



LDAP Server & Clients

XBLUE QB Servers & IP9g

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Scope

LDAP stands for Lightweight Directory Access Protocol which is a client-server protocol for accessing a directory service.

In this guide, we introduce the configuration settings needed to set up XBLUE QB IP Telephone Server as LDAP server and provide configuration examples of IP Phones IP7g and IP9g as well as some other common devices; Zoiper Softphone, Yealink, Fanvil, Snom, Htek, Cisco, and Grandstream.

This guide is intended for the administrator responsible for setting up the LDAP server. A basic knowledge of LDAP is expected in this guide.

LDAP Overview

The XBLUE QB IP Telephone Server - LDAP Server App provides a centralized phonebook and its associated management. The LDAP application allows users to easily access the phonebook stored centrally making shared calling easy.

What kind of information can be stored in the LDAP directory?

The LDAP information model is based on *entries*.

An entry is a collection of attributes that has a globally-unique Distinguished Name (DN).

The DN is used to refer to the entry clearly. Each of the entry's attributes has a *type* and one or more *values*. The types are typically mnemonic strings, like "cn" for common name, or "mail" for email address.

The syntax of values depends on the attribute type. For example, a **cn** attribute might contain the value "Babs Jensen". A **mail** attribute might contain the value "babs@example.com".

Table 1: Common LDAP Attributes

| XBLUE LDAP Server Option | Attribute | Alias |
|--------------------------|------------------|-----------------------|
| Nickname | cn | commonName |
| First Name | gn | givenName |
| Last Name | sn | surname |
| Email | mail | rfc822Mailbox |
| Mobile Number | mobile | mobileTelephoneNumber |
| Office Number | telephoneNumber | telephoneNumber |
| Home Number | homePhone | homeTelephoneNumber |
| Department | departmentNumber | departmentNumber |

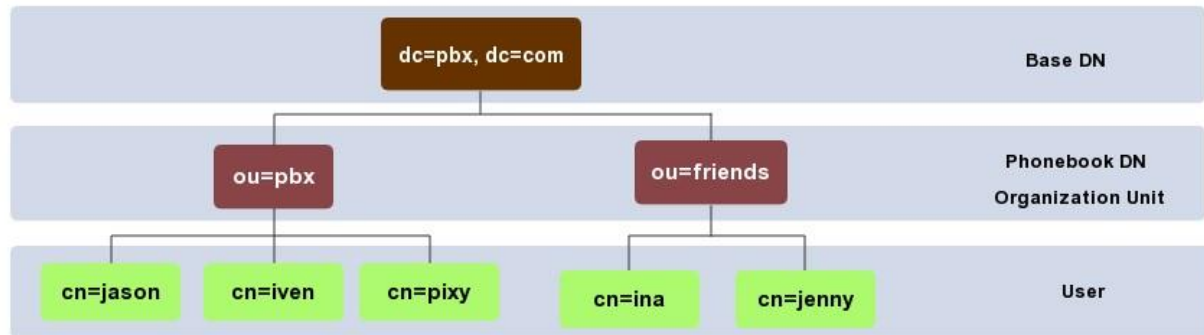
How is the information arranged?

In LDAP, directory entries are arranged in a hierarchical tree-like structure. The following figure shows an example of XBLUE QB IP Telephone Server LDAP directory tree.

Terminology

- dc: Domain Component.
- ou: Organization Unit, usually refers to a name of an organization.

- **cn**: Common Name, usually refers to a contact name.



LDAP Server Configurations

Configure LDAP Server

Before you get started, you need to set up LDAP server on XBLUE QB IP Telephone Server.

1. Log in the PBX web interface, go to **LDAP Server**.
2. Select the checkbox of **Enable LDAP Server**.
3. Retain the default LDAP server settings or change the settings according to your needs.

The screenshot shows the 'LDAP Server' configuration page. The 'Enable LDAP Server' checkbox is checked, and a green status message 'LDAP server is running' is displayed. The configuration fields are as follows:

| | | | |
|-----------|------------------------|-----------|----------------------|
| Base DN: | dc=pbx,dc=com | PBX DN: | ou=pbx,dc=pbx,dc=com |
| Username: | cn=admin,dc=pbx,dc=com | Password: | password |

- **Base DN**: Base DN is an entry in the LDAP directory where the search is requested to begin by LDAP clients. The Base DN is often referred to as the search base. The default value is *dc=pbx,dc=com*.
- **PBX DN**: PBX DN is the default entry in the LDAP directory that contains attributes based on the PBX extension users. The default value is *ou=pbx,dc=pbx,dc=com*.
- **Username**: Specify the username to log in the LDAP server.



Note: Change **cn** value, **dc** value must be the same as **Base DN**.

- **Password**: Specify the password to log in the LDAP server.


4. Click **Save**.

LDAP Phonebook

Default LDAP Phonebook

There is a default phonebook that is provided in the QB Telephone Server – LDAP App that lists all of the extensions in your QB server. This default list cannot be edited but updates automatically with changes in the server administration.

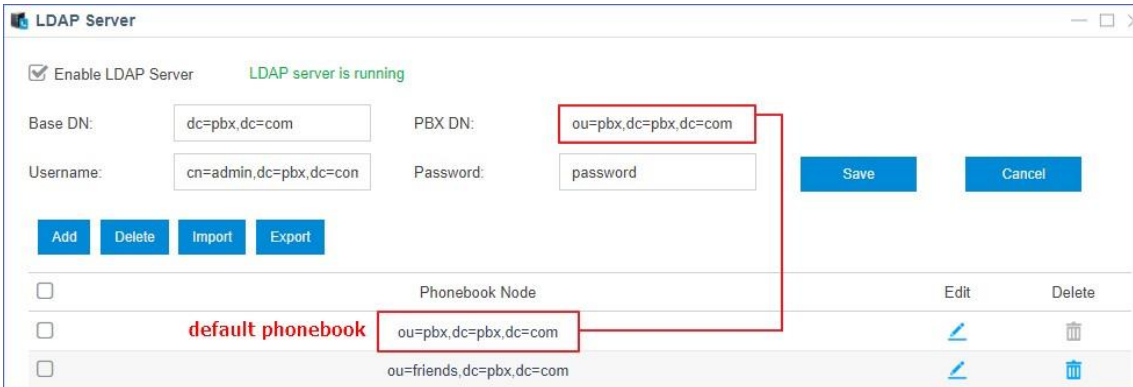
The default LDAP server **PBX DN** “ou=pbx,dc=pbx,dc=com”.

You can click  to view the default phonebook “pbx”.

Note:

You cannot add or delete the contacts in the default phonebook directly. Go to

Settings→**PBX**→**Extensions** to configure extensions, the phonebook will be automatically updated.



LDAP Server





☒ Enable LDAP Server: LDAP server is running

Base DN: dc=pbx,dc=com PBX DN: ou=pbx,dc=pbx,dc=com

Username: cn=admin,dc=pbx,dc=com Password: password

Save Cancel

Add Delete Import Export

| <input type="checkbox"/> | Phonebook Node | Edit | Delete |
|--------------------------|--|---|---|
| <input type="checkbox"/> | default phonebook ou=pbx,dc=pbx,dc=com |  |  |
| <input type="checkbox"/> | ou=friends,dc=pbx,dc=com |  |  |

Adding a LDAP Phonebook

You can add other phonebooks for external contacts.

1. Go to LDAP Server page, and click **Add**.
2. Enter the phonebook name.
The Phonebook Node that contains the phonebook name and the Base DN will be generated automatically.



