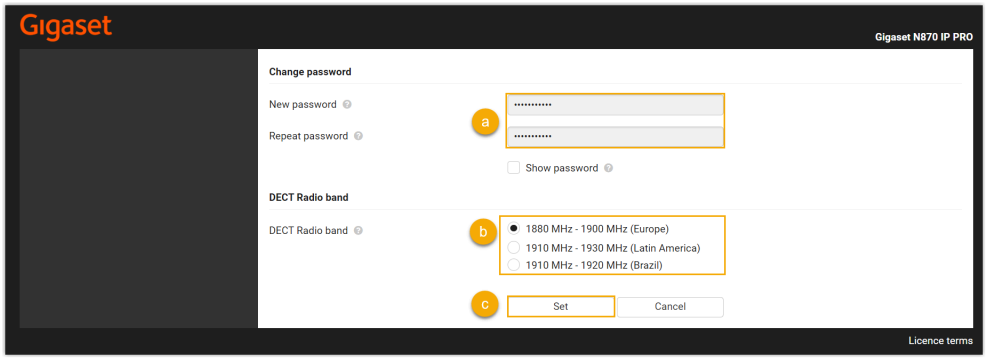
Enable the registration mode of DECT base station and confirm the registration on DECT handsets, so that the Gigaset DECT handsets can be registered to the DECT base station.

1. Log in to the web interface of DECT base station.

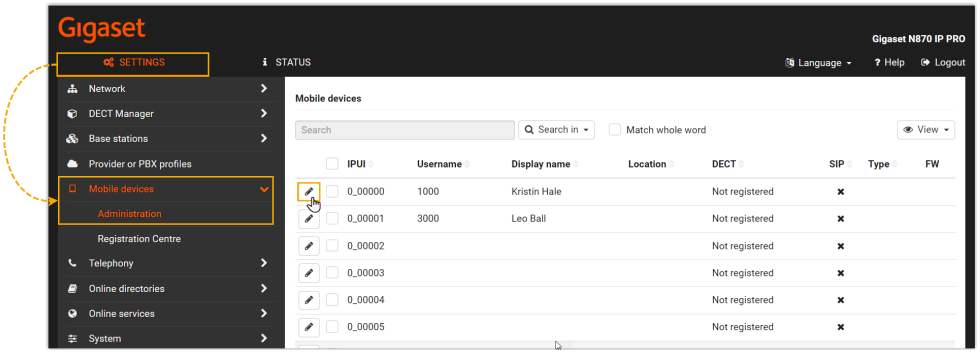


   a. In the browser's address bar, enter the IP address of the base station.
   b. Enter the username `admin` and the default password `admin`.
   c. Click **Login**.
2. Change the default password, select a radio frequency band, then click **Set**.

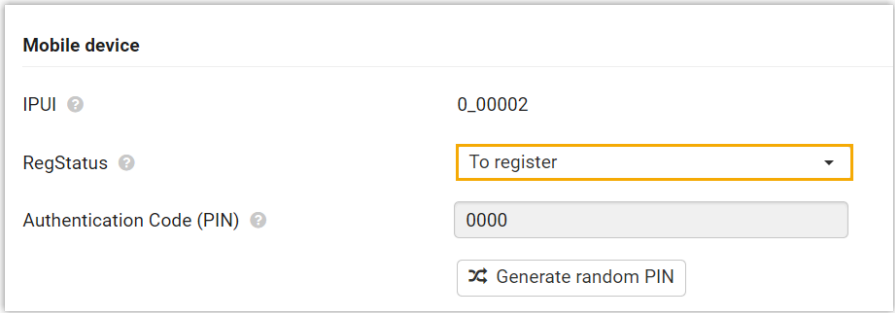
> **Note:**
> For the DECT radio band, select the radio frequency band used in your region.



   You are redirected to the web interface of the DECT base station.
3. Under the **SETTINGS** tab, go to **Mobile devices > Administration**, click ✎ to edit a handset with an extension assigned.

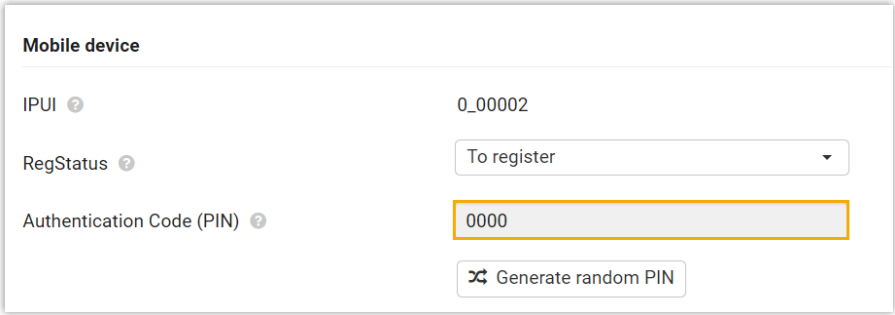


a. In the **RegStatus** drop-down list, select **To register**.

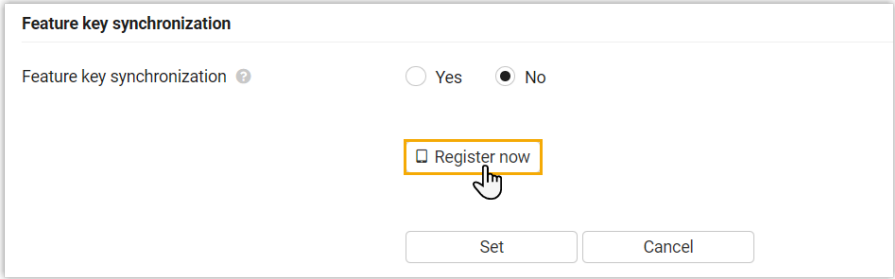


b. In the **Authentication Code (PIN)** field, set and note down a PIN code, which will be used on handset later for registration.

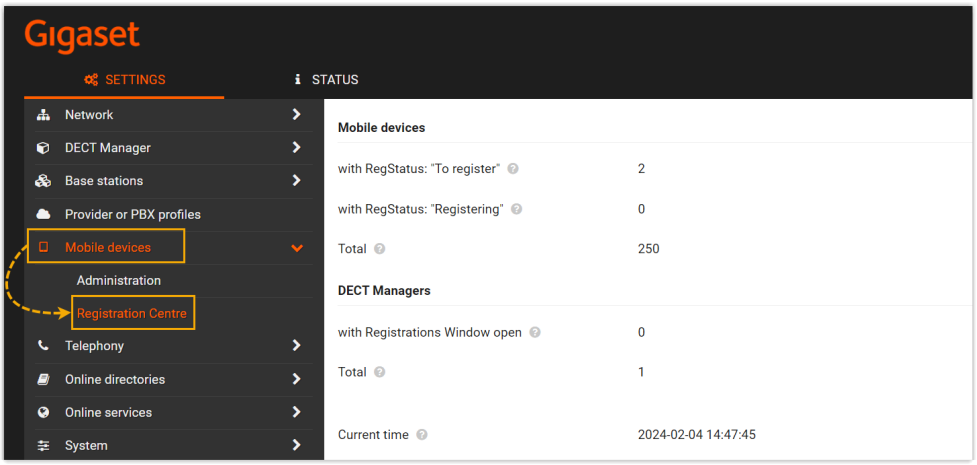
In this example, use the default PIN code `0000`.



c. Scroll down to the bottom, click **Register now**.

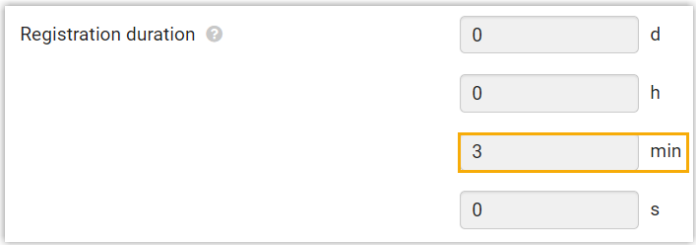


4. Repeat the above steps to edit other handsets with extensions assigned until all the handsets are in **To register** status.
5. Go to **Mobile devices > Registration Centre > DECT Managers**, complete the following settings.



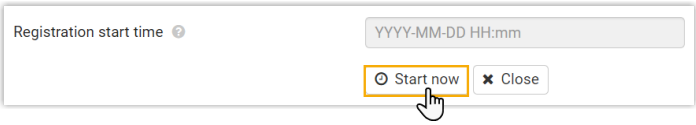
a. In the **Registration duration** section, set how long the DECT base station should stay in registration mode.

   In this example, keep the default value (3 minutes).

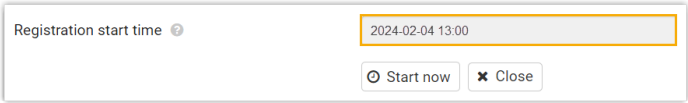


b. In the **Registration start time** section, enable the registration mode of DECT base station.

   - To start registration right now, click **Start now**.

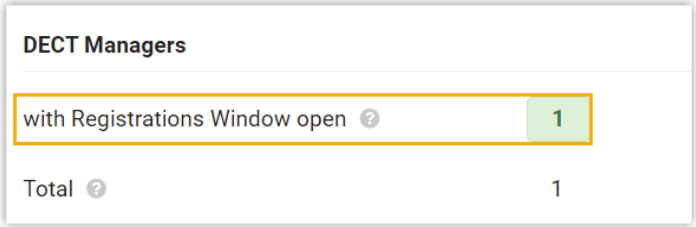


   - To schedule a time to start registration, set a time in the time field, then click **Set** at the bottom of the page.



   In this example, click **Start now**.

The **with Registrations Window open** field displays **1**, indicating that the DECT base station is in registration mode at the given time duration.

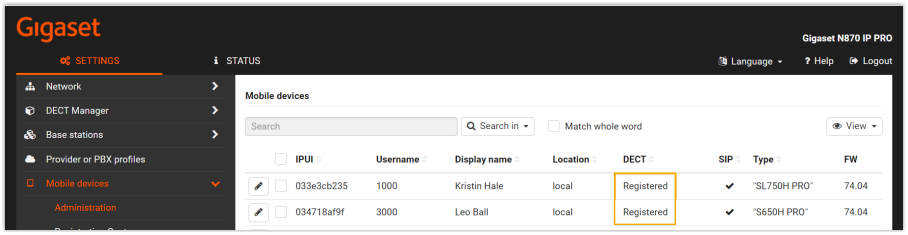


6. Confirm registration on DECT handset.
   a. On the handset, go to **Menu > Settings > Registration > Register Handset**.

      The DECT handset starts to search for a base station that is in registration mode. When it finds the base station, there is a prompt asking you to enter a system PIN.
   b. Enter the PIN code obtained from the base station, and press **OK**.

Result

- The handsets are successfully registered to the DECT base station, and associated with the assigned PBX extensions via the base station.
  - On the web interface of DECT base station, you can check the registration status of the handsets on **SETTINGS > Mobile devices > Administration**.



  - On PBX web portal, you can check the registration status of the extensions on **Auto Provisioning > Phones**.

- The registered DECT handsets can be used as extensions to make and receive calls.

Grandstream

Auto Provision Grandstream IP Phone with Yeastar P-Series PBX System

This topic takes Grandstream GPR2602 (firmware: 1.0.3.67) as an example to introduce how to auto provision a Grandstream IP phone with Yeastar P-Series PBX System in Local Area Network (LAN).

Requirements

The firmwares of **Grandstream IP Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
GXP1610	1.0.7.13 or later	37.3.0.42 or later	• PnP • DHCP
GXP1620	1.0.7.13 or later	37.3.0.42 or later	• PnP • DHCP
GXP1625	1.0.7.13 or later	37.3.0.42 or later	• PnP • DHCP
GXP1628	1.0.7.13 or later	37.3.0.42 or later	• PnP • DHCP
GXP1630	1.0.7.13 or later	37.3.0.42 or later	• PnP • DHCP
GXP2130	1.0.11.16 or later	37.3.0.42 or later	• PnP • DHCP
GXP2135	1.0.11.16 or later	37.3.0.42 or later	• PnP • DHCP
GXP2140	1.0.11.16 or later	37.3.0.42 or later	• PnP • DHCP
GXP2160	1.0.11.16 or later	37.3.0.42 or later	• PnP • DHCP
GXP2170	1.0.11.16 or later	37.3.0.42 or later	• PnP • DHCP
GAC2500	1.0.3.45 or later	37.11.0.22 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP
GAC2570	1.0.1.36 or later	37.11.0.22 or later	• PnP • DHCP
GRP2601	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2601P	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2602	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2602P	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2602G	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2602W	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2603	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2603P	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2604	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2604P	1.0.3.63 or later	37.7.0.51 or later	• PnP • DHCP
GRP2612	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2612P	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2612G	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2612W	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2613	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2614	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2615	1.0.7.25 or later	37.7.0.51 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP
GRP2616	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2624	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2634	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP
GRP2670	1.0.7.25 or later	37.7.0.51 or later	• PnP • DHCP

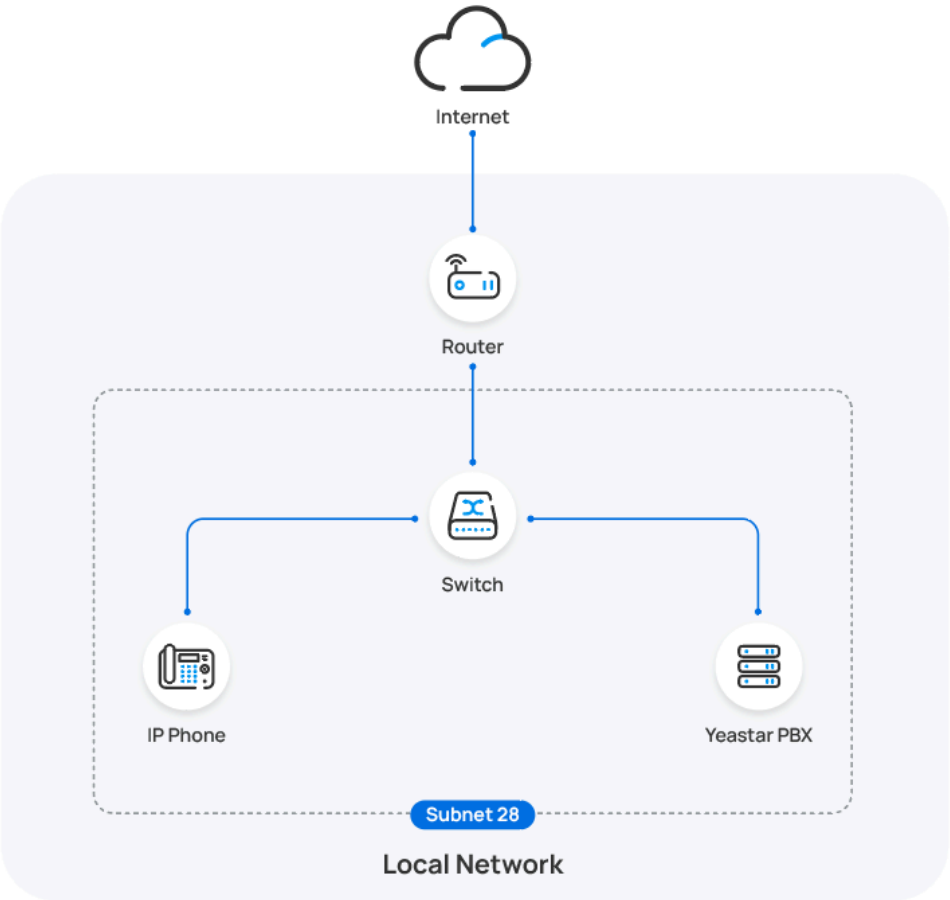
Scenarios

The provisioning methods and operations vary depending on the network environment of **Grandstream IP phone** and **Yeastar PBX**, as the following table shows:

Scenario	Description
IP Phone and PBX are in the SAME subnet	In this scenario, you can provision the Grandstream IP phone with the PBX via **PnP** method. For more information, see Auto provision a Grandstream IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets	In this scenario, you can provision the Grandstream IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Grandstream IP phone in different subnets (DHCP)

Auto provision a Grandstream IP phone in the same subnet (PnP)

In this example, the Grandstream IP phone (IP: `192.168.28.205`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

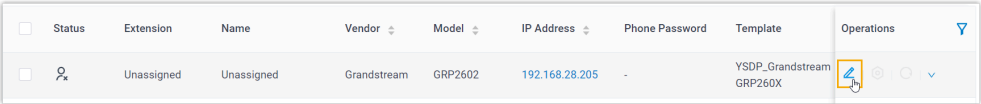
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

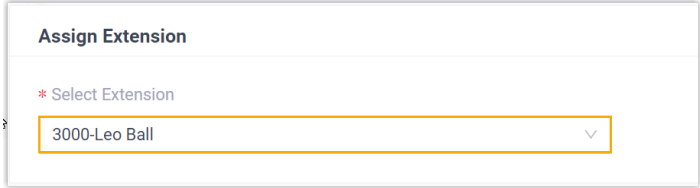
2. Click beside the Grandstream IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



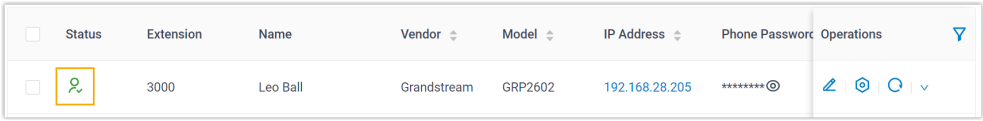
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



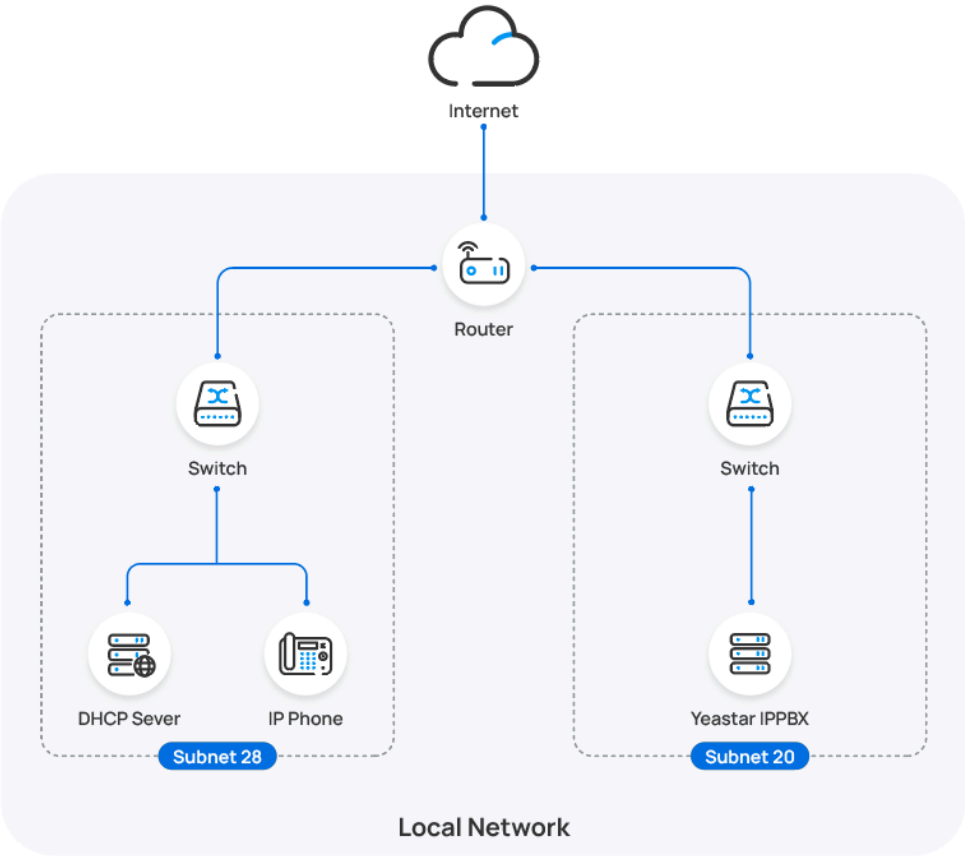
What to do next

By default, Grandstream IP phone enables all available codecs for its accounts, which may lead to issues with outgoing calls. Therefore, it is recommended to remove unnecessary codecs for the account that has been registered with the PBX extension.

For more information, see Remove Unnecessary Codecs for Grandstream IP Phone.

Auto provision a Grandstream IP phone in different subnets (DHCP)

In this example, the Grandstream IP phone and DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

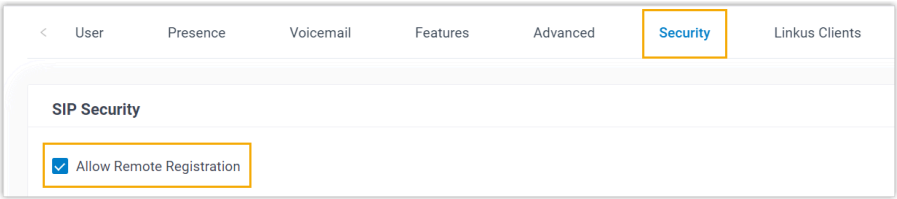
- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Grandstream IP phone on PBX

- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

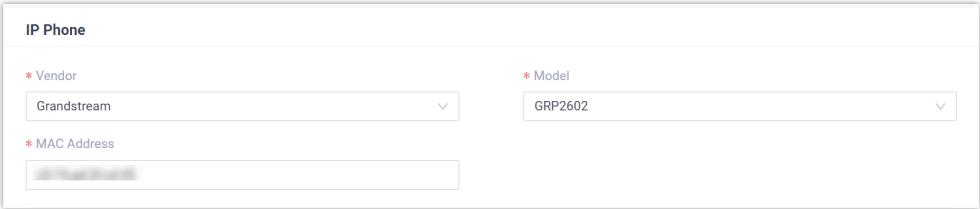


3. Click **Save** and **Apply**.

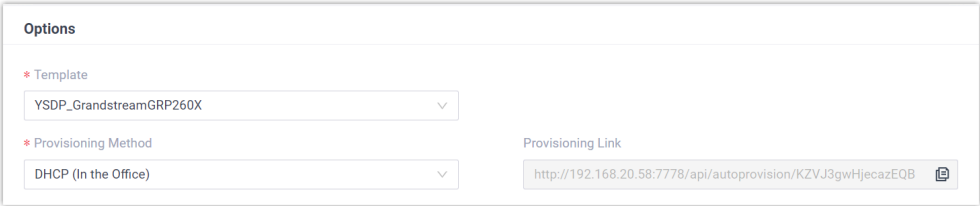
Step 2. Add the Grandstream IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Grandstream**.
   - **Model**: Select the phone model. In this example, select **GRP2602**.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.



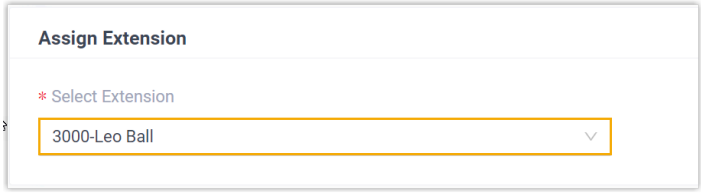
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



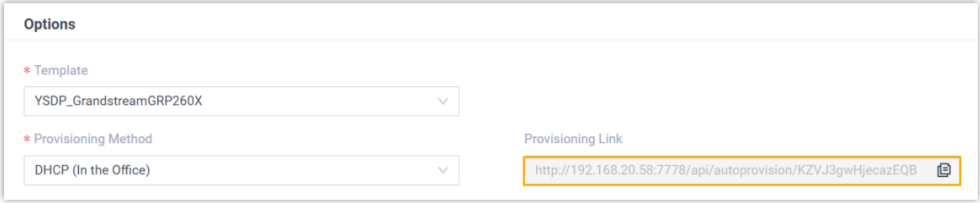
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

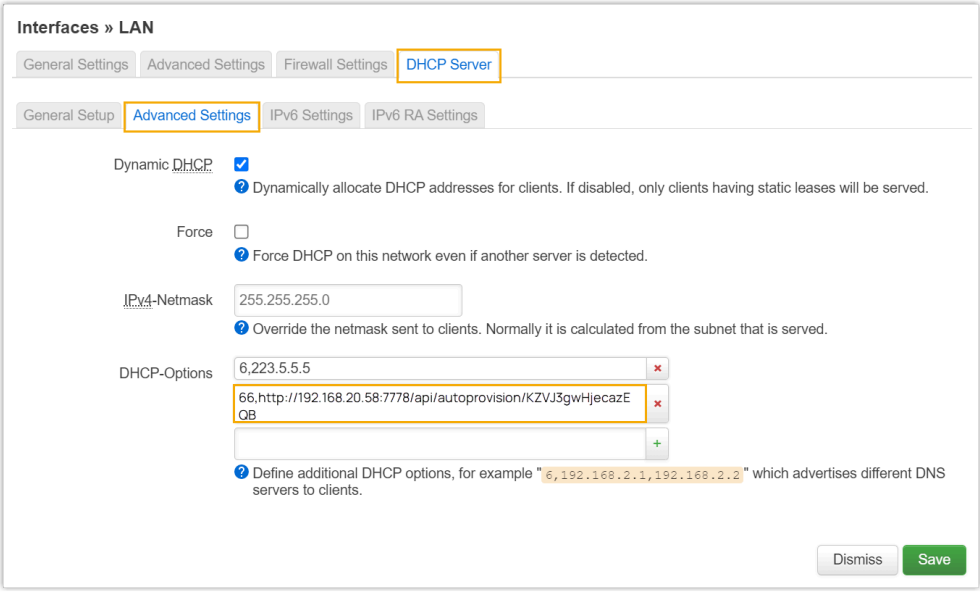
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

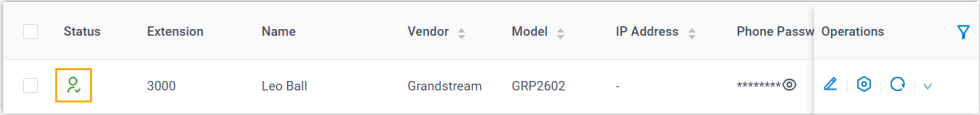
   In this example, the configuration on a router's DHCP server is shown below.



Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



What to do next

By default, Grandstream IP phone enables all available codecs for its accounts, which may lead to issues with outgoing calls. Therefore, it is recommended to remove unnecessary codecs for the account that has been registered with the PBX extension.

For more information, see Remove Unnecessary Codecs for Grandstream IP Phone.

Related information

Auto Provision LDAP for IP Phones

Manually Register Grandstream IP Phone with Yeastar P-Series PBX System

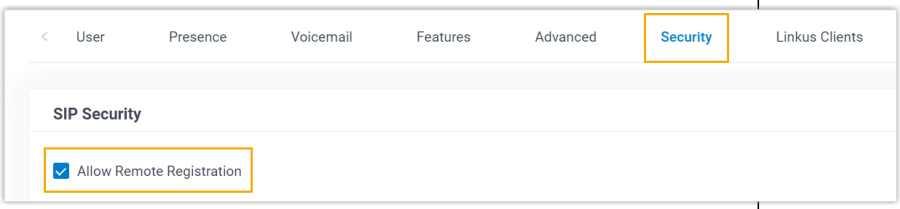
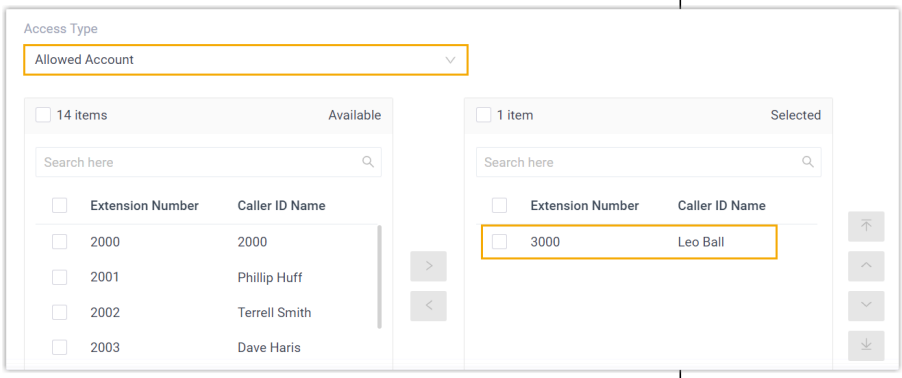
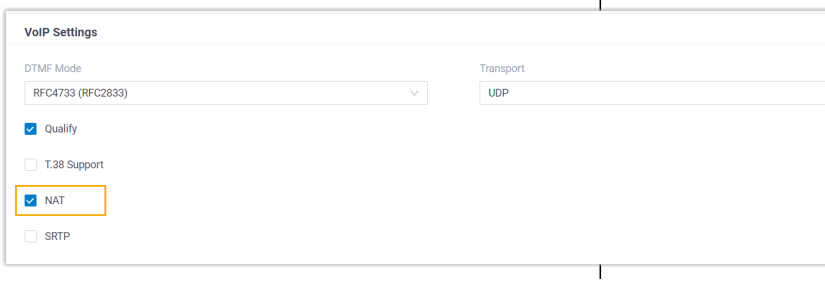
This topic takes Grandstream GPR2602 (firmware: 1.0.3.67) as an example to introduce how to manually register an extension on a Grandstream IP phone.

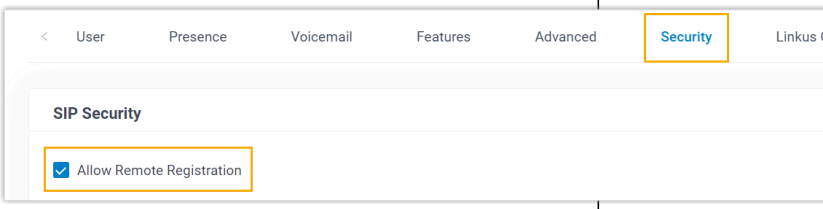
Supported devices

The Grandstream IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Grandstream IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > ✎ > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > ✎ > Advanced > VoIP Settings > NAT**). 

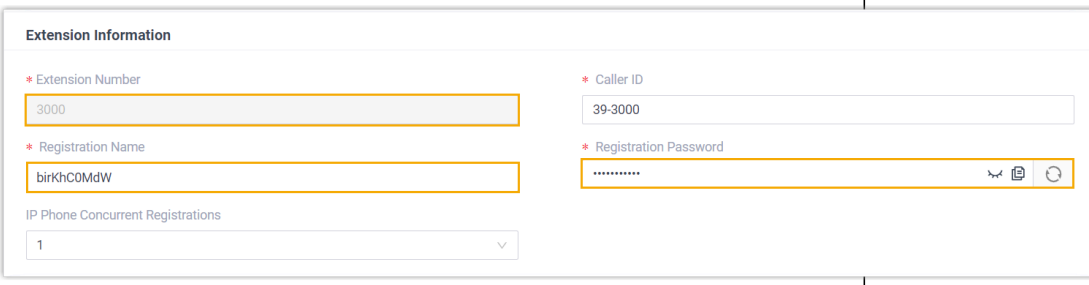
Network Environment		Setting
		◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

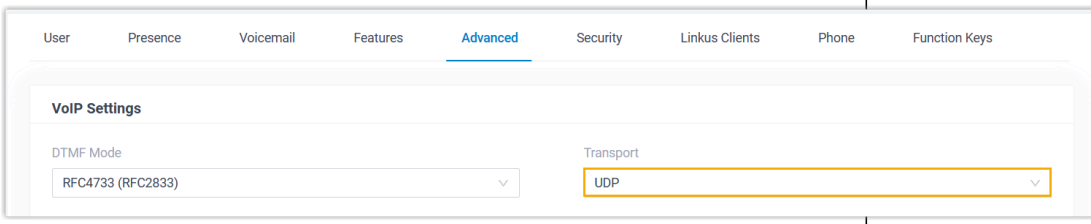
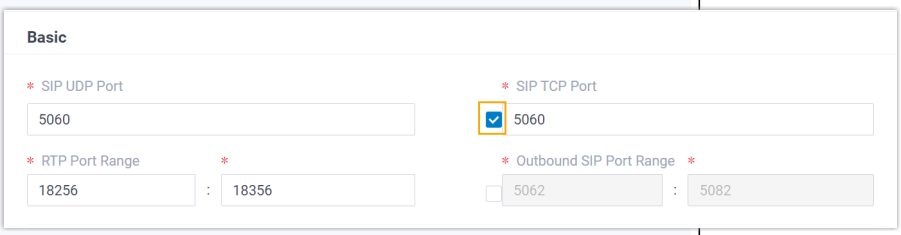
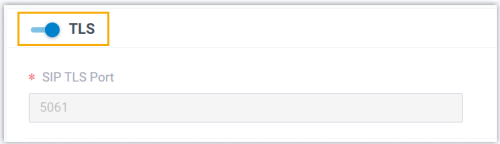
Procedure

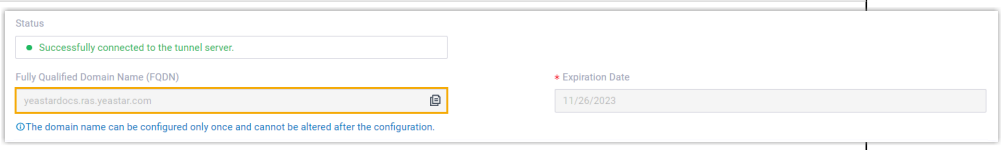
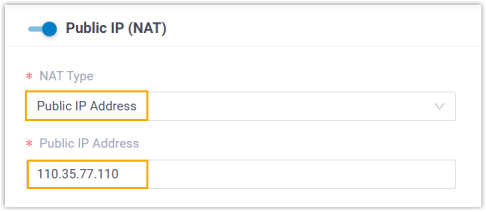
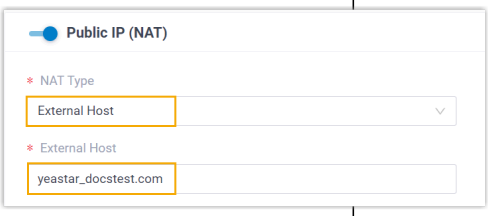
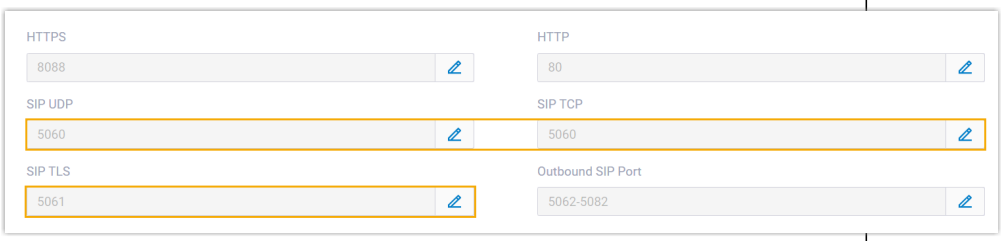
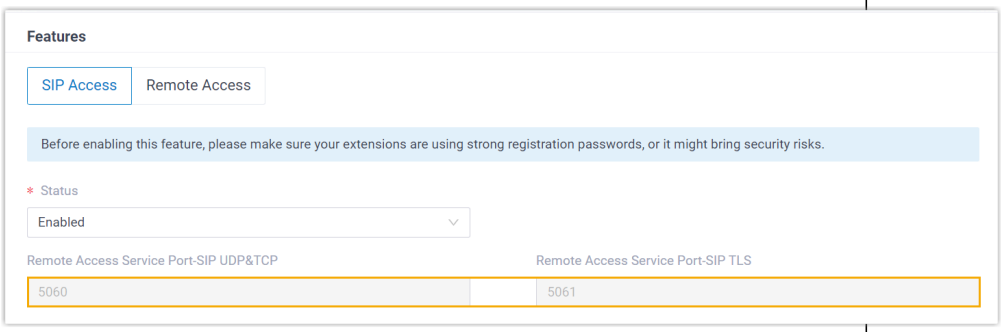
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Grandstream IP phone

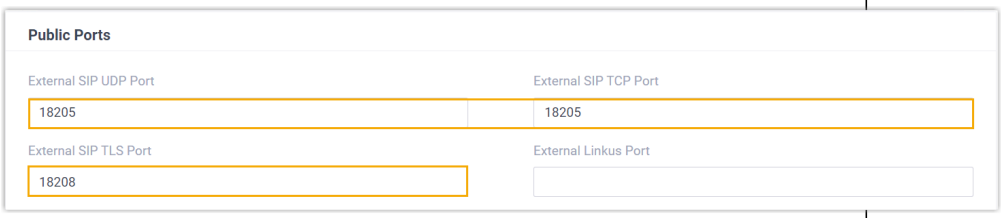
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.

