



ES220 IP Phone

User Manual

(firmware:v1.0.2.9-777)



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1. Getting Started

About

ES220P is a popular type IP Phone in Sayhi phones series, with modern design, functional, practical and voice clarity characteristics. It accomplished the powerful telephony features by cooperating with the communications platform, such as call transfer, hotline, multi-party conferences, voice mail, interruption-free, etc.

Feature Highlights:

- HD Voice: HD Codec
- Support unified maintenance and auto upgrade
- Support Plug and Play
- Enterprise Phone Book
- Support PSTN interface
- Support Headset interface
- Support PoE and AC power adapter

Technical Features

Item	Technical Features
Screen	Grayscale LCD with background light
	128*32 characters
Language	Support Multi-Module
Line	2 VoIP Line
Function Keys	6 Navigation keys (arrow button, OK button, C button) Volume button (multiplex up and down keys) Hands-free Mute (C button) Headset Message Hold Redial Conference Transfer
VoIP Protocol	SIP 2.0
Network	HTTP、DHCP、TFTP、*IEEE 802.1Q、*IEEE 802.1X

Protocol	
Codec	G.723.1 (5.3K 6.4K b/s)、G.729 A (8Kb/s)、G.711 A/U (64Kb/s), G.722
QoS	TOS, Jitter Buffer, VAD, CNG, G.168 (32ms)
Network	2*RJ45 10/100M Ethernet interfaces(LAN/PC) IP Assignment: Static IP 、DHCP、PPOE VPN(L2TP、SSL_VPN) DNS Clients (Primary and Secondary)
Speech	HD Voice: HD Codec/Handset/Speaker(Full-duplex) Handset, Headset or Hand-free Mode, Support call centre by headsets 9-levels volume adjustment
Call Processing	Call Waiting, Call Queuing Call Forward, Call Transfer, Call Holding, Call Pickup, Callback Redial,Auto-answer Phone directory speed dial, call record direct dial 3-way conference DnD Voice mail, Voice Prompt, Voice Message
Application	Enterprise phone directory XML Phonebook Private phone directory
Security	Password Login Web Signaling encryption Media encryption
Management	Upgrade: HTTP/TFTP/FTP Auto-provision/TR069 Configurations: Phone/Http/Auto provision/TR069 Debug: Telnet/Phone/Web
Power Supply	Power adapter: AC100~240V input and DC 5V/1.2Aoutput PoE (IEEE 802.af)
Specification	Storage Temperature: 0°C~60°C Operating Humidity: 10%~90% Size: 168mm*205mm*85mm

2. Connecting Your Phone

Your system administrator will likely connect your new SayHi ES210 IP Phone to the corporate IP telephony network. If that is not the case, refer to the graphic and table below to connect your phone.

1) Open the box of ES210 IP Phone, carefully check the packing list as follow:

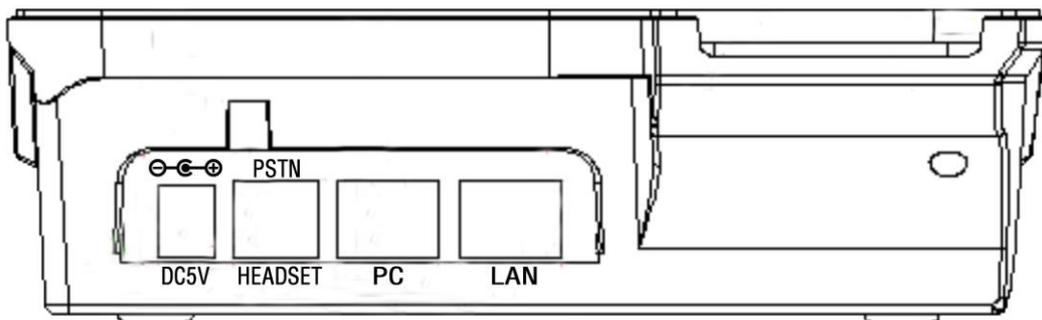
Item	Counts
IP Phone	1
Handset	1
Handset Cord	1
Power adapter	1 (need to buy)
RJ45 cable	1
RJ11 cable	1 (ES2xx)
CD	1
Quick Installation	1
Quick User Guide	1
Product certification	1

2) As shown in figure 2.1, please plug Handset Cord into RJ11 interfaces (IP Phone and Handset), RJ45 cable into the LAN interface; IP Phone will automatically start if IP Phone with POE function.

3) The phone must work together with power adapter without POE support.

4) If you want connect your computer into LAN at the same time, please connect your computer to PC interface of the phone with a RJ45 cable.

Figure 2.1 Interfaces of SayHi ES220



3. Phone overview

Understanding Buttons and Hardware

You can identify buttons and hardware on your SayHi ES220 from figure 3.1.

Figure 3.1 SayHi ES220



0,6

	Item	Description
1		message button: when have new message in, the light will blink red
2	Line 1	When you use this line ,the light is red
3	and PSTN	Headset button: Toggles the headset on or off. When headset is on, the light is red .

4	Line 2	When you use this line ,the light is red 
5	0-9, *, #	Basic Call Handling: press “#” send out a call by default.
6	Navigation button	Allows you to scroll through menus and highlight items. When the phone is on-hook, it becomes a shortcut key as follow: “Up”: Adjust ring volume, operate with the “down” button “Down”: Open “Missed Calls” list: “Left”: Open “Received Calls” list; “Right”: Open “Dialed Numbers” list.
7	OK	OK button: To confirm the action, it also has a menu button function; it allows you to scroll through menus.
8	C、 	Back button: Return to the standby interface. When in communication press “C”, it has mute function.
9	CONFERENCE	Conference button: Connect calling / called party to the conference.
10	TRANSFER	Transfer button: Transfer redirects a connected call.
11	HOLD/Pick up	Hold button: Put a call on hold.
12	REDIAL	Redial button: To dial the last number.
13	Speaker button	Speaker button: Toggles the speakerphone on or off.  Red, steady: Pick up and enter normal call.
14	Speaker	Sounds output when hands-free.
15	Handset	Use to sounds in/output.
16	Handset cord	Connects between handset and phone.
17	LCD screen	128*32 characters, grayscale LCD with background light.
18	Light strip	 Red flashing: There are incoming call;  Red, steady: Missed Calls, or phone busy;
19	Hands-free microphone	Sounds input when hands-free

Understanding Phone Screen Features

This is what your main phone screen might look like:

Figure 3.3 SayHi ES220 Phone LCD



	Screen displays	Functions
1	Line status	<p>Show the phone line status:</p> <p>1) LAN: Disconnect : Disconnect into network.</p> <p>2) Peer-to-Peer : Only Peer-to-Peer call.</p> <p>3) ✕ 8001 : Network connected normal, but the line is not successfully registered.</p> <p>4) ☎ 8001 : Network is OK and the line is available.</p> <p>5) Ⓜ 8001 : Line is turned on DND.</p>
2	Time and date	Show current time and date (You can set with different sources, the more <i>7. Web Setting</i>)

4. Basic Call Handling

You can perform basic call-handling tasks using a range of features and services. Feature availability can vary; see your system administrator for more information.

Note: The bold type of the following text in table signifies the phone's button.

Placing a Call

Here are some easy ways to place a call on SayHi ES220 IP Phone:

If you want to...	Then...	
Place a call using the handset	Pick up the handset	--1) You can hear dial tone; --2) Enter a number; --3) Press # button (default), -or wait 5s (default), then it send the number automatically.
Place a call using a speakerphone	Press Speaker button	
Place a call using a headset	Put on your headset, active Headset button so that the status light is Red  , and then do as using speakerphone	
Redial	--Press REDIAL button to dial the last number, -or press Navigation button-Right (in Standby interface) > "Dialed number", select a number, then select Dial , and press OK button.	
Dial from a call log	--1) Press OK button > "Call history", you can select "Missed calls", "Received calls" and "Dialed numbers", - or press Navigation button (in Standby interface) > select "Missed calls" (down), "Received calls" (left) and "Dialed numbers" (right);	

	--2) Then press OK button .
--	------------------------------------

Tips

- You can dial on-hook, without a dial tone (pre-dial). To pre-dial, enter a number, and then go off-hook by lifting the handset or pressing **Headset** or **Speaker** button.
- If you make a mistake while dialing, press **C** button to erase digits.

Answering a Call

You can answer a call by simply lifting the handset, or you can use other options if they are available on SayHi ES220.

If you want to...	Then...	
Answer with a handset	--1) Your phone ring; --2) Light strip is Red  and flashing;	--Pick up the handset
Answer with the speakerphone (Non-headset mode)		--Press Speaker button
Answer with the a headset		--Put on headset, press Headset button so that the status light is Red  , and then do as using speakerphone
Auto-answer	--1) Press OK button > "Function setting" > "Auto answer"; --2) Select "Enable"; --3) Your phone answers incoming calls automatically after a few rings.	

Tips

- Your system administrator configures Auto-answer to use either the speakerphone or a headset. You might use Auto-answer if you receive a high volume of incoming calls.

Ending a Call

To end a call, hang up. Here are some more details.

If you want to...	Then...
Hang up while using the Handset	-- Return the handset to its cradle
Hang up while using the speakerphone	-- Press Speaker button that is Red 
Hang up while using the Headset	--Press Handset button, (Do not keep the headset mode)

Using Hold and Resume (Switch Calling Line)

You can hold and resume calls.

If you want to...	Then...
Put a call on hold	Press HOLD button
Resume a call	Press line button

Tips

- Engaging the Hold feature typically generates music or a beeping tone.

Transfer Calls

Transfer redirects a connected call. The target is the number to which you want to transfer the call.

If you want to...	Then...
Talk to the transfer recipient before transferring a call (consult transfer)	--1) Press TRANSFER button; --2) Enter number; --3) press "#" (default) , -or wait five seconds(default)then transfer the call

Using Mute

With Mute enabled, you can hear other parties on a call but they cannot hear you. You can use mute in conjunction with the handset, speakerphone, or a headset.

If you want to...	Then...
Toggle Mute on	Press C button, when you are in communication, and want to set Mute function
Toggle Mute off	Press C button, then the mute off

Do Not Disturb

You can use the Do Not Disturb(DND) feature to block incoming calls on your phone with a busy tone (Can also be set to their voice mail or other extension numbers, etc.).

If you want to...	Then...
Enable DND on a line	--1) Press OK button > "Function setting" > "DND" > (select line) "Enable" --2) All enabled line on the phone would changes to  8001 status.
Disable DND	Press OK button > "Function setting" > "DND" >(select line) "Disable"

3-way Conference

You can establish a three-party conference, during the conversation three phone parties can communicate with each other.

If you want to...	Then...
Invite the transfer	--1) When the transfer recipient answer the call, press

recipient into a conference in a transferring	<p>CONFERENCE button on your phone;</p> <p>--2) Then the held one, transfer recipient and you will be into a conference, and the LCD will display <code>conferenc 0:0:10</code> status.</p>
Invite the third party into a conference in a active call	<p>--1) Press CONFERENCE button in an active call;</p> <p>--2) Enter the third party number;</p> <p>--3) After connected the third party, press CONFERENCE button again</p>

5. Advanced Call Handling

Using the Phone Book

You can store a large number of contacts in your phone's directory. You can add, edit, delete, dial, or search for a contact in this directory. However, it only can configure the phone book on web page in SayHi ES220. For details, you can refer to *7.Web Settings*.

However, you can dial from Phone Book on the phone after setting phone book on web page.

If you want to....	Then.....
Call from phone book	--1) Press OK button> "Phone book" --2) Select " Personal phone book ">" View ALL " -or select a contact who are belong to different group --3) Select a contact and a number, then press OK button
Add group	--1) Press OK button> " Phone book " --2) Select " Personal phone book ">" Modify " --3) Select the " Add group " then press OK button --4) Use the navigation keys to select content, press OK button to set and modify: -Group name: name of the group --5) Press " OK " to complete
Add Contacts	--1) Press OK button > " Phone book " --2)) Select " Personal phone book ">" Modify " --3) Select " Add contact ", press OK button --4) Use the navigation keys to select content, press OK button to set and modify: -Name: set the name of contact, -NO.1-3: you can set up 3 contacts' numbers: (Mobile、 Office Number、 Other Number)

	<p>-Group: the contacts be divided into different user's groups</p> <p>--5) Press "Save" to complete</p> <p>--6) Press "Delete" to cancel your input.</p>
Modify group	<p>--1) Press OK button > "Phone book"</p> <p>--2) Select "Personal phone book">"Modify"</p> <p>--3) Select "Modify Group", press OK button</p> <p>--4) Select the group you want to modify, press the OK button to set and modify</p> <p>--5) Press "OK" to save the change</p>
Delete group	<p>--1) Press OK button > "Phone book"</p> <p>--2) Select "Personal phone book">"Modify"</p> <p>--3) Select "Modify Group", press OK button</p> <p>--4) Select a group you want to delete, press OK button</p>
Find	<p>--1) Press OK button > "Phone book"</p> <p>--2) Select "Personal phone book">"Find"</p> <p>--3) input the ground name can find the ground</p>
LDAP	<p>--1) Press OK button> "Phone book",</p> <p>--2)Select"LDAP", press the OK button.</p> <p>--3)Select"Search name->name", then input the name ,and press OK or Back.</p> <p>--4)Select "Search number->Number", then input the number ,and press OK or Back.</p> <p>Pay attention: before you use LDAP function, you need to configure LDAP rule in the web configure page.</p>

Using Call Logs

Your phone maintains records of your missed, placed, and received calls.

