

# **LDAP Directory on Yealink IP Phones**

# Introduction

LDAP stands for Lightweight Directory Access Protocol, which is a client-server protocol for accessing a directory service. LDAP is a directory service protocol that runs over TCP/IP. The nitty-gritty details of LDAP are defined in RFC 1777 "Lightweight Directory Access Protocol". The following gives an overview of LDAP from a user's perspective.

#### What kind of information can be stored in the 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 unambiguously. 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".

#### How is the information arranged?

In LDAP, directory entries are arranged in a hierarchical tree-like structure. Traditionally, this structure reflected the geographic and/or organizational boundaries. Entries representing countries appear at the top of the tree. Below them are entries representing states and national organizations. Below them might be entries representing organizational units, people, printers, documents, or just about anything else you can think of. The following shows an example of LDAP directory tree using traditional naming.



LDAP enables you to 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. LDAP is particularly useful for storing information that you wish to read from many locations, but update infrequently.

This guide provides configurations on the LDAP server and IP phones, and applies to the following Yealink IP phones:

- CP860 IP phones running firmware version 71 or later
- SIP-T48G, SIP-T46G, SIP-T42G and SIP-T41P IP phones running firmware version 73 or later
- SIP-T58V/A, SIP-T56A, SIP VP-T49G, SIP-T40P, SIP-T29G, SIP-T27P, SIP-T23P/G, SIP-T21(P) E2 and W56P IP phones running firmware version 80 or later
- SIP-T48S, SIP-T46S, SIP-T42S, SIP-T41S, SIP-T40G, SIP-T27G and SIP-T19(P) E2 and W52P IP phones running firmware version 81 or later

# **Installing and Configuring the LDAP Server**

An LDAP server is essentially a bit like an SQL server, which is mainly used for storing/retrieving information about people (such as contacts). The configuration settings on the phone will be altered depending on how the LDAP server is configured.

Before using LDAP feature on IP phones, you must make sure the LDAP server is prepared properly, otherwise you need to install and configure an LDAP server. This chapter shows you how to install and configure an LDAP server. We recommend you to use the OpenLDAP, Microsoft Active Directory, Microsoft Active Directory Application Mode (ADAM) or Sun One Directory Server on Windows system.

## **OpenLDAP**

### Installing the OpenLDAP Server

This section shows you how to install an OpenLDAP server on Microsoft Windows 2007 system. The OpenLDAP server software is available for free. You can download it from http://www.userbooster.de/en/download/openIdap-for-windows.aspx?l=en.

#### To install the OpenLDAP server:

**1.** Double click the OpenLDAP application to start the installation. You will be prompted for the installation.



- 2. Click Yes to continue the installation.
- 3. Follow the default settings and click Next until the Destination Folder screen appears.

 Click Change to locate the installation path from local computer system and then click Next.

You need to remember the installation path (e.g., D:\OpenLDAP) located here. The screenshot for reference is shown as below:



 Follow the default settings and click Next until the Ready to install OpenLDAP for Windows screen appears.



- 6. Click Install to start the installation.
- 7. Click **Close** to exit the Setup Wizard.

For more information on how to install the OpenLDAP server for windows, refer to the website online:

http://www.userbooster.de/en/support/feature-articles/openIdap-for-windows-installation.aspx

### **Configuring the OpenLDAP Server**

### **Editing the slapd.conf File**

Access the OpenLDAP installation path. Edit the manager information for LDAP.

1. Open and edit the slapd.conf file using your favorite text editor.

Find the commands

Suffix "dc=maxcrc, dc=com"

```
Rootdn "cn=Manager,dc=maxcrc,dc=com"
```

Suffix defines the components of the domain name.

Rootdn defines the manager as a management user for accessing the LDAP server.

For example:

Suffix "dc=yealink,dc=com"

Rootdn "cn=Manager,dc=yealink,dc=com "

The suffix line means that the domain name of the LDAP directory is yealink.com. The Rootdn line defines a management user named as Manager.

If the domain name contains additional components, for example, yealink.com.cn, the suffix line will be edited as below:

Suffix "dc=yealink,dc=com,dc=cn"

```
Rootdn "cn=Manager,dc=yealink,dc=com,dc=cn"
```

**2.** Double click slappasswd.exe to modify the user password for the management user. Type the new password twice.



### **Starting the Slapd Service**

To start the slapd service:

- 1. Click Start->Run.
- 2. Enter cmd in the pop-up dialogue box and click OK to enter the command line interface.
- 3. Access the server installation path. For example, execute the following commands to access

the server installation path at D:\OpenLDAP.



4. Execute the command slapd.exe -d 1 -f ./slapd.conf to start the slapd service.



If the service runs successfully, you can find the prompt "slapd starting".

C:Windows\system32\CMD.exe - slapd.exe -d 1 -f./slapd.conf
S498d32e config\_build\_entry: "cn=schema"
5498d32e with a starting "cn=schema"
5498d32e with a starting
S498d32e with a starting
S498

The screenshot for reference is shown as below:

Please do not close this window to make sure the LDAP server keeps running.

### Adding the Initial Entry to the LDAP Directory

You can add the initial entry to the LDAP directory by using the LDIF file. Create a new text document, then modify the filename extension as ldif and place the document to the OpenLDAP installation path. For example, create a text document named as test.txt, right click the test.txt document and then select to rename it, modify the filename extension as ldif. Open the LDIF file with your favorite text editor and input the corresponding content. The following shows an example of the content of the LDIF file:

dn: dc=yealink,dc=com objectClass: top objectClass: dcObject objectClass: domain dc: yealink

dn: ou=roles,dc=yealink,dc=com
objectClass: top
objectClass: organizationalUnit
ou: roles
dn: ou=people,dc=yealink,dc=com
objectClass: top
objectClass: organizationalUnit
ou: people
dn: cn=Test Users,ou=roles,dc=yealink,dc=com
objectClass: groupOfUniqueNames
cn: Test Users
uniqueMember:
uid=sspecial,ou=people,dc=yealink,dc=com
uniqueMember:
uid=jbloggs,ou=people,dc=yealink,dc=com
dn: cn=Special Users,ou=roles,dc=yealink,dc=com
objectClass: groupOfUniqueNames
cn: Special Users
uniqueMember:
uid=sspecial,ou=people,dc=yealink,dc=com
dn: cn=Admin Users,ou=roles,dc=yealink,dc=com
objectClass: groupOfUniqueNames
cn: Admin Users
uniqueMember:
uid=admin,ou=people,dc=yealink,dc=com
dn: uid=admin,ou=people,dc=yealink,dc=com
objectClass: person
objectClass: inetOrgPerson
cn: State App
displayName: App Admin
givenName: App
mail: admin@fake.org

sn: Admin
uid: admin
userPassword: adminpassword
dn: uid=jbloggs,ou=people,dc=yealink,dc=com
objectClass: person
objectClass: inetOrgPerson
cn: Joe Bloggs
displayName: Joe Bloggs
givenName: Joe
mail: jbloggs@fake.org
sn: Bloggs
uid: jbloggs
userPassword: password
dn: uid=sspecial,ou=people,dc=yealink,dc=com
objectClass: person
objectClass: inetOrgPerson
cn: Super Special
displayName: Super Special
givenName: Super
mail: sspecial@fake.org
sn: Special
uid: sspecial
userPassword: password

### To add the initial entry using the test.ldif file:

- 1. Click Start->Run.
- 2. Execute **cmd** in the pop-up dialogue box and click **OK** to enter the command line interface.
- **3.** Access the server installation path. For example, execute the following commands to access the server installation path at **D:\OpenLDAP**.

4. Execute the command slapadd -v -l ./test.ldif to add the initial entry.

The screenshot for reference is shown as below:

C:\Windows\system32\cmd.exe	
D:\OpenLDAP>slapadd -v -l ./test.ldif 5498c308 bdb_db_open: warning - no DB_CONFIG file found in directory	./data: (2)
Expect poor performance for suffix "dc=yealink,dc=com". 5498c308 hdb_monitor_db_open: monitoring disabled; configure monitor enable added: "dc=yealink,dc=com" (00000003) added: "ou=poles,dc=yealink,dc=com" (00000005) added: "ou=poles,dc=yealink,dc=com" (00000005) added: "on=fest Users,ou=roles,dc=yealink,dc=com" (00000006) added: "cn=fest Users,ou=roles,dc=yealink,dc=com" (000000087) added: "cn=fest Users,ou=roles,dc=yealink,dc=com" (000000087) added: "in=fest Users,ou=roles,dc=yealink,dc=com" (000000087) added: "in=fest Users,ou=roles,dc=yealink,dc=com" (00000008) added: "uid=admin,ou=people,dc=yealink,dc=com" (00000008) added: "uid=admin,ou=people,dc=yealink,dc=com" (00000008) added: "uid=special,ou=people,dc=yealink,dc=com" (00000008) ####################################	database to ≞
D:\OpenLDAP>_	
	*

## **Configuring the LDAPExploreTool2**

The LDAPExploreTool2 application supports running on Windows system. The application is a graphical LDAP tool that enables you to browse, modify and manage contact entry on LDAP server.

If you have an LDAPExploreTool2 application installed on your computer, open it now, otherwise, download the application from <a href="http://ldaptool.sourceforge.net/">http://ldaptool.sourceforge.net/</a>. And then complete the installation following the wizard.

### **Creating a Configuration**

### To create a configuration:

- 1. Double click the LDAPExploreTool2.exe to run the application.
- 2. Click File->Configurations.

LDAPExplorerTool 2	
File Tools	
Open last configuration	
Configurations	
Quit	
	11.

3. Click New to create a new configuration.

4. Enter a name in the **Configuration name** field under the **Configuration** tab.

onfiguration			2
Configuration Serve	r   Connect	tion   Option   SSL/TLS	
Configuration name		LDAP	
	Ok	Cancel	

 Enter the domain name or IP address of the LDAP server in the Server name or IP field under the Server tab. Check the checkbox of Use default port for the Server port and Server SSL port.

Configuration		
Configuration Server	Connection Opt	ion SSL/TLS
Server name or IP	10.3.6.128	
Server port	389	🔽 Use default port
Server SSL port	636	🔽 Use default port
Version	<ul> <li>G 3 ⊂ 2</li> <li>Test connection</li> </ul>	]
	Ok Car	ncel

**6.** Enter the user DN and password in the **User DN** and **Password** field under the **Connection** tab.

The user DN and password correspond with the Rootdn and Rootpw defined in the slapd.conf file.

For example, according to the manager information defined in the slapd.conf file:

Rootdn "cn=Manager,dc=yealink,dc=com"

Rootpw secret

Configuration Se	erver Connection Optio	n SSL/TLS
User DN	=yealink,dc=com	Anonymous login
Password	*****	✓ Store password
Use SSL port	⊂ Yes ເ No	
Use TLS	⊂ Yes ⊙ No	(TLS is only used on non SSL ports)
Base DN	dc=yealink,dc=c	Guess value
	Test connection	
	Ok Cano	el

Enter **cn=Manager,dc=yealink,dc=com** in the **User DN** field and **secret** in the **Password** field under the **Connection** tab.

- 7. Click Guess value to fill the Base DN automatically.
- **8.** Click **Test connection** to test the connection to the LDAP server. If you encounter an error or warning during the test, you need to resolve the error or warning first according to the prompt, and then retry to test the connection.
- 9. Click **OK** to accept the change.

### **Adding Entries**

### To add entries:

1. Click **File**->**Configurations**, select the configuration created above, and then click **Open**.

The screenshot for reference is shown as below:

LDAPExplorerT	pol 2	
Root-de=yeat	⊞ dc=yealink,dc=com	
		1.

2. Right click the root entry, and then select Add to add a new entry.

ILDAPExplor	erTool 2	
File Tools		
⊡ Root-dc=ye	alink,dc=com	
⊖• <mark>ou=rc</mark>	Entry	
cn	Add	
— cn ⊟ ou=p — uic	Copy to Rename Delete	
uic	Search	

3. Enter the desired values in the corresponding fields.

Parent DN: It will be automatically generated according to the server configuration.

Entry RDN: The format is cn=XXX. This is a unique identifier for each entry.

**Object Class (from schema):** Select the structure class which the entry belongs to. Each structure class has its own must attributes and may attributes. For example, we select **person** from the pull-down list of **Object class (from schema)**.

4. Select the desired attributes for object class.

**Must attributes:** Double click attributes to add them to the entry node. All attributes listed in the **Must attributes** field must be added and each value of the attribute must be set.

**May attributes:** Double click the desired attributes to add them to the entry node. The attributes listed in the **May attributes** field are optional.

Attribute	Name	Description
cn	commonName	Full name of the entry.
gn	givenName	First name also called Christian name.
sn	surname	Surname, last name or family name.
telephoneNumber	telephoneNumber	Office phone number.
homePhone	homeTelephoneNumber	Home phone number.
mobile	mobileTelephoneNumber	Mobile or cellular phone number.
pager	pagerTelephoneNumber	Pager telephone number.
company	company	Company name.
o	organizationName	Organization name.
ou	organizationlUnitName	Usual department or any sub entity of larger entity.