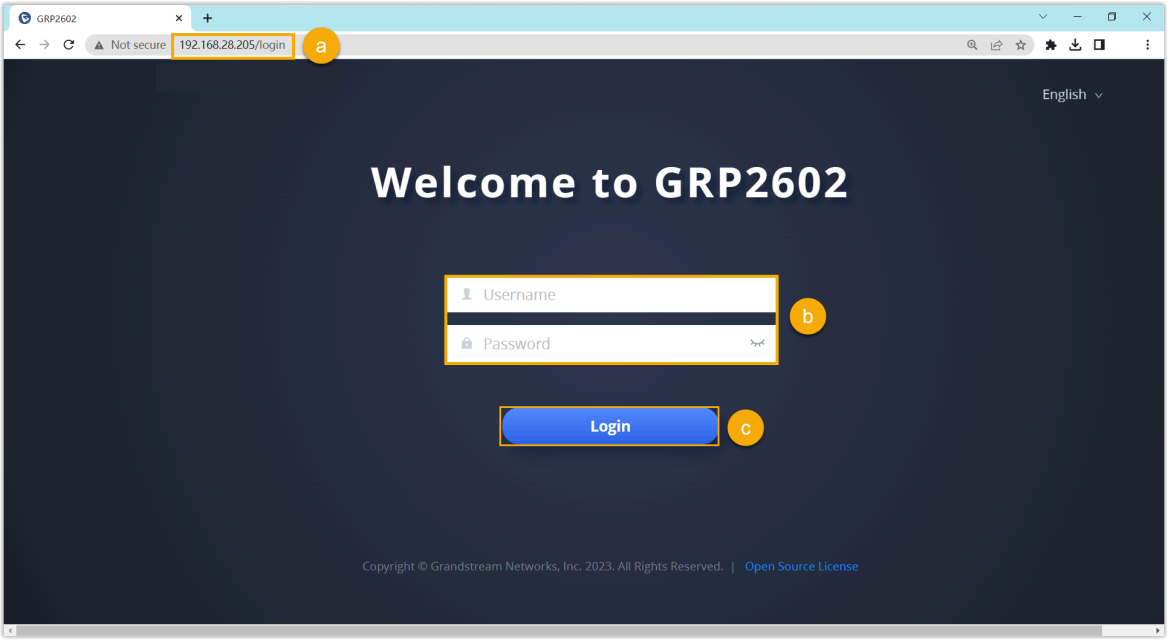
Information	Instruction
	 **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).  • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).

Information	Instruction
	 **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 

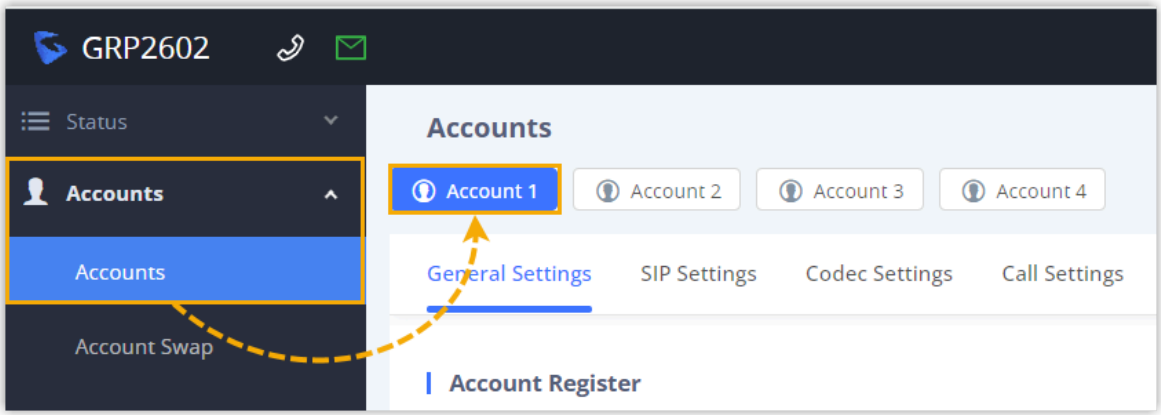
Information	Instruction
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

Step 2. Register extension on Grandstream IP phone

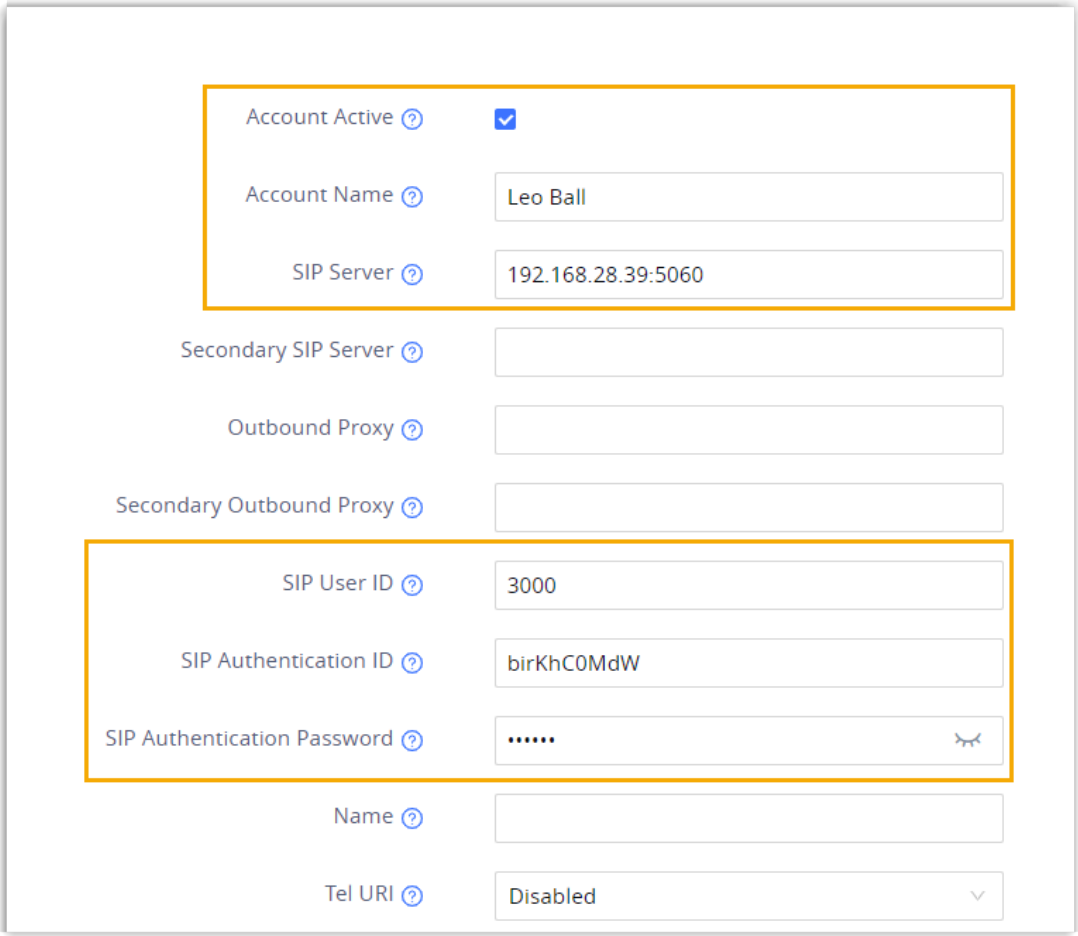
1. Log in to the web interface of the Grandstream IP phone.



   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.
   c. Click **Login**.
2. On the left navigation bar, go to **Accounts > Accounts**, and select an available account.



3. In the **General Settings** tab, complete the registration configurations.

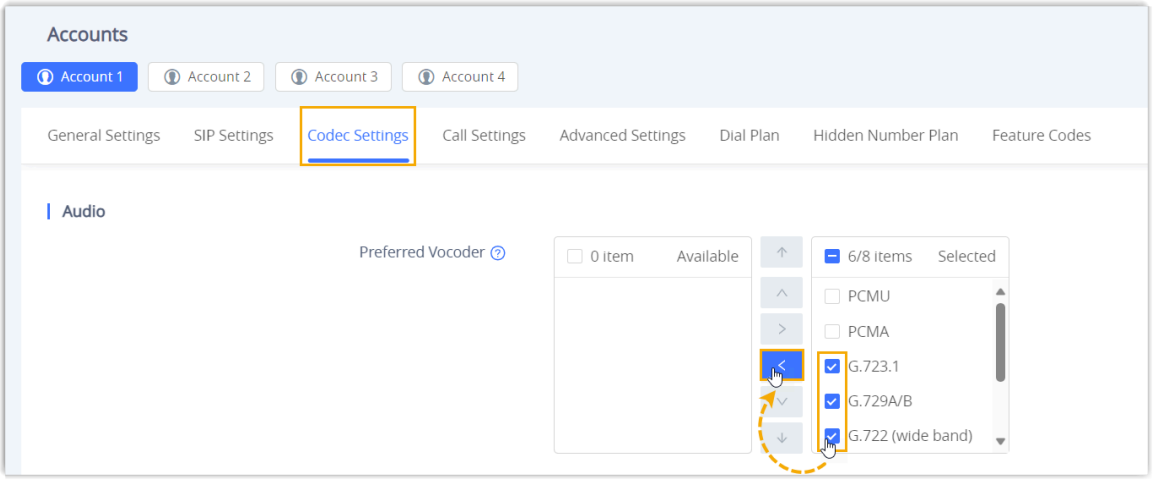


- **Account Active**: Select the checkbox to activate the account.
- **Account Name**: Enter the name associated with the account, which will be displayed on the phone screen.

- **SIP Server**: Enter the IP address / domain name of the PBX along with the SIP registration port.
- **SIP User ID**: Enter the extension number.
- **SIP Authentication ID**: Enter the registration name of the extension.
- **SIP Authentication Password**: Enter the registration password of the extension.

4. In the **Codec Settings** tab, remove unnecessary codecs for the account.

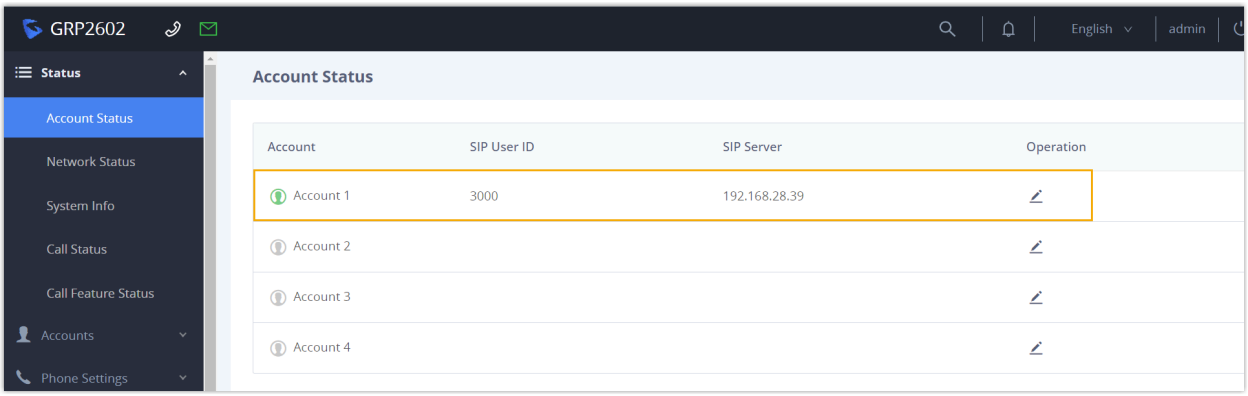
> **Note:**
> By default, Grandstream IP phone enables all available codecs for its accounts, which may lead to issues with outgoing calls. Therefore, it is recommended to remove unnecessary codecs for the account that has been registered with the PBX extension.



5. Click **Save and Apply**.

Result

The extension is registered successfully. You can check the registration status on **Status > Account Status** on the phone's web interface.



Remove Unnecessary Codecs for Grandstream IP Phone

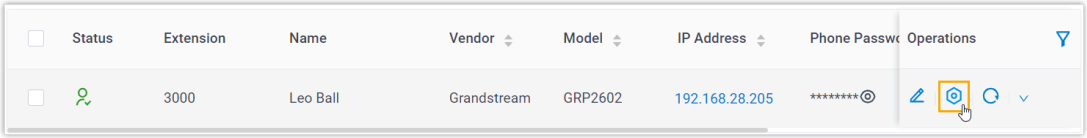
By default, Grandstream IP phone enables all available codecs for its accounts, which may lead to issues with outgoing calls. Therefore, it is recommended to remove unnecessary codecs for the account that has been registered with the PBX extension.

Prerequisites

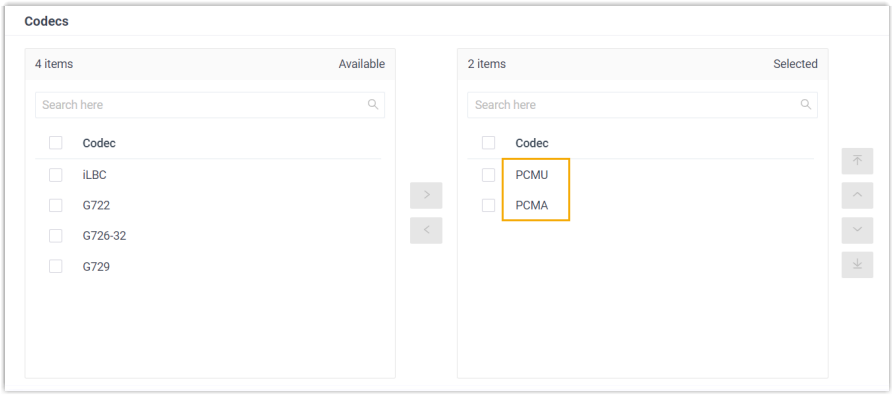
You have [Auto Provision Grandstream IP Phone with Yeastar P-Series PBX System](#).

Procedure

1. Configure the codecs settings for the IP phone on PBX.
   a. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
   b. Click beside the Grandstream IP phone.



   c. In the phone configuration page, scroll down to the **Codecs** section.
   d. Select the necessary codecs from the **Available** box to the **Selected** box.

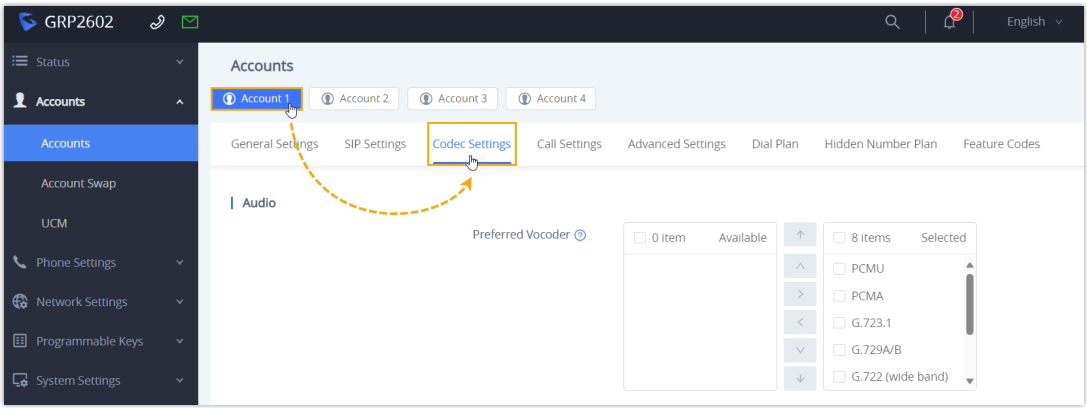


e. Click **Save**.

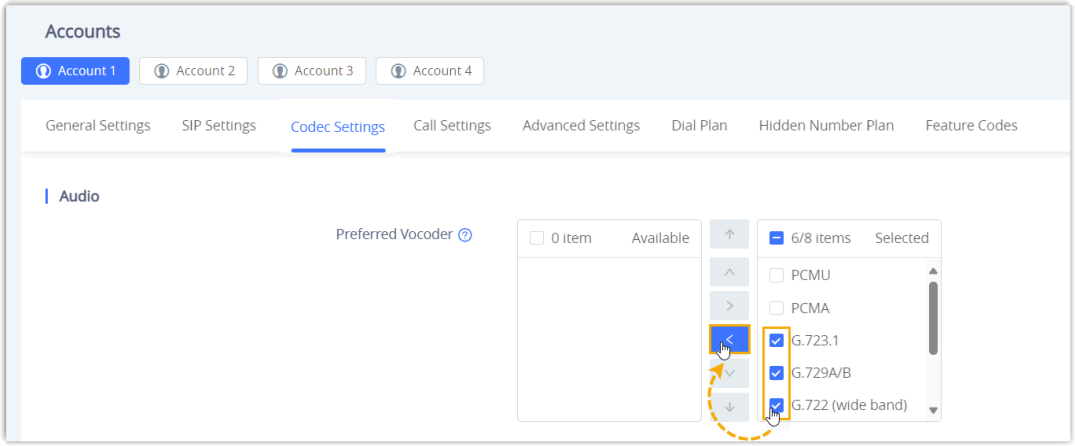
2. Configure the codec settings on the IP phone.

> **Note:**
> Due to the restriction of the Grandstream IP phone, the PBX is not able to remove the codecs enabled on the IP phone via auto provisioning. Therefore, you need to manually remove unnecessary codecs via the phone's web interface to match the settings on the PBX.

a. Log in to the phone's web interface via its IP address.
b. On the left navigation bar, go to **Accounts > Accounts**.
c. Click the desired account, then enter the **Codec Settings** tab.



d. In the **Preferred Vocoder** field, move unnecessary codecs from the **Selected** box to the **Available** box.



e. Click **Save and Apply**.

Htek

Auto Provision Htek IP Phone with Yeastar P-Series PBX System

This topic takes Htek UC921G (firmware: 2.0.4.8.18) as an example to introduce how to auto provision an Htek IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Htek IP Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
UC902	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC902S	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC903	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC912	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC912G	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC912E	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC921	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC921G	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
UC923	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC923U	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC924	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC924E	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC924U	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC924W	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC926	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC926E	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UC926U	2.0.4.8.18 or later	37.4.0.17 or later	• PnP • DHCP • RPS
UCV10	5.42.1.6.30b58 or later	37.12.0.23 or later	• PnP • DHCP • RPS
UCV20	5.42.1.6.30b79 or later	37.12.0.23 or later	• PnP • DHCP • RPS
UCV50	5.42.1.6.30b62 or later	37.12.0.23 or later	• PnP • DHCP • RPS
UCV52	5.42.1.6.30b68 or later	37.12.0.23 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
UCV53	5.42.1.6.32R76 or later	37.12.0.23 or later	• PnP • DHCP • RPS

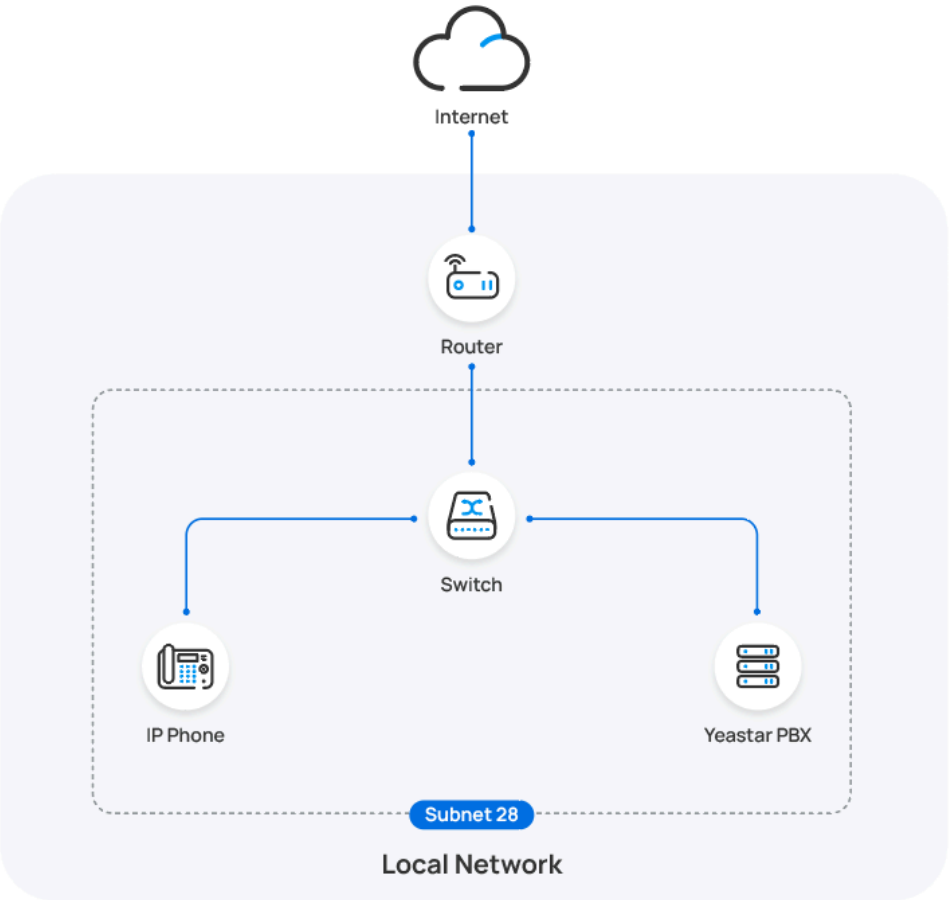
Scenarios

The provisioning methods and operations vary depending on the network environment of **Htek IP Phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Htek IP phone with the PBX via **PnP** method. For more information, see Auto provision an Htek IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Htek IP phone with the PBX via **DHCP** method. For more information, see Auto provision an Htek IP phone in the different subnets (DHCP).
IP Phone and PBX are in DIFFERENT network	In this scenario, you can provision the Htek IP phone with the PBX via **RPS** method. For more information, see Auto provision an Htek IP phone in remote network (RPS).

Auto provision an Htek IP phone in the same subnet (PnP)

In this example, the Htek IP phone (IP: `192.168.28.193`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

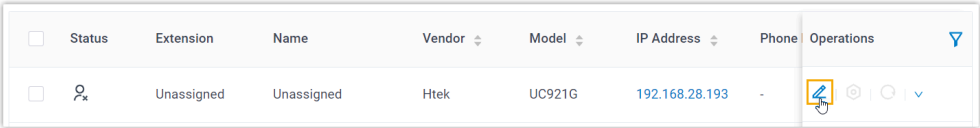
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

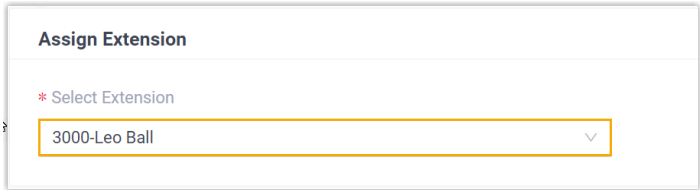
2. Click beside the Htek IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



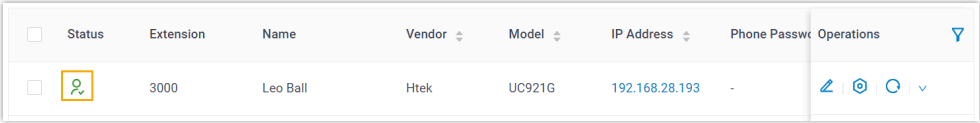
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

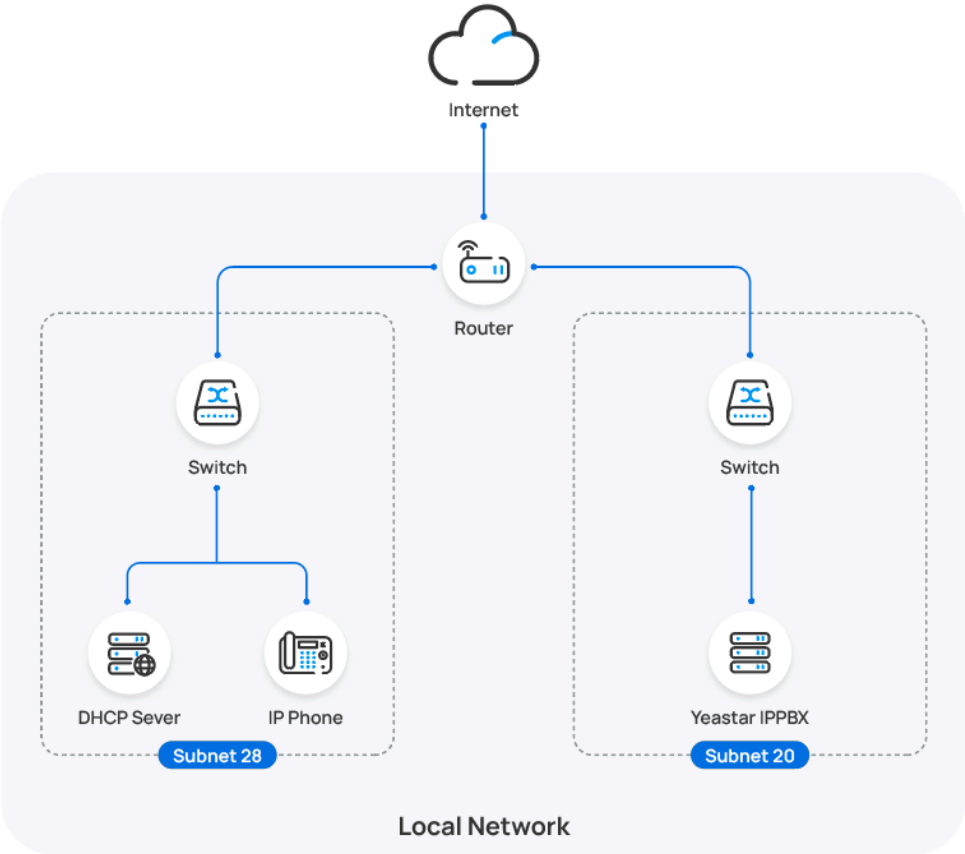
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Auto provision an Htek IP phone in the different subnets (DHCP)

In this example, the Htek IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

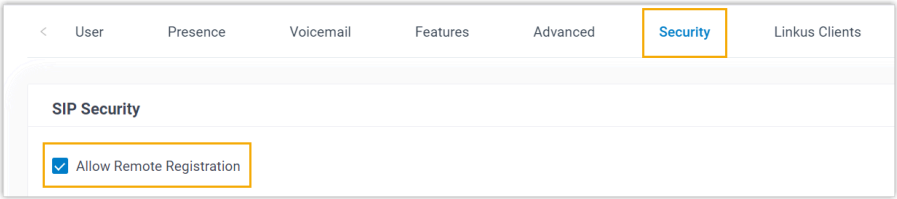
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Htek IP phone on PBX
- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

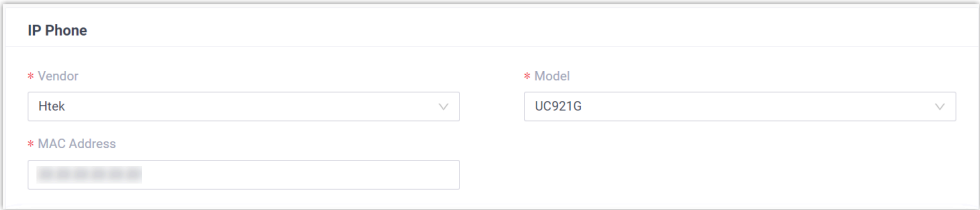
1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.



3. Click **Save** and **Apply**.

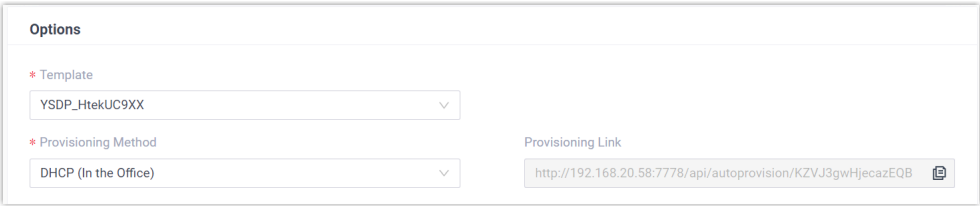
Step 2. Add the Htek IP phone on PBX

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Htek**.
- **Model**: Select the phone model. In this example, select **UC921G**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



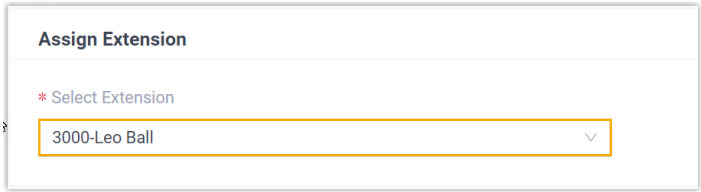
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**

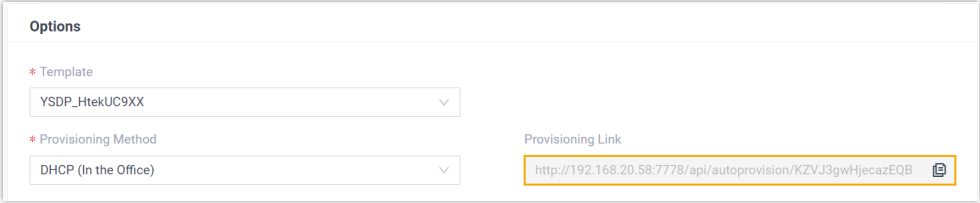
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

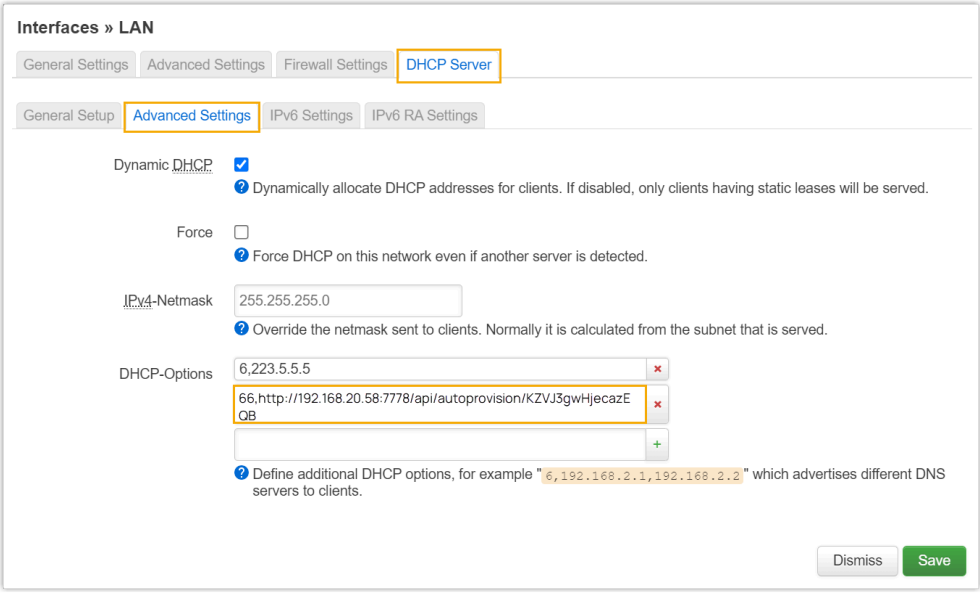
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

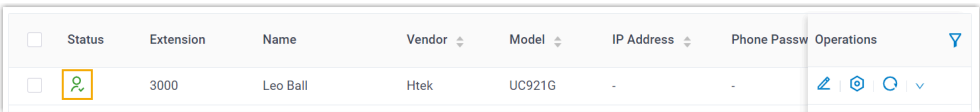
   In this example, the configuration on a router's DHCP server is shown below.



Result

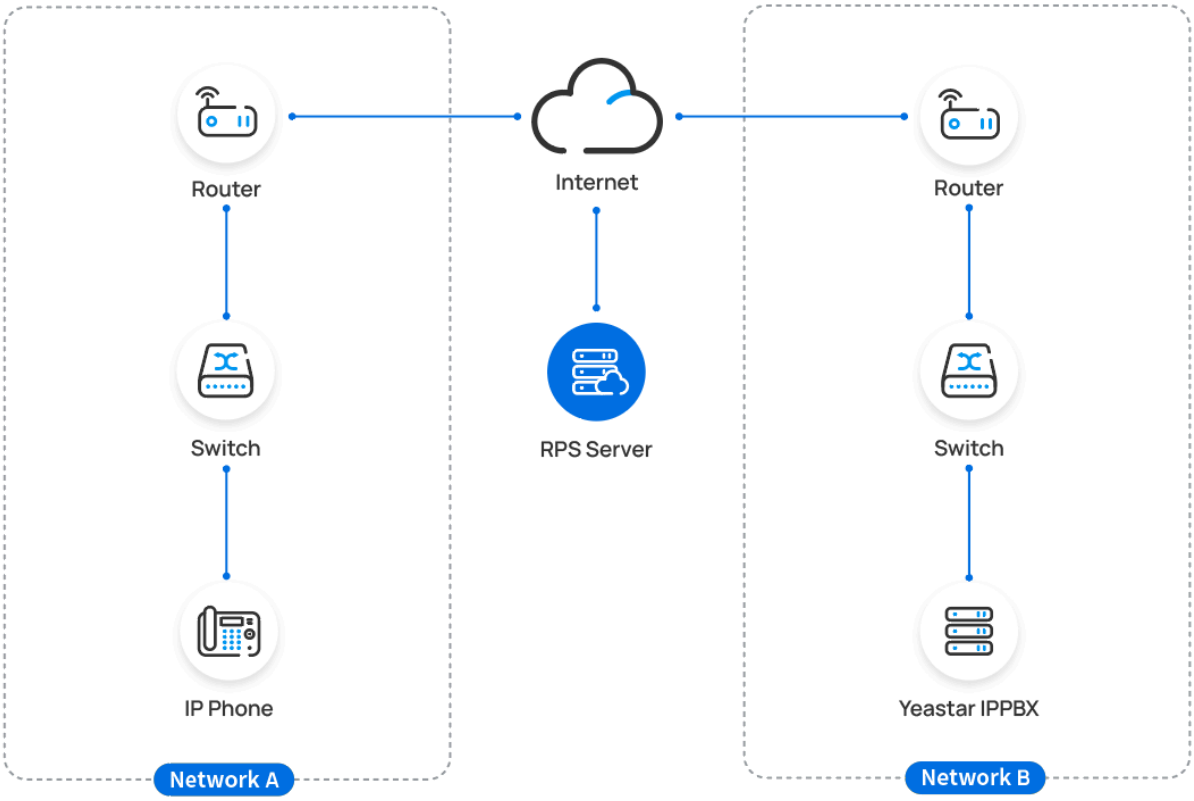
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision an Htek IP phone in remote network (RPS)

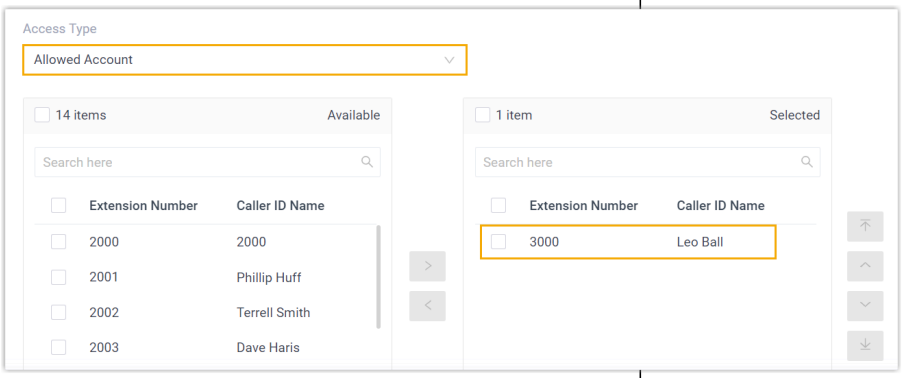
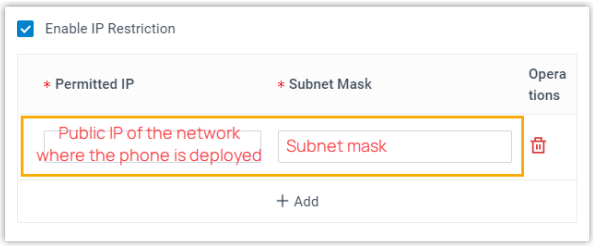
In this example, the Htek IP phone and the Yeastar PBX are deployed in different network.