If you want to...	Then...
View your call logs	--1) Press OK button > "Call history" > "Missed Calls", "Received Calls", or "Dialed numbers" --2) Use the navigation keys to view the call record information. --3) You can delete the information, Select "Delete all"
Dial from a call log	Please refer to the previous part <i>4.Basic call handing – Placing a call.</i>

Tips

- Each call log store up to 20 entries on SayHi ES220 IP phone.

6. Keypad Instruction

SayHi series IP phones can be configured in two ways. The first you can use the phone keypad where you can settings for you IP phones, the other you can log in to User Options web pages where you can settings for you IP phones.

Use phone keypad to setting. Press **OK** button to the main menu, Use the navigation keys to select menu, press **OK** button to confirm menu selections, press **C** button to delete input information.

Tips

- When you want to type "." in setting IP address with keypad, you can press * button.

SIP Account Settings

SayHi ES220 series IP phone make calls based on sip accounts, sayHi ES220 series IP phones can support 2 independent SIP account, Each account can be configured to different SIP server.

If you want to...	Then...
Create an SIP account	--1) Select " System setting " > " Advanced setting "; --2) Enter the password required (The default is empty) ; --3) Select " SIP " > " Accounts SIP "; --4) Select one of the account you want to setting, you can configure the following parameters - Enable account* : Select Enable - Account mode : VOTP or PSTN, usually select VOTP - Display Name : The name displayed on the screen - Account* : the account matched with the SIP server. (extension number) , - Authen user : the Authenticated users matched with the SIP server. (The default With the same account) - user pwd* : the user password matched with the SIP server - Description : description of this account,

	<p>-SIP1*: the primary SIP server, By default all calls through the server,</p> <p>-SIP2: the secondary SIP , When the primary server is unavailable ,use the SIP server</p> <p>-Refresh time: Registration refresh interval, the minimum value is 20 The default value is 3600.</p> <p>-Con type :UDP or TCP, usually select UDP</p> <p>-Amount of used line :the account use one line or two lines.</p> <p>--5) Set up the above parameters, select "Save" to saves settings, Complete the account creation.</p> <p>* Note: the parameters with the * mark must be set.</p>
Disable sip account	<p>--1) Select "System setting" > "Advanced setting";</p> <p>--2) Enter the password required (The default is empty) ;</p> <p>--3) Select "SIP" > "Account sip";</p> <p>--4) Select "Enable account" > "Disable";</p> <p>--5) Select "Save" to saves settings</p>

Network Setting

If you want to ...	Then...
LAN Port	<p>--1) Select "System setting" > "Advanced setting";</p> <p>--2) Enter the password required (The default is empty) ;</p> <p>--3) Select "Network>LAN Port", you can configure the following parameters:</p> <p>-Type: static IP or DHCP or PPOE</p> <p>-IP: enter IP address , Note: Do not duplicate the IP address with other devices on the network</p> <p>-Mask: enter appropriate sub mask</p> <p>-GW: enter appropriate gateway</p>

	<ul style="list-style-type: none"> - DNS1: enter IP address of the primary DNS server - DNS2: enter IP address of the secondary DNS server - Web port: the default Web port is 80,if you change it(for example change it to 88),you must use IP and Web port to login the web page (for example http://192.168.0.200:88).It will take effect on next reboot. - Telnet port: the default Telnet port is 23, if you change it (for example change it to 2003), you must use IP and Telnet port to login the manage page (for example telnet 192.168.0.200:2003).It will take effect on next reboot.
<p>PC Port</p>	<ul style="list-style-type: none"> --1) Select "System setting" > "Advanced setting"; --2) Enter the password required (The default is empty) ; --3) Select "Network>PC Port", you can configure the following parameters: <ul style="list-style-type: none"> -Mode :you can select bridge or router --4) Select "Save" to saves settings

Load default settings

If you want to...	Then...
Load default settings	<ul style="list-style-type: none"> --1) Choose "System settings" > "Advanced settings"; --2) Enter the password required (The default is empty) ; --3) Select "load default settings", and press "OK" then "Reboot" the phone.

Modify password

If you want to...	Then...
Modify password	--1) Choose "System settings" > "Advanced settings"; --2) Enter the password required (The default is empty) ; --3) Select "Modify password", you can change the "Advanced password".

Language setting

ES220 support multiple language to choose ,such as :Chinese 、 English、 Russian、 French、 Polish、 Spanlish、 Portuguese。

If you want to...	Then...
Change the language to English	--1) Select "System setting" > "Phone setting" > "language"; --2)select "English "
Change the language to other language	--1) Select "System setting" > "Phone setting" > "language"; --2)select which you want to display

Customizing Rings and Volume

If you want to...	Then...
Change the ring tone	--1) Select "System setting" > "Phone setting" > "Ring type"; --2) Press navigation to Select ring tone
Adjust the	--1) Select "System setting" > "Phone setting" > "Volume setting"

volume level	<p>--2) You can adjust the volume level of following types</p> <ul style="list-style-type: none"> -Ring volume: Phone call ring volume, -Handset volume: Handle output volume, -Handset mic volume: Handle input volume, -Speaker volume: Hands-free speaker output volume, -Speaker mic volume: Hands-free input volume, -Headset volume: Headphone output volume, -Headset mic volume: Headset microphone input volume
--------------	--

View status

If you want to	Then.....
Network	You can see the network detail information of the phone
Lines	You can see the SIP account
software	It include phone Mode、 software version、 kernel version、 Upgrade date、 Running time

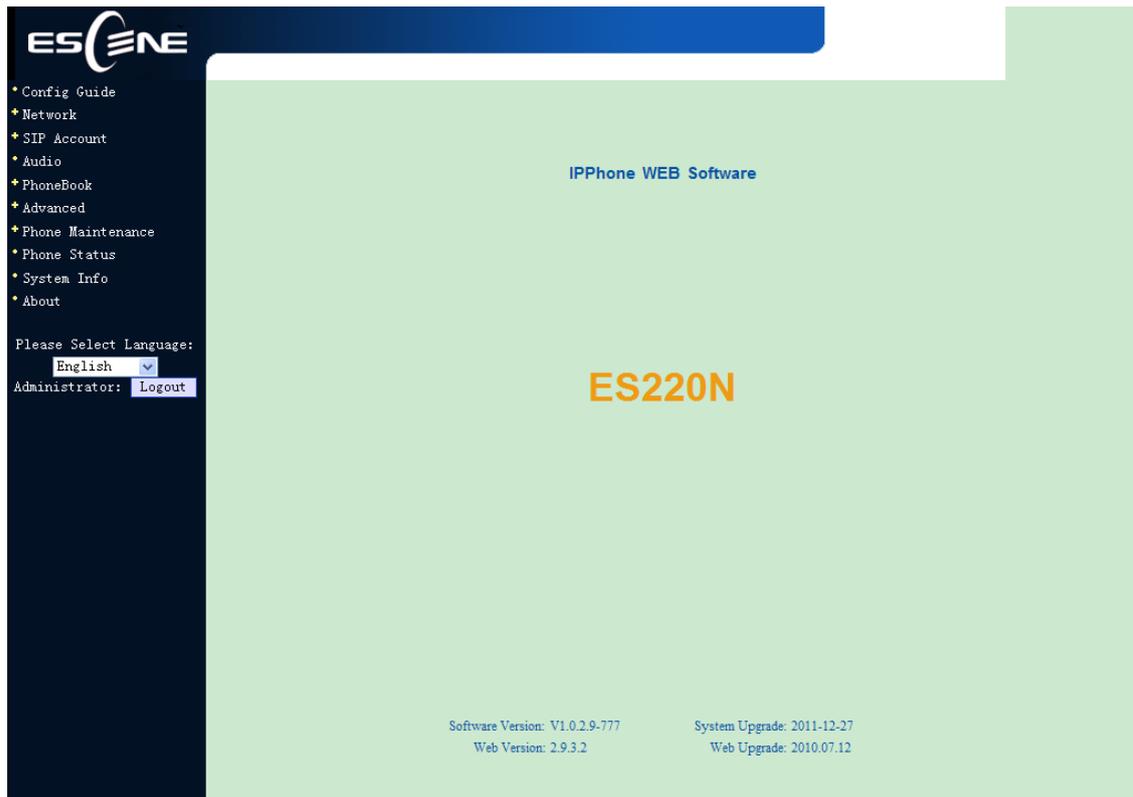
Diagnose

If you want to check the phone hardware function, press **OK** button > "diagnose", you can check the phone item as below.

If you want to	Then
Keys	You can check the phone keys
LCD	Press' OK 'to start,press' C 'to exit
Lights	Press' OK 'to start,press' C 'to exit
Sound	Press' OK 'to start

7. Web Settings

We can configure IP Phone more handy through web setting. Press OK button on the keypad of the phone to enter the status page and find out the IP address of IP phone. Enter it (for example <http://192.168.0.200>) into the address bar of web browser. The default login name and password are both "root".



Config Guide

You can finish the base configuration step-by-step by this guide.



When press "Next", you can configure the Network parameters for the phone,

Network

IP Type

DHCP

Static IP

IP Address:

Netmask:

Gateway:

PPPoE

Username:

Password:

MTU: Default: 1500

DNS

Automatic Get DNS

Manual DNS

Primary DNS:

Secondary DNS:

MAC Address

MAC Address: 00:26:8b:00:5b:7d

Port Management

HTTP Port:

Telnet Port:

OutboundProxy Server

After configure the network parameter, press next, then you can configure sip account for the phone.

Account

SIP

Username: *

Password: *

SIP Server:

Attention: If you want to get more configuration information, please click to the appropriate Web page.

Press Finish, the base configuration of the phone is complete, now you can use the phone to call with sip.

Network

You can config the network parameters for the phone on the web page.

Network

IP Type

DHCP

Static IP

IP Address:

Netmask:

Gateway:

PPPoE

Username:

Password:

MTU: Default: 1500

DNS

Automatic Get DNS

Manual DNS

Primary DNS:

Secondary DNS:

MAC Address

MAC Address: 00:26:8b:00:5b:7d

Port Management

HTTP Port:

Telnet Port:

OutboundProxy Server

Choose network, you will find the following parameters:

Field	Description
DHCP	Config the phone get ip info from DHCP server
IP Address	Config the ip manual for phone
Netmask	Config the netmask manual for phone
Gateway	Config the gateway manual for phone
Username (pppoe)	The pppoe username
Password (pppoe)	The pppoe password
MTU (pppoe)	The mtu for pppoe,default is 1500
Primary DNS	The primary DNS server
Secondary	The secondary DNS server
MAC Address	Display the MAC of the phone

HTTP Port	The default web port is 80,if you change it(for example change it to88), You must use IP and Web port to login the web page(for example
Telnet Port	the default Telnet port is 23,if you change it(for example change it to 2003),you must use IP and Telnet port to login the manage page (for example telnet 192.168.0.200:2003).It will take effect on next

SIP Account

The phone attempts to register to the SIP server using the account/registrar data provided by the automatic or manual initialization.

SIP

Enable:

Display Name:

Username: *

Authenticate Name:

Password: *

Label:

SIP Server:

Secondary server:

OutboundProxy Server:

NAT Traversal: ▾

STUN Server:

Register Method: SIP TEL

Subscribe Period: Default: 3600s, Min: 20s

Register Expire Time: Default: 3600s, Min: 40s

SIP Transport: UDP TCP TLS

Call

Do Not Disturb: off on

Security

SIP Encryption: off on

RTP Encryption: off on

Encryption Algorithm: ▾

Choose one Account, you will find the following parameters:

Field	Description
Enable	You can choose on/off to enable/disable the line.

Account Mode	You can choose VOIP
Display Name	It is showed as Caller ID when making a phone call
Username	It is a username provide by SIP Server
Authenticate Name	It is authenticated ID for authentication
Password	It is a password provide by SIP Server
SIP Server	Server for registration, provided by administrator
Register Expire Time	IP phone automatically registered every time
Amount Of Line Account Used	The line key of account used,default is 1

Audio

The IP phone supports the following voice codecs: G.722, G.711A, G.711U, G.723, and G.729A.

You can enable/disable the desired codecs via Web interface. Please contact your system administrator for more details about the codecs.

