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About LDAP Admin Tool

LDAP Admin Tool is Simple and easy to use LDAP Browser and LDAP administration tool. It has been designed to suit the needs of both novice and expert users and administrators.

LDAP Admin Tool helps users/administrators accomplish LDAP administration operations in a few mouse clicks, view and edit data including binary and images, export and import data to/from most popular file formats, edit attributes using different editors, manage LDAP users and their privileges and employ many other admin and user functions.

LDAP Admin Tool also provides SQL-LDAP support which allows user to query ldap using sql like syntax, mass update records with sql like syntax and export/ import records as update, delete and insert statements.

LDAP Admin Tool is available in Standard and Professional Editions.

1.1 LDAP Admin Tool Features

1. Easy Ldap management
Create and edit entries efficiently. LDAP connection profiles give user an opportunity to connect to ldap server in one touch and solely work with the selected LDAP connection. See the Connection Management for details.

2. Access multiple directory servers
LDAP Admin Tool allows user to access OpenLDAP, Netscape/iPlanet, Novell eDirectory, Oracle Internet Directory, IBM Tivoli Directory, Lotus Domino, Microsoft Active Directory or any other LDAP v2 or LDAPv3 directory server.

3. Quickly browse large Directory trees
As company grows, so does user network. LDAP admin tool can swiftly expand a vast directory tree and make it easily accessible.
4. Tabbed Browsing
Tabbed browsing in LDAP Admin Tool lets user load different connections in separate tabs of a single admin tool window, so user can jump between them quickly and easily. Using tabs instead of new windows to display content creates a smaller memory footprint and therefore reduces the strain on the operating system and the directory servers.

5. Drag and Drop
LDAP Admin Tool provides user with an ability to copy or move objects across containers by dragging and dropping the entries or containers, use Windows/Linux clipboard to copy a set of objects, DN, LDIF and so on. User can perform operations with a group of objects as well as with a single object. For details turn to the Editing the Directory section.

6. Powerful Attribute Editors
LDAP Admin Tool wizards and editors allow user to create, edit and delete attributes. It provides a set of powerful editors to edit the binary, Hex, File, image, object class, DN, Generalized Time, Boolean and Integer fields. User can find the detailed description in the Dialog Editors section.

7. Search
LDAP Admin Tool provides a powerful search tool which allows user either to create the search filter text directly or to build the filter visually by selecting the attributes.

8. SQL Search
Search the LDAP using SQL-like syntax. LDAP Admin Tool provides two powerful tools which allow user either to edit query text directly with syntax highlighting or to build a query visually with a drag and drop function using keywords and attributes. User can find the detailed description in the SQL Search section.

9. SSL
LDAP Admin Tool allows user to connect to the ldap server using SSL/TLS. User can add certificate to user store using Manage Certificates or it will prompt user to add the certificate to user store (Like any html browser – ‘Would user like to continue any way’). See the SSL section to learn the details.

10. Cross Server Operations
With LDAP Admin Tool copy and paste data across servers (Servers must have the same schema). Please see the cross server operations section for more detail.
11. LDAP Bind
LDAP Admin Tool allows user to connect anonymously as well as with simple authentication.
If user doesn’t know the complete bind DN user can connect anonymously and then select rebinding.

12. Customization according to user preferences and needs
In LDAP Admin Tool user can customize the behavior of its tools and set a lot of other preferences
All the options and their meanings are listed within the Preferences dialog description.

13. Containers and sub entries
   - Delete - LDAP Admin Tool allows user to delete container entries from the directory. It deletes all subentries before deleting the containers.
   - Copy - LDAP Admin Tool allows user to copy container entries. It also copies all subentries.
   - Move - LDAP Admin Tool allows user to move container entries. It also moves all subentries.

14. Multiple Entries/ Directory Sizing/Simulate Load
LDAP Admin Tool supports creating multiple entries from any one entry. User can create hundred of thousand of entries from any one entry to determine the sizing of user ldap server or simulate the load by running multiple instances of LDAP Admin tool creating multiple entries.

1.1.1 Professional Edition Exclusive Features
The Professional Edition of LDAP Admin Tool contains more features like predefined customizable searches for both LDAP & Active Directory. This is the version of LDAP Admin Tool you want to use if you use your machine mainly in a professional setting. For example, most business user and administrators will want this edition to quickly search directory tree using one click searches and schedule export tasks.

1. LDAP Predefined Searches
   LDAP Admin Tool Professional Edition provides following one click predefined and customizable searches:
LDAP Object Predefined Searches

- All Objects
- All Objects Created (Today, Yesterday, Last 7 days, Between ...)
- All Object Modified (Today, Yesterday, Last 7 days, between...)
- All Objects with selected attribute present
- All Objects with selected attribute not present or null

LDAP User Predefined Searches

- All Users
- All Users Created (Today, Yesterday, Last 7 days, Between ...)
- All Users Modified (Today, Yesterday, Last 7 days, between...)
- All Users with selected attribute present
- All Users with selected attribute not present or null

LDAP Group Predefined Searches

- All Groups
- All Groups with Members
- All Groups without Members
- All Groups Created (Today, Yesterday, Last 7 days, Between ...)
- All Groups Modified (Today, Yesterday, Last 7 days, between...)
- All Groups with selected attribute present
- All Groups with selected attribute not present or null

2. Active Directory Predefined Searches

LDAP Admin Tool Professional Edition provides following one click predefined and customizable Active Directory searches:
Active Directory Object Predefined Searches

- All Objects
- All Deleted Objects
- All Objects Created (Today, Yesterday, Last 7 days, Between ...)
- All Object Modified (Today, Yesterday, Last 7 days, Between ...)
- All Objects with selected attribute present
- All Objects with selected attribute not present or null

Active Directory Logon Predefined Searches

- All Users who never logged on
- All Users who logged on Today
- All Users who logged on Yesterday
- All Users who logged on in last 7 or 30 days
- All Users who logged on between...

Active Directory User Predefined Searches

- All Users
- All Disabled users
- All Enabled users
- All Locked out users
- All user with logon scripts
- All user with manager
- All user without manager
- All recently deleted users
- All Users Created (Today, Yesterday, Last 7 days, Between ...)
- All Users Modified (Today, Yesterday, Last 7 days, Between ...)
- All Users with selected attribute present
- All Users with selected attribute not present
• All Users with Dial-in access allowed
• All Users with Dial-in access not allowed
• All Users who never logged on
• All Users who logged on (Today, Yesterday, In Last 7 days, between..)

**Active Directory Password Predefined Searches**

• All Users with Password Never Expire
• All Users with Password Always Expire
• All Users with Encrypted Password Enable
• All Users with Password changed in the last 60 or 30 days
• All Users with Password not changed in the last 60 or 30 days
• All Users with bad Password in the last 7 or 30 days
• All Users with bad Password between ...

**Active Directory GPO Predefined Searches**

• All GPOs
• All Deleted GPOs
• All Disabled GPOs
• All Users settings Disabled GPOs
• All GPOs Created (Today, Yesterday, Between ...)
• All GPOs Modified (Today, Yesterday, Between ...)
• All GPOs with selected attribute present
• All GPOs with selected attribute not present

**Active Directory Account Predefined Searches**

• All Users who never logged on
• All Users who logged on Today
• All Users who logged on Yesterday
• All Users who logged on in last 7 or 30 days
• All Users who logged on between...

**Active Directory Group Predefined Searches**

• All Groups
• All Groups with Members
• All Groups without Members
• All Managed Groups
• All Unmanaged Groups
• All Security Groups
• All Distribution Groups
• All Universal Groups
• All Main Enabled Groups
• Recently Deleted Groups
• All Groups Created (Today, Yesterday, Last 7 days, Between ...)
• All Groups Modified (Today, Yesterday, Last 7 days, between...)
• All Users with selected attribute present
• All Users with selected attribute not present

**Active Directory Contact Predefined Searches**

• All Contacts
• All Mail Enabled Contacts
• Recently Deleted Contacts
• All Contacts Created (Today, Yesterday, Last 7 days, Between ...)
• All Contacts Modified (Today, Yesterday, Last 7 days, Between...)

**Active Directory Computer Predefined Searches**

• All Computers
• All Disabled Computers
• All Enabled Computers
• All Managed Computers
• All Unmanaged Computers
• Recently Deleted Computers
• Computers with Operating System ...
• All Computers Created (Today, Yesterday, Between ...)
• All Computers Modified (Today, Yesterday, Between ...)
• All Computers with selected attribute present
• All Computers with selected attribute not present

Active Directory Printer Predefined Searches
• All Printers
• All Disabled Printers
• All Enabled Printers
• All Managed Printers
• All Unmanaged Printers
• Recently Deleted Printers
• All Printers Created (Today, Yesterday, Between ...)
• All Printers Modified (Today, Yesterday, Between ...)
• All Printers with selected attribute present
• All Printers with selected attribute not present

Active Directory Exchange Predefined Searches
• Mailbox Enabled User
• Mail Enabled user
• Mail Enabled Groups
• User with Email Proxy Enabled
• Groups with Email Proxy Enabled
• Delivery Setting.. (Default Sending Size, Accept from...)
• Mail Box Settings (Default Storage, Mail box with size limits)
• User hidden from exchange address list
• User unhidden from exchange address list
• Mail is forwarded to another..
• Outlook web access enabled/disabled
• POP3 access enabled/disabled
• IMAP4 enabled/disabled

**Active Directory OU Predefined Searches**

• All OUs
• All OUs Created (Today, Yesterday, Last 7 days, Between ...)
• All OUs Modified (Today, Yesterday, Last 7 days, Between ...)
• All OUs with selected attribute present
• All OUs with selected attribute not presents

### 1.2 Installation

Installing **LDAP Admin Tool** for the first time on PC:

• Download the LDAP Admin Tool distribution package from the [download page](#) at our site;
• Run LdapAdminToolSetup.exe from the local folder and follow the instructions of the installation wizard;
• Find the LDAP Admin Tool shortcut in the corresponding program group of the Windows Start menu after the installation is completed.

To upgrade the installed copy of LDAP Admin Tool to the latest version:
• Download and execute the LDAP Admin Tool executable file from the download page at our site
• Run LDAP Admin Tool using its shortcut in the Windows Start menu.

1.3 Registration and Activation

Thank you for your interest in purchasing LDAP Admin Tool!

User can select licensing options and activate LDAP Admin Tool from the License->Registration and Activation menu. It is possible to purchase on-line, by fax, mail, toll-free phone call, or place a purchase order. We send the software serial key by email within 24 hours after completion of the order process. If user have not received the serial key within this period, please contact our sales department.

Upon purchasing LDAP Admin Tool you confirm that you have tested the product and you are completely satisfied with its current version.

To obtain technical support please visit the appropriate section on our website or contact us by email to support@ldapsoft.com.

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### 1.5 System Requirements

**Client environment**

- Pentium PC or higher;
- Windows 2000/XP/2003/Vista/Windows7 or Linux Suse9/Redhat9, Ubuntu 9 or equivalent
- 256 MB RAM (512 MB recommended);
- 100 MB of free hard disk space;
- SVGA-compatible video adapter;
- Internet Explorer 6 or higher.

**Server environment**

- LDAPv2 or LDAPv3 (OpenLDAP, Netscape/iPlanet, Novell eDirectory, Oracle Internet
  Directory, IBM Tivoli Directory, Lotus Domino, Microsoft Active Directory or any other LDAP v2
  or LDAPv3 directory server)

---

### 1.6 About LDAPSoft

**LDAPSoft** is a privately-held company producing high-quality software for ldap administrators
and developers. The united team of eminently qualified developers is pleased to create new
software products for commercial, academic and government customers worldwide. We do our
best to design and develop products that remove complexity, improve productivity and compress
time frames. We are glad to realize that our products take usual chores upon themselves, so that our customers could have more time left for their creative work.

The slogan of our company is the best products for ldap. It is aimed to denote that we set to create easy-to-use products meant for those who appreciate comfort, friendly program interface and support when working with LDAP servers.

- We are pleased to facilitate your job.
- We aim at being of considerable assistance to our clients.
- We feel contented doing our beloved work.

User can use the following contact information if necessary:

Our web-site: http://www.ldapsoft.com

Postal address: 6321 W. Dempster St. #218
Morton Grove, IL 60053
United States
Tel.: 1-(800)-553-4131
Fax.: 1-866-759-6360 (Toll Free)
E-mail: customerservice@ldapsoft.com

Thank you again for your interest to our company!
2 Getting Started

To start working with LDAP Servers in **LDAP Admin Tool**, first create a LDAP connection profile or several ldap profiles using **New Connection Wizard**. If no ldap connection profile exits please use the test connections to connect to public server. After successful connection, user can manages entries, modify attributes and so on. See the instructions below to learn how to perform these operations in the easiest way.

2.1 Connecting to a LDAP Server

Once LDAP Admin Tool is downloaded and installed, click the LDAP Admin Tool shortcut to start the application. When the application is started it will look like the following:

![LDAP Admin Tool Interface](image)

- Click the Create a new Connection link or Click the New Connection button from the main tool bar. The New LDAP Connection wizard opens.
Fill out the first wizard page:

The “Connection Name” field should contain a unique name for this connection, this can be anything.

The “Hostname” field should contain the address of the system running the directory instance (DNS name or IP Address of the machine. For example localhost or 127.0.0.1).

The “Port” field should contain the port number on which the directory server is listening for client connections. In most cases it is 389 for non SSL connections and 636 for SSL connections. If user want to use SSL, then user will also need to check the “Use SSL/TLS” check box.

The "Base DN" field can be left blank in most cases. However, if user want user can use the "Fetch Base DNs" button to select a base DN from the namingContexts attribute of the root DSE, or user can enter a specific base DN.

To make sure that information is correct, click on the “Test Connection” button.
If user only intend to browse the data and don't want to make any changes in the server, and if the server is configured to allow unauthenticated access, then user can click the “Finish” button to connect to directory server. However, if the server does not allow anonymous access, or if user may want to make any changes to the data in the server, then user will likely need to provide values for the "Bind DN" and "Password" fields. To enter credentials click the “Next” button.

