

Barre de navigation

Overview

This document describes how you can import hosts and users from OpenLDAP.

There are some steps you'll need to follow in order to be able to import users :

- Enable the OpenLDAP source,
- Configure the OpenLDAP module,
- Configure the connection to OpenLDAP,
- Configure the mapping rules,
- Configure the import rules.

What is already available in the Shinken Installation

To make your life a bit easier, a few configuration tasks have already been done for you:

1. Installation of the OpenLDAP import module,
2. Availability of an example of pre-configured OpenLDAP source ready to be customized for your first try.

On this page

- [Description](#)
- [La zone de Navigation](#)
 - [Le logo Shinken](#)
 - [Le bouton vue par défaut](#)
 - [Le bouton UP](#)
 - [Les menus](#)
- [Les notifications](#)
 - [Écart de temps entre le serveur et l'ordinateur du navigateur web utilisé](#)
 - [Licence](#)
 - [Affichage pour les utilisateurs et les administrateurs SI](#)
 - [Message d'information](#)
 - [Message d'erreur](#)
 - [Affichage pour les administrateurs Shinken](#)
 - [Message d'information](#)
 - [Message d'erreur](#)
- [Ajouter aux favoris](#)
- [Déconnexion](#)

Setup the pre-installed source

Installation and update script of Shinken will set up a default OpenLDAP source already configured:

- You can see it in the source table of the UI Configuration home page.
- This source uses 2 kinds of configuration files
 - **Source definition files**
 - **Configuration files** to customize the data mining.
 - the example is available in folder (/etc/shinken-user/source-data/source-data-openldap-sample/_configuration).



Advice

The first time, we advise you to only update Configuration files.

Then, you will have to decide if you want to have 1 or more OpenLDAP sources (if you have a big directory, it might be interesting to have many sources pointing of specific entries for performance gain).

Source definitions:

Enable the openldap-import Source

In the **Automatic Detection Modules** panel, click on the button to enable the module.



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You can find the following parameters in the source file `/etc/shinken/sources/openldap.cfg` :

Property	Example	Description
source_name	openldap-example	Name of the source displayed in the UI configuration home page. Must be unique.
order	2	Order in the merge algorithm of this source data. Look in the Synchronizer page for more information about merging order.

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import_interval	5	<p>The source will be run automatically every <i>import_interval</i> minutes.</p> <ul style="list-style-type: none"> if set to 0, the source will never be run automatically. <div style="border: 1px solid green; padding: 10px; margin-top: 10px;"> <p> Advice</p> <p>For your initial test, we advise you to set it to 0. Clicking on the Force import button in the home page will allow you to start the source whenever you want.</p> </div> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px; text-align: center;"> <p> Unknown Attachment</p> </div>
modules	openldap-example	Module definition used by Shinken to parse OpenLDAP data.
enabled	0	Activate or Disable the source. This property is also edited automatically when you use the Enabled button.
description	This source is about loading hosts and contacts from OpenLDAP	

Configure the OpenLDAP Module

Modify if necessary, the file `/etc/shinken/modules/openldap-import.cfg`

Property	Value	Description
module_name	openldap-example	Module's name. Must be unique.
module_type	ldap-import	Type of module. Don't change it as it refers to the shinken component.
connection_configuration_file	<code>/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-connection.json</code>	Connection information.
mapping_configuration_file	<code>/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-mapping.json</code>	<p>Mapping rules</p> <p>Mapping of attributes can be different between 2 Openlapd installation. You can specify in this file for example what will be the attribute's name of the user phone number.</p>
rules_configuration_file	<code>/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-rules.json</code>	<p>Rules configuration</p> <p>You can choose what kind of elements (host and contact) will be retrieved and define criteria to set automatically template attachment on them.</p>

Connection configuration

This file is used to make the connection to your OpenLDAP server.