To enable/disable the codecs:

- 1)1) Choose "Audio>Tone", you can modify "Dial Tone, Ring Volume"

Audio

Tone

Dial Tone: Ring Volume (0~9):

Output Volume (1~9) **Input Volume (1~7)**

Handset Volume: Handset Mic Volume:

SpeakerPhone Volume: SpeakerPhone Mic Volume:

Headset volume: Headset Mic Volume:

Voice Codec

Payload Length: ms High Rate of G723.1:

Other

VAD: Echo Suppression Mode:

Ring

Ring Type:

Uploading Ring Tone

(Please upload a ring tone with G711A audio coding, and the size must less than 50k.)

Audio Codecs:

enableCode
 <<"/>

- 2) Choose "Output volume", you can modify "Handset Volume, SpeakerPhone Volume, Headset volume"
- 3) Choose "Input Volume", you can modify "Handset Mic Volume, SpeakerPhone Mic Volume, Headset Mic Volume"
- 4) Choose "Voice codec" you can modify "payload Length", normally is 20ms.
- 5) Choose "Ring", you can delete which you don't want to use.
- 6) Choose "Upload Ring", you can upload the music which you like, but upload G729 less than 30k.
- 7) Choose "Audio Codec", Use the navigation keys to highlight the desired one in the

Enabled/Disable Codecs list, and press the / to move to the other list.

8) Choose "Submit" to save the change.

Of course, you can control the voice bulk in this choose.

PhoneBook

Group

You can add, edit and delete group in a phone book on web page of ES210.

- 1) Click "PhoneBook" > "Group",

Group

Click the groupname you can modify or delete the member of the group

ID	Operation	Group Name	Group Member	Description
Attention: If you Click 'Delete Group' or 'Delete All Group', the member of group can not within a group, please click the group and delete the group.				

If you want to add a Group, you just ought to click 'Add Group' .

You can edit an existed Group by click .

You can delete an existed Group by click , if you want to delete all Groups, you just ought to click 'Delete All Group'.

2) When you add a group or edit an existed group, you can set several parameters as follow:

Group

ID: Description:

Group Name:

Group	
ID	Serial number of a group
Description	Description of a group
Group Name	Name of a group

Contact

You can add, edit and delete contact in a phone book on web page of ES210.

The phonebook can storage 300 contact entry.

1) Click "PhoneBook" > "Contact",

Contact

ID	Operation	Name	Phone	Group
<input type="button" value="Add Contact"/> <input type="button" value="Delete All Contact"/>				

If you want to add a Group, you just ought to click 'Add Contact'.

You can edit an existed Contact by click .

You can delete an existed Contact by click , if you want to delete all Contacts, you just ought to click 'Delete All Contact'.

2) When you add a Contact or edit an existed Contact, you can set several parameters as follow:

Contact	
Serial Number	Serial number of a contact
First Name	The First Name of a contact
Last Name	The Last Name of a contact

Mobile Number	The Number1 phone number of a contact
Office Number	The Number2 phone number of a contact
OtherNumber	The Number3 phone number of a contact
Group	You can assign a contact to a specific group. If there isn't any group set on the phone, the group is None by default.
Account	Select a SIP account relating this contact, that is you can dial to the contact from this SIP account.

LDAP

1). Overview

LDAP stands for Lightweight Directory Access Protocol which is a client-server protocol for accessing a directory service. LDAP lets you locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate intranet, and whether or not you know the domain name, IP address, or geographic whereabouts.

An LDAP directory can be distributed among many servers on a network, then replicated and synchronized regularly.

2). Configuration

access to the web "PhoneBook>LDAP page, you can find the configured option is like following picture. the detail configure in the appendix.

LDAP 1

LDAP: on off

LDAP Name Filter:

LDAP Number Filter:

Server Address:

Cwmp Port:

Base:

Username:

Password:

Max. Hits(1~32000):

LDAP Name Attributes 1:

LDAP Name Attributes 2:

LDAP Name Attributes 3:

LDAP Number Attributes 1:

LDAP Number Attributes 2:

LDAP Number Attributes 3:

Protocol: Version2 Version3

Search Delay(ms)(0~2000):

LDAP Lookup For Incoming Call: on off

LDAP Lookup For PreDial/Dial: on off

BanList

You can add, edit and delete banlist in a phone book on web page of ES220..

- 1) Click "PhoneBook" > "BanList",

BanList

ID	Operation	Name	Phone	Description	Account

If you want to add a BanList, you just ought to click 'Add BanList'.

You can edit an existed BanList by click .

You can delete an existed BanList by click , if you want to delete all BanLists, you just ought to click 'Delete All BanList'.

- 2) When you add a BanList or edit an existed BanList, you can set several parameters as follow:

BanList

Serial Number	Serial number of a BanList
Description	Description of a BanList
First Name	The First Name of a ban contact
Last Name	The Last Name of a ban contact
Mobile Number	The number1 phone number of a ban contact
Home Number	The number2 phone number of a ban contact
Office Number	The number3 phone number of a ban contact
Account	Select a SIP account relating this ban contact, that is the ban contact can't dial to this SIP account.

Enterprise Phonebook

You can download Enterprise Phonebook from this web interface. But you should do second develop on the sip server to enable this function completely.

If the sip server no add some function to hold this option ,this option can be used.

Enterprise Phonebook

Auto Download Enterprise Phonebook

Server IP:

Password:

Advanced

Phone Setting

You can use phone setting to set the time, qos, port Mirroring for the phone.

Phone Setting	
Basic	
Called No AnswerTime:	<input checked="" type="checkbox"/> <input type="text" value="30"/> s (Min:20, Max:99)
DTMF:	<input checked="" type="radio"/> RFC 2833 <input type="radio"/> Inband <input type="radio"/> SIP Info <input type="radio"/> Auto
	<input checked="" type="radio"/> # <input type="radio"/> *23
RFC 2833 PayLoad:	<input type="text" value="101"/>
BackLight:	<input type="radio"/> off <input type="radio"/> Always On <input checked="" type="radio"/> timer <input type="text" value="60"/> s (Min:1, Max:255)
PSTN Setting	
PSTN Ring Type:	<input type="radio"/> PSTN Ring <input checked="" type="radio"/> VOIP Ring
PSTN Prefix Code:	<input type="text"/>
VOIP Prefix Code:	<input type="text"/>
Call	
Hot Line Function:	<input checked="" type="radio"/> off <input type="radio"/> Immediately Hot Line <input type="radio"/> Delay
Hot Number:	<input type="text"/>
Call Waiting:	<input checked="" type="radio"/> off <input type="radio"/> on
Auto Answer:	<input checked="" type="radio"/> off <input type="radio"/> on
Pickup Code:	<input type="text" value="123"/>
Message:	<input type="text" value="*97"/>
Booking Voicemail:	<input type="text" value="Yes"/>
Hang voice Play:	<input type="radio"/> off <input checked="" type="radio"/> on
VOIP Call Forward	
Always:	<input checked="" type="radio"/> off <input type="radio"/> on Number: <input type="text"/>
If Busy:	<input checked="" type="radio"/> off <input type="radio"/> on Number: <input type="text"/>
If No Answer:	<input checked="" type="radio"/> off <input type="radio"/> on Number: <input type="text"/>
Ring Frequency:	<input type="text" value="15"/> Second (Default: 15s, Max: 15s)
Set Time Mode: <input type="radio"/> SNTP <input checked="" type="radio"/> SIP Server <input type="radio"/> PSTN <input type="radio"/> Manual	
SNTP Server: sparky.services.adelaide.edu.au	
	<input checked="" type="radio"/> <input type="text" value="sparky.services.adelaide.edu.au"/> List
	<input type="radio"/> <input type="text" value="sparky.services.adelaide.edu.au"/> Manual
Daylight Saving Time:	<input type="checkbox"/>
Time Format:	<input checked="" type="radio"/> 24 Hour <input type="radio"/> 12 Hour
Time Zone-GMT:	<input type="text" value="GMT+08:00 Beijing"/>
Manual Setting	
<input type="text" value="2000"/> Year	<input type="text" value="1"/> Month <input type="text" value="1"/> Day <input type="text" value="0"/> Hour <input type="text" value="0"/> Minute <input type="text" value="0"/>
Other	
QoS:	<input type="text" value="40"/> Diff-Serv or Precedence
Check When Upgrade Software:	<input type="text" value="Check"/>
BLF Light:	<input type="text" value="On"/>
Headset Mode:	<input checked="" type="radio"/> Normal <input type="radio"/> Seat Mode
Ring Type On Seat Mode:	<input checked="" type="radio"/> Headset <input type="radio"/> Speaker
Network Packet Mirroring:	<input type="text" value="Off"/>
<input type="button" value="Submit"/>	

When used Phone Setting option, you can set several parameters as follow:

Phone Setting	
DTMF	The DTMF transmitted mode,include RFC 2833,Inband,SIP Info
BackLight	The backlight of the phone LCD
Set Time Mode	The mode of set time for phone,include SNTP/SIP Server/Manual
Daylight Saving Time	Enable/disable the DST for the phone
Time Format	You can use 24 hour time format or 12 hour time format
Time Zone-GMT	You can select different time zone for the phone
Manual Setting	This used to manual set time for the phone
QoS	The qos priority,support diff-serv and precedence
Network Packet Mirroring	When select on,then you can capture the phone's packet use notebook which connect to pc port of the phone

VLAN Setting

You can add the phone and PC to different VLAN used VLAN Setting option.

VLAN Setting

Voice

Enable VLAN:

VID: (0~4094)

Priority: (0~7)

PC

Enable VLAN:

VID: (0~4094)

Priority: (0~7)

When used VLAN Setting option,you can set several parameters as follow:

VLAN Setting	
Enable VLAN	You can enable/disable vlan for phone and pc
VID	The vlan you want the phone or pc to join

VPN Setting

VPN Setting

Enable VPN:

VPN Type: L2TP ▼

L2TP

VPN Server Addr:

VPN User Name:

VPN Password:

SSL_VPN

Attention: The trusted certs dir is /mnt/sip/vpn/

Upload VPN Config: Browse...

upload

Submit

If you need to setup a VPN Setting, you should fill below options.

When used VPN Setting option, you can set several parameters as follow:

VLAN Setting	
Enable VPN	You can enable/disable VPN for phone and pc
VPN Type:	L2TP or SSL_VPN
VPN Server Addr	VPN server's ip
VPN User Name	VPN user's name
VPN password	A password be use for authentication
SSL_VPN	Upload VPN config

Dial Plan setting

If you want to setup a dial plan, you can click "Dial Plan".

Dial Plan

Send Key: * #

Dial Length:

No Dial Timeout:

ID	Operation	Prefix	IP Address	Description
1		209	192.168.2.83	

Add Rule
Delete All Rule

Submit

Click "add rule" to entry this interface.

Dail Rule And Routing

ID: <input type="text" value="1"/>	Description: <input type="text"/>
IP: <input type="text"/>	Port (Default 5060): <input type="text" value="5060"/>
Prefix: <input type="text"/>	
Called Insert Number: <input type="text" value="Disable"/>	Called Delete Number: <input type="text" value="Disable"/>
Position: <input type="text"/>	Position: <input type="text"/>
Number: <input type="text"/>	Length: <input type="text"/>
Caller Insert Number: <input type="text" value="Disable"/>	Caller Delete Number: <input type="text" value="Disable"/>
Position: <input type="text"/>	Position: <input type="text"/>
Number: <input type="text"/>	Length: <input type="text"/>

(Note: When you want to add code and delete at the same time, you can add code first, after that base on the number you add, decide the position and length of the delete code.)

Dial Plan Setting	
ID	Dial Plan ID
IP	The ip of a phone which you want to call
prefix	The number which you need to press actually if you want to call the phone
Called Insert Number	There have two option, Enable or Disable.
Position	Which position you want insert the number
Number	Waht number you want to insert
Called Delete Number	There have two option, Enable or Disable.

Tips

(Note: When you want to add code and delete at the same time, you can add code first, after that base on the number you add, decide the position and length of the delete code.)

Global SIP

You also can setup the SIP server on Global SIP. If you set SIP server in global SIP ,then you don't need to set SIP server in account SIP.

Global SIP

SIP

SIP Server:

Secondary server:

Proxy Server

OutboundProxy Server:

STUN

STUN Server:

Others

Register Expire Time: s Default: 3600s, Min: 40s

Local SIP port: (Default: 5060)

SIP Transport: UDP TCP TLS

RTP Port Range: --

SUB Expire Time:

Phone Maintenance

Log

If you need to catch a debugging Level log, you need setup on this interface.

Log

No Record

Call: Debugging Level ▼

SIP

DSP

LCD

You can change the password used to login phone GUI in Password option.

Password

Username:

Old Password:

New Password:

Confirm Password:

Administrator User

In Password option, you can set several parameters as follow:

Password	
Username	The login username of the web page
Old Password	The old password used to login of the web page
New Password	The new password used to login of the web page
Confirm Password	The new password used to login of the web page
Administrator	Login phone web page used administrator privileged
User	Login phone web page used general user privileged

Default Setting

You can load the phone to the factory default setting in default setting option.

Default Setting

When click this button this equipment will restore to the default status

Pay Attention: It will take effect on next reboot.