![New Ldap Connection](image)

To provide values for “Bind DN” and “Password”, first click the “Simple Authentication” radio button, this will enable the fields. Now enter the values and to make sure that the values are correct click the “Check Credentials” button.

To provide optional values click the “Next” button to go to third page else click “Finish” to connect to the directory server.
In the wizard's third page select the additional connection parameter. If, not sure what they should be just leave them to default and click Finish to connect to directory server.

Derefence Aliases field sets a preference indicating whether or not aliases should be dereferenced, and if so, when

- Never - do not dereference aliases
- Searching - dereference aliases when searching but not when finding the base
- Finding - dereference aliases when finding
- Always - dereference aliases when finding the base object and when searching

Entry count Limit should contain the maximum number of search results to return for a search request. 0 means no limit. Default is 1000.

Timeout should contain the maximum time in seconds that the server should spend returning search results. This is a server-enforced limit. The default of 0 means no time limit.

Enable Referrals specifies whether to automatically follow referrals or not. Check the box to follow referrals automatically. Default is true.
To connect to the server on finish check the “Connect now” check box.

- Click **Finish** to connect to directory server.

### Unable to Read Schema

While connecting if you get a warning like this, you need to connect to directory server with credentials.

![Unable to read schema](image)

Unable to read schema, please login/bind with an account which has access to schema - You can also rebind with any entry using the right-click context menu and selecting rebind

Some functions may not work correctly due to this.

OK

There are many ways to provide credentials for connection; the simplest way to provide credentials is to close the connection and click on the Open Connection Button from the tool bar, select the connection and enter the User DN and Password values or click configure and provide User DN and Password in the credentials tab.
Don’t know the complete User DN to bind with?

1. Connect to the directory server using anonymous bind (Click Finish on the wizard page 1).

2. Once user are connected to the server

3. Select the entry to bind with.. and select the Rebind using this entry from the right click context menu

4. Enter the password and click save userDN and Password if user want this userDN and password to be used for future connections.

---

Note: To retrieve DN String on Windows machine, please see the forum discussion at http://www.ldapsoft.com/forum/posts/list/85.page
This part's topic contains the short overviews of the common principles for working with our software:

- **Explaining user interface**
- **Working with Ldap Servers**

## 2.2 Explaining User Interface

This topic provides a brief guide to the components of LDAP Admin Tool user interface. For detailed descriptions see below:
The LDAP Explorer field occupies the left side of LDAP Admin Tool main window. It displays all the entries including system entries.

The explorer provides the fastest way to reach the entry properties and to perform the following operations with ldap entries using the popup menu:

- Create new entries (New User, New Group, New Entry like the selected entry, New Entry from scratch, New Entry wizard)
- Edit currently selected entry
- Delete currently selected entry from the ldap
- Duplicate entry using copy
• Move entry using cut and paste
• Rename entry
• Refresh entry
• Rebind using the entry
• Copy entry DN
• Copy entry as ldif
• Edit entry group membership
• Copy select, update, insert and delete sql statements
• Search selected entry
• View Connection properties
• Export and Import entry in ldif, csv and excel and sql formats

Attributes Explorer

The LDAP Explorer field occupies the right side of LDAP Admin Tool main window. It displays all the entry’s attributes including system attributes. The attributes explorer provides the fastest way to reach the attribute properties and to perform the following operations with entries using the popup menu:

• Add new attribute
• Add new attribute value
• Add/remove object class
• Edit attribute value
• Delete attribute
• Edit attribute value with selected editor (Text editor, Boolean editor, DN editor, File/Hex editor, Image editor, Integer editor, Generalized time editor, password editor or to restore the default editor)
• Copy attribute name, value or both
• Reload attributes
• View attribute properties

Quick Search Toolbar

The quick search bar makes it possible to do common searches for example, specific employee name, part number, email address and so on, without having to access the menu bar or enter a complete LDAP-format search request.
User can quickly execute simple, single-attribute-value searches using the quick search bar, which contains a pull down list of common attribute types.

**Toolbars**
The bars occupy the top of the main window. The Toolbars provide quick access to the most frequently-used functions. Just position the mouse over a tool and wait for a second to display a brief text describing what it is for.

### 2.3 Tabbed MDI

LDAP admin tool is only available in *tabbed MDI style*, as tabbed MDI is the proven solution which removes the strain on the operating system and the directory servers. Top tabs are for the connections and the active tab is highlighted where the inactive tabs are not. The bottom tabs are for the tableview, schema view and search results with in the connection tab.

User can switch between the sheets with corresponding sheet tabs or using **Ctrl+Tab**. If user don't see the tab, click the tab scrolling buttons to display the tab, and click the tab. To close the tab click the 'x' button.
2.4 Working with Ldap Servers

After creating a LDAP connection profile ([New Connection Wizard](#)), the profile appears in the open connection dialog. Now user can establish connection to a ldap server. If connection succeeds, the admin window will show the connection tab with tableview selected. The RootDSE node expands displaying the tree of objects.

Now user can perform all the necessary ldap admin routines such as creating, editing, copying, extracting and dropping ldap objects, build queries visually, execute queries and SQL scripts.
User can also view the connection list from the top right tool bar. Double click the connection to connect to the server.
The image displays a screenshot of the LDAP Admin Tool interface. The interface includes a table view showing various attributes and their values, such as:

- **cn=test9@group**
- **cn=group**
- **cn=testuser**
- **cn=test**
- **cn=users**

The table columns include **Attribute Name**, **Value**, **Size**, **Type**, and **R.**

Attributes and values include:

- cn: test9@group, Value: 0, Type: Text, R: N
- departmentNumber: 0, Type: Text, R: N
- description: 0, Type: Text, R: N
- destinationIndicator: 0, Type: Text, R: N
- display: 0, Type: Text, R: N
- done: 0, Type: Text, R: N
- employeeNumber: 0, Type: Text, R: N
- employeeType: 0, Type: Text, R: N
- facsimileTelephone: 0, Type: Text, R: N
- givenName: 0, Type: Text, R: N
- homePhone: 0, Type: Text, R: N
- homePostalAddress: 0, Type: Text, R: N
- initials: 0, Type: Text, R: N
- internationalDNS: 0, Type: Text, R: N
- jpegPhoto: 0, Type: Text, R: N
- labeledURI: 0, Type: Text, R: N

The interface also shows a section labeled **Connections** with various server options such as:

- IBM Tivoli Directory Server
- Edirectory Server - SSL
- Oracle Directory Server
- Microsoft Active Directory Server
- Netscape/Planet
- Lotus Domino
- Opends
- localhost

The interface includes a search bar at the top with options to navigate, search, export, import, and security settings.
3 Connecting to Directory

There are different ways to connect to a directory:

- From main menu, select File| New Connection
- From main menu, select File| Open Connection
- Select New Connection or Open Connection from the tool bar

When user selects the Open Connection, open connection dialog opens where user can select the connection to connect.

When user selects the New Connection, new connection wizard opens where user can specify the connection parameters, if the connect now check box is selected, it will create a connection to server.

3.1 Open Connection Dialog

To open Connection dialog choose from one of the following options:

- From main menu, select File| Open Connection
- Select Open Connection from the tool bar

To create new connection, click ‘New’ button and it will open New Connection Wizard. To Connect select the connection and click connect button. To configure select the connection and click configure button. To delete select the connection and click Delete.

When user select a connection, the connection parameters are populated in the server parameters and security parameters panes. User can modify the connection parameters directly from the bottom pane and when user click connect; it will save all the connection parameters.
3.2 New Connection Wizard

New LDAP Connection Wizard allows user to create profile and connect to a ldap server. To run the wizard, select File | New Connection from the main menu or press the Ctrl+N hot keys combination. User can also use the New Connection button of the main toolbar.
• Setting Ldap connection properties
• Creating SSL Connection
4 Searching a Directory

In LDAP Admin tool user can search for an entry in three ways:

- **Quick search** using simple criteria
- **Complex search** using a wider range of criteria, user can also save complex searches.
- **SQL search** using sql like syntax.

Search results are displayed as complete directory trees, which lets user browse large numbers of search results. User can also edit the attributes from the search results.

4.1 Quick Search

User can quickly execute simple, single-attribute-value searches using the quick search tool bar, which contains a pull down list of common attribute types.

The quick search bar makes it possible to do common searches, for example, Employee email address, employee name and so on, without having to access the menu bar or enter a complete LDAP-format search request.

The search results are displayed as complete directory trees in a Search Results Tab, which lets user browse large numbers of search results. User can also edit the attributes from the search results tab. Double click the attribute to edit it. User can also edit from the right click popup menu.
Quick Search Operators

<table>
<thead>
<tr>
<th>Quick Search Bar</th>
<th>Example Filter</th>
<th>Results of Example Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>= (Equal To)</td>
<td>mail=<a href="mailto:test@ldapsoft.com">test@ldapsoft.com</a></td>
<td>All entries with email <a href="mailto:test@ldapsoft.com">test@ldapsoft.com</a></td>
</tr>
<tr>
<td>!= (Not Equal To)</td>
<td>!(title=manager)</td>
<td>All entries with a title other than manager</td>
</tr>
<tr>
<td>&gt;= (Greater Than or Equal to)</td>
<td>sn=t</td>
<td>All entries with a surname starting t, and any subsequent letter of the alphabet including Tony, Whiteford and Zelda</td>
</tr>
<tr>
<td></td>
<td>postalcode&gt;=5000</td>
<td>All Entries with a postal code greater than or equal to 5000.</td>
</tr>
<tr>
<td>&lt;= (Less Than or Equal to)</td>
<td>sn=t</td>
<td>All entries with a surname starting t, and any preceding letter of the alphabet including Tony, Shelly and Adrian</td>
</tr>
<tr>
<td></td>
<td>postalcode&lt;=5000</td>
<td>All Entries with a postal code less than or equal to 5000.</td>
</tr>
<tr>
<td>~=(Similar To)</td>
<td>sn~=marry</td>
<td>All entries with a surname that sounds like marry, including marie, maria</td>
</tr>
</tbody>
</table>

4.2 Complex Search

User can perform more complex searches using the Search dialog. Search Dialog can be opened from the entry popup menu (Right Click) or from the main menu Search | Search

Search dialog lets user search one of the following:

- Entry’s immediate children but not entry itself (one level)
- Entry and all of its subentries (subtree)
To search for groups (ObjectClass=top And ObjectClass=groupOfUniqueNames), click (+) button to add one more row then select the equal to from the drop down and type in the ‘groupOfUniqueNames’. The filter preview will show the filter as user is constructing the filter. To remove any filter row click the (-) button.

**Note:** ‘Not’ Operator can be added to the query by checking the Not checkbox on the top left hand side.
Note: Operators (And-Or) cannot be mixed in one filter set, to add both in one query click Add Join button on the top.
Filters can be saved and retrieved using the Open Filter and Save Filter buttons.
## Complex Search Operators

<table>
<thead>
<tr>
<th>Complex Search</th>
<th>Example Filter</th>
<th>Results of Example Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal To (=)</td>
<td>mail=<a href="mailto:test@ldapsoft.com">test@ldapsoft.com</a></td>
<td>All entries with email <a href="mailto:test@ldapsoft.com">test@ldapsoft.com</a></td>
</tr>
<tr>
<td>Not Equal To (! =)</td>
<td>!(title=manager))</td>
<td>All entries with a title other than manager</td>
</tr>
<tr>
<td>Greater Than or Equal to (&gt;=)</td>
<td>sn&gt;=t</td>
<td>All entries with a surname starting t, and any subsequent letter of the alphabet including Tony, Whiteford and Zelda</td>
</tr>
<tr>
<td></td>
<td>postalcode&gt;=5000</td>
<td>All Entries with a postal code greater than or equal to 5000.</td>
</tr>
<tr>
<td>Less Than or Equal to (&lt;=)</td>
<td>sn=&lt;t</td>
<td>All entries with a surname starting t, and any preceding letter of the alphabet including Tony, Shelly and Adrian</td>
</tr>
<tr>
<td></td>
<td>postalcode&lt;=5000</td>
<td>All Entries with a postal code less than or equal to 5000.</td>
</tr>
<tr>
<td>Beginning with</td>
<td>mail=test*</td>
<td>All entries with email that begins with test including <a href="mailto:test@ldapsoft.com">test@ldapsoft.com</a>, <a href="mailto:test@nowhere.com">test@nowhere.com</a>.</td>
</tr>
<tr>
<td>Not Beginning with</td>
<td>!(mail=test*)</td>
<td>All entries other than those in which the email begins with test.</td>
</tr>
<tr>
<td>Containing</td>
<td>sn=*ar *</td>
<td>All entries with a surname that includes the letter ar, including marry and mary.</td>
</tr>
<tr>
<td>Not Containing</td>
<td>!(sn=<em>ar</em>)</td>
<td>All entries with a surname that does not contain the letter ar</td>
</tr>
<tr>
<td>Ending in</td>
<td>sn=*e</td>
<td>All entries with a surname that end with e, Including Doe and Dole,</td>
</tr>
<tr>
<td>Not Ending in</td>
<td>!(sn=*e)</td>
<td>All entries with a surname that do not end with e</td>
</tr>
<tr>
<td>Present</td>
<td>sn=*</td>
<td>All entries with a surname.</td>
</tr>
<tr>
<td>Not Present</td>
<td>!(sn=*)</td>
<td>All entries with no data in the attribute sn, and all entries that do not have the attribute sn</td>
</tr>
<tr>
<td>Similar To (~=)</td>
<td>sn~=marry</td>
<td>All entries with a surname that sounds like marry, including marie, maria</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Not Similar To (~=)</td>
<td>!(sn~=marry))</td>
<td>All entries that do not have a surname similar to marry, including entries that do not have the attribute sn</td>
</tr>
</tbody>
</table>

### 4.3 SQL Search

LDAP Admin Tool provides tools for working with SQL-LDAP queries: SQL Editor for editing the query text directly and drag and drop visual query builder for building queries visually.