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--	--

Property	Default	Description
url	<code>ldap://YOUR-DC-FQDN/</code>	URL of your OpenLDAP server.
ldap_protocol	3	Version of LDAP protocol (by default set to 3 if not set)

base	dc=YOUR,dc=DOMAIN,dc=com	Base OU for your objects discovery.
hosts_base	OU=DataCenter Servers,dc=YOUR,dc=DOMAIN,dc=com	Base OU for the hosts discovery.
hostgroups_base	OU=computers,dc=shinkendom,dc=local	Base OU for host groups discovery
contacts_base	dc=YOUR,dc=DOMAIN,dc=com	Base OU for the contacts discovery.
username	uid=user1,ou=peoples,dc=YOUR,dc=DOMAIN,dc=com	Username used to connect to the server.
password	PASSWORD	Password used to connect to the server.

Example

/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-connection.json


```
{
  "url": "ldap://vm-w2k8r2.shinkendom.local/",
  "ldap_protocol": 3,
  "base": "dc=shinkendom,dc=local",
  "hosts_base": "OU=serveurs,dc=shinkendom,dc=local",
  "hostgroups_base": "OU=serveurs,dc=shinkendom,dc=local",
  "contacts_base": "OU=utilisateurs,DC=shinkendom,DC=local",
  "username": "uid=user1,ou=peoples,dc=shinkendom,dc=local",
  "password": "P@ssword1"
}
```

Tip

The account used to request LDAP only need read-only access. You should create a user account with read-only access dedicated to the OpenLDAP import module.

Mapping rules configuration

This file allows you to do the mapping between OpenLDAP attributes and Shinken properties.

 Unless you know what you're doing here, you should keep this file unmodified.

You can find some customization in the **HOW TO** section.

File **/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-mapping.json**

/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-mapping.json

```
# IMPORTANT: Do not edit this file.
# To have your own mapping, copy it under the /etc/shinken-users/source-data/YOU_SOURCE_FOLDER
/_configuration/ directory and edit your copy instead.
# Note: comments should be with a # starting the line, NOT after a value
{
# first hosts properties (computer cat          object in openldap)
  "host.name": "name",
  "host.dNSHostName": "dNSHostName",
  "host.operatingSystem": "operatingSystem",
  "host.operatingSystemServicePack": "operatingSystemServicePack",
  "host.distinguishedName": "distinguishedName",
  "host.filter": "(objectClass=computer)",

# Now contact properties
  "contact.ClassFilter": "inetOrgPerson",
  "contact.categoryFilter": "",
  "contact.name": "uid",
  "contact.member": "uniqueMember",
  "contact.telephoneNumber": "telephoneNumber",
  "contact.mobile": "mobile",
# Co: for country
  "contact.co": "co",
# l: for city
  "contact.l": "l",
  "contact;company": "company",
  "contact.filter": "(objectClass=inetOrgPerson)",
# By default hostgroup are not requested. Setup a filter to enabled it
  "hostgroup.filter": ""
}
```

Import rules configuration

This file is used to apply **host template**, **contact template** and tags to the hosts and contacts while the import.

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Edit the file `/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-rules.json`

Tip

A host template called **windows** is already available in Shinken that checks : Cpu, Disks, EventLogApplication, EventLogSystem, Memory, Network Interface, Reboot, Services, Swap.

As a good start, you can configure the property **hosts_tag** in this way :

hosts_tag windows

The mandatory properties to modify are in green.

Property	Default	Description
hosts_tag	your-host-template	The host template "your-host-template" will be applied to any host discovered in LDAP during the import.
contacts_tag	generic-contact	The contact template "generic-contact" will be applied to any contact discovered in LDAP during the import.