Press the 'Reset to Factory Setting' option, the phone will load to factory default setting on next reboot.

Auto Provision

When you open the auto provision function, the phone will auto provision if the phone detect a higher softwre or kernel which are put on the software server. The detail information about auto provision you can see the appendix.

Auto Provision

Auto Provision: on off

DHCP Option

Option: (Default :66, Min:1, Max:254)

Protocol: ▼

Software Server URL:

Username:

Password:

Auto Download Software

Auto Download Kernel

Auto Download Config File

Broadsoft Compatiblity

Auto Download Expension

Auto Download Enterprise Phonebook

Auto Download Personal Phonebook

Booting Checked

Auto Provision Frequency: Hour (Default :7 days, Max:30 days)

Auto Provision Time: ▼

AES Enable: off on

AES Key:

When use auto provision, you can set several parameters as follow:

Auto Provision	
Auto Provision	You can enable/disable auto provision by select on/off
Protocol	The protocol use for auto provision,it include tftp/http/ftp
Software Server URL	The server address of the auto provision
Username	The username provide by provision server
Password	The password provide by provision server
Auto Download Software	This used to auto download software from server
Auto Download Kernel	This used to auto download kernel from server
Auto Download Config File	This used to auto download config file from server
Broadsoft Compatiblity	This used to compatible the broadsoft format's config file
Auto Download Expension	This used to auto download expansion's config from server
Auto Download Enterprise Phonebook	This used to auto download enterprise phone from server
Auto Download Personal Phonebook	This used to auto download personal phonebook from server
Bootting Checked	This used to checked the auto provision when phone booting
Auto Provision Freqency	This used to set the time interval for auto provision
Auto Provision Time	This used to the specific time for auto provision
AES Enable	You can enable/disable AES encrypt for auto provision
AES Key	The key of the AES
Auto Provision Now	This used to do auto provision immediately

FTP Upgrade

You can upgrade the software,kernel and configure file for the phone use ftp.

FTP Upgrade (Attention: Do not cut off the electricity when Upgrade!!)

Server IP:

Filename:

Username:

Password:

Software Upgrade:

Kernel Upgrade:

Note: It's no necessary to input filename when backup.

Configuration:

Phone Book:

EXT Module:

When use ftp upgrade, you can set several parameters as follow:

FTP Upgrade	
Server IP	The ip address of the ftp server
Filename	The name of the file want to download from ftp server
Username	The username provide by ftp server
Password	The password provide by ftp server
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used update/backup to update/backup the configure file of the phone
Phone Book	You can used update/backup to update/backup the phonebook of the phone
EXT Module	You can used update/backup to update/backup the expansion of the phone

TFTP Upgrade

You can upgrade the software, kernel and configure file for the phone use tftp.

TFTP Upgrade (Attention: Do not cut off the electricity when Upgrade!!)

Server IP:

Filename:

Software Upgrade:

Kernel Upgrade:

Note: It's no necessary to input filename when backup.

Configuration:

Phone Book:

EXT Module:

When use tftp upgrade, you can set several parameters as follow:

TFTP Upgrade	
Server IP	The ip address of the tftp server
Filename	The name of the file want to download from ftp server
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used update/backup to update/backup the configure file of the phone
Phone Book	You can used update/backup to update/backup the phonebook of the phone
EXT Module	You can used update/backup to update/backup the expansion of the phone

HTTP Upgrade

You can upgrade the software, kernel and configure file for the phone use http.

HTTP Upgrade (Attention: Do not cut off the electricity when Upgrade!!)

HTTP Upgrade:

Select a File:

Software Upgrade:

Kernel Upgrade:

Configuration:

PhoneBook:

EXT Module:

Log:

All Config File:

When use http upgrade, you can set several parameters as follow:

HTTP Upgrade	
Select a File	Browse the software/kernel/config file you want to upgrade from http
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used upload/download to upload/download the configure file of the phone
Phone Book	You can used upload/download to upload/download the phonebook of the phone
*EXT Module	You can used update/backup to update/backup the expansion of the phone

* means it has not this function now.

Reboot

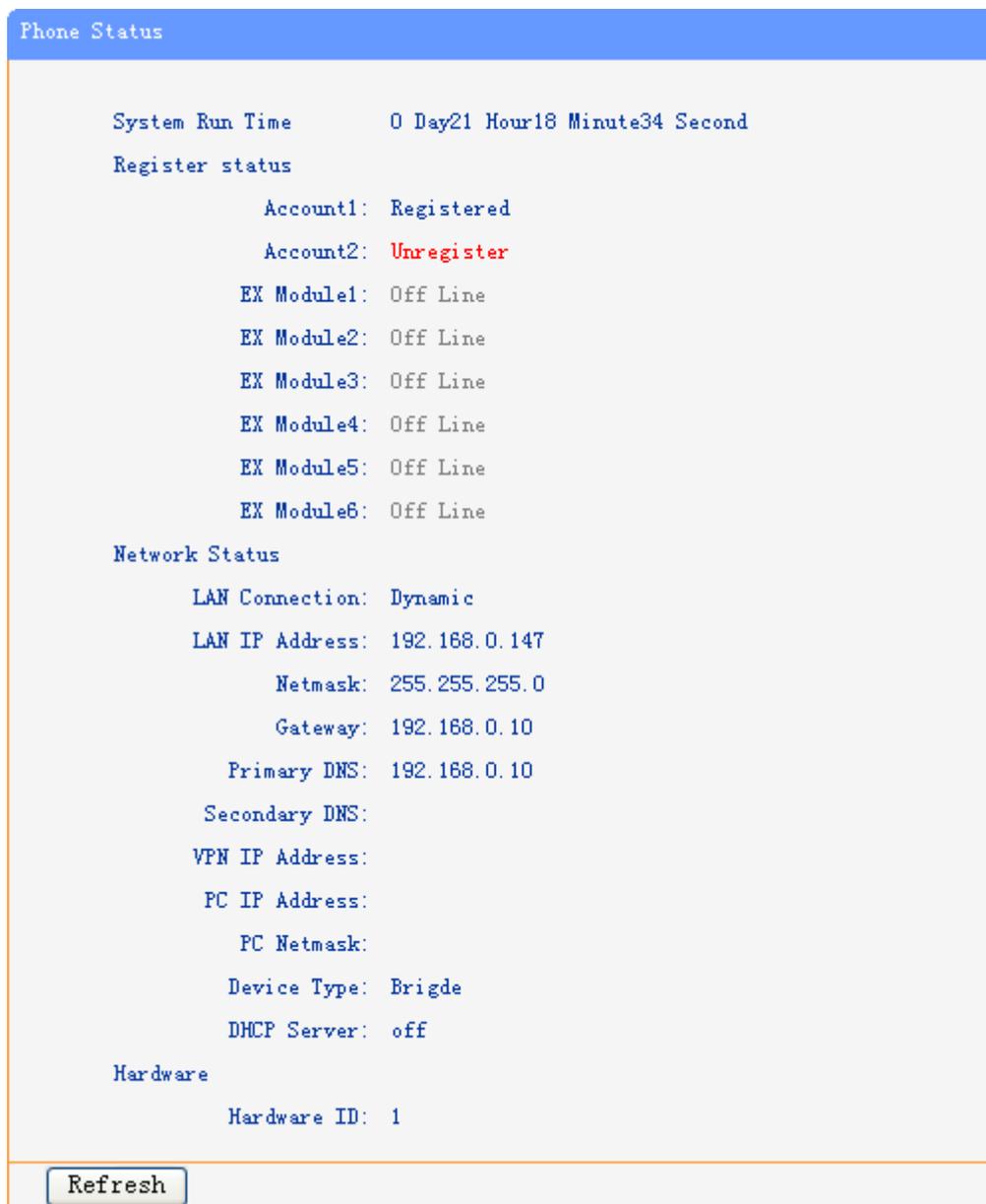
You can use reboot option to reboot the phone.



When you press 'Reboot', the phone will reboot.

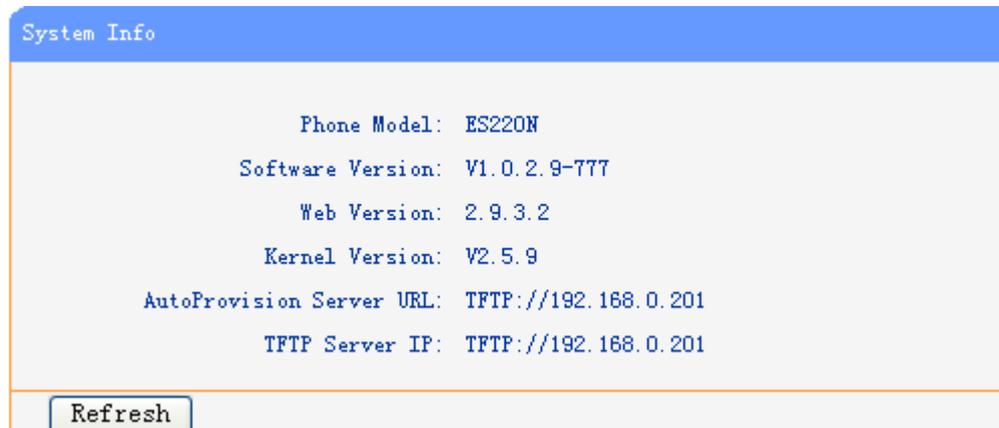
Phone Status

You can see the currently status of the phone when use Phone Status option.



System Info

You can see the system information when used System Info option.



Attention:

On this interface ,you can see the software and kernel which we used for test and this user_manual is written base on this software and kernel.

This software version is V1.0.2.9-777

This kernel version is v2.5.9

About

You can see the phone model when used About option.

ES220N

IPPhone WEB Software

Software Version: V1.0.2.9-777 System Upgrade: 2011-12-27
Web Version: 2.9.3.2 Web Upgrade: 2010.07.12

ESCENE

- Config Guide
- Network
- SIP Account
- Audio
- PhoneBook
- Advanced
- Phone Maintenance
- Phone Status
- System Info
- About

Please Select Language:
English

Administrator: Logout

Appendix:

Auto Provision

Pre-configuration on TFTP/HTTP/HTTPS/FTP Server

When the software or kernel auto-provision is enabled and want to run, IP Phone will check the software and kernel version at first, so we need make some pre-configuration on the provisioning server.

Auto Provision for Software:

1. Create a notepad file named "**F000X00.cfg**" (the "X" is decided by the model of the IP phone you are using, for example, if the model is ES620, the file name is "F000600.cfg");

**Named rule of the file:*

F00600.cfg: for ES620, ES610 and DS622;
 F00400.cfg: for ES410 and DS412;
 F00300.cfg: for ES310 and DS312;
 F00200.cfg: for ES210 and DS212.

2. Open the notepad file "F000X00.cfg" and write the new software name in it, for example,

S_ES6xx_version2.0.4.6: for ES620, ES610 and DS622;
 S_ES410_version2.0.4.6: for ES410 and DS412;
 S_ES310_version2.0.4.6: for ES310 and DS312;
 S_ES210_version2.0.4.6: for ES210 and DS212

Write down the new version you want to upgrade and save it on your provisioning server.

**Please note that if the version is not older than (and same as) the one on your phone, auto-provision of your software would be not available.*

3. After it, upload the new software to the TFTP/HTTP/HTTPS/FTP provisioning server and complete the pre-configuration steps.

Auto Provision for Kernel:

1. Create a notepad file named "**K000X00.cfg**" (the "X" is decided by the model of the IP phone you are using, for example, if the model is ES620, the file name is "K000600.cfg");

**Named rule of the file:*

K00600.cfg: for ES620, ES610 and DS622;
 K00400.cfg: for ES410 and DS412;
 K00300.cfg: for ES310 and DS312;
 K00200.cfg: for ES210 and DS212.

2. Open the notepad file "K000X00.cfg" and write the new kernel name in it, for example,

K_uImage_600.bin_version2.1.6: for ES620, ES610 and DS622;
 K_uImage_400.bin_version2.1.6: for ES410 and DS412;

K_uImage_300.bin_version2.1.6: for ES310 and DS312;

K_uImage_200.bin_version2.1.6: for ES210 and DS212

Write the new version you want to upgrade and save it on your provisioning server.

**Please note that if the version is not older than (and same as) the one on your phone, auto-provision of your kernel would be not available.*

3. After it, upload the new kernel to the TFTP/HTTP/HTTPS/FTP provisioning server and complete the pre-configuration steps.

Configuration files on TFTP/HTTP/HTTPS/FTP Server

- **Name of configuration file:**

The configuration file on the provisioning server is named as the MAC address of IP phone itself. Escene's IP phones support two different configuration files for auto-provision:

1. Normal Configuration file:

Normal Configuration file is the configuration file of your Escene IP phone. You can download it from your phone (You can see the following chapter to see how to download a configuration file from Escene IP phone) and modify by yourself. If the IP phone's MAC address is 00:11:22:33:44:55, the normal configuration file of it should be **001122334455.xml**.