Add Phonebook

Phonebook Node: ou=colleagues,dc=pbx,dc=com

Phonebook Name: colleagues

3. Click **Save**.

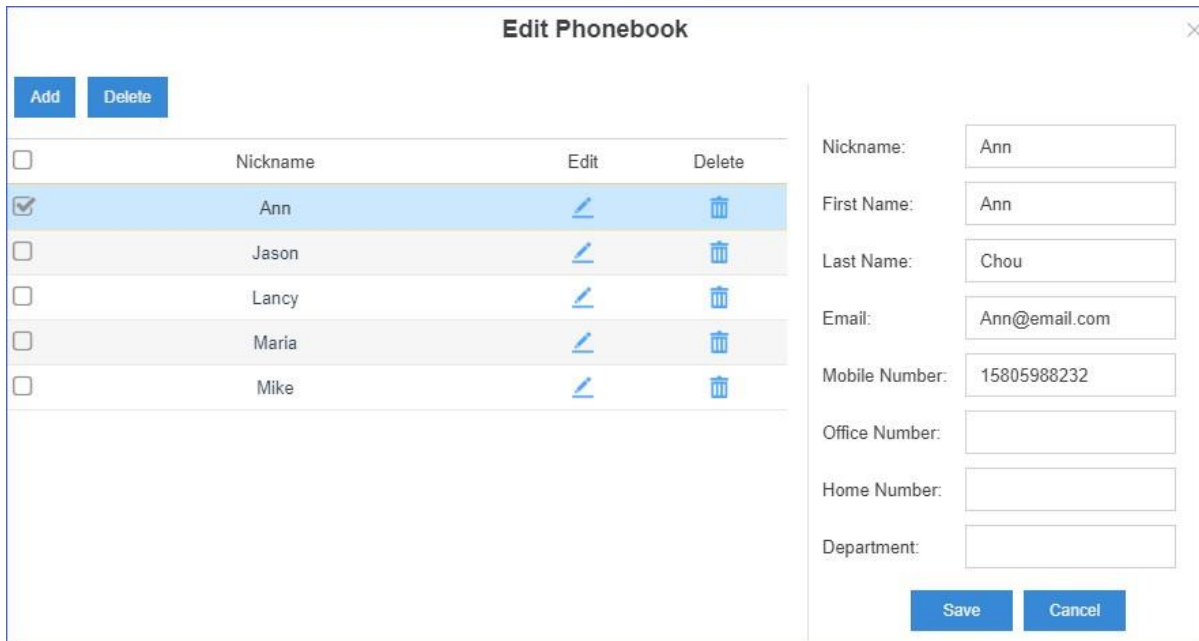
Managing a LDAP Phonebook











After you add an LDAP phonebook, you can edit or delete the phonebook.

Edit a Phonebook

You can add, edit, and delete contacts in the phonebook you've added.

Go to LDAP Server page, click  beside the desired phonebook.



| | Nickname | Edit | Delete |
|-------------------------------------|----------|---|---|
| <input checked="" type="checkbox"/> | Ann |  |  |
| <input type="checkbox"/> | Jason |  |  |
| <input type="checkbox"/> | Lancy |  |  |
| <input type="checkbox"/> | Maria |  |  |
| <input type="checkbox"/> | Mike |  |  |

Nickname:
 First Name:
 Last Name:
 Email:
 Mobile Number:
 Office Number:
 Home Number:
 Department:

Save Cancel


- **Add contacts to a phonebook**

1. Click **Add**.
2. In the right column, edit the contact attributes.
3. Click **Save** to add contacts.



Note: Nickname, and at least one contact method is required.


- **Delete contacts from a phonebook**


1. Select the checkbox of the desired contact.
2. Click **Delete** or  to delete contacts.

- **Edit contacts in a phonebook**

1. Select the checkbox of the desired contact.
2. In the right column, edit the contact attributes.
3. Click **Save**.

Delete Phonebooks

1. Go to LDAP Server page, and select the checkbox of the desired phonebooks.
2. Click **Delete** or  to delete the phonebooks.

 **Note:** It is not possible to delete the ou=pbx phonebook

Export/Import a LDAP Phonebook





You can export existing phonebooks from the LDAP server. This allows you to reload LDAP entries and import the phonebooks to this or other LDAP servers should that be required.

Export a Phonebook from LDAP Server

You can export a phonebook from the LDAP Server. The exported phonebook can be used as a template (sample) to understand the format required to match the requirements of the LDAP server using a database – spreadsheet. The result is a CSV file which allows you to import the template/sample into MS-Excel or Google Sheets. Once there you can edit the contents or cut and paste from other files in the correct cells that match the format needed by the LDAP server.

Go to LDAP Server page, and select the desired phonebook.

1. Click **Export**.

| <div> Add Delete Import Export </div> | | | |
|---|-----------------------------|---|---|
| <input type="checkbox"/> | Phonebook Node | Edit | Delete |
| <input type="checkbox"/> | ou=pbx,dc=pbx,dc=com |  |  |
| <input checked="" type="checkbox"/> | ou=colleagues,dc=pbx,dc=com |  |  |

2. The CSV file will download to your PC where you can use your PC applications (MS-Excel, Google Sheets, etc.) to modify, build, etc. the file that will be loaded (Imported) to the LDAP Server.

Import a Phonebook to LDAP Server

Before you start to import a phonebook, prepare a phonebook file, the phonebook should meet the following requirements:

- **File format:** CSV file with UTF-8 encoding (plain text).

 **Tip:** You can open the CSV file with **Notepad** and save it with UTF-8 encoding.

- **Import parameters:** The parameters in the CSV file should meet the requirements demonstrated in Import Parameters - LDAP Phonebook.

1. Go to LDAP Server page, and click **Import**.
2. In the **Import Phonebook** dialog box, click **Browse**.

Import Phonebook

Please import a UTF-8 csv file, and it would be better that the number of records in the file is less than 1000.

The Phonebook Node, Nickname, and at least one contact method must be filled in the import file.

Click [here](#) to view the format requirement for an imported file.

Phonebook file : Browse

Import
Cancel

3. Click **Import**.

Example LDAP Phonebook

With the phonebook file, you can do the following

operations: • **Centrally manage multiple phonebooks**

Add multiple phonebook nodes in the phonebook file, and import the file to LDAP server.



Note: For phonebook node, only alphanumeric entries are valid.

| | A | B | C | D | E | F | G | H | I | J |
|---|----------------|-----------|----------|------------|-----------|-------|---------------|---------------|-------------|------------|
| 1 | Phonebook Node | Extension | Nickname | First Name | Last Name | Email | Mobile Number | Office Number | Home Number | Department |
| 2 | pbx | 1000 | Mike | | | | | 1000 | | |
| 3 | pbx | 1001 | Ann | | | | | 1001 | | |
| 4 | friends | 1002 | Henry | | | | | 1002 | | |
| 5 | colleagues | 1003 | Cindy | | | | | 1003 | | |
| 6 | clients | 1004 | Tom | | | | | 1004 | | |

| | Phonebook Node | Edit | Delete |
|--------------------------|-----------------------------|------|--------|
| <input type="checkbox"/> | ou=pbx,dc=pbx,dc=com | | |
| <input type="checkbox"/> | ou=clients,dc=pbx,dc=com | | |
| <input type="checkbox"/> | ou=colleagues,dc=pbx,dc=com | | |
| <input type="checkbox"/> | ou=friends,dc=pbx,dc=com | | |

• Add a new contact to an existing phonebook

Add a new contact "Angela" to an existing phonebook "colleagues", and import the file to LDAP server.

| | A | B | C | D | E | F | G | H | I | J |
|---|------------|-----------|----------|------------|-----------|-------|---------------|---------------|-------------|------------|
| 1 | Phonebook | Extension | Nickname | First Name | Last Name | Email | Mobile Number | Office Number | Home Number | Department |
| 2 | colleagues | | Cindy | | | | | 2000 | | |
| 3 | colleagues | | Lily | | | | | 2002 | | |
| 4 | colleagues | | Tom | | | | | 2003 | | |
| 5 | colleagues | | Henry | | | | | 2001 | | |
| 6 | colleagues | | Angela | | | | | 2004 | | |

| <input type="checkbox"/> | Nickname | Edit | Delete |
|--------------------------|----------|------|--------|
| <input type="checkbox"/> | Angela | | |
| <input type="checkbox"/> | Cindy | | |
| <input type="checkbox"/> | Henry | | |
| <input type="checkbox"/> | Lily | | |
| <input type="checkbox"/> | Tom | | |

- **Add a new phonebook with a new contact**

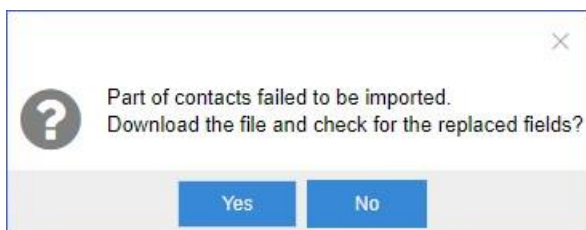
Add a new phonebook "VIP" with a new contact "Jay".

