

---

# **FusionDirectory User Manual Documentation**

***Version 1.3***

**Benoit Mortier Paola Penati**

**mai 24, 2021**



---

## Table des matières

---

<b>1</b>	<b>What is FusionDirectory ?</b>	<b>3</b>
1.1	Features . . . . .	3
1.2	Acls and roles . . . . .	3
1.3	FusionDirectory Triggers . . . . .	4
1.4	The interaction with non-LDAP applications . . . . .	4
<b>2</b>	<b>Prerequisites</b>	<b>5</b>
2.1	Web server . . . . .	5
2.2	PHP . . . . .	5
2.3	LDAP server . . . . .	6
<b>3</b>	<b>Certified distributions</b>	<b>7</b>
<b>4</b>	<b>Install FusionDirectory</b>	<b>9</b>
4.1	Getting the official GPG keys to active package signature . . . . .	9
4.2	Debian Repository . . . . .	10
4.3	RPM Repository . . . . .	10
4.4	Downloading the source . . . . .	12
4.5	Install FusionDirectory on Debian . . . . .	12
4.6	Install FusionDirectory on Centos . . . . .	13
4.7	Setup FusionDirectory . . . . .	14
<b>5</b>	<b>Update FusionDirectory</b>	<b>23</b>
5.1	Supported . . . . .	23
5.2	Unsupported version . . . . .	28
<b>6</b>	<b>Core</b>	<b>117</b>
6.1	Main menu . . . . .	117
6.2	Departments . . . . .	121
6.3	Users . . . . .	123
6.4	Groups . . . . .	130
6.5	ACL Roles . . . . .	133
6.6	ACL Assignments . . . . .	135
6.7	Dashboard . . . . .	137
<b>7</b>	<b>Configuration</b>	<b>139</b>
7.1	Configuration . . . . .	139

7.2	Configure Password recovery . . . . .	143
<b>8</b>	<b>ACLs</b>	<b>147</b>
8.1	Introductions . . . . .	147
8.2	Functionalities . . . . .	148
8.3	Create ACLs . . . . .	151
8.4	Use ACLs . . . . .	155
8.5	Use ACLs with department . . . . .	159
<b>9</b>	<b>Plugins</b>	<b>163</b>
9.1	Alias . . . . .	163
9.2	Applications . . . . .	167
9.3	Audit . . . . .	171
9.4	Autofs . . . . .	173
9.5	Certificates . . . . .	175
9.6	Community . . . . .	176
9.7	Cyrus . . . . .	180
9.8	Developers . . . . .	184
9.9	Dovecot . . . . .	187
9.10	Dsa . . . . .	190
9.11	EJBCA . . . . .	193
9.12	GPG . . . . .	197
9.13	Ipmi . . . . .	199
9.14	Ldapdump . . . . .	201
9.15	Ldap manager . . . . .	204
9.16	Mail . . . . .	207
9.17	Newsletter . . . . .	212
9.18	Personal . . . . .	215
9.19	Pureftpd . . . . .	218
9.20	Renater Partage . . . . .	220
9.21	Supann . . . . .	227
9.22	Sinaps . . . . .	230
9.23	Sogo . . . . .	234
9.24	Squid . . . . .	237
9.25	SSH . . . . .	239
9.26	Subcontracting . . . . .	241
9.27	User-reminder . . . . .	243
9.28	Weblink . . . . .	246
9.29	Webservice . . . . .	248
<b>10</b>	<b>Templates</b>	<b>251</b>
10.1	Functionalities . . . . .	251
10.2	Create a user template . . . . .	251
10.3	Use a user template . . . . .	254
10.4	Macros . . . . .	257
<b>11</b>	<b>Triggers</b>	<b>261</b>
11.1	Functionalities . . . . .	261
11.2	Configuration . . . . .	263
11.3	Most frequent mistakes . . . . .	265
<b>12</b>	<b>Faq</b>	<b>267</b>
12.1	Acls Issues . . . . .	267
12.2	Migrations issues . . . . .	268
12.3	Administrators issues . . . . .	268