contacts_group_filter	CN=Domain Admins,CN=Users,DC=YOUR,dc=DOMAIN,dc=com CN=OTHERGROUPS,OU=Groups,OU=Users Groups,DC=YOUR,dc=DOMAIN,dc=com	User group to import You can define many group by separating filter by
hosts_tag_citrix	OU=Terminal Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com	host template citrix applied
hosts_tag_database	OU=Database Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com	host template database applied
hosts_tag_exchange	OU=Email Collaboration Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com	host template exchange applied
hosts_tag_fileprint	OU=Files Print Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com	Host template fileprint applied
hosts_match_operatingSystem_windows	windows	Host template windows will be applied for hosts matching "windows" in the property operatingSystem (Ldap data).
hosts_match_operatingSystem_windows2008	windows*. *2008(?!.*(?:r2))	Host template windows2008 applied for hosts matching "windows*. *2008(?!.*(?:r2))" in the property operatingSystem (Ldap data).
hosts_match_operatingSystem_windows2008r2	windows*. *2008*. *r2	Host template windows 2008r2
hosts_match_operatingSystem_windows2003	windows*. *2003	Host template windows2003
hosts_match_operatingSystem_windows2012	windows*. *2012(?!.*(?:r2))	Host template windows2012
hosts_match_operatingSystem_windows2012r2	windows*. *2012*. *r2	Host template windows2012r2
hosts_match_operatingSystem_windows2000	windows*. *2000	Host template windows 2000
hosts_match_operatingSystem_winxp	windows*. *xp	Host template windows xp
hosts_match_operatingSystem_enterprise	Enterprise	Host template Enterprise
hosts_match_operatingSystemServicePack_sp1	Service Pack 1	Host template Service Pack 1
hosts_match_operatingSystemServicePack_sp2	Service Pack 2	Host template Service Pack 2
hosts_match_operatingSystemServicePack_sp3	Service Pack 3	Host template Service Pack 3
contacts_match_memberOf_domain-admins	CN=Domain Admins,CN=Users,DC=YOUR,dc=DOMAIN,dc=com	Contact tag domains-admins



Tip

See below about the tag functionality.

Example :

/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-rules.json

```
{
  "hosts_tag": "windows",
  "hosts_tag_citrix": "OU=citrix,OU=serveurs,dc=shinken,dc=local",
  "hosts_tag_database": "OU=database,OU=serveurs,dc=shinken,dc=local",
  "hosts_tag_exchange": "OU=exchange,OU=serveurs,dc=shinken,dc=local",
  "hosts_tag_fileprint": "OU=fileprint,OU=serveurs,dc=shinken,dc=local",
  "hosts_tag_windows": "OU=infra,OU=serveurs,dc=shinken,dc=local",
  "hosts_match_operatingSystem_windows": "windows",
  "hosts_match_operatingSystem_windows2008": "windows*. *2008(?!.*(?:r2))",
  "hosts_match_operatingSystem_windows2008r2": "windows*. *2008*. *r2",
  "hosts_match_operatingSystem_windows2003": "windows*. *2003",
  "hosts_match_operatingSystem_windows2012": "windows*. *2012(?!.*(?:r2))",
  "hosts_match_operatingSystem_windows2012r2": "windows*. *2012*. *r2",
  "hosts_match_operatingSystem_windows2000": "windows*. *2000",
  "hosts_match_operatingSystem_windowsxp": "windows*. *xp",
  "hosts_match_operatingSystem_enterprise": "Enterprise",
  "hosts_match_operatingSystemServicePack_sp1": "Service Pack 1",
  "hosts_match_operatingSystemServicePack_sp2": "Service Pack 2",
  "hosts_match_operatingSystemServicePack_sp3": "Service Pack 3",

  "contacts_tag": "generic-contact",
  "contacts_group_filter": "CN=paris_shinken_users,OU=utilisateurs,DC=shinkendom,DC=local |
CN=bordeaux_shinken_users,OU=utilisateurs,DC=shinkendom,DC=local",
  "contacts_match_memberOf_domain-admins": "OU=shinken_admins,OU=utilisateurs,DC=shinkendom,DC=local"
}
```



If you want to import all objects of an OU instead of groups, set no **contact_group_filter**.

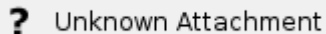
All objects inside **contacts_base** (file *openldap-connection.json*) filtered via **contact.filter** (file *openldap-mapping.json*) will be imported.

Import the objects

After each source modification, you have to restart the [Synchronizer Daemon](#).