Common attributes are listed in the following table:

5. Right click the selected attribute and then select Add value.

Parent DN	ou=roles,dc=yea	
Entry RDN	cn=Hebe Tian	
Object class (from schema)	person	
Object class (manual)		
□ cn=Hebe Tian,ou=roles □ sn cn	dc=yealink,dc=c The value of cn here must be the s	ame
Tian cn Ente	as that of cn configured in the <b>Ent</b>	ry
objectClass     person     telephoneNum	RDN field.	
5578	OK Cancel	
MUST attributes	MAY attributes	
moor accibacco		
sn	userPassword	
sn cn objectClass	userPassword telephoneNumber seeAlso description	
sn cn objectClass	userPassword telephoneNumber seeAlso description	
sn cn objectClass Attribute( when schema	LuserPassword telephoneNumber SeeAlso description Add	
sn cn objectClass Attribute( when schema is unavailable)	LuserPassword telephoneHumber seeAlso description Add	
sn cn cn objectClass Attribute( when schema is unavailable)	LuserPassword telephoneHumber SeeAlso description Add	

The screenshot of adding a new entry is shown as below:

- 6. Click Save to confirm the configuration.
- 7. Repeat steps 2 to 6 to add more contact entries.

You can find the added entries at the left of the LDAP catalogue.

File Tools		
<ul> <li>Root-dc=yealink,dc=com</li> <li>ou=roles</li> <li>-cn=Test Users</li> <li>-cn=Special Users</li> <li>-cn=Albar Tan</li> <li>-cn=Ella Zhang</li> <li>ou=people</li> <li>-uid=admin</li> <li>-uid=special</li> <li>-cn=Jonn Liu</li> </ul>	cmittebe Tisncourceles,dcsyealink.dcs.com     tilelephoneNumber     wodflyTimestamp     structuralObjectClass     imodfifersName     sn     creatorsName     objectClass     thosubordinates     objectClass     thosubordinates     creatorsName     creatorsName     objectClass     thosubordinates     creatorsName     creators	

# **Microsoft Active Directory**

### **Installing the Microsoft Active Directory Domain Services**

This section shows you how to install an active directory on Microsoft Windows Server 2008 R2 Enterprise 64-bit system.

#### To install the Microsoft Active Directory Domain Services:

- 1. Click Start->Run.
- 2. Enter dcpromo in the pop-up dialogue box and click OK.

**3.** The Active Directory Domain Services Installation Wizard will appear after a short while, click **Next**.



4. Read the provided information and click Next.

Active Directory Domain Services Installation Wizard	×
Operating System Compatibility Improved security settings in Windows Server 2008 and Windows Server 2008 R2 affect older versions of Windows	IJ
<ul> <li>Windows Server 2008 and "Windows Server 2008 R2" domain controllers have a new more secure default for the security setting named "Allow cryptography algorith compatible with Windows NT 4.0." This setting prevents Microsoft Windows and non-Microsoft SMB "clients" from using weaker NT 4.0 style cryptography algorith when establishing security channel sessions against Windows Server 2008 or "Windows Server 2008 R2" domain controllers. As a result of this new default, operations or applications that require a security channel serviced by Windows Server 2008 or "Windows Server 2008 R2" domain controllers. As a nesult of this new default, operations or applications that require a security channel serviced by Windows Server 2008 or "Windows Server 2008 R2" domain controllers might fail.</li> <li>Platforms impacted by this change include Windows NT 4.0, as well as non-Micros SMB "clients" and network-attached storage (NAS) devices that do not support stronger cryptography algorithms. Some operations on clients running versions of Windows earlier than Windows Vista with Service Pack 1 are also impacted, includ domain join operations performed by the Active Directory Migration Tool or Window Deployment Services.</li> <li>For more information about this setting, see Knowledge Base article 942564 (http://go.microsoft.com/fwiink/?Linkld=104751).</li> </ul>	hms ver koft ding /s
< Back Next > Ca	ancel

5. Mark the Create a new domain in a new forest radio box and click Next.

Active Directory Domain Services Installation Wizard	×
Choose a Deployment Configuration You can create a domain controller for an existing forest or for a new forest.	
C Existing forest	
C Add a domain controller to an existing domain	
C Create a new domain in an existing forest This server will become the first domain controller in the new domain.	
Create a new domain in a new forest	
More about possible deployment configurations	
< Back Next >	Cancel

6. Enter an appropriate domain name for the forest root domain and click **Next**.

tive Directory Domain Services Installation Wizard	
ame the Forest Root Domain The first domain in the forest is the forest root domain. Its name is also the name of the forest.	
Type the fully qualified domain name (FQDN) of the new forest root domain.	
FQDN of the forest root domain:	
ldap.yealink.com	

Active Directory Domain Services Installation Wizard	×
Name the Forest Root Domain The first domain in the forest is the forest root domain. Its name is also the name of the forest.	
Type the fully qualified domain name (FQDN) of the new forest root domain.	
FQDN of the forest root domain:	
Idap.yealink.g-	_
Example: corp Verifying NetBIOS name	
< Back Next > C	ancel

The wizard will check if the domain name is in use on the local network.

7. Select the desired forest functional level from the pull-down list of **Forest functional level**, and click **Next**.

For more information, click domain and forest functional levels.

a Active Directory Domain Services Installation Wizard	×
Set Forest Functional Level Select the forest functional level.	
Forest functional level:	
Windows Server 2003	•
Details:	
<ul> <li>The Windows Server 2003 forest functional level provides all features that are available in Windows 2000 forest functional level, and the following additional features: <ul> <li>Linked-value replication, which improves the replication of changes to group memberships.</li> <li>More efficient generation of complex replication topologies by the KCC.</li> <li>Forest trust, which allows organizations to easily share</li> </ul></li></ul>	• •
You will be able to add only domain controllers that are running Windows Server 2003 or later to this forest.	
More about <u>domain and forest functional levels</u> Keylet Strategy (Seck Next > 1)	Cancel

8. Select the desired domain functional level from the pull-down list of **Domain functional** level, and click **Next**.

For more information, click **domain and forest functional levels**.

a Active Directory Domain Services Installation Wizard	×
Set Domain Functional Level Select the domain functional level.	
Domain functional level: Windows Server 2003	•
Details: The features available at the Windows Server 2003 domain functional level include all features available at the Windows Server 2000 domain functional level and the following additional features: - Constrained delegation, which an application can use to take advantage of the secure delegation of user credentials by means of the Kerberos authentication protocol. - lastLogonTimestamp updates: The lastLogonTimestamp attribute is updated with the last logon time of the user or computer, and it is	•
You will be able to add only domain controllers that are running Windows Server 2003 or later to this domain. More about <u>domain and forest functional levels</u>	
< Back Next > (	Cancel

If you select **Windows Server 2008 R2** for the forest functional level, you will not be prompted to select a domain functional level.

The wizard will check if the DNS is properly configured on the local network.

Active Directory Domain Set Domain Functional L Select the domain function	Services Installation Wizard evel onal level.	×
Domain functional level:		
Windows Server 2003		<b>_</b>
The features a all features av following addi - Cor adv mea - last upc	Examining DNS configuration	e is s
More about <u>domain and f</u>	orest functional levels	
	< Back	Next > Cancel

9. Select additional options for this domain controller if required, and click Next.

ctive Directory Domain Services Installation Wizard	
dditional Domain Controller Options	
Select additional options for this domain controller.	
Server DNS server	
🔽 Global catalog	
Read-only domain controller (RODC)	
Additional information:	
cannot be an RODC.	
cannot be an RODC. We recommend that you install the DNS Server service on the first domain controller.	Y
cannot be an RODC. We recommend that you install the DNS Server service on the first domain controller. More about <u>additional domain controller options</u>	×
cannot be an RODC. We recommend that you install the DNS Server service on the first domain controller. More about <u>additional domain controller options</u>	Y
cannot be an RODC. We recommend that you install the DNS Server service on the first domain controller. More about <u>additional domain controller options</u>	Y

You may get a warning telling you that the server has one or more dynamic IP addresses. We recommend assigning a static IP address to the server.

**10.** The wizard will prompt a warning about DNS delegation. Since no DNS has been configured yet, you can ignore the message and click **Yes**.



**11.** Specify the desired paths for the database, log files and SYSVOL folders, and click **Next**.

Active Directory Domain Services Installation Wizard	V
Location for Database, Log Files, and SYSVOL Specify the folders that will contain the Active Directory domain control database, log files, and SYSVOL.	
For better performance and recoverability, store the database and log f volumes. Database folder:	iles on separate
C:\Windows\NTDS	Browse
Log files folder:	
C:\Windows\NTDS	Browse
SYSVOL folder:	
C:\Windows\SYSVOL	Browse
More about placing Active Directory Domain Services files	
< Back Next	> Cancel

For more information, click placing Active Directory Domain Services files.

**12.** Configure the password for the active directory recovery mode, and click **Next**.

For more information, click **Directory Services Restore Mode password**.

The password should be complex and at least 7 characters long.

Active Directory Domain Services Installation Wizard	×
Directory Services Restore Mode Administrator Password	
The Directory Services Restore Mode Administrator account is different from th Administrator account.	e domain
Assign a password for the Administrator account that will be used when this do controller is started in Directory Services Restore Mode. We recommend that y choose a strong password.	main ou
Password:	
Confirm password:	]
More about Directory Services Restore Mode password	
< Back Next >	Cancel

**13.** Review your selection and click **Next**.

Active Directory Domain Services Installation Wizard	×
Summary	
Review your selections: Configure this server as the first Active Directory domain controller in a new forest. The new domain name is "Idap.yealink.com". This is also the name of the new forest. The NetBIOS name of the domain is "LDAP". Forest Functional Level: Windows Server 2003 Domain Functional Level: Windows Server 2003	•
Site: Default-First-Site-Name To change an option, click Back. To begin the operation, click Next. These settings can be exported to an answer file for use with other unattended operations. More about <u>using an answer file</u>	
< Back Next >	Cancel

The wizard will prompt that the system begins to create the Active Directory Domain Services.

Active Directory Domain Services Installation Wizard	
The wizard is configuring Active Directory Domain Services. This process can take from a few minutes to several hours, depending on your environment and the options that you selected.	
Securing Kerberos Policy	
Cancel	
Reboot on completion	

14. Click Finish to complete the installation and exit the wizard.

Active Directory Domain	Services Installation Wizard	×
	Completing the Active Directory Domain Services Installation Wizard Active Directory Domain Services is now installed on this computer for the domain "Idap yealink.com". This Active Directory domain controller is assigned to the site "Default-First-Site-Name". You can manage sites with the Active Directory Sites and Services administrative tool.	
	< Back <b>Finish</b> Cancel	

## **Installing Active Directory Lightweight Directory Services Role**

You should also install the Active Directory Lightweight Directory Services role on Windows Server 2008 system.

To install the Active Directory Lightweight Directory Services role:

- 1. Click Start->Administrative Tools->Server Manager.
- 2. Right click Roles, and then select Add Roles.
- 3. The Add Roles Wizard will pop up, click Next.

Add Roles Wizard		×
Before You Begin		
Before You Begin Server Roles Confirmation Progress Results	This wizard helps you install roles on this server. You determine which roles to install based on the tasks you want this server to perform, such as sharing documents or hosting a Web site. Before you continue, verify that: • The Administrator account has a strong password • The latest security updates from Windows Update are installed If you have to complete any of the preceding steps, cancel the wizard, complete the steps, and then run the wizard again. To continue, click Next.	•
-	Skip this page by default	

4. Check the Active Directory Lightweight Directory Services checkbox and click Next.

Add Roles Wizard		×
Select Server Ro	es	
Before You Begin Server Roles AD LDS Confirmation Progress Results	Select one or more roles to install on this server. Roles: Active Directory Cetificate Services Active Directory Paderation Services Active Directory Rufish Management Services Remote Desktop Services Windows Server Update Services More about server roles	Description: <u>Active Directory Certificate Services</u> (AD (S) is used to create certification authorities and related role services that allow you to issue and magage capitations.
	< Previous Ne	xt > Install Cancel

- 5. Follow the default settings and click Next.
- 6. When the installation is completed, click Close.

After the installation succeeds, you will find the **Active Directory Lightweight Directory Services** role listed in roles of the server manager.



### **Configuring the Microsoft Active Directory Server**

### Adding an Entry to the Active Directory

You can add entries to the active directory one by one in this way.

#### To add an entry to the Active Directory:

- 1. Click Start->Administrative Tools->Server Manager.
- 2. Double click Roles->Active Directory Domain Services->Active Directory Users and

### Computers.

 Right click the domain name created above (e.g., ldap.yealink.com), and then select New->Organizational Unit.