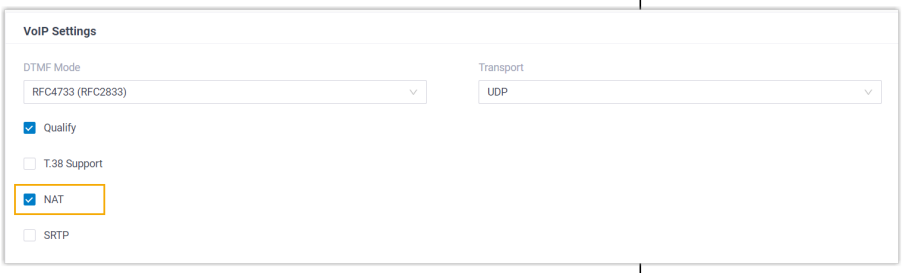
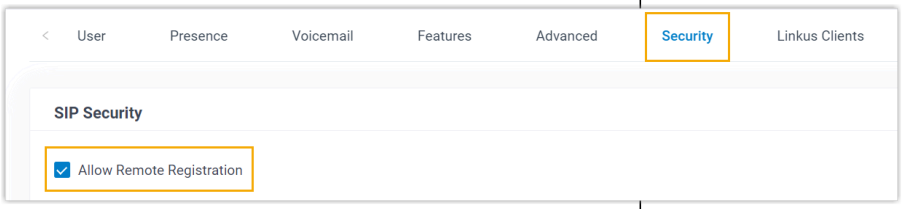


Prerequisites

Yeastar P-Series PBX System supports to auto provision an Htek phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

Method	Setting
	 ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration.

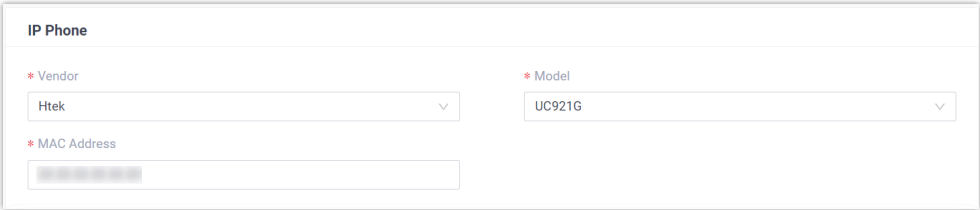
Method	Setting
	◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

- Step 1. Add the Htek IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Htek IP phone on PBX

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Htek**.
- **Model**: Select the phone model. In this example, select **UC921G**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.

Figure 13. **RPS using Yeastar FQDN**

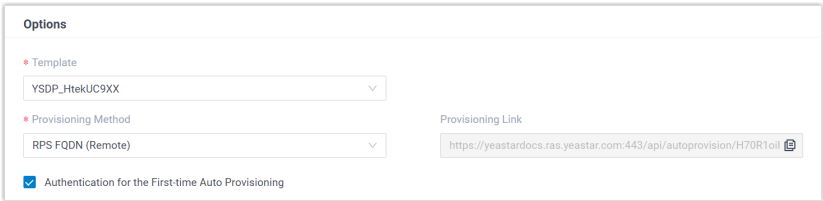
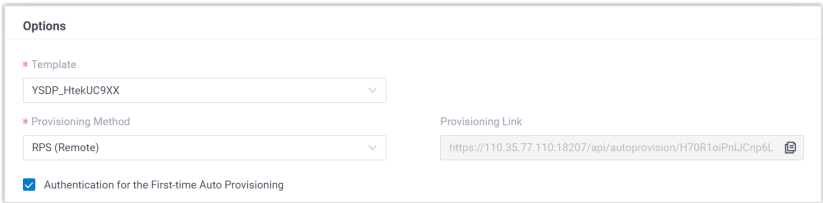


Figure 14. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

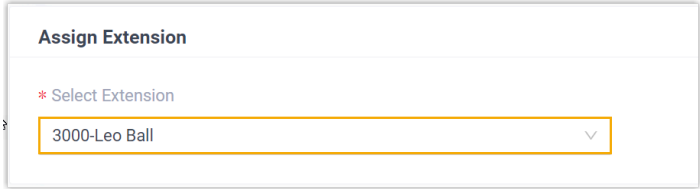
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



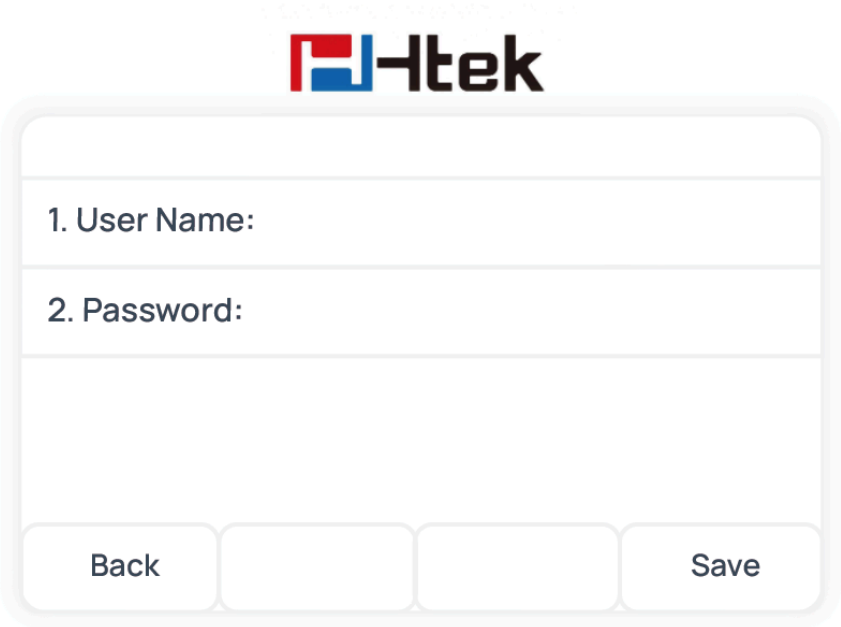
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

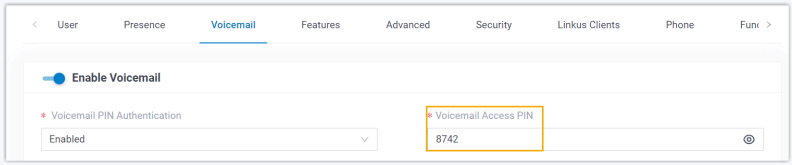
   The PBX will send an event notification of **RPS Request Success**.

Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.
2. If you have enabled **Authentication for the First-time Auto Provisioning** on the PBX, enter the authentication credential on the IP phone.

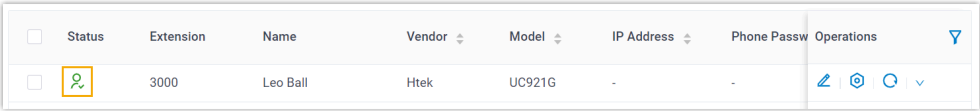


- **User Name**: Enter the extension number that is assigned to the phone.
- **Password**: Enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Htek IP Phone with Yeastar P-Series PBX System

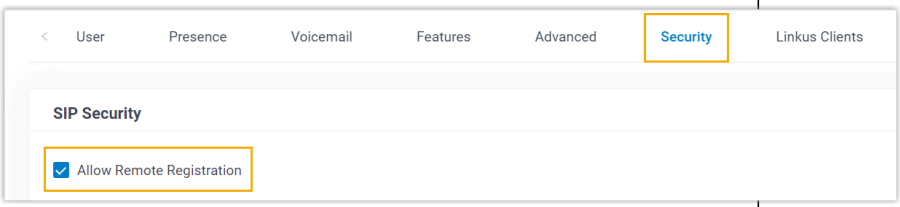
This topic takes Htek UC921G (firmware: 2.0.4.8.18) as an example to introduce how to manually register an extension on an Htek IP phone.

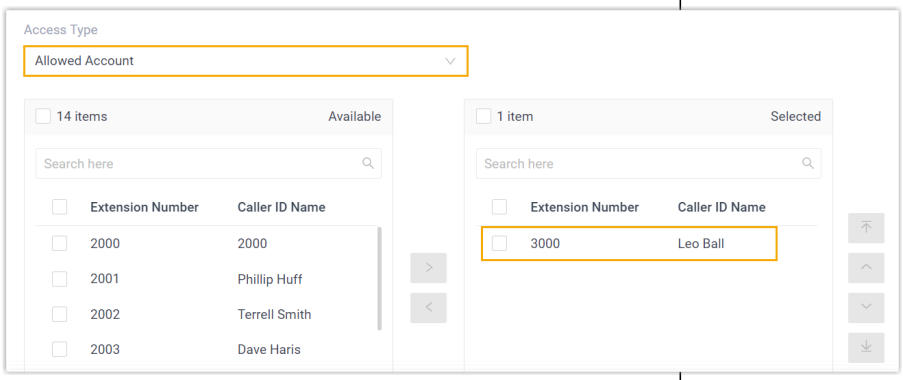
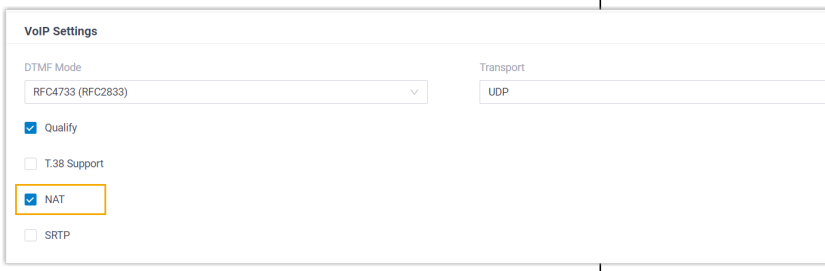
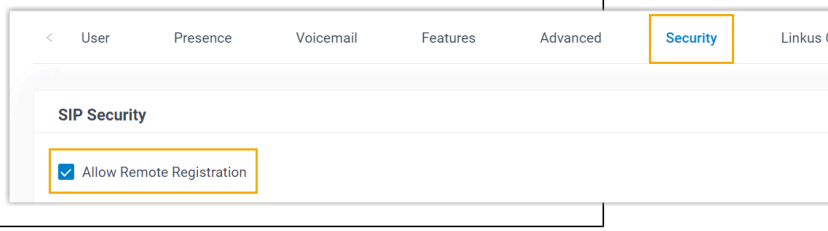
Supported devices

The Htek IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Htek IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX.

Network Environment		Setting
		• Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

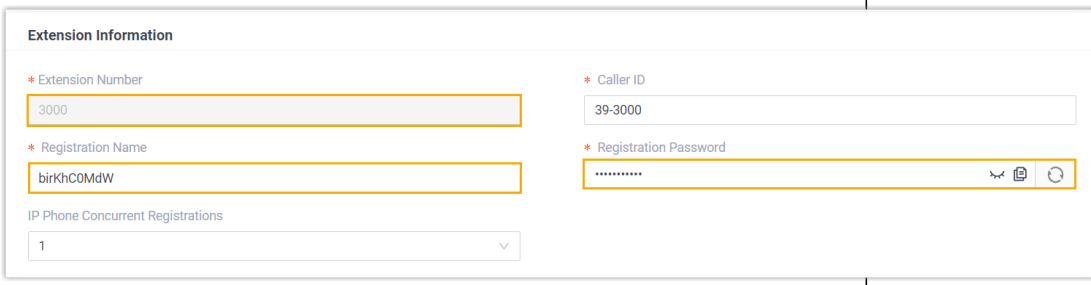
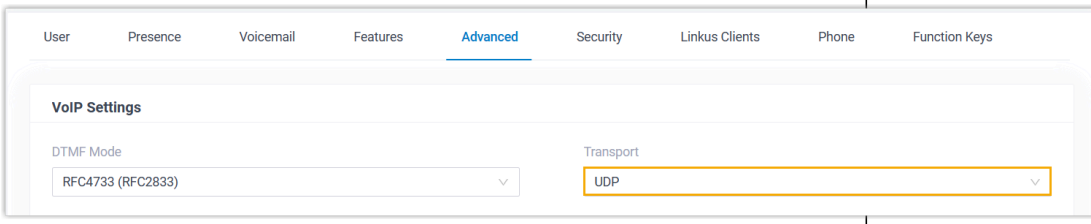
Procedure

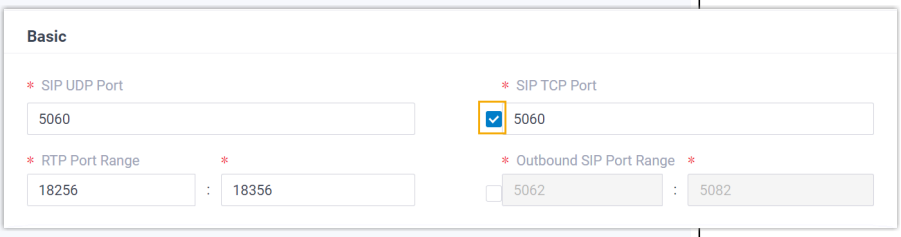
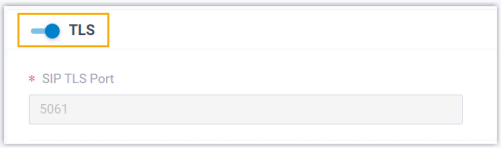
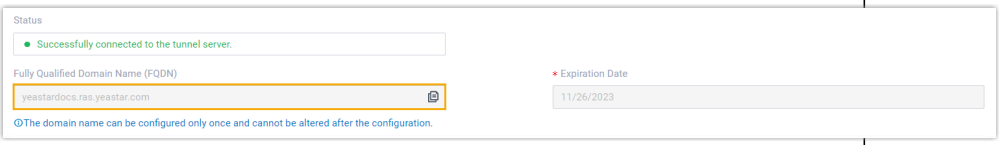
- Step 1. Gather registration information on Yeastar PBX

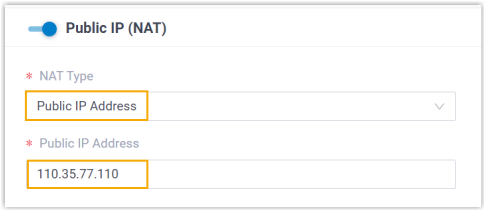
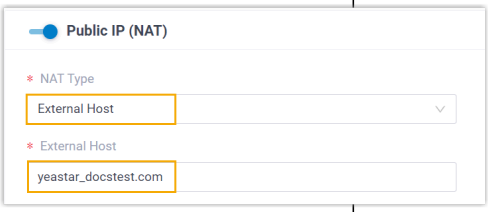
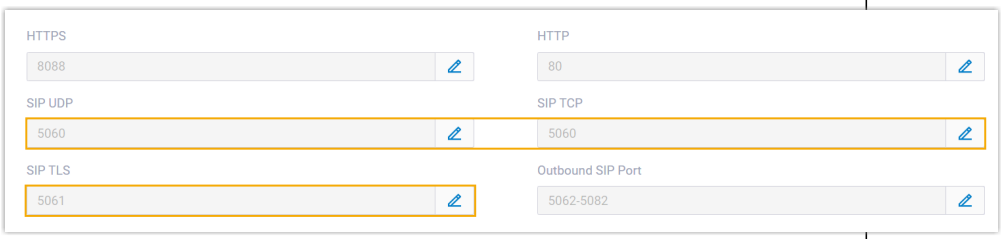
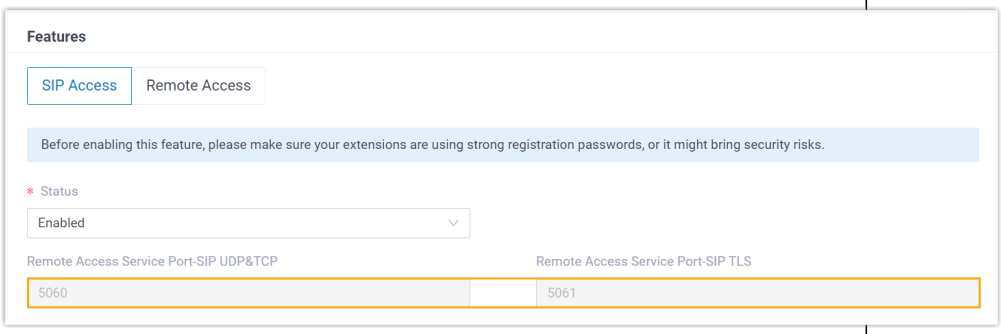
- Step 2. Register extension on Htek IP phone

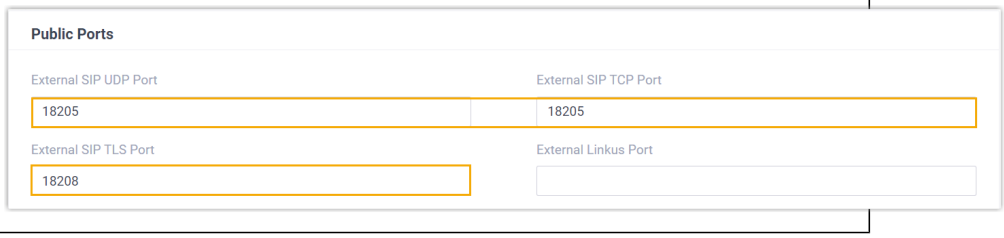
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).

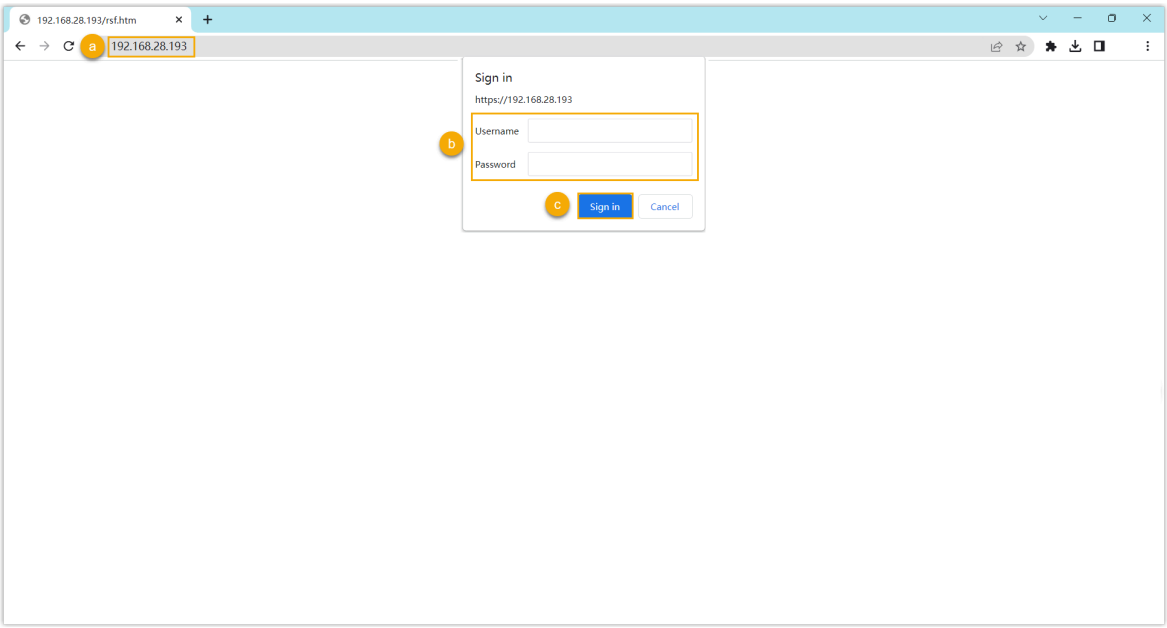
Information	Instruction
	 • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN). 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.

Information	Instruction
	 
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol.

Information	Instruction
	

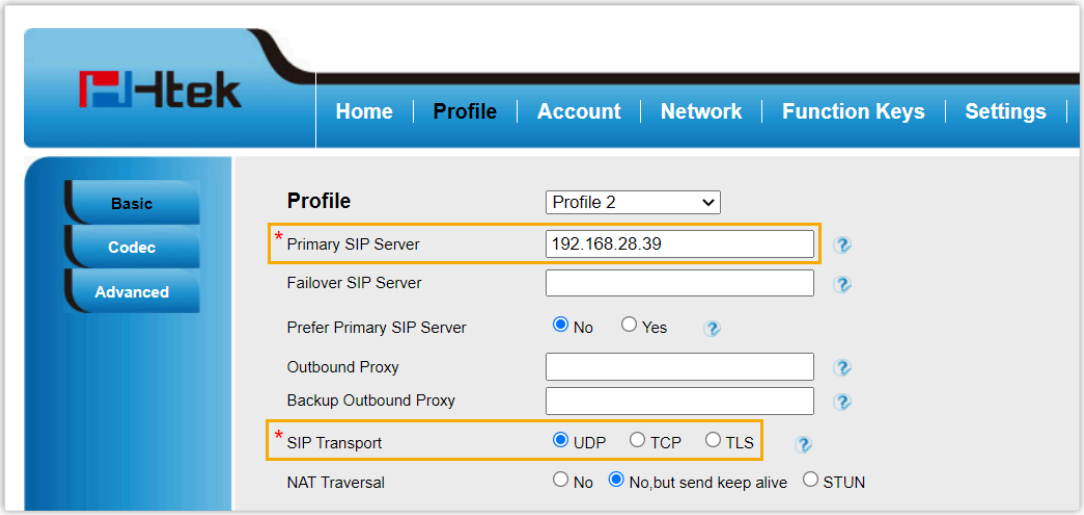
Step 2. Register extension on Htek IP phone

1. Log in to the web interface of the Htek IP phone.



   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `admin`.
   c. Click **Sign in**.
2. Go to **Profile > Basic**, edit the profile for registration.
   a. Complete the following settings



- **Primary SIP Server**: Enter the IP address / domain name of the PBX.
- **SIP Transport**: Select the transport protocol of the extension. In this example, select **UDP**.

b. At the bottom of the page, click **SaveSet**.

3. Go to **Account > Basic**, complete the following settings.

a. In the **Account** drop-down list, select an available account.

b. In the **Account Active** field, select **Yes** to activate the account.

c. In the **Profile** drop-down list, select the profile edited in step 2.

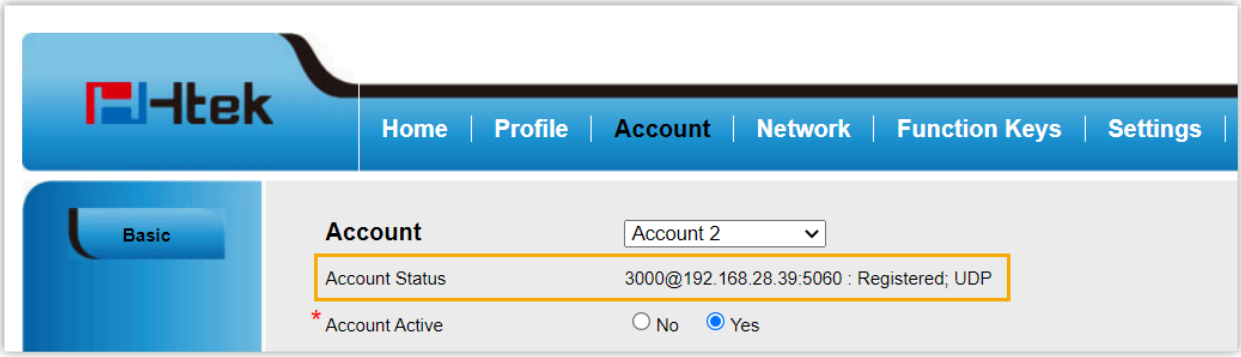
d. Enter the extension information,

- **Label**: Enter the name associated with the account, which will be displayed on the phone screen.
- **SIP User ID**: Enter the extension number.
- **Authenticate ID**: Enter the registration name of the extension.
- **Authenticate Password**: Enter the registration password of the extension.
- **Local SIP Port**: Enter the SIP registration port.

e. At the bottom of the page, click **SaveSet**.

Result

The extension is registered successfully. You can check the registration status in the **Account Status** field.



Tiptel

Auto Provision Tiptel IP Phone with Yeastar P-Series PBX System

This topic takes Tiptel 3310 (firmware: 2.42.6.5.55) as an example to introduce how to auto provision a Tiptel IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Tiptel IP Phone** and **Yeastar PBX** meet the following requirements.

Table 1.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
3310	2.42.6.5.55 or later	37.7.0.16 or later	• PnP • DHCP • RPS
3320	2.42.6.5.55 or later	37.7.0.16 or later	• PnP • DHCP • RPS
3330	2.42.6.5.55 or later	37.7.0.16 or later	• PnP • DHCP • RPS
3340	2.42.6.5.55 or later	37.7.0.16 or later	• PnP • DHCP • RPS

Scenarios

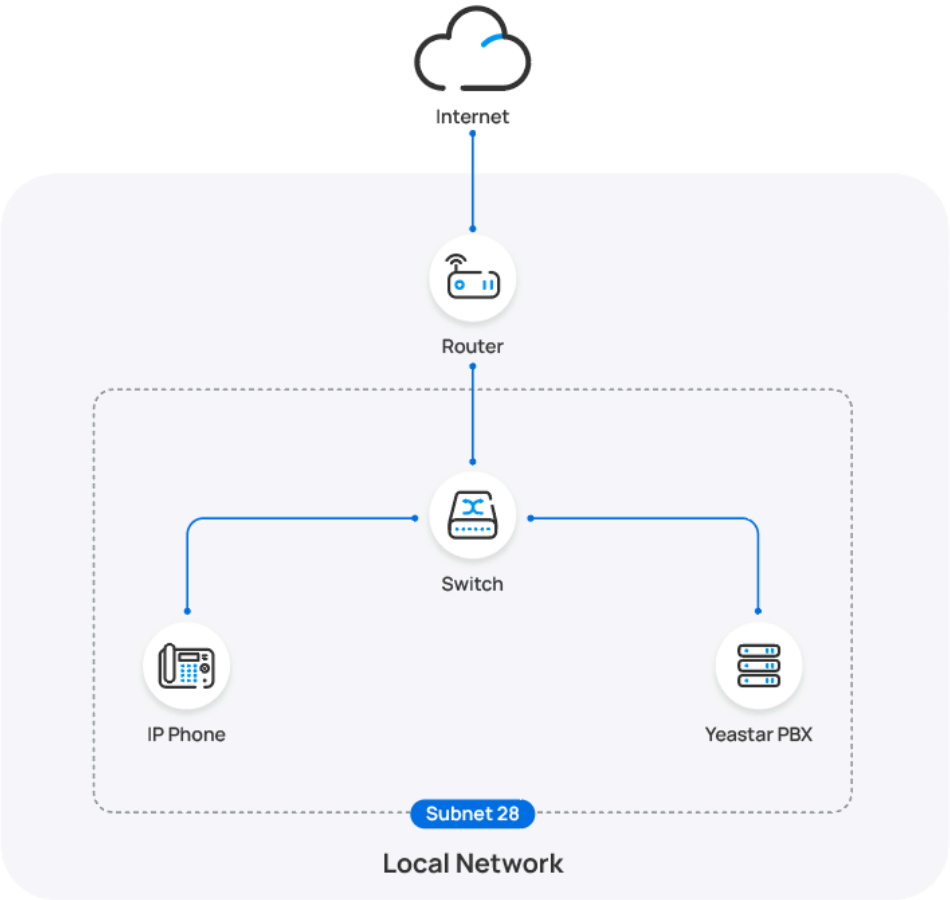
The provisioning methods and operations vary depending on the network environment of **Tiptel IP Phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Tiptel IP phone with the PBX via **PnP** method. For more information, see Auto provision a Tiptel IP phone in the same subnet (PnP).

Scenario	Description
IP Phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Tiptel IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Tiptel IP phone in the different subnets (DHCP).
IP Phone and PBX are in DIFFERENT network	In this scenario, you can provision the Tiptel IP phone with the PBX via **RPS** method. For more information, see Auto provision a Tiptel IP phone in remote network (RPS).

Auto provision a Tiptel IP phone in the same subnet (PnP)

In this example, the Tiptel IP phone (IP: `192.168.28.195`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

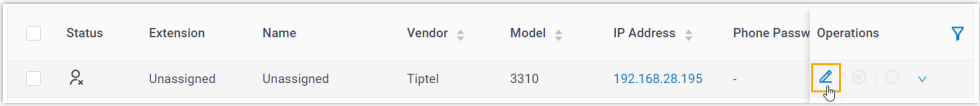
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

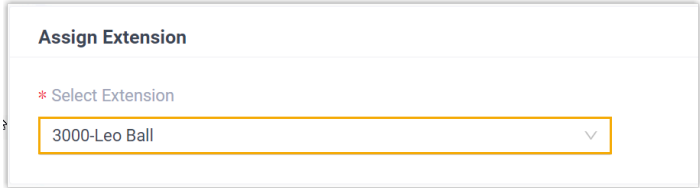
2. Click beside the Tiptel IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.

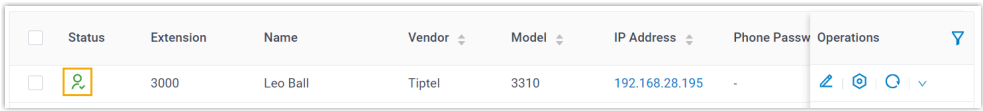
> • To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

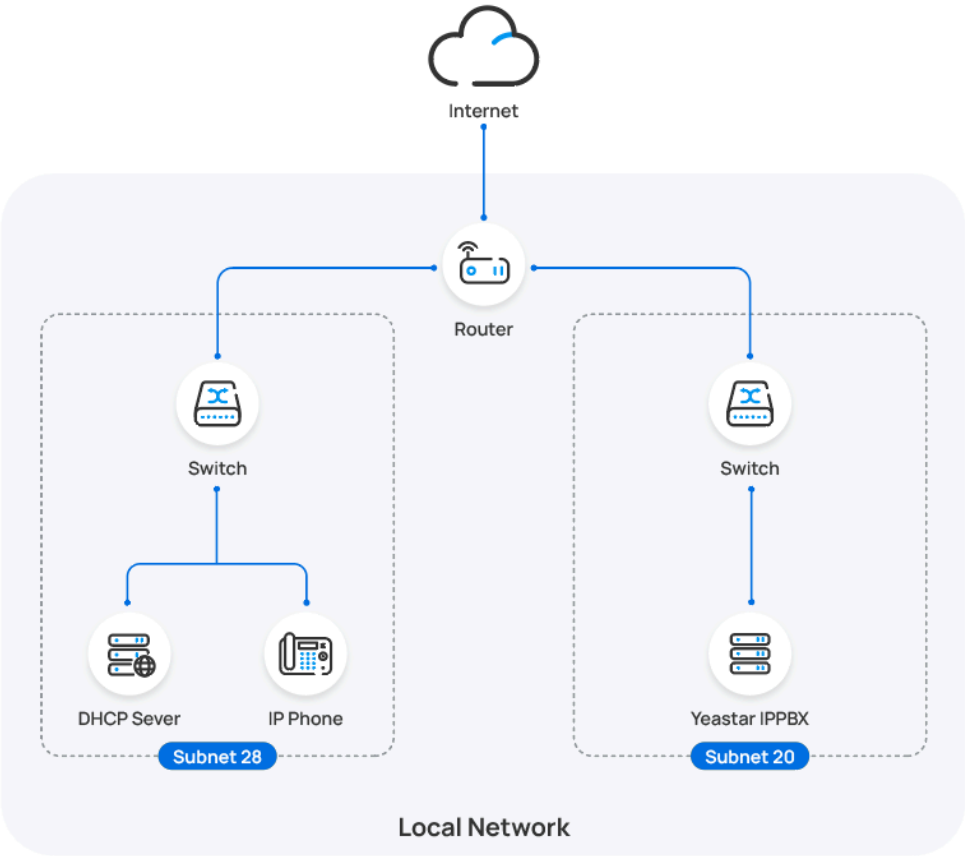
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Auto provision a Tiptel IP phone in the different subnets (DHCP)

In this example, the Tiptel IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

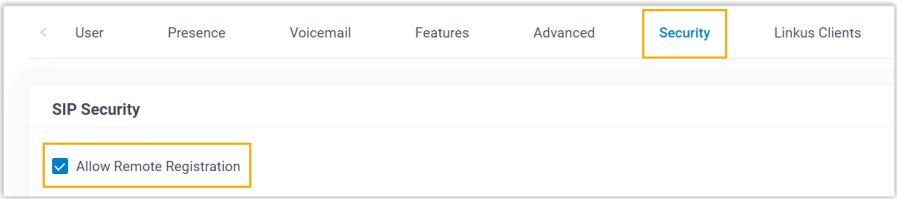
- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Tiptel IP phone on PBX

- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

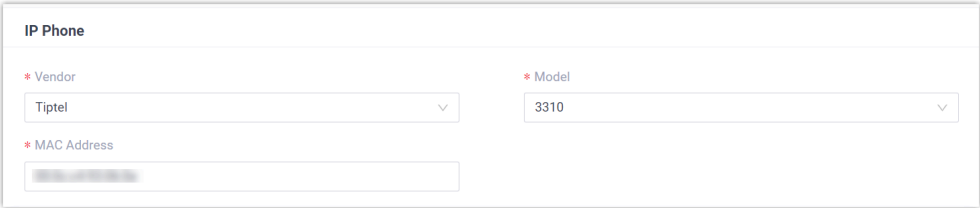
1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.



3. Click **Save** and **Apply**.

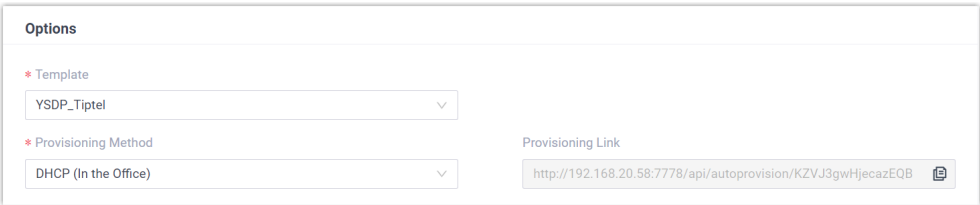
Step 2. Add the Tiptel IP phone on PBX

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Tiptel**.
- **Model**: Select the phone model. In this example, select **3310**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



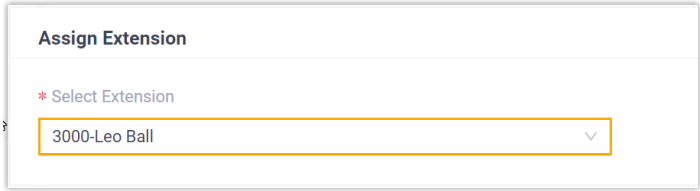
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



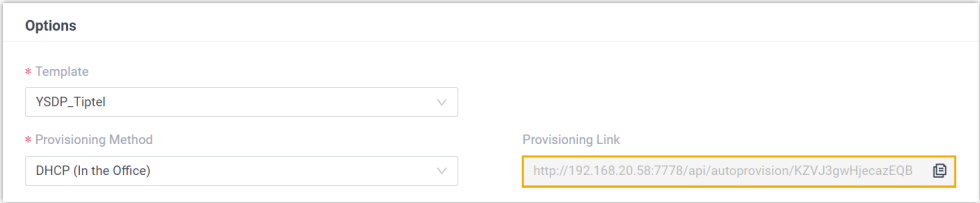
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

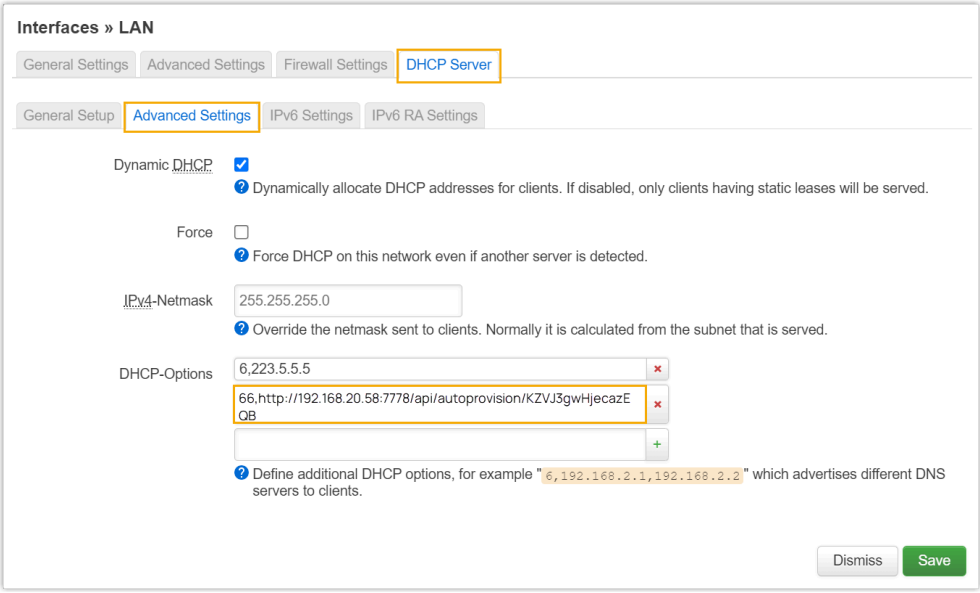
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

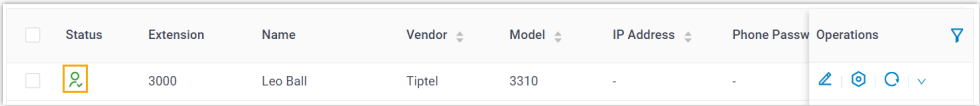
   In this example, the configuration on a router's DHCP server is shown below.