| | A | B | C | D | E | F | G | H | I | J |
|---|----------------|-----------|----------|------------|-----------|-------|---------------|---------------|-------------|------------|
| 1 | Phonebook Node | Extension | Nickname | First Name | Last Name | Email | Mobile Number | Office Number | Home Number | Department |
| 2 | friends | | Rose | | | | | 2008 | | |
| 3 | pbx | 1000 | Mike | | | | | 1000 | | |
| 4 | pbx | 1001 | Ann | | | | | 1001 | | |
| 5 | VIP | | Jay | | | | | 2009 | | |

| | Phonebook Node | Edit | Delete |
|--|--------------------------|------|--------|
| | ou=pbx,dc=pbx,dc=com | | |
| | ou=VIP,dc=pbx,dc=com | | |
| | ou=friends,dc=pbx,dc=com | | |

- **Update information of existing contacts**

Update the information of existing contact "Angela", and import the file to LDAP server.
The following dialog will appear. Click **Yes** to check the replaced fields.



| | A | B | C | D | E | F | G | H | I | J |
|---|----------------|-----------|----------|------------|-----------|------------------|---------------|---------------|-------------|------------|
| 1 | Phonebook Node | Extension | Nickname | First Name | Last Name | Email | Mobile Number | Office Number | Home Number | Department |
| 2 | colleagues | | Cindy | | | | | 2000 | | |
| 3 | colleagues | | Lily | | | | | 2002 | | |
| 4 | colleagues | | Tom | | | | | 2003 | | |
| 5 | colleagues | | Henry | | | | | 2001 | | |
| 6 | colleagues | | Angela | | | Angela@gmail.com | | 2004 | | Sales |

| | |
|----------------|------------------|
| Nickname: | Angela |
| First Name: | |
| Last Name: | |
| Email: | Angela@gmail.com |
| Mobile Number: | |
| Office Number: | 2004 |
| Home Number: | |
| Department: | Sales |

LDAP Client Configuration Examples

LDAP Configurations on IP9g

This is an example of the configuration of a LDAP phonebook client setup on a XBLUE IP9g (version 2.10.2.6910).

Configuration Example

The example configuration is set according to default settings of the XBLUE QB IP Telephone Server – LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

IP9g LDAP Phonebook configuration

Log in the Fanvil phone web interface, go to **Phonebook**→**Cloud phonebook**→**LDAP Settings** to configure LDAP client.


The screenshot shows the Xblue IP9g web interface. The left sidebar contains a menu with options: System, Network, Line, Phone settings, **Phonebook** (highlighted), Call logs, Function Key, Application, Security, and Device Log. The main content area is titled 'Cloud phonebook' and includes tabs for XML, XML1, XML2, XML3, XML4, and BACK. Below these are buttons for 'Add to phonebook', 'Add to Blacklist', and 'Add to Whitelist', along with 'Previous', 'Page: 1', and 'Next' navigation links. A table with columns 'Index', 'Name', 'Phone', 'Phone1', and 'Phone2' is shown, with a '10' entries per page limit. Below this is a 'Manage Cloud Phonebooks' section with a table for configuring multiple phonebooks. The 'LDAP Settings' section is highlighted and contains the following configuration fields:

| Index | Cloud phonebook name | Cloud phonebook URL | Calling Line | Search Line | Authentication Name | Authentication Password |
|-------|----------------------|---------------------|--------------|-------------|---------------------|-------------------------|
| 1 | | | AUTO | AUTO | | |
| 2 | | | AUTO | AUTO | | |
| 3 | | | AUTO | AUTO | | |
| 4 | | | AUTO | AUTO | | |

Below the table is an 'Apply' button. The 'LDAP Settings' section includes the following fields:

| LDAP | LDAP 1 | Version | Version3 |
|------------------------|-------------------------------------|-------------------------|-------------------------------------|
| Display Title: | LDAP | Server Port: | 389 |
| Server Address: | YOUR SERVER IP ADDRESS | Calling Line: | AUTO |
| LDAP TLS Mode: | LDAP | Search Line: | AUTO |
| Authentication: | Simple | Password: | ***** |
| Username: | cn=admin,dc=pbx,dc=com | Max Hits: | 50 |
| Search Base: | dc=pbx,dc=com | Mobile: | mobile |
| Telephone: | telephoneNumber | Name Attr: | cn sn ou |
| Other: | other | Display name: | cn |
| Sort Attr: | cn | Number Filter: | ((telephoneNumber=*)(mo |
| Name Filter: | ((cn=*)(sn=*)) | Enable Out Call Search: | <input checked="" type="checkbox"/> |
| Enable In Call Search: | <input checked="" type="checkbox"/> | | |

An 'Apply' button is located at the bottom right of the LDAP Settings section.

| Setting | Description | Example |
|----------------|---|--------------|
| LDAP | Choose one of the following phonebooks. <ul style="list-style-type: none"> • LDAP 1 • LDAP 2 • LDAP 3 • LDAP 4 | LDAP 1 |
| Display Title | Specify the name of phonebook. | LDAP |
| Version | XBLUE QB IP Telephone Server LDAP server uses Version 3. | Version3 |
| Server Address | Enter the IP address of PBX. | 192.168.6.36 |
| Server Port | Enter the LDAP server port. | 389 |
| LDAP TLS Mode | Specify the connection mode between the LDAP server and the IP phone. <ul style="list-style-type: none"> • LDAP • LDAP TLS Start • LDAPS  Note: XBLUE QB IP Telephone Server supports LDAP. | LDAP |
| Calling Line | Select a dialing line that LDAP uses. When a call is initiated from the specified line, contacts information is searched in the LDAP phonebook of the corresponding line. If no contacts information is found, contacts information is searched in LDAP phonebooks configured as AUTO . | AUTO |

| Setting | Description | Example |
|----------------|--|---|
| Authentication | <p>Select authentication type to access to LDAP server.</p> <ul style="list-style-type: none"> • None • DIGEST-MD5 • CRAM-MD5 • Simple (Default Configuration) | Simple |
| Search Line | <p>Select an answering line that LDAP uses. When a call is received from the specified line, contacts information is searched in the LDAP phonebook of the corresponding line. If no contacts information is found, contacts information is searched in LDAP phonebooks configured as AUTO.</p> | AUTO |
| Username | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| Password | Enter the password to log in the LDAP server. | Password (get this from the QB LDAP Server App) |
| Search Base | <p>Specify a starting point in the directory tree from which to search.</p> <ul style="list-style-type: none"> • To search all contacts, enter the Base DN of LDAP server. • To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |
| Max Hits | Specify the maximum number of search results to be returned by the LDAP server. | 50 |
| Telephone | Specify the telephoneNumber attributes of each record to be returned by the LDAP server. | telephoneNumber |
| Mobile | Specify the mobileNumber attributes of each record to be returned by the LDAP server. | mobile |
| Other | Specify the other attributes of each record to be returned by the LDAP server. | other |
| Name Attr | Specify the name attributes of each record to be returned by the LDAP server. You can configure multiple name attributes separated by space. | cn sn ou |
| Sort Attr | Specify the mode of sorting the query results. | cn |

| Display name | Specify the display name of the contact record displayed on the LCD screen. | cn |
|------------------------|---|--|
| Setting | Description | Example |
| Name Filter | Specify the name attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=%)(sn=%)) |
| Number Filter | Specify the number attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=%)(mobile=%)(other=%)) |
| Enable in Call Search | Enable or disable IP phone to perform LDAP search when receiving an incoming call. | Enabled |
| Enable Out Call Search | Enable or disable IP phone to perform LDAP search when placing an outgoing call. | Enabled |

IP9g LDAP Phonebook Access Setup

Set an LDAP Key

Set a LDAP key on the IP9g telephone to quickly access the LDAP phonebook. In this example we've used the SoftKeys in the display. Since the LDAP is used while the phone is idle we've set the SoftKey that will be used while in the Desktop mode. We also moved the DND key... moving it to the second Desktop SoftKey menu (after "More" is pressed).

| | |
|---------------------------------------|--|
| Default Desktop SoftKeys – phone idle | Modified Desktop SoftKeys – phone idle |
|---------------------------------------|--|



Steps:

1. Log in the IP9g phone web interface, go to **Function Key>SoftKey**.
2. First program a DSS key
 - a Select key type **Key Event**
 - b Label the Key
 - c Select Subtype **LDAP**
 - d Select Auto for the Line setting
 - e Click Apply at the bottom

NOTE: There are two Apply buttons and they are independent of one another.
You must save changes for each before setting options in the other.