To create a new query in SQL-LDAP Editor:

- Select the SQL | SQL main menu item or select the SQL from the toolbar
- Build the sql by dragging and dropping the keywords, operators and the query parameters from the bottom pane

This how the sql editor looks like when first open.
Opening Queries

Queries can be opened either in SQL Editor or from the tool bar
To open a query in SQL Editor
  - click the on the top right hand of the tabs
or
  - select the Open Sql from the sql tool bar.

Executing Queries

To execute a query:
Highlight the query to run or it will try to run whatever user typed in the editor
Then
• click the on the top right hand of the tabs
or
• click the Run from the sql tool bar
or
• right click any where in the sql editor and select Run Sql from the popup menu.

View and edit the returned data in the SQL Results tab

**Saving Queries**

To save a query:
• create a new query or open the existing one
• select the on the top right hand of the tabs
or
• select the Save SQL from the sql tool bar
or
• select the SaveSQL or SaveAs from the File menu
4.3.1 Working with SQL Editor

SQL Editor is the basic LDAP Admin Tool Editor for creating and executing queries. It allows user to create and edit SQL text for the query, prepare and execute queries, and view the results of execution.

To open SQL Editor, select the SQL|SQL main menu item.
The Editor area is provided for working with the text of the query. SQL keywords are highlighted in the text. User can drag and drop keywords, operators, entry dn's, attributes or attribute values from the bottom pane. User can also add them to the editor by double clicking or from the popup menu.

### Executing query and viewing results
To execute the query click the Execute button. If the query text is correct, the query is executed, and if the query statement is supposed to return data (e.g. SELECT statement), the Result tab opens with the data returned by the query. If an error occurs while executing the query, execution stop is stopped and the appropriate error message is displayed. The Result area displays the result data in table format.
4.3.2 Supported SQL Statements

LDAP Admin Tool supports the following types of SQL statements. Joins are not supported at this time.

- Select Statements
- Update Statements
- UpdateAdd Statements
- UpdateReplace Statements
- Delete Statements
- Insert Statements

4.3.3 Select Statement
The SELECT statement queries data from ldap. The statement begins with the SELECT keyword. The basic SELECT statement has 4 clauses:

- SELECT
- FROM
- WHERE
- Query Scope

See also:
Select statement examples

The SELECT clause specifies the attributes that are retrieved. The FROM clause specifies the entries accessed. The WHERE clause specifies the condition. The WHERE clause is optional; if missing, all the entries within the container will be returned depending upon the query scope.

The QUERY SCOPE is new for ldap query, if missing the default is subtree scope and will return all the subentries (user can change the default from the radio buttons at the bottom of sql editor).

| To select all the entries within an entry (including entry and all its subentries) type sql statement as: |
| Select * from DC=LDAPSOFT,DC=COM |

This sql will return all the entries in the DC=LDAPSOFT,DC=COM container as the default scope is subtree scope, the above sql statement is same as:

| Select * from DC=LDAPSOFT,DC=COM subtreescope |

| To select only the immediate children type sql statement as: |
| Select * from DC=LDAPSOFT,DC=COM onelevelscope |

| To select the entry only type sql statement as: |
| Select * from DC=LDAPSOFT,DC=COM basescope |

There is no need to provide the scope (subtreescope, onelevelscope or basescope) in the sql statement. The scope can be selected using the radio button at the bottom of the editor window.
If the sql statement contains the scope it will take precedence over the scope selected using the radio buttons.

<table>
<thead>
<tr>
<th>Query</th>
<th>Scope Selected (Radio Button)</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Select * from DC=LDAPSOFT,DC=COM</td>
<td>Base Only</td>
<td>Only 1 Entry is returned (DC=LDAPSOFT,DC=COM)</td>
</tr>
<tr>
<td>2) Select * from DC=LDAPSOFT,DC=COM</td>
<td>One Level</td>
<td>All the immediate children of DC=LDAPSOFT,DC=COM are returned excluding entry DC=LDAPSOFT,DC=COM</td>
</tr>
<tr>
<td>3) Select * from DC=LDAPSOFT,DC=COM</td>
<td>Sub Tree</td>
<td>All entries within DC=LDAPSOFT,DC=COM are returned including DC=LDAPSOFT,DC=COM and all its subentries.</td>
</tr>
<tr>
<td>4) Select * from DC=LDAPSOFT,DC=COM basescope</td>
<td>N/A (as the scope in the sql statement will take precedence)</td>
<td>Same as 1 Only 1 Entry is returned (DC=LDAPSOFT,DC=COM)</td>
</tr>
<tr>
<td>5) Select * from DC=LDAPSOFT,DC=COM onellevelscope</td>
<td>N/A (as the scope in the sql statement will take precedence)</td>
<td>Same as 2 All the immediate children of DC=LDAPSOFT,DC=COM are returned excluding entry DC=LDAPSOFT,DC=COM</td>
</tr>
<tr>
<td>6) Select * from DC=LDAPSOFT,DC=COM subtreescope</td>
<td>N/A (as the scope in the sql statement will take precedence)</td>
<td>Same as 3 All entries within DC=LDAPSOFT,DC=COM are returned including DC=LDAPSOFT,DC=COM and all its subentries.</td>
</tr>
</tbody>
</table>

Simple sql select statements can be generated using the context menu.
### 4.3.4 Select Statement Examples

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Select * from</strong> DC=LDAPSOFT,DC=COM <strong>subtree</strong>scope</td>
<td>All entries within DC=LDAPSOFT,DC=COM are returned including DC=LDAPSOFT,DC=COM and all its subentries.</td>
</tr>
<tr>
<td><strong>Select * from</strong> DC=LDAPSOFT,DC=COM <strong>WHERE</strong> createTimeStamp= 20080307210341.904000Z</td>
<td>All entries within DC=LDAPSOFT,DC=COM where createtimestamp is 20080307210341.904000Z</td>
</tr>
<tr>
<td><strong>Select * from</strong> DC=LDAPSOFT,DC=COM <strong>WHERE</strong> dc =‘ldapsoft,dc=com’ <strong>subtree</strong>scope</td>
<td>All entries within DC=LDAPSOFT,DC=COM where dc =‘ldapsoft,dc=com’</td>
</tr>
<tr>
<td><strong>Select * from</strong> DC=LDAPSOFT,DC=COM <strong>WHERE</strong> cn =‘1testGroup’ <strong>subtree</strong>scope</td>
<td>All entries within DC=LDAPSOFT,DC=COM where cn =‘1testGroup’</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM <strong>WHERE</strong> objectclass like ‘AIX%’ <strong>subtree</strong>scope</td>
<td>All entries within DC=LDAPSOFT,DC=COM where object class starts with AIX</td>
</tr>
<tr>
<td><strong>SELECT COUNT(*) FROM</strong> cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM <strong>subtree</strong>scope</td>
<td>Count of all the entries within cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM – If the count exceeds the number of max results it will show user the max results – user can increase the count of the max results from the Max Results textbox.</td>
</tr>
<tr>
<td><strong>SELECT COUNT(*) FROM</strong> cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM <strong>onelevel</strong>scope</td>
<td>Count of all the immediate children of cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM</td>
</tr>
</tbody>
</table>
### 4.3.4.1 SQL Statement Examples (Time or Date Based)

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupB,o=stooges</code> * where createTimestamp <code>&lt;= CurrentEndofDay</code> and createTimestamp <code>&gt;= CurrentStartofDay</code></td>
<td>To find all the records created today in <code>ou=MemberGroupB,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupB,o=stooges</code> * where createTimestamp <code>&lt;= CurrentEndofDay -1 days</code> and createTimestamp <code>&gt;= CurrentStartofDay -1 days</code></td>
<td>To find all the records created yesterday in <code>ou=MemberGroupB,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupB,o=stooges</code> * where modifyTimestamp <code>&lt;= CurrentEndofDay</code> and modifyTimestamp <code>&gt;= CurrentStartofDay</code></td>
<td>To find all the records modified today in <code>ou=MemberGroupB,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupB,o=stooges</code> * where modifyTimestamp <code>&lt;= CurrentEndofDay -1 days</code> and modifyTimestamp <code>&gt;= CurrentStartofDay -1 days</code></td>
<td>To find all the records modified yesterday in <code>ou=MemberGroupB,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupB,o=stooges</code> * where createTimestamp <code>&gt; CurrentTimestamp -10 days</code></td>
<td>To find all the records created in the last 10 days in <code>ou=MemberGroupB,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>SELECT * FROM</strong> <code>ou=MemberGroupA,o=stooges</code> * where createTimestamp <code>!= 20090122164948Z</code></td>
<td>To find all records not created on 20090122164948Z in <code>ou=MemberGroupA,o=stooges</code> container</td>
</tr>
<tr>
<td><strong>Select * from</strong> <code>DC=LDAPSOFT,DC=COM</code> * where createTimeStamp <code>&gt; 20071120000000</code> and createTimeStamp <code>&lt;= 20071121000000</code></td>
<td>All entries within <code>DC=LDAPSOFT,DC=COM</code> created between 20071120000000 and 20071121000000 and objectclass is container</td>
</tr>
</tbody>
</table>
objectclass=container subtreeScope

Select * from DC=LDAPSOFT,DC=COM where
createTimeStamp >= 20071120000000 and
createTimeStamp <= 20071121000000 and
objectclass=container subtreeScope

SELECT * FROM ou=MemberGroupB,o=stooges where
createTimestamp >= CurrentTimestamp -10 years

SELECT * FROM ou=MemberGroupB,o=stooges where
createTimestamp >= CurrentTimestamp -1 hour

SELECT * FROM ou=MemberGroupB,o=stooges where
createTimestamp >= CurrentTimestamp -10 minutes

SELECT * FROM ou=MemberGroupB,o=stooges where
createTimestamp >= CurrentTimestamp -30 seconds

4.3.4.2 SQL Statement examples (Count)

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select count (*) from o=stooges subtreeScope</td>
<td>To find a count of all entries in container o=stooges</td>
</tr>
<tr>
<td>Select count (*) from o=stooges subtreeScope where createTimestamp &gt;= CurrentTimestamp -2 months</td>
<td>To find a count of all the entries created in the container o=stooges in the last 2 months</td>
</tr>
</tbody>
</table>

4.3.4.3 SQL Statement Examples (Using Not Operator)

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select * from ou=MemberGroupA,o=stooges where postalCode=60660 and mail != <a href="mailto:test@test.com">test@test.com</a> and sn!= 'test'</td>
<td>To find all LDAP user with postal code = 60660 and mail not equal to '<a href="mailto:test@test.com">test@test.com</a>' and sn not equal to 'test'</td>
</tr>
</tbody>
</table>

4.3.4.4 SQL Statement Examples (Using IS NULL or IS NOT NULL Operator)
4.3.4.5 SQL Statement examples (Custom Controls): Custom LDAP controls can be added using \texttt{ldapcontrols} function

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>\texttt{SELECT FROM ou=MemberGroupB,o=stooges where} (objectClass='person' or objectClass='organizationalPerson' or objectClass='inetOrgPerson') and userPassword IS NULL</td>
<td>To find all LDAP user with no password in container ou=MemberGroupB,o=stooges</td>
</tr>
<tr>
<td>\texttt{SELECT FROM ou=MemberGroupB,o=stooges where} (objectClass='person' or objectClass='organizationalPerson' or objectClass='inetOrgPerson') and userPassword IS NOT NULL</td>
<td>To find all Ldap User with password in container ou=MemberGroupB,o=stooges</td>
</tr>
</tbody>
</table>

4.3.5 Update Statement

The UPDATE statement modifies attributes for the selected entries. The basic Update statement has 4 clauses:

- \texttt{UPDATE}
- \texttt{SET}
- \texttt{WHERE}
• Query Scope

See also:
Update statement examples

The UPDATE clause specifies the entry(ies) to update. The SET clause specifies the attributes to update. The WHERE clause specifies the condition. The WHERE clause is optional; if missing, all the entries within the container will be returned depending upon the query scope. The QUERY SCOPE is new for ldap query, if missing the default is subtree scope and will return all the subentries (user can change the default from the radio buttons at the bottom of sql editor).

Update statement has the following general format

UPDATE Entry SET set-list [WHERE predicate] [QueryScope]

To update all the entries within an entry (including entry and all its subentries) type sql statement as:

```
UPDATE cn=testuser,DC=LDAPSOFT,DC=COM SET title='Manager'
```

This sql will update all the entries in the cn=testuser,DC=LDAPSOFT,DC=COM container as the default scope is subtree scope, the above update statement is same as:

```
UPDATE cn=testuser,DC=LDAPSOFT,DC=COM SET title='Manager' subtreescope
```

To update only the immediate children type sql statement as:

```
UPDATE cn=testuser,DC=LDAPSOFT,DC=COM SET title='Manager' onelvelscope
```

To update the entry only type sql statement as:

```
UPDATE cn=testuser,DC=LDAPSOFT,DC=COM SET title='Manager' basescope
```

There is no need to provide the scope (subtreescope, onelvelscope or basescope) in the sql statement. The scope can be selected using the radio button at the bottom of the editor window.

----------------------------------------------------------------------------------------------------------------------------------
If the sql statement contains the scope it will take precedence over the scope selected using the radio buttons.

Simple sql update statements can be generated using the context menu.