Result

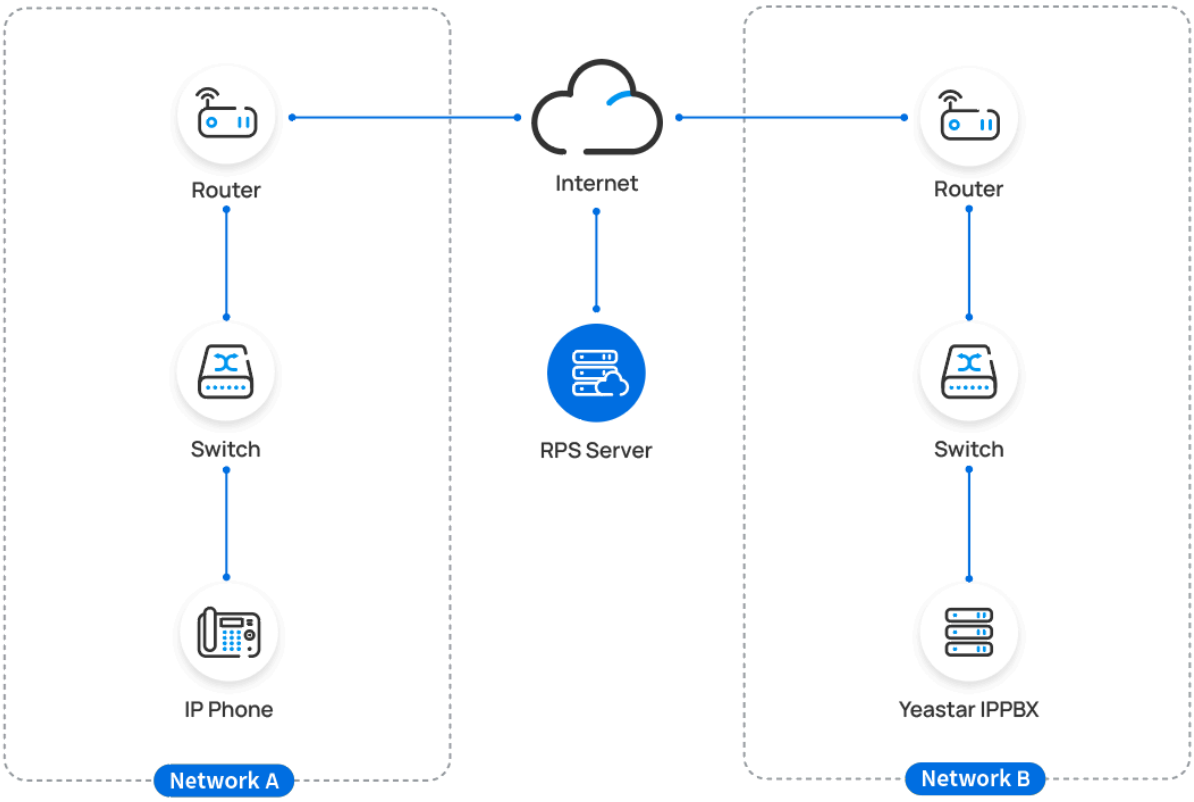
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision a Tiptel IP phone in remote network (RPS)

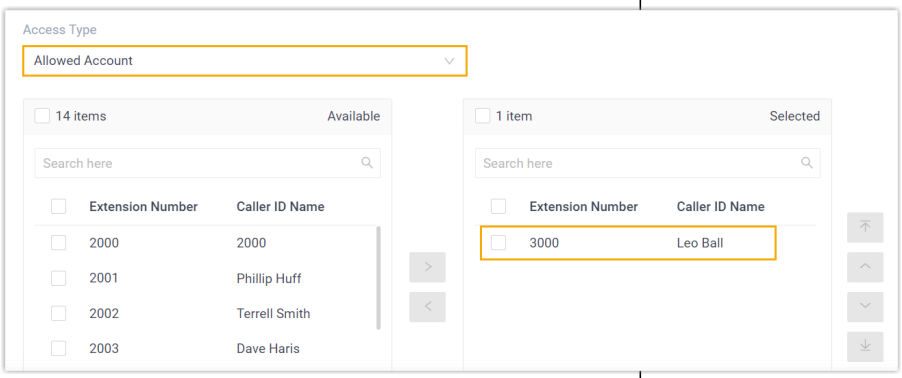
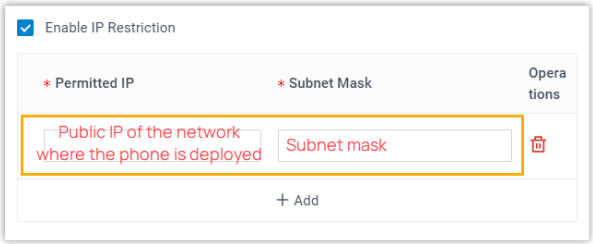
In this example, the Tiptel IP phone and the Yeastar PBX are deployed in different network.

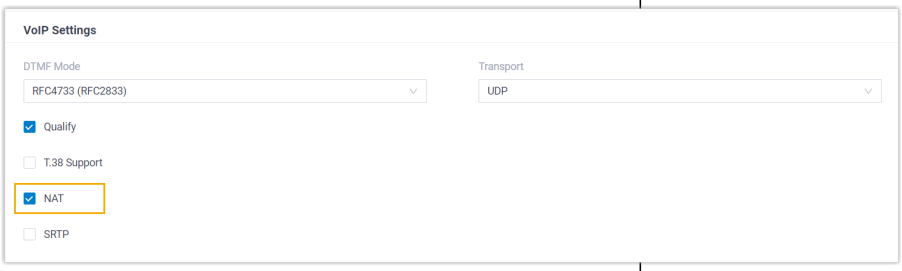
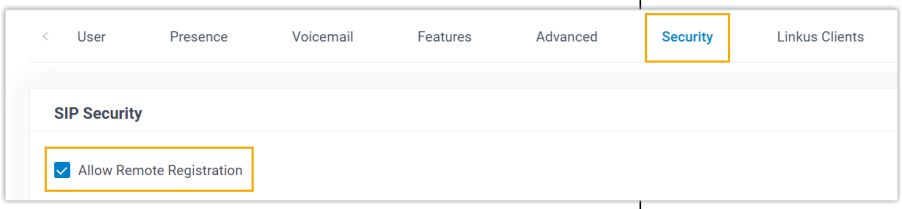


Prerequisites

Yeastar P-Series PBX System supports to auto provision a Tiptel phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via

Method	Setting
	FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).  ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port

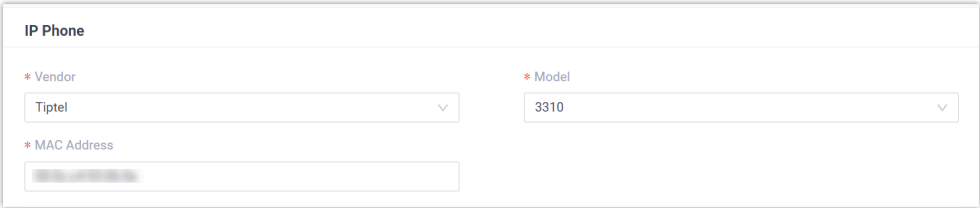
Method	Setting
	• Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

- Step 1. Add the Tiptel IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Tiptel IP phone on PBX

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Tiptel**.
- **Model**: Select the phone model. In this example, select **3310**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.

Figure 15. **RPS using Yeastar FQDN**

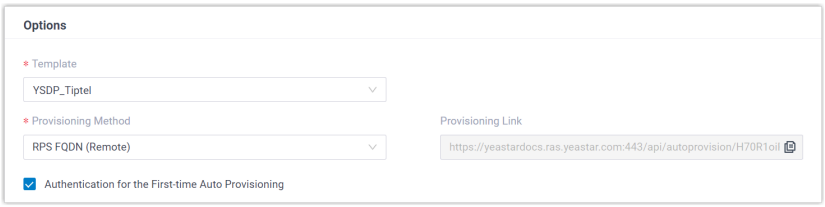
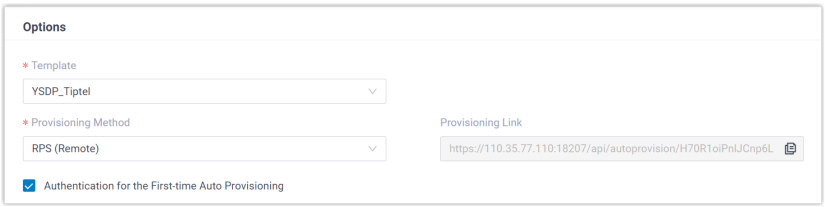


Figure 16. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template].

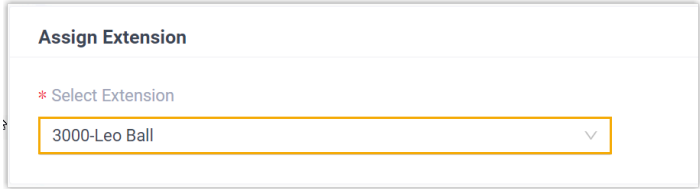
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



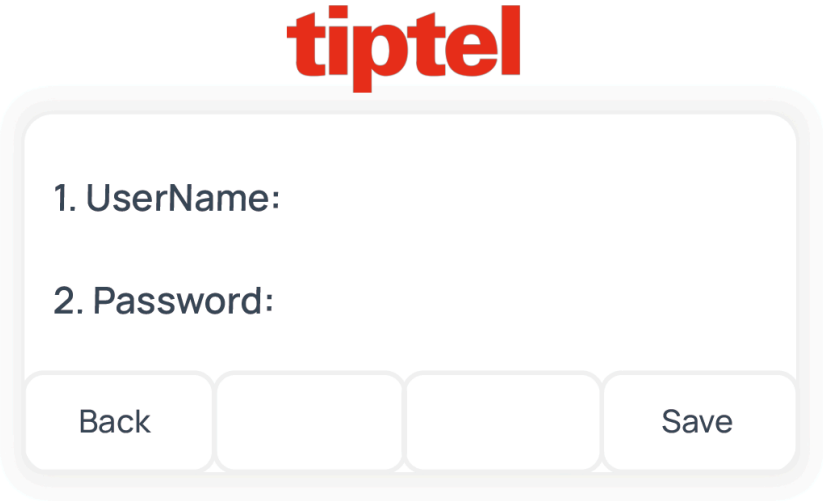
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

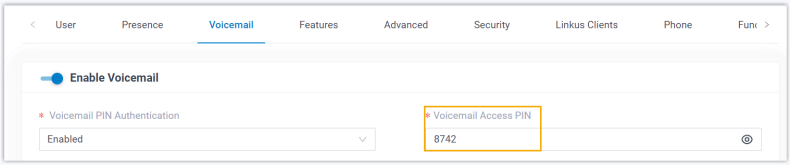
   The PBX will send an event notification of **RPS Request Success**.

Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.
2. If you have enabled **Authentication for the First-time Auto Provisioning** on the PBX, enter the authentication credential on the IP phone.

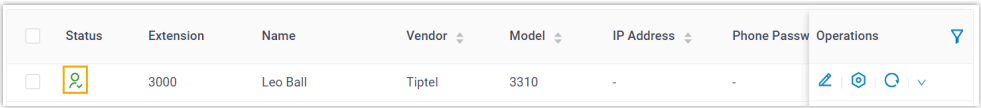


- **UserName**: Enter the extension number that is assigned to the phone.
- **Password**: Enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Status	Extension	Name	Vendor	Model	IP Address	Phone Passw	Operations
	3000	Leo Ball	Tiptel	3310	-	-	

Related information

Auto Provision LDAP for IP Phones

Manually Register Tiptel IP Phone with Yeastar P-Series PBX System

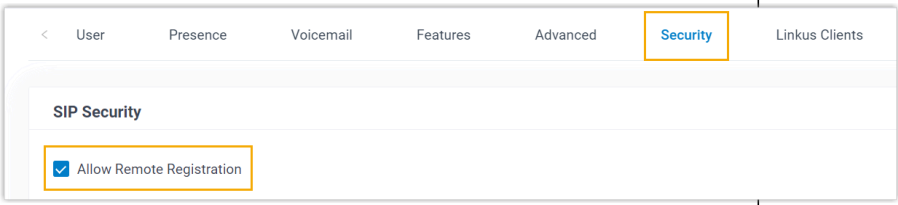
This topic takes Tiptel 3310 (firmware: 2.42.6.5.55) as an example to introduce how to manually register an extension on a Tiptel IP phone.

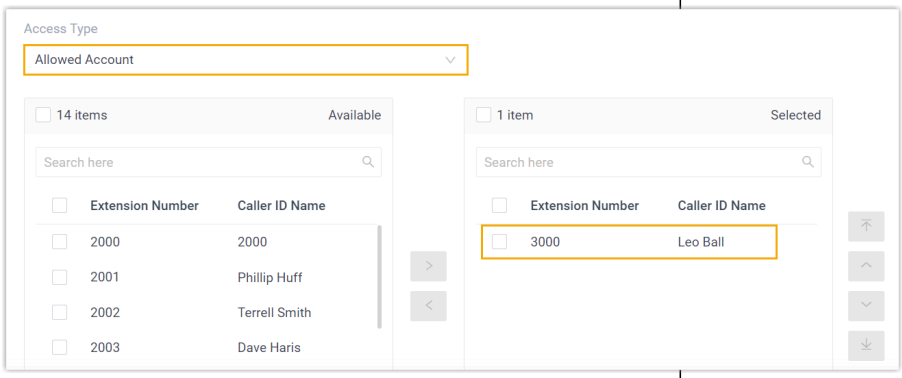
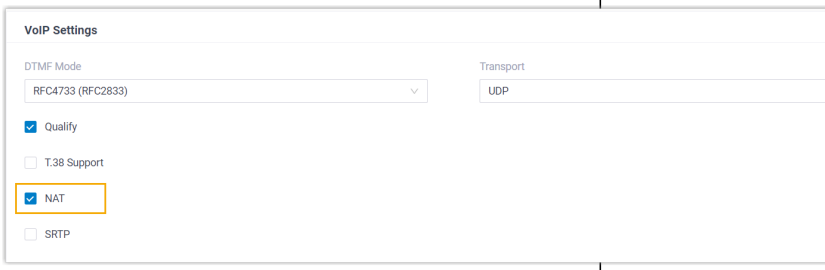
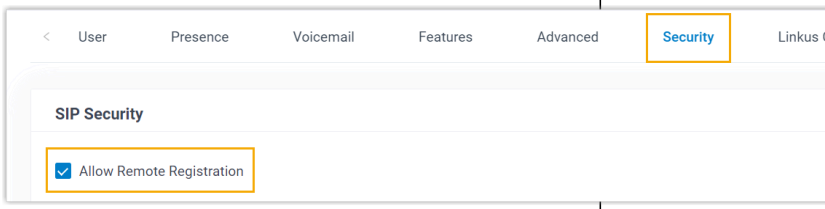
Supported devices

The Tiptel IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Tiptel IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

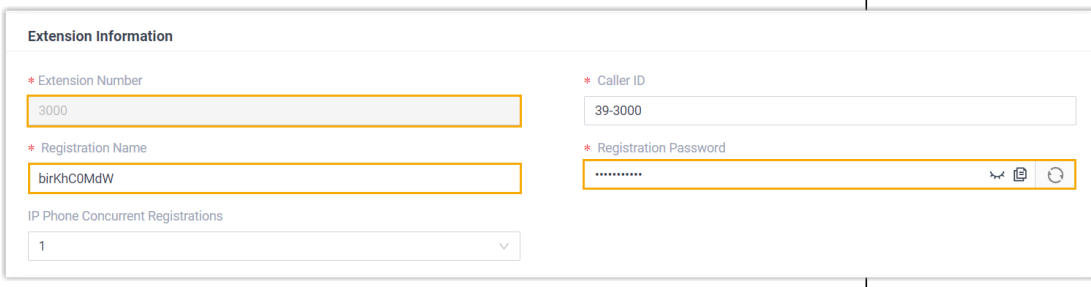
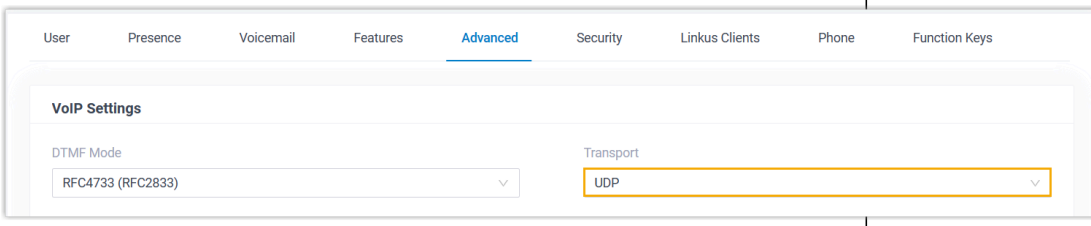
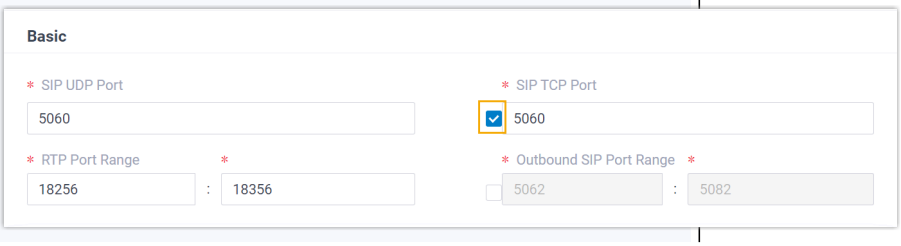
Network Environment		Setting
		
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

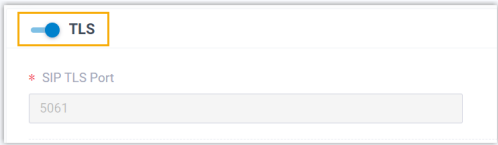
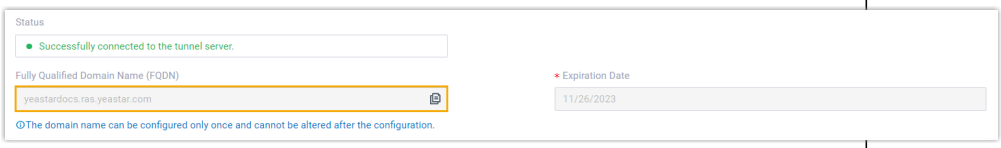
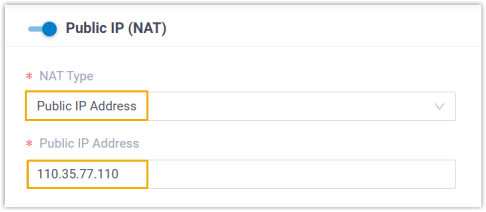
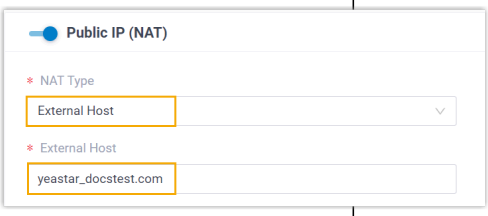
Procedure

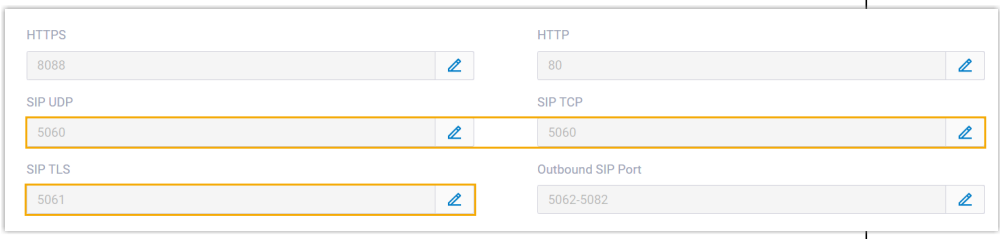
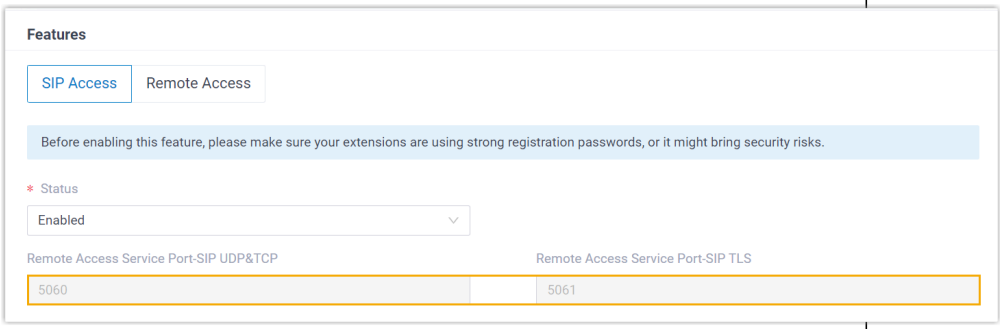
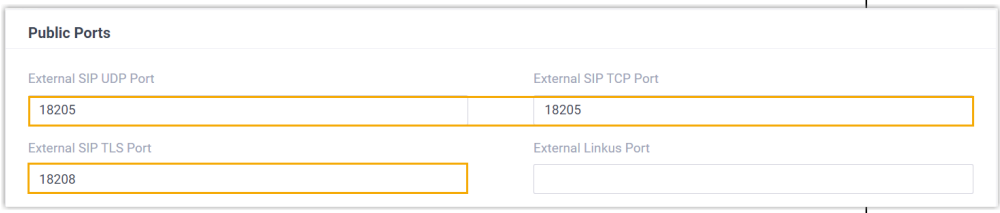
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Tiptel IP phone

Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

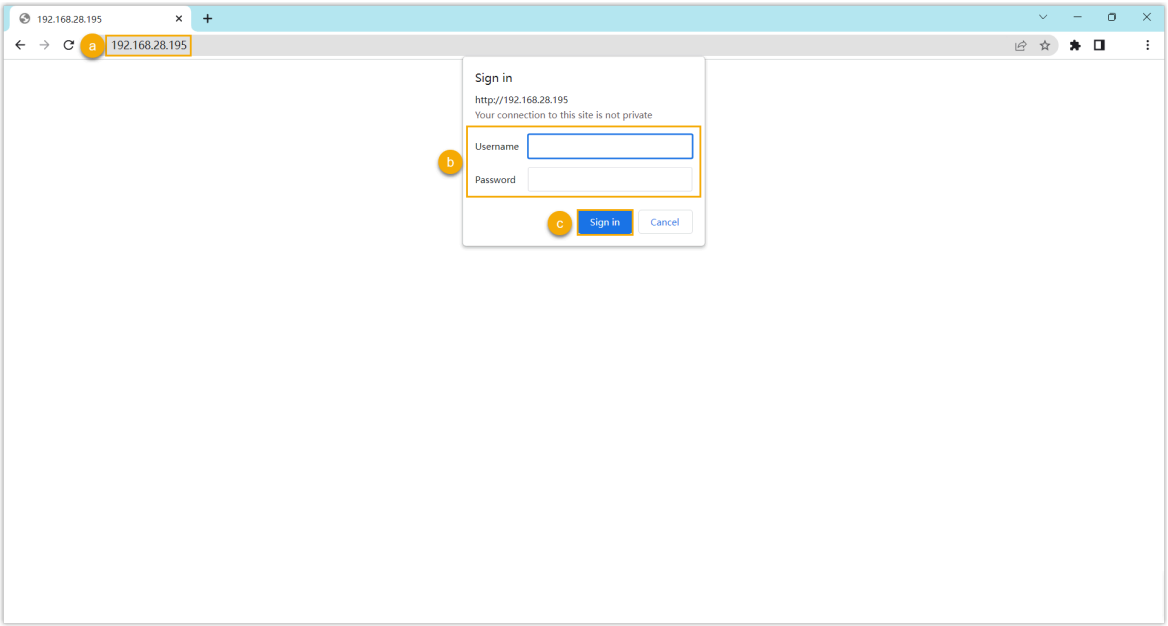
Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**). 

Information	Instruction
	• If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).  **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.

Information	Instruction
	 In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol.  **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

Step 2. Register extension on Tiptel IP phone

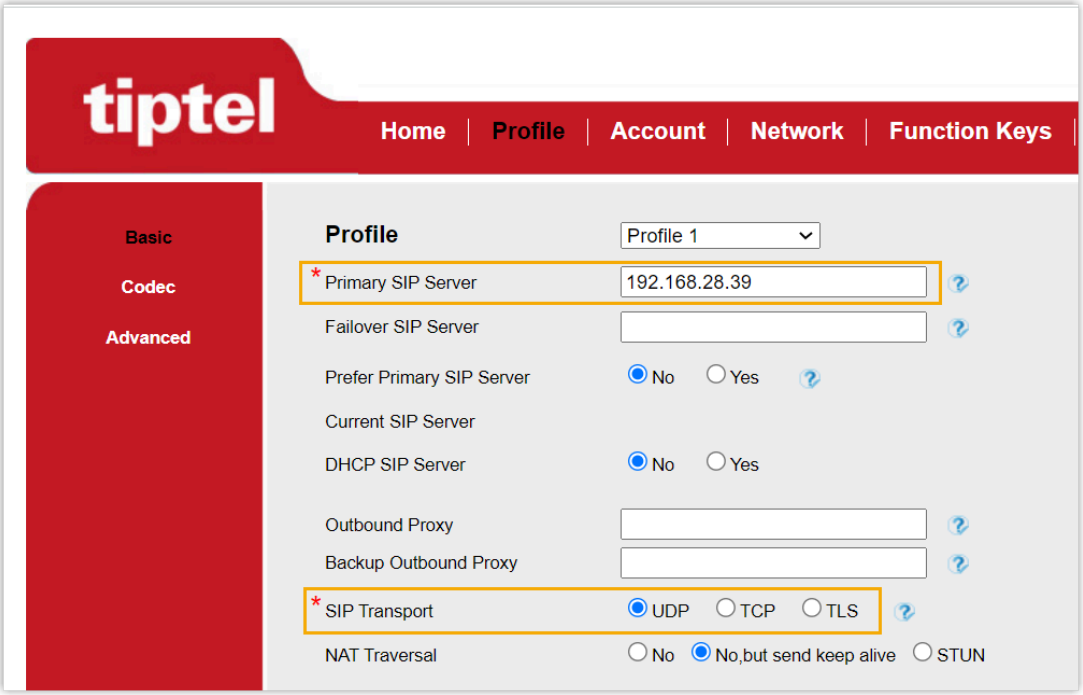
1. Log in to the web interface of the Tiptel IP phone.



a. In the browser's address bar, enter the IP address of the IP phone.
b. Enter the username `admin` and the associated password.

   In this example, enter the default password `admin`.
c. Click **Sign in**.

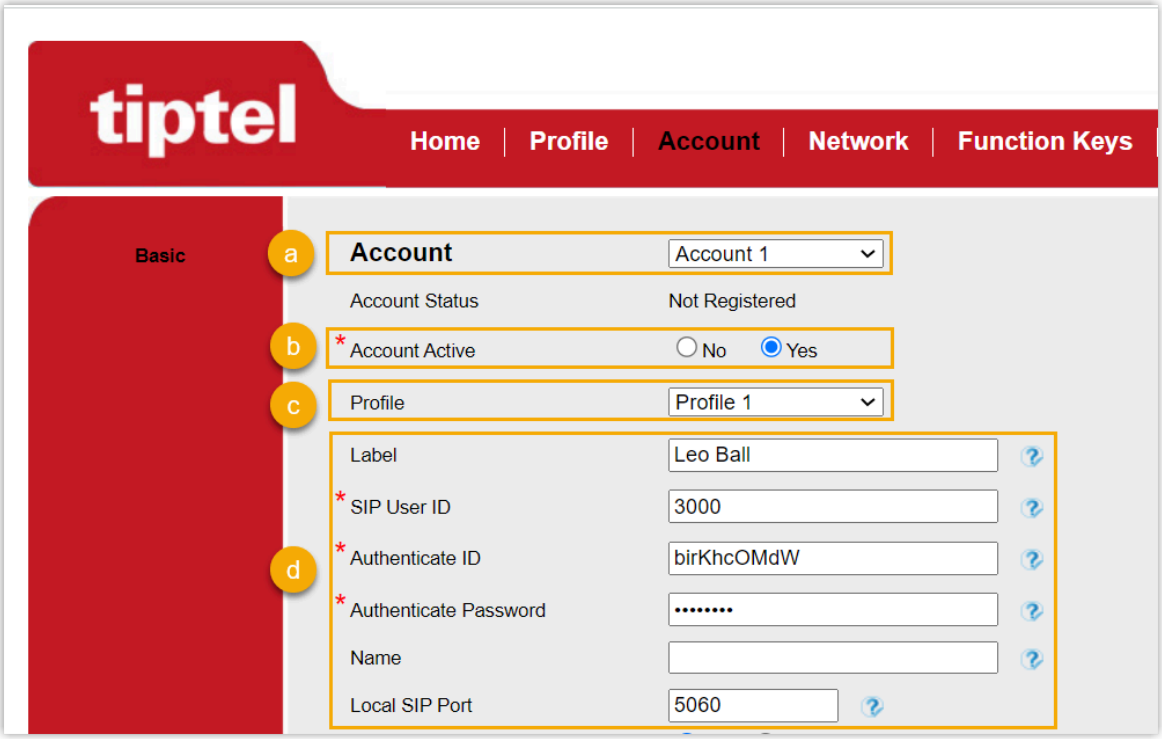
2. Go to **Profile > Basic**, edit the profile for registration.
   a. Complete the following settings.



- **Primary SIP Server**: Enter the IP address / domain name of the PBX.
- **SIP Transport**: Select the transport protocol of the extension. In this example, select **UDP**.

b. At the bottom of the page, click **SaveSet**.

3. Go to **Account > Basic**, complete the following settings.



a. In the **Account** drop-down list, select an available account.

b. In the **Account Active** field, select **Yes** to activate the account.

c. In the **Profile** drop-down list, select the profile edited in step 2.

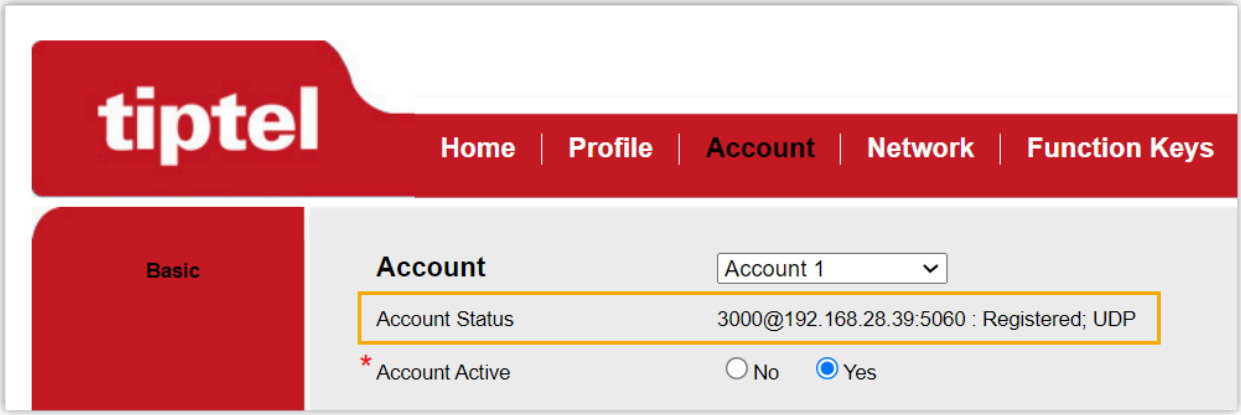
d. Enter the extension information.

- **Label**: Enter the name associated with the account, which will be displayed on the phone screen.
- **SIP User ID**: Enter the extension number.
- **Authenticate ID**: Enter the registration name of the extension.
- **Authenticate Password**: Enter the registration password of the extension.
- **Local SIP Port**: Enter the SIP registration port.

e. At the bottom of the page, click **SaveSet**.

Result

The extension is registered successfully. You can check the registration status in the **Account status** field.



Alcatel-Lucent Enterprise (ALE)

Auto Provision Alcatel Lucent Enterprise (ALE) IP Phone with Yeastar P-Series PBX System

This topic takes Alcatel Lucent Enterprise M3 (firmware: 2.13.39.000.2217) as an example to describe how to auto provision Alcatel Lucent Enterprise (ALE) IP phone with Yeastar P-Series PBX System in Local Area Network (LAN).

Requirements

The firmwares of **ALE IP phone** and **Yeastar PBX** meet the following requirements.

Table 2.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
H2	2.10.00.0001083 or later	37.6.0.24 or later	• PnP • DHCP
H2P	2.10.00.0001083 or later	37.6.0.24 or later	• PnP • DHCP
H3P	2.12.43.010.2272 or later	37.5.0.9 or later	• PnP • DHCP
H3G	2.12.43.010.2272 or later	37.5.0.9 or later	• PnP • DHCP
H6	2.12.43.010.2272 or later	37.5.0.9 or later	• PnP • DHCP
M3	2.13.37.000.2202 or later	37.5.0.9 or later	• PnP • DHCP
M5	2.13.37.000.2202 or later	37.5.0.9 or later	• PnP • DHCP
M7	2.13.37.000.2202 or later	37.5.0.9 or later	• PnP • DHCP
M8	2.13.32.000.1535 or later	37.6.0.24 or later	• PnP • DHCP

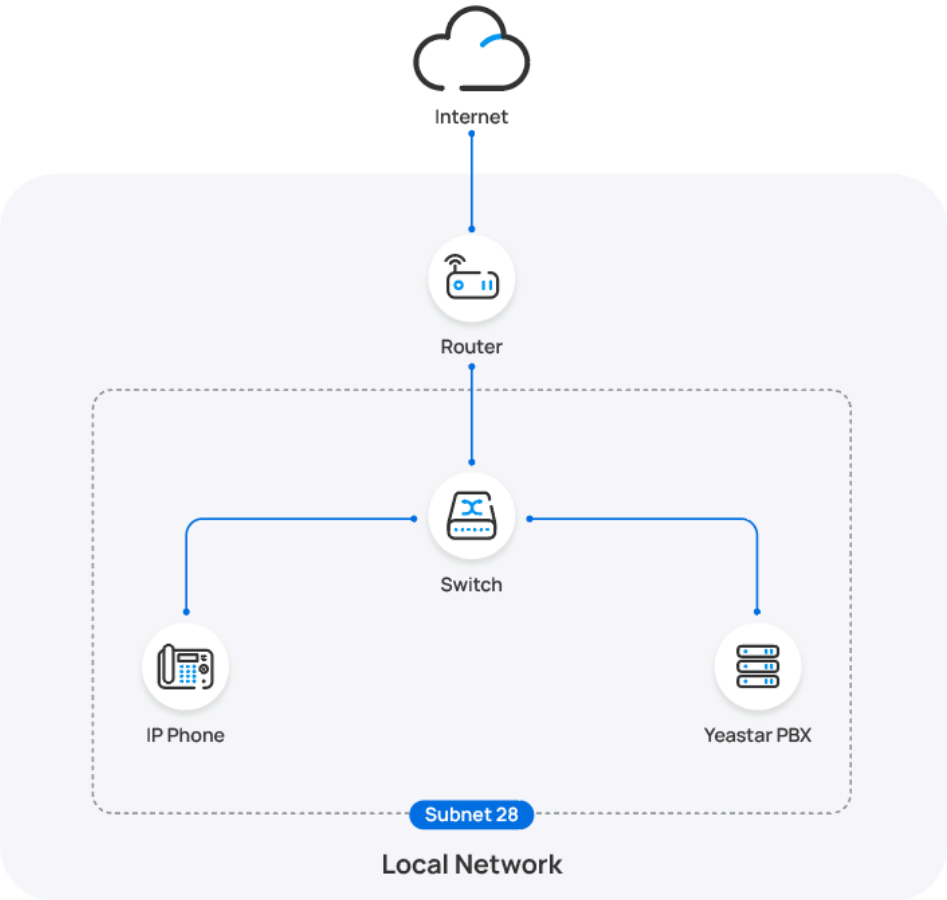
Scenarios

The provisioning methods and operations vary depending on the network environment of **ALE IP phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet	In this scenario, you can provision the ALE IP phone with the PBX via **PnP** method. For more information, see Auto provision an ALE IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets	In this scenario, you can provision the ALE IP phone with the PBX via **DHCP** method. For more information, see Auto provision an ALE IP phone in different subnets (DHCP).