<b>13 Bug report</b>	<b>269</b>
13.1 Welcome . . . . .	269
13.2 Code Of Conduct . . . . .	269
13.3 I just have a question ! . . . . .	270
13.4 Reporting bug or missing features . . . . .	270
<b>14 Release Policy</b>	<b>273</b>
14.1 FusionDirectory Version policy . . . . .	273
14.2 FusionDirectory Life Cycle . . . . .	274
<b>15 License</b>	<b>275</b>
15.1 License . . . . .	275
<b>16 Schema2ldif</b>	<b>277</b>
16.1 What is schema2ldif? . . . . .	277
16.2 Prerequisites . . . . .	277
16.3 Install Schema2ldif . . . . .	278
16.4 ldap-schema-manager . . . . .	280
16.5 Schema2ldif . . . . .	281
16.6 License . . . . .	282
<b>17 Argonaut</b>	<b>283</b>
17.1 What is Argonaut? . . . . .	285
17.2 Install Argonaut . . . . .	285
17.3 Configure Argonaut . . . . .	288
17.4 Applications . . . . .	289
17.5 Contribute . . . . .	293
17.6 License . . . . .	293
<b>18 Support</b>	<b>295</b>
18.1 Professional paid support . . . . .	295
18.2 Community support . . . . .	296
<b>19 Security</b>	<b>297</b>
19.1 Digital signature . . . . .	297
19.2 Security issues . . . . .	298
<b>20 Authors</b>	<b>299</b>
20.1 Original GOsa <sup>2</sup> AUTHORS . . . . .	299
20.2 FusionDirectory AUTHORS . . . . .	300
20.3 FusionDirectory libraries . . . . .	302
<b>21 Contact Us</b>	<b>303</b>
<b>22 Code of Conduct</b>	<b>305</b>
22.1 Our Pledge . . . . .	305
22.2 Our Standards . . . . .	305
22.3 Our Responsibilities . . . . .	306
22.4 Scope . . . . .	306
22.5 Enforcement . . . . .	306
22.6 Attribution . . . . .	306





Contents :



Contents :



---

## What is FusionDirectory ?

---

**FusionDirectory** provides a solution to daily management of data stored in an LDAP directory. Becoming the cornerstone of the information system, the corporate directory becomes more complex offering more data and managing more infrastructure services.

This interface is simple and can be used to delegate fully or partly the data management to non-specialists.

### 1.1 Features

- Users, groups, mail, ssh, personal management.
- Supann norm Management.
- **PARTAGE** mail integration
- Systems management : dhcp, dns, sudo, all kind of systems.
- System deployment management : **FAI**, **OPSI**
- Complex Roles Management.
- Access to multiple LDAP trees.
- FusionDirectory Triggers

### 1.2 Acls and roles

- ACLs are only used by FusionDirectory and not the underlying ldap server.
- ACLs can be assigned to roles.
  - Global administrator : Can do everything.
  - Local administrator : Can manage users and groups and also a branch.
  - Human resources : Can create users from template to optimize the arrival of new people.
  - User : Will only be able to change his data permitted by an administrator

## 1.3 FusionDirectory Triggers

FusionDirectory incorporates a series of triggers that can launch a specific action based on a task FusionDirectory must run.

These triggers are associated with a content type (LDAP user, group, server, password, service and the triggering action (create, edit, delete, change password ... )

For example, when creating a user, a script generation form can be executed automatically with information from the LDAP server.

This can be useful for generating badges with photo, a form of access to the canteen or sending an email to warn other services of the actual arrival of the person.

This system is also convenient when we want to deploy the account of that person on an application that does not support LDAP.

Another example is when a user leaves, you must :

- archive and delete his mailbox
- archive and remove its network space
- delete him from third party applications not connected to LDAP.

All of this can be easily done by shell scripts (at least in UNIX environment) and run automatically after the suppression of the person by the administrator in FusionDirectory

## 1.4 The interaction with non-LDAP applications

FusionDirectory stores information of a service or a server on an LDAP server. How about when this service does not have the opportunity to interact with LDAP ?