Server Manager (YL0215	)	Idap.yealink.com	6 objects (Filter )	Activated]	Actions	
Roles Roles Roles Roles	Domain Services	Name	Туре	Descriptio	klap.yealink.com	6
Active Direct Casher Active Directory Features Diagnostics Configuration Storage	ory Users and Computers [ yl0215.ldap Delegate Control Find Change Domain Controler Raise domain functional level Operations Masters	Computers Computers Domain Cont ForeignSecur Managed Ser Users	Container Container Container Container Container	Default cc Default cc Default cc Default cc Default cc	More Actions	
	New	Computer				
	View	Group				
	Refresh Export List	InetOrgPerson msImaging-PSPs MSMQ Queue Alias	6			
	Properties	Organizational Unit				
1	Help	User Shared Folder				

4. Enter the desired name of the organizational unit.

New Object	- Organizal	ional Unit	×
<b>N</b>	Create in:	Idap.yealink.com/	
Name:			
yealink			
Protec	t container fr	om accidental deletion	
		OK Cancel H	Help

5. Click **OK** to accept the change.

6. Right click the organizational unit created above, and then select **New->Contact**.

Server Manager							_ [D] ×
File Action View Hel		<b>D</b> 100					
Server Manager (YL0215	5)		yealink 0o	bjects (Filter Actival	ted]	Actions	
Roles	Domain Services		Name	Type	Descriptio	yealink	
Bult dap, yea     Bult dap, yea     Bult dap     Com     Bult dap     Com     Bult dap     Com     Bult dap     Com     Bult dap     Fortune     Bult dap     Fortune     Fortune     Fortunes	sink.com puters sin Controllers signSecurityPrincipals aged Service Accounts s Delegate Control Nove Find	loes	inere an	no ilenia lo anovi n	URB MEM		
Configuration	All Tasks	Computer					
Storage  Vew  Inet		Group	rson				
	Out Delete Rename Refresh Export List	msImaging MSMQ Que Organizati Printer User Shared Fol	PSPs eue Alias onal Unit Ider				
	Help						

7. Enter the desired values in the corresponding fields.

New Object - Contact		X
Create in:	ldap.yealink.com/Yealink	
First name:	san	Initials: sz
Last name:	zhang	
Full name:	san sz. zhang	
Display name:		
		OK Cancel

- 8. Click **OK** to accept the change.
- **9.** Double click the contact created above.

**10.** Configure more properties of the contact.

san sz. zhang Prop	erties				<u>?</u> X
General Address	Telephones	Organization	Member O	f	
👗 san sz	. zhang				
First name:	san		Initials:	sz	
Last name:	zhang				
Display name:					
Description:					
Office:					
Telephone number				Other	
E-mail:					
Web page:				Other	
		ОК	Cancel	Арр	ly –

**11.** Click **OK** to accept the change.

### Adding Entries to the Active Directory Using the Idifde Tool

You can use a LDIF file to perform a batch import of all entries to the active directory.

#### To create the LDIF file:

Create a new text document and then modify the filename extension as ldif. For example, create a text document named as test.txt, right click the test.txt document and then select to rename it, modify the filename extension as ldif. Open the LDIF file with your favorite text editor and input the corresponding content. The following shows an example of the content of the LDIF file:

##Create a new organizational unit##
dn: OU=yealink,DC=Idap,DC=yealink,DC=com
changetype: add
objectClass: top
objectClass: organizationalUnit
ou: yealink
name: yealink
##create a new contact##
dn: CN=san zhang,OU=yealink,DC=Idap,DC=yealink,DC=com
changetype: add
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: contact
cn: san zhang
sn: zhang
givenName: san
initials: zs
name: san zhang
ipPhone: 2336
mobile: 15557107369

#### To import the test.ldif file:

- 1. Click Start->Run.
- 2. Enter cmd in the pop-up dialogue box and click OK to enter the command line interface.

Execute the command cd to access the path of the test.ldif file. For example, execute cd c:\Windows to access the path of the test.ldif file at c:\Windows.



4. Execute the command ldifde -i -f test.ldif to import the file.

If the entries are added successfully, you can find the prompt "**n entries modified successfully**" ("n" indicates the number of the added entries).

The screenshot for reference is shown as below:



You can also export the existing entries on the active directory into a \*.ldif file first, modify the file, and then import the modified file into the active directory. For more information, refer to the network resource.

### Adding Entries to the Active Directory Using the Csvde Tool

You can also use a CSV file to perform a batch import of all entries to the active directory. Create a new document using a spreadsheet application (e.g., Microsoft Excel) and then save the document to your local computer using "Save as" in the format "\*.csv". For example, create a document named as test.xls, click "Save as" to save the document as test.csv. Open the CSV file with the spreadsheet application and input the corresponding content. The following shows an example of the CSV file content:

٩.	test. csv 🛊 🗙 📄									
4	A	В	C	D	E	F	G	Н	I	J
1	DN	objectClass	ou	name	cn	sn	givenName	initial s	ipPhone	mobile
2	OU=yealink,DC=1dap, DC=yealink,DC=com	organizationalUni t	yealink	yealink						
3	CN=san zhang, OU=yealink, DC =ldap, DC=yealink, DC =com	contact		san zhang	san zhang	san	zhang	sz	1111	123456789001
4	CN=si li,OU=yealink,DC=ld ap,DC=yealink,DC=co	contact		si li	si li	11	si	sl	2222	123456789002
ы	CN=wu wang, OU=yealink, DC= ldap, DC=yealink, DC= com	contact		wu wang	wu wang	wang	₩u	ww	3333	123456789003

The first line lists the attributes of the entries.

The second line lists the values of an organizational unit in the corresponding attribute columns.

The other lines list the values of contacts in the corresponding attribute columns.

#### To import the test.csv file:

- 1. Click Start->Run.
- 2. Enter cmd in the pop-up dialogue box and click OK to enter the command line interface.
- Execute the command cd to access the path of the test.csv file. For example, execute cd c:\Windows to access the path of the test.csv file at c:\Windows.



4. Execute the command csvde -i -f test.csv to import the file.

If the entries are added successfully, you can find the prompt "**n entries modified successfully**" ("n" indicates the number of the added entries).

The screenshot for reference is shown as below:



The csvde tool cannot edit or delete the existing entries on the active directory.

You can also export the existing entries on the active directory into a \*.csv file first, modify the file, and then import the modified file into the active directory. For more information, refer to the network resource.

### **Creating User Accounts**

You can create user accounts to allow access to resources on the active directory. User accounts are very important and useful.

#### To create a user account:

- 1. Click Start->Administrative Tools->Server Manager.
- 2. Double click Server Manager->Roles->Active Directory Domain Services->Active

**Directory Users and Computers**.

- **3.** Select the domain name created above (e.g., Idap.yealink.com).
- 4. Right click **Users**, and then select **New**->**User**.

Server Manager (YL0215)		Users 16 objects	[Filter Activated]		Actions	
Roles	tory Domain Se	Name	Type	Description	Users	
Active D Active	rectory Users . yealnik.com Julin Computers Jonain Control Toreignete.com Panagod Servic Wew Refresh Export User Heip	Administrator     Adminis	User Security Group Security	Bult in account for admin Members of this group are Members of this group are Members of this group are All vonit activations and serve All domain controllers in th All domain guests all domain guests Designated administrators Members of this group are Built in account for guest Servers in this group are Members of this group are Members of this group are Members of this group are Members of this group are	More Actions	

5. Enter desired values in the corresponding fields and click Next.

New Object - User	X
Create in:	Idap.yealink.com/Users
First name:	san Initials: Sz
Last name:	zhang
Full name:	san sz. zhang
User logon name: Idapuser1	@ldap.yealink.com
User logon name (pre-	Windows 2000):
1	loopoor -
	< Back Next > Cancel

6. Enter the password for the user, select the appropriate options and click Next.

The password should be a combination of upper case letters, lower case letters, numbers and special characters.

New Object - User	X
Create in: Idap.yealink.com/Users	
Password:	
Confirm password:	
✓ User must change password at next logon	
User cannot change password	
Password never expires	
Account is disabled	
< Back Next > Cancel	

7. Click **Finish** to complete the creation of the user account.

New Object - User	×
Create in: Idap.yealink.com/Users	
When you click Finish, the following object will be created:	
Full name: san sz. zhang	<u> </u>
User logon name: ldapuser1@ldap.yealink.com	
The user must change the password at next logon.	
	<b>T</b>
,	
< <u>B</u> ack Finish	Cancel

## **Microsoft Active Directory Application Mode**

Microsoft Active Directory Application Mode (ADAM) is a new mode of Active Directory that is designed specifically for directory-enabled applications. ADAM is a Lightweight Directory Access Protocol (LDAP) directory service that runs as a user service, rather than as a system service. You can run ADAM on servers and domain controllers running operating systems in the Windows

Server 2003 family. This section shows you how to install Active Directory Application Mode (ADAM) on Microsoft Windows Server 2003 SP2 Enterprise 32-bit system. You can download Active Directory Application Mode (ADAM) online:

http://www.microsoft.com/en-us/download/confirmation.aspx?id=4201.

# **Installing the Active Directory Application Mode**

### To install the Active Directory Application Mode:

- **1.** Double click ADAMSP1\_x86\_English.exe to run the application.
- 2. The Active Directory Application Mode Service Park 1 Installation Wizard will appear after a short while, click **Next**.

Software Update Installation	Wizard 🗙
Ð	Use this wizard to install the following software update: Active Directory Application Mode Service Pack 1
	Before you install this update, we recommend that you: - Back up your system - Close all open programs You might need to restart your computer after you complete this update. To continue, click Next.
	< <u>B</u> ack [ <u>N</u> ext > ] Cancel

3. Read the software license agreement and mark I Agree radio box. And then click Next.

Software Updat	e Installation Wizard 🛛 🗙
License Agr	eement
P	Please read the following license agreement. To continue with setup, you must accept the agreement.  MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS  MICROSOFT ACTIVE DIRECTORY APPLICATION MODE
	SERVICE PACK 1 FOR MICROSOFT WINDOWS SERVER 2003 Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to
	C I <u>D</u> o Not Agree C <u>Agree</u> <u>Frint</u> < <u>Back</u> <u>N</u> ext > Cancel

Software Update	Installation Wizard	
Updating You	ır System	
17	Please wait while setup inspects your current configuration, archives your current files and updates your files.	
	Finishing installation	
_ Detail	8	7
Perf	orming cleanup	
	< <u>B</u> ack Finish	Cancel

The installation progress screen will be shown as below:

4. Click **Finish** to complete the installation and exit the wizard.

5oftware Update Installatior	) Wizard
Ð	Completing the Active Directory Application Mode Service Pack 1 Installation Wizard
	You have successfully completed the ADAM SP1 Setup Wizard.
	To close this wizard, click Finish.
	< Back Finish Cancel

To create an ADAM instance:

1. Click Start->Programs->ADAM->Create an ADAM instance.

It will prompt the following interface and click **Next**.

掃 Active Directory Applicati	on Mode Setup Wizard	X
Æ	Welcome to the Active Directory Application Mode Setup Wizard	
	This wizard helps you install Microsoft Active Directory Application Mode (ADAM).	
	ADAM is a powerful directory service that is easy to install and deploy. It provides a dedicated data store for applications, and can be configured and managed independently.	
	To continue, click Next.	
	< Back Next > Cancel Help	

2. Mark the A unique instance radio box and click Next.

🖶 Active Directory Application Mode Setup Wizard	×
Setup Options An ADAM instance is created each time ADAM is installed.	Ð
You can create a unique instance, or you can install a replica of an existing instance.	
Select the type of instance you want to install.	
<ul> <li>A unique instance</li> </ul>	
This option automatically creates a new instance of ADAM that uses the default configuration and schema partitions. The new instance will not be able to replicate with existing instances.	
O A replica of an existing instance	
This option creates a new instance of ADAM that uses the configuration and schema partitions replicated from another instance of ADAM. You can also select the application partitions to replicate.	
< <u>B</u> ack <u>N</u> ext> Cancel Hel	р

3. Enter the desired name in the **Instance name** field and click **Next**.

掃 Active Directory Application Mode Setup Wizard	×
Instance Name The instance name is used to differentiate this instance of ADAM from other ADAM instances on this computer.	Ð
Type a name for this instance. The name should reflect the use for which this instanc of ADAM is intended.	e
Instance name:	
instance1	_
Example: Addressbook1 The ADAM service name is created when the instance name is combined with the product name. It will be displayed in the list of Windows services. ADAM service name: ADAM_instance1	
< <u>B</u> ack <u>N</u> ext > Cancel H	lelp

4. Keep the default ports and click **Next**.

🖶 Active Directory Application Mode Setup Wizard	×
Ports Computers will connect to this instance of ADAM using specific ports on all of the IP addresses associated with this computer.	Ð
The ports displayed below are the first available for this computer. To change these ports, type the new port numbers in the text boxes below. If you plan to install Active Directory on this computer, do not use 389 for the LDAP po or 636 for the SSL port because Active Directory uses these port numbers. Instead, us available port numbers from the following range: 1025-65535.	rt e
LDAP port number:	
636 < <u>B</u> ack <u>N</u> ext > Cancel H	alp

5. Mark the Yes, create an application directory partition radio box and enter the desired name (e.g., o=Yealink,c=CN) in the Partition name field, and then click Next.