SoftKey Settings

Softkey Mode:

Softkey Exit Style:

Screen:

Unselected Softkeys

- None
- Pre Account
- Next Account
- Blacklist(Black)
- Call Back(CBack)
- Lock
- Missed
- Voice Mail
- Dialed
- Redial
- Remote XML(R-XML)
- SMS

Selected Softkeys

- history
- Local Contacts
- Dsskey1(LDAP)**
- DND
- Menu
- Memo
- Reboot
- In
- Call Forward

Apply

Soft DSS Key Settings

| Key | Type | Name | Value | Subtype | Line | PickUp Number |
|------------|--|-----------------------------------|-------|---|-----------------------------------|---------------|
| DSS Key 1 | <input type="text" value="Key Event"/> | <input type="text" value="LDAP"/> | | <input type="text" value="LDAP"/> | <input type="text" value="Auto"/> | |
| DSS Key 2 | <input type="text" value="Line"/> | | | <input type="text" value="None"/> | <input type="text" value="SIP2"/> | |
| DSS Key 3 | <input type="text" value="Line"/> | | | <input type="text" value="None"/> | <input type="text" value="SIP3"/> | |
| DSS Key 4 | <input type="text" value="Line"/> | | | <input type="text" value="None"/> | <input type="text" value="SIP4"/> | |
| DSS Key 5 | <input type="text" value="Key Event"/> | | | <input type="text" value="Voice Mail"/> | <input type="text" value="AUTO"/> | |
| DSS Key 6 | <input type="text" value="Key Event"/> | | | <input type="text" value="Headset"/> | <input type="text" value="AUTO"/> | |
| DSS Key 7 | <input type="text" value="None"/> | | | <input type="text" value="None"/> | <input type="text" value="AUTO"/> | |
| DSS Key 8 | <input type="text" value="None"/> | | | <input type="text" value="None"/> | <input type="text" value="AUTO"/> | |
| DSS Key 9 | <input type="text" value="None"/> | | | <input type="text" value="None"/> | <input type="text" value="AUTO"/> | |
| DSS Key 10 | <input type="text" value="None"/> | | | <input type="text" value="None"/> | <input type="text" value="AUTO"/> | |

Apply

- After saving the key settings, use the scroll bar in the Unselected Softkeys column and find Dsskey 1(LDAP) and select it.
- Click on the RIGHT arrow between the columns to move it to the Selected Softkeys column. It will appear at the bottom.
- To move it into position on the first “page” select it in the Selected Softkeys column and use the UP arrow at the right to move it upward until it is above DND.
- Click **Apply** (in the upper section).

Search LDAP Contacts

You can press the LDAP key to access the LDAP phonebook. Enter the search criteria to search a contact from the LDAP phonebook and call the contact.

- Press the LDAP key to access the LDAP phonebook.
- Press **Search** to search the contact name or number using the keypad. The contacts whose name or phone number match the characters entered will appear on the LCD screen.



3. Press the navigation key to select the desired contact.
4. Press **Dial** to call the contact.

3rd-Party IP Phone LDAP configurations

Please note, although we have made an effort to attempt to provide the correct information that we have found can work on these phones and models we accept no responsibility for the functionality of these telephones since changes and function frequently change.

We have support options available for purchase if you require our assistance in technical support of 3rd-Party phones.

LDAP Configurations on Yealink Phone

In this example we demonstrate how to configure and use LDAP phonebook using a Yealink T41 (version 36.80.0.95).

Configuration Example


The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

Log in the Yealink phone web interface, go to **Directory**→**LDAP** to configure LDAP.

The screenshot shows the Yealink T41P web interface with the 'Directory' tab selected. The 'LDAP' configuration page is displayed, showing various settings for LDAP integration. The 'Enable LDAP' dropdown is highlighted with a red box and set to 'Enabled'. The configuration fields include:

- Enable LDAP: Enabled
- LDAP Name Filter: `((cn=%)(sn=%))`
- LDAP Number Filter: `((telephoneNumber=%)(homePho`
- LDAP TLS Mode: LDAP
- Server Address: 192.168.6.216
- Port: 389
- Base: dc=pbx,dc=com
- Username: cn=admin,dc=pbx,dc=com
- Password: [Redacted]
- Max Hits (1~32000): 50
- LDAP Name Attributes: cn sn displayName
- LDAP Number Attributes: telephoneNumber homePho
- LDAP Display Name: %cn
- Protocol: Version 3
- LDAP Lookup For Incoming Call: Enabled
- LDAP Lookup For Callout: Enabled
- LDAP Sorting Results: Enabled

A 'NOTE' section on the right explains that LDAP (Lightweight Directory Access Protocol) is an application protocol for accessing and maintaining information services for the distributed directory over an IP network. It also mentions that Yealink IP phones can interface with corporate directory servers supporting LDAP version 2 or 3, such as OpenLDAP, Microsoft Active Directory, Microsoft Active Directory Application Mode (ADAM), or Sun One Directory Server. A link is provided to get more guides.

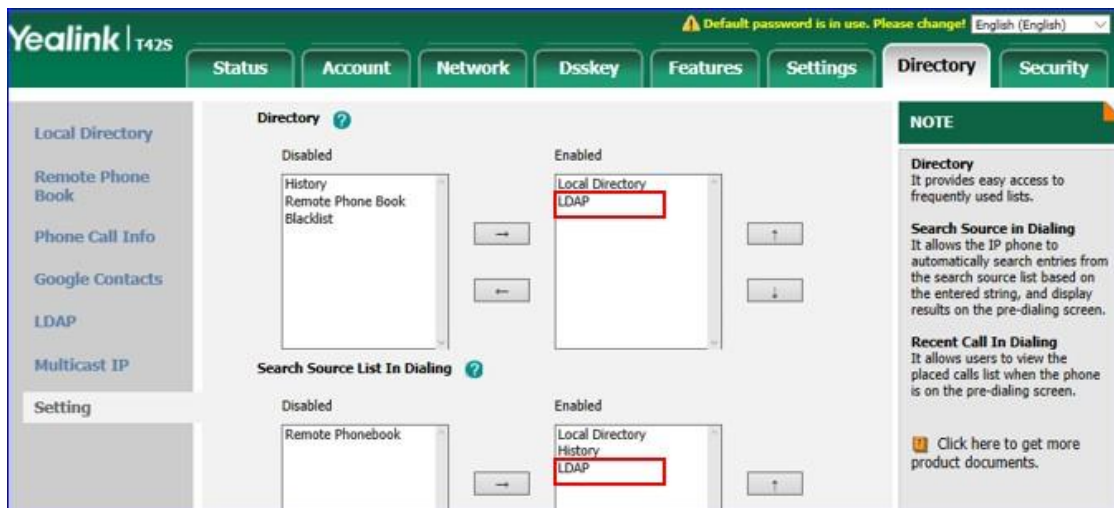
| Setting | Description | Example |
|--------------------|--|--|
| Enable LDAP | Enable or disable LDAP on IP phone. | Enabled |
| LDAP Label | Specify the name of phonebook. | Telephone Directory |
| LDAP Name Filter | Specify the name attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=%)(sn=%)) |
| LDAP Number Filter | Specify the number attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=%)(homePhone=%)(mobile=%)) |
| LDAP TLS Mode | Specify the connection mode between the LDAP server and the IP phone. <ul style="list-style-type: none"> LDAP LDAP TLS Start LDAPS <div>  Note: XBLUE QB IP Telephone Server supports LDAP. </div> | LDAP |
| Server Address | Enter the IP address of PBX. | 192.168.6.216 |
| Port | Enter the LDAP server port. | 389 |
| Base | Specify a starting point in the directory tree from which to search. <ul style="list-style-type: none"> To search all contacts, enter the Base DN of LDAP server. To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |

| Setting | Description | Example |
|----------------------------------|---|---|
| Username | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| Password | Enter the password to log in the LDAP server. | password |
| Max Hits (1~1000) | Specify the maximum number of search results to be returned by the LDAP server. | 50 |
| LDAP Name Attributes | Specify the name attributes of each record to be returned by the LDAP server. The user can configure multiple name attributes separated by space. | cn sn displayName |
| LDAP Number Attributes | Specify the number attributes of each record to be returned by the LDAP server. The user can configure multiple number attributes separated by space. | telephoneNumber homePhone mobile mail departmentNumber |
| LDAP Display Name | Specify the display name of the contact record displayed on the LCD screen. This parameter value must start with % symbol. | %cn |
| Protocol | XBLUE QB IP Telephone Server LDAP server uses Version 3. | 3 |
| LDAP Lookup for Incoming Call | Enable or disable IP phone to perform an LDAP search when receiving an incoming call. | Enabled |
| LDAP Lookup for Callout | Enable or disable IP phone to perform an LDAP search for on-going calls. | Enabled |
| LDAP Sorting Results | Enable or disable IP phone to sort out search results in alphabetical and numerical order. | Enabled |