This question can be solved by creating :

- LDAP schema suitable for application to the LDAP server
- A plugin for its management in FusionDirectory with the simple plugin [API](#)
- An [Argonaut](#) module for the client installed on the server

# CHAPITRE 2

---

## Prerequisites

---

FusionDirectory is a Web application that will need :

- a webservice;
- PHP;
- an ldap server;
- perl

### 2.1 Web server

FusionDirectory requires a web server that supports PHP, like :

- [Apache 2 \(or more recent\)](#);
- [Nginx](#);
- [Microsoft IIS](#).

### 2.2 PHP

As of 1.3 release, FusionDirectory requires [PHP 5.6](#) or more recent.

---

**Note :** We recommend to use the most recent stable PHP release for better performances.

---

## 2.2.1 Mandatory extensions

Following PHP extensions are required for the app to work properly :

- `cas` : for CAS authentication ;
- `curl` : to communicate with different types of servers and protocols
- `filter` : to filters a variable with a specified filter ;
- `fpdf` : to export data in pdf format ;
- `gd` : to generate images ;
- `iconv` : for the samba integration ;
- `imagick` : to handle images ;
- `imap` : to handle imap servers management ;
- `json` : to get support for JSON data format ;
- `mbstring` : to manage multi bytes characters ;
- `ldap` : to connect and query the ldap server ;
- `openssl` : secured communications and generation of secure tokens ;
- `session` : to get user sessions support ;
- `simplexml` ;
- `xml` .

## 2.2.2 Optional extensions

---

**Note :** Even if those extensions are not mandatory, we advise you to install them anyways.

---

Following PHP extensions are required for some extra features of FusionDirectory :

- `gettext` : for an internationalized interface.
- `mhash` : to make use of SSHA encryption
- `sha1` : to make use of SSHA encryption
- `zlib` : to handle snapshots ;

## 2.2.3 Configuration

PHP configuration file (`php.ini`) must be adapted to reflect following variables :

```
expose_php = Off;
implicit_flush = Off;
memory_limit = 128M ;      // max memory limit
max_execution_time = 30 ;  // not mandatory but advised
session.auto_start = off ;
```

## 2.3 LDAP server

For FusionDirectory to work you need an ldap server.

Servers know to work are :

- OpenLDAP
- 389DS

---

### Certified distributions

---

We certify FusionDirectory with all the most common distributions, here is a table which summarizes the level of support by distribution and version.

Fusiondirectory need at least PHP 5.6.

- Fusiondirectory 1.3 need  $\geq$  PHP 5.6
- Fusiondirectory 1.4 need  $\geq$  PHP 7.0

DISTRIBUTION	FusionDirectory 1.2	FusionDirectory 1.3
Debian Jessie	need a support contract	need a support contract
Debian Stretch	not supported	supported
Debian Buster	not supported	supported
Ubuntu 16.04 LTS	need a support contract	supported
Ubuntu 18.04 LTS	not supported	supported
Ubuntu 20.04 LTS	not supported	work in progress
Centos 7	need a support contract	supported
Centos 8	not supported	not supported



---

## Install FusionDirectory

---

Install FusionDirectory

### 4.1 Getting the official GPG keys to active package signature

Our packages for Debian and Centos/RHEL are signed with the official gpg key of the project.

#### 4.1.1 Getting the new official gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xD744D55EACDA69FF  
  
gpg --export -a "FusionDirectory Project Signing Key <contact@fusiondirectory.org>" > FD-  
↪archive-key
```

#### 4.1.2 Getting the development gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xADD3A1B88B29AE4A  
  
gpg --export -a "FusionDirectory Packagers <fusiondirectory-packages@lists.  
↪fusiondirectory.org>" > FD-archive-dev-key
```

### 4.1.3 Adding the key to apt for Debian/Ubuntu

```
apt-key add FD-archive-key
```

### 4.1.4 Adding the key to RPM for Centos / RHEL / Scientific Linux

```
cp FD-archive-key /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY  
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

## 4.2 Debian Repository

### 4.2.1 Debian Stretch

To use the latest published version for **stretch** put this in your `/etc/apt/sources.list`

```
#fusiondirectory repository  
deb http://repos.fusiondirectory.org/fusiondirectory-current/debian-stretch stretch main
```

```
#fusiondirectory extra repository  
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-stretch stretch main
```

### 4.2.2 Debian Jessie

To use the latest published version for **jessie** put this in your `/etc/apt/sources.list`