2. Broadsoft Configuration files:

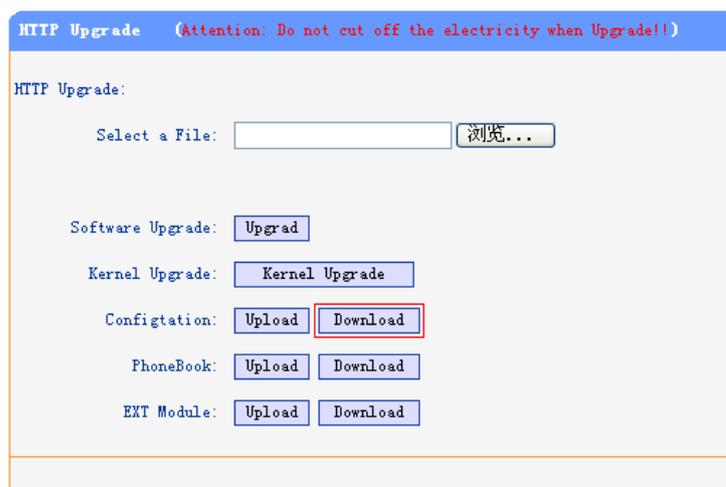
Broadsoft Configuration files support the format of Broadsoft IP-PBX. However, you can use them for provisioning. There are two files should be set on your provisioning server, they are also named by the MAC address of your phone

- 1) **001122334455.cfg**: a configuration file for system settings, for example, network, audio and so on.
- 2) **001122334455.txt**: a configuration file for SIP accounts.

- **Download a configuration file from your phone:**

You can download a configuration file from your phone by HTTP as follow:

1. Open the web page of your IP phone, click "Phone Maintenance">"HTTP Upgrade";
2. Then click "Download" of Configuration:



3. If you want to use this file to auto-provision, you just need to modify it by yourself and rename it to the MAC address of your IP Phone with .xml suffix.

Extern.xml file on TFTP/HTTP/HTTPS/FTP Server

The Extern.xml includes the settings of programmable buttons on the phone and all Expansion Modules. All the phones can download the settings from a same file and they will have the same settings (for example, Speed-dial, BLF and so on).

You can't rename the file on the provisioning server. The file name is fixed to **Account1_Extern.xml. (Account1 is the first account you register)*

Phonebook on TFTP/HTTP/HTTPS/FTP Server

Escene IP phone supports Enterprise Phonebook and Personal Phonebook.

- **Enterprise Phonebook:**

Enterprise Phonebook is used for all staffs in your office. All phones will download a common phonebook for all staffs. The file's name must be **Enterprise_Phonebook.xml** on your provisioning server and you can not rename it.

- **Personal Phonebook:**

Personal Phonebook is individual for each IP phone. The file on your provisioning server is named by the first account of your IP phone. If the IP phone's first account is 1287, the Personal Phonebook of this phone is **1287_Phonebook.xml**.

Automatic Provisioning using DHCP Option 66

The following steps will descript auto-provision by TFTP. You also can use

HTTP and FTP for auto-provision with our phones.

DHCP Server: (Microsoft Windows 2003 server)

1. Start up the "DHCP Management Console";
2. Expand the DHCP scope which will contain the phones
3. Right-click on the "Scope Options" node
4. Select "Configure Options"
5. In the "General" tab, scroll down the list of options and identify the option labeled "066 Boot Server Host Name"
6. Enable the "066 Boot Server Host Name" and enter the string value according to the examples discussed previously

string value:
192.168.0.201(TFTP Server IP Address);

7. Click the "OK" button

IP Phone:

1. Input the IP Phone's IP Address in browser;
2. Enter user and password with "root" then open the web page;
3. Click "Phone Maintenance" and select "Auto Provision";
4. Select like as follows:

Auto Provision

Auto Provision: on off

DHCP Option

Option: (Default :66, Min:1, Max:254)

Protocol:

Software Server URL:

Username:

Password:

5. Click "Submit" to save it.

Auto-Provision via fixable TFTP/HTTP/HTTPS/FTP

Server

IP Phone:

1. Input the IP Phone's IP Address in browser;
2. Enter user and password with "root" then open the web page;
3. Click "Phone Maintenance" and select "Auto Provision";
4. select like as follows:

Auto Provision

Auto Provision: on off

DHCP Option

Option: (Default :66, Min:1, Max:254)

Protocol: ▼

Software Server URL:

Username:

Password:

Auto Download Software

Auto Download Kernel

Auto Download Config File

Broadsoft Compatibility

Auto Download Expansion

Auto Download Enterprise Phonebook

Auto Download Personal Phonebook

Booting Checked

Auto Provision Frequency: Hour (Default :7 days, Max:30 days)

Auto Provision Time: ▼

AES Enable: off on

AES Key:

It supports three protocols in Auto-Provision:TFTP,HTTP and FTP.
The format with provisioning server URL is:

TFTP:

TFTP://192.168.0.201(192.168.0.201 is the default Server IP address)

HTTP:

HTTP://192.168.0.201

HTTPS:

HTTPS://192.168.0.201

FTP:

FTP://192.168.0.201

Username: the user to login FTP/HTTP/HTTPS server

Password: the password of the user using to login FTP/HTTP/HTTPS server

**Username and password are available in FTP/HTTP/HTTPS only (unavailable in TFTP).*

Auto Download Software:

Download software from server and upgrade it automatically.

Auto Download Kernel:

Download kernel from server and upgrade it automatically.

Auto Download Config File:

Download configuration file from server and update it automatically.

BroadsoftCompatibility:

If you select this function, you need to put two configuration files (with Broadsoft format) on the provisioning server. Otherwise, you can download the configuration file from your phone via HTTP (regarding the steps, you can refer to "*Download a configuration file from your phone*" in this document.), modify it and upload it to the server for auto-provision.

Auto Download Expansion:

Download configuration file of the Programmable buttons on your phone or Expansion Modules automatically.

Auto Download Enterprise Phonebook:

Download Enterprise Phonebook from server and update it automatically.

Auto Download Personal Phonebook:

Download Personal Phonebook from server and update it automatically.

Bootling Checked:

Check all items you had selected and upgrade/update them when the phone boot

Auto Provision Frequency:

The auto provision Frequency which you want.

Auto Provision Time:

The time you want to execute auto-provision.

Examples of Auto Provision Frequency and Time

- 1) When you set the **Auto Provision Frequency** and disable **Auto Provision Time** (set to None), the Auto Provision function will work after the **Auto Provision Frequency**;
- 2) When you set both **Auto Provision Frequency** and **Auto Provision Time**, for example:
You set the **Auto Provision Frequency** to 24 hours, and the **Auto Provision Time** to 2:00 at 8:00 today (1, Jan), it will pass 24 hours at first and work at the nearest 2:00, it means that the Auto Provision function will work at 2:00 on the day after tomorrow (3, Jan).
Therefore, if you want this function work at 23:00 tonight and it is 8:00 now, you need to set the **Auto Provision Frequency** to 0 hours and the **Auto Provision Time** to 23:00.

AES Encryption:

AES encryption is used for all the setting files of your phone (include configuration file,

Expansion file, Enterprise/Personal Phonebook etc. You just need to enable the AES Encryption function and input the AES Key matching the one on your server on.

1. Overview

LDAP stands for Lightweight Directory Access Protocol which is a client-server protocol for accessing a directory service. LDAP lets you locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate intranet, and whether or not you know the domain name, IP address, or geographic whereabouts.

An LDAP directory can be distributed among many servers on a network, then replicated and synchronized regularly.

2. Configuration

Please note that LDAP Phonebook support on ES620\ES410\ES330\ES320\ES310\ES210, the version must be V2.2.3.1-2210 and higher, then access to the web UI PhoneBook LDAP page, you can find the configured option is like following picture.

LDAP

LDAP: on off

LDAP Name Filter:

LDAP Number Filter:

Server Address:

Cwmp Port:

Base:

Username:

Password:

Max. Hits(1~32000):

LDAP Name Attributes 1:

LDAP Name Attributes 2:

LDAP Name Attributes 3:

LDAP Number Attributes 1:

LDAP Number Attributes 2:

LDAP Number Attributes 3:

Protocol: Version2 Version3

Search Delay(ms) (0~2000):

LDAP Lookup For Incoming Call: on off

LDAP Sorting Results: on off

We introduce each parameter attributes in following section.

3. Attributes

3.1 Common Attributes

Abbreviation	Name	Description
cn	commonName	Full name of the user.
company	company	Company or organization name
gn	givenName	Firstname also called Christian name
homePhone	homeTelephoneNumber	Home Phone number
mobile	mobileTelephoneNumber	Mobile or cellular phone number
o	organizationName	Organization name or even organizational name

ou	organizationalUnitName	Usually department or any sub entity of larger entity
pager	pagerTelephoneNumber	Pager telephone number
sn	surname	Surname, last name or family name
-	telephoneNumber	Office phone number

3.2 Attributes on Escene Configured Page

3.2.1 LDAP Name Filter

Description: LDAP name filter is the search criteria for name look ups. The format of the search filter is compliant to

the standard string representations of LDAP search filters (RFC 2254). The name prefix for search entered by the user

is represented by the "%" symbol in the filter.

Valid Values: Standard LDAP filters e.g. (&(sn=%)(telephoneNumber=%s))

Default Value: <blank>

Examples:

⌘ (&(telephoneNumber=%s)(sn=%))

Returns all LDAP records which have the "telephoneNumber" field set and the "sn" field starts with the entered prefix.

⌘ (!(cn=%s)(sn=%s))

Returns all LDAP records which have the "cn" or "sn" field starting with the entered prefix.

⌘ (!(cn=%s))

Returns all LDAP records which "do not" have the "cn" field starting with the entered prefix.

3.2.2 LDAP Number Filter

Description: LDAP number filter is the search criteria for number look ups. The format of the search filter is compliant to the standard string representations of LDAP search filters (RFC 2254). The number prefix for search entered by the user is represented by the "%" symbol in the filter.

Valid Values: Standard LDAP filters e.g.

(!(telephoneNumber=%s)(Mobile=%s)(ipPhone=%s))

Default Value: <blank>

Examples:

⌘ (!(telephoneNumber=%s)(Mobile=%s)(ipPhone=%s))

Returns all LDAP records which have the "telephoneNumber" or "Mobile" or "ipPhone" field starting with the entered prefix.

```
Ⓒ (&(telephoneNumber=%s)(sn=*))
```

Returns all LDAP records which have the "sn" field set and the "telephoneNumber" field starts with the entered prefix.

3.2.3 Server Address

Description: This setting refers to the DNS name or IP address of the LDAP server.

Default Value: 0.0.0.0

Example:

```
Ⓒ 192.168.1.100
```

```
Ⓒ ldap.company.com
```

3.2.4 Port

Description: This setting specifies the LDAP server port.

Default Value: 389

3.2.5 Base

Description: This setting specifies the LDAP search base (the distinguished name of the search base object) which corresponds to the location in the directory from which the LDAP search is requested to begin. The search base narrows the search scope and decreases directory lookup time. If you have multiple organizational units in your directory (for example, OU=Sales in O=COMPANY and OU=Development in O=COMPANY), but the "OU=Sales" organization never uses AOL AIM, you can restrict the lookup to the OU=Development subtree only by entering providing the following search base: OU=Development, O=COMPANY. Other examples see below.

Default Value: <blank>

Examples:

```
Ⓒ o=UNIVERSITY OF NEW ORLEANS,c=US
```

```
Ⓒ o=SFU,c=CA
```

```
Ⓒ dc=escene,dc=cn
```

3.2.6 User Name

Description: This setting specifies the bind "Username" for LDAP servers. Most LDAP servers allow anonymous binds in which case the setting can be left blank. However if the LDAP server does not allow anonymous binds, you will need to provide the Username and Password allowed

to query the LDAP server.

Default Value: <blank>

3.2.7 Password

Description: This setting specifies the bind "Password" for LDAP servers. Escene phones use "simple" authentication scheme for bind requests. This setting can be left blank in case the server allows anonymous binds. Otherwise you will need to provide the Password along with the Username in order to access the LDAP server.

Default Value: <blank>

3.2.8 Max.Hits(1~32000)

Description: This setting specifies the maximum number of search results to be returned by the LDAP server. If Max.hits is 0 or blank the LDAP server will return all search results. Please note that a very large value of the "Max. Hits" will slow down the LDAP lookup, therefore the setting should be configured according to the available bandwidth. The default value for this setting is blank.

Default Value: 50

3.2.9 LDAP Name Attributes

Description: This setting can be used to specify the "name" attributes of each record which are to be returned in the LDAP search results. This setting compresses the search results, as the server only returns the attributes which are requested by the Escene phone. The setting allows the user to configure multiple space separated name attributes. Please consult your system administrator regarding which name attributes are to be configured.

Valid Values: Space separated name attributes, see examples below.

Default Value: <blank>

Examples:

⌘ cn sn displayName

Requires "cn", "sn" and "displayName" fields for each LDAP record.