### 4.3.6 Update Statement Confirmation Dialog

When user execute an update statement a status dialog appears which provides the following information:

- Number of entries to be updated
- Status of each entry (Whether the entry update was successful or not)
- Total status (how many succeeded how many failed)
The Update Status dialog also gives user the ability to skip all errors or abort the operation after an error.
4.3.7 Update Statement Examples

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UPDATE</strong></td>
<td></td>
</tr>
<tr>
<td>uid=test555102test222,uid=1062test444,cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM</td>
<td>cn,sn and uid of the entry</td>
</tr>
<tr>
<td>cn=test,sn=test,uid=test555102test222</td>
<td>updated</td>
</tr>
<tr>
<td>basescope</td>
<td></td>
</tr>
<tr>
<td><strong>UPDATE</strong> DC=LDAPSOFT,DC=COM SET</td>
<td></td>
</tr>
<tr>
<td>businesscategory='services' onelevelscope</td>
<td>businesscategory attribute of all immediate children of DC=LDAPSOFT,DC=COM is updated</td>
</tr>
<tr>
<td><strong>UPDATE</strong> DC=LDAPSOFT,DC=COM SET</td>
<td></td>
</tr>
<tr>
<td>businesscategory='services' subtreescope</td>
<td>businesscategory attribute of all the subentries within DC=LDAPSOFT,DC=COM is updated</td>
</tr>
</tbody>
</table>

4.3.7.1 Update Statement Examples (Multiple Values)
<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbf{UPDATE} \texttt{cn=testuser1,ou=testusers,o=stooges SET}</td>
<td>Add multiple values of departmentNumber to entry</td>
</tr>
<tr>
<td>\texttt{departmentNumber=102},</td>
<td>\texttt{cn=testuser1,ou=testusers,o=stooges}</td>
</tr>
<tr>
<td>\texttt{departmentNumber=101}</td>
<td></td>
</tr>
<tr>
<td>\texttt{basescope}</td>
<td></td>
</tr>
</tbody>
</table>

### 4.3.7.2 Update Statement Examples (Using Not Operator)

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbf{Update} \texttt{ou=MemberGroupA,o=stooges set} \texttt{postalCode=60660 where mail \neq \text{'<a href="mailto:test@test.com">test@test.com</a>'} \text{ and sn\neq\text{'test'}}}</td>
<td>Update postal code of all entries in and including \texttt{ou=MemberGroupA,o=stooges} where mail not equal to \texttt{<a href="mailto:test@test.com">test@test.com</a>} and sn not equals to \texttt{test} to 60660</td>
</tr>
</tbody>
</table>

### 4.3.7.3 Update an Attribute with Random Alphabets

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbf{UPDATE} \texttt{cn=testuser4,ou=testusers,o=stooges set} \texttt{userPassword=RandomAlphabets9}</td>
<td>Update userPassword attribute of \texttt{cn=testuser4,ou=testusers,o=stooges} with RandomAlphabets (9 Alphabets)</td>
</tr>
<tr>
<td>\texttt{basescope}</td>
<td></td>
</tr>
<tr>
<td>\textbf{UPDATE} \texttt{ou=testusers,o=stooges set} \texttt{userPassword=RandomAlphabets9} \texttt{subtreescope}</td>
<td>Update userPassword for all entries in container \texttt{ou=testusers,o=stooges} with RandomAlphabets (9 Alphabets)</td>
</tr>
</tbody>
</table>

### 4.3.7.4 Update an Attribute with Random Numbers

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbf{UPDATE} \texttt{cn=testuser4,ou=testusers,o=stooges set} \texttt{userPassword=RandomNumbers9}</td>
<td>Update userPassword attribute of \texttt{cn=testuser4,ou=testusers,o=stooges} with RandomNumbers (9 Digits)</td>
</tr>
<tr>
<td>\texttt{basescope}</td>
<td></td>
</tr>
<tr>
<td>\textbf{UPDATE} \texttt{ou=testusers,o=stooges set} \texttt{userPassword=RandomNumbers9} \texttt{subtreescope}</td>
<td>Update userPassword for all entries in container \texttt{ou=testusers,o=stooges} with Random Numbers (9 Digits)</td>
</tr>
</tbody>
</table>

---

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4.3.8 UpdateAdd Statement

The UPDATEADD statement adds values to the exiting attributes, creating the attribute if it does not already exist. The basic UpdateAdd statement has 4 clauses:

- **UPDATEADD**
- **SET**
- **WHERE**
- Query Scope

The UPDATEADD clause specifies the entry(ies) to update. The SET clause specifies the attributes to update. The WHERE clause specifies the condition. The WHERE clause is optional; if missing, all the entries within the container will be updated depending upon the query scope.

The QUERY SCOPE is new for ldap query, if missing the default is subtree scope and will return all the subentries (user can change the default from the radio buttons at the bottom of sql editor).

UpdateAdd statement has the following general format:

```
UPDATEADD Entry SET set-list [WHERE predicate] [QueryScope]
```

To add a new value to an existing attribute for e.g mail, write a statement as:

```
UPDATEADD ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com'
```

This sql will update all the entries in the ou=testusers, o=stooges container as the default scope is subtree scope, the above update statement is same as:

```
UPDATEADD ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' subtree-scope
```

To update only the immediate children, type sql statement as:

```
UPDATEADD ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' onelevel-scope
```

To update only the entry, type sql statement as:

```
UPDATEADD ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' base-scope
```

Before and after snapshot after running the following UPDATEADD statement:
UPDATEADD cn=testuser1,ou=testusers,o=stooges SET description = 'description2'

4.3.9 UpdateReplace Statement

The UPDATEREPLACE statement replaces existing attribute value if the match is found. Ideally user may want to use this statement where attribute has multiple values and want to replace one value. The basic UpdateReplace statement has 4 clauses:

- UPDATEREPLACE
- SET
- WHERE
- Query Scope

The UPDATEREPLACE clause specifies the entry(ies) to update. The SET clause specifies the attributes to update. The WHERE clause specifies the condition. The WHERE clause is required and must contain the attribute value to replace with. The QUERY SCOPE is new for ldap query, if missing the default is subtree scope and will return all the subentries (user can change the default from the radio buttons at the bottom of sql editor). UPDATEREPLACE statement has the following general format

UPDATEREPLACE Entry set-list [WHERE predicate] [QueryScope]

To replace an exiting value write statement as:

```
UPDATEREPLACE ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' where mail='oldaddress@ldapsoft.com'
```

This sql will update all the entries in the ou=testusers,o=stooges container as the default scope is subtree scope, the above update statement is same as:
To replace values of immediate children user type sql statement as:

```
UPDATE REPLACE ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' WHERE mail=oldaddress@ldapsoft.com' subtreeScope
```

To replace values of the entry only user type sql statement as:

```
UPDATE REPLACE ou=testusers,o=stooges SET mail='newaddress@ldapsoft.com' WHERE mail=oldaddress@ldapsoft.com' onelevelScope
```

Before and after snapshot after running the following UPDATE REPLACE statement:

```
UPDATE REPLACE cn=testuser1,ou=testusers,o=stooges SET description = 'description3' WHERE description = 'description2'
```

4.3.9.1 Difference between Update, UpdateAdd & Update Replace Statement

**Main Differences:**

**Update** Statement replaces the existing attribute with new attribute value; multiple values will be replaced with new single value

**UpdateAdd** adds values to the exiting attributes, creating the attribute if it does not already exists

**UpdateReplace** replaces the existing attribute value, if found

**When to use Update Statement:**
When attribute is single value attribute like 'userpassword' and user want to replace the existing value. If Update statement is used for attributes with multiple values it will replace the current value(s) with the new value. Please use UPDATEREPLACE for attributes with multiple values.

*Update Statement with Single Value Attribute, before and after running the following update statement:*

```
UPDATE cn=testuser3,ou=testusers,o=stooges set userPassword='newpassword'
```

*Update Statement with Multi Value Attribute, before and after running the following update statement:*

```
UPDATE cn=testuser3,ou=testusers,o=stooges set description='newdescription'
```

User can also assign multiple values to update statement, to assign multiple values separate them by comma like

```
UPDATE cn=testuser3,ou=testusers,o=stooges set description='newdescription', description='newdescription2'
```

*When to use UpdateAdd Statement:*
When user want to add a new value to an exiting attribute, creating an attribute if it does not exist

Before and after snapshot after running the following UPDATEADD statement:

```
UPDATEADD cn=testuser1, ou=testusers, o=stooges set description = 'description2'
```

When to use UpdateReplace Statement:

When user want to replace a specific attribute value, if an attribute is single value attribute the update and update replace results will be same but if the attribute has multiple values then UpdateReplace will only replace the specified value.

Before and after snapshot after running the following UPDATEREPLACE statement:

```
UPDATEREPLACE cn=testuser1, ou=testusers, o=stooges set description = 'description3' where description= 'description2'
```

4.3.10 Delete Statement
The DELETE statement deletes selected entries. The basic delete statement has 4 clauses:

- DELETE
- FROM
- WHERE
- Query Scope

See also:
Delete statement examples

The WHERE clause is optional; if missing, all the entries within the container will be returned depending upon the query scope. The QUERY SCOPE is new for ldap query, if missing the default is subtree scope and will return all the subentries (user can change the default from the radio buttons at the bottom of sql editor)
Delete statement has the following general format

DELETE FROM Entry [WHERE predicate]

| To delete all the entries with an entry (including entry and all its subentries), type sql statement as: |
| DELETE FROM cn=testuser,DC=LDAPSOFT,DC=COM |
| This sql will delete all the entries in the cn=testuser,DC=LDAPSOFT,DC=COM container as the default scope is subtree scope, the above delete statement is same as: |
| DELETE FROM cn=testuser,DC=LDAPSOFT,DC=COM subtreescope |

| To delete only the immediate children type sql statement as: |
| DELETE FROM cn=testuser,DC=LDAPSOFT,DC=COM onellevelscope |

| To delete the entry only type sql statement as: |
| DELETE FROM cn=testuser,DC=LDAPSOFT,DC=COM basescope |
There is no need to provide the scope (subtreescope, onelevelscape or basescope) in the sql statement. The scope can be selected using the radio button at the bottom of the editor window.

If the sql statement contains the scope it will take precedence over the scope selected using the radio buttons.

Simple sql delete statements can be generated using from the context menu.

4.3.11 Delete Statement Confirmation Dialog

When user execute a delete statement a status dialog appears which provides the following information:

- Number of entries to be deleted
- Status of each entry (Whether the delete entry was successful or not)
- Total status (how many succeeded how many failed)
The Delete Status dialog also gives user ability to skip all errors or abort the operation after an error.
### 4.3.12 Delete Statement Examples

<table>
<thead>
<tr>
<th>Query</th>
<th>Results of Query</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DELETE FROM</strong> cn=testuser,DC=LDAPSOFT,DC=COM basescope</td>
<td>Deletes only cn=testuser,DC=LDAPSOFT,DC=COM</td>
</tr>
<tr>
<td><strong>DELETE FROM</strong> cn=testuser,DC=LDAPSOFT,DC=COM onelLEVELscope</td>
<td>Deletes all immediate children of cn=testuser,DC=LDAPSOFT,DC=COM</td>
</tr>
<tr>
<td><strong>DELETE FROM</strong> cn=testuser,DC=LDAPSOFT,DC=COM subtreescope</td>
<td>Deletes all the entries within cn=testuser,DC=LDAPSOFT,DC=COM</td>
</tr>
</tbody>
</table>

Note: For entries with subentries user will get error similar to following
Error: Not Allowed On Non-leaf - Unable to delete cn=testuser,DC=LDAPSOFT,DC=COM

To delete entries with subentries using sql statement, run the delete statement with subtree-scope and skip all errors for a few times. It will eventually delete the entry, because it will delete leaf entries in every iteration.

4.3.13 Insert Statement

The INSERT statement adds one or more entries to ldap. The basic insert statement has 4 clauses:

- INSERT
- INTO
- VALUES

See also:
Select statement
Update statement
Delete statement

INSERT statement has the following general format:

```
INSERT INTO Entry [(column-list)] VALUES (value-list)
```

To insert/add an entry type sql statement as:

```
INSERT INTO
test551000test222,uid=testuser,DC=LDAPSOFT,DC=COM
(objectclass,objectclass,objectclass,objectclass,objectclass,cn,sn,uid)
VALUES('top', 'person', 'organizationalPerson', 'inetOrgPerson', 'AIXAdmin', 'test', 'test5551000test222')
```

User can also generate the simple type of sql insert statement from the popup menu
4.3.14 Max Query Results

Max sql query results can be set from the Max Results text box.

SQL Max Results are separate from the max results on the table results tool bar or the connection properties. This field is only for the sql results.

Note: If user is unable to retrieve more than 1000 records after changing the connection limit please try the following:

For LDAP Servers:

Disable Enable Ldap Paged Result control from Options|Preference|General (last check box).

For Active Directory:

Run search or export at the container level (not at the root level)

If searching using sql statement Modify the sql so that it runs at the immediate container level and not on RootDSE.
If still unable to retrieve more than 1000 records user may have to increase the MaxPageSize attribute of Active directory to report on more than 1000 records.

To Increase MaxPageSize, please see the Microsoft article:
http://support.microsoft.com/kb/315071

and disable Enable Ldap Paged Result control from Preference|General (Last check box)

For main search Limit see:
Search Limits

4.3.15 SQL History

To view the history click the show history button in the main sql window

Clicking show history button opens the statement history dialog. When any of the statement is clicked in the table the complete statement in the bottom pane is displayed, the statement can be copied or added to the sql using the right-click context menu.
<table>
<thead>
<tr>
<th>Time</th>
<th>Connection Name</th>
<th>SQL Text</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:03</td>
<td>New Connection 1</td>
<td>SELECT FROM DC=LDAPSOFT,DC=COM</td>
<td>1 item(s) displayed</td>
</tr>
</tbody>
</table>
5 Search Limits

LDAP Admin Tool lets user define the maximum number of entries returned from a search and time (in seconds) allowed performing the search. User can set these options in the connection preferences dialog which can be accessed via the entry popup menu | Connection Settings. User also can set the maximum number of entries returned from the toolbar.

To set the maximum results and the time allowed from the connection settings right click any entry on the left hand side (LDAP Explorer) and then select the connection settings from right click context menu.
This will open the connection settings dialog, select the connection options tab and set the values.
Note: If user is unable to retrieve more than 1000 records after changing the connection limit please try the following:

For LDAP Servers:

Disable Enable Ldap Paged Result control from Options|Preference|General (last check box).