```
#fusiondirectory repository  
deb http://repos.fusiondirectory.org/fusiondirectory-current/debian-jessie jessie main
```

```
#fusiondirectory extra repository  
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie jessie main
```

!!! Wheezy is deprecated and will not be maintained anymore, the latest release is 1.2!!!

## 4.3 RPM Repository

A repository is available for CentOS 6 / Centos7

This repository contains the stable and oldstable version of FusionDirectory. It also contains the extra packages needed to use FusionDirectory.

To use the latest published version put this in your yum config :



### 4.3.1 CentOS 6 / RHEL 6

To use the latest published version put this

```
[fusiondirectory]
name=Fusiondirectory Packages for RHEL / CentOS 6
baseurl=http://repos.fusiondirectory.org/fusiondirectory-current/rhel6/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

```
[fusiondirectory-extra]
name=Fusiondirectory Extra Packages for RHEL / CentOS 6
baseurl=http://repos.fusiondirectory.org/fusiondirectory-extra/rhel6/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

SRPMS are also available in the following repo :

```
[fusiondirectory-src]
name=Fusiondirectory Packages for RHEL / CentOS 6
baseurl=http://repos.fusiondirectory.org/fusiondirectory-current/rhel6/SRPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

!!! Scientific Linux is deprecated and will not be maintained anymore, you can switch the centos packages !!!

### 4.3.2 CentOS 7 / RHEL 7

To use the latest published version put this

```
[fusiondirectory]
name=Fusiondirectory Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/fusiondirectory-current/rhel7/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

```
[fusiondirectory-extra]
name=Fusiondirectory Extra Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/fusiondirectory-extra/rhel7/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

SRPMS are also available in the following repo :

```
[fusiondirectory-src]
name=Fusiondirectory Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/fusiondirectory-current/rhel7/SRPMS/
```

(suite sur la page suivante)

(suite de la page précédente)

```
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

## 4.4 Downloading the source

The source download area is here

<http://repos.fusiondirectory.org/sources/>

## 4.5 Install FusionDirectory on Debian

Install FusionDirectory

### 4.5.1 Installing Dependencies

All The needed dependancies are resolved by the debian packages

---

**Note :** The repositories are in https for Debian so you will need to install **apt-transport-https**

---

### 4.5.2 Install the FusionDirectory Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your Debian version

*Debian Stretch*

*Debian Jessie*

Create 2 new *.list* file your favorite text editor in */etc/apt/source.list.d*

- One for fusiondirectory
- One for fusiondirectory-extra

### 4.5.3 Install FusionDirectory

You can then install FusionDirectory by running :

```
apt-get install fusiondirectory
apt-get install fusiondirectory-schema
```

#### 4.5.4 FusionDirectory Schema Setup

Now that we have FusionDirectory installed, we need to install the FusionDirectory schemas into our LDAP database. We can easily do this by running :

```
fusiondirectory-insert-schema
```

You should see the FusionDirectory setup page come up by going to :

<http://SERVER-IP/fusiondirectory>

## 4.6 Install FusionDirectory on Centos

Install FusionDirectory

### 4.6.1 Installing Dependencies

FusionDirectory requires both the [EPEL](#) repository and the [REMI](#) repository for PHP 7.1

— To install epel

```
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
```

— To install remi repository

```
yum install http://rpms.remirepo.net/enterprise/remi-release-7.rpm
yum install yum-utils
```

— To enable Remi repo an PHP 7.1

```
yum-config-manager --enable remi-php71
yum-config-manager --enable remi
yum update
```

### 4.6.2 Install the FusionDirectory Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your centos version

*CentOS 6 / RHEL 6*

*CentOS 7 / RHEL 7*

Create 2 new repo file your favorite text editor.

- One for fusiondirectory
- One for fusiondirectory-extra

### 4.6.3 Install FusionDirectory

You can then install FusionDirectory by running :

```
yum install -y fusiondirectory
yum install -y fusiondirectory-selinux fusiondirectory-schema schema2ldif
```

**Avertissement :** If you use SELinux (same in permissive), you must install fusiondirectory-selinux !

### 4.6.4 FusionDirectory Schema Setup

Now that we have FusionDirectory installed, we need to install the FusionDirectory schemas into our LDAP database.

We can easily do this by running :