Auto provision an ALE IP phone in the same subnet (PnP)

In this example, the ALE IP phone (IP: `192.168.28.205`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

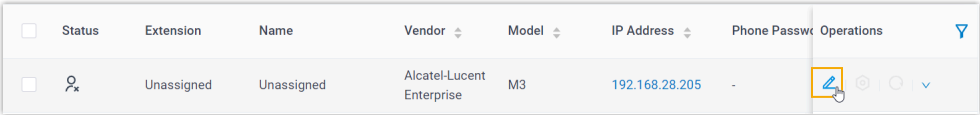
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

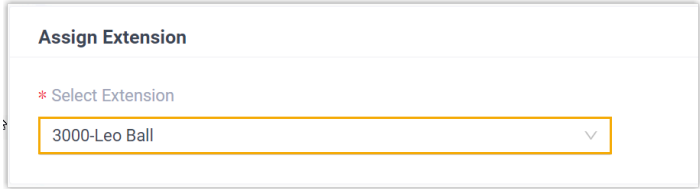
2. Click beside the ALE IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



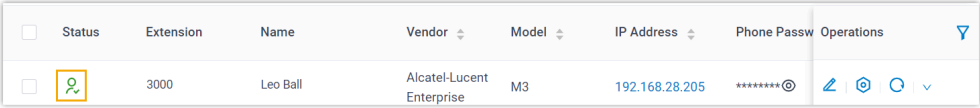
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

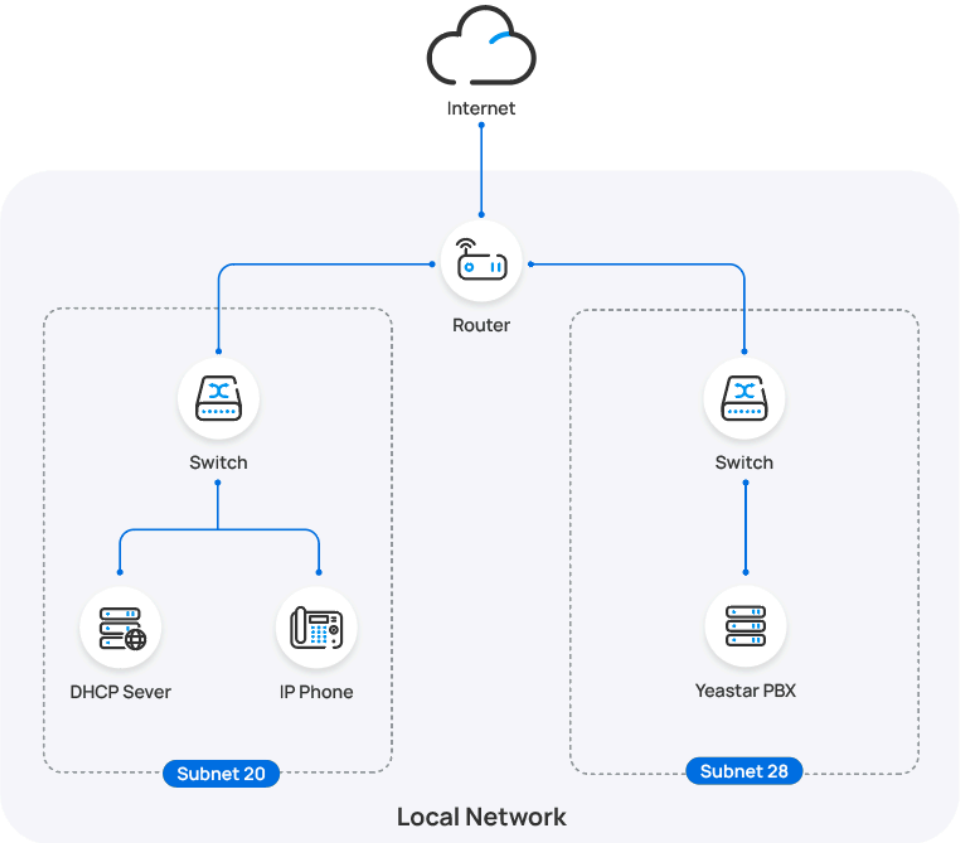
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Auto provision an ALE IP phone in different subnets (DHCP)

In this example, the ALE IP phone and DHCP server are deployed in subnet 20, while the Yeastar PBX (IP: `192.168.28.110`) is deployed in subnet 28.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.

- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

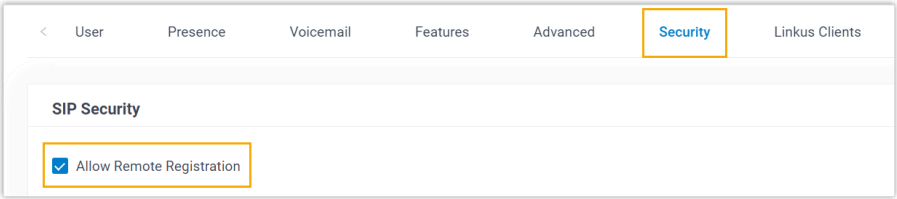
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the ALE IP phone on the PBX
- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

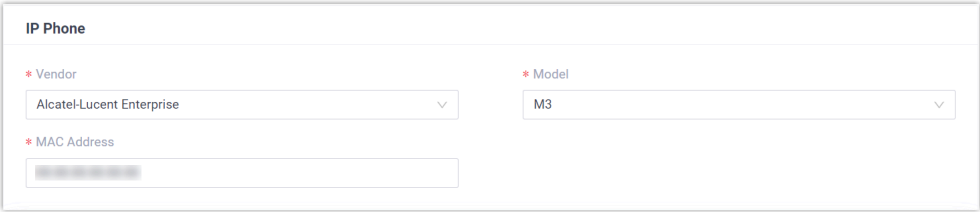


3. Click **Save** and **Apply**.

Step 2. Add the ALE IP phone on the PBX

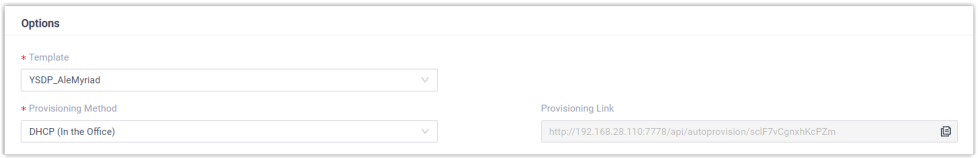
Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, configure phone information as follows:



- **Vendor**: Select **Alcatel-Lucent Enterprise**.
- **Model**: Select a phone model. In this example, select **M3**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



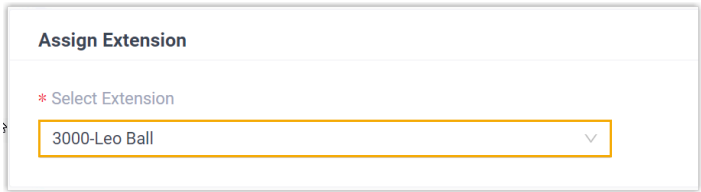
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.

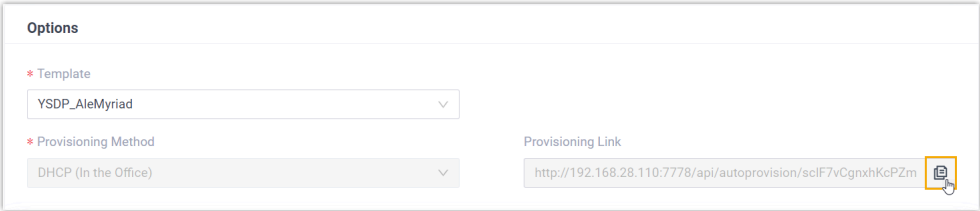
- To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
- To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

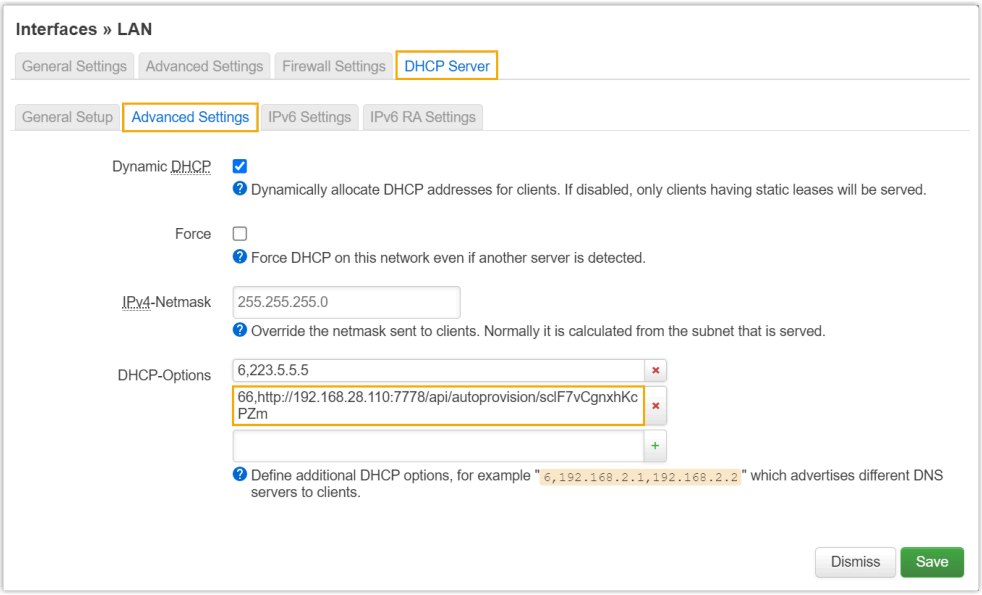
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

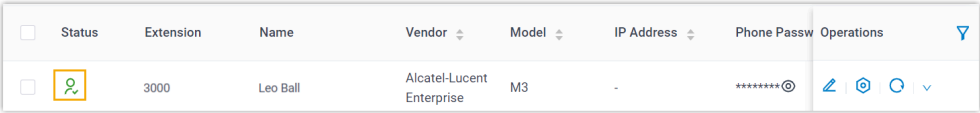
   In this example, the configuration is shown below.



Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Alcatel-Lucent Enterprise (ALE) Phone with Yeastar P-Series PBX System

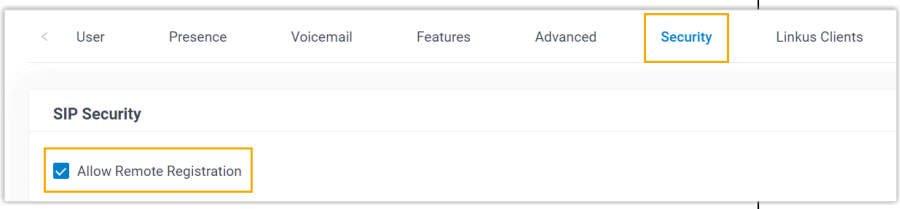
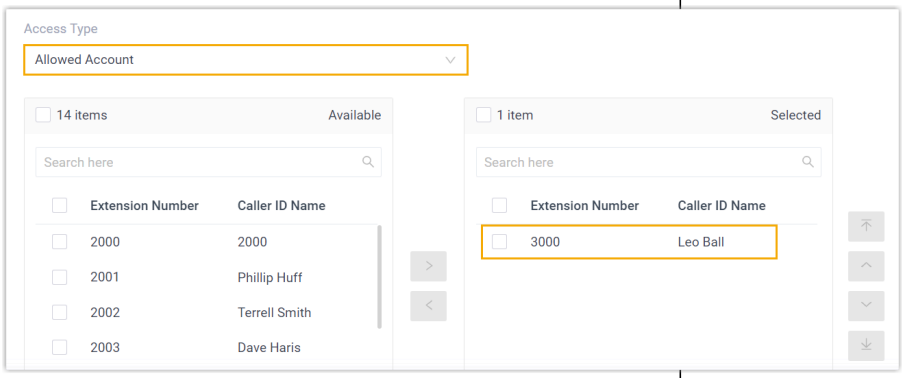
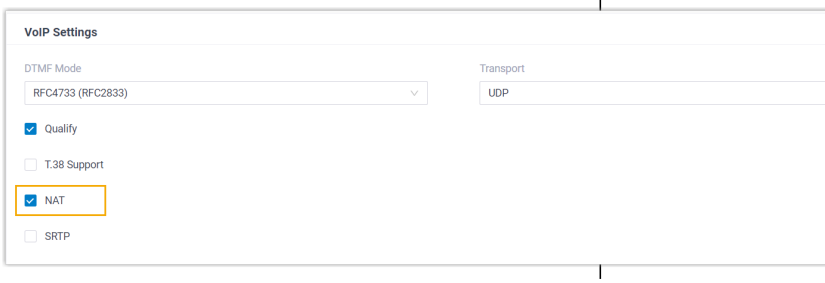
This topic takes Alcatel-Lucent Enterprise M3 (firmware: 2.13.39.000.2217) as an example to introduce how to manually register an extension on an Alcatel-Lucent Enterprise (ALE) IP phone.

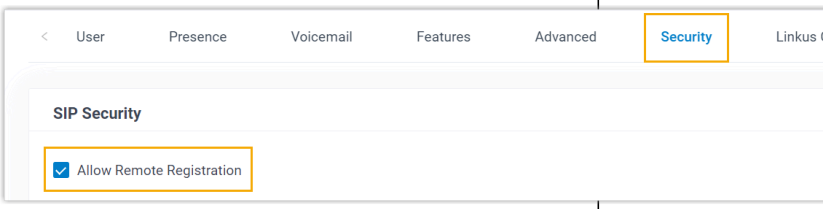
Supported devices

The Alcatel-Lucent Enterprise IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **ALE IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**). 

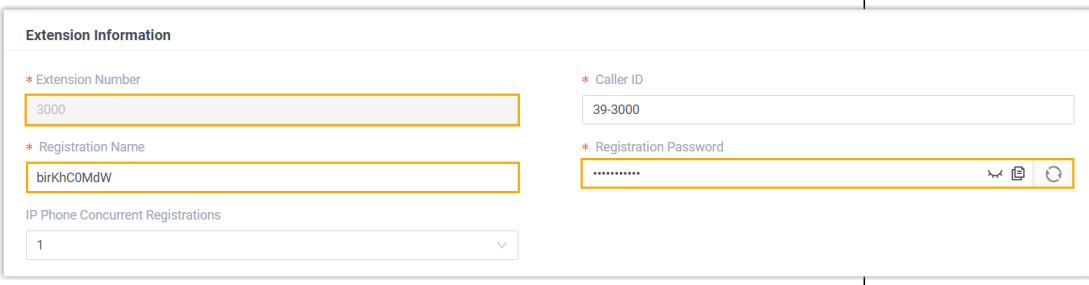
Network Environment		Setting
		◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

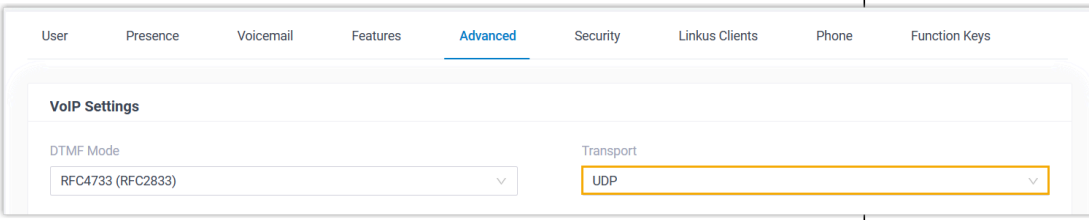
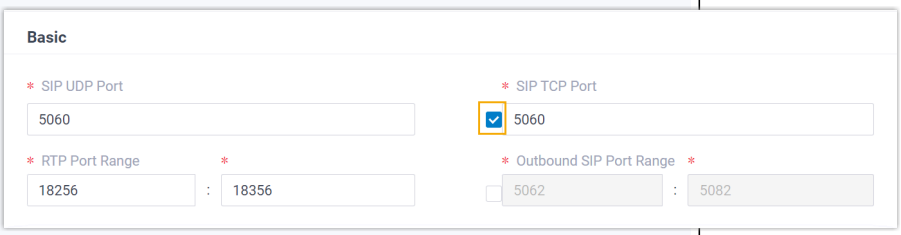
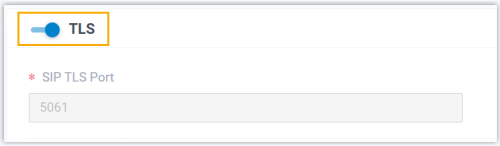
Procedure

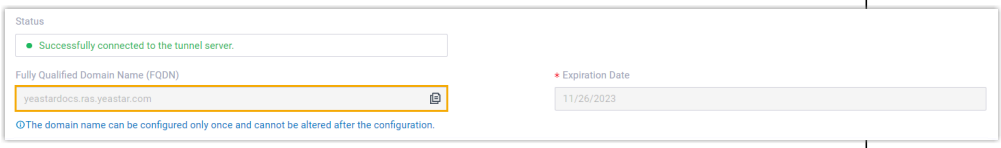
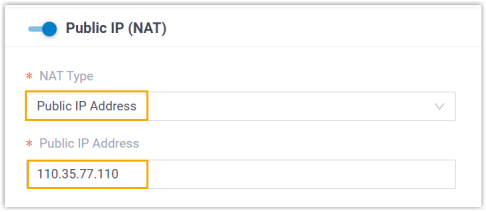
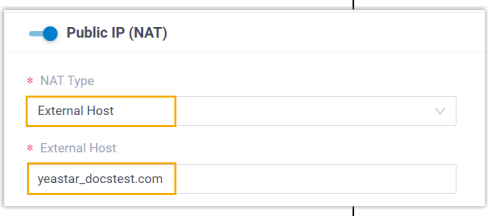
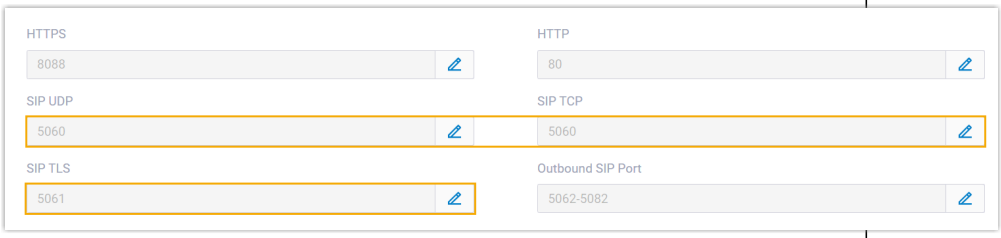
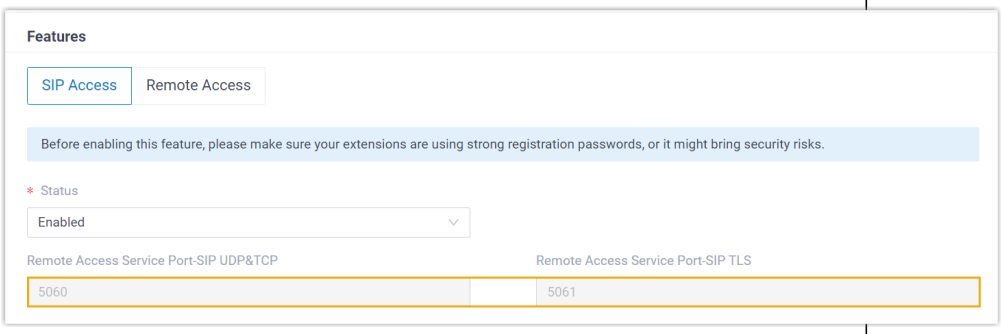
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on ALE IP phone

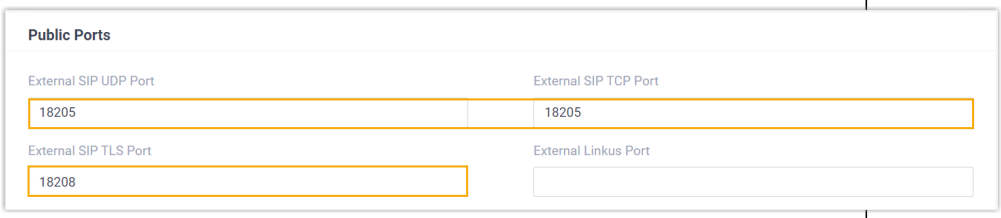
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.

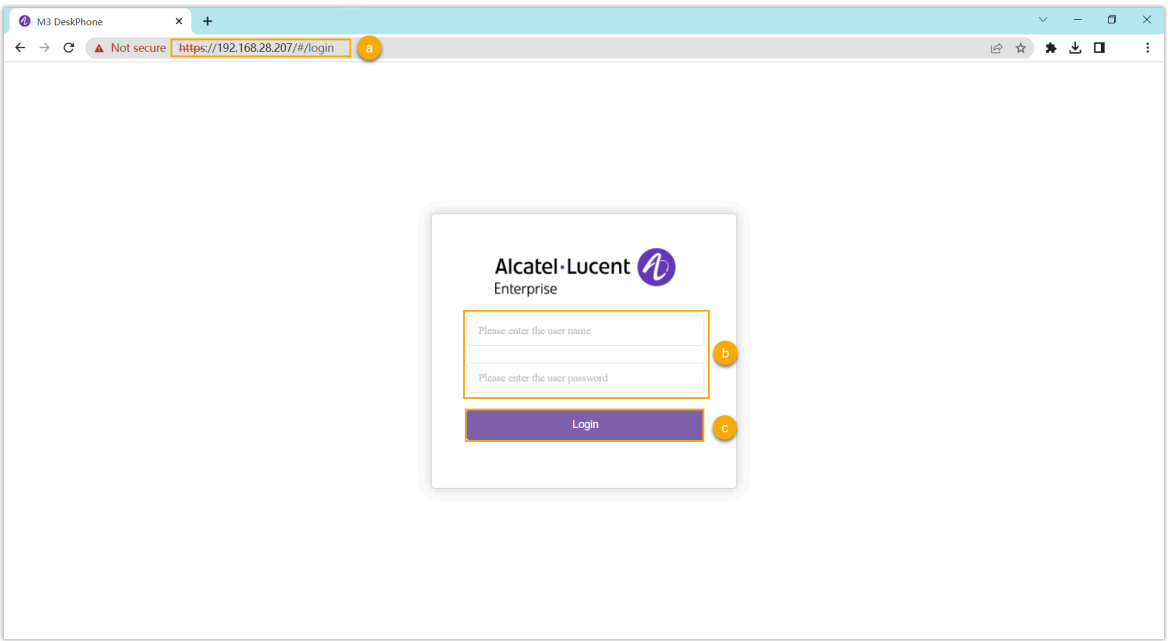
Information	Instruction
	 **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).  • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).

Information	Instruction
	 **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol. 

Information	Instruction
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

Step 2. Register extension on ALE IP phone

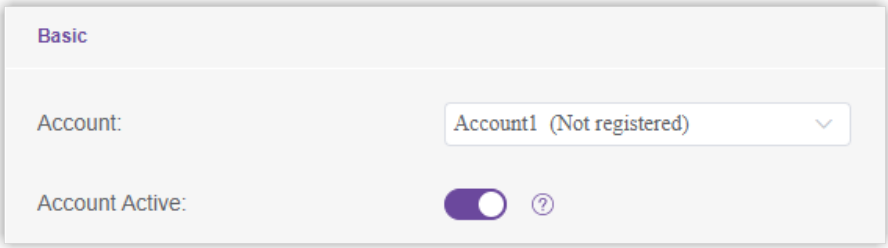
1. Log in to the web interface of the ALE IP phone.



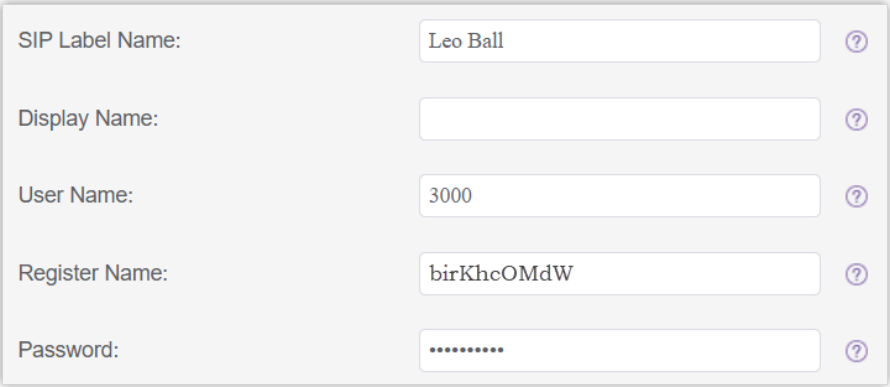
   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `123456`.
   c. Click **Login**.
2. On the left navigation bar, go to **Account > Basic**, and complete the following registration configurations.

a. In the **Account** drop-down list, select an available account, then enable the **Account Active** option.

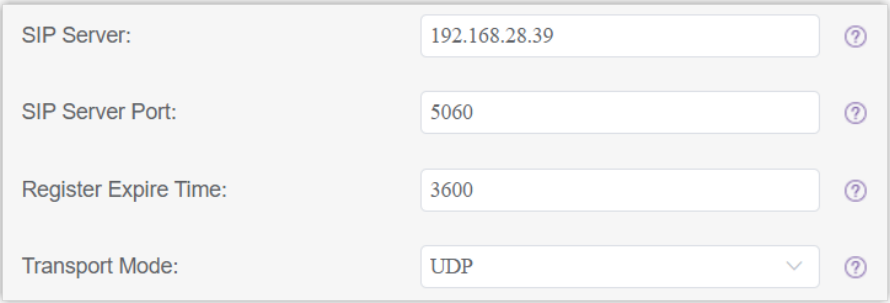


b. Enter the extension information.



- **SIP Label Name**: Enter the name associated with the account, which will be displayed on the phone screen.
- **User Name**: Enter the extension number.
- **Register Name**: Enter the registration name of the extension.
- **Password**: Enter the registration password of the extension.

c. Enter the PBX's information and set the registration period.



- **SIP Server**: Enter the IP address / domain name of the PBX.
- **SIP Server Port**: Enter the SIP registration port of the PBX. In this example, enter `5060`.
- **Register Expire Time**: Optional. Configure the registration period.

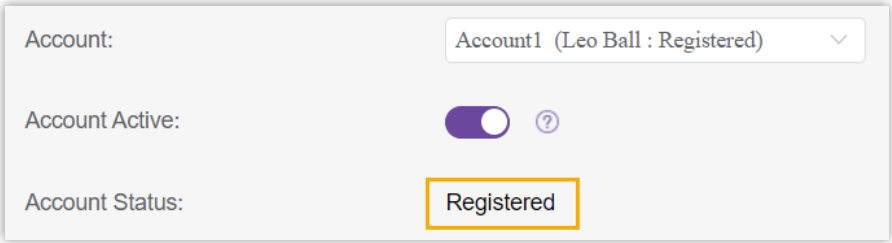
> **Tip:**
> You can check the available range of the registration time on **PBX Settings > SIP Settings > General > SIP Endpoint Registration Timer** in the PBX web portal.

- **Transport Mode**: Select the transport protocol of the extension. In this example, select **UDP**.

d. Click **Submit**.

Result

The extension is registered successfully. You can check the registration status in the **Account Status** field.



Flyingvoice

Auto Provision Flyingvoice IP Phone with Yeastar P-Series PBX System

This topic takes Flyingvoice P20P (firmware: V0.8.18.6) as an example to introduce how to auto provision a Flyingvoice IP phone with Yeastar P-Series PBX System.

Requirements

The firmwares of **Flyingvoice IP Phone** and **Yeastar PBX** meet the following requirements.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
FIP10	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP11C	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP12WP	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP13G	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP14G	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP15G	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP15G Plus	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
FIP16	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
FIP16 Plus	0.7.23.1 or later	37.8.0.25 or later	• PnP • DHCP • RPS
P10	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P10P	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P10G	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P10W	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P10LTE	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P11	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P11P	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P11G	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P11W	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P11LTE	V0.7.56 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P20	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P20P	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• RPS
P20W	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P20G	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P21	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P21P	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P21W	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
flyphone	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P22P	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P22G	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P23G	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P23GW	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
P24G	V0.7.57 or later	37.9.0.20 or later	• PnP • DHCP • RPS
i86Box_Basic	V0.0.16.1 or later	37.9.0.20 or later	• PnP • DHCP • RPS
i86Box_Indoor	V0.0.16.1 or later	37.9.0.20 or later	• PnP

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
			• DHCP • RPS
i86Box_2Line	V0.0.16.1 or later	37.9.0.20 or later	• PnP • DHCP • RPS
i86Box_PCBA	V0.0.16.1 or later	37.9.0.20 or later	• PnP • DHCP • RPS
i86Box_NFC	V0.0.16.1 or later	37.9.0.20 or later	• PnP • DHCP • RPS

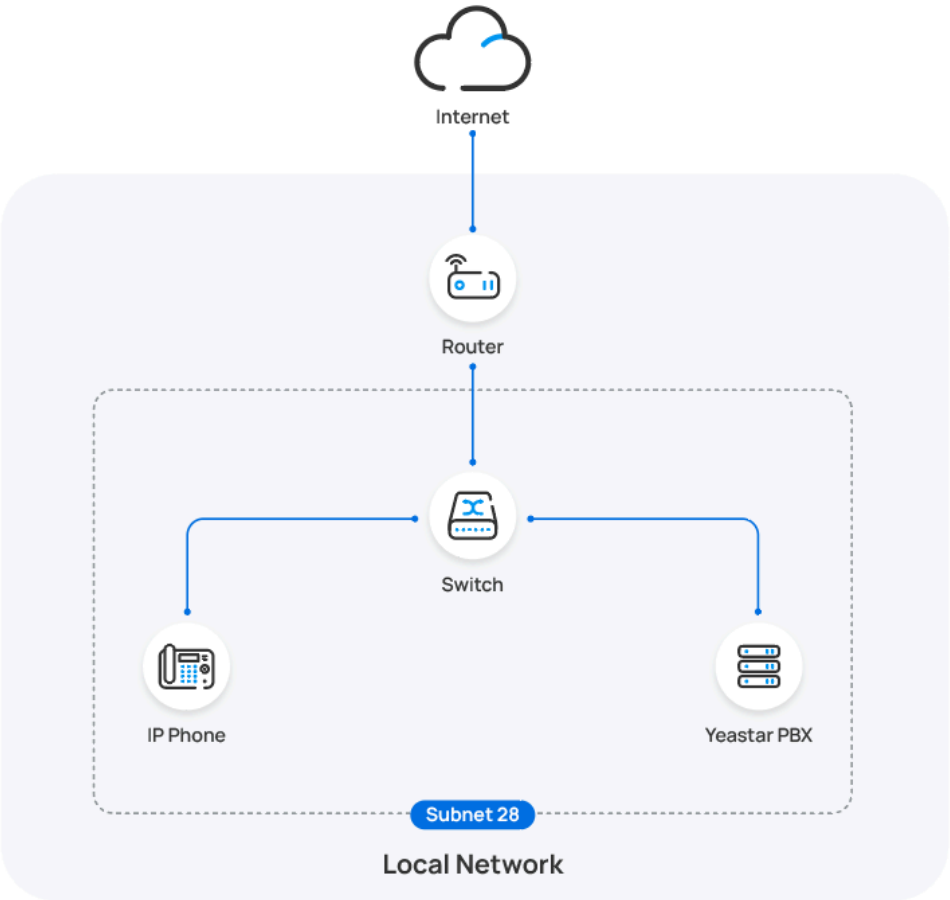
Scenarios

The provisioning methods and operations vary depending on the network environment of **Flyingvoice IP Phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Flyingvoice IP phone with the PBX via **PnP** method. For more information, see Auto provision a Flyingvoice IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets (LAN)	In this scenario, you can provision the Flyingvoice IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Flyingvoice IP phone in the different subnets (DHCP).
IP Phone and PBX are in DIFFERENT network	In this scenario, you can provision the Flyingvoice IP phone with the PBX via **RPS** method. For more information, see Auto provision a Flyingvoice IP phone in remote network (RPS).

Auto provision a Flyingvoice IP phone in the same subnet (PnP)

In this example, the Flyingvoice IP phone (IP: `192.168.28.194`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

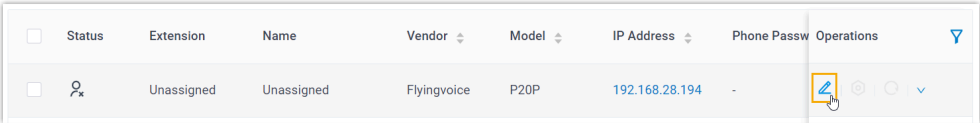
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

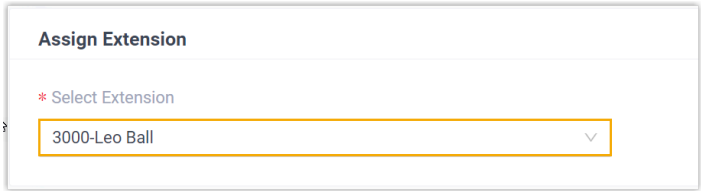
2. Click beside the Flyingvoice IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



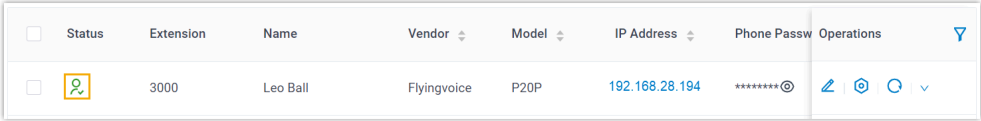
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

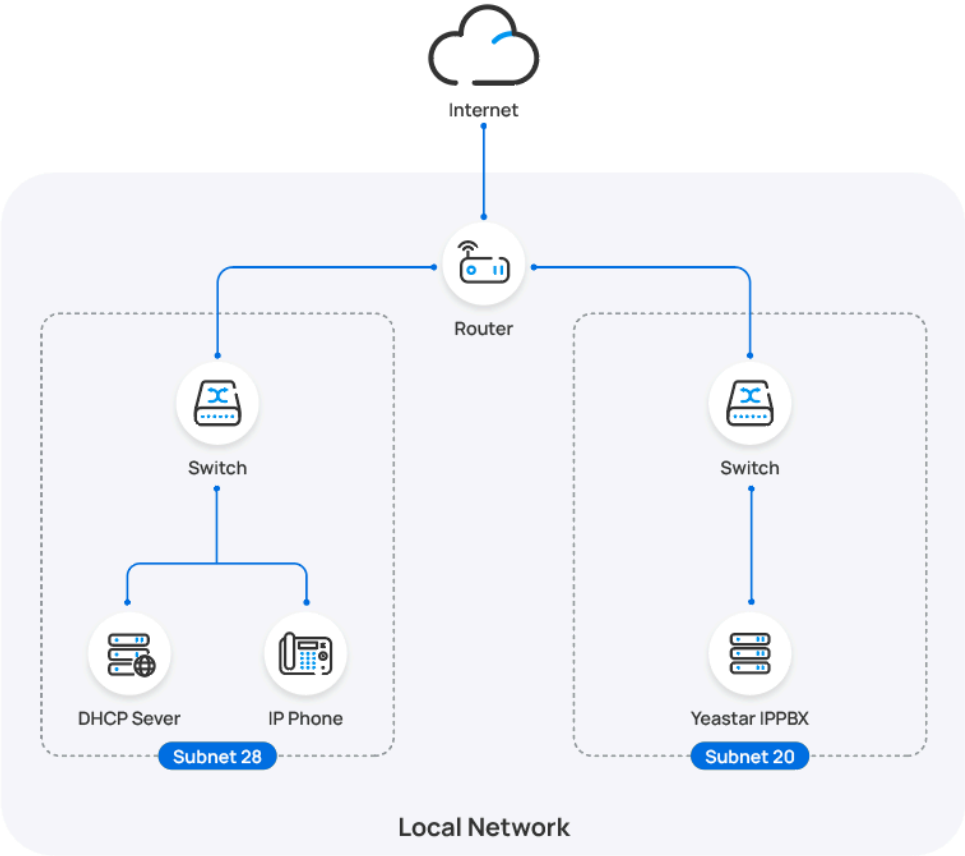
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Auto provision a Flyingvoice IP phone in the different subnets (DHCP)

In this example, the Flyingvoice IP phone and a DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

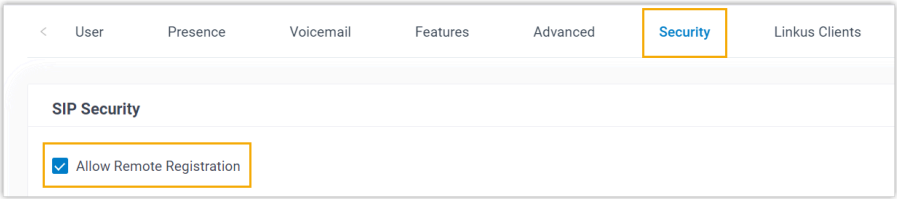
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Flyingvoice IP phone on PBX
- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

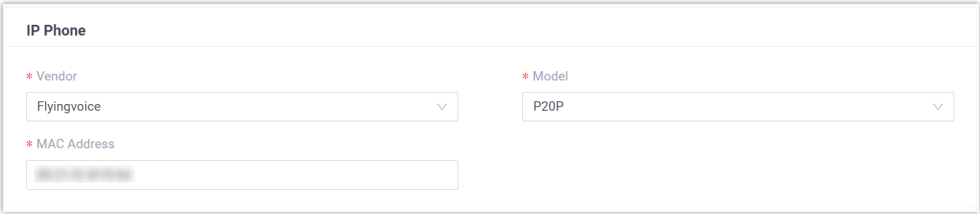
1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.