For Active Directory:

Run search or export at the container level (not at the root level)

If searching using sql statement Modify the sql so that it runs at the immediate container level and not on RootDSE.

If still unable to retrieve more that 1000 records user may have to increase the MaxPageSize attribute of Active directory to report on more than 1000 records.
To Increase MaxPageSize, please see the Microsoft article:
http://support.microsoft.com/kb/315071

and disable Enable Ldap Paged Result control from Preference|General (Last check box)

For SQL Search and File Export limits see:
- Max Query Results
- SQL Export
- LDIF Export
- CSV Export
- Excel Export
6 Editing the Directory

User can modify directory entries using the LDAP Admin Tool in many ways, ranging from slight modification of a single attribute value to large-scale tree operations affecting many thousands of entries.

LDAP Admin Tool lets user cut, copy, paste, rename and delete entire directory subtree(s) using the tree pane on the left. User can manipulate individual entries using the table editor. User can rename entries from either the directory tree pane or the table editor, depending on what is most convenient at the time.

6.1 Directory Tree Operations

While browsing the directory tree, user can modify the directory using any of the following ways:

- Context Menu (accessed by right-clicking on the entry) for the entry in the tree itself
- Dragging and dropping

Warning: This is a very powerful tool and user can affect large areas of the directory with a single operation. To avoid accidents, user should enable the confirmations from the preferences dialog

6.1.1 Cut, Copy, Paste, Rename and Delete

User can manipulate the directory tree using cut, copy paste and delete operations. User can copy and move entries using drag and drop. These operations can be carried out on individual entries within the directory tree or on whole subtree(s).

When user select an entry all cut, copy, paste, rename and delete operations occur relative to the selected entry.

Delete
Removes the selected entry and any subentries

**Copy**
Copies the selected entry and any subentries

**Cut**
Prepares the selected entry and any subentries to be moved to a new location.

**Paste**
Either moves or copies a previously cut or copied entry (and any subentries) under the selected entry as child entries.

Since some subtree operations involving large number of entries, the operation can take a significant time to complete. The admin tool displays a progress bar if it estimates that the operation is extensive and will take more than a second to complete.

The progress bar displays the number of entries processed and estimates the proportions of the operation completed. When user want to stop the operation, user can click the Cancel button on the progress bar, any changes already made will be kept.

**Rename**
To change the name of an entry, user need to change the value of the naming attribute. The naming attribute is the single attribute used to uniquely identify each entry in the directory.
User can rename the entry from the context menu (Right Click Menu).

Selecting rename from the context menu will draw a border around the entry where user can type the new name. LDAP Admin Tool will change the naming attribute of the entry to the new name.

When a parent is renamed, the DNs of the entries in the entire subtree under the parent also change.

If user renames an entry with subordinates, the subordinates are also renamed.

Note: User must keep or enter the new identifier (uid, cn, ...) with value at the time of renaming entry or user will get an Invalid DN Syntax error.
6.2 Copy, Cut and Paste Entries across Servers

User can copy and paste entries from one server to the other server, provided both of them have the same schema. The ideal example is the copy operation between staging and production servers.

Note: Move Operation (Cut and Paste) will delete the entry (ies) from the source server after the operation is completed.

To copy entries across server, open two connections,
**test1server** – Connection to copy the data from
**testserver2** – Connection to copy the data to

Select the test1server tab, and from the right click context menu, select the entry(ies) you want to copy to testServer2 as shown:

Now select the testserver2 tab, select the entry you want to paste this new entry and from the right-click context menu click paste
When user click paste, a progress bar dialog will appear to inform user about the progress of the operation.
When the operation is completed user will see that the new entries are created at the destination location.
6.3 Modify Attributes of an Entry

User can modify entries in the table view (table editor view), which is a simple tabulated list of attribute names, corresponding attribute values, size of the attribute in bytes, type of attribute and required attribute flag. From the table editor user can:

- **Edit existing attribute**
- **Add new attributes**
- **Add new attribute value**
- **Delete attribute or attribute value**
- **Copy and paste attribute values**
- **Add/Remove object classes**
- **View attribute properties**
- **Save attribute values**
6.3.1 Edit Existing Attribute

User can edit the existing values by **double clicking** the attribute value column of the attribute user want to edit. When user double clicks the attribute column, appropriate cell editor will be activated.

If user would like to edit the value with any other editor user can select the “Edit value with …” from the context menu.

Following table shows which attribute types are assigned to which editor by default

<table>
<thead>
<tr>
<th>Attribute Type</th>
<th>Editor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean</td>
<td>![Boolean Editor]</td>
</tr>
<tr>
<td>DN</td>
<td>![DN Editor]</td>
</tr>
<tr>
<td>Audio, Binary, Bit String, Certificate Certificate List, Certificate Pair, msExchMailboxSecurityDescriptor</td>
<td>![File/Hex Dialog]</td>
</tr>
<tr>
<td>Generalized Time</td>
<td>![Generalized Time Editor]</td>
</tr>
<tr>
<td>JPEG</td>
<td>![Image Editor]</td>
</tr>
<tr>
<td>Integer</td>
<td>![Integer Editor]</td>
</tr>
<tr>
<td>objectSid</td>
<td>![AD Sid Editor]</td>
</tr>
<tr>
<td>objectGUID, msExchMailboxGuid, replicationSignature</td>
<td>![AD Guid Editor]</td>
</tr>
<tr>
<td>Microsoft OID for Time attribute type</td>
<td>![AD Time Editor]</td>
</tr>
<tr>
<td>maxPwdAge, minPwdAge, lockOutObservationWindow, lockoutDuration, forceLogoff</td>
<td>![Nano 100 Editor]</td>
</tr>
<tr>
<td>sambaLogoffTime, sambaLogonTime, sambaKickoffTime, sambaPwdMustChange, sambaPwdLastSet</td>
<td>![Unix Time Editor]</td>
</tr>
<tr>
<td>userCertificate, userCertificate;binary, userPKCS12, userSMIMECertificate</td>
<td>![Certificate Editor]</td>
</tr>
</tbody>
</table>
To edit the field with an editor dialog, double click the field and then select the button on the right to show the dialog.
To edit the value with any other editor, select the Edit value with … from the right click context menu.
6.3.2 Add New Attribute

When an attribute does not already have a value, but is available to a particular entry type, user can create it by finding the attribute in the list of blank-valued attributes at the bottom of the table and filling in the missing value.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>UID</td>
<td>Integer</td>
</tr>
<tr>
<td>DN</td>
<td>String</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
</tr>
<tr>
<td>userPassword</td>
<td>String</td>
</tr>
<tr>
<td>ATXAdminGroupId</td>
<td>Integer</td>
</tr>
<tr>
<td>ATXGroupID</td>
<td>Integer</td>
</tr>
<tr>
<td>ATXUserID</td>
<td>Integer</td>
</tr>
<tr>
<td>audio</td>
<td>String</td>
</tr>
<tr>
<td>businessCategory</td>
<td>Text</td>
</tr>
<tr>
<td>carLicense</td>
<td>Text</td>
</tr>
<tr>
<td>departmentNumber</td>
<td>Text</td>
</tr>
<tr>
<td>description</td>
<td>Text</td>
</tr>
<tr>
<td>destinationIndicator</td>
<td>Text</td>
</tr>
<tr>
<td>displayName</td>
<td>Text</td>
</tr>
</tbody>
</table>

If you want to add an attribute which is not in the blank-valued attributes list, you can add attribute using Add Attribute from the right click context menu or from the drop down menu (top right hand tab menu). This will open the Add Attribute dialog, Select the attribute you want to add and move them to the New Attributes list using the >> button, Click next to provide value for the newly added attributes.
If the required object classes for those attributes are already a part of entry, just provide the value of the entry.
If the required object classes are not part of the entry it will show the list of object classes that will be added on the top pane and the list of all the new attributes which will be added, including the attribute you selected and the required attributes of the object classes in the bottom pane.
All attributes in red must be completed

### 6.3.3 Add new Attribute value

When an attribute already exists and has values, user can add a new value by right-clicking on the attribute name and choosing Add New Value from the Context menu.
6.3.4 Delete Attribute

User can delete values (including binary values) by right-clicking on attribute name and choosing Delete from the context menu. When user delete the last value of a given attribute, the attribute is also deleted; however, it is not possible to delete the last value of a mandatory /required attribute.

Note: If user try to delete the last value of a required attribute user will get object class violation error
6.3.5 Copy and Paste attribute value

User can copy and paste the attribute value if the attribute is a text field. Double click the attribute to activate the editor and copy or paste the value.

To copy an attribute which is not of Text type? Open the attribute with text editor using the ‘Edit value with …’ from the context menu and then copy the value

6.3.6 Add/Remove ObjectClasses

Object classes determine the attributes that are available for an entry; therefore, user must modify them separately using the Add/Remove objectClass from the right click context menu or from the drop down menu (top right hand tab menu). This display the add/remove object class dialog.

To remove the object classes move them to the left (Available Classes) and to add them move them to the right (Selected Classes) using the >> and << buttons.

Please be careful when removing (deleting) object classes because remove operation will also remove all related attributes.

Required attribute values of the selected object classes must be provided.
6.3.7 View Attribute Properties

User can view the attribute by right-clicking on the attribute name and choosing properties from the context menu. The properties dialog displays the DN of the entry, name of the attribute, value of the attribute, type of the attribute, size of the attribute, syntax oid of the attribute, syntax description of the attribute and other attribute properties.
6.3.8 Save Attribute Values

If it is a text attribute, just click enter when done editing.

For Boolean attribute click enter after selecting the value (true or false) from the drop down.

For other editors click ‘OK’ button and the new values will be saved.

6.3.9 Set Attribute Editor

Some attributes cannot be easily edited using text editor. To edit those fields LDAP Admin Tool provides special editors. Following list show which editor is assigned to fields by default.
<table>
<thead>
<tr>
<th>Attribute Type</th>
<th>Editor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean</td>
<td>Boolean Editor</td>
</tr>
<tr>
<td>DN</td>
<td>DN Editor</td>
</tr>
<tr>
<td>Audio, Binary, Bit String, Certificate Certificate List, Certificate Pair</td>
<td>File/Hex Dialog</td>
</tr>
<tr>
<td>Generalized Time</td>
<td>Generalized Time Editor</td>
</tr>
<tr>
<td>JPEG</td>
<td>Image Editor</td>
</tr>
<tr>
<td>Integer</td>
<td>Integer Editor</td>
</tr>
<tr>
<td>UserPassword</td>
<td>Password Editor</td>
</tr>
<tr>
<td>Access Point, ACIItem, Attribute Type Description, Case Ignore List, Counter, Country String, Data Quality Syntax, Delivery Method, Directory String, DIT Content Rule Description, DL Submit Permission, DSA Quality Syntax, DSE Type, Facsimile Telephone Number, Fax, Guide, IA5String, LDAP Schema Definition, LDAP Schema Description, LDAP Syntax Description, Mail Preferences, Manager DsaIT Control Request, Master And Shadow Access Points, Matching Rule Description, MHS or Address, Modify Rights, Name and Optional UID, Name From description, Numeric String, Object Class Description, Octet List, Octet String, OID, Other Mailbox, Postal Address, Presentation Address, Printable String, Protocol Information, Server Side Sort Control Request, Server Side Sort Control Response, Substring Assertion, Subtree Specification, Supplier and Consumer, Supported Algorithm, Tagged Data, Tagged Name, Telephone Number, Telex Terminal Identifier, Telex Number, Typed Name, UTC Time</td>
<td>Text Editor</td>
</tr>
</tbody>
</table>

Default assignment can be overridden from the preferences menu. To override the default assignment clicks Options| preferences from main menu and click value editors from the left hand side preferences menu tree.

In the value editors user can edit the attribute editor assignment to attribute. To modify the attribute assignment click the ‘Edit’ on the attribute type editor.

To modify the syntax assignment click the ‘Edit’ on the syntax type editor.
User can also assign the editor by clicking the ‘Edit Value With …’ from the right click context menu.

For example if you want to open the attribute employeeNumber with an integer editor select ‘Edit Value with… [Integer Editor]’ from the right click context menu.
Once user opens the attribute with the new editor, attribute type for that attribute is permanently changed in LDAP Admin Tool to Integer. From now on this attribute will always open in integer editor until reassigned.

You can restore the attribute's default editor from the right-click context menu or use default value from the main preferences - Options|Preferences|ValueEditors – Click Restore Defaults button (bottom left hand).

6.3.10 Locate attribute in schema tree

To look for an attribute definition in schema tree right-click the attribute name and select 'Locate Attribute in Schema Tree' from the Context menu. This will open the schema tab and will show the attribute definitions.
7 Dialog Editors

LDAP Admin Tool provides many dialogs for editing attributes, when user click on an attribute of the following type:

- Photo (Image)
- File/Hex
- Integer
- Generalized Time
- Password
- AD Time Editor
- Nano 100 Editor
- Unix Time Editor
- AD Sid Editor
- AD GUID Editor
- Certificate Editor

An appropriate editor is launched.

7.1 Photo Editor

With LDAP Admin Tool user can easily export and import photo from and to directory from his/her computer. When user clicks the open editor button, the current image is displayed in the current Image Tab. To save this image to computer click the save button on the current image dialog.

To enter a new image in the directory, select the New Image tab, browse to the directory containing image, select the image, the image is displayed in the image area, Click OK to save the image to the directory or cancel to discard.

All the images are converted to JPEG format before displaying or loading to the directory.
7.2 File/Hex Dialog

File/Hex Dialog is the default editor to view or save binary data.

When user click open dialog button of a binary attribute, the current data is displayed in HEX format, to save the data to a file, just use the save to file button.

To load the data from a file on computer use the Load from File button.
7.3 Integer Editor

Integer editor is the default editor for integer values.