```
fusiondirectory-insert-schema -i /etc/openldap/schema/cosine.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/inetorgperson.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/nis.schema
fusiondirectory-insert-schema
```

Now we just need to restart apache :

```
systemctl restart httpd
```

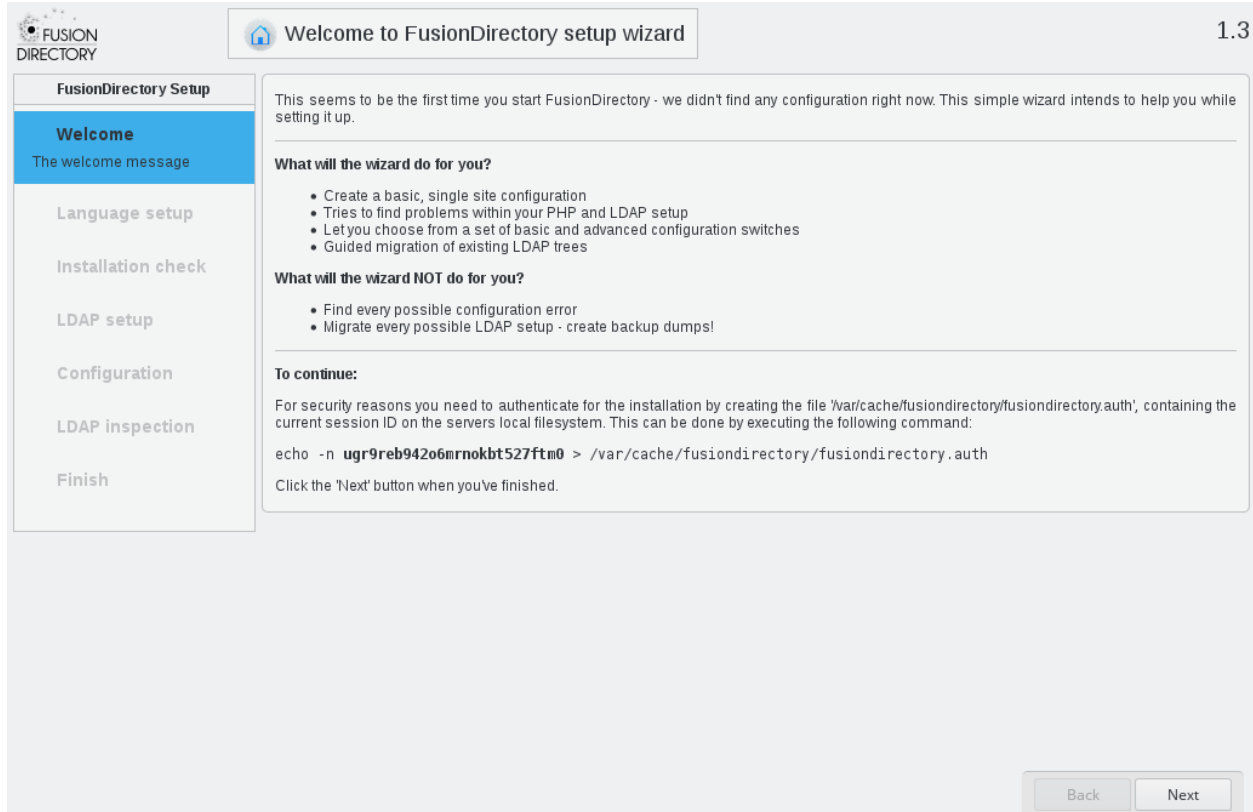
You should see the FusionDirectory setup page come up by going to :

<http://SERVER-IP/fusiondirectory>

## 4.7 Setup FusionDirectory

Once FusionDirectory is installed you can load it in your browser and go through the web setup.

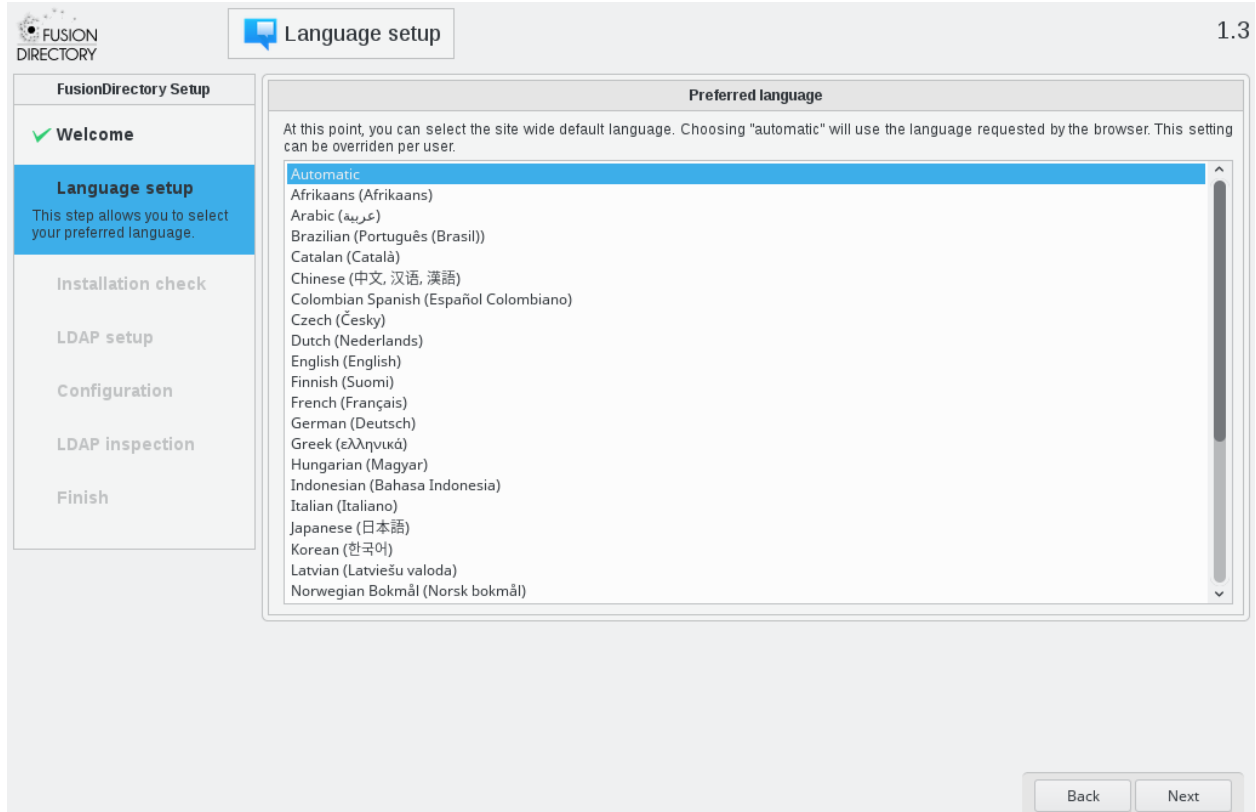
## 4.7.1 Welcome



The first step requires you to put a token in a file on the server, to make sure you have access to the server.


Note that you may need to replace the « > » by « | sudo tee » if you need to use sudo to access the location.


## 4.7.2 Language



The second step simply lets you select the language in which FusionDirectory and the web setup should be displayed at. If your browser is correctly set it's better to select « Automatic » and let you browser ask FusionDirectory for your preferred language.


### 4.7.3 Checks






**Installation check**

1.3

FusionDirectory Setup

 **Welcome**

 **Language setup**

 **Installation check**  
 Basic checks for PHP compatibility and extensions

LDAP setup

Configuration

LDAP inspection

Finish

PHP module and extension checks

Checking PHP version	Ok
Checking for LDAP support	Ok
Checking for gettext support	Ok
Checking for curl support	Ok
Checking cryptographically secure pseudo-random integers	Ok
Checking for json support	Ok
Checking for filter support	Ok
Checking for iconv support	Ok
Checking for hash method support	Ok
Checking for IMAP support	Ok
Checking for mbstring support	Ok
Checking for imagick support	Ok
Checking for compression module support	Ok

PHP setup configuration (show information)


register_globals = off	Ok
session.gc_maxlifetime >= 86400	Ok