Search Contacts via Directory

• Enable LDAP on Yealink Phone

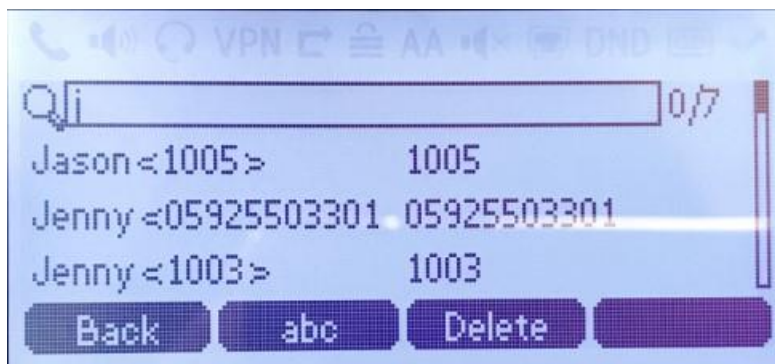
1. Log in the Yealink phone web interface, go to **Directory**→**Setting** to enable LDAP.



2. Click **Confirm**.

• Search LDAP Contacts

1. Press **Directory** to access LDAP phonebook.
2. Search the contact name or number using the keypad. The contacts whose name or phone number match the characters entered will appear on the LCD screen.



3. Press the navigation key to select the desired contact.
4. Press **Send** to call the contact.

Search Contacts via LDAP Key

• Set an LDAP Key on Yealink Phone

Set an LDAP key on the phone to quickly access the LDAP phonebook.

1. Log in the Yealink phone web interface, go to **DSSKey**→**LineKey**.

2. Choose a DSS key, and select key type to **LDAP**.

Yealink | T41P

Log Out

Status Account Network **DSSKey** Features Settings Directory Security

Enable Page Tips Disabled

Line Key 1-5
Line Key 6-10
Line Key 11-15
Programmable Key

| Key | Type | Value | Label | Line | Extension |
|-----------|------|---------|-------|--------|-----------|
| Line Key1 | LDAP | | | N/A | |
| Line Key2 | Line | Default | | Line 2 | |
| Line Key3 | Line | Default | | Line 3 | |
| Line Key4 | Line | Default | | Line 4 | |
| Line Key5 | Line | Default | | Line 5 | |

Confirm Cancel

NOTE

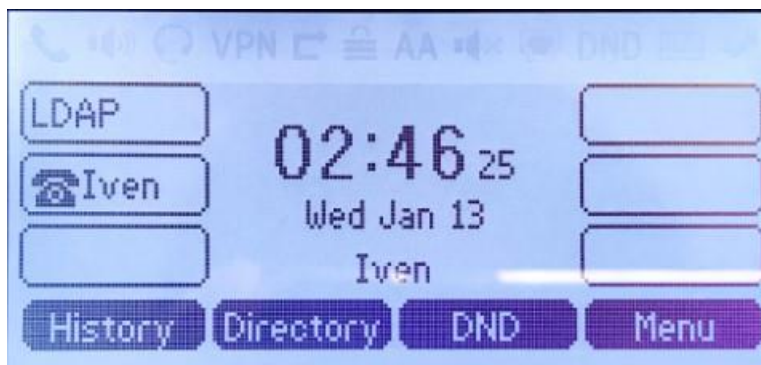
Line Keys
Line keys allow you to quickly access features such as recall and voice mail.

You can click here to get more guides.

3. Click **Confirm**.

- **Search LDAP Contacts**

1. Press the LDAP key to access the LDAP phonebook.



2. Search the contact name or number using the keypad. The contacts whose name or phone number match the characters entered will appear on the LCD screen.
3. Press the navigation key to select the desired contact.
4. Press **Send** to call the contact.

LDAP Configurations on Snom Phone

In this example, we demonstrate how to configure and use LDAP phonebook using a Snom D745 (version 66.84.0.10).


Configuration Example

The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

Log in the Snom phone web interface, go to **Setup**→**Advanced**→**Network**→**LDAP** to configure LDAP client.

| | | |
|---|--|-------------|
|  © Snom Technology GmbH | | LDAP |
| LDAP Name Filter | <input type="text" value="(&((cn=%)(sn=%))"/> | |
| LDAP Number Filter | <input "="" type="text" value="(&((telephoneNumber=%)(homePhone="/> | |
| LDAP Name Filter During Call | <input type="text" value="(&((cn=%)(sn=%))"/> | |
| LDAP Number Filter During Call | <input "="" type="text" value="(&((telephoneNumber=%)(homePhone="/> | |
| Server Address | <input type="text" value="192.168.6.216"/> | |
| Port | <input type="text" value="389"/> | |
| Base | <input type="text" value="dc=pbx,dc=com"/> | |
| Username | <input type="text" value="cn=admin,dc=pbx,dc=com"/> | |
| Password | <input type="password" value="*****"/> | |
| LDAP Name Attributes | <input type="text" value="cn sn displayName"/> | |
| LDAP Number Attributes | <input type="text" value="telephoneNumber homePhone"/> | |
| LDAP Display Name | <input type="text" value="LDAP"/> | |
| Country Code | <input type="text" value="+49"/> | |
| Area code | <input type="text" value="030"/> | |
| LDAP over TLS | <input checked="" type="radio"/> on <input type="radio"/> off | |
| Sort Results | <input checked="" type="radio"/> on <input type="radio"/> off | |
| Initial Query | <input checked="" type="radio"/> on <input type="radio"/> off | |

| Setting | Description | Example |
|--------------------------------|---|--|
| LDAP Name Filter | Specify the name attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=%)(sn=%)) |
| LDAP Number Filter | Specify the number attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=%)(homePhone=%)(mobile=%)) |
| LDAP Name Filter During Call | Specify the name attributes for LDAP searching when dialing or for looking up an incoming call. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=%)(sn=%)) |
| LDAP Number Filter During Call | Specify the number attributes for LDAP searching when dialing or for looking up an incoming call. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=%)(homePhone=%)(mobile=%)) |
| Server Address | Enter the IP address of PBX. | 192.168.6.216 |
| Port | Enter the LDAP server port. | 389 |

| Setting | Description | Example |
|------------------------|--|-------------------------------------|
| Base | Specify a starting point in the directory tree from which to search. <ul style="list-style-type: none"> To search all contacts, enter the Base DN of LDAP server. To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |
| Username | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| Password | Enter the password to log in the LDAP server. | password |
| LDAP Name Attributes | Specify the name attributes of each record to be returned by the LDAP server. You can configure multiple name attributes separated by space. | cn sn displayName |
| LDAP Number Attributes | Specify the number attributes of each record to be returned by the LDAP server. You can configure multiple number attributes separated by space. | telephoneNumber homePhone mobile |
| LDAP Display Name | Specify the name of phonebook. | LDAP |
| Country Code | Specify standard country code which will be substituted in LDAP search requests. | +49 |
| Area Code | Specify standard area code which will be substituted in LDAP search requests. | 030 |
| LDAP over TLS | Specify whether to use TCP or TLS as LDAP transport protocol. | On |
| Sort Results | Specify the mode of sorting the query results. | On |
| Initial Query | <p>You can decide whether to query the server for an initial list of entries when entering the LDAP directory.</p> <p> Note: All placeholders (%) are replaced with *, and subsequent stars are formatted to a single one.</p> <p>For example, cn=*456% would lead to cn=*456*, or cn=456%* would lead to cn=456*.</p> | On |

Set an LDAP Key

Set an LDAP key on the phone to quickly access the LDAP phonebook.