🛃 Active Directory Application Mode Setup Wizard	ĸ
Application Directory Partition An application directory partition stores application-specific data.	
Do you want to create an application directory partition for this instance of ADAM?	
C No, do not create an application directory partition	
Select this option if the application that you plan to install creates an application directory upon installation, or if you plan to create one later.	
Yes, create an application directory partition	
Select this option if the application that you plan to install does not create an application directory partition upon installation. A valid partition name is any distinguished name that does not already exist in this instance. Example distinguished name: CN=Partition1,DC=Woodgrove,DC=COM	
Partition name:	
o=Yealink,c=CN	
,	
< <u>B</u> ack <u>N</u> ext > Cancel Help	

6. Specify the desired paths for the data and data recovery files, and click Next.

O 7 1 0	4 1.5 470 1.5 1.30	
You can specify a location ADAM.	n for each type of file associated with	this instance of
Specify the locations to sto	ore files associated with ADAM.	
<u>D</u> ata files:		
C:\Program Files\Microso	ft ADAM\instance1\data	Br <u>o</u> wse
D <u>a</u> ta recovery files:		
C:\Program Files\Microso	ft ADAM\instance1\data	Bro <u>w</u> se

7. Mark the **Network service account** radio box and click **Next**.

Active Directory Ap     Service Account S     ADAM performs of     select.	plication Mode Setup Wizard
Set up ADAM to perfor • Network service ar ADAM has the perm	m operations using the permissions associated with the following account.
<ul> <li><u>I</u>his account:</li> <li>ADAM has the perrup to run as a servi</li> </ul>	nissions of the selected account. Ensure that the account you select is set ce.
∐ser name: Eassword:	Image: Biowse
	< <u>B</u> ack <u>N</u> ext > Cancel Help

It will pop up the following prompt box. Read the provided information and click Yes.

🖶 Active	Directory Application Mode Setup Wizard 🛛 🔀
⚠	You have selected a system service account for this ADAM instance. Because this computer is not a member of an Active Directory domain, this instance will not be able to replicate data with ADAM instances on other computers while using this service account.
	Do you want to continue?
	<u>Yes</u> <u>Mo</u>

8. Mark the first radio box to assign the administrative permissions for ADAM to the currently logged on user (e.g., USER-E5F3EA4782) and click **Next**.

🛃 Active Directory Application Mode Setup Wizard 🛛 🛛 🗙		
ADAM Administrators You can specify the user or group that will have administrative privileges for this instance of ADAM.		
Assign the following user or group of users administrative permissions for ADAM.		
Currently logged on user: USER-E5F3EA4782\Administrator		
The user that is installing ADAM will have administrative permissions for this instance of ADAM.		
C Ihis account		
The selected user or group will have administrative permissions for this instance of ADAM. You can choose any user or group from this computer, this computer's domain, or any domain that is trusted by this computer's domain.		
Account name;		
Browse		
< <u>B</u> ack <u>N</u> ext > Cancel Help		
- 9. Mark the Import the selected LDIF files for this instance of ADAM radio box.
- In the Available files box, select the desired LDF files and then click Add->, and then click Next.

Active Directory Application N	Mode Setup Wizard	×
You can import data from Ligh your ADAM application directo	itweight Directory Interc ory partition.	hange Format (LDIF) files into
To configure the ADAM service in below.	a specific way, import o	ne or more of the LDIF files listed
O Do not import LDIF files for this	instance of ADAM	
Import the selected LDIF files for a selected LDIF files for a selected LDIF files for a selected LDIF files.	or this instance of ADAM	4
A <u>v</u> ailable files:		Selected LDIF files:
		MS-AZMan.LDF
	[]	MS-InetOrgPerson.LDF MS-User.LDF
	<u>Add -&gt;</u>	MS-UserProxy.LDF
	<u> </u>	
	< Back Next >	Cancel Help

**11.** Review your selection and click **Next**.

🖶 Active Directory Application Mode Setup Wizard	X
Ready to Install The ADAM Setup Wizard is ready to install ADAM with the following configuration.	$\widehat{\mathbf{A}}$
Before continuing, review and confirm your selections.	
Selections:	
Install a unique instance of ADAM. Instance name: instance1 Computers will connect to this instance of ADAM using the following ports: LDAP port: 389 SSL port: 636 ADAM replication will use Negotiate authentication. Store ADAM program files in the following location:	
To change your selections, click Back. To install ADAM, click Next.           < Back	

The installing progress is shown as below:

🖶 Active Directory Application Mode Setup Wizard	×
Installing ADAM The ADAM Setup Wizard is installing ADAM.	$\mathfrak{F}$
Installing ADAM	
Please wait while the wizard completes the following steps.	
✓ Copied files	
Configuring the local computer to host Active Directory	
< <u>B</u> ack <u>N</u> ext > <b>Cancel</b>	Help

**12.** Click **Finish** to complete the installation and exit the wizard.

🖶 Active Directory Applicat	ion Mode Setup Wizard	×
A	Completing the Active Directory Application Mode Setup Wizard	
	You have successfully completed the Active Directory Application Mode Setup Wizard.	
	< Back Finish Cancel Help	

## **Configuring the ADAM ADSI Edit**

#### To configure the ADAM ADSI Edit:

- 1. Click Start->Programs->ADAM->ADAM ADSI Edit.
- 2. Click Action->Connect to.



- 3. Enter the desired name (e.g., ADAM1) in the Connection name field.
- **4.** Mark the **Distinguished name (DN) or naming context** radio box and enter the desired value (e.g., o=Yealink,c=CN) in the following field.
- 5. Click OK.

Connection Settings	×
Connection name:	
ADAM1	
Server name:	Port
localhost	389
Connect to the following node:	
<ul> <li>Distinguished name (DN) or naming context:</li> </ul>	
5=Yealink,c=CN	-
C Well-known naming context:	
Configuration	<b>*</b>
Connect using these credentials:	
Interaction of the currently logged on user	
C This account:	
User name:	Ŧ
Password:	
ОК	Cancel

When the ADAM ADSI Edit connects an application directory partition (e.g., o=Yealink,c=CN) successfully, it will show as below:

🍜 ADAM-adsiedit - [ADAM ADSI Edit]				
Eile Action Yiew Window Help				_ <del>8</del> ×
⇔ ⇒ 📧 🖸 🔂 😭 🖬				
ADAM ADSI Edit	Name	Class	Distinguished Name	
ADAMI [localnost:389]     O=Yealink,c=CN	ADAM1 [localhost:389]	organization		
CN=LostAndFound				
	4			Þ
, 				<u></u>

#### To create the object for ADAM:

1. Select and right click **O=Yealink,c=CN**, and then select **New->Object**.

🖇 ADAM-adsiedit - [A	DAM ADSI Edit\	ADAM1 [localhost:389] \0=Yea	link,c=CN]		_ 🗆 ×
👶 Elle Action Yiew	Window Help	)			_ 8 ×
← →   🗈 💽   ×	🖻 🖻 🗟   I	3 🖬			
nd ADAM ADSI Edit		Name	Class	Distinguished Name	
🖆 🗍 ADAM1 [localhost	t:389]	CN=LostAndFound	lostAndFound	CN=LostAndFound,O=Yealink,C=CN	
🖹 🛄 O=Yea	BW	Object	msDS-Quota	CN=NTDS Quotas,O=Yealink,C=CN	
		T-NOCS	container	CN=Roles,O=Yealink,C=CN	
	ew	•			
	ew <u>w</u> indow rrom H	ere			
R	ename				
R	efresh				
E	<port list<="" td=""><td></td><td></td><td></td><td></td></port>				
Pg	operties				
ы	elp				
		•			
reate a new object					

2. Select organizationalUnit and click Next.

Create Object		×
Select a ck	ass: container country domainDNS groupOfNames inetOrgPerson locality ocaracitationalDeceop	
	organizational-erson organizationalUnit user userProxy	
	< Back Next >	Cancel

3. Enter the desired value (e.g., ou1) in the Value field and click Next.

Create Object				X
<u>A</u> ttribute:	ou			
<u>S</u> yntax:	DirectoryString			
<u>V</u> alue:	ou1			
		< <u>B</u> ack	<u>N</u> ext >	Cancel

4. Click **Finish** to complete the creation of this object.

You can also click More Attributes to set more attributes for this object.

Create Object	X
To complete the creation of this object, click Finish.	
To set more attributes, click More Attributes.	More Attributes
< <u>B</u> ack	Finish Cancel

5. Select and right click **OU=ou1**, and then select **New->Object**.

🐗 ADAM-adsiedit -	🍕 ADAM-adsiedit - [ADAM AD51 Edit\ADAM1 [localhost:389] \D=Yealink,c=EN\DU=ou1]				_ 🗆 🗵		
Ile Action Yie	jle <u>A</u> ction <u>View Window</u> Help			_ <b>0</b> ×			
← → 💽 💽	× 🖻 🖻 🖪	😫 💷					
i ADAM ADSI Edit		Name		Class	Distinguished Name		
	ost:380) , <cn sstAndFound IDS Quotas Bow Herw Merw Gonnettor Merw</cn 	on Here	gbject	The	, even no items to show in this view.		
Crosto a new object							
create a new object							

6. Select user and click Next.

Create Object	X
<u>S</u> elect a c	lass:
	container group of Names inet OrgPerson
	iocairy mSDS-42AdminManager organizationalPerson organizationalUnit person
	user userProxy
	< Back Next > Cancel

7. Enter the desired value (e.g., user1001) in the Value field and click Next.

Create Object				×
<u>A</u> ttribute:	cn			
<u>S</u> yntax:	DirectoryString			
<u>V</u> alue:	user1001			
		< <u>B</u> ack	Next >	Cancel

8. Click More Attributes to set more attributes for this user.

Create Object			×
To complete the creation of this obj To set more attributes, click More A	ect, click Finish. ttributes.	More Att	ibutes
	< <u>B</u> ack	Finish	Cancel

 In the popup dialog of Attributes, select the telephoneNumber from the pull-down list of Select a property to view. Enter the desired telephone number (e.g., 1003) in the Edit Attribute field and click Set. The entered telephone number will be shown in the Value(s) field.

cn=user1001	×
Attributes	
Path: Class: user	
Select which properties to view:	Optional 💌
Select a property to <u>v</u> iew:	telephoneNumber
Attribute Values	
Synta <u>x</u> : DirectoryString	
Edit Attribute:	
V <u>a</u> lue(s): 1003	
,	
	Cat Chan

- **10.** Click **OK** to close the Attributes dialog, and click **Finish** to complete the creation of this user.
- 11. Select and right click the user created above, and then select **Reset Password**.
- **12.** Enter the password for the user created above in the **New password** field and **Confirm password** field respectively.

Reset Password		x
<u>N</u> ew password:	*****	
<u>C</u> onfirm password:	****	
The account must log change to take effect	off and then log on again for the t.	
	OK Cancel	

#### 13. Click OK to accept the change.

If you want to use the user created above to manage and search information of LDAP, you need to add the user to the administrator group in advance.

To add the user to the administrator group:

1. Click ADAM1->O=Yealink, c=CN->CN=Roles.

🐗 ADAM-adsiedit - [ADAM ADSI Edit\;	ADAM1 [localhost:389] \0=Yeali	nk,c=CN\CN=Ro	les]		
Sile Action View Window Help					_ 8 ×
ADAM ADSI Edit	Name	Class	Distinguished Name		
🗄 📑 ADAM1 [localhost:389]	CN=Administrators	group	CN=Administrators,CN=Roles,O=Yeali	nk,C=CN	
O=Yealink,c=CN	CN=Readers	group	CN=Readers,CN=Roles,O=Yealink,C=	CN	
CN=LostAndFound	E CN=Users	group	CN=Users,CN=Roles,O=Yealink,C=CN	1	
CN=Roles					
OU=ou1					
	•				

2. Select and right click **CN=Administrators**, and then select **Properties**.

ADAM-adsiedit - [ADAM ADSI Edit\ADAM1 [localhost:389] \0=Yealink,c=EN\EN=Roles]					
Sile Action View Window Help	)				_ <del>8</del> ×
	14				
		-	[		
ADAM ADSI Edit	ivame (	Class	Uistinguisned Name	1.0.00	
E-O=Yealink.c=CN	E Chapadors Move	Up Up	CN=Roaders CN=Roles O=Yealink C=	nk,c=un CN	
CN=LostAndFound	El CN=Lisers Delete	up	CN=I kers.CN=Roles.O=Vealink.C=CN		
🗄 🧰 CN=NTDS Quotas	Bename	0,0			
CN=Roles		_			
	Properties	_			
	Help				
	1				•
pens the properties dialog box for the current selection.					