	<code>/etc/init.d/shinken-synchronizer restart</code>
--	---

Go to the [UI Configuration home page](#), if your configuration is ok you should have an output "**OK: Import clean.**"



Now do a "**Force import**" in clicking on

In the "**Elements >**" panel you will see new elements appearing.



The next step will be to import those new objects.

HOW TO

Import users of multiple groups

With the OpenLDAP source, it's possible to import users that are in different groups.

? Unknown Attachment	Edit the file <code>/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-rules.json</code>
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In `contact_filters`, add the Distinguished Name (DN) to the different user groups separated by a pipe.

<pre><code>/etc/shinken-user/source-data/source-data-openldap-sample/_configuration/openldap-rules.json</code></pre> <pre><code>"contacts_group_filter": "CN=shinken_admins,OU=utilisateurs,DC=shinkendom,DC=local CN=shinken_users,OU=utilisateurs,DC=shinkendom,DC=local",</code></pre>

Restart the Synchronizer Daemon to apply your modification.

? Unknown Attachment	<code>/etc/init.d/shinken-synchronizer restart</code>
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Tag hosts and users to add more properties before import

This source also includes other parameters that will allow you to automatically “tag” your servers based on your OpenLDAP information:

- **hosts_tag**: each loaded hosts will have at least this tag
- **contacts_tag**: each loaded contacts will have at least this tag

Contacts to load can be easily filtered with the `contacts_filters` parameter.

Tagging hosts based on their OU (Organization Unit) is possible. This is done with the `hosts_tag_*` parameters.

For example, if you want to add the **exchange** tag to all the servers which are below

the `OU=Email Collaboration Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com` OU,

you can set this parameter:

```
hosts_tag_exchange OU=Email Collaboration Servers,OU=DataCenter Servers,DC=YOUR,dc=DOMAIN,dc=com
```

Setting up ldap object matching with the `hosts_match_*` parameters is also possible.

For example, if you want to add the **enterprise** tag to all the ldap object that match the string **Enterprise** in their `operatingSystem` property,

you only need to setup :

```
hosts_match_operatingSystem_enterprise Enterprise
```

This also works with **groups**.

For example, if you want to add the **domain-admins** tag to the users that are in the `CN=Domain Admins, CN=Users,DC=YOUR,dc=DOMAIN,dc=com` OU,

setup :

contacts_match_memberOf_domain-admins CN=Domain Admins,CN=Users,DC=YOUR,dc=DOMAIN,dc=com

Creation of your own sources

Having multiple sources can help you if you have a huge directory and want to have the control on what to import at any time. As an example, you have an OU containing *Paris users* and another OU containing *Bordeaux users*. At a given time, you want to import only *Bordeaux users*. If you create two sources, you can activate just the Bordeaux source and import its objects.



Every time you have to customize Shinken Sources, you have to do it in the **/etc/shinken-user** folder.

You will have to do the following to create your own source :

- Create a module
- Create a source
- Configure the source-data
- Configure the Synchronizer daemon to take the new module in consideration

Create a module

```
cd /etc/shinken/modules/  
cp openldap-import.cfg openldap-import-Bordeaux.cfg
```

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Edit the file openldap-import-Bordeaux.cfg

Delete the 4 lines beginning from

Shinken Enterprise

to

End of Shinken Enterprise part

Modify

```
module_name            openldap-example
```

With

```
module_name            openldap-Bordeaux
```

Modify the following lines to point to the new source data (see below for the source data configuration)

```
connection_configuration_file  
rules_configuration_file  
mapping_configuration_file
```

Example :

```
# Configuration file for your OpenLDAP connection (server, user, password, ...)
connection_configuration_file /etc/shinken-user/source-data/source-data-openldap-Bordeaux
/_configuration/openldap-connection.json

# Configuration file for your import rules (like OU=>template rules)
rules_configuration_file /etc/shinken-user/source-data/source-data-openldap-Bordeaux/_configuration
/openldap-rules.json

# Configuration file for your ldap fields mapping (like for openldap users)
mapping_configuration_file /etc/shinken-user/source-data/source-data-openldap-Bordeaux/_configuration
/openldap-mapping.json
```