⌘ givenName

Requires "givenName" field for each LDAP record.

⌘ vorName nachName

Requires "vorName" and "nachName" fields for each LDAP record.

3.2.10 LDAP Number Attributes

Description: This setting can be used to specify the "number" attributes of each record which are to be returned in the LDAP search results by the LDAP server. This setting compresses the search results, as the server only returns the attributes which are requested. The user can configure multiple space separated number attributes by using this setting. Please consult you system administrator regarding which number attributes are to be configured.

Valid Values: space separated number attributes e.g. telephoneNumber Mobile ipPhone Home

Default Value: <blank>

Examples:

☞ Mobile telephoneNumber ipPhone

Requires "Mobile", "telephoneNumber" and "ipPhone" fields for each LDAP record.

☞ Home Private Office

Requires "Home", "Private" and "Office" fields for each LDAP record.

3.2.11 Protocol

Description: Protocol is the protocol version for the phone when send the bind request to the server. Please make sure your LDAP server support version 3/2 bind request.

Valid Values: version 3/version 2

Default Value: version 3

3.2.12 Search Delay(ms)(0~2000)

Description: This setting is for configuring the delay display time after search.

Valid Values: 0~2000

Default Value: 0

3.2.13 LDAP Lookup for Incoming Call

Description: This setting can be used to enable calling line identification using LDAP. When the setting is turned

"Enable", the phone performs an LDAP number search for the incoming number and displays the name of the calling party accordingly.

Valid Values: <Enabled>, <Disabled>

Default Value: Disabled

3.2.14 LDAP Sorting Results

Description: This setting is for sorting the search results, if make this option "Enabled", it will arrange in the first alphabetical of the name order if return the name display; if only has the number return, it will list in numerical order. Valid Values: <Enabled>, <Disabled>
Default Value: Disabled

3.2.15 LDAP Lookup for PreDial/Dial

Description: This setting can be used to enable call out line identification using LDAP. When the setting is turned "Enabled", the phone performs an LDAP number search for PreDial or Dial status. Valid Values: <Enabled>, <Disabled>
Default Value: Disabled

3.3 Example for Configuration

You can use the below settings as a starting point and adjust the filter and display attributes according to your needs.

LDAP Name Filter: (&(telephoneNumber=%s)(sn=%))

LDAP Number Filter: (&(telephoneNumber=%s)(sn=*))

Server Address: 192.168.200.254 #####this setting is relate with the server configuration.

Port: 389 #####this setting is relate with the server configuration. Base: dc=Escene,dc=cn #####this setting is relate with the server configuration. User Name: cn=manager,dc=escene,dc=cn #####this setting is relate with the server

configuration.

Password: ***** #####this setting is relate with the server configuration. Max.Hits: 50

LDAP Name Attributes: cn sn displayName

LDAP Number Attributes: Mobile telephoneNumber ipPhone

Protocol: Version 3 #####this setting is relate with the server configuration.

Search Delay(ms)(0~2000): 0

LDAP Lookup for Incoming Call: Enabled

LDAP Sorting Results: Enabled

LDAP Lookup for PreDial/Dial: Enabled

4. Configuration on Escene Phone

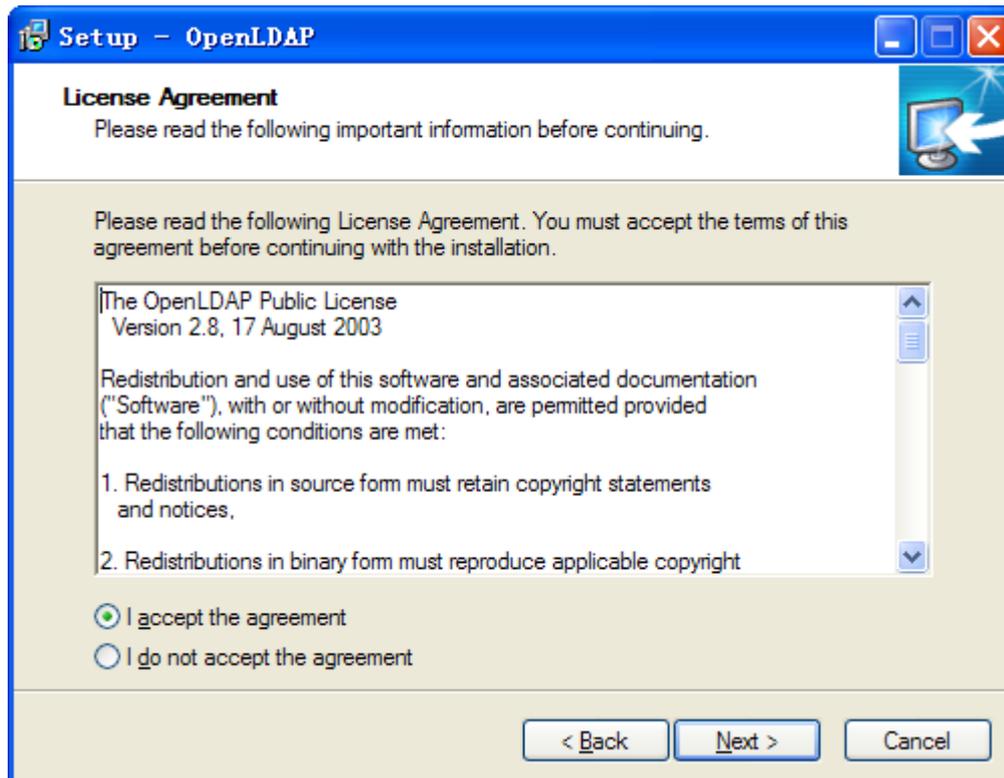
LDAP:	<input checked="" type="radio"/> on <input type="radio"/> off
LDAP Name Filter:	<input type="text" value="(&(telephoneNumbe"/>
LDAP Number Filter:	<input type="text" value="Number=%s) (sn=*) "/>
Server Address:	<input type="text" value="192.168.200.254"/>
Cwmp Port:	<input type="text" value="389"/>
Base:	<input type="text" value="dc=escene, dc=cn"/>
Username:	<input type="text" value="cn=manager, dc=esc"/>
Password:	<input type="text" value="escene"/>
Max. Hits(1~32000):	<input type="text" value="50"/>
LDAP Name Attributes 1:	<input type="text" value="cn"/>
LDAP Name Attributes 2:	<input type="text" value="sn"/>
LDAP Name Attributes 3:	<input type="text"/>
LDAP Number Attributes 1:	<input type="text" value="telephoneNumber"/>
LDAP Number Attributes 2:	<input type="text"/>
LDAP Number Attributes 3:	<input type="text"/>
Protocol:	<input type="radio"/> Version2 <input checked="" type="radio"/> Version3
Search Delay(ms) (0~2000):	<input type="text" value="0"/>
LDAP Lookup For Incoming Call:	<input checked="" type="radio"/> on <input type="radio"/> off
LDAP Sorting Results:	<input checked="" type="radio"/> on <input type="radio"/> off
LDAP Lookup For PreDial/Dial:	<input checked="" type="radio"/> on <input type="radio"/> off

5. LDAP Server Installation

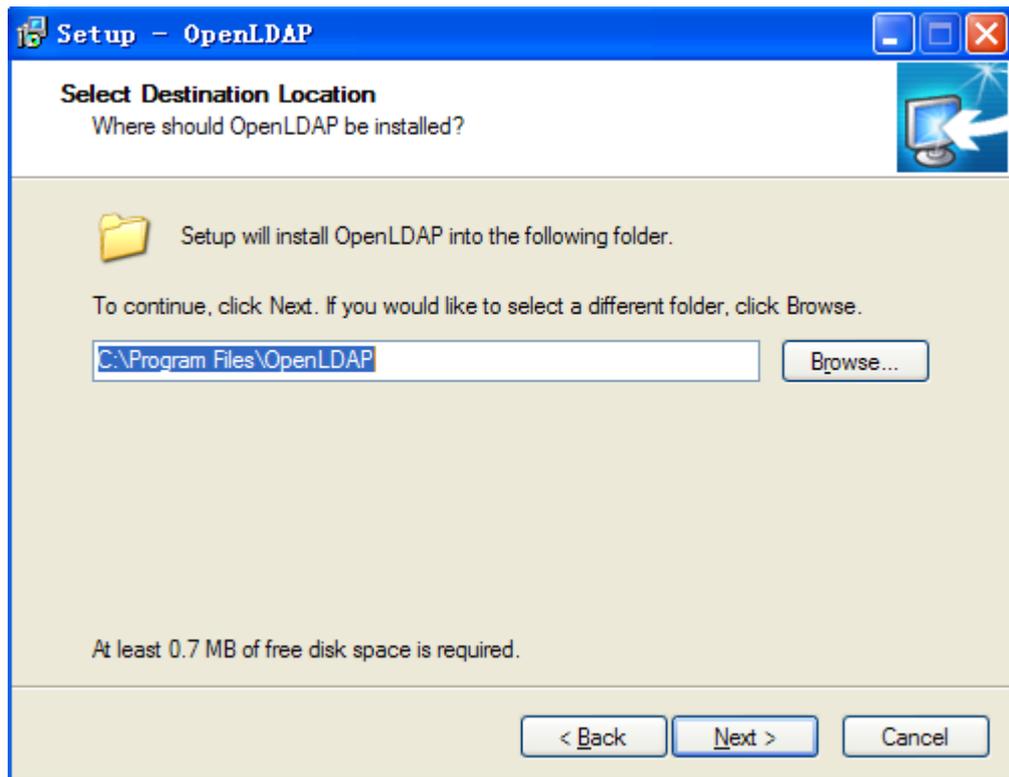
5.1 Install OpenLDAP Server on Windows 2003 System

Install "openldap-2.2.29-db-4.3.29-openssl-0.9.8a-win32_Setup.exe" according to default prompt, please remember the install path for next steps.

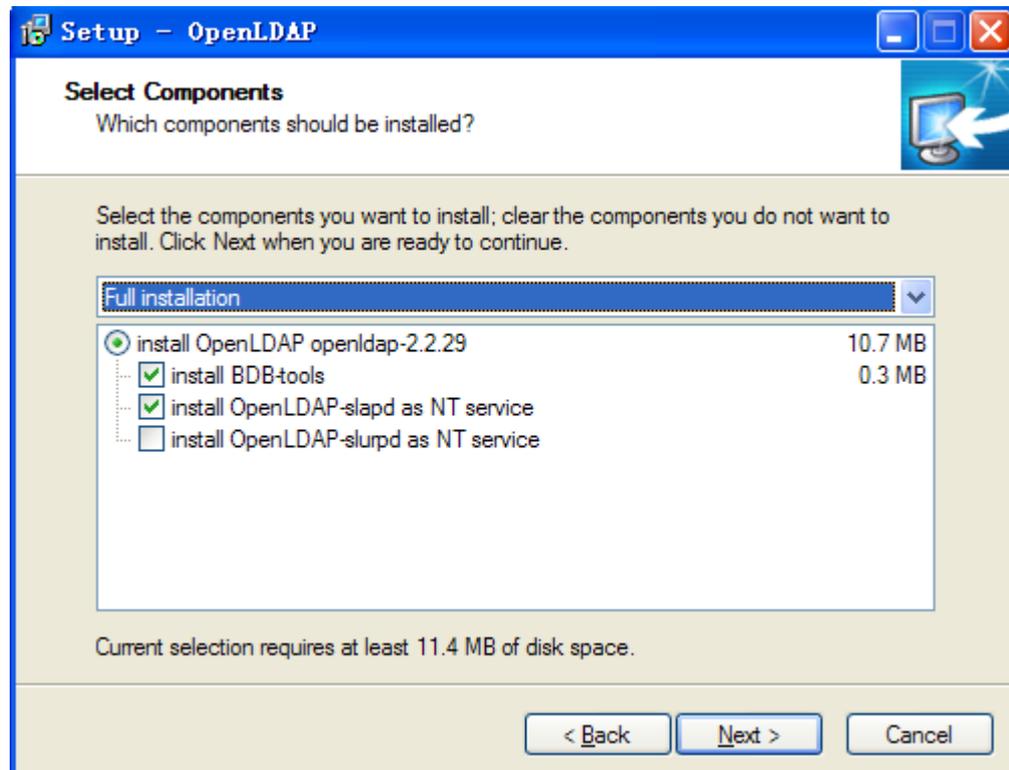
1. Double click the install program to run the installation.