User can type in the data or select the value from spinner, click OK once done and the value will be saved to directory provided user have the authority to make changes.

7.4 Generalized Time Editor

Generalized Time Editor is default for the generalized time attribute. When user clicks the open dialog button the generalized time editor will parse and display the time in the field.
7.5 Password Editor

Password editor is the default editor for passwords.
Current password tab displays some details about the password. The current password could also be verified. Enter the compare password into the Verify Password field. The Verify function compares the current password with the hashed value of the entered password.

In the New Password tab user can enter a new password. Type in the password in the input field and select a hash (encryption) method. The preview field shows the resulting password.
8 Exporting Data

With LDAP Admin Tool you can easily export data in CSV, Excel, LDIF, SQL Update, SQL Insert and SQL Delete Formats.

- CSV Export
- Excel Export
- LDIF Export
- SQL Update Export
- SQL Insert Export
- SQL Delete Export

8.1 CSV Export

This dialog is used to export entries to csv files.

To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Export| CSV Export
- From the main tool bar click the CSV Export button
- From the main menu select Export| CSV

- In the exported file, if any attribute has multiple values the values will be grouped together using Pipe (|) delimiter for example:
  top|person|organizationalPerson/inetOrgPerson|AIXAdmin.

- Any value with delimiter (,) in it will be surrounded by double quotes for example:
  "uid=test555503test222,uid=1062test444,cn=user,cn=test,cn=testuser,DC=LDAPSOFT,DC=COM" if the delimit String option is selected (default)
Options | Description
--- | ---
Csv File Name | The CSV file to export to. Type in the full path or browse 📂, to select the path on the file system. The drop-down list provides a history of recently used files.
Search Base | The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or click to 🆆️ to open the DN Selector dialog.
**Filter**
Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the filter editor button opens the Create Filter dialog. Refer to the Complex Search for how to create filters.

**Returning Attributes**
A list of attributes to return, the default is All User Attribute with DN and Operational Attributes. The drop-down menu provides the following options:

- All User Attributes with DN
- All User Attributes without DN
- All User Attributes with DN and with operational Attributes
- All User Attributes without DN and with operational Attributes
- Select from the List …………

Select from the List option will open the Select Attributes Dialog, where users can select the attributes to return. Users can also open the select attributes dialog from the Browse… Button.

**Search Scope**
User can choose from the following options:

- Base (Search only the base – this option will only return the base entry)
- One Level (Search only the immediate children of base DN)
- Subtree (Search the base DN and all its subentries)

**Count Limit**
The maximum number of entries the server should return, value 0 means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used.

**Time Limit**
The maximum time in milliseconds the server should search. Value 0 means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used.

**Enable Referrals**
An indicator whether to follow referrals or not.

**Replace file if Exists**
If the export file already exists, users must permit to overwrite the file or it will ask when users click finish.

**Format DateTime**
If you check this box the export process will automatically format the date time to local time zone date time. The default format is EEE MMM dd yyyy HH:mm:ss 'GMT'Z for e.g ( Sate Apr 12 2008 20:32:52 GMT -0500) . You can modify the date time format by clicking the DateTimeFormat Link.

**Restore Defaults**
Restore Defaults will restore the default filter and all the other fields to default values.

---

### 8.2 Excel Export

This dialog is used to export entries to excel files.
To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Export|Excel Export
- From the main tool bar click the Excel Export button
- From the main menu select Export|Excel Export

Excel export is a very memory intensive operation, especially when user has very large number of attributes. Please use the csv export for exporting more than 10,000 records and then open the file using Excel.

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduling Option available in Professional Edition only</td>
<td></td>
</tr>
</tbody>
</table>
**Excel File Name**
The Excel file to export to. Type in the full path or browse 🎨 to select the path on the file system. The drop-down list provides a history of recently used files.

**Search Base**
The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or click to 🖼️ to open the DN Selector dialog.

**Filter**
Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the 🔍 filter editor button opens the Create Filter dialog. Refer to the Complex Search for how to create filters.

**Returning Attributes**
A list of attributes to return, the default is All User Attribute with DN and Operational Attributes. The drop down menu provides the following options:

- All User Attributes with DN
- All User Attributes without DN
- All User Attributes with DN and with operational Attributes
- All User Attributes without DN and with operational Attributes
- Select from the List …………..

Select from the List option will open the Select Attributes Dialog, where user can select the attributes to return. User can also open the select attributes dialog from the Browse… Button.

**Search Scope**
User can choose from the following options:

- Base (Search only the base – this option will only return the base entry)
- One Level (Search only the immediate children of base DN)
- Subtree (Search the base DN and all its subentries)

**Count Limit**
The maximum number of entries the server should return, value 0 means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used.

**Time Limit**
The maximum time in milliseconds the server should search. Value 0 means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used.

**Enable Referrals**
An indicator whether to follow referrals or not.

**Replace file if Exists**
If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish.

**Format DateTime**
If you check this box the export process will automatically format the dateTime to local time zone date time. The default format is EEE MMM dd yyyy HH:mm:ss 'GMT'Z for e.g (Sate Apr 12 2008 20:32:52 GMT -0500). You can modify the date time format by clicking the DateTimeFormat Link.

**Separate Multiple Attribute value**
Sets a preference on how to display attributes with multiple values. You can select either New Line or pipe delimiter.

**Restore Defaults**
Restore Defaults will restore the default filter and all the other fields to default values.
8.3 LDIF Export

This dialog is used to export entries to ldif files.
To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Export| Ldif Export
- From the main tool bar click the Ldif Export button
- From the main menu select Export| Ldif

LDIF export is the fastest of all the export operations. This is the most efficient way to export hundreds of thousands of records from LDAP server.
<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>The Ldif file to export to. Type in the full path or browse 📁, to select the path on the file system. The drop-down list provides a history of recently used files.</td>
</tr>
<tr>
<td>Search Base</td>
<td>The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or click to 🔍 to open the DN Selector dialog.</td>
</tr>
<tr>
<td>Filter</td>
<td>Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the ⌨ filter editor button opens the Create Filter dialog. Refer to the Complex Search for how to create filters</td>
</tr>
</tbody>
</table>
| Returning Attributes | A list of attributes to return, the default is All User Attribute with DN. The drop down menu provides the following options:  
  - All User Attributes with DN  
  - Select from the List ...............  

Select from the List option will open the Select Attributes Dialog, where user can select the attributes to return. User can also open the select attributes dialog from the Browse… Button. |
| Search Scope     | User can choose from the following options:  
  - Base (Search only the base – this option will only return the base entry)  
  - One Level (Search only the immediate children of base DN)  
  - Subtree (Search the base DN and all its subentries) |
| Count Limit      | The maximum number of entries the server should return, value 0 means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used. |
| Time Limit       | The maximum time in milliseconds the server should search. Value 0 means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used. |
| Enable Referrals | An indicator whether to follow referrals or not. |
| Replace file if Exists | If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish. |
| Restore Defaults | Restore Defaults will restore the default filter and all the other fields to default values. |

### 8.4 SQL Update Statements Export

This dialog is used to export entries in sql update format.

To open the dialog choose one of the following options
- Select an entry and from the right-click context menu select Export| Update Statements
- From the main menu select Export| SQL Update Statements
Before running Update Statements, please make sure you totally understand the difference between Update, UpdateReplace and UpdateAdd Statements.

Scheduling Option available in Professional Edition only
8.5 SQL Insert Statements Export

This dialog is used to export entries in sql insert format.
To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Export| Insert Statements
- From the main menu select Export| SQL Insert Statements
### Options | Description
--- | ---
**File Name** | The Sql file to export to. Type in the full path or browse to select the path on the file system. The drop-down list provides a history of recently used files.

**Search Base** | The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or click to open the DN Selector dialog.

**Filter** | Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the filter editor button opens the Create Filter dialog. Refer to the Complex Search for how to create filters.

**Returning Attributes** | A list of attributes to return, the default is All User Attribute with DN. The drop down menu provides the following options:

- All User Attributes with DN
- Select from the List

Select from the List option will open the Select Attributes Dialog, where user can select the attributes to return. User can also open the select attributes dialog from the Browse… Button.

**Search Scope** | User can choose from the following options:

- Base (Search only the base – this option will only return the base entry)
- One Level (Search only the immediate children of base DN)
- Subtree (Search the base DN and all its subentries)

**Count Limit** | The maximum number of entries the server should return, value 0 means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used.

**Time Limit** | The maximum time in milliseconds the server should search. Value 0 means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used.

**Enable Referrals** | An indicator whether to follow referrals or not.

**Replace file if Exists** | If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish.

**Restore Defaults** | Restore Defaults will restore the default filter and all the other fields to default values.

---

### 8.6 SQL Delete Statements Export

This dialog is used to export entries in sql delete format.

To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Export| Delete Statements
- From the main menu select Export| SQL Delete Statements

**Options**

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>File Name</strong></td>
<td>The Sql file to export to. Type in the full path or browse to select the path on the file system. The drop-down list provides a history of recently used files.</td>
</tr>
<tr>
<td><strong>Search Base</strong></td>
<td>The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or click to open the DN Selector dialog.</td>
</tr>
<tr>
<td><strong>Filter</strong></td>
<td>Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the filter editor button opens the Create Filter dialog. Refer to the Complex Search for how to create filters.</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Search Scope** | User can choose from the following options:  
- Base (Search only the base – this option will only return the base entry)  
- One Level (Search only the immediate children of base DN)  
- Subtree (Search the base DN and all its subentries) |
| **Count Limit** | The maximum number of entries the server should return, value 0 means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used. |
| **Time Limit** | The maximum time in milliseconds the server should search. Value 0 means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used. |
| **Enable Referrals** | An indicator whether to follow referrals or not. |
| **Replace file if Exists** | If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish. |
| **Restore Defaults** | Restore Defaults will restore the default filter and all the other fields to default values. |
9 Importing Data

LDAP Admin Tool support import data in LDIF and SQL Format.

9.1 Importing Data in LDIF Format

LDAP Admin Tool lets user import LDIF files into the directory. It supports LDIF content files as well as LDIF modification files.

To open the dialog choose one of the following options:

- Select an entry and from the right-click context menu select Import| LDIF Import
- From the main menu select Import| LDIF Import

![LDAP Admin Tool LDIF Import dialog]

**Ldif Import**

1. Please select the ldif file to import records from

- Ldif File Name: [Input field]

- Log only to file (Recommended for more than 10,000 records) [Checkbox]

- Open Log File

- Start Importing...

<table>
<thead>
<tr>
<th>Status</th>
<th>Dn</th>
<th>Action</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Close
### Options

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ldif File Name</td>
<td>The Ldif file to import from. Type in the full path or browse 📂, to select the path on the file system. The drop-down list provides a history of recently used files.</td>
</tr>
<tr>
<td>Log only to File</td>
<td>Click to log only to file. If this box is not checked it will show the status of every entry in the dialog. Check this box (Recommended) for more than 10,000 records.</td>
</tr>
</tbody>
</table>

### 9.2 Importing Data in SQL Format

LDAP Admin Tool lets user import SQL files into the directory. It supports SQL Update, Insert and Delete Statement files.

To open the dialog choose one of the following options

- Select an entry and from the right-click context menu select Import| SQL Import
- From the main menu select Import| SQL
### Options

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>File Name</strong></td>
</tr>
<tr>
<td>The SQL file to import from. Type in the full path or browse to select the path on the file system. The drop-down list provides a history of recently used files. Once you select a file the entries are loaded in the UI. Click Start Importing Button to import the file.</td>
</tr>
<tr>
<td><strong>Log only to File</strong></td>
</tr>
<tr>
<td>Click to log only to file. If this box is not checked it will show the status of every entry in the dialog. Check this box (Recommended) for more than 10,000 records.</td>
</tr>
</tbody>
</table>
10 Add a New Entry

LDAP Admin tool provides many wizards to create new entries, depending on user requirements; user can choose from one of the following wizards:

- New User
- New Group
- New Entry like current entry
- New Entry from scratch
- New Entry Wizard

LDAP Admin tool also supports creating one entry from any one entry (Just select how many entries user want to create and it will create those entries).

10.1 New User Entry

To open a New User Entry wizard choose one of the following options

- Select an entry and from the right-click context menu select New Entry| New User
- From the main menu select File| New Entry| New User
- Select New User from the drop down menu (top right hand tab menu)

<table>
<thead>
<tr>
<th>Fields/Links</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>Parent DN of the new Entry. Type in the DN or browse, to select the DN. The drop-down list provides a history of recently used DN’s.</td>
</tr>
<tr>
<td>RDN</td>
<td>RDN consist of identifier like (uid, cn, sn ..) and the name of the attribute. If it is a multivalve RDN like uid=jdoe,cn=manager click the add link to add more RDN rows.</td>
</tr>
<tr>
<td>Add link</td>
<td>For multi-value RDN click ‘Add’ to add more rows</td>
</tr>
<tr>
<td>DN Preview</td>
<td>Shows the complete DN of the new entry</td>
</tr>
</tbody>
</table>

Create Multiple Entries like this entry | Click here to create multiple entries

See Also:
- New Group Entry
When all the fields are completed, click the Next button to provide attribute values. All fields in red must be completed to create entry(ies) or you will get an error.
Click Finish when done and it will create entry in the directory provided user have the permissions to do so and also it will show the newly created entry in the ldap explorer tree.