3. Select the **member** attribute in the **Attributes** box and click **Edit**.

CN=Administrators Prope	erties		? ×			
Attribute Editor	Attribute Editor					
<ul> <li>Show mandatory attribut</li> <li>Show optional attribut</li> <li>Show only attributes to Attributes:</li> </ul>	outes es hat have <u>v</u> alues					
Attribute fSMORoleOwner groupType instanceType isCriticalSystemObject isDeleted lastKnownParent managedBy managedObjects masteredBy member memberOf modifyTimeStamp msDS-Approx-Immed ◀	Syntax Distinguished Integer Boolean Boolean Distinguished Distinguished Distinguished Distinguished Distinguished UTC Coded Ti Integer	Value <not set=""> -2147483646 4 TRUE <not set=""> <not set=""> <not set=""> <not set=""> <not set=""> CN=Administrator <not set=""> 3/28/2014 7:36: 0</not></not></not></not></not></not></not>	SON=R 42 AM			
	OK	Cancel	Apply			

4. In the popup dialog of the member attribute, click **Add ADAM Account**.

ttribute:	member			
alues: Name	Container	Distin	iguished Name	
Administrators	/{B8CE497C-9680-44A8-907	71-283BD030 CN=#	Administrators,CN=Roles,CN	l=Configurati
4				-
•	A			
<ul> <li>A shall I fill the share of a state.</li> </ul>	Account			Remove
Add <u>W</u> indows				

**5.** In the popup dialog of adding ADAM account, enter the desired dinstinguished name (e.g., CN=user1001,OU=ou1,o=Yealink,c=CN) in the field.

Μ	Multi-valued Distinguished Name With Security Principal Editor							
	Attribute: member Valges:							
	Name	Container	Distinguished Name					
	Administrators	/{B8CE497C-9680-44A8-9071-283BD030	CN=Administrators,CN=Roles,CN=Configurati					
		Add ADAM Account	X					
		Enter a dinstinguished name (DN) fo	or an object.					
		CN=user1001,OU=ou1,o=Yealink	,c=CN					
		ОК	Cancel					
	۲							
	Add <u>W</u> indows Acco	unt	<u>R</u> emove					
	Add ADAM Accour	nt						
			OK Cancel					

- 6. Click **OK** to accept the change and close the dialog of adding ADAM account.
- 7. Click **OK** to accept the change and close the dialog of the member attribute.
- 8. Click **OK** to accept the change and close the Administrators Properties interface.

You can also view permissions of ADAM using the command.

#### To view permissions using the command:

- 1. Click Start->Programs->ADAM->ADAM Tools Command Prompt.
- Execute the command dsacls \\localhost:389\o=Yealink,c=CN view permissions of o=Yealink,c=CN.

🔤 ADAM Tools Command Prompt 📃 🗖 🗙					
Microsoft Windows [Version 5.2.3790] (C) Copyright 1985-2003 Microsoft Corp.					
C:\WINDOWS\ADAM>dsacls \\localhost:389\o=Yealink,c=CN Owner: CN=Administrators,CN=Roles,O=Yealink,C=CN Group: CN=Administrators,CN=Roles,O=Yealink,C=CN					
Access list: Allow CM=Instances,CN=Roles,CN=Configuration,CN={B8CE497C-9680-44A8-9071-283BD03 0BCF0>					
SPECIAL ACCESS READ PERMISSONS LIST CONTENTS READ PROPERTY LIST OBJECT					
Allow CN=Readers,CN=Roles,O=Yealink,C=CN SPECIAL ACCESS READ PERMISSONS LIST CONTENTS READ PROPERTY LIST OBJECT					
Allow CN=Administrators,CN=Roles,O=Yealink,C=CN FULL CONTROL					
Allow CN=Instances,CN=Roles,CN=Configuration,CN={B8CE497C-9680-44A8-9071-283BD03 0BCF0}					
Replicating Directory Changes Allow CN=Instances,CN=Roles,CN=Configuration,CN= <b8ce497c-9680-44a8-9071-283bd03 (MBCF0)</b8ce497c-9680-44a8-9071-283bd03 					
Replication Synchronization Allow CN=Instances,CN=Roles,CN=Configuration,CN=CB8CE497C-9680-4408-9071-283BD03 ØBCF05					
Manage Replication Topology Allow CN=Instances,CN=Roles,CN=Configuration,CN={B8CE497C-9680-44A8-9071-283BD03 (BBCF0)					
Replicating Directory Changes All					
Permissions inherited to subobjects are: Inherited to all subobjects Allow CN=Readers,CN=Roles,O=Yealink,C=CN ▼					

## **Sun One Directory Server**

Sun One Directory Server, also known as Sun Java System Directory Server, is a component of the Java Enterprise System. Sun One Directory Server can be installed on multiple platforms, such as Windows, Linux, Solaris and so on. This section shows you how to install Sun One Directory Server version 5.2 on Microsoft Windows Server 2003 SP2 Enterprise 32-bit system. You can download it online: http://download.csdn.net/download/wbsoso/6439291.

Before the installation, you should prepare as follows:

- Modify the hosts file of your computer.
- Install the Java Development Kit (JDK) 5 or later.

#### To modify the hosts file of your computer:

- 1. Locate the hosts file in the path "C:\WINDOWS\system32\drivers\etc\hosts".
- 2. Open and edit the hosts.dz file using your favorite text editor.
- **3.** Add FQCN (Fully Qualified Computer Name) of your computer to the file. For example, the FQCN of your computer is Idapsun.yealinktest.com. Add the following mapping:

127.0.0.1 Idapsun.yealinktest.com

# Copyright (	c) 1993-1	1999 Microsoft Corp.	
This is a s	ample HOS	STS file used by Micro	soft TCP/IP for Windows.
This file co entry should be placed in	ontains t d be kept n the fir	the mappings of IP add t on an individual lin ast column followed bu	resses to host names. Each e. The IP address should the corresponding bost name
The IP addr space.	ess and t	the host name should b	e separated by at least one
Additionall lines or fo	y, commer llowing t	nts (such as these) ma the machine name denot	y be inserted on individual ed by a '#' symbol.
For example			
102.54	.94.97	rhino.acme.com	# source server
38.25	.63.10	x.acme.com	# x client host
	localt	nost	
27.0.0.1	TOCATI		

4. Save the hosts file.

The following shows you how to install Java Development Kit (JDK) 6 on your computer. You can download it online: http://www.oracle.com/technetwork/java/javase/downloads/index.html.

#### To install the Java Development Kit (JDK) 6:

1. Double click jdk-6u22-windows-i586.exe to run the application.

2. The Java (TM) SE Development Kit 6 Update 22 Installation Wizard will appear after a short while, click **Next**.



 Click Change to locate the installation path from local computer system and then click Next.

You need to remember the installation path (e.g., C:\Program Files\Java\jdk1.6.0\_22) located here.

The screenshot for reference is shown as below:

🙀 Java(TM	1) SE Development Kit 6 Update :	22 - Custom Setup	×
() Java	Custom Setup Select the program features you (	want installed.	ORACLE
Select optic installation	Image: Second	low. You can change your c tility in the Control Panel Feature De: Java(TM) St Update 22, 6 Update 22 300MB on y	thoice of features after scription E Development Kit 6 including private JRE 2. This will require our hard drive.
Install to: C:\Program	Files\Java\jdk1.6.0_22\		Change
		< <u>B</u> ack <u>N</u> ext >	Cancel

🙀 Java(TM	I) SE Development Kit 6 Update 22 - Progress	
(jij) Java	Installing The program features you selected are being installed.	ORACLE'
Status:	Extracting Installer	





		ORACL
Java Java(TM) SE Devel	opment Kit 6 Update 22 Successfully	/ Installed
Product Registration is * Notification of new v * Special offers on Sur * Access to early relea When you click Finish, registration form will b	FREE and includes many benefits: ersions, patches, and updates n products, services and training ises and documentation product and system data will be collected - presented. If you do not register, none -	and the JDK product of this information will
be saved. For more information o used, see the Product	n what data Registration collects and how Registration Information Page.	v it is managed and
	Desident Destruction Toferences	ſ

4. Click **Finish** to finish the installation.

After the installation, you need to configure environment variables.

#### To configure environment variables:

- 1. Right-click the My Computer icon and select Properties.
- 2. Click the **Advanced** tab.
- 3. Click the Environment Variables button.
- 4. Add the following variables, click New under System Variables.
- 5. Enter the variable name as JAVA\_HOME.
- **6.** Enter the variable value as the installation path (e.g., C:\Program Files\Java\jdk1.6.0\_22) for the Java Development Kit.

New System Varia	able ? 🗙
Variable <u>n</u> ame:	JAVA_HOME
Variable <u>v</u> alue:	C:\Program Files\Java\jdk1.6.0_22
	OK Cancel

- 7. Click OK.
- 8. Repeat the steps 4-7 to create a new system variable.

Variable name: classpath

Variable value: .;%JAVA\_HOME%\lib\dt.jar;%JAVA\_HOME%\lib\tools.jar The dot "." stands for the current path and it can't be deleted. %JAVA\_HOME% references the value of the specified JAVA\_HOME variable created before.

Edit System Varia	able ? 🗙
Variable <u>n</u> ame:	classpath
Variable <u>v</u> alue:	;%JAVA_HOME%\lib\dt.jar;%JAVA_HOME
	OK Cancel

- 9. Under System Variables, select the Path variable and click Edit.
- In the Variable value field, append the Java bin directory (e.g., C:\Program Files\Java\jdk1.6.0\_22\bin) to the end of the existing path (e.g., %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;).

If the end of the existing path has no semicolon, you should add a semicolon to the end of the existing path and then append the Java bin directory.

Edit System Variat	ole ? 🗙
Variable <u>n</u> ame: Variable value:	Path em:C})Program Eiles) Java) idk1.6.0. 22) bin
_	OK Cancel

- **11.** Click **OK**.
- 12. Click Apply Changes.

To verify the configuration of environment variables:

- 1. Click Start->Run.
- 2. Enter cmd in the pop-up dialogue box and click OK to enter the command line interface.



3. Execute the command java -version to check the java version.

It prompts the following information.



4. Execute the command **java** to run the application.

It prompts the following information.



5. Execute the command javac to compile java files into class files.

It prompts the following information.

licrosoft Windows [Version	F 0 00001
	5-2-37701
(C) Copyright 1985-2003 Mi	crosoft Corp.
C:\Documents and Settings\	Administrator>javac
Isage: javac <options> <so< td=""><td>urce files&gt;</td></so<></options>	urce files>
where possible options inc	lude :
_a	Generate all debugging info
-g:none	Generate no debugging info
-g:{lines,vars,source}	Generate only some debugging info
-nowarn	Generate no warnings
-verbose	Output messages about what the compiler is doing
-deprecation	Output source locations where deprecated APIs are
sed	
-classpath <path></path>	Specify where to find user class files and annota
n processors	
-cp (path)	Specify where to find user class files and annota
on processors	
-sourcepath (path)	specify where to find input source files
-bootclasspath (path)	Override location of bootstrap class files
-extairs (airs)	override location of installed extensions
-endorsedairs (dirs)	Override location of endorsed standards path
-proc:(none,on197	control whether annotation processing and/or comp
ation is done.	
-processor (classi),(cl	ass27, Class37 IMames of the annotation processors
run, bypasses derault ut	scovery process
-processorpath \path/	Specify where to ring annotation processors
-u (dimenteru)	Specify where to place generated class files
-s (uirectury/	Specify where to place generated source files for
mulicitly vofeveneed file	o specify whether or not to generate class files to
-encoding (encoding)	s Specify character encoding used by source files
-source (velesce)	Prouide source compatibility with specified veles
Source (release)	Trovide source compactivities with specified relea
-tanget (nelesce)	Concepts class files for execting UM warsion
-uencion	lension information
-help	Pwint a suppress of standard options
	Antione to pase to apportation processors
-X	Print a sunonsis of nonstandard ontions
-J{flag}	Pass $\langle f   ag \rangle$ directly to the runtime system
o tri ingr	Tubb (Trug) dirboorly to the function system
	-996 at at 16
C:\Documents and Settings\	Administrator>_
1	

## **Installing the Sun One Directory**

#### To install the Sun One Directory:

- **1.** Unpack the compressed files named Sun Java System Directory Server.5.2.P4.Windows.full.rar.
- 2. Double click setup.exe to run the application.
- **3.** The Sun Java(TM) System Directory Distribution Version 5.2 Install Wizard will appear after a short while, click **Next**.



4. Read the software license agreement and click Yes (Accept License).



 Enter the fully qualified name of the computer (e.g., ldapsun.yealinktest.com) in the Fully Qualified Computer Name field and click Next.

The fully qualified name of the computer was planned before. For more information, refer to modify the hosts file of your computer.

