This knowledge article aims to help users to perform the Dell Boomi integration with OpenLDAP.
Overview

This knowledge article aims to help users to perform the Dell Boomi integration with OpenLDAP. It defines a step-by-step process to provide with a comprehensive guide for users to get all the help they would need from understanding the outcomes to getting the installation and configuration done.
What is OpenLDAP?

First things first, for those who are not familiar with the OpenLDAP, let’s start by explaining this protocol before we start with the installation steps. But if you’re already aware of this protocol, we recommend you to skip this section and scroll down for the installation procedure right away. For IT professionals, time is always on the other side. So no point of reading what you already know.

In Windows Server, LDAP is a protocol which is used to access Active Directory object, user authentication and authorization. Additionally LDAP is also used to store your credentials in a network security system and can be retrieved with a password and the decrypted key allowing access to the services in a secure manner.

It’s important to know that the LDAP directory servers are often used as an authentication repository. Security is arguably the most important aspect of most directory servers. The directory servers are often used to store sensitive information like passwords and other account details. So there is absolutely no reason you shouldn’t be concerned about their security. In addition to its exciting benefits, the OpenLDAP is an absolutely secure protocol.
Installation Procedure for OpenLDAP

What are the basic ingredients of this recipe? To complete the installation of OpenLDAP, a user needs following two software, namely:

1. OpenLDAP s/w (Windows or Linux)
2. OpenLDAP Explorer tool

A step-by-step guide for OpenLDAP Installation

Complete Setup Wizard
As soon as you run `openldapforWindows.exe`, you will be prompted for the following,
Installation Procedure for OpenLDAP

After you confirm, you will be able to see the Welcome Screen for you to begin with the installation assistant as shown below.
Installation Procedure for OpenLDAP

Just like every software installation, after a couple of agreement slides, you will land a Destination Folder screen so you can select the location where the software will be installed.

Destination Folder
Click **Next** to install to the default folder or click **Change** to choose another.

Install OpenLDAP for Windows to:

C:\OpenLDAP  

Change
On the next screen, you will see Custom Setup options for you to exclude some of the features/tools of OpenLDAP for Windows if you do not need them.
To help you with choosing the appropriate utilities, we’ve pasted the following reference table for your assistance:

<table>
<thead>
<tr>
<th>Feature/Prerequisite</th>
<th>Whether Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenLDAP Client Tools</td>
<td>No</td>
<td>Command line utilities (ldapsearch, ldapcompare, ldapexop, etc.) for working with LDAP entries</td>
</tr>
<tr>
<td>OpenLDAP Server</td>
<td>Yes</td>
<td>OpenLDAP server components with different backend modules like LDIF, BDB, SQL DATABASE, etc.</td>
</tr>
<tr>
<td>BDB Backend Tools</td>
<td>No</td>
<td>Berkley Database tools</td>
</tr>
<tr>
<td>OpenLDAP Service</td>
<td>Yes</td>
<td>Configures and starts the OpenLDAP daemon</td>
</tr>
<tr>
<td>DejaVu Sans Mono Font for Windows Console</td>
<td>Yes</td>
<td>Installs a DejaVu Sans Mono font and adds it to the list of fonts available in the console. The font provides a wide range of Unicode characters.</td>
</tr>
</tbody>
</table>
The Additional Settings screen can be helpful if you need to change the default settings: your server name, IP address and SSL ports of the OpenLDAP server. You can also turn on or off the option to activate the statistics for the OpenLDAP instance. You can manage the server properties remotely without restarting the service by checking the dynamic configuration backend option.

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Additional Settings
Server Properties (optional)

The server components to be installed require a server name (IP address), a regular port and an SSL port to be assigned. You can leave or modify the default values below. If you want to manage the server properties remotely without restarting the service check the dynamic configuration backend option.

- Server name / IP Address: RCBAN0066
- Dynamic configuration backend
- Port: 389
- SSL Port: 636
- Listen on all interfaces
- Password: secret
During the installation process the firewall settings will be changed accordingly to the port configuration.

Also as shown in the following screenshot, the Backend Configuration offers up to five different backend engines for to select from, the descriptions are also provided in the following table.

**Database backend**
Server Properties (optional)

OpenLDAP supports many backends. This package offers the most popular Berkeley Database (BDB) and other backend engines out of the box. Please select the desired backend and click Next to configure it.

Please select one of the backend engines below: Berkeley Database Backend, Memory Mapped Database, LDAP Backend, LDIF Backend or SQL-Server Database Backend.
Installation Procedure for OpenLDAP

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDB</td>
<td>Berkeley Database Backend</td>
</tr>
<tr>
<td>MDB</td>
<td>Memory Mapped Database</td>
</tr>
<tr>
<td>LDAP</td>
<td>Proxy-Server in front of the real LDAP Server</td>
</tr>
<tr>
<td>LDIF</td>
<td>This module saves the results in LDIF files</td>
</tr>
<tr>
<td>SQL Server</td>
<td>Microsoft SQL Server 2005/2008</td>
</tr>
</tbody>
</table>

The page BDB Backend Settings configures the password for the root-user. If you like, you can also enable the statistics by simply ticking a box.
The final step in this setup wizard is to simply click on the install button. If you’re not sure about your selections, you can also review them by going back and repeating the same steps as explained in the above.

BDB backend settings
Configure the BDB backend properties

The Berkeley database is the common used LDAP backend engine. Most of the configuration settings are based on your environment you have to calculate by yourself. Here are only two options available, to give a general introduction. The including certificate is just an example how to use SSL. Please refer to the documentation for further customizing the settings in the configuration file slapd.conf.