When user click create multiple entries link it will add one more row where user can define how many entries to create and also the prefix to append. To remove this row, click the remove link.
10.2 New Group Entry

To open a New Group Entry wizard choose one of the following options

- Select an entry and from the right-click context menu select New Entry| New Group
- From the main menu select File| New Entry| New Group
- Select New Group from the drop down menu (top right hand tab menu)

<table>
<thead>
<tr>
<th>Fields/Links</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>Parent DN of the new Group. Type in the DN or browse, to select the DN. The drop-down list provides a history of recently used DN’s.</td>
</tr>
<tr>
<td>RDN</td>
<td>RDN consist of identifier like (uid, cn, sn ..) and the name of the attribute. If it is a multivalve RDN like uid=jdoe,cn=manager click the add link to add more RDN rows.</td>
</tr>
<tr>
<td>Add link</td>
<td>For multivalve RDN click here to add more rows</td>
</tr>
<tr>
<td>DN Preview</td>
<td>Shows the complete DN of the new entry</td>
</tr>
<tr>
<td>Create Multiple Entries like this entry</td>
<td>Click here to create multiple entries</td>
</tr>
</tbody>
</table>

When user click create multiple entries link it will add one more row where user can define how many entries to create and also the prefix to append. To remove this row, click the remove link.

![Create Multiple Entries](image)

See Also:

- New User Entry
- New Entry like Current Entry
- New Entry from Scratch
- New Entry Wizard
When all the fields are completed, click the Next button to provide attribute values. All fields in red must be completed to create entry(ies) or you will get an error.
Click Finish when done and it will create entry in the directory provided user have the permissions to do so and also it will show the newly created entry in the ldap explorer tree.
10.3 New Entry like Current Entry

To open a New entry like current Entry wizard
  - Select an entry and from the right-click context menu select New Entry| New Entry like this entry

<table>
<thead>
<tr>
<th>Fields/Links</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>Parent DN of the new Entry. Type in the DN or browse, to select the DN. The drop-down list provides a history of recently used DN's.</td>
</tr>
<tr>
<td>RDN</td>
<td>RDN consist of identifier like (uid, cn, sn ..) and the name of the attribute. If it is a multivalve RDN like uid=jdoe,cn=manager click the add link to add more RDN rows.</td>
</tr>
<tr>
<td>Add link</td>
<td>For multivalue RDN click here to add more rows</td>
</tr>
<tr>
<td>DN Preview</td>
<td>Shows the complete DN of the new entry</td>
</tr>
<tr>
<td>Create Multiple Entries like this entry</td>
<td>Click here to create multiple entries</td>
</tr>
</tbody>
</table>

When user click create multiple entries link it will add one more row where user can define how many entries to create and also the prefix to append. To remove this row, click the remove link.

<table>
<thead>
<tr>
<th>#Entries:</th>
<th>Prefix:</th>
<th>+ Count: Remove</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Also:
- New User Entry
- New Group Entry
- New Entry from Scratch
- New Entry Wizard
When all the fields are completed, click the Next button to provide attribute values. All fields in red must be completed to create entry(ies) or user will get an error.
Click Finish when done and it will create entry in the directory provided user have the permissions to do so and also it will show the newly created entry in the ldap explorer tree.
10.4 New Entry from Scratch

To open the New Group Entry from Scratch wizard choose one of the following options

- Select an entry and from the right-click context menu select New Entry| New Entry from Scratch
- From the main menu select File| New Entry| New Entry from Scratch
- Select New Entry from Scratch from the drop down menu (top right hand tab menu)

New Entry from scratch wizard first asks to select the object classes for the new entry. Select and move the object classes to the right using >> button, Click Next when done

See Also:
- New User Entry
- New Group Entry
- New Entry like Current Entry
- New Entry Wizard
Now provide the RDN of the new Entry
### Create a new entry

#### Distinguished Name

Please select parent of the entry and enter the RDN (example: cn=jdoe or uid=jdoe). For multivalued RDN like uid=jdoe,cn=manager click on the Add link to add more rows.

**Parent:**
`uid=1062test444, cn=users, cn=test, cn=testuser, DC=LDAPSOFT, DC=com`<br>
**Browse**

**RDN:**
- `uid`
- `EntryFromScratch`
- **Add**

**DN Preview:**
`uid=EntryFromScratch, uid=1062test444, cn=users, cn=test, cn=testuser, DC=LDAPSOFT,`

---

#### Fields/Links

<table>
<thead>
<tr>
<th>Fields/Links</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parent</strong></td>
<td>Parent DN of the new Entry. Type in the DN or browse, to select the DN. The drop-down list provides a history of recently used DN’s.</td>
</tr>
<tr>
<td><strong>RDN</strong></td>
<td>RDN consist of identifier like (uid, cn, sn ..) and the name of the attribute. If it is a multivalve RDN like uid=jdoe,cn=manager click the add link to add more RDN rows.</td>
</tr>
<tr>
<td><strong>Add link</strong></td>
<td>For multivalue RDN click add to add more rows</td>
</tr>
<tr>
<td><strong>DN Preview</strong></td>
<td>Shows the complete DN of the new entry</td>
</tr>
</tbody>
</table>
When all the fields are completed, click the Next button to provide attribute values. All fields in red must be completed to create entry(ies) or user will get an error.

Click Finish when done and it will create entry in the directory provided user have the permissions to do so and also it will show the newly created entry in the ldap explorer tree.
10.5 New Entry Wizard

New Entry wizard let user chose which type of entry user wants to create, To open New Entry wizard choose from one of the following options:

- Select an entry and from the right-click context menu select New Entry| New Entry Wizard
- From the main menu select File| New Entry| New Entry from Scratch
- Select New Entry from Scratch from the drop down menu (top right hand tab menu)

Select the type of entry user want to create and then follow the following links to create entry of the selected type:

- New User Entry
- New Group Entry
- New Entry like Current Entry
- New Entry from Scratch
11 Exporting Data using SQL

LDAP Admin Tool allows users to export data in CSV, Excel, and LDIF file formats using SQL-like syntax.

To export the data in CSV, Excel, or LDIF format, just type the SQL statement in the SQL editor and click the Export button. When the user clicks the export button, an export dialog will open displaying the current SQL or the user can type the SQL directly in the export dialog.

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export Format (Excel, CSV, LDIF, Update, Insert, Delete)</td>
<td>Select the data export format</td>
</tr>
<tr>
<td>File Name</td>
<td>The file to export to. Type in the full path or browse, to select the path on the file system. The drop-down list provides a history of recently used files.</td>
</tr>
<tr>
<td>Replace file if Exists</td>
<td>If the export file already exists, the user must permit to overwrite the file or it will ask when the user clicks Export.</td>
</tr>
<tr>
<td>Export DN</td>
<td>To export entry DN, check this box.</td>
</tr>
</tbody>
</table>
SQL Export in CSV Format

Click Finish to Export Entries

Export Format:
- Excel Format
- CSV Format
- LDIF Format
- Update Statements
- Insert Statements
- Delete Statements

File Format

File Name: C:\Software\export.csv

- Replace File if Exists
- Format DateTime: DateTime Format
- Delimit Strings containing delimiter with double quotes
  Delimiter Character: ,

SQL:

```
SELECT * FROM o=stooges
subtreescope
```

- Export DN
- Export Operational Attributes

Help Finish Cancel
12 Logging

LDAP Admin tool logs most of the operations in console as well as in log file. To view or hide the console window click the console button on the tab tool bar

LDAP Admin Tool creates the log files in the installed location/logs folder. User can find the exact name of the file by clicking the Copy Log Filename from the right-clicked context menu. LDAP Admin Tool creates log files with name equal to Connection Name –log-MMDDYY.txt
User can turn off logging to file using the preferences. Click Options | Preferences | Logging and uncheck the logging box and click Apply.
13 SSL

LDAP Admin Tool allows user to create connection to the directory server using TLS/SSL (Transport Layer Security/Secure Sockets Layer). Presently LDAP Admin Tool only supports TLS/SSL with server authentication. User can try communicating using SASL, all necessary tools for communicating using SASL are provided and it may work but it is not currently supported.

LDAP admin tool has made the SSL communication simple for the user. If the Certificate is not in the key store it will prompt the user (just like any web browser) to either accept or reject the certificate. If the user accepts the certificate the connection will be made otherwise the connection is discarded.

To connect to the server using SSL, user must check the Use SSL/TLS box in the connection options or from the connection dialog at the time of making connection.
Make sure port for SSL Communication (mostly 636) is correct and the Use SSL/TLS box is checked.

If the server is using an unknown type of certificate, user will be prompted to accept or reject the certificate.

If user select the ‘Always’ option, the certificate will be stored in the keystore.
User can also view the certificate before accepting it. To view the certificate, click the view Certificate button on the Certificate Warning window

**Note:** LDAP Admin tool does not support SASL at this time
This certificate is intended for the following purpose(s):

1) Ensures the identity of a remote computer

* Refer to the certification authority’s statement for details.

Issued to:  C=US

Issued by:  C=US

14 Certificate Management Utility

LDAP admin tool is equipped with a powerful certificate management utility. User can use this utility to:

- Manage Server Certificates
- Manage Client Certificates
- Create New Keystores
- Set keystore password

![Keystore and Certificates Management Utility](image)

- Set Keystore password
- Manage Trusted Server Certificates
- Manage Your Own Private Keys and Certificates

OK Cancel
The default keystore for trusted certificates is $userhome/.advldap/cacert file (Standard Edition) or $userhome/.advLdapProfessional/cacert file (Professional Edition), which comes with a test certificate, this test certificate is only for demonstration purposes and can be deleted.

14.1 Manage Server Certificates

To open Manage Server Certificate dialog, choose from one of the following options:

- From main menu, select Security| Manager Server Certificates
- Click the Manage Trusted Server Certificates link on the Certificate management utility
- Select the Manage Server Certificates from the Certificate management utility menu
  Manage Certificates| Manage Server Certificates

From the manage server certificate dialog user can perform the following functions

- View Certificates
- Add Certificate
- Delete Certificate
- Set Private Key
- Export Private Key

To view, select a certificate to view and click the view certificate button. The view certificate button will open the view certificate dialog.

To add a certificate, click the Add Certificate button.
To delete, select a certificate to delete in the left pane and click Delete Certificate button.
To set private key, select a certificate and browse to the key file
To export private key, select a certificate and click the Export Private Key.
14.2 Manage Client Certificates

Client-authenticated SSL requires the registration of the server's certificate with the browser, and in addition, the registration of the browser's certificate (or certificate authority) with the server. Client-authenticated SSL also requires the use of the browser's private key, which is held in the client's keystore file. This file is password-protected, and requires the password to be entered in the connection dialog for client authenticated SSL to work.

The default keystore for trusted client certificates is $userhome/.advldap/cacert file (Standard Edition) or $userhome/.advLdapProfessional/cacert file (Professional Edition), which comes with a test certificate, this test certificate is only for demonstration purposes and can be deleted.

To open Manage Client Certificate dialog, choose from one of the following options:

- From main menu, select Security| Manager Client Certificates
- Click the Manage Your Own Private Keys and Certificates link on the Certificate management utility
- Select the Manage Client Certificates from the Certificate management utility menu
  Manage Certificates| Manage Client Certificates
From the manage server certificate dialog user can perform the following functions:

- View Certificates
- Add Certificate
- Delete Certificate
- Set Private Key
- Export Private Key

To view, select a certificate to view and click the view certificate button. The view certificate button will open the view certificate dialog.
To add a certificate, click the Add Certificate button.
To delete, select a certificate to delete in the left pane and click Delete Certificate button.
To set private key, select a certificate and browse to the key file
To export private key, select a certificate and click the Export Private Key.

14.3 Creating New Keystores

Certificate management utility allows user to create new keystores. To create a new keystore select File| New Keystore from the certificate management utility main menu.
All the text fields are required, when ready to create keystore click OK, if user has the permissions to create keystores, a keystore will be created at the mentioned location.

14.4 Set Keystore Password

To set keystore password select ‘Set keystore password’ link from the Certificate management utility.

---

The default keystore password for Trusted Server Certificates is ‘changeit’

The default keystore password for Trusted Client Certificates is ‘passphrase’
When user changes the keystore password user will be prompted to enter the new password while trying to create a new SSL connection.
15 Preferences

In LDAP Admin Tool user can customize the behavior of its tools and set a lot of other preferences. To open Preferences dialog choose from one of the following options:

- Select Options| Preferences from the main menu
- Select preferences from the top tab folder
16 Tutorials

16.1 LDAP Tutorials

More Tutorials…

Connection

Connecting to a LDAP Server using LDAP Admin Tool
This tutorial explains how to create a new server profile and connect to a ldap server

Export

Exporting data to Excel from LDAP
This tutorial explains how to easily export data to excel from ldap

Exporting data as Update Statements from LDAP Server
This tutorial explains how to easily export data as update statements from a LDAP Server

Scheduling (Professional Edition)

Schedule LDAP Export to Excel
This tutorial explains how to easily schedule ldap export to Excel

SQLLDAP Select Statements

Query LDAP Using Select Statements
This tutorial explains how to query ldap using ldapsql select statements

Mass Edit Using Update Statements

Update an attribute of all entries using where clause
This tutorial explains how to update an attribute of all entries filtered using where clause
SQLLDAP Import (Update, Insert or Delete Statements)

SQLLDAP Import
This tutorial explains how to import a file containing sqlldap update statements

16.1.1 Connecting to a LDAP Server using LDAP Admin Tool

Once user has downloaded and installed LDAP Admin Tool, click on the LDAP Admin Tool shortcut to start the application. When the application is started it will look like the following:

- Click the Create a new Connection link or Click the New Connection button from the main tool bar. The New LDAP Connection wizard opens.
- Fill out the first wizard page that is displayed as follows:
1. The **Connection Name** field should contain a unique name for this connection, this can be anything.

2. The **Hostname** field should contain the address of the system running the directory instance (DNS name or IP Address of the machine. For example localhost or 127.0.0.1).

3. The **Port** field should contain the port number on which the directory server is listening for client connections. In most cases it is 389 for non SSL connections and 636 for SSL connections. For SSL connection, please also make sure to check the “Use SSL/TLS” check box.

4. The **Base DN** field can be left blank in most cases. Use the “Fetch Base DNs” button to select a base DN from the namingContexts attribute of the root DSE, or enter a specific base DN.