session.auto_start = Off	Ok
memory_limit >= 128	Ok
implicit_flush = Off	Ok
max_execution_time >= 30	Ok
expose_php = Off	Ok
zend.ze1_compatibility_mode = Off	Ok

Back

Next

The third step runs some checks on you PHP installation to make sure everything is installed and setup as needed by FusionDirectory.

## 4.7.4 LDAP

 FUSION  
DIRECTORY

LDAP connection setup

1.3

**FusionDirectory Setup**

✓ Welcome

✓ Language setup

✓ Installation check

**✓ LDAP setup**  
This dialog performs the basic configuration of the LDAP connectivity for FusionDirectory.

**FusionDirectory configuration**

LDAP inspection

Finish

**LDAP connection**

Location name\*

Connection URI\*

TLS connection ☐

Base\*

**Authentication**

Admin DN

Admin password\*

**Status**

Current status Bind as user 'cn=admin,dc=example,dc=com' to server 'ldap://localhost:389' succeeded!

The fourth step is where you indicate how to connect to you LDAP server. You can use the refresh button to retry connection once you corrected the information.



## 4.7.5 Configuration

**FusionDirectory Setup**

- ✓ Welcome
- ✓ Language setup
- ✓ Installation check
- ✓ LDAP setup
- FusionDirectory configuration**  
Configuration screen of FusionDirectory
- LDAP inspection
- Finish

**Configuration screen of FusionDirectory**

**Look and feel**

Language: Automatic

Theme: breezy

Timezone: Europe/Paris

**Password settings**

Password default hash: ssh

Force default hash: ☐

Password minimum length: 8

Password minimum differs: 3

Use account expiration: ☐

SASL Realm: realm.net

SASL Exop: uid

**SSL**

Key path: /etc/ssl/private/fd.key

Certificate path: /etc/ssl/certs/fd.cert

CA certificate path: /etc/ssl/certs/ca.cert

**Core settings**

LDAP size limit: 200

Edit locking: entryCSN

Enable logging: ☒

Schema validation: ☒

Enable snapshots: ☒

Snapshot base: ou=snapshots,dc=example,

Wildcard foreign keys: ☒

**Login and session**

Login attribute: uid