Create a source

```
cd /etc/shinken/sources/
cp openldap.cfg openldap-Bordeaux.cfg
```

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Edit the file openldap-Bordeaux.cfg
Delete the 4 lines beginning from
Shinken Enterprise
to
End of Shinken Enterprise part

Modify

```
source_name      openldap-example
modules          openldap-example
```

With

```
source_name      openldap-Bordeaux
modules          openldap-Bordeaux
```

Configure the source data

To create your own import source, do the following :

```
cd /etc/shinken-user/source-data
cp -r source-data-openldap-sample source-data-openldap-Bordeaux
```

In our example :

```
cp -r source-data-openldap-sample source-data-openldap-Bordeaux
```



Tip

Let's consider that the folder in which you will have your new OpenLDAP source is : /etc/shinken-user/source-data/source-data-openldap-Bordeaux/
inside it, the folder _configuration contain all configuration file to customize the source behavior.

See above on how to configure the source data

Configure the Synchronizer Daemon

? Unknown Attachment	Edit the file <code>/etc/shinken/synchronizers/synchronizer-master.cfg</code> At the end of the "sources" line, add you new source.
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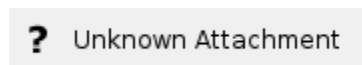
Example :

```
sources          syncui ,cfg-file-shinken ,active-dir-example ,sync-vmware ,cfg-file-nagios ,discovery ,
openldap-example ,openldap-Bordeaux
```

Restart the Synchronizer Daemon to apply your modification.

? Unknown Attachment	<code>/etc/init.d/shinken-synchronizer restart</code>
----------------------	---

you can see your new source :



Apply contact templates to specific contact groups

During the import process a contact template is applied on every contacts thanks to the "**contacts_tag**" property found in the `openldap-rules.json`.

However, you have the possibility to apply contact templates to specific contact groups with the following properties (file `openldap-rules.json`):

Property	Value	Description
AddFirst_template_(domain-admins)_to_contact_matching_[memberOf]	CN=Domain Admins, CN=Users,DC=YOUR, dc=DOMAIN,dc=com	Add the " domain-admins " contact template to every contacts matching the value "CN=Domain Admins,CN=Users,DC=YOUR,dc=DOMAIN,dc=com" in its attribute " memberOf " first in list (before the <code>contacts_tag</code> template).
AddLast_template_(users)_to_contact_matching_[memberOf]	CN=Users,DC=YOUR, dc=DOMAIN,dc=com	Add the " users " contact template to every contacts matching the value "CN=Users,DC=YOUR,dc=DOMAIN,dc=com" in its attribute " memberOf " last in list (after the <code>contacts_tag</code> template).
Force_template_(specific)_to_contact_matching_[memberOf]	CN=SpecificUsers, DC=YOUR,dc=DOMAIN, dc=com	Add the " specific " contact template to every contacts matching the value "CN=SpecificUsers,DC=YOUR,dc=DOMAIN,dc=com" in its attribute " memberOf " all alone (the <code>contacts_tag</code> template will not be applied).

If you want to customize your OpenLDAP directory by adding a new property, for example called `countryCode` and to apply a template to it, you can do it like :

```
"AddFirst_template_(domain-admins)_to_contact_matching_[countryCode]" : "33"
```

By default, there is no "memberOf" attribute in OpenLDAP and therefore it's a virtual attribute.

 **Tip**

Keep in mind that the group on which you want to apply specific contact templates must be part of the "**contact_tag**" filter.

For example, let's consider you want to apply the contact templates to the groups listed in the table above.

You have to set "**contacts_tag**" like this :

```
"contacts_tag" : "CN=Domain Admins,CN=Users,DC=YOUR,dc=DOMAIN,dc=com|CN=User,DC=YOUR,dc=DOMAIN,dc=com|CN=Specific Users,DC=YOUR,dc=DOMAIN,dc=com"
```