1. Log in the Snom phone web interface, go to **Setup**→**Function Keys**→**Line Keys**.
2. Choose a key, select key type to **Key Event**, select number to **LDAP Directory**, and set label name.

Line Keys

Page Page 1 ▼

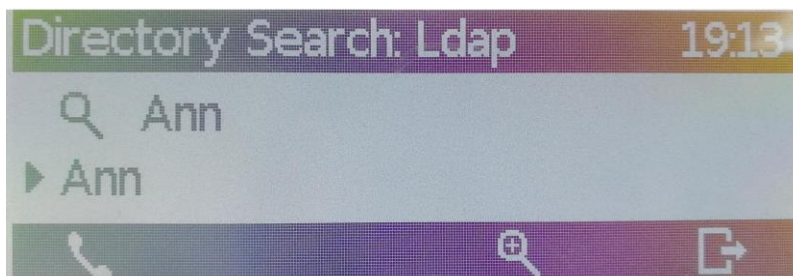
| Context | Type | Number | Label | XML Label |
|----------|------------------|------------------|-------|-----------|
| Active ▼ | Key Event ▼ | LDAP Directory ▼ | LDAP | P1 |
| Active ▼ | None ▼ | | | P2 |
| Active ▼ | Key Event ▼ | Conference ▼ | | P3 |
| Active ▼ | Smart Transfer ▼ | | | P4 |
| Active ▼ | Line ▼ | | | P5 |
| Active ▼ | None ▼ | | | P6 |
| Active ▼ | Key Event ▼ | Ringer Silent ▼ | | P7 |
| Active ▼ | Key Event ▼ | Redial ▼ | | P8 |


3. Click **Apply**.

Search LDAP Contacts

You can press the LDAP key to access the LDAP phonebook. Enter the search criteria to search a contact from LDAP phonebook and call the contact.

1. Press the LDAP key to access the LDAP phonebook.
2. Search the contact name or number using the keypad. The contacts whose name or phone number match the characters entered will appear on the LCD screen.



3. Press the navigation key to select the desired contact.
4. Press  to call the contact.

LDAP Configurations on Htek Phone

In this example, we demonstrate how to configure and use LDAP phonebook using a Htek UC912 (version 2.0.4.4).

Configuration Example

The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

Log in the Htek phone web interface, go to **Directory**→**LDAP** to configure LDAP client.

| | | | |
|--------------------------|-----------------------------------|--|---|
| Directory | LDAP Name Filter | <input type="text" value="(l(cn=%)(sn=%))"/> | ? |
| Remote Phone Book | LDAP Number Filter | <input type="text" value="iPhone=%)(mobile=%)"/> | ? |
| Call History | Server Address | <input type="text" value="192.168.6.216"/> | ? |
| LDAP | Port | <input type="text" value="389"/> | ? |
| Network Directory | Base | <input type="text" value="dc=pbx,dc=com"/> | ? |
| MultiCast Paging | User Name | <input type="text" value="admin,dc=pbx,dc=com"/> | ? |
| | Password | <input type="password" value="....."/> | ? |
| | Max.Hits(1~32000) | <input type="text" value="50"/> | ? |
| | LDAP Name Attributes | <input type="text" value="cn sn displayName"/> | ? |
| | LDAP Number Attributes | <input type="text" value="telephoneNumber home"/> | ? |
| | LDAP Display Name | <input type="text" value="%cn"/> | ? |
| | Search Delay(0~2000ms) | <input type="text"/> | ? |
| | Protocol | <input type="radio"/> Version2 <input checked="" type="radio"/> Version3 | ? |
| | LDAP Lookup For Call | <input checked="" type="radio"/> On <input type="radio"/> Off | ? |
| | LDAP Sorting Results | <input checked="" type="radio"/> On <input type="radio"/> Off | ? |
| | LDAP Synchronize Time(0~9999mins) | <input type="text"/> | ? |

| Setting | Description | Example |
|------------------------|---|--|
| LDAP Name Filter | Specify the name attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=%)(sn=%)) |
| LDAP Number Filter | Specify the number attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=%)(homePhone=%)(mobile=%)) |
| Server Address | Enter the IP address of PBX. | 192.168.6.216 |
| Port | Enter the LDAP server port. | 389 |
| Base | Specify a starting point in the directory tree from which to search. <ul style="list-style-type: none"> To search all contacts, enter the Base DN of LDAP server. To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |
| Username | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| Password | Enter the password to log in the LDAP server. | password |
| Max.Hits(1~32000) | Specify the maximum number of search results to be returned by the LDAP server. | 50 |
| LDAP Name Attributes | Specify the name attributes of each record to be returned by the LDAP server. You can configure multiple name attributes separated by space. | cn sn displayName |
| LDAP Number Attributes | Specify the number attributes of each record to be returned by the LDAP server. You can configure multiple number attributes separated by space. | telephoneNumber homePhone mobile mail departmentNumber |

| Setting | Description | Example |
|-----------------------------------|--|-----------------|
| LDAP Display Name | Specify the display name of the contact record displayed on the LCD screen. This parameter value must start with % symbol. | %cn |
| Search Delay(0~2000ms) | The time to display the search results after entering search information. | Leave it blank. |
| Protocol | XBLUE QB IP Telephone Server LDAP server uses Version 3. | Version 3 |
| LDAP Lookup For Call | Enable or disable IP phone to perform an LDAP search when receiving an incoming call. | On |
| LDAP Sorting Results | Enable or disable IP phone to sort out search results in alphabetical and numerical order. | On |
| LDAP Synchronize Time(0~9999mins) | The default value is 0, which means never synchronize. | Leave it blank. |

Set an LDAP Key

Set an LDAP key on Htek phone to quickly access the LDAP phonebook.

1. Log in the Htek phone web interface, go to **Function Keys**→**LineKey**.
2. Choose a DSS key, and select key type to **LDAP**.

The screenshot shows the Htek web interface with the 'Function Keys' menu selected. The 'Line Key' configuration page is displayed. On the left, there is a sidebar with 'Line Key' and 'Programmable Key' options. The main area contains configuration settings for the Line Key, including 'Line Page Indicator' (Disable), 'BLF list MODE' (Manually), 'line key as cancel' (Disable), 'BLF blink' (Off), and 'DSS Page Mode' (Default). Below these settings is a table with columns: Line, Type, Mode, Value, Label, Account, and Extension. The first row, 'Key1', has 'LDAP' selected in the 'Type' column, 'Default' in the 'Mode' column, and 'Account 1' in the 'Account' column. A red box highlights the 'Type' dropdown for 'Key1'.

3. Click **SaveSet**.

Search LDAP Contacts

You can press the LDAP key to access the LDAP phonebook. Enter the search criteria to search a contact from LDAP phonebook and call the contact.

1. Press the LDAP key to access the LDAP phonebook.
2. Search the contact name or number using the keypad. The contacts whose name or phone number match the characters entered will appear on the LCD screen.

The screenshot shows a phone's LCD screen displaying the LDAP phonebook search interface. At the top, it shows 'Andy' and '1/2'. Below that, it shows 'Ann'. A search filter 'Filter Prefix: A' is entered. At the bottom, there are four buttons: 'Cancel', '2aB', 'Delete', and 'Option'.

3. Press the navigation key to select the desired contact.
4. Press **Dial** to call the contact.

LDAP Configurations on Cisco SPA Phone

In this example, we demonstrate how to configure and use LDAP phonebook using a Cisco SPA-942 (version 6.1.5(a)).