Sun Java(I∎) Sys	tem Directory Distribution Version 5.2 Install Vizard	
	Fully Qualified Computer Name	
M SUN . microsystems	Enter the fully qualified name of the computer	
	Fully Qualified Computer Name: Idepsun, yeal inktest. com	
	Back < Next > Cancel	lelp

6. Mark the Sun Java (TM) System Servers radio box and click Next.



7. Mark the **Custom** radio box and click **Next**.

Sun Jawa(I∎) Sys	tem Directory	7 Distribution Version 5.2 Install Wizard	
A Cana	Type of Insta	llation	
microsystems	Choose the t	ype of installation you prefer, then Click Next.	
	C Express	Installation option choices are made automatically. The installation and recommended for evaluating the production and recommended for evaluating the production of the produc	easiest Ict.
	C Typical	Software will be installed with the most common option Recommended for most deployments.	18.
	<ul> <li>€Custom</li> </ul>	You may choose the options you want to install. Recon for advanced users.	nmended
	Back < Ne	xt>Ca	incel Help

8. Specify the desired installation directory and click **Next**.

Sun Jawa(I∎) Sys	tem Directory Distribution Version 5.2 Install 1	i zar d	<u>- 0 ×</u>
	Select installation directory		
	Directory to install Directory Server components:		
	C:\Program Files\Sun\MPS	Browse	
	Back < Next >	Cance	l Help

It prompts the following window. And you can click **Create Directory** to create the directory or click **Choose New** to select another path.



9. Select the desired installation components and click Next.

Sun Java(III) Syst	tem Directory Distribution Version 5.2 Install Wizard	<u>_     ×</u>
	Select Components	
SUN . microsystems	Directory Server components showing a checked box will be installed.	
	B 🔽 Sun Java(TM) System Directory Suite 27.98 MB	
	🖽 🔽 Sun Java(TM) System Administration Services 5.07 MB	
	🌐 🔽 Sun Java(TM) System Server Console 🛛 67.93 MB	
	☑ Sun Java(TM) System Server Basic Libraries 1020.83 KB	
	Sun Java(TM) System Server Basic System Libraries 10.64 MB	
	Back < Next > Cancel	Help

**10.** Mark **The new instance will be the configuration Directory Server** radio box and click **Next**.

Sun Jawa (II) Sys	em Directory Distribution Version 5.2 Install Tizard	
	Configuration Directory Server	
Microsystems	You may store Sun Java(TM) System server configuration information in anoth Sun Java(TM) System Directory Server. If you have already prepared a configuration server, you may configure the new server to use it.	er
	The new instance will be the configuration Directory Server	
	C Use existing configuration Directory Server	
	Host:	
	Port: 389	
	Bind As: admin	
	Password:	
	Back < Next > Cancel H	Help

11. Mark the Store data in the new Directory Server radio box and click Next.

Sun Java(I∎) Sys	tem Directory Distribution Version 5.2 Install Tizard
	Data Storage Location
Microsystems	You may already have a Directory Server where you store user and group information.
	Store data in the new Directory Server
	C Store data in an existing Directory Server
	Host.
	Port: 389
	Bind As:Cn=Directory Manager
	Password:
	Suffix dc=yealinktest, dc=com
	Back < Next > Cancel Help

**12.** Enter the value "Idapsun" in the **Server Identifier** field and keep the default values in other two fields. And then click **Next**.

Sun Jawa (II) Sys	stem Directory Di	stribution Version 5.2 Install Wizard	
All Care	Directory Server S	Settings	
M SUIL. microsystems	Settings the new	server will use for basic operation	
	Server Identifier:	ldapsun	
	Server Port:	28511	
	Suffix:	dc=yealinktest, dc=com	
	Back < Next >	l E	Cancel Help

13. Configure the password for the Directory Server Administrator and click Next.

Sun Jawa(T∎) Sys	tem Directory Dist	ribution Version 5.2 Install Tizard			
	Configuration Direct	ory Server Administrator			
Microsystems	The Directory Administrator ID is used to register the server with the Configuration Directory Server.				
	Administrator ID:	admin			
	Password:	*****			
	Password (again):	*****			
	Back < Next >	Ca	incel Help		

14. Follow the default setting and click Next.

Sun Java(T∎) Sys	tem Directory Distribution Version 5.2 Install Vizard			
	Administration Domain			
Microsystems	Enter some descriptive, unique name for the administration domain, such as the name of the organization responsible for managing the domain.			
	Administration Domain: yealinktest.com			
	Back < Next > Cancel Help			

**15.** Configure the password for the Directory Manager and click **Next**.

The password must be at least 8 characters long.

Sun Jawa (II) Sys	tem Directory Distribu	ution Version 5.2 Install Wizard 📃 🗖	×
A Cana	Directory Manager Settin	gs	
Microsystems	Enter a Distinguished N least 8 characters long.	ame (DN) for the Directory Manager and a password at	
	Directory Manager DN:	cn=Directory Manager	
	Password:	*****	
	Password (again):	******	
	Back < Next >	Cancel	



16. Check the Create Sample Organizational Structure check box and click Next.

17. Mark the **Populate with sample date** radio box and click Next.

Sun Jawa (T∎) Sys	stem Directory Distribution Version 5.2 Install Wizard
	Populate Suffix
Microsystems	You may populate the suffix of the new Directory Server instance from an LDIF file, or create sample data in your suffix.
	C Don't populate
	Populate with sample data
	C Populate with LDIF file
	File name Browse
	Back < Next > Cancel Help

18. Follow the default settings and click **Next** for the following two steps.



Sun Jawa (III) Sys	tem Directory Distribution Version 5.2 Install Tizard			
	Administration Server Port Selection			
Microsystems	The Administration Server runs on a different network port from other servers. Specify the number of the port.			
	Administration Port: 28512			
	Back < Next > Cancel Help			

**19.** View the items to be installed and click **Install Now**.



The installing progress is shown as below:

Sun Jawa (TB) Sys	tem Directory Distribution Version 5.2 Install Wizerd	
	Installing	
Sun.		
	Installing Sun Java(TM) System Directory Server	
	13%	
	停止	Help

After the installation, it will enter the configuring screen.



20. After the configuration, click Next to enter the installation summary screen. You can view the directory sever installation status and click Details for more information. You can also click Close to close the Sun Java(TM) System Directory Distribution Version 5.2 Install Wizard.

💑 Sun Jawa(I∎) Sys	tem Directory Distribut	ion Version 5.2 Insta	11 Tizard	_ 🗆 ×
	Installation Summary			
Sun.	The Directory Server installa	ition status is shown below:		
	Product	Status	Information	
	Directory Server	Installed	Details	
	•			
	Click "Details" next to prod	luct status for more informat	lion.	
			Close	Help

### Configuring the Sun Java(TM) System Server Console

#### Adding an Entry to the Directory Server

You can add entries to the Directory Server one by one in this way.

#### To add an entry to the Directory Server:

1. Click Start->Program->Sun Java(TM) System Server Products->Sun Java(TM) System Server Console 5.2.

It will enter the login screen. You should enter the administrator user name and its password in the **User ID** field and **Password** field respectively.

S	Sun Jawa (TE) System Server Console Login 🗙
	User ID: cn=Directory Manager
Ser	Password: ******
	Administration URL: http:///dapsun.yealinktest.com;28512
Copyright 20	OK Cancel Help ions.
Sun, Sun	Microsystems, Sun Java(TM) System, and all Sun and Sun Java(TM) System based trademarks and logos are trademarks of Sun Microsystems, Inc.
	Please log in

The system default administrator is cn=Directory Manager and its password which must be at least 8 characters long has already been set during the installation process.

Then click **OK** to enter the home page.

Sun Java (TII) System Server C	onsole	
Sun Java (TE) System Server C Console Edit View Operat Help Sun Javan System S Servers and Applications Users Default View	Server Console and Groups  Idapsun.yealinktest.com Host name: Idapsun.yealinktest.com Description: Location: Platform: Intel Operating system: Windows NT5.2 (Build 3790)	
		Egt Help

Double click Idapsun.yealinktest.com->Server Group->Directory Server(Idapsun). It will enter the Directory Tasks interface.

🕸ldapsun. yealinktest. com - Sun Java (TB) System Directory Server - 1dapsun	
Console Edit View Help	
Sun Java™ System Directory Server Version 5.2	
Tasks Configuration Directory Status	
Start Directory Server	
Stop Directory Server	
Restart Directory Server	
Back up Directory Server	
Restore Directory Server	
Manage Certificates	
Log in to Directory Server as a new user	
I mal	-

- 3. Click the **Directory** tab.
- Select and right click the dc=yealinktest,dc=com (6 acis), and then select New->Organizational Unit.

Idapsun.yealinktest.co Console Edit View Object F	n – Sun Java(III) Syst elp	em Direc	tory Server - Idaps	n	_ 🗆 🗵
Sun Java™ Syste	m Directory Server		Version 5.2		
Idapsun.yealinktest.com:2851	1 Directory Adminis Edit With Custom Editor Edit With Generic Editor Search View Effective Rights	strators Ctrl+P			
B → O → NetscapeRoot (3 acis → O = cn=schema (5 acis) B → Cn=monitor (5 acis) B → Cn=config (4 acis)	New Root Object Set Access Permissions Set Roles Set Password Policy	► Ctrl+L	User Group Organizational Unit Role Cl <u>a</u> ss Of Service		
	Create Browsing Index Delete Browsing Index Activate		Password Policy Referral Other		
	Cut Copy Paste	Ctrl+X Ctrl+C Ctrl+V			
dc=yealinktest,dc=com	Delete Refresh	Ctrl+D Ctrl+R			

5. Enter the desired name of the organizational unit.

豢 Create New Or	ganizations	l Unit	X
Unit Languages	* Name: Description: Phone: Fax: Alias: Address:	ou2	
Access Permissi	ons Help	<u>OK</u> <u>Cancel</u> <u>Help</u>	

- 6. Click **OK** to accept the change.
- 7. Select and right click the organizational unit created above, and then select **New**->**User**.

🕸 l dap sun. y	Edit With Custom Editor	Ctrl+P	System Directory Se	erver - 1dapsun	_ 🗆 🗵
Console Edit	Edit With Generic Editor				
4	Search				
Sun Ja	View Effective Rights		°ver ∨	'ersion 5.2 -	
Tasks	New	Þ	User		
kilonoun ur	Ne <u>w</u> Root Object	Þ	Group		
- Can dc=ex:	Set Access Permissions	Ctrl+L	Organizational Unit		
⊒ 👝 dc=ye:	Set <u>R</u> oles		Role		
	Set Password Policy		Class Of Service		
Pe	Create Browsing Index		Password Policy		
Sk Att	Delete Browsing Index		Referral		
	Activate		Other		
🗿 cn=scl	Inactivate	-		-	
a⊷ 👝 cn=mo	Cut	Ctrl+X			
an=coi	Сору	Ctrl+C			
	Paste	Ctrl+V			
	Delete	Ctrl+D			
	<u>R</u> efresh	Ctrl+R			
ou=ou2,dc=yeal	inktest,dc=com				

8. Enter the desired values in the corresponding fields.

Phon Fa   User   Languages   NT User   Posix User   Account   * Common Name(s):   user1 lin   User ID:   Ulin   Password:   #*******   Confirm Password:   #*******   E-Mail:   [001]	Create New Us	ser	×
User     * First Name:     user1       Languages     * Last Name:     iin       Posix User     * Last Name:     iiin       Account     * Common Name(s):     user1 lin       User ID:     ulin       Password:     ##########       Confirm Password:     #########       E-Mail:     (e.g., user@company.com)       Phone:     1004			Phone:
User         * First Name:         user1           Languages         * Last Name:         lin           Posix User         * Common Name(s):         user1 lin           Account         User ID:         ulin           Password:         ##########         Confirm Password:           E-Mail:	-		Fax:
Fax: Fax: A Indicates a required field	User Languages NT User Posix User Account	* First Name: * Last Name: * Common Name(s): User ID: Password: Confirm Password: E-Mail: Phone: Fax:	ser1 ) ser1 lin in i****** (e.g., user@company.com) 001 ndicates a required field
Access Permissions Help OK Cancel Help	Access Permissi	sions Help	OK Cancel Help

#### 9. Click **OK** to accept the change.

You can view the user (User ID is ulin) created above under the organizational unit named ou2.