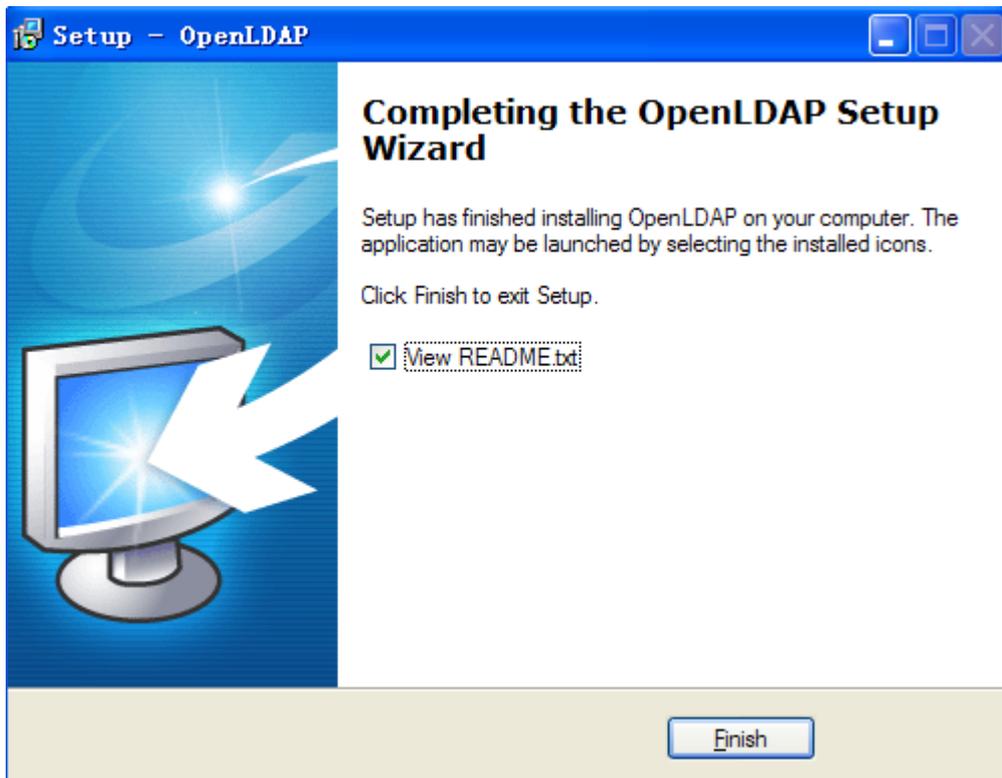
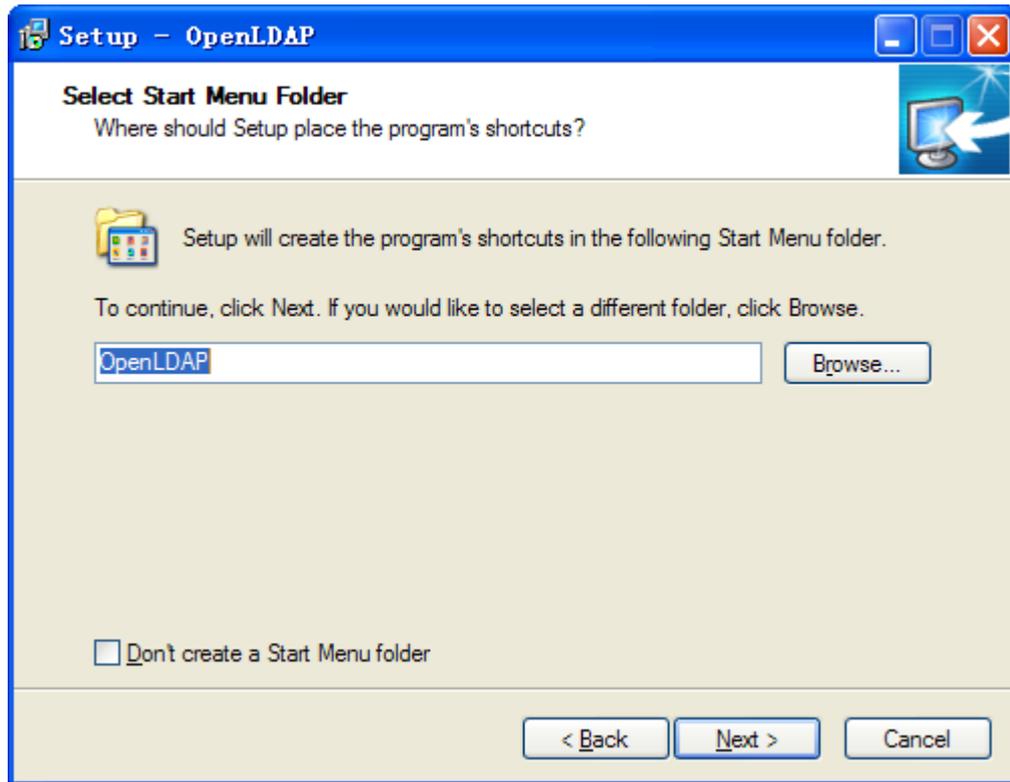


2. Please remember the install path. E.g. C:\Program Files\OpenLDAP.



3. Choose the [Full installation] mode as picture.





5.2 Configure OpenLDAP Server

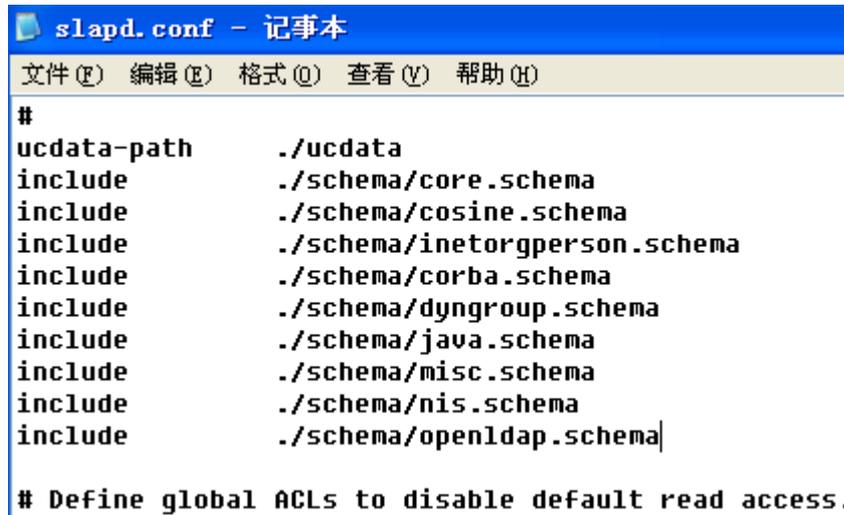
5.2.1 Configure slapd.conf file

1. Add "schema" in slapd.conf file

Access to the install path (for example, C:\Program Files\OpenLDAP), open the file names slapd.conf, find the command
include ./schema/core.schema

Add the other commands like:

```
include                   ./schema/cosine.schema
include                   ./schema/inetorgperson.schema
include                   ./schema/corba.schema
include                   ./schema/dyngroup.schema
include                   ./schema/java.schema
include                   ./schema/misc.schema
include                   ./schema/nis.schema
include                   ./schema/openldap.schema
```



```
slapd.conf - 记事本
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)
#
ucdata-path       ./ucdata
include           ./schema/core.schema
include           ./schema/cosine.schema
include           ./schema/inetorgperson.schema
include           ./schema/corba.schema
include           ./schema/dyngroup.schema
include           ./schema/java.schema
include           ./schema/misc.schema
include           ./schema/nis.schema
include           ./schema/openldap.schema

# Define global ACLs to disable default read access.
```

2. Modify the LDAP directory node

Access to the install path, open the file names slapd.conf, find the command

```
suffix                   "dc=my-domain,dc=com"
rootdn                   "cn=Manager,dc=my-domain,dc=com"
```

Please modify these two commands to following commands (please do not have any space during the quotation marks ""):

```
suffix                   "dc=escene,dc=cn"
rootdn                   "cn=Manager,dc=escene,dc=cn"
```

```
#####
# BDB database definitions
#####

database      bdb
suffix        "dc=escene,dc=cn"
rootdn        "cn=Manager,dc=escene,dc=cn"
# Cleartext passwords, especially for the rootdn, should
```

3. Modify the LDAP password

Access to the install path, open the file names slapd.conf, find the command

```
rootpw          secret
```

Please modify it to the password you want to set.

```
rootpw          escene
```

5.2.2 Run slapd server

Cmd to OpenLDAP's install path, for example, "cd c:\Program Files\OpenLDAP", then run the command "slapd -d 1"

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) 版权所有 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>cd c:\Program Files\OpenLDAP

C:\Program Files\OpenLDAP>slapd -d 1
```

If run the server successfully, you can find the command of "slapd starting"

```
slapd startup: initiated.
backend_startup: starting "dc=escene,dc=cn"
bdb_db_open: dbenv_open(./data)
slapd starting
```

NOTE:

Please do not close this window to make sure the LDAP Server keep running.

5.2.3 Add contact

Create a plain text named "escene.ldif" in install path.

Then put the content like following:

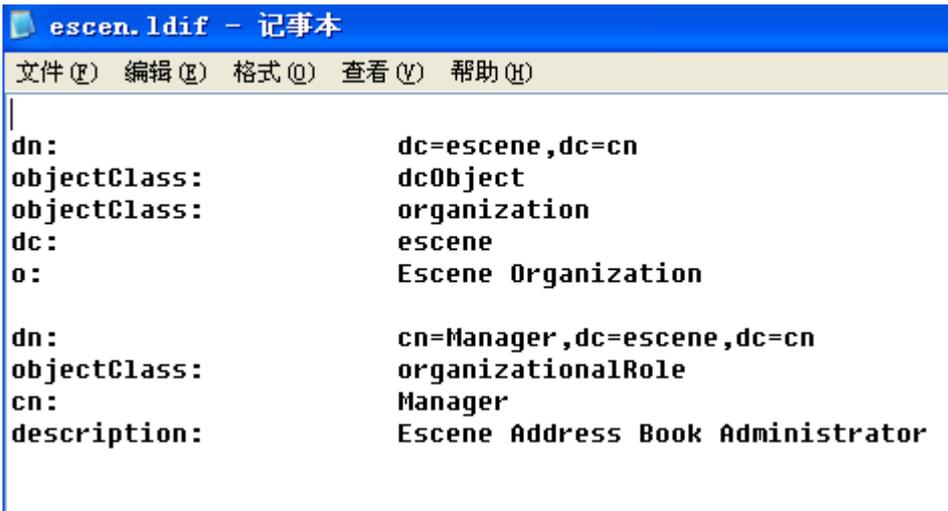
```
dn:          dc=escene,dc=cn
```

```

objectClass:          dcObject
objectClass:          organization
dc:                   escene
o:                    Escene Organization

dn:                   cn=Manager,dc=escene,dc=cn
objectClass:          organizationalRole
cn:                   Manager
description:          Escene Address Book Administrator

```



```

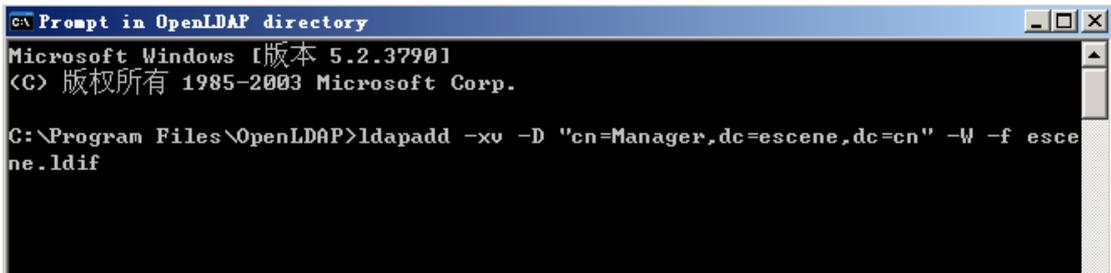
escen.ldif - 记事本
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

dn:                   dc=escene,dc=cn
objectClass:          dcObject
objectClass:          organization
dc:                   escene
o:                    Escene Organization

dn:                   cn=Manager,dc=escene,dc=cn
objectClass:          organizationalRole
cn:                   Manager
description:          Escene Address Book Administrator

```

Cmd to execute command "ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f escen.ldif".

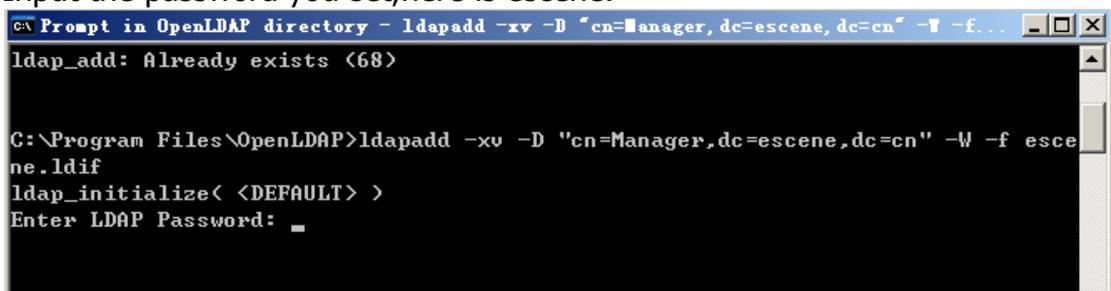


```

C:\Program Files\OpenLDAP>ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f escen.ldif

```

Input the password you set,here is escene.