Password lor root user: secret

Enable monitor database to collect statistics
After the successful installation you will be prompted to close the screen.
In order to configure your LDAP with the GUI, you will need an explorer tool called “LDAP Explorer Tool” which can be downloaded from the following link.

**Link:** https://sourceforge.net/projects/ldaptool/files/latest/download
Please choose an appropriate installation path for the explorer tool as shown in the following screenshot.
After successfully installing the explorer tool, upon clicking the desktop icon, the following page will appear on your computer screen.

![LDAP Configuration with the GUI](image)
LDAP Configuration with the GUI

Click on File->Configurations and you will be prompted to the below screen to enter the details to create a new configuration value.

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LDAP Configuration with the GUI

As provided below, all the fields must be filled with correct configuration values to confirm the connectivity. Following are the correct configuration values:

- Server Name or IP: According to your Computer Name or IP
- LDAP Port: 389; check the use default checkbox
- LDAP SSL Port: 636; check the use default checkbox
- Version: 3 (LDAP ver. 3)
- User DN: cn=Manager,dc=maxcrc,dc=com; Uncheck the anonymous login.
- Password: secret
- Base DN (Just click the Guess Value button)
- For everything else, just accept the default value
- Click the Test Connection button. After saving it, just click Open.
After the setup is finished, create an LDIF file in the directory ‘D:\OpenLDAP\ldifdata’ and name it ‘step1.ldif’. The contents are as follows:
After the setup is finished, create an LDIF file in the directory ‘D:\OpenLDAP\ldifdata’ and name it ‘step1.ldif’.

The contents are as follows:

```plaintext
## SECOND Level hierarchy
## ADD a single entry under FIRST (people) level
# this is an ENTRY sequence and is preceded by a BLANK line
# the ou: Human Resources is the department name

dn: cn=Sadhish,ou=people,dc=maxcrc,dc=com
objectclass: inetOrgPerson
cn: Sadhish
sn: Chinnappan
uid: Sadhish.Chinnappan
userpassword: Cyber3333
carlicense: HISCAR 4433
homephone: 555-111-2222
mail: Sadhish.Chinnappan1@royalcyber.com
description: Certified Integration Architect
ou: Cloud Integration
```
LDAP Configuration with the GUI

- Save the file and open a command line and run the following commands:
  - `cd D:\OpenLDAP\ClientTools`
  - `ldapmodify.exe -a -x -h localhost -p 389 -D "cn=manager,dc=maxcrc,dc=com" -f D:\OpenLDAP\ldifdata\step1.ldif -w secret`
- From your LDAP Explorer Tool menu, select File -> Open last configuration, and you will find the LDAP Directory is no longer empty and values are as below.
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![LDAP Configuration Diagram](image)
Now the LDAP setup is ready with the values and our sample Boomi process looks like below for the integration with LDAP.

**Process flow:**

- Start - No Data
- Try/Catch
- LDAP Get LDAP Connection
  - LDAPToDiskTransfer Parameters (1 of 1 set)
- Notify
- Disk
  - ToDiskConnection
  - DiskConnection
- End and continue
# LDAP Configuration with the GUI

## LDAP Connection Configuration:

<table>
<thead>
<tr>
<th>Connection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>RCBAN0066</td>
</tr>
<tr>
<td>Port Number</td>
<td>389</td>
</tr>
<tr>
<td>Option</td>
<td>Use SSL</td>
</tr>
<tr>
<td>Authentication Type</td>
<td>Simple</td>
</tr>
<tr>
<td>Principal Name</td>
<td>cn=manager,dc=maxcrc,dc=com</td>
</tr>
<tr>
<td>Password</td>
<td>&lt;Encrypted&gt;</td>
</tr>
<tr>
<td>Referrals</td>
<td>Ignore referrals</td>
</tr>
</tbody>
</table>
LDAP Configuration with the GUI

**LDAP Operation Configuration:**

- **LDAPToDiskTransfer** - LDAP Operation
- **Folder**
- **Add Description**

<table>
<thead>
<tr>
<th>Options</th>
<th>Archiving</th>
<th>Tracking</th>
<th>Caching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Action</td>
<td>GET</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object</td>
<td>inetOrgPerson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Profile</td>
<td>LDAP inetOrgPerson GET Response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error Behavior</td>
<td>Return Application Error Responses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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LDAP Connector Parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Static value of 'cn=Sadhish,ou=people,dc=maxrc,dc=com'</td>
</tr>
</tbody>
</table>
LDAP Configuration with the GUI

After completing the above setup, upon executing the process the files will get generated in the corresponding disk directory in JSON format (see below).

```
{
    "uid": [
        "Sadhish.Chinnappan"
    ],
    "mail": [
        "Sadhish.Chinnappan@royalcyber.com"
    ],
    "ou": [
        "Cloud Integration"
    ],
    "homePhone": [
        "555-111-2222"
    ],
    "objectClass": [
        "inetOrgPerson"
    ],
    "description": [
        "Certified Integration Architect"
    ],
    "sn": [
        "Chinnappan"
    ],
    "cn": [
        "Sadhish"
    ],
    "carLicense": [
        "MISCAR 4433"
    ]
}
```
LDAP Configuration with the GUI

We demonstrated a get operation only for the blog but you can also try out for single object or get/put operations for a list.

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