· · · · · · · · · · · · · · · · · · ·		
Canada Edit View, Object Help	un Jawa(IM) System Directory Server	r - Idapsun
Console Edit View Object Help		
Sun Java™ System	Directory Server Version	
San Sara Sjotom	Directory derver	
Tasks Configuration Direc	tory Status	
🕸 Idapsun.yealinktest.com:28511	🔺 ulin	
dc=example,dc=com (2 acis)		
e- dc=yealinktest,dc=com (6 acis		
People (5 acis)		
Special Users		
o=NetscapeRoot (3 acis)		
— 🥥 cn=schema (5 acis)		
- Cn=monitor (5 acis)		
B-Carconfig (4 acis)		
	1	
ou=ou2,dc=yealinktest,dc=com		

## Adding Entries to the Directory Server Using the Idifde Tool

You can use a LDIF file to perform a batch import of all entries to the Directory Server. For more information, refer to create the LDIF file. The following shows an example of the content of the LDIF file for the Directory Server:

##Create a new organizational unit##
dn: ou=ou3,dc=yealinktest,dc=com
ou: ou3
objectClass: top
objectClass: organizationalunit
creatorsname: cn=directory manager
modifiersname: cn=directory manager
parentid: 1
entryid: 15
entrydn: ou=ou3,dc=yealinktest,dc=com
##create a new user##
dn: uid=utest,ou=ou3,dc=yealinktest,dc=com
uid: utoct
facsimileTelephoneNumber: 11002
facsimileTelephoneNumber: 11002 givenName: user4
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top objectClass: person
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top objectClass: person objectClass: organizationalPerson
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top objectClass: person objectClass: organizationalPerson objectClass: inetorgperson
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top objectClass: person objectClass: organizationalPerson objectClass: inetorgperson sn: test
facsimileTelephoneNumber: 11002 givenName: user4 objectClass: top objectClass: person objectClass: organizationalPerson objectClass: inetorgperson sn: test cn: user4 test

#### To import the test.ldif file:

- In the home page of Sun Java(TM) System Server Console, double click Idapsun.yealinktest.com->Server Group->Directory Server(Idapsun).
  - It will enter the Directory Tasks interface.

🕸ldapsun. yealinktest. com – Sun Java (III) System Directory Server – ldapsun	_ 🗆 🗵
Console Edit View Help	
Sun Java <sup>TM</sup> System Directory Server Version 5.2	
Tasks Configuration Directory Status	
Stop Directory Server	×
Restart Directory Server	
Back up Directory Server	
Restore Directory Server	
Manage Certificates	
Log in to Directory Server as a new user	- 11
Import from LDIF	
Export to LDIF	<b>_</b>

#### 2. Click Import from LDIF.

It prompts the following dialog box.

∲Import LDIF		×
LDIF file (on console machine):		<u>B</u> rowse
🔲 Add only		
🔽 Continue on error		
File for rejects:		Browse
	<u>OK</u> <u>Cancel</u>	Help

3. Click **Browse** to locate the test.ldif file from your local system, and then click **OK**.

∲Import LDIF		×
LDIF file (on console machine): C:test.ldif		Browse
Add only		
Continue on error		
File for rejects:		Browse
	<u>O</u> K <u>C</u> ancel	Help

After importing the test.ldif file, it will show the status of importing. If the entries are added successfully, you can view the information "n objects imported, 0 objects rejected". You can click **Close** to close it.

🕸 Import LDIF	×
Import finished.	
2 objects imported, 0 objects rejected	
Rejected objects:	
	se

You can view the imported the organizational unit (e.g., ou3) and user (e.g., uid=utest) under the path: **Directory-> dc=yealinktest,dc=com (6 acis).** 



# **Configuring Yealink IP Phones**

LDAP is disabled on IP phones by default. You can configure LDAP via web user interface or using configuration files.

#### LDAP Attributes on the Phone

Enable LDAP								
Parameter	ldap.enable							
Description	This parameter enables or disables LDAP feature on the IP phone. <b>0</b> -Disabled (Default) <b>1</b> -Enabled							
LDAP Search								
Parameter	ldap.search_type							
Description	This parameter configures the search type for LDAP contact look up. <b>0</b> -Prefix matching <b>1</b> -Approximate string matching If it is set to 0 (Perfect matching), the IP phone will search the LDAP contacts that the phone number or name starts with the entered character(s). If it is set to 1 (Approximate string matching), the IP phone will search the LDAP contacts that the phone number or name contains the entered character(s).							
LDAP Name Filt	ter							
Parameter	ldap.name_filter							
Description	This parameter specifies the search criteria for names look up. The format of the search criteria is compliant to the standard string representations of LDAP search filters (RFC 2254). The "*" symbol in the filter stands for any character. The "%" symbol in the filter stands for the name entered by the user.							
Example	<ul> <li>( (cn=%)(sn=%)(telephoneNumber=%)) When the cn or sn or telephoneNumber of the LDAP contact matches the entered name, the record will be displayed on the phone LCD screen.</li> <li>(&amp;(cn=*)(sn=%)) When the cn of the LDAP contact is set and the sn of the LDAP contact matches the entered name, the records will be displayed on</li> </ul>							
	the phone LCD screen.							
--	--	--	--	--	--	--	--	--
	• (!(cn=%))							
	When the cn of the LDAP contact does not matches the entered name, the records will be displayed on the phone LCD screen.							
LDAP Number	Filter							
Parameter	ldap.number_filter							
Description	This parameter specifies the search criteria for numbers look up. The format of the search criteria is compliant to the standard string representations of LDAP search filters (RFC 2254). The "*" symbol in the filter stands for any number. The "%" symbol in the filter stands for the number entered by the user.							
Examples	<ul> <li>( (telephoneNumber=%)(mobile=%)(ipPhone=%))</li> </ul>							
	When the telephoneNumber or mobile or ipPhone of the LDAP contact matches the search criteria, the record will be displayed on the phone LCD screen.							
	<ul> <li>(&amp;(telephoneNumber=*)(mobile=%))</li> </ul>							
	When the telephoneNumber of the LDAP contact is set and the mobile of the LDAP contact matches the entered number, the record will be displayed on the phone LCD screen.							
LDAP TLS Mode	2							
LDAP TLS Mode Parameter	e Idap.tls_mode							
LDAP TLS Mode Parameter Description	dap.tls_mode This parameter specifies the connection mode between the LDAP server and the IP phone.							
LDAP TLS Mode Parameter Description	Idap.tls_mode This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)–Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default).							
LDAP TLS Mode Parameter Description	Idap.tls_mode This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)–Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start–TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default).							
LDAP TLS Mode Parameter Description	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)-Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default).							
LDAP TLS Mode Parameter Description	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)–Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start–TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>1</b> -LDAP TLS Start–TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default).							
LDAP TLS Mode Parameter Description Server Address	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)-Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>1</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>Note:</b> It is only applicable to IP phones running firmware version 73 or later.							
LDAP TLS Mode Parameter Description Server Address Parameter	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)-Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>Note:</b> It is only applicable to IP phones running firmware version 73 or later.         Idap.host							
LDAP TLS Mode Parameter Description Server Address Parameter Description	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)–Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start–TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAP TLS Start–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>1</b> -LDAPs–TLS/SSL connection between running firmware version 73 or later.         Idap.host         This parameter specifies the domain name or IP address of the LDAP server.							
LDAP TLS Mode Parameter Description Server Address Parameter Description Default Value	Idap.tls_mode         This parameter specifies the connection mode between the LDAP server and the IP phone. <b>0</b> -LDAP (Default)-Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default). <b>1</b> -LDAP TLS Start-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). <b>2</b> -LDAPs-TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default). <b>Note:</b> It is only applicable to IP phones running firmware version 73 or later.         Idap.host         This parameter specifies the domain name or IP address of the LDAP server.         Blank							

	Idap.company.com					
Port						
Parameter	ldap.port					
Description	on This parameter specifies the LDAP server port.					
Default Value	389					
Base						
Parameter	ldap.base					
Description	<b>scription</b> This parameter specifies the LDAP search base which corresponds to the location in the LDAP directory. The search base narrows the search scope and decreases directory search time.					
Example	• dc=yealink,dc=com					
Username						
Parameter	ldap.user					
Description	This parameter specifies the user name to login the LDAP server. If the LDAP server allows anonymous to login, this parameter can be left blank. Otherwise you need to provide the user name to access the LDAP server. <b>Note:</b> If you use Microsoft Active Directory Application Mode (ADAM) as the LDAP server, the user to login the LDAP server must be added to the administrator group in advance.					
Password						
Parameter	ldap.password					
Description	This parameter specifies the password to login the LDAP server. If the LDAP server allows anonymous to login, this parameter can be left blank. Otherwise you need to provide the password to access the LDAP server.					
Max Hits (1~32	000)					
Parameter	ldap.max_hits					
Description	This parameter specifies the maximum number of the search results to be returned by the LDAP server. If the value of the "Max.Hits" is blank, the LDAP server will return all searched results. Please note that a very large value of the "Max. Hits" will slow down the LDAP search speed, therefore the parameter should be configured according to the available bandwidth.					
Default Value	50					
LDAP Name Att	ributes					
Parameter	ldap.name_attr					
Description	This parameter specifies the name attributes of each record to be returned					

	by the LDAP server. This parameter compresses the search results. The					
	user can configure multiple name attributes separated by space.					
Example	cn sn displayName					
	This requires the "cn", "sn" and "displayName" attributes set for each contact record on the LDAP server.					
	• givenName					
	This requires the "givenName" attribute set for each contact record on the LDAP server.					
LDAP Number	Attributes					
Parameter	ldap.numb_attr					
Description	This parameter specifies the number attributes of each record to be returned by the LDAP server. This parameter compresses the search results. The user can configure multiple number attributes separated by space.					
Example	mobile telephoneNumber ipPhone					
	This requires the "mobile", "telephoneNumber" and "ipPhone" attributes set for each contact record on the LDAP server.					
LDAP Display N	lame					
Parameter	ldap.display_name					
Description	This parameter specifies the display name of the contact record displayed on the LCD screen. This parameter value must start with "%" symbol.					
Example	• %cn					
	The desired display name of the contact record is the cn attribute.					
Protocol						
Parameter	ldap.version					
Description	This parameter specifies the LDAP protocol version supported on the phone. Make sure the protocol value corresponds with the version assigned on the LDAP server.					
	2-Version 2					
	3-Version 3 (Default)					
LDAP Lookup F	or Incoming Call					
Parameter	ldap.call_in_lookup					
Description	This parameter enables or disables the phone to perform an LDAP search when receiving an incoming call.					
	<b>0</b> -Disabled (Default)					
	1-Enabled					

LDAP Lookup Fo Parameter Description	or Callout Idap.call_out_lookup This parameter enables or disables the phone to perform an LDAP search when placing a call.					
Parameter Description	Idap.call_out_lookup This parameter enables or disables the phone to perform an LDAP search when placing a call.					
Description	This parameter enables or disables the phone to perform an LDAP search when placing a call.					
	0-Disabled (Default)					
	1-Enabled					
<b>Note</b> : If the called number contains the special characters (e.g., "+", "." of the space), the phone will match the search criteria in the parameter "LDAP Name Filter (Idap.name_filter)". If not, the phone will match the search criteria in the parameter "LDAP Number Filter (Idap.number_filter)						
LDAP Sorting Re	esults					
Parameter	ldap.ldap_sort					
Description	This parameter enables or disables the phone to sort the search results in alphabetical order or numerical order.					
LDAP Special Sea	arch					
Parameter	ldap.incoming_call_special_search.enable					
Description	This parameter enables or disables the phone to search the telephone numbers starting with "+" symbol and "00" from the LDAP server if the incoming phone number starts with "+" or "00". When completing the LDAP search, the all search results will be displayed on the LCD screen.					
	0-Disabled (Default)					
	1-Enabled					
	For example,					
	If the phone receives an incoming call from the phone number 0044123456789, it will search 0044123456789 from the LDAP sever first, if no result found, it will search +44123456789 from the server again. The phone will display all the search results.					
	<b>Note:</b> It works only if the value of the parameter "ldap.call_in_lookup" is set to 1 (Enabled). You may need to set the value of the parameter "ldap.name_filter" to be ( (cn=%)(sn=%)(telephoneNumber=%)(mobile=%)) for searching the table between the base of the parameter is the "a" of the base of the parameter is a set of the parameter (local set of the parameter (local set of the parameter set of the parameter (local set of the parameter set of the parameter (local set of the parameter set of the parameter (local set of the parameter set of the parameter set of the parameter set of the parameter (local set of the parameter (local set of the parameter (local set of the parameter set of the par					

phones running firmware version 80 or later.

### **Configuring LDAP via Web User Interface**

The followings take configurations of a SIP-T29G IP phone running firmware version 81 as examples.

### To configure LDAP feature via web user interface:

- 1. Press the **OK** key on the phone when it is idle to obtain the IP address.
- 2. Enter the IP address (e.g., http://192.168.0.10 or 192.168.0.10) in the address bar of web browser on your PC and then press **Enter**.
- 3. Enter the user name and password in the login page.

The default login user name is admin (case-sensitive) and the password is admin (case-sensitive).

- 4. Click on **Directory**->LDAP.
- 5. Select Enabled from the pull-down list of Enable LDAP.
- 6. Enter the desired values in the corresponding fields.