Configuration Example


The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

1. Log in the Cisco SPA phone web interface, click **Admin Login** and **advanced** to log in as an administrator.
2. Go to **Phone→LDAP Corporate Directory Search** to configure LDAP client.

| LDAP Corporate Directory Search | | | |
|---------------------------------|--|-------------------------|-------------------|
| LDAP Dir Enable: | yes ▾ | LDAP Corp Dir Name: | yeastar |
| LDAP Server: | 192.168.6.216 | LDAP Auth Method: | Simple ▾ |
| LDAP Client DN: | cn=admin,dc=pbx,dc=com | | |
| LDAP Username: | cn=admin,dc=pbx,dc=i | LDAP Password: | ***** |
| LDAP Search Base: | dc=pbx,dc=com | | |
| LDAP Last Name Filter: | sn:(sn=*\$VALUE*) | LDAP First Name Filter: | cn:(cn=*\$VALUE*) |
| LDAP Search Item 3: | | LDAP Item 3 Filter: | |
| LDAP Search Item 4: | | LDAP item 4 Filter: | |
| LDAP Display Attrs: | a=sn;a=cn;a=telephoneNumber,n=Phone,t=p; | | |
| LDAP Number Mapping: | | | |

Table 2:

| Setting | Description | Example |
|--------------------|--|---------------|
| LDAP Dir Enable | Whether to enable LDAP directory or not. | yes |
| LDAP Corp Dir Name | Specify the name of phonebook. | XBLUE |
| LDAP Server | Enter the IP addresss of PBX. | 192.168.6.216 |

| Setting | Description | Example |
|------------------------|---|------------------------|
| LDAP Auth Method | <p>Select the authentication method that the LDAP server requires.</p> <ul style="list-style-type: none"> • None: No authentication is used between the client and the server. • Simple: The client sends its fully-qualified domain name and password to the LDAP server. But this may cause security issues. <p> Note: If the version of your LDAP server is 1.4.12 or later, you should select Simple.</p> <ul style="list-style-type: none"> • Digest-MD5: The LDAP server sends authentication options and a token to the client. The client returns an encrypted response that is decrypted and verified by the server. | Simple |
| LDAP Client DN | Enter the Username of LDAP server. | cn=admin,dc=pbx,dc=com |
| LDAP Username | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| LDAP Password | Enter the password to log in the LDAP server. | password |
| LDAP Search Base | <p>Specify a starting point in the directory tree from which to search.</p> <ul style="list-style-type: none"> • To search all contacts, enter the Base DN of LDAP server. • To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |
| LDAP Last Name Filter | This defines the search for surnames [sn], known as last name. | sn:(sn=*\$VALUE*) |
| LDAP First Name Filter | This defines the search for the common name [cn]. | cn:(cn=*\$VALUE*) |
| LDAP Search Item3 | Additional customized search item. Can be blank if not needed. | Leave it blank. |
| LDAP Item 3 Filter | Customized filter for the searched item. Can be blank if not needed. | Leave it blank. |

| Setting | Description | Example |
|---------------------|--|--|
| LDAP Search Item 4 | Additional customized search item. Can be blank if not needed. | Leave it blank. |
| LDAP Item 4 Filter | Customized filter for the searched item. Can be blank if not needed. | Leave it blank. |
| LDAP Display Attr | Format of LDAP results displayed on phone. | a=sn;a=cn;a=telephoneNumber,n=Phone,t=p; |
| LDAP Number Mapping | Can be blank if not needed. | Leave it blank. |

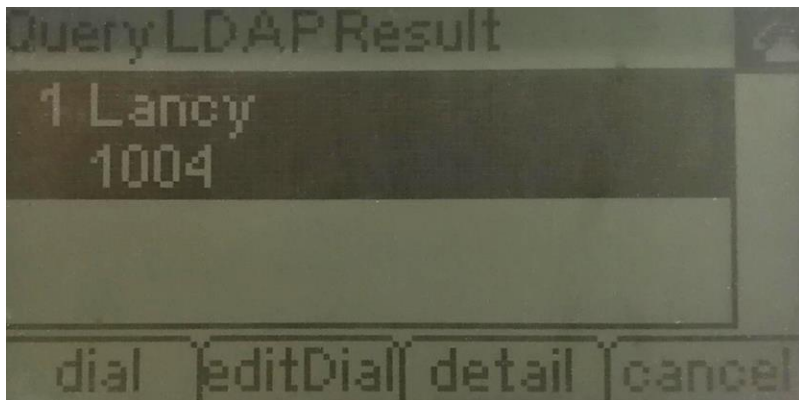
Cisco LDAP Display Attributes

| Attribute | Value | Description |
|-----------------|---------------------|---|
| a | Attribute name | N/A |
| cn | Common name | N/A |
| sn | Surname (last name) | N/A |
| telephoneNumber | phone number | N/A |
| n | Display name | Example: n=Phone will cause "Phone:" to be displayed in front of the phone number of an LDAP query result when the detail soft button is pressed. |
| t | type | When t=p, that is, t is of type phone number, then the retrieved number can be dialable. Only one number can be made dialable. If two numbers are defined as dialable, only the first number is used. Example: a=ipPhone, t=p; a=mobile, t=p; Only the IP Phone number is dialable and the mobile number will be ignored. |
| p | phone number | When p is assigned to a type attribute, example t=p, then the retrieved number will be dialable by the phone. |

Search LDAP Contacts

Enter the search criteria to search a contact from LDAP phonebook and call the contact.

1. Press the **Dir** soft key on the SPA phone.
2. Select the LDAP Corporate Directory from the list.
3. Enter the search parameters for Last Name and First Name, and press **submit**.



4. Press **Dial**, **EditDial**, **Detail**, or **Cancel** to use the LDAP results.

LDAP Configurations on Grandstream Phone

In this example, we demonstrate how to configure and use LDAP phonebook using Grandstream GXP1628 (version 1.0.4.100).


Configuration Example

The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.

Log in the Grandstream web interface, go to **Contacts**→**LDAP** to configure LDAP client.

| | | |
|---------------------|------------------------|---|
| Management | Server Address | 192.168.6.36 |
| LDAP | Port | 389 |
| | Base | dc=pbx,dc=com |
| | User Name | cn=admin,dc=pbx,dc=com |
| | Password | |
| | LDAP Number Filter | ((telephoneNumber=%)) |
| | LDAP Name Filter | ((cn=%)(sn=%)) |
| | LDAP Version | <input type="radio"/> Version 2 <input checked="" type="radio"/> Version 3 |
| | LDAP Name Attributes | cn sn displayName |
| | LDAP Number Attributes | telephoneNumber homeP |
| | LDAP Display Name | %cn |
| | Max. Hits | 50 |
| | Search Timeout | 30 |
| | Sort Results | <input type="radio"/> No <input checked="" type="radio"/> Yes |
| | LDAP Lookup | <input checked="" type="checkbox"/> Incoming Calls <input checked="" type="checkbox"/> Outgoing Calls |
| Lookup Display Name | %cn | |

Table 3:

| Setting | Description | Example |
|---------------|--|---------|
| LDAP protocol | <p>Specify the connection mode between the LDAP server and the IP phone.</p> <ul style="list-style-type: none"> LDAP LDAPS <p> Note: XBLUE QB IP Telephone Server supports LDAP.</p> | LDAP |

| | | |
|----------------|------------------------------|--------------|
| Server Address | Enter the IP address of PBX. | 192.168.6.36 |
|----------------|------------------------------|--------------|

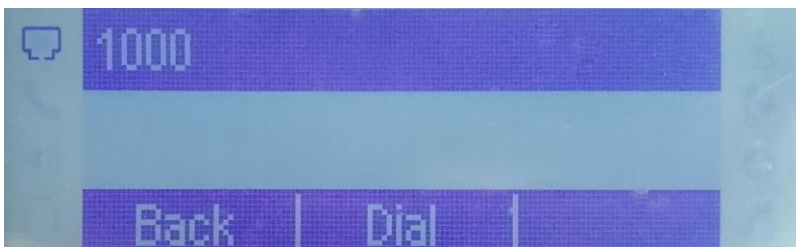
| Setting | Description | Example |
|----------------------|---|--|
| Port | Enter the LDAP server port. | 389 |
| Base | Specify a starting point in the directory tree from which to search. <ul style="list-style-type: none"> To search all contacts, enter the Base DN of LDAP server. To search part of contacts, enter the desired phonebook node. | dc=pbx,dc=com |
| User Name | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |
| Password | Enter the password to log in the LDAP server. | password |
| LDAP Number Filter | Specify the number attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((telephoneNumber=*)(homePhone=*)(mobile=*)) |
| LDAP Name Filter | Specify the name attributes for LDAP searching. <ul style="list-style-type: none"> The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. | ((cn=*)(sn=*)) |
| LDAP Version | XBLUE QB IP Telephone Server LDAP server uses Version 3. | Version 3 |
| LDAP Name Attributes | Specify the name attributes of each record to be returned by the LDAP server. You can configure multiple name attributes separated by space. | cn sn displayName |

| LDAP Number Attributes | Specify the number attributes of each record to be returned by the LDAP server. You can configure multiple number attributes separated by space. | telephoneNumber homePhone mobile mail departmentNumber |
|------------------------|--|--|
| LDAP Display Name | Specify the display name of the contact record displayed on the LCD screen. This parameter value must start with % symbol. | %cn |
| Max. Hits | Specify the maximum number of search results to be returned by the LDAP server. | 50 |
| Setting | Description | Example |
| Search Timeout | Specify the interval for the LDAP server to process the request and the client waits for server to return. The valid range is 0 to 180. | 30 |
| Sort Results | Enable or disable IP phone to sort out search results . | Yes |
| LDAP Lookup | Enable or disable IP phone to perform an LDAP search when receiving an incoming call or placing an outgoing call. | Incoming Calls Outgoing Calls |
| Lookup Display Name | Specify the display name when the LDAP looks up the name for incoming call or outgoing call. | %cn |

Search LDAP Contacts

Enter the search criteria to search a contact from LDAP phonebook and call the contact.