```

C:\Program Files\OpenLDAP>ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f escen.ldif
ldap_add: Already exists <68>

C:\Program Files\OpenLDAP>ldap_initialize <DEFAULT> >
Enter LDAP Password: _

```

```

C:\ Prompt in OpenLDAP directory
ldap_add: Already exists <68>

C:\Program Files\OpenLDAP>ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f esce
ne.ldif
ldap_initialize< <DEFAULT> >
Enter LDAP Password: add objectClass:
    dcObject
    organization
add dc:
    escene
add o:
    Escene Organization
adding new entry "dc=escene,dc=cn"
modify complete
ldap_add: Already exists <68>

C:\Program Files\OpenLDAP>_

```

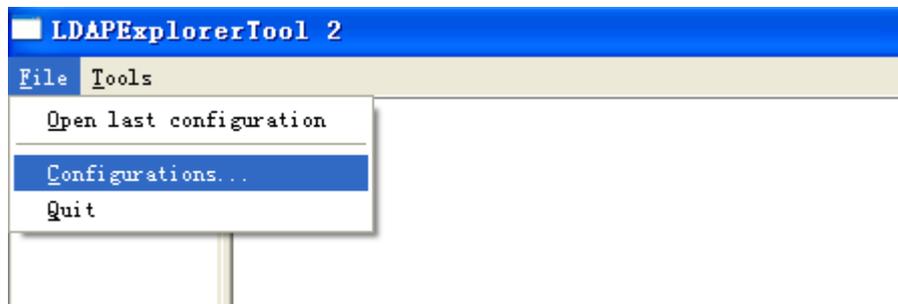
6. Install LDAP Client tool in Windows System

6.1 Install LDAPExploreTool2

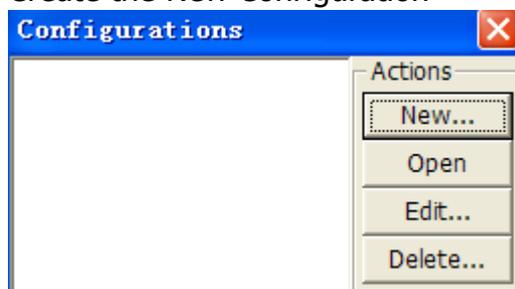
Install the LDAPExploreTool2 according to the prompt.

6.2 Create the Configurations in LDAPExploreTool2

1. Run the LDAPExploreTool2, access to File→Configurations.



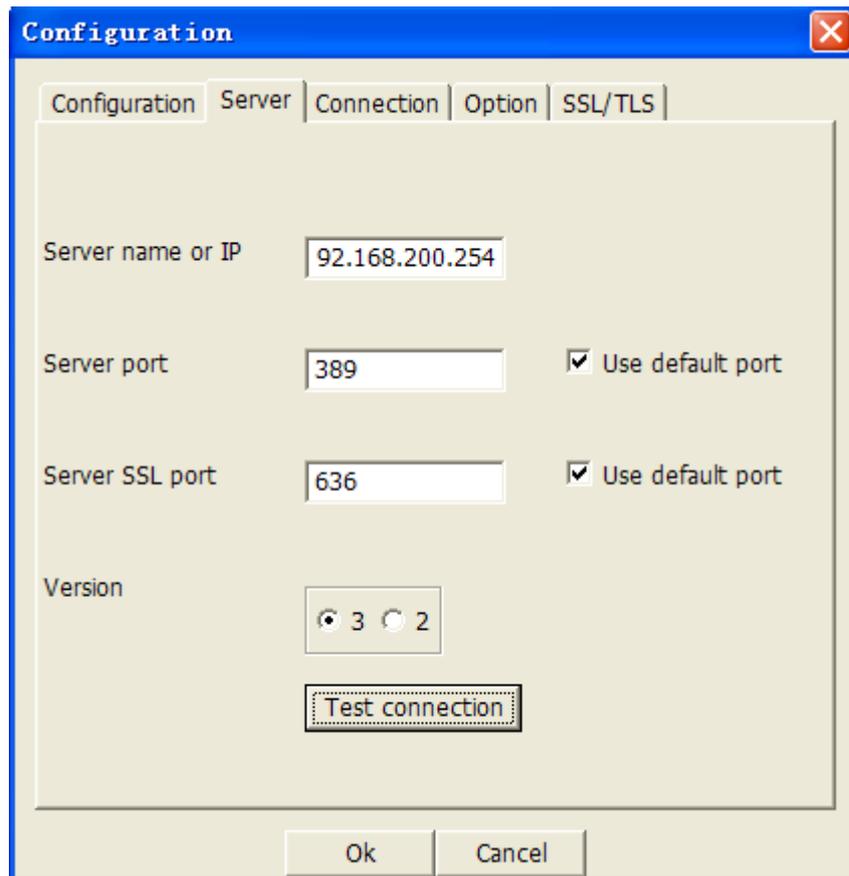
2. Create the New Configuration



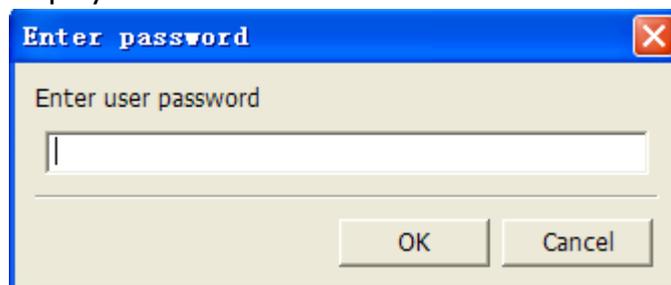
- a. Fill in a name in Configuration option



- b. Input the server address on Server option.



- c. Press Test connection, the password is blank (no password), press ok, will display Test OK.

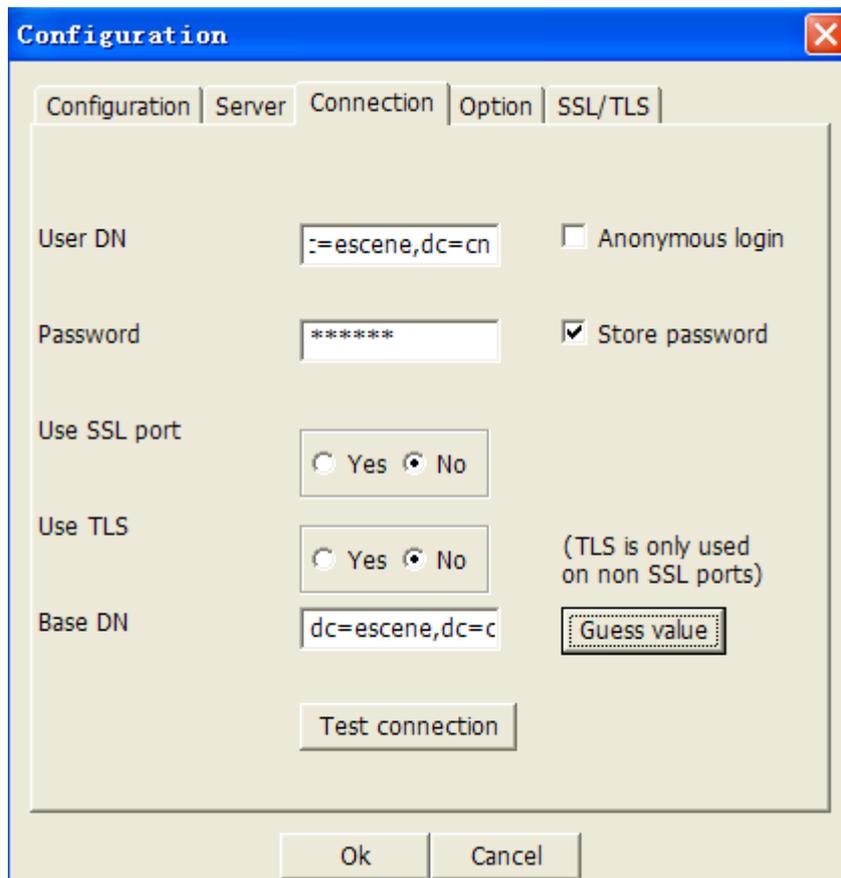


NOTE:

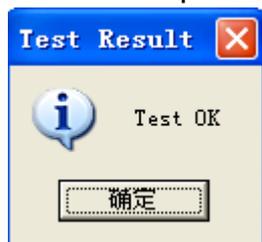
Server name or IP\Server port\Version settings are relate with the settings on escene phone.

- d. Configure the "cn=Manager,dc=escene,dc=cn" on User DN, and tick the Store password for protect your settings, enter the password which you configure on the server.

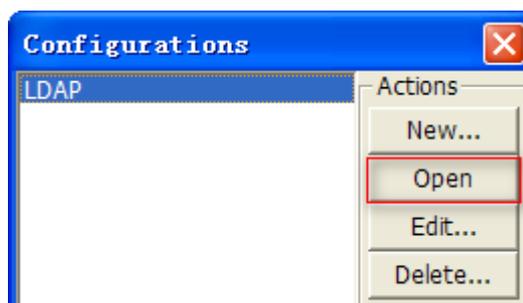
The Base DN will auto-configure if you press the [Guess value].



After the settings above, you can press [Test connection] to test your settings, if it prompts a warning message, please re-try the steps above again, we can continue the next steps if the test is passed.



3. Choose the Action [LDAP], then press [Open] to achieve the settings.

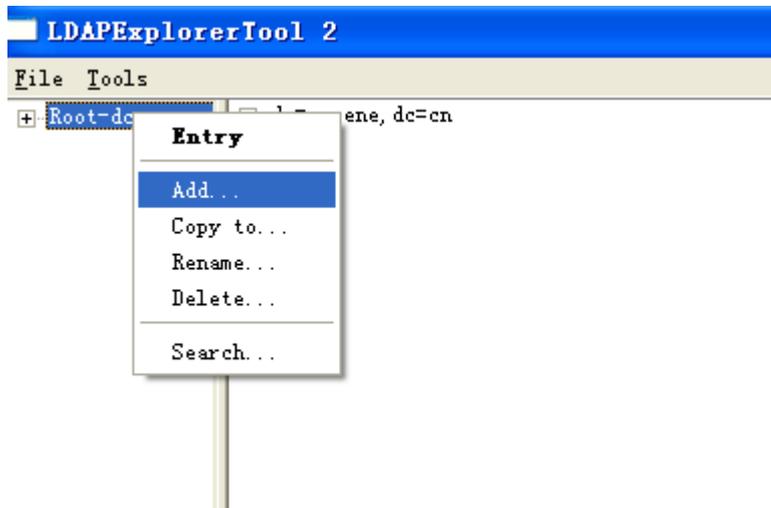


Then you can get the page like following picture. Please right click

the action to add the contacts.

6.3 Add the Entry

1. Please right click the action to add the contacts.



2. Create new entry.

Parent DN: This setting will automatic generation according the Configuration setting.

Entry RDN: The format is cn=XXX

Object Class(from schema): Select the structure class which entry belongs to, each structure class has its own must attributes and may attributes. We select [Person] for example here.

Must attributes: Double click attribute to add them to the entry node. If need multi-cn, can be allow to repeat added.

May attributes: Double click attribute to add them to the entry node. If need multi-Telphonenumber, can be allow to repeat added.

New entry creation

Parent DN: dc=escene,dc=c

Entry RDN: cn=Blake

Object class (from schema): person

Object class (manual):

Tree view:

- cn=Blake,dc=escene,dc=cn
 - sn: bu
 - cn: Blake
 - objectClass: person
 - telephoneNumber: 2287

MUST attributes: sn, cn, objectClass

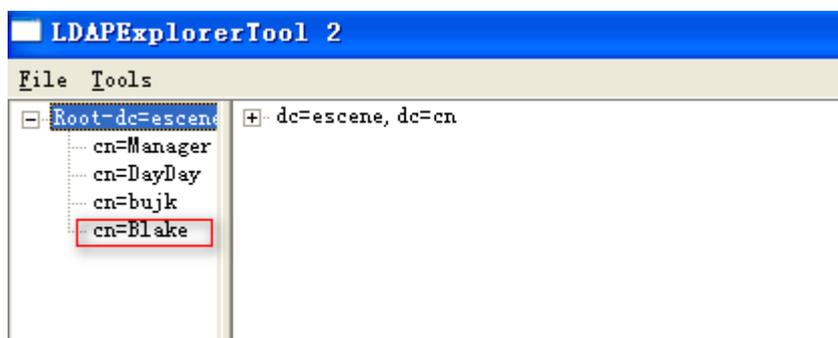
MAY attributes: userPassword, telephoneNumber, seeAlso, description

Attribute(when schema is unavailable):

Buttons: Add, Save, Cancel

Note: Must the same as the cn=XXX which configured on the Entry RDN

Please notice the note label on the picture above.
After save the settings, you can find the new added entry at the left of the LDAP catalogue.



3. You can add more contact entries by these steps.



Escene в России

Телефон: 8 (800) 555-74-22

<http://www.escene.ru>

Тех. поддержка:

E-mail: support@escene.ru