Yealink							Eng	Log Out lish(English) 🔻
	Status	Account	Network	Dsskey	Features	Settings	Directory	Security
Local Directory Remote Phone Book Phone Call Info LDAP Multicast IP Setting		Enable LDAP LDAP Name Filter LDAP Number Filto LDAP TLS Mode Server Address Port Base Username Password Max Hits (1~3200 LDAP Name Attrik LDAP Name Attrik LDAP Name Attrik LDAP Name Attrik LDAP Name Attrik LDAP Name Attrik	er 0) vutes ributes e Incoming Call Callout Uts	Enabled (((cn=%))( (((telephor LDAP 10.2.1.55 389 dc=yealink cn=manag even 50 cn sn mobile ipPP %cn Version 3 Enabled Enabled	v       sn=%))       neNumber=%)(n       v       ,dc=cn       er,dc=ycalink,dc:       inone       v       v       v       v       v       v       v       v       v       v       v		NOTE LDAP (Lightwe Access Protocc application proto accessing and 1 information sear distributed dire network. Yealink IP phor with a corporation sever that sup- top of the sup- sever that sup- sev	ight Directory i) is an tocol for maintaming vices for the ctory over an IP re can interface te directory ports LDAP ports LDAP ports LDAP ports to Atvie cosoft Active cation Mode to One Directory ck here to get
		Confi	m		Cancel			

7. Click **Confirm** to accept the change.

### **Example for Web User Interface Configuration**

You can use the following settings as a starting point and adjust the filter and display attributes according to your requirements. The following shows example of OpenLDAP phone configurations.

Enable LDAP: Enabled
LDAP Name Filter: ( (cn=%)(sn=%))
LDAP Number Filter: ( (telephoneNumber=%)(mobile=%)(ipPhone=%))
LDAP TLS Mode: LDAP
Server Address: 10.3.6.128
Port: 389
Base: dc=yealink,dc=com
Username: cn=Manager,dc=yealink,dc=com
Password: secret
Max Hits (1~32000): 50
LDAP Name Attributes: cn sn
LDAP Number Attributes: mobile telephoneNumber ipPhone
LDAP Display Name: %cn
Protocol: Version 3
LDAP Lookup For Incoming Call: Enabled
LDAP Lookup For Callout: Enabled
LDAP Sorting Results: Enabled

To use LDAP feature, you need to configure a DSS key as an LDAP key.

### To configure an LDAP key via web user interface (not applicable to W52P/W56P):

- **1.** Log into the web user interface of the phone.
- 2. Click on Dsskey->Line Key (or Programable Key).

3. In the desired DSS key field, select LDAP from the pull-down list of Type.

ealink							Log ( English(English)
<b>5 MIII IN</b>   1296	Status	Account	Network	Dsskey	Features	Settings	Directory
Line Key1-9	Enable Page	Tips Disabled	¥	Label Length Defa	ult 🔻		NOTE
Line March 10	Key	Туре	Value	Label	Line	Extension	
Line Key10-18	Line Key1	Line	Default	• 1028	Line 1 🔻		Line keys allow you to quickly
Line Key19-27	Line Key2	LDAP			N/A 🔻	]	access features such as recall and voice mail.
Programable Key	Line Key3	Line 🔻	Default	•	Line 3 🔻		
Fxt Kev	Line Key4	Line 🔻	Default	•	Line 4 🔻		You can click here to get more guides.
,	Line Key5	Line	Default	•	Line 5 🔻		
	Line Key6	Line	Default	•	Line 6 🔻		
	Line Key7	Line	Default	•	Line 7 🔻		
	Line Key8	Line	Default	•	Line 8 🔻		
	Line Key9	Line	Default	•	Line 9 🔻		
		Co	nfirm		Cancel		

4. Click **Confirm** to accept the change.

## **Configuring LDAP Using Configuration Files**

### To configure LDAP feature using configuration files:

1. Add/Edit LDAP parameters in the configuration file.

The following table shows the information of parameters:

Parameter	Descriptions	Web Setting Path
ldap.enable		Directory->LDAP->Enable LDAP
ldap.search_type		/
ldap.name_filter	These parameters specify the LDAP attributes. Refer to the introduction above for more information	Directory->LDAP->LDAP Name Filter
ldap.number_filter		Directory->LDAP->LDAP Number Filter
ldap.tls_mode		Directory->LDAP->LDAP TLS Mode
ldap.host		Directory->LDAP->Server Address
ldap.port		Directory->LDAP->Port
ldap.base	word	Directory->LDAP->Base
ldap.user		Directory->LDAP->Username
ldap.password		Directory->LDAP->Password

Parameter	Descriptions	Web Setting Path
ldap.max_hits		Directory->LDAP->Max Hits (1~32000)
ldap.name_attr		Directory->LDAP->LDAP Name Attributes
ldap.numb_attr		Directory->LDAP->LDAP Number Attributes
ldap.display_name		Directory->LDAP->LDAP Display Name
ldap.version		Directory->LDAP->Protocol
ldap.call_in_lookup		Directory->LDAP->LDAP Lookup For Incoming Call
ldap.call_out_lookup		Directory->LDAP->LDAP Lookup For Callout
ldap.ldap_sort		Directory->LDAP->LDAP Sorting Results
ldap.incoming_call_spec ial_search.enable		/

**2.** Upload configuration files to the root directory of the provisioning server and trigger IP phones to perform an auto provisioning for configuration update.

For more information on auto provisioning, refer to the corresponding auto provisioning guide: For Yealink IP phones running old firmware version (old auto provisioning mechanism), refer to *Yealink\_SIP-T2 Series\_T19(P) E2\_T4\_Series\_CP860\_W56P\_IP\_Phones\_Auto\_Provisioning\_Guide*.

For Yealink IP phones running new firmware version (new auto provisioning mechanism), refer to *Yealink\_SIP-T2\_Series\_T19(P)* 

E2\_T4\_Series\_T5\_Series\_W5\_Series\_IP\_Phones\_Auto\_Provisioning\_Guide\_V81.

#### **Example for Configuration Parameters**

You can use the following settings as a starting point and adjust the filter and display attributes according to your requirements. The following shows example of OpenLDAP phone configurations.

ldap.enable=1
ldap.search_type = 1
ldap.name_filter= ( (cn=%)(sn=%))
ldap.number_filter= ( (telephoneNumber=%)(mobile=%)(ipPhone=%))
ldap.tls_mode=0
ldap.host= 10.3.6.128
ldap.port= 389
ldap.base= dc=yealink,dc=com
ldap.user= cn=Manager,dc=yealink,dc=com
ldap.password= secret
ldap.max_hits= 50
ldap.name_attr= cn sn
Idap.numb_attr= mobile telephoneNumber ipPhone
ldap.display_name= %cn
Idap.version= 3
ldap.call_in_lookup= 1
ldap.call_out_lookup= 1

ldap.ldap\_sort= 1

To use LDAP feature, you need to configure a DSS key as an LDAP key.

### To configure an LDAP key using configuration files:

1. Add/Edit the LDAP key parameters in the configuration file.

You can configure a memory key, a line key or a programable key as an LDAP key. The following table shows the information of parameters:

Parameter	Description	Value
linekey.X.type		
(not applicable to SIP-T19(P) E2 W52P/W56P IP		
DECT phones)	Configures a line key as	
(SIP VP-T49G/SIP-T48G/T48S: X ranges from 1 to	an LDAP key on the IP	38
29;	phone.	
SIP-T58V/T58A/T56A/T46G/T46S/T29G: X ranges		
from 1 to 27;		
SIP-T42G/T42S/T41P/T41S: X ranges from 1 to		

Parameter	Description	Value
15;		
SIP-T27P/G: X ranges from 1 to 21;		
SIP-T40P/T40G/ T23P/T23G: X ranges from 1 to		
3;		
T21(P) E2: X ranges from 1 to 2)		
programablekey.X.type		
(not applicable for W52P/W56P IP phones)		
(SIP-T58V/T58A/T56A: X=12-14;		
SIP VP-T49G: X=1-4, 12-14;	Configures a	
SIP-T48G/T48S/T46G/T46S: X=1-10, 12-14;	programable key as an	38
SIP-T42G/T42S/T41P/T41S/T40P/T40G: X=1-10,	LDAP key on the IP	50
13;	phone.	
SIP-T29G/T27P/T27G: X=1-14;		
SIP-T23P/T23G/T21(P) E2: X=1-10, 14;		
CP860: X=1-6, 9, 13)		

**2.** Upload configuration files to the root directory of the provisioning server and trigger IP phones to perform an auto provisioning for configuration update.

For more information on auto provisioning, refer to the corresponding auto provisioning guide: For Yealink IP phones running old firmware version (old auto provisioning mechanism), refer to *Yealink\_SIP-T2 Series\_T19(P) E2\_T4\_Series\_CP860\_W56P\_IP\_Phones\_Auto\_Provisioning\_Guide*.

For Yealink IP phones running new firmware version (new auto provisioning mechanism), refer to *Yealink\_SIP-T2\_Series\_T19(P)* 

*E2\_T4\_Series\_T5\_Series\_W5\_Series\_IP\_Phones\_Auto\_Provisioning\_Guide\_V81.* 

# **Using LDAP Directory on Yealink IP Phones**

# For SIP-T2 Series, T19(P) E2, T4 Series, T5 Series and CP860 IP Phones

You can press the LDAP key to access the LDAP directory. Enter the desired numbers to match the search criteria for searching a contact from LDAP directory, add local contacts from LDAP directory, and dial a contact from LDAP directory. You can also enable the phone to perform an LDAP search when receiving an incoming call or dialing an outgoing call.

### To search a contact from the LDAP directory:

 Press the LDAP key to access the LDAP search screen. The LCD screen prompts "None".



**2.** Enter a few continuous characters of the contact name or continuous digits of the contact phone number using the keypad.

LDAP			0/1
Н			
ᆚ Hebe Tian		5578	
Back	ABC	Delete	

The contacts which match the search criteria will appear on the LCD screen.

- **3.** Press  $(\bullet)$  or  $(\bullet)$  to select the desired contact.
- 4. Do one of the following:
  - Press the **Option** soft key and then select **Detail** to view the detail information of the contact.

- Press the **Option** soft key and then select **Add to Contact** to add the contact to local.
- Press the **Send** soft key to dial out.

If the **LDAP Lookup For Incoming Call** parameter is enabled on the phone, the phone will perform an LDAP search when receiving an incoming call. If there is a contact record which matches the caller ID, the contact name will be displayed on the phone LCD screen as the calling line identification.

The screenshot of the LCD screen for reference is shown as below:



The **Search Source List In Dialing** feature enables the phone to perform an LDAP search when you enter the digits using the keypad in the dialing interface. For more information on the configuration of the Search Source List In Dialing feature, refer to *Yealink phone-specific user guide*.

If there are contact records matching the search criteria, the contact records will be listed on the phone LCD screen. You can select the desired contact record to dial out. The contact name will be displayed on the phone LCD screen during the call.

∢) 2900			
2224	55		
S 2900	Hebe Tian	5578	1
LDAP			
Send	123	Delete	EndCall

The screenshot of the LCD screen for reference is shown as below:

If the **LDAP Lookup For Callout** parameter is enabled on the phone, the phone will perform an LDAP search when dialing an outgoing call. If there is a contact record which matches the called ID, the contact name will be displayed on the phone LCD screen as the called line identification. The screenshot of the LCD screen for reference is shown as below:



### For W52P/W56 IP DECT Phones

You can access to the LDAP directory and enter the desired numbers to match the search criteria for searching a contact, add local contacts from LDAP directory, and dial a contact from LDAP directory. You can also enable the DECT phone to perform an LDAP search when receiving an incoming call or dialing an outgoing call.

### To search a contact from the LDAP directory:

#### 1. Press OK->Directory->LDAP.

The LCD screen of handset displays the contact list.

**2.** Enter a few continuous characters of the contact name or continuous digits of the contact phone number using the keypad.

The contacts which match the search criteria will display on the LCD screen.

- **3.** Press  $\blacktriangle$  or  $\blacktriangledown$  to select the desired contact.
- 4. Do one of the following:
  - Press the **Options** soft key and then select **Detail** to view the detail information of the contact.
  - Press the **Options** soft key and then select **Add to Local** to add the contact to local.
  - Press 🌈 or 🔳 to dial out.

If the **LDAP Lookup For Incoming Call** parameter is enabled on the DECT phone, the DECT phone will perform an LDAP search when receiving an incoming call. If there is a contact record which matches the caller ID, the contact name will be displayed on the handset LCD screen as the calling line identification.

The **Search Source List In Dialing** feature enables the phone to perform an LDAP search when you enter the digits using the keypad in the dialing interface. For more information on the configuration of the Search Source List In Dialing feature, refer to Yealink phone-specific user guide.

If there are contact records matching the search criteria, the contact records will be listed on the handset LCD screen. You can select the desired contact record to dial out. The contact name will be displayed on the handset LCD screen during the call.

If the **LDAP Lookup For Callout** parameter is enabled on the DECT phone, the DECT phone will perform an LDAP search when dialing an outgoing call. If there is a contact record which matches the called ID, the contact name will be displayed on the handset LCD screen as the called line identification.

### **Customer Feedback**

We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to DocsFeedback@yealink.com.