3. Click **Save** and **Apply**.

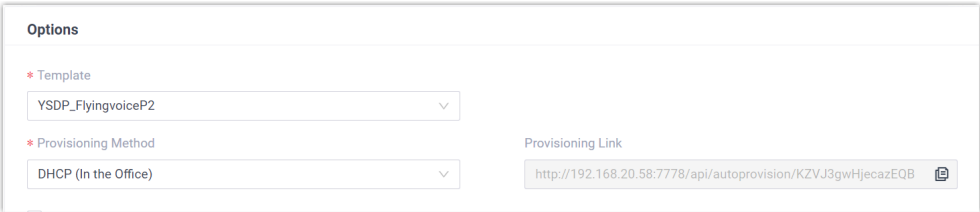
Step 2. Add the Flyingvoice IP phone on PBX

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Flyingvoice**.
- **Model**: Select the phone model. In this example, select **P20P**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



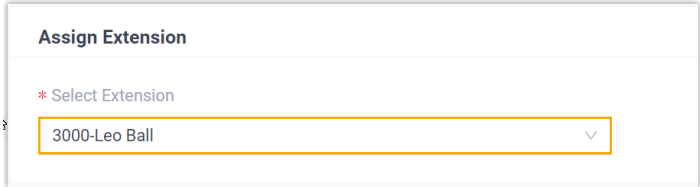
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template](#).

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**

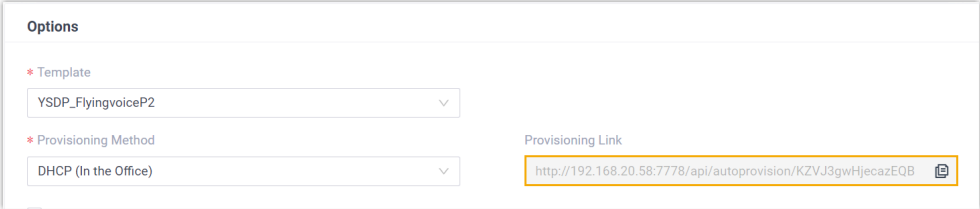
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

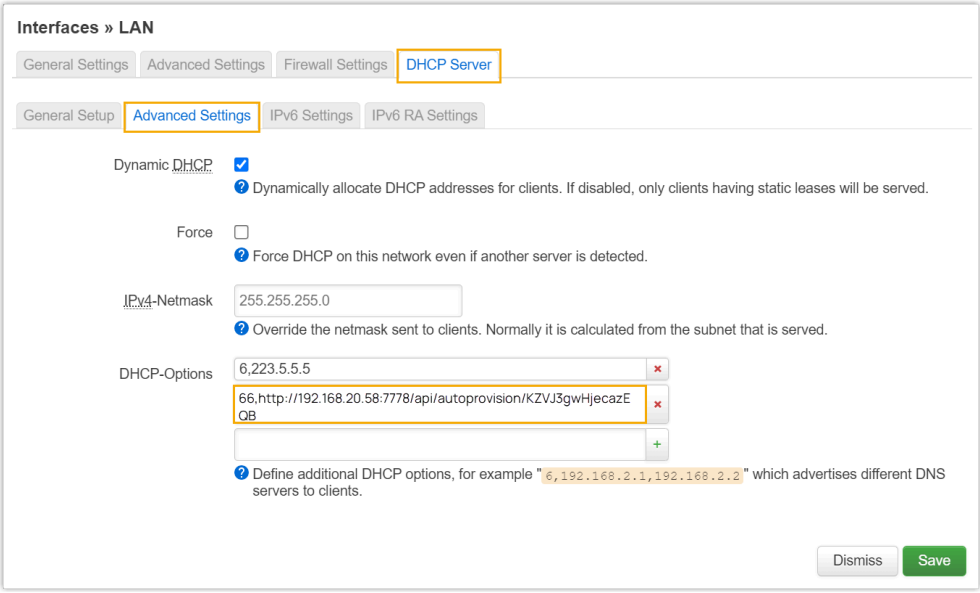
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

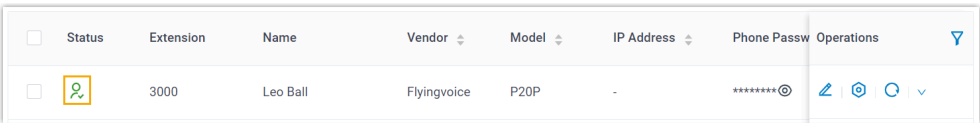
   In this example, the configuration on a router's DHCP server is shown below.



Result

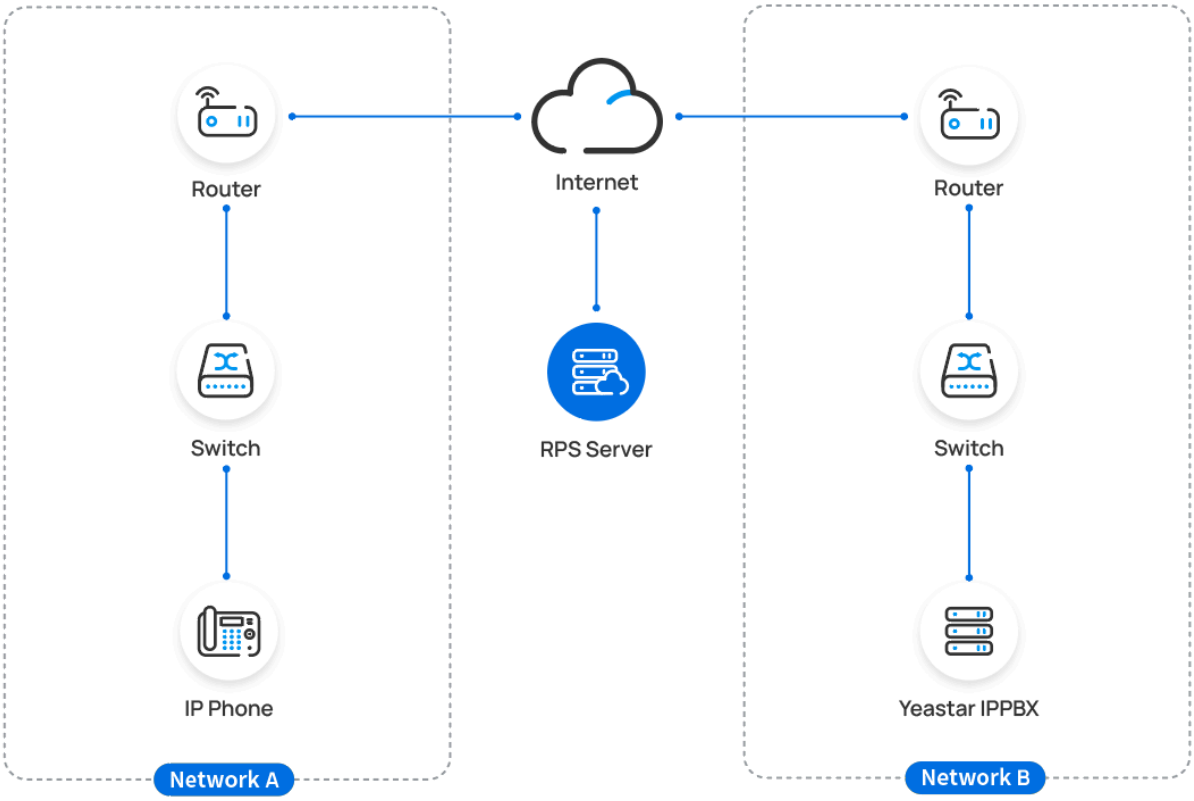
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Auto provision a Flyingvoice IP phone in remote network (RPS)

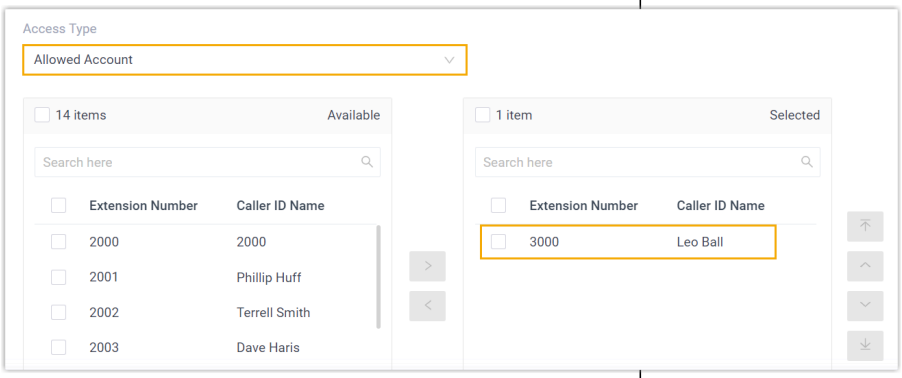
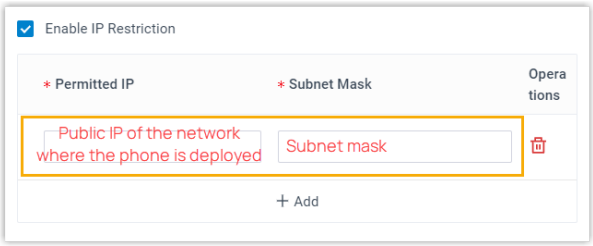
In this example, the Flyingvoice IP phone and the Yeastar PBX are deployed in different network.

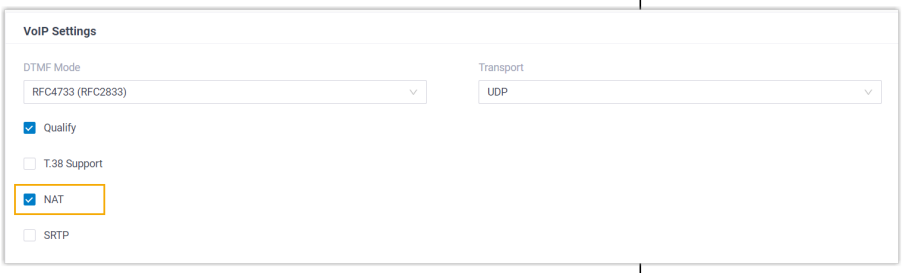
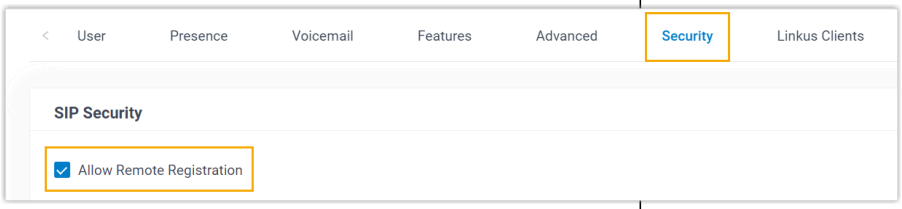


Prerequisites

Yeastar P-Series PBX System supports to auto provision a Flyingvoice phone remotely either using **Yeastar FQDN** or using **Public IP address / External Host domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote access permission for extension to be registered and the remote IP phones: ◦ Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

Method	Setting
	 ◦ If you have enabled IP restriction for Yeastar FQDN remote Web access, make sure that you have added the phone's IP address to the permitted IP list, so that the phone can obtain configuration files from the PBX (Path: **System > Network > Yeastar FQDN > Features > Remote Access > Web Access**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.
Using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. **Important:** The following PBX ports MUST be forwarded for RPS provisioning. ◦ RTP ports ◦ SIP port ◦ Web Server port • Set up the extension for remote registration.

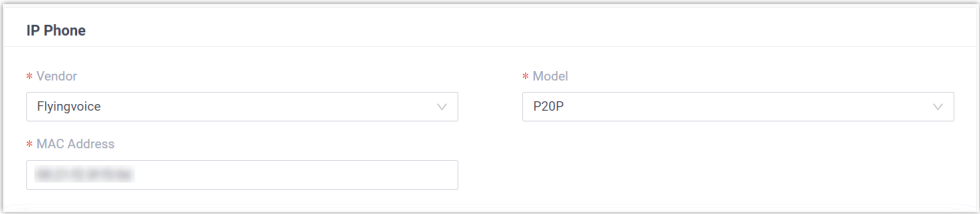
Method	Setting
	◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).  • Make sure that the IP phone and PBX can communicate with each other over the subnets. • Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**). • RESET the IP phone if it is previously used. • Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

- Step 1. Add the Flyingvoice IP phone on PBX
- Step 2. Trigger the IP phone to complete provisioning

Step 1. Add the Flyingvoice IP phone on PBX

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



- **Vendor**: Select **Flyingvoice**.
- **Model**: Select the phone model. In this example, select **P20P**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.

Figure 17. **RPS using Yeastar FQDN**

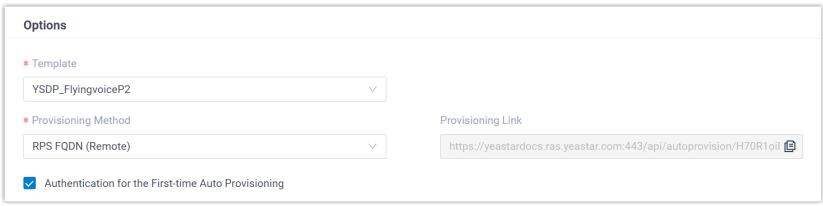
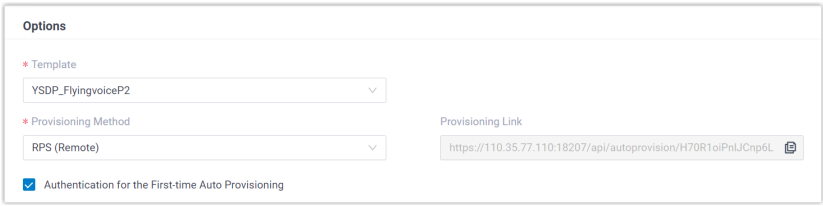


Figure 18. **RPS using Public IP Address / External Host domain name**



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see [Create a Custom Auto Provisioning Template](#).

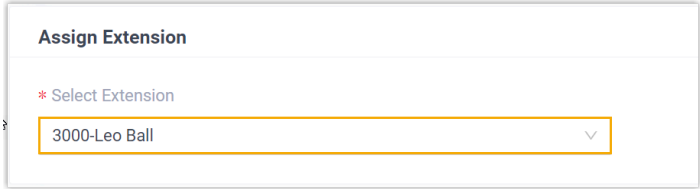
- **Provisioning Method**: Select **RPS FQDN (Remote)** or **RPS (Remote)** according to your need.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

- **Authentication for the First-time Auto Provisioning**: If enabled, users are requested to fill in authentication information on the IP phones before triggering the first-time provisioning.

> **Note:**
> We recommend that you keep this option selected.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

   The PBX will send an event notification of **RPS Request Success**.

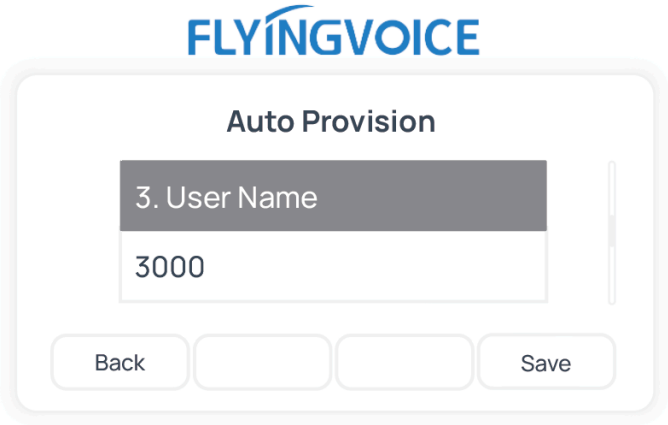
Step 2. Trigger the IP phone to complete provisioning

1. Reboot the IP phone.

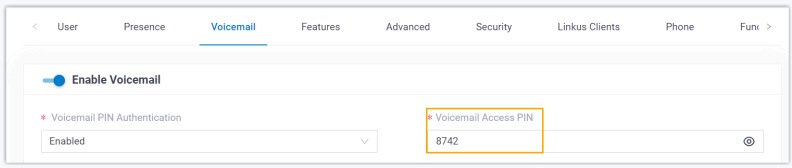
   After boot-up, the phone screen displays an HTTP Authentication prompt.
2. Press **OK**.

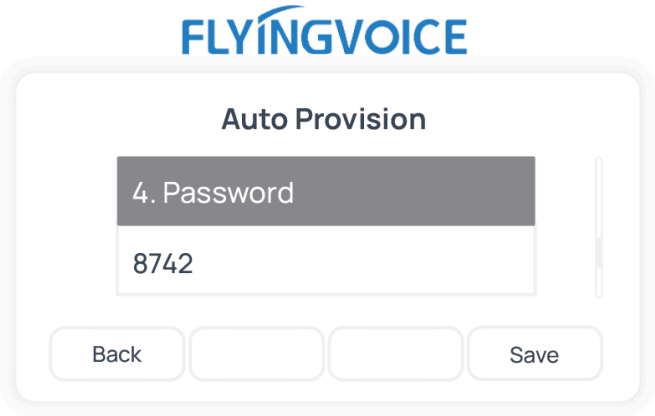
   You are redirected to the **Auto Provision** page.
3. In the **Auto Provision** page, complete the following configurations.

a. Scroll down to the **User Name** field, enter the extension number that is assigned to the phone.

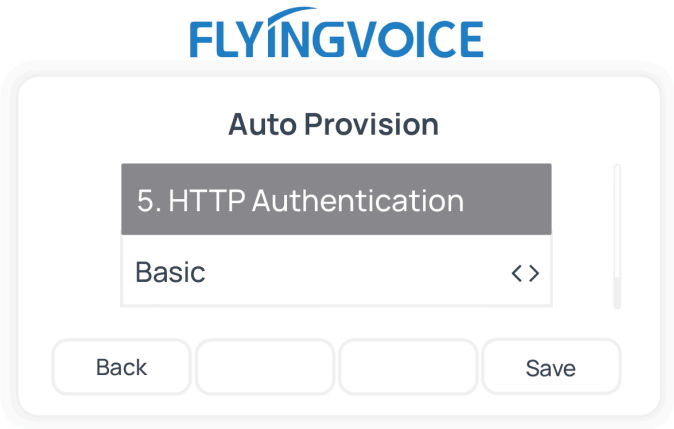


b. Scroll down to the **Password** field, enter the extension's Voicemail Access PIN.

> **Tip:**
> You can check the Voicemail Access PIN in the **Voicemail** tab on the extension's configuration page.
>
> 
>



c. Scroll down to the **HTTP Authentication** field, select **Basic**.



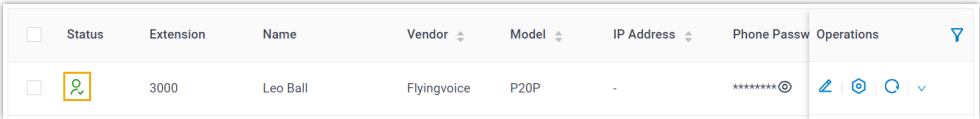
d. Press **Save** to save the configurations.

The phone screen displays a prompt, asking whether to update now.

e. Press **OK** to trigger the update.

Result

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Flyingvoice IP Phone with Yeastar P-Series PBX System

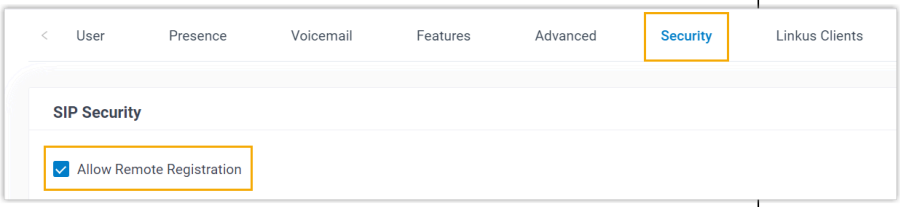
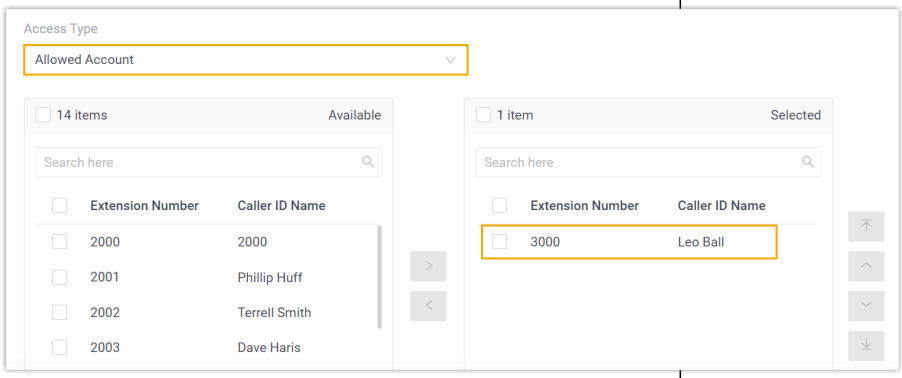
This topic takes Flyingvoice P20P (firmware: V0.8.18.6) as an example to introduce how to manually register an extension on a Flyingvoice IP phone.

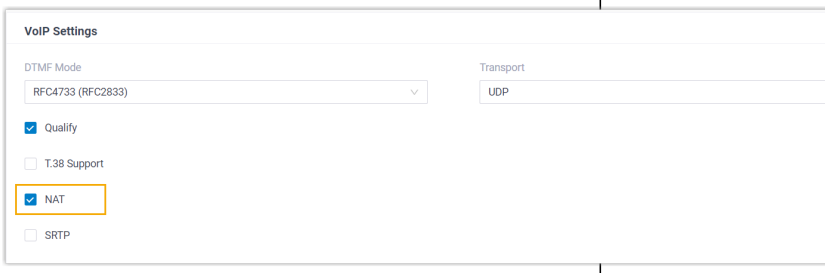
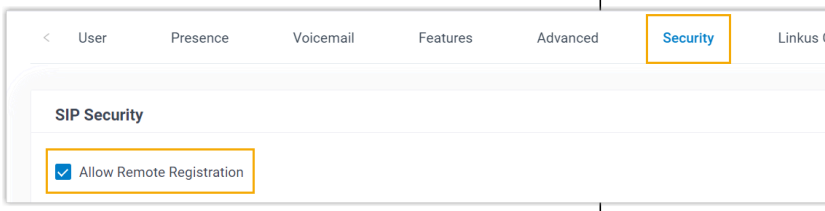
Supported devices

The Flyingvoice IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Flyingvoice IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration.

Network Environment		Setting
		◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

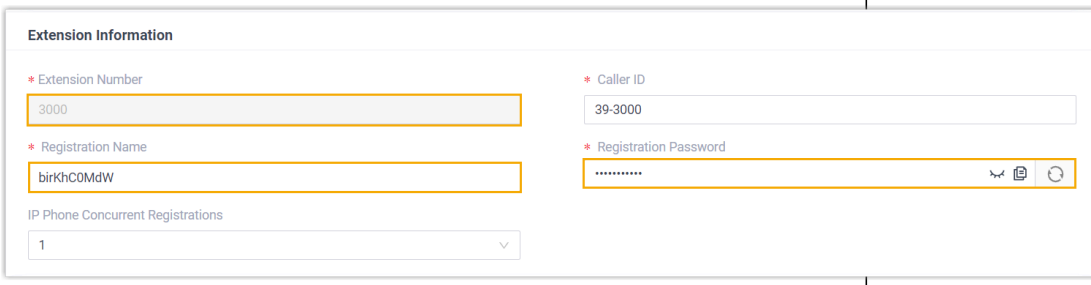
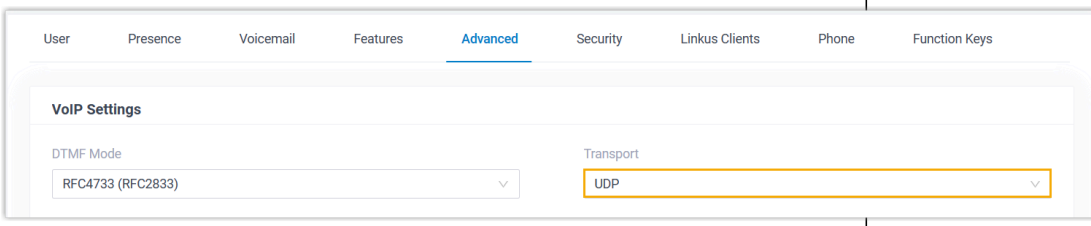
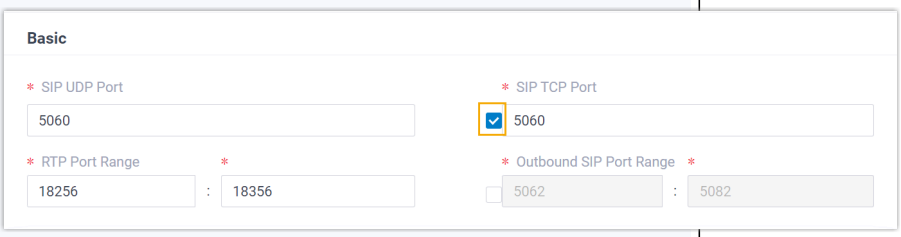
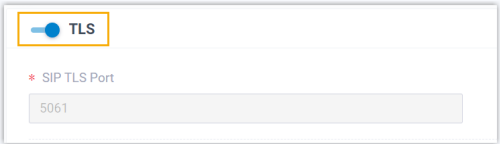
Procedure

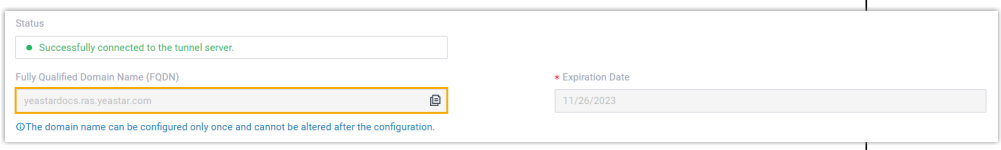
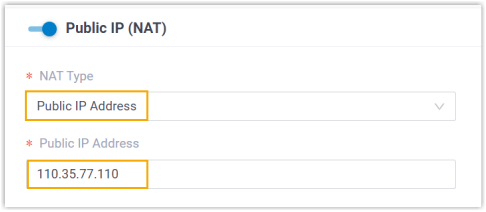
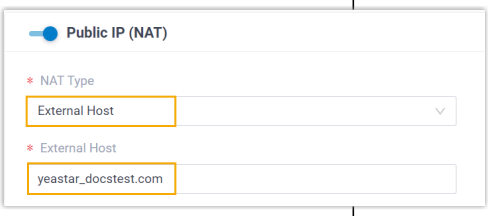
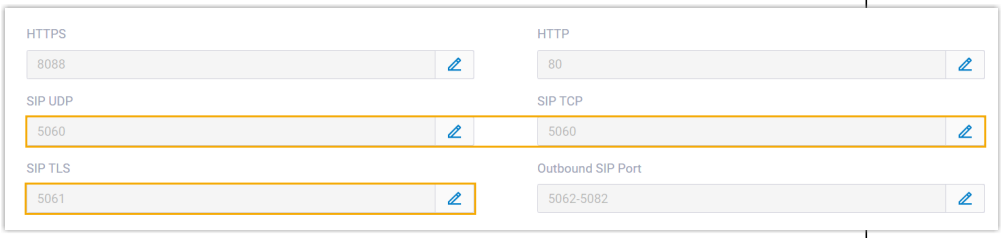
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Flyingvoice IP phone

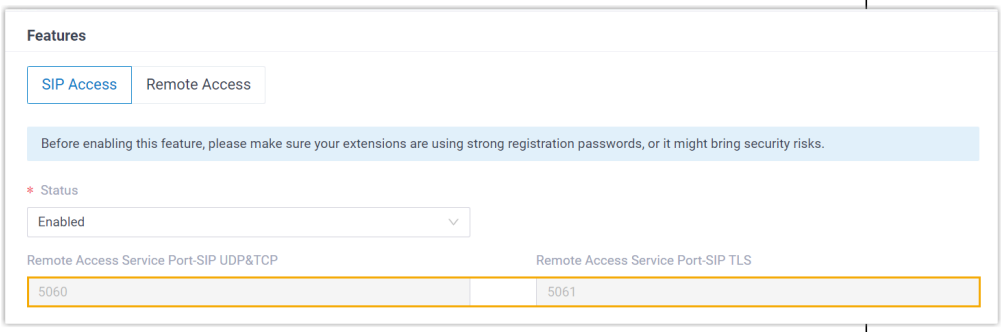
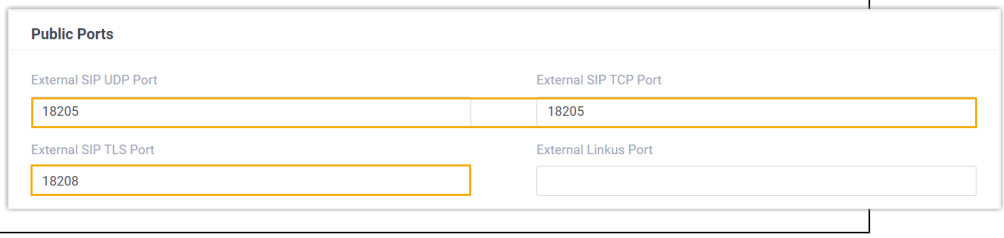
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password

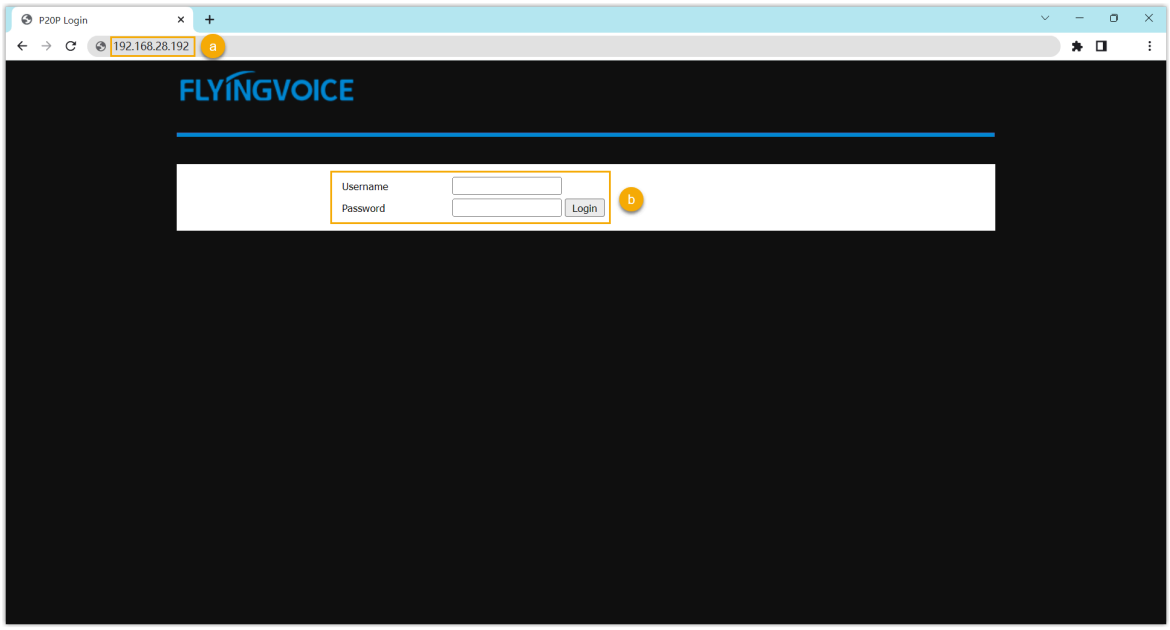
Information	Instruction
	
Transport protocol	Go to **Extension and Trunk > Extension >** **> Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).  • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network**

Information	Instruction
	In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN). 
	Scenario: Register extension remotely using Public IP address / External Host domain name Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol.

Information	Instruction
	 **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

Step 2. Register extension on Flyingvoice IP phone

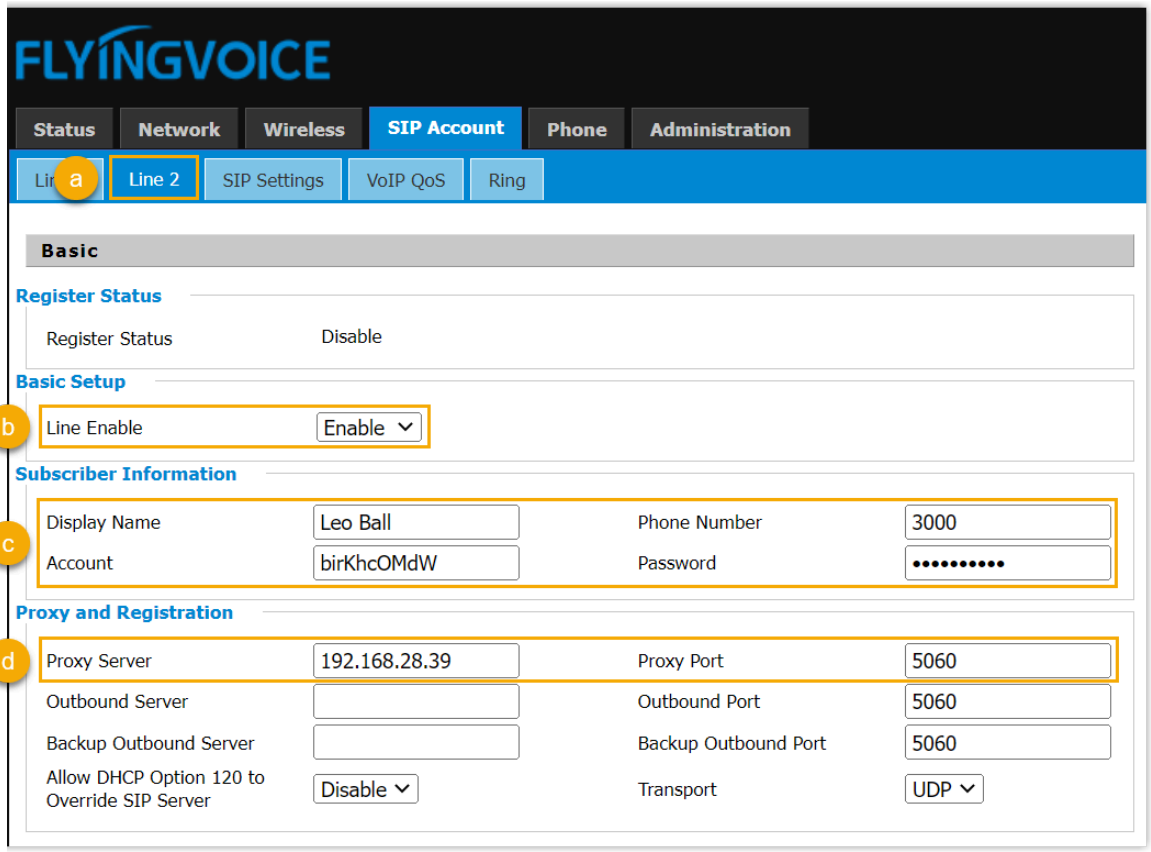
1. Log in to the web interface of the Flyingvoice IP phone.



a. In the browser's address bar, enter the IP address of the IP phone.
b. Enter the username `admin` and the associated password, then click **Login**.

   In this example, enter the default password `admin`.