5. To make sure that the information entered correctly, click on the “Test Connection” button.

6. If user only intend to browse the data and don’t want to make any changes in the server, and if the server is configured to allow unauthenticated access click the “Finish” button to connect to directory server. However, if the server does not allow anonymous access, or if user may want to make any changes to the data in the
To enter credentials click the “Next” button.

1. To provide values for “Bind DN” and “Password”, first click the “Simple Authentication” radio button, this will enable the fields. Now enter the values and to make sure user typed in the right values click the “Check Credentials” button.

2. If user want to provide the optional values click the “Next” button to go to third page else click “Finish” to connect to the directory server.
In the wizard’s third page select the additional connection parameter. If not sure what they should be just leave them to default and click **Finish** to connect to directory server.

1. **Dereference Aliases** field sets a preference indicating whether or not aliases should be dereferenced, and if so, when

   - **Never** - do not dereference aliases
   - **Searching** - dereference aliases when searching but not when finding the base
   - **Finding** - dereference aliases when finding
   - **Always** - dereference aliases when finding the base object and when searching

2. **Entry count Limit** should contain the maximum number of search results to return for a search request. 0 means no limit. Default is 1000.

3. **Timeout** should contain the maximum time in seconds that the server should spend returning search results. This is a server-enforced limit. The default of 0 means no time limit.

4. **Enable Referrals** specifies whether to automatically follow referrals or not. Check the box to follow referrals automatically. Default is true.

5. To connect to the server on finish check the “Connect now” check box.
Click **Finish** to connect to directory server.

---

**Unable to Read Schema**

While connecting if user gets a warning like this, user needs to connect to directory server with credentials.

![Unable to read schema](image)

There are many ways to provide credentials for connection; the simplest way to provide credentials is to close the connection and click on the Open Connection Button from the tool bar, select the connection and enter the User DN and Password values or click configure and provide User DN and Password in the credentials tab.
Don’t know the complete User DN to bind with?

1. Connect to the directory server using anonymous bind (Click Finish on the wizard page 1).

2. After successful connection select the entry to bind with .. and select the Rebind using this entry from the right click context menu.

3. Enter the password and click save userDN and Password if to be used for future connections.
16.1.2 Exporting data to Excel from LDAP

- Select an entry to export and select “Excel Export” from right click context menu

On the wizard page, just provide the “Excel File Name”, increase the “Count Limit” to expected number of records, leave everything else to default and click finish.

OR

Fill out the wizard page that is displayed as follows and click finish:
Options | Description
--- | ---
Excel File Name | The Excel file to export to. Type in the full path or browse, to select the path on the file system. The drop-down list provides a history of recently used files.
Search Base | The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or browse to open the DN Selector dialog.
Filter | Enter a valid LDAP search filter. The drop-down list provides a history of recently used filters. A click to the filter editor button opens the
<table>
<thead>
<tr>
<th>Returning Attributes</th>
<th>Create Filter dialog.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returning Attributes</td>
<td>A list of attributes to return, the default is All User Attribute with DN and Operational Attributes. User can select the option from the drop down menu. The drop down menu provides the following options:</td>
</tr>
<tr>
<td></td>
<td>▶ All User Attributes with DN</td>
</tr>
<tr>
<td></td>
<td>▶ All User Attributes without DN</td>
</tr>
<tr>
<td></td>
<td>▶ All User Attributes with DN and with operational Attributes</td>
</tr>
<tr>
<td></td>
<td>▶ All User Attributes without DN and with operational Attributes</td>
</tr>
<tr>
<td></td>
<td>▶ Select from the List ....</td>
</tr>
<tr>
<td></td>
<td>Select from the List option will open the Select Attributes Dialog, where user can select the attributes to return. User can also open the select attributes dialog from the Browse.. Button.</td>
</tr>
<tr>
<td>Search Scope</td>
<td>User can choose from the following options:</td>
</tr>
<tr>
<td></td>
<td>▶ Base (Search only the base - this option will only return the base entry)</td>
</tr>
<tr>
<td></td>
<td>▶ One Level (Search only the immediate children of base DN)</td>
</tr>
<tr>
<td></td>
<td>▶ Subtree (Search the base DN and all its subentries)</td>
</tr>
<tr>
<td>Count Limit</td>
<td>The maximum number of entries the server should return, value 0 (zero) means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used.</td>
</tr>
<tr>
<td>Time Limit</td>
<td>The maximum time in milliseconds the server should search. Value 0 (zero) means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used.</td>
</tr>
<tr>
<td>Enable Referrals</td>
<td>An indicator whether to follow referrals or not.</td>
</tr>
<tr>
<td>Replace file if Exists</td>
<td>If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish.</td>
</tr>
<tr>
<td>Format DateTime</td>
<td>If user check this box the export process will automatically format the dateTime to local time zone date time. The default format is EEE MMM dd yyyy HH:mm:ss 'GMT'Z for e.g ( Sate Apr 12 2008 20:32:52 GMT -0500) . User can modify the date time format by clicking the DateTimeFormat Link</td>
</tr>
<tr>
<td>Restore Defaults</td>
<td>Restore Defaults will restore the default filter and all the other fields to default values.</td>
</tr>
</tbody>
</table>

To view the file on finish, click the “Open File”.
Select attributes to export
To select the attributes from the list, select the “Select from the List…” from the returning attributes drop down, it will open the dialog where user can select the list of attributes to export
Or type in the attributes separated by “,” like dn, cn, mail

16.1.3 Exporting data as Update Statements from LDAP Server

Select the entry to export and select “Update Statements” from right click context menu
On the wizard page, just provide the “update Statement File Name”, increase the “Count Limit” to expected number of records, leave everything else to default and click finish.

Or

Fill out the wizard page that is displayed as follows and click finish:

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>The SQL file to export to. Type in the full path or browse, to select the path on the file system. The drop-down list provides a history of recently used files.</td>
</tr>
</tbody>
</table>
**Search Base**
The base DN of the search. User could edit the DN or select a recently used DN from drop-down list or browse to open the DN Selector dialog.

**Filter**
Enter a valid Active Directory search filter. The drop-down list provides a history of recently used filters. A click to the filter editor button opens the Create Filter dialog.

**Search Scope**
User can choose from the following options:
- **Base** (Search only the base - this option will only return the base entry)
- **One Level** (Search only the immediate children of base DN)
- **Subtree** (Search the base DN and all its subentries)

**Count Limit**
The maximum number of entries the server should return, value 0 (zero) means no limit. Note that this value is a client-side limit; it's possible that also a server-side limit is used.

**Time Limit**
The maximum time in milliseconds the server should search. Value 0 (zero) means no limit. Note that this value is a client-side value; it's possible that also a server-side limit is used.

**Enable Referrals**
An indicator whether to follow referrals or not.

**Replace file if Exists**
If the export file already exists, user must permit to overwrite the file or it will ask when user clicks finish.

**Restore Defaults**
Restore Defaults will restore the default filter and all the other fields to default values.

To view the file on finish, click the "Open File".

---

**Select attributes to export**
To select the attributes from the list, select the “Select from the List…” from the returning attributes drop down, It will open the dialog where user can select the list of attributes to export. Or type in the attributes separated by “,” like dn, cn, mail.

16.1.4 Schedule LDAP Export to Excel

Select the entry to export and select “Excel Export” from the right click context menu, an export connection dialog opens. Enter all the fields and Click ‘Finish’ - Now look at the export file and if satisfied with the results, select ‘Excel Export’ again from the right click context menu, same excelf export dialog will open. This time select the ‘Schedule this Excel Export’ Button.
If using Simple Authentication, make sure that the save password box is checked and the credentials are admin credentials or credentials with password set to never expire otherwise task will fail when the credentials will expire. Click Next to continue.
If user wants scheduler to write to a file, check the 'Write to a file' button and provide the file name and file name prefix date time format. Make sure user to check the 'Replace File if exists' if using simple date time format like (mmddyy) and plan to run this task more than once a day. Click Next to continue.
Write to a File

Please Click 'Next' to continue...

- **Write to a File**
  - **Directory**: C:\Software
  - **File Name**: export.xls
  - **Prefix with Date Time**: MMddyyhhmmss
  - **Replace File if Exists**

---

**Options** | **Description**
--- | ---
Write To a File | Check the box if user want the scheduler to write the data to a file
Directory | Full path to the directory were scheduler will create the file
FileName | Name of the file to create and write data to
Prefix with | Check this box if user want the filename to be prefixed with the
<table>
<thead>
<tr>
<th><strong>DateTime</strong></th>
<th>datetime stamp, select the format from the drop down</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Replace File if Exists</strong></td>
<td>Check this box if user wants file to be overwritten or else user will get an error if file exists.</td>
</tr>
</tbody>
</table>

Check the 'Send Email' box if user want to send email after the scheduled process is over and/or want to send file as an attachment. Enter the necessary information and Click Next.
### Options

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMTP Host Name</td>
<td>This is the SMTP server to connect to. If user SMTP server requires username and password to connect - click the options.. and enter the default username and password.</td>
</tr>
<tr>
<td>Attach file to email</td>
<td>Check this box, if user want to send the file as an attachment</td>
</tr>
</tbody>
</table>
Enter a unique name for this task, select the text after header from the text box, open a command/terminal window, paste the text and click enter. Once satisfied with the results, create a scheduler task using windows scheduler or Linux cron. Click Finish to save this task.
### Save Task

Please follow the instructions in the text box and click 'Finish' to save task.

**Task Name:** New Task 1

---

**How to schedule jobs using Windows Scheduler?**

View Saved Tasks

---

Please copy the text after this header, click 'Finish' to save this task, open a command window, paste the text and make sure that it runs fine. When you are satisfied with the results create a scheduler task using Windows scheduler.

---

```
"C:\Software\Eclipse3.4\NewWorkspace\LdapAdminTool\LdapAdminTool.exe" "EXPORT" "New Task 1"
```

---

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Name</td>
<td>Enter a unique name for this task</td>
</tr>
</tbody>
</table>
16.1.5 Query LDAP Using Select Statement

To run select statements first connect to a directory server. After successful connection, select the SQL button from the top menu, this will open the sql tab where user can enter the sql statements. User can also create simple sql statement from the right click context menu (Bottom tree pane).

To create a simple sql statement to query all records from a container, Select entry and from right click context menu select 'Select this record and all Children')
Ctrl+v (or paste) to paste the data to the sql window and Click Run button to run the select statement.

When user runs the statement the results are displayed in a tab window - If the select statement contained any where clause user will see the ldap filter created by the select statement in the status bar.
16.1.6 Update an attribute of all entries using where clause

To run update statement first connect to a directory server, after successful connection, select the SQL button from the top menu, this will open the sql tab where user can enter the sql statements. User can also create simple sql statement from the right click context menu (Bottom tree pane).
To create a simple SQL statement to update all records within a container, select an entry and from right click context menu select 'Update this record and all Children')

Ctrl+v (or paste) to paste the data to the SQL window, modify the attribute to update.

For example to update postalcode to 60660 where mail attribute not equal to 'test@test.com' and sn not equal to 'test', modify the statement to
Update o=stooges set postalCode= '60660' where mail != 'test@test.com' and sn!='test'

Change the maximum results to number of records expected or '0' for unlimited. Click 'Run' to run the statement.

When user run the statement, A Status dialog will appear which provides the following information

- Number of entries to be updated
- Status of each entry (Whether the entry update was successful or not)
- Total status (how many succeeded how many failed)

Verify the entries to update and click 'Yes'
The Update Status dialog also gives user the ability to skip all errors or abort the operation after an error.
Warning: Don't run the update statement on attributes with multiple values as it will replace the attribute with a new single value. For multiple value please use UpdateReplace statement (For syntax and more information please see Difference Between Update, UpdateAdd & Update Replace Statement).

16.1.7 Importing SQLLDAP Statements from a file

This tutorial explains how to import sqlldap update, insert or delete statements from a sql file.

To import a sqlldap file containing update, insert or delete statements, select SQL from Import menu or (Ctrl + Alt + S). Select a file and Click Start Importing.
To import these records click the 'Start Importing...' button.
17 FAQs

Q. I can't see more than 1000 records and get a Size Limit Exceeded.

A. Note: If user is unable to retrieve more than 1000 records after changing the connection limit please try the following:

For LDAP Servers:
Disable Enable Ldap Paged Result control from Options|Preference|General (last check box).

For Active Directory:
Run search or export at the container level (not at the root level)
If searching using sql statement Modify the sql so that it runs at the immediate container level and not on RootDSE.
If still unable to retrieve more that 1000 records user may have to increase the MaxPageSize attribute of Active directory to report on more than 1000 records.

Q. How to set an entry attribute to null
A. To remove or set the value of an attribute to null, select the attribute value --> right click --> delete

This will remove the current attribute (set the attribute value to null) or if the attribute is multi-value attribute it will remove the current value.

Q. I am trying to connect to our Active Directory server from a machine which is connected to workgroup and not domain, I can I get the full DN string for connection?

A. Please logon on to a computer which is connected to domain.

Copy the following txt and save it into a file with the name "logininfo.vbs" run the file and it will give you the full logon information, use the full dn in the dn field.

Set objSysInfo = CreateObject( "ADSystemInfo" )
strUserName = objSysInfo.UserName
WScript.Echo "User Name: " & strUserName
18 References

18.1 RFCs

RFC 4510: LDAP: Technical Specification Road Map
RFC 4511: LDAP: The Protocol
RFC 4512: LDAP: Directory Information Models
RFC 4513: LDAP: Authentication Methods and Security Mechanisms
RFC 4514: LDAP: String Representation of Distinguished Names
RFC 4515: LDAP: String Representation of Search Filters
RFC 4516: LDAP: Uniform Resource Locator
RFC 4517: LDAP: Syntaxes and Matching Rules
RFC 4519: LDAP: Schema for User Applications
RFC 2849: The LDAP Data Interchange Format (LDIF) - Technical Specification

LDAP Libraries:

http://www.openldap.org/jldap/overview.html

JDBC-LDAP Libraries
http://www.openldap.org/jdbcldap/