1. Press the **LDAP Search** soft key on the phone.
2. Search the contact name or number using the keypad and press **OK**. The contacts whose name or phone number match the characters entered will appear on the LCD screen.



3. Press the navigation key to select the desired contact.
4. Press **Dial** to call the contact.

LDAP Configurations on Zoiper Softphone

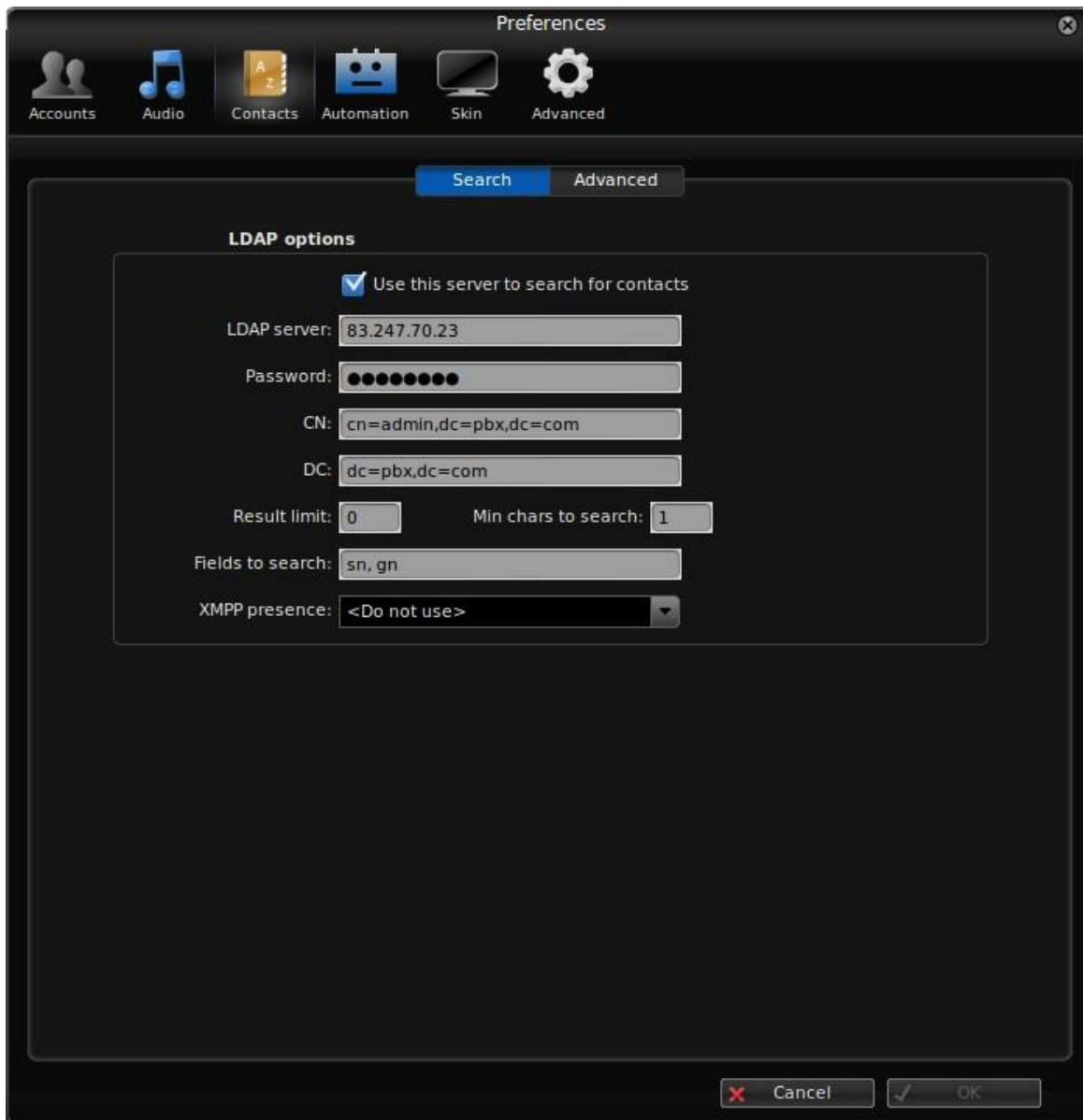
In this example, we demonstrate how to configure and use LDAP phonebook using Zoiper Softphone. **Configuration Example**

The example configurations are set according to default settings of XBLUE QB IP Telephone Server LDAP server. You can use the following settings as a starting point and adjust the filter and display attributes according to your needs.



Note: LDAP feature is only available for Zoiper Biz version.

1. Launch Zoiper Biz Softphone.
2. Go to **Settings**→ **Preferences**→ **Accounts**→**LDAP options**.
3. Check **Use this server to search for contacts** and configure the LDAP client.

**Table 4:**

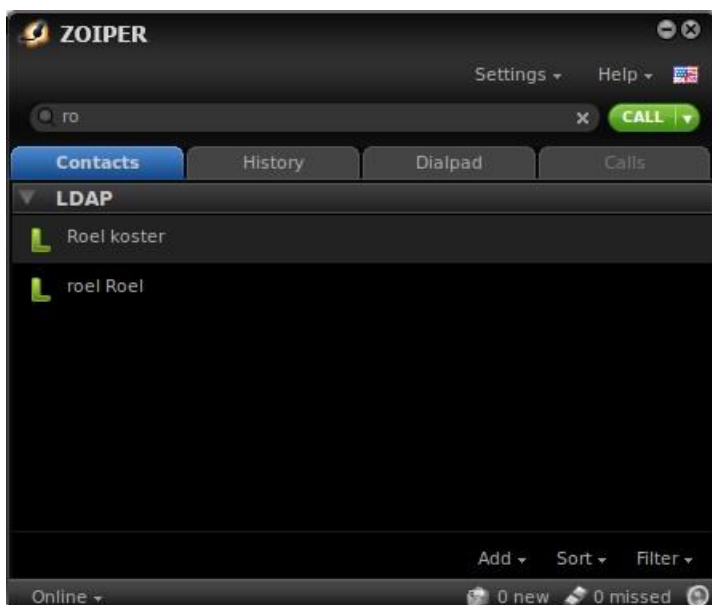
| Setting | Description | Example |
|-------------|--|------------------------|
| LDAP server | Enter the IP address of PBX. | 83.247.7.70.23 |
| Password | Enter the password to log in the LDAP server. | password |
| CN | Enter the user name to log in the LDAP server. | cn=admin,dc=pbx,dc=com |

| DN | Specify a starting point in the directory tree from which to search. Enter the Base DN of LDAP Server. | dc=pbx,dc=com |
|---------------------|--|---------------|
| Setting | Description | Example |
| Result limit | Specify the maximum number of search results to be returned by the LDAP server. | 0 |
| Min chars to search | Specify the minimum number of characters to be entered before starting LDAP search. | 1 |
| Fields to search | Specify the name attributes for LDAP searching. The default value is "sn, givenname". | gn |
| XMPP presence | The name of the field in the LDAP points to the XMPP presence URI for the contact. | Do not use |

Search LDAP Contacts

Enter the search criteria to search a contact from LDAP phonebook and call the contact.

1. Search the contact name or number. The contacts whose name or phone number match the characters entered will appear on the LCD screen.



2. Click **Dial** to call the contact.