2. Go to the **SIP Account** tab, complete the registration configurations.

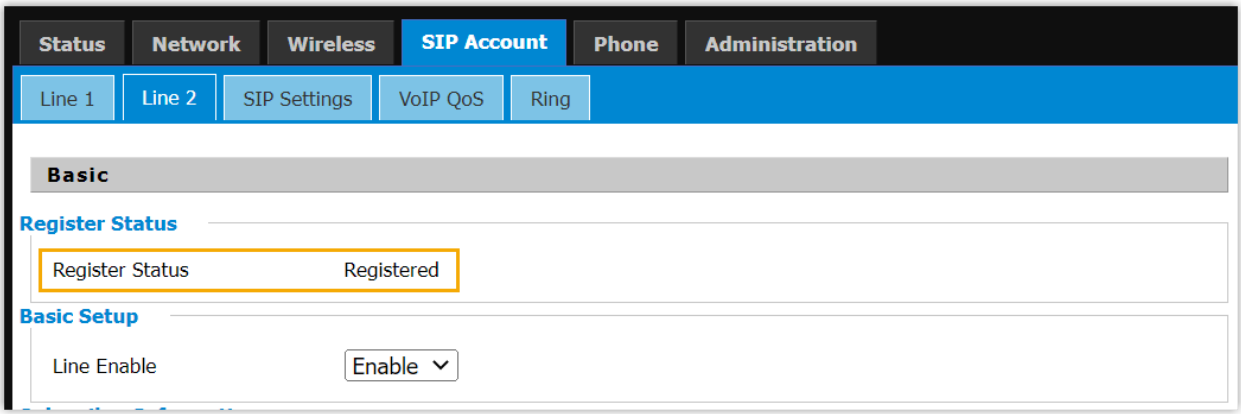


a. Select an available line.
b. In the **Line Enable** drop-down list, select **Enable**.
c. In the **Subscriber Information** section, enter the extension information.
   - **Display Name**: Enter the name associated with the account, which will be displayed on the phone screen.
   - **Phone Number**: Enter the extension number.
   - **Account**: Enter the registration name of the extension.
   - **Password**: Enter the registration password of the extension.
d. In the **Proxy and Registration** section, enter the PBX server information.
   - **Proxy Server**: Enter the IP address / domain name of the PBX.
   - **Proxy Port**: Enter the SIP registration port of the PBX.

3. At the bottom of the page, click **Save & Apply**.

Result

The extension is registered successfully. You can check the registration status in the **Register status** field.



Mitel

Auto Provision Mitel IP Phone with Yeastar P-Series PBX System

This topic takes Mitel 6867i (firmware: 5.0.0.1018) as an example to describe how to auto provision Mitel IP phones with Yeastar P-Series PBX System in Local Area Network (LAN).

Requirements and restrictions

Requirements

The firmwares of **Mitel IP phone** and **Yeastar PBX** meet the following requirements.

Table 3.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
6863i	R5.1.0SP6 or later	37.9.0.103 or later	• DHCP
6865i	R5.1.0SP6 or later	37.9.0.103 or later	• DHCP
6867i	R5.1.0SP6 or later	37.9.0.103 or later	• DHCP
6869i	R5.1.0SP6 or later	37.9.0.103 or later	• DHCP
6873i	R5.1.0SP6 or later	37.9.0.103 or later	• DHCP
6920	6.3.1 SP1 or later	37.9.0.103 or later	• DHCP
6930	6.3.1 SP1 or later	37.9.0.103 or later	• DHCP
6940	6.3.1 SP1 or later	37.9.0.103 or later	• DHCP

Restrictions

The following features are NOT supported on the provisioned Mitel IP phones:

- LDAP Directory
- Specific types of PBX function keys, including **LDAP Directory**, **DTMF**, **Intercom** and **Park & Retrieve**.

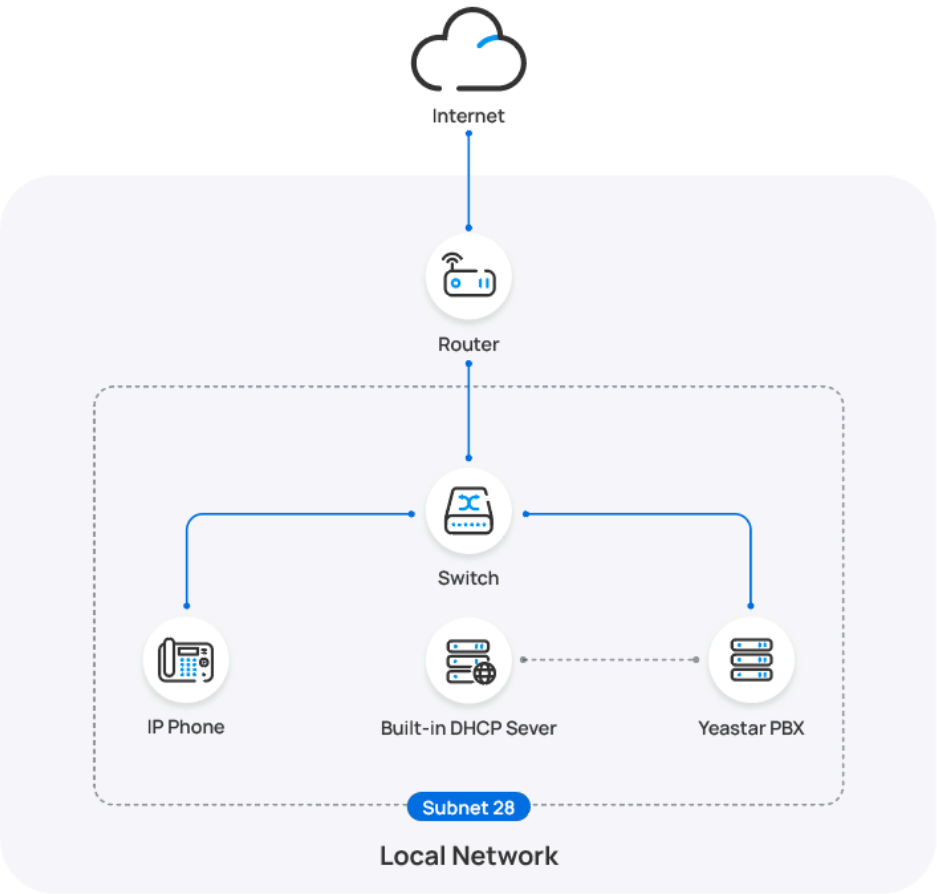
Scenarios

Yeastar P-Series PBX System supports to auto provision Mitel IP phone via **DHCP** method in the local network. The provisioning operations vary depending on the network environment of **Mitel IP phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet	In this scenario, you can provision the Mitel IP phone using the PBX built-in DHCP server to deliver a PBX-provided provisioning link to the IP phones. In this way, the phones can retrieve configurations from the PBX using the given link. **Note:** If there is already a DHCP server running in the subnet, you can directly set up **DHCP option 66 with PBX-provided provisioning link** on the DHCP server. For more information, see Auto provision a Mitel IP phone in the same subnet.
IP Phone and PBX are in DIFFERENT subnets	In this scenario, you can provision the Mitel IP phone using DHCP option 66 of a third-party DHCP server to deliver a PBX-provided provisioning link to the IP phones. In this way, the phones can retrieve configurations from the PBX using the given link. For more information, see Auto provision a Mitel IP phone in different subnets.

Auto provision a Mitel IP phone in the same subnet

In this example, the Mitel IP phone and the Yeastar PBX (IP: `192.168.28.118`) are both deployed in subnet 28.



Prerequisites

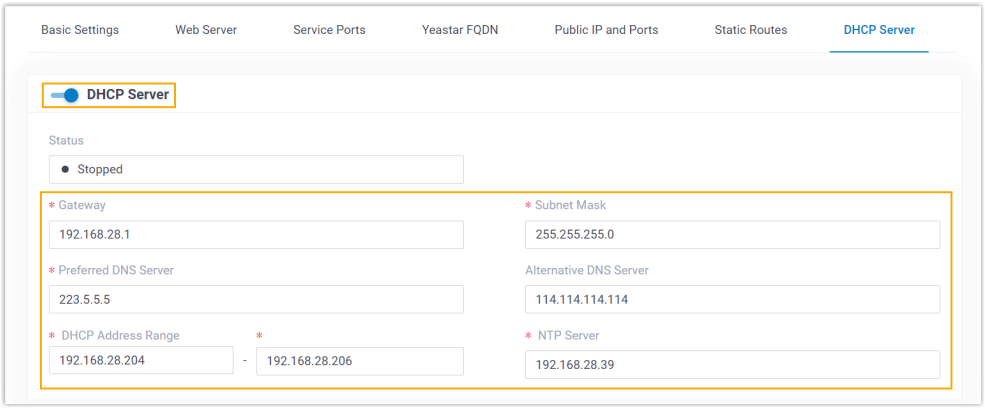
- Make sure that there is only one DHCP server running in the subnet, or the IP phone would fail to obtain an IP address.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

- Step 1. Set the PBX as a DHCP server
- Step 2. Add the Mitel IP phone on PBX

Step 1. Set the PBX as a DHCP server

1. Log in to PBX web portal, go to **System > Network**, click **DHCP Server** tab.
2. Turn on the **DHCP Server**, and complete the following network configurations.

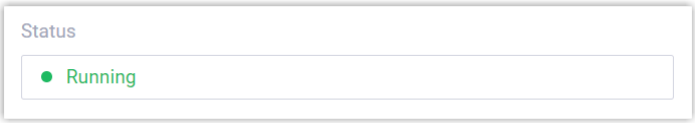


   - **Gateway**: Specify the IP address of the default gateway for the DHCP server.
   - **Subnet Mask**: Specify the subnet mask used to subdivide your IP address.
   - **Preferred DNS Server**: Specify a DNS server for the DHCP server.
   - **Alternative DNS Server**: Optional. Specify a secondary DNS server for the DHCP server.
   - **DHCP Address Range**: Specify the IP address range that will be allocated to DHCP clients.
   - **NTP Server**: Enter the IP address of an NTP server.

   > **Note:**
   > The default value is the IP address of the PBX, which can synchronize the network time of the client devices with the PBX.

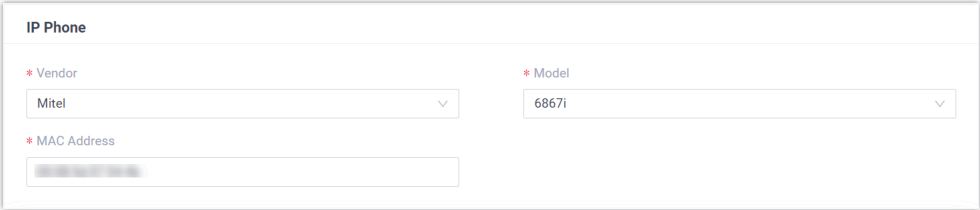
3. Click **Save**.

   The **Status** field displays **Running**, indicating the DHCP server is running.

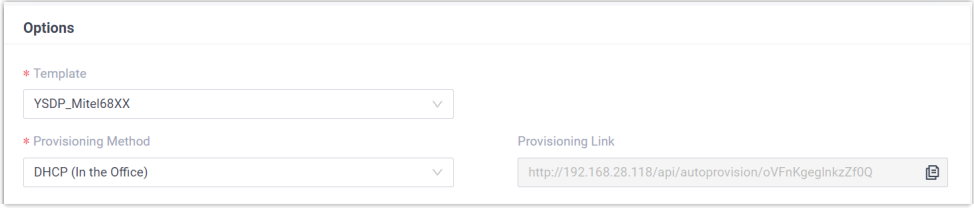


Step 2. Add the Mitel IP phone on PBX

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Mitel**.
   - **Model**: Select the phone model. In this example, select **6867i**.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.

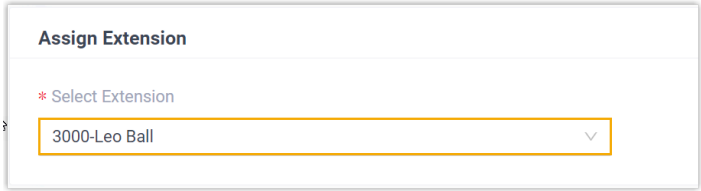


   - **Template**: Select a desired template from the drop-down list.

     > **Note:**
     > You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

   - **Provisioning Method**: Select **DHCP (In the Office)**.

     A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.
5. In the **Assign Extension** section, assign an extension to the IP phone.

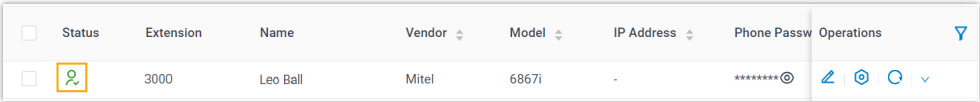


> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.
7. Reboot the IP phone manually.

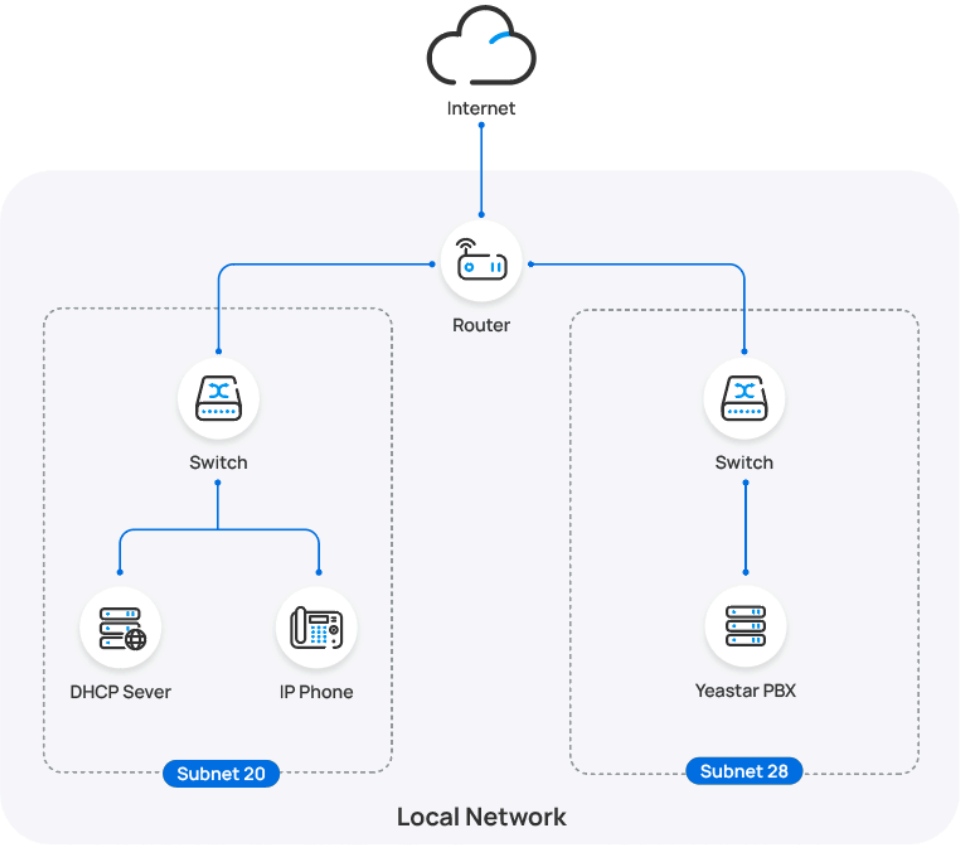
Result

- After the phone is rebooted, it gets an IP address from the PBX built-in DHCP server, download the configurations from the PBX and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the extension registration status on **Auto Provisioning > Phones** on the PBX web portal.



Auto provision a Mitel IP phone in different subnets

In this example, the Mitel IP phone and DHCP server are deployed in subnet 20, while the Yeastar PBX (IP: `192.168.28.118`) is deployed in subnet 28.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.
- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

Procedure

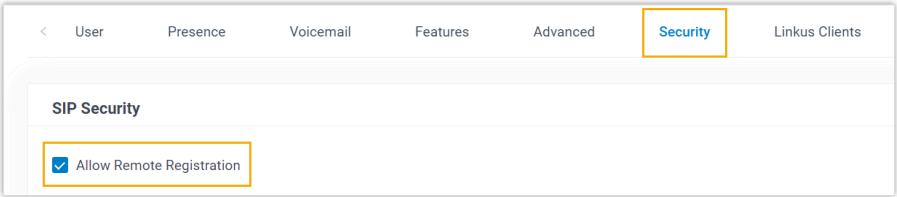
- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Mitel IP phone on PBX

- Step 3. Configure DHCP option 66 on DHCP server
- Step 4. Turn off certificate validation on the phone

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

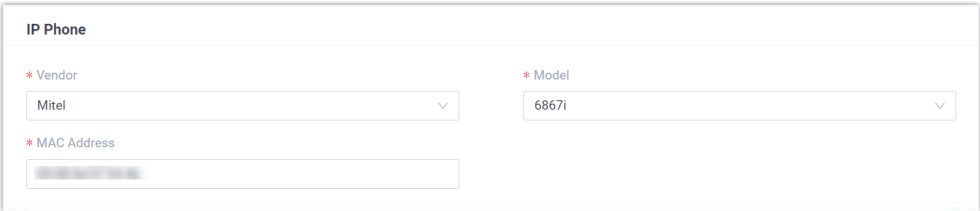


3. Click **Save** and **Apply**.

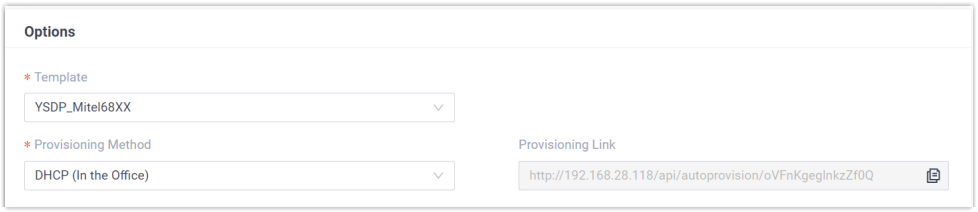
Step 2. Add the Mitel IP phone on PBX

Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, enter the following phone information.



   - **Vendor**: Select **Mitel**.
   - **Model**: Select the phone model. In this example, select **6867i**.
   - **MAC Address**: Enter the MAC address of the IP phone.
4. In the **Options** section, configure the following settings.



- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.

> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

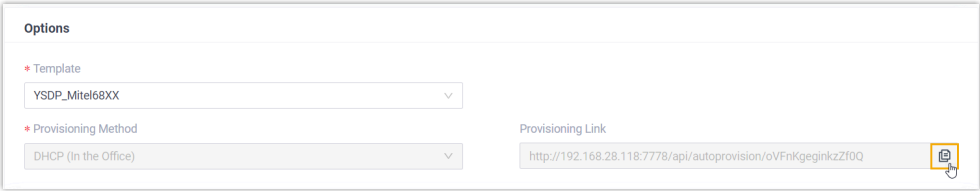
6. Click **Save**.

7. Reboot the IP phone manually.

Step 3. Configure DHCP option 66 on DHCP server

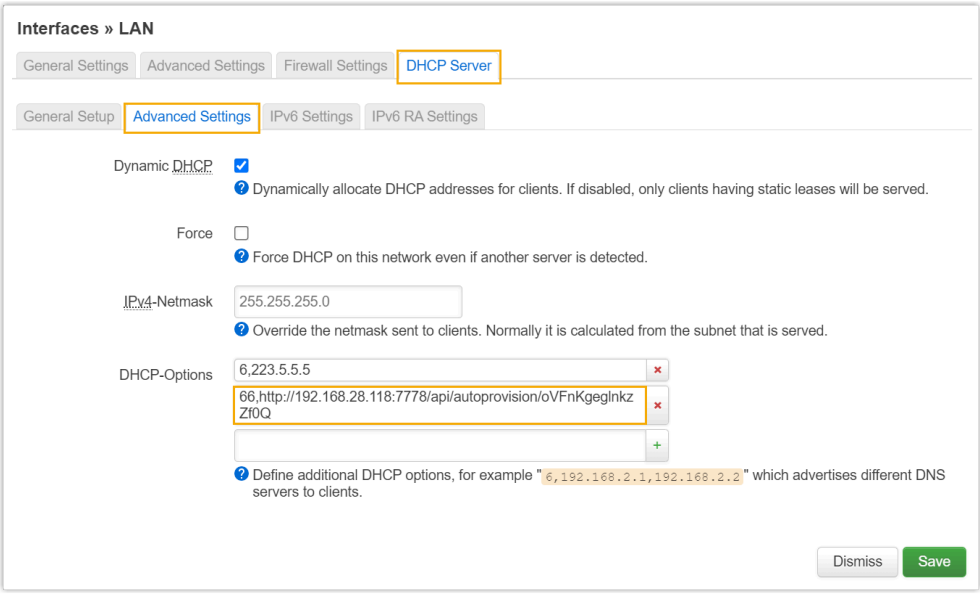
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

   In this example, the configuration is shown below.

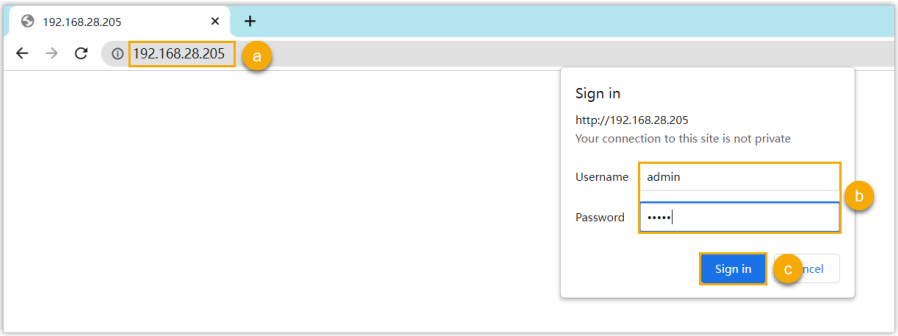


Step 4. Turn off certificate validation on the phone

Some older Mitel phones don't have certain necessary certificates, so they would not be able to download configuration files from the PBX due to the certification validation issue. In this case, you have to turn off the certificate validation on the IP phone to bypass the authentication between the PBX and the phone.

> **Important:**
> It is strongly recommended that you use a trusted certificate, as disabling server validation may introduce security risks on the network.

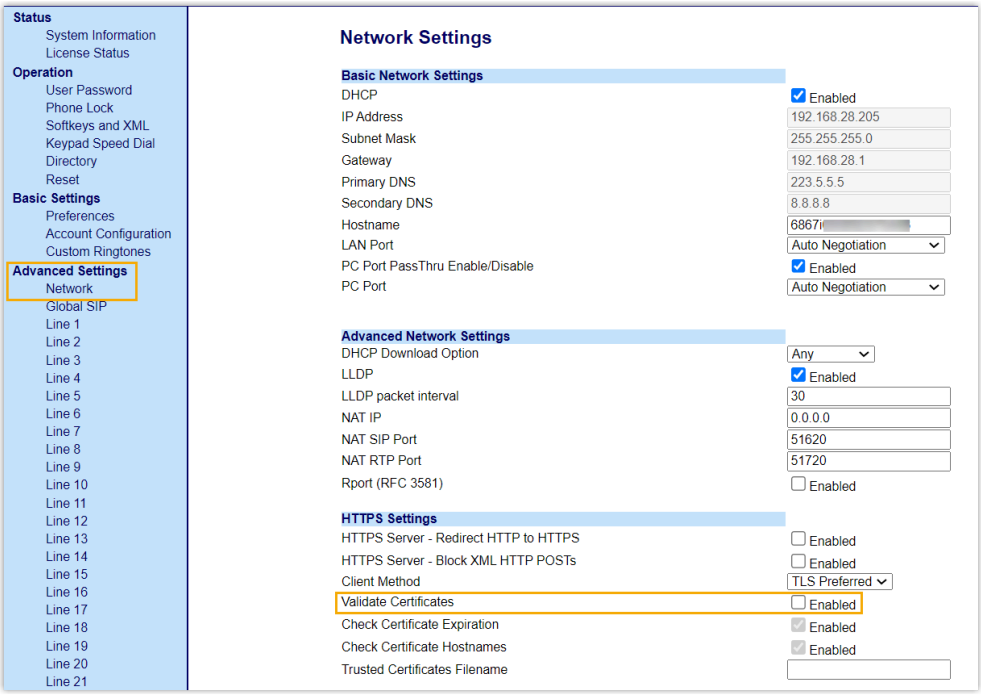
1. Log in to the web interface of the Mitel IP phone.



   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `22222`.
   c. Click **Sign in**.

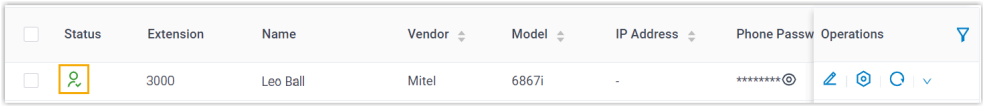
2. On the left navigation bar, go to **Advanced Settings > Network > HTTPS Settings**, then unselect the checkbox of **Enabled** beside the **Validate Certificates**.



3. Click **Save Settings**.
4. Reboot the phone manually.

Result

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the extension registration status on **Auto Provisioning > Phones** on the PBX web portal.



Manually Register Mitel IP Phone with Yeastar P-Series PBX System

This topic takes Mitel 6867i (firmware: 5.0.0.1018) as an example to introduce how to manually register an extension on a Mitel IP phone.

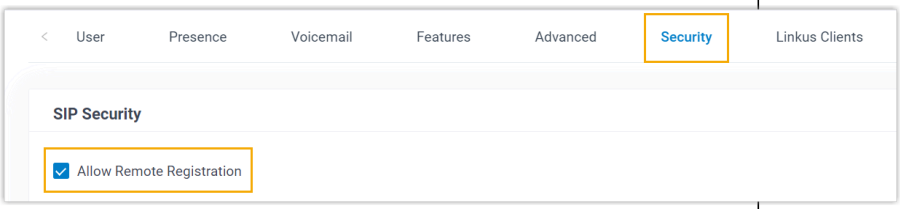
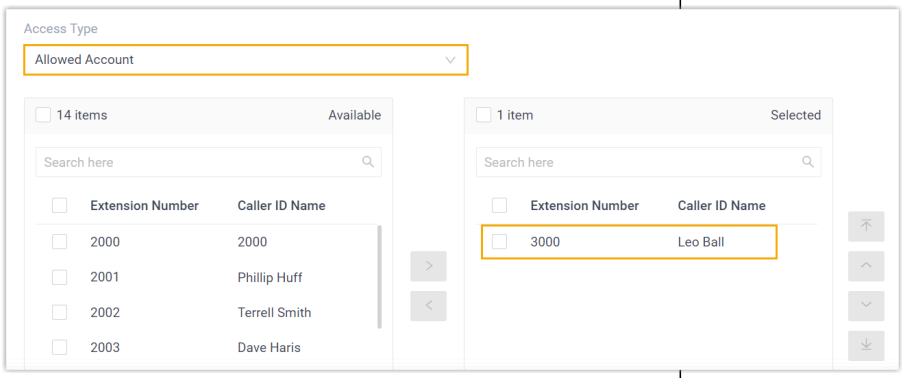
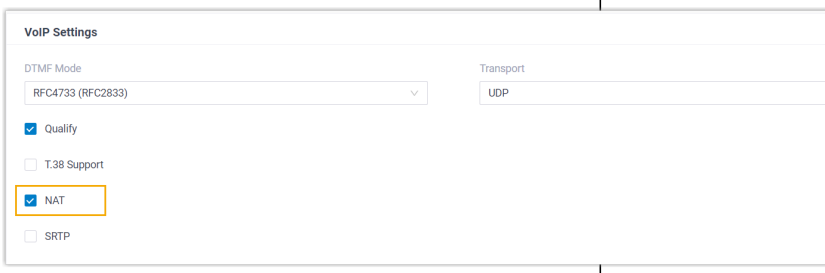
Supported devices

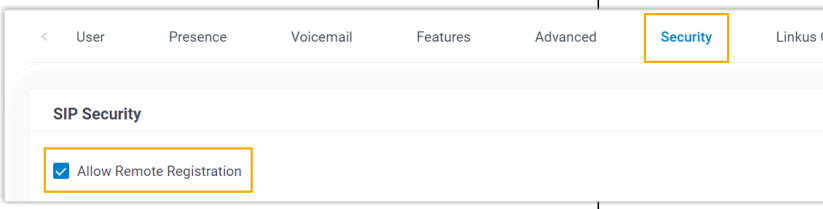
The Mitel IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Mitel IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).

Network Environment		Setting
		
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**). 
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**).

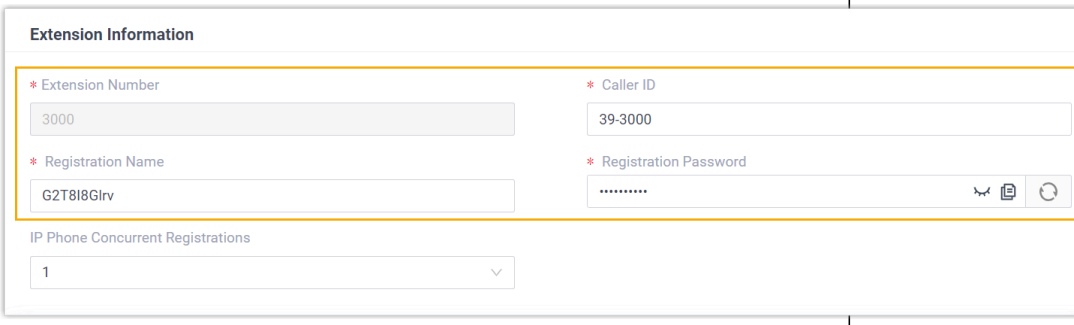
Network Environment		Setting
		

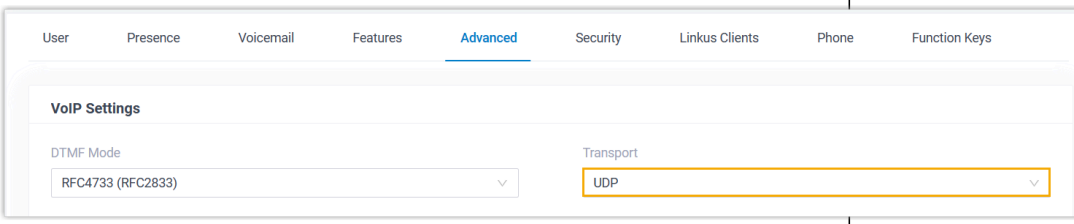
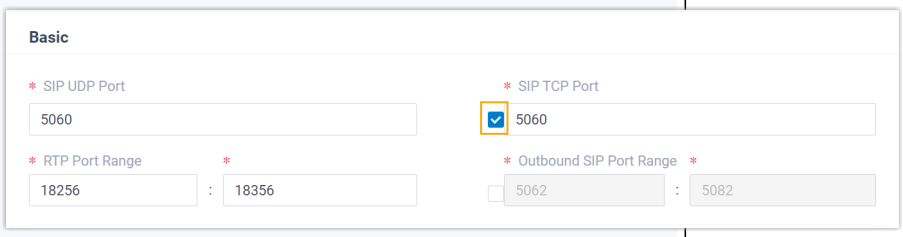
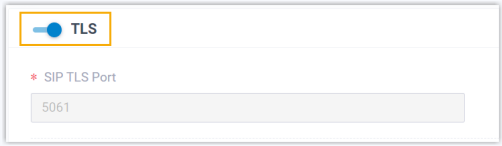
Procedure

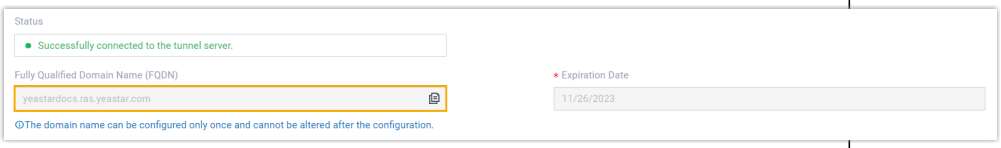
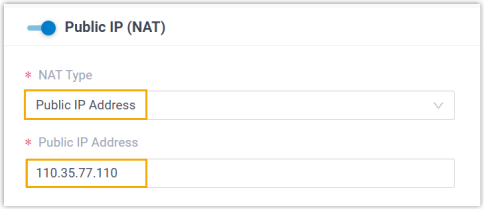
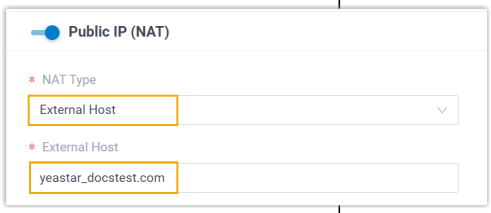
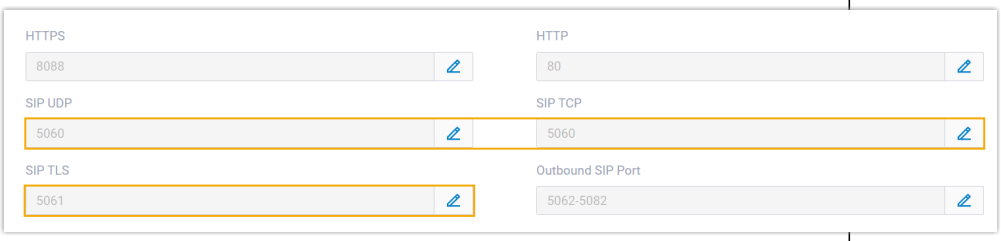
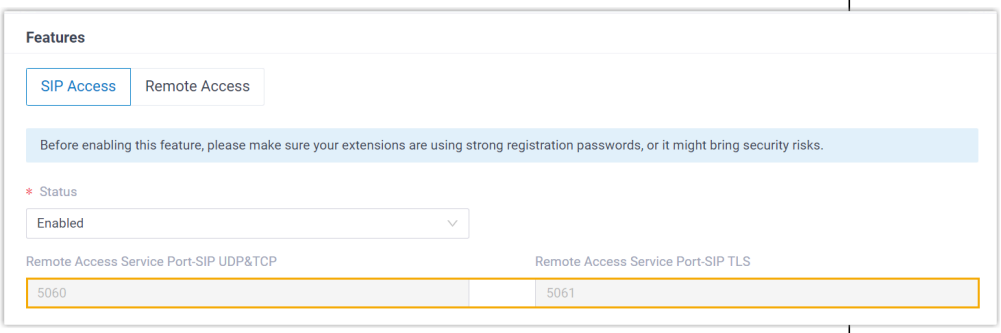
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Mitel IP phone

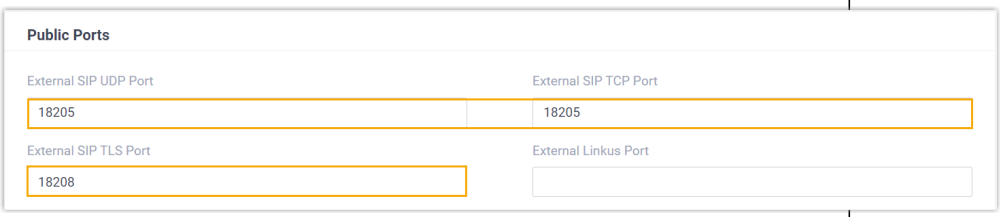
Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Caller ID • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.

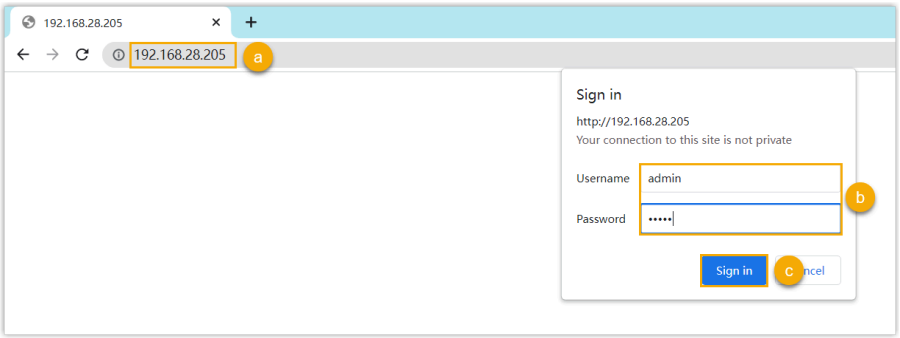
Information	Instruction
	 **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**).  • If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`.
	Scenario: Register extension remotely using Yeastar FQDN Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).

Information	Instruction
	 **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.  In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol.  **Scenario: Register extension remotely using Public IP address / External Host domain name**

Information	Instruction
	Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

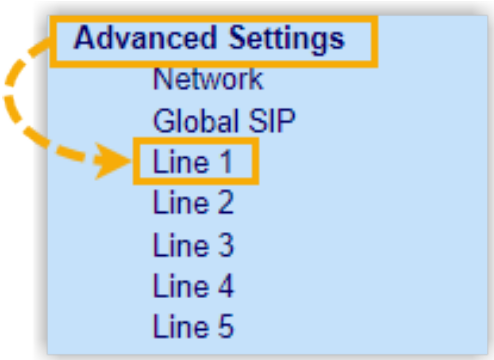
Step 2. Register extension on Mitel IP phone

1. Log in to the web interface of the Mitel IP phone.



   a. In the browser's address bar, enter the IP address of the IP phone.
   b. Enter the username `admin` and the associated password.

      In this example, enter the default password `22222`.
   c. Click **Sign in**.
2. On the left navigation bar, go to **Advanced Settings**, then select an available line.



3. Complete the registration configurations.

a. In the **Basic SIP Authentication Settings** section, enter the extension information.

Basic SIP Authentication Settings	
Screen Name	Leo Ball
Screen Name 2	
Phone Number	3000
Caller ID	39-3000
Authentication Name	birKhcOMdW
Password	••••••••••
BLA Number	
Line Mode	Generic
Call Waiting	Global

- **Screen Name**: Enter the name associated with the account, which will be displayed on the phone screen.
- **Phone Number**: Enter the extension number.
- **Caller ID**: Optional. Enter the caller ID number of the extension, which will be displayed on the callee's device.
- **Authentication Name**: Enter the registration name of the extension.
- **Password**: Enter the registration password of the extension.

b. In the **Basic SIP Network Settings** section, enter the PBX server information and set the registration period.

Basic SIP Network Settings	
Proxy Server	192.168.28.39
Proxy Port	5060
Backup Proxy Server	0.0.0.0
Backup Proxy Port	0
Outbound Proxy Server	0.0.0.0
Outbound Proxy Port	0
Backup Outbound Proxy Server	0.0.0.0
Backup Outbound Proxy Port	0
Registrar Server	192.168.28.39
Registrar Port	5060
Backup Registrar Server	0.0.0.0
Backup Registrar Port	0
Registration Period	1800
Conference Server URI	

- **Proxy Server**: Enter the IP address / domain name of the PBX.
- **Proxy Port**: Enter the SIP registration port of the PBX.
- **Registrar Server**: Enter the IP address / domain name of the PBX.
- **Registrar Port**: Enter the SIP registration port of the PBX.
- **Registration Period**: Optional. Set the registration period.

> **Tip:**
> You can check the available range of the registration time on **PBX Settings > SIP Settings > General > SIP Endpoint Registration Timer** in the PBX web portal.

4. Click **Save Settings**.
5. Reboot the IP phone to make the configurations take effect.

Result

The extension is registered successfully. You can check the registration status on **Status > System Information > SIP Status** on the phone's web interface.

SIP Status

Line	SIP Account	Status	Backup Registrar Used?
1	3000@192.168.28.39:5060	Registered	No

Dinstar

Auto Provision Dinstar IP Phone with Yeastar P-Series PBX System

This topic takes Dinstar C60S (firmware: 2.60.11.7.0) as an example to describe how to auto provision Dinstar IP phone with Yeastar P-Series PBX System in Local Area Network (LAN).

Requirements

The firmwares of **Dinstar IP phone** and **Yeastar PBX** meet the following requirements.

Table 4.

Model	Phone Requirement	PBX Requirement	Supported Auto Provisioning Method
C60S	2.60.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C60L	2.60.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C60U	2.60.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C61S	2.61.6.7.0/2.61.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C62S	2.62.6.7.0/2.62.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C62G	2.62.6.7.0/2.62.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C63S	2.63.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C63G	2.63.6.7.0/2.63.11.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C64G	2.64.6.7.0 or later	37.6.0.24 or later	• PnP • DHCP
C66G	2.66.6.7.0 or later	37.6.0.24 or later	• PnP • DHCP

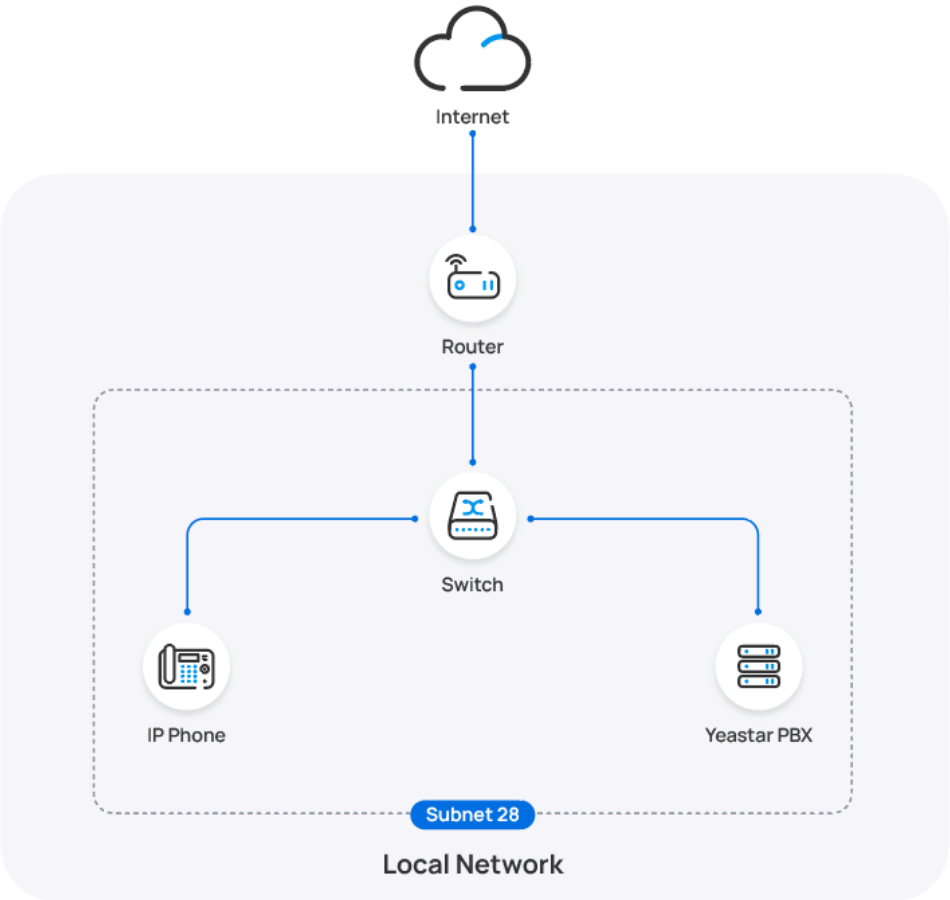
Scenarios

The provisioning methods and operations vary depending on the network environment of **Dinstar IP phone** and **Yeastar PBX**, as the following table shows.

Scenario	Description
IP Phone and PBX are in the SAME subnet	In this scenario, you can provision the Dinstar IP phone with the PBX via **PnP** method. For more information, see Auto provision a Dinstar IP phone in the same subnet (PnP).
IP Phone and PBX are in DIFFERENT subnets	In this scenario, you can provision the Dinstar IP phone with the PBX via **DHCP** method. For more information, see Auto provision a Dinstar IP phone in different subnets (DHCP).

Auto provision a Dinstar IP phone in the same subnet (PnP)

In this example, the Dinstar IP phone (IP: `192.168.28.192`) and the Yeastar PBX (IP: `192.168.28.39`) are both deployed in subnet 28.



Prerequisites

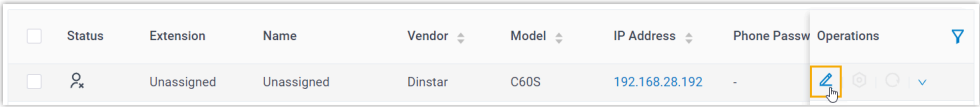
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- If the IP phone is previously used, you need to RESET the IP phone, then re-configure the network settings for the phone.

Procedure

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

   The IP phones detected by the PBX via PnP are displayed in the phone list.

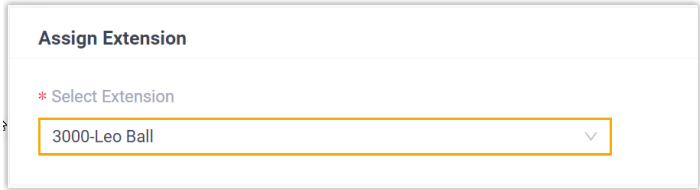
2. Click beside the Dinstar IP phone.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

4. In the **Assign Extension** section, assign an extension to the IP phone.



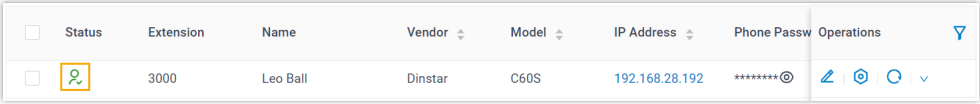
> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.
>
> - To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
> - To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

5. Click **Save**.

Result

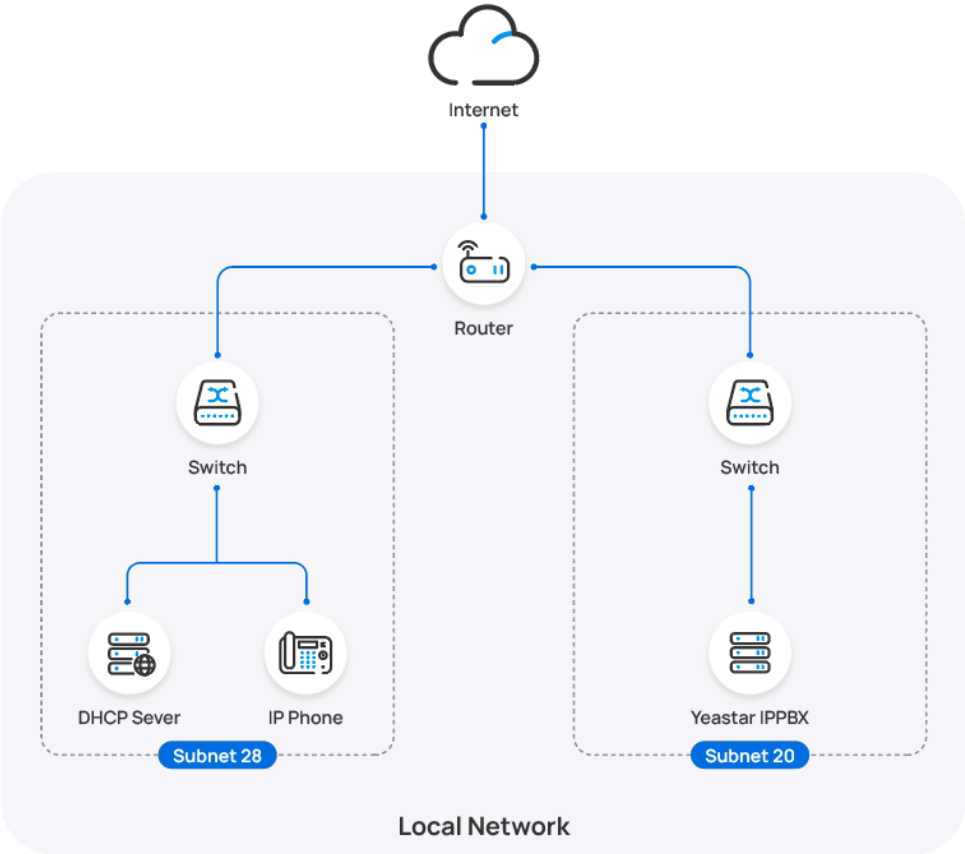
> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- The IP phone automatically downloads the configurations from the PBX and applies the settings.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** in PBX web portal.



Auto provision a Dinstar IP phone in different subnets (DHCP)

In this example, the Dinstar IP phone and DHCP server are deployed in subnet 28, while the Yeastar PBX (IP: `192.168.20.58`) is deployed in subnet 20.



Prerequisites

- Make sure that there is only one DHCP server running in the subnet where the IP phone is deployed, or the IP phone would fail to obtain an IP address.

- Make sure that the IP phone and PBX can communicate with each other over the subnets.
- Make sure that you have downloaded the template for the desired phone model (Path: **Auto Provisioning > Resource Repository > Default Templates**).
- RESET the IP phone if it is previously used.
- Gather information of IP phone, including Vendor, Model, and MAC address.

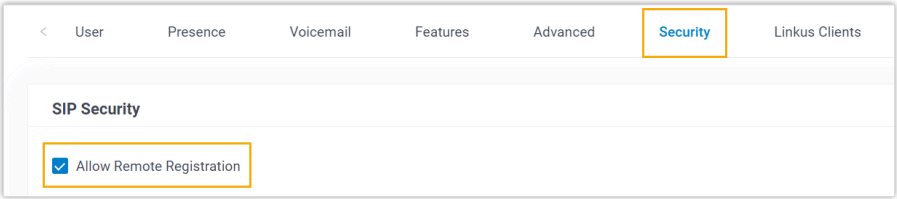
Procedure

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Dinstar IP phone on the PBX
- Step 3. Configure DHCP option 66 on DHCP server

Step 1. Enable Remote Registration feature for the extension on PBX

Enable the Remote Registration feature for the extension to be assigned to the phone, so that the extension can be registered in a different subnet.

1. Log in to PBX web portal, go to **Extension and Trunk > Extension**, edit the desired extension.
2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

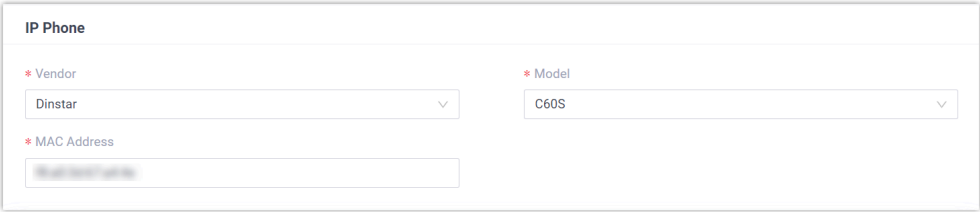


3. Click **Save** and **Apply**.

Step 2. Add the Dinstar IP phone on the PBX

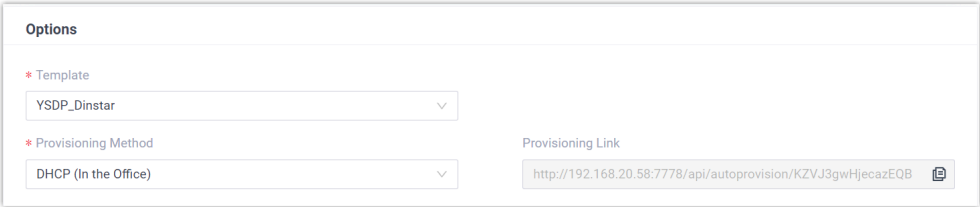
Add the IP phone on PBX. The PBX will generate a configuration file based on the phone's MAC address.

1. On PBX web portal, go to **Auto Provisioning > Phones**.
2. Click **Add > Add**.
3. In the **IP Phone** section, configure phone information as follows:



- **Vendor**: Select **Dinstar**.
- **Model**: Select a phone model. In this example, select **C60S**.
- **MAC Address**: Enter the MAC address of the IP phone.

4. In the **Options** section, configure the following settings.



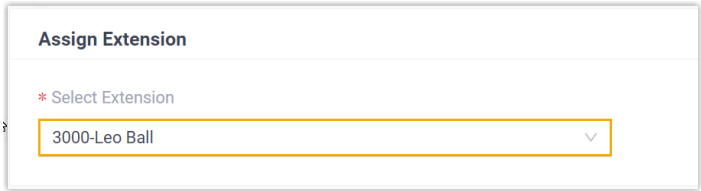
- **Template**: Select a desired template from the drop-down list.

> **Note:**
> You can select the default template corresponding to the phone model, or customize your own template. For more information, see Create a Custom Auto Provisioning Template.

- **Provisioning Method**: Select **DHCP (In the Office)**.

  A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the phone's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the IP phone.



> **Note:**
> If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with an IP phone or gateway.

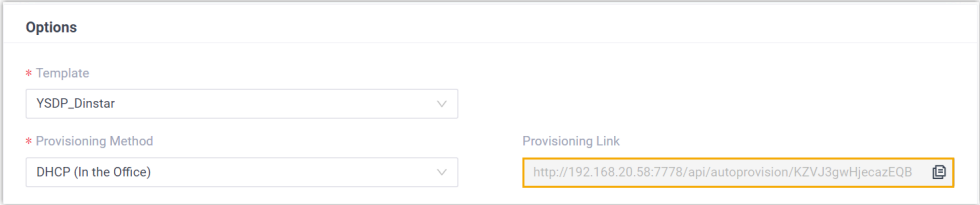
- To release the extension from the associated IP phone or gateway, see Release an Extension from a Provisioned IP Phone/Gateway.
- To assign the extension to the phone without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension, as the PBX only allows an extension to register with one SIP endpoint by default.

6. Click **Save**.

Step 3. Configure DHCP option 66 on DHCP server

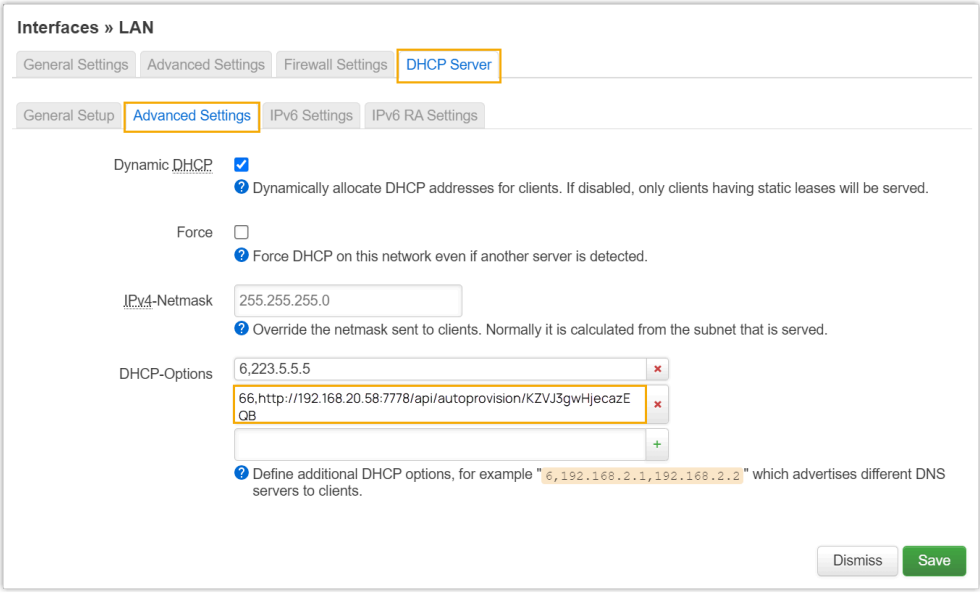
In the subnet where the IP phone is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the phone's detail page.



2. On the DHCP server, set up option 66 with the provisioning link.

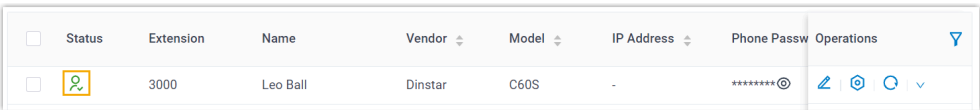
   In this example, the configuration on a router's DHCP server is shown below.



Result

> **Note:**
> Some IP phones will reboot automatically. If not, you need to manually reboot the phone to make the configurations take effect.

- After the IP phone is rebooted, it gets an IP address from the DHCP server, downloads the configurations from the PBX via the provisioning link, and applies the settings automatically.
- The extension is successfully registered on the IP phone. You can check the registration status on **Auto Provisioning > Phone** on the PBX web portal.



Related information

[Auto Provision LDAP for IP Phones]

Manually Register Dinstar IP Phone with Yeastar P-Series PBX System

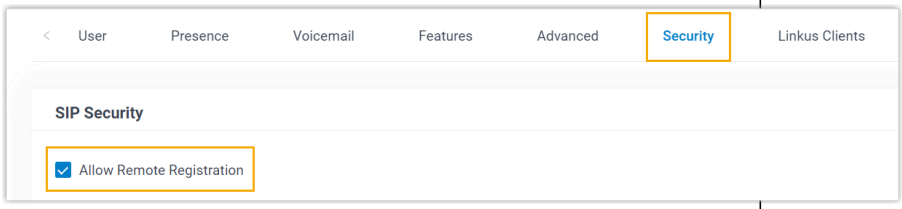
This topic takes Dinstar C60S (firmware: 2.60.11.7.0) as an example to introduce how to manually register an extension on a Dinstar IP phone.

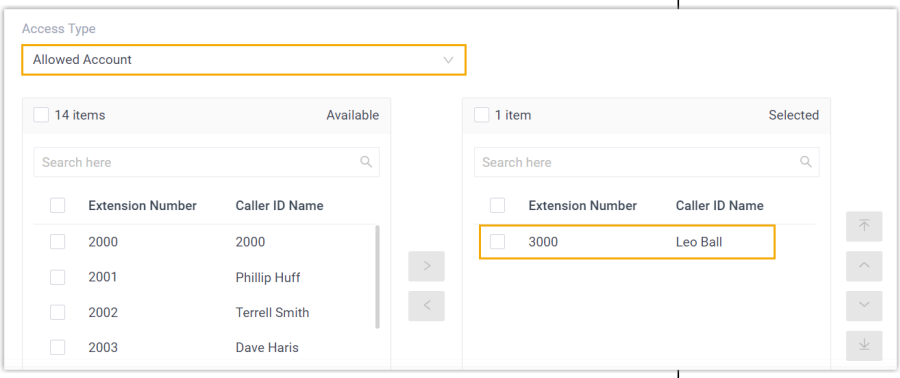
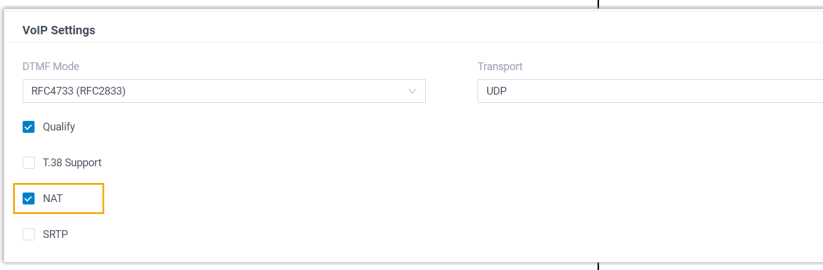
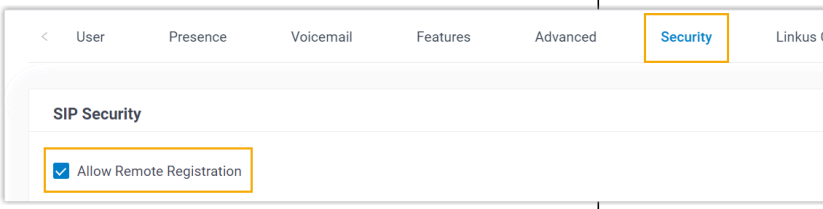
Supported devices

The Dinstar IP phones that are compatible with SIP (Session Initiation Protocol).

Prerequisites

Make sure that you have completed the corresponding settings shown below according to the network environment of **Dinstar IP phone** and **Yeastar PBX**.

Network Environment		Setting
Local Network	Register extension in the same subnet	/
	Register extension in different subnets	Enable the Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 
Remote Network	Register extension using Yeastar FQDN	• Subscribe to **Enterprise Plan** or **Ultimate Plan** for the PBX. • Grant remote SIP access permission for the extension (Path: **System > Network > Yeastar FQDN > Features > SIP Access**).

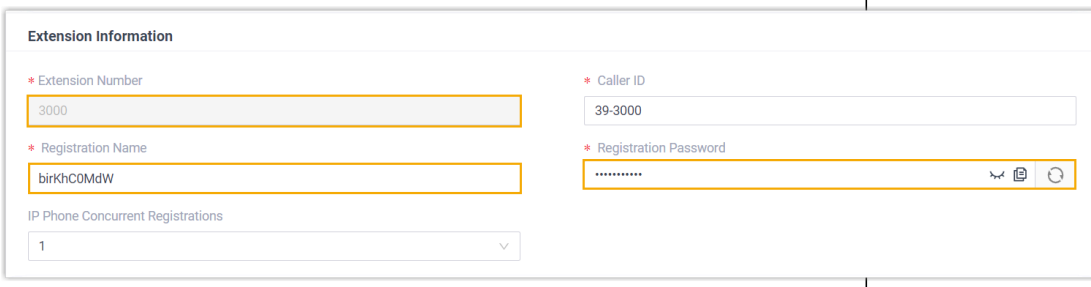
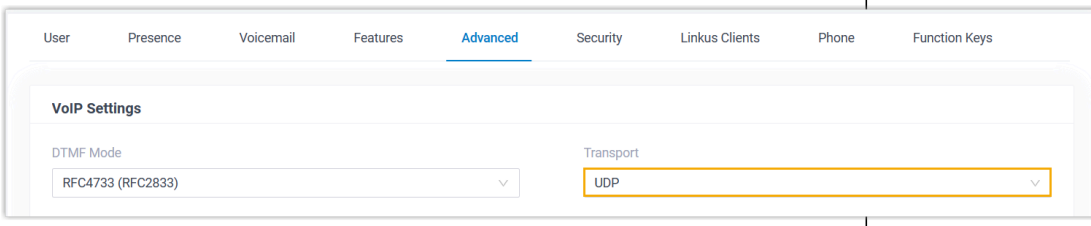
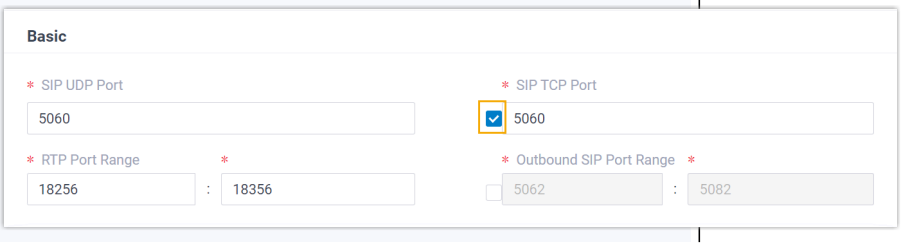
Network Environment		Setting
		
	Register extension using Public IP address / External Host domain name	• Configure PBX network for remote access by a public IP address or by an external host domain name. • Set up the extension for remote registration. ◦ Enable NAT for the extension (Path: **Extension and Trunk > Extension > > Advanced > VoIP Settings > NAT**).  ◦ Enable Remote Registration feature for the extension (Path: **Extension and Trunk > Extension > > Security > SIP Security > Allow Remote Registration**). 

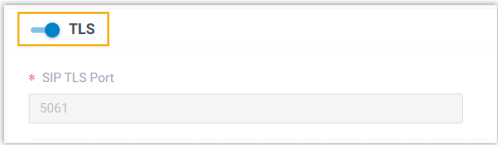
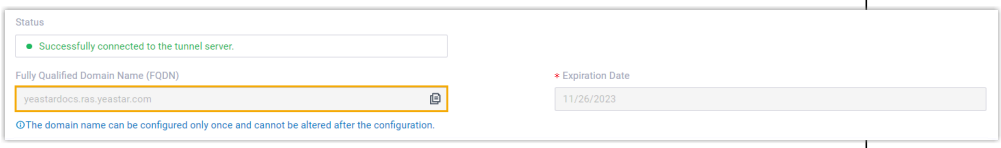
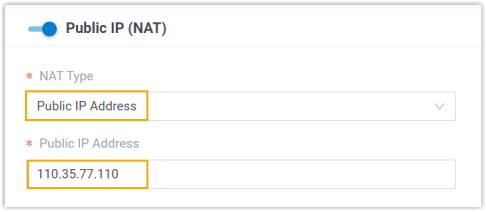
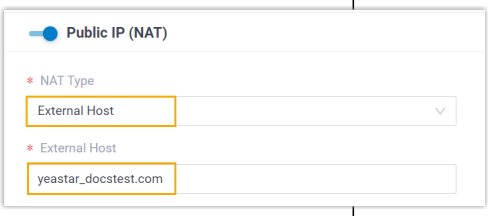
Procedure

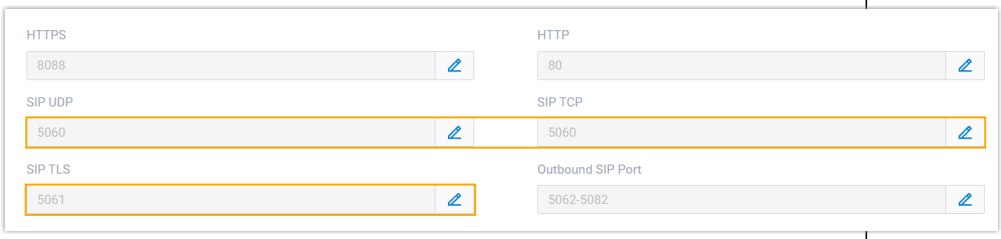
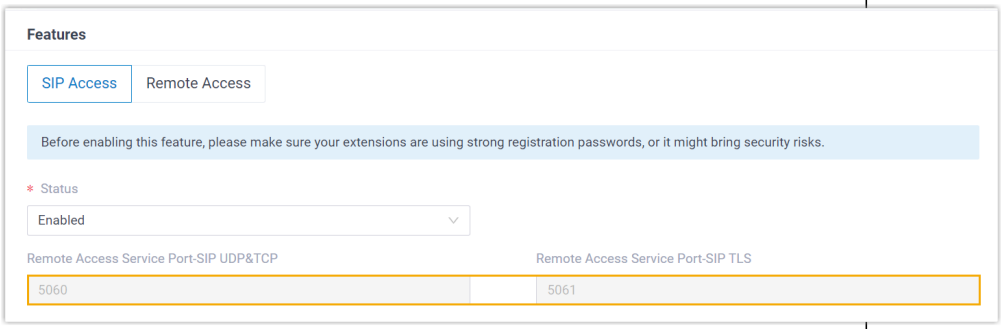
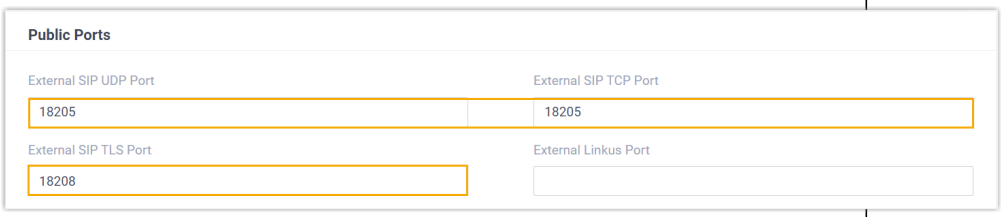
- Step 1. Gather registration information on Yeastar PBX
- Step 2. Register extension on Dinstar IP phone

Step 1. Gather registration information on Yeastar PBX

Log in to PBX web portal, gather the following information for extension registration.

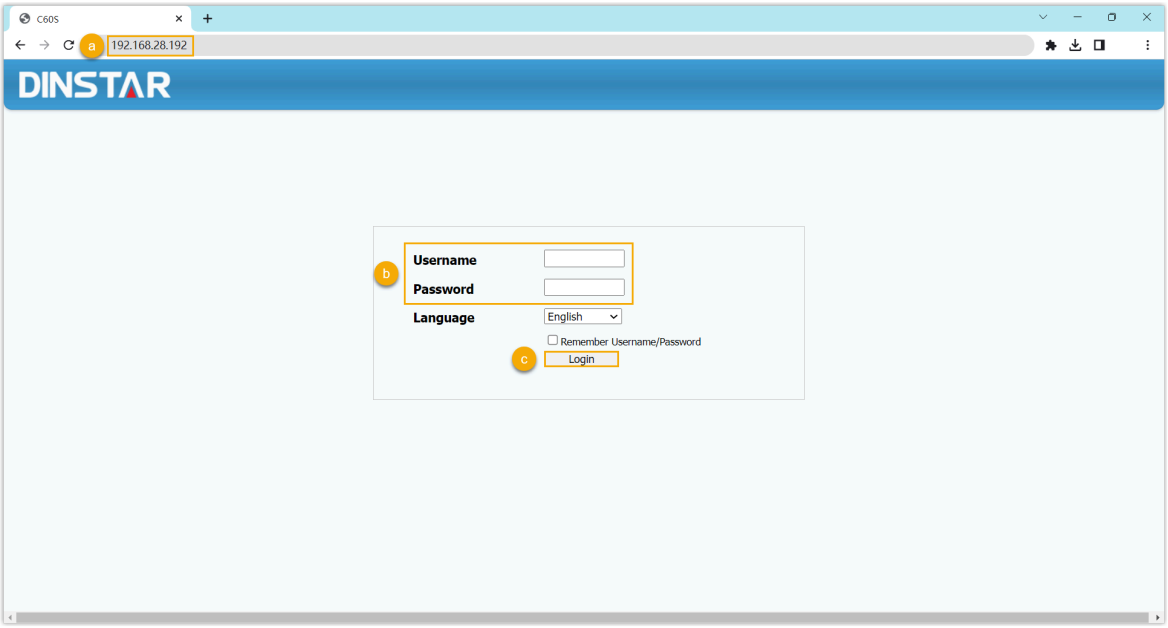
Information	Instruction
Extension information	Go to **Extension and Trunk > Extension > > User > Extension Information**, note down the following information: • Extension Number • Registration Name • Registration Password 
Transport protocol	Go to **Extension and Trunk > Extension > > Advanced > VoIP Settings > Transport**, note down the transport protocol of the extension. In this example, the extension use UDP transport protocol.  **Note:** • If the extension uses TCP transport protocol, make sure that the SIP TCP port is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > General > Basic**). 

Information	Instruction
	• If the extension uses TLS transport protocol, make sure that the TLS is enabled on the PBX, or the registration would fail (Path: **PBX Settings > SIP Settings > TLS**). 
PBX IP address or domain name	**Scenario: Register extension in local network** In this scenario, you can directly utilize the PBX's private IP address for extension registration. **Note:** This topic provides the configuration example based on this scenario, where the PBX's private IP address is `192.168.28.39`. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN**, note down the PBX's Fully Qualified Domain Name (FQDN).  **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports**, note down the PBX's public IP address or external host domain name.  
SIP registration port	**Scenario: Register extension in local network** Go to **System > Network > Service Ports**, note down the SIP registration port corresponding to the extension's transport protocol.

Information	Instruction
	 In this example, we use the SIP UDP port 5060. **Scenario: Register extension remotely using Yeastar FQDN** Go to **System > Network > Yeastar FQDN > Features > SIP Access**, note down the SIP registration port corresponding to the extension's transport protocol.  **Scenario: Register extension remotely using Public IP address / External Host domain name** Go to **System > Network > Public IP and Ports > Public Ports**, note down the SIP registration port corresponding to the extension's transport protocol. 

Step 2. Register extension on Dinstar IP phone

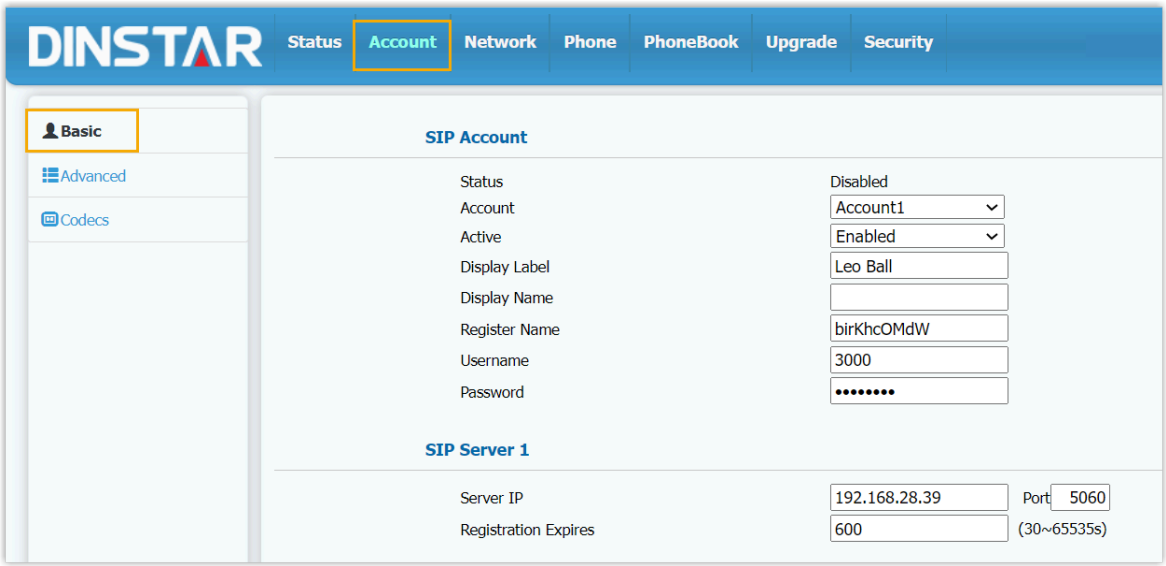
1. Log in to the web interface of the Dinstar IP phone.



a. In the browser's address bar, enter the IP address of the IP phone.
b. Enter the username `admin` and the associated password.

   In this example, enter the default password `admin`.
c. Click **Login**.

2. Go to **Account > Basic**, complete the registration configurations.



a. In the **Account** drop-down list, select an available account.
b. In the **Active** drop-down list, select **Enabled**.
c. Enter the extension information.

- **Display Label**: Enter the name associated with the account, which will be displayed on the phone screen.
- **Register Name**: Enter the registration name of the extension.
- **Username**: Enter the extension number.
- **Password**: Enter the registration password of the extension.

d. Enter the PBX server information.

- **Server IP**: Enter the IP address / domain name of the PBX.
- **Port**: Enter the SIP registration port of the PBX.

3. Click **Submit**.

Result

The extension is registered successfully. You can check the registration status in the **Status** field.