Enforce encrypted connections: ☐

Warn if session is not encrypted: ☒

Session lifetime: 1800

Login method: HTML form

Header name: AUTH\_USER

**CAS**

CA certificate path: /etc/ssl/certs/ca.cert

Host: localhost

**People and group storage** (editing this can break your LDAP)

Back Next

The fifth step is the configuration of FusionDirectory. You will be able to edit these settings later but be particularly careful about « people and group storage » section and of course the login settings so that you can connect to your FusionDirectory instance without trouble.

## 4.7.6 LDAP inspection

**FusionDirectory Setup**

- ✓ Welcome
- ✓ Language setup
- ✓ Installation check
- ✓ LDAP setup
- ✓ FusionDirectory configuration
- ✓ LDAP inspection**  
Analyze your current LDAP for FusionDirectory compatibility
- Finish

**LDAP inspection**

**PHP module and extension checks**

During the LDAP inspection, we're going to check for several common pitfalls that may occur when migration to FusionDirectory base LDAP administration. You may want to fix the problems below, in order to provide smooth services.

**Inspecting object classes in root object** Ok

**Checking permission for LDAP database** Ok

**Checking for invisible users** Warning  
Found 2 user(s) that will not be visible in FusionDirectory or which are incomplete. [Migrate](#)

**Checking for super administrator** Ok  
Users: fd-admin, mortierbe, swaelensjo

**Checking for default ACL roles and groups** Warning  
Some default ACL roles are missing  
[Migrate](#)

**Checking for users outside the people tree** Warning  
Found 18 user(s) outside the configured tree "ou=people,". [Migrate](#)

**Checking for groups outside the groups tree** Ok

**Checking for invisible departments** Warning  
Found 31 department(s) that will not be visible in FusionDirectory. [Migrate](#)

**Checking for duplicated UID numbers** Warning  
Found 2 duplicate values for attribute "uidNumber":  

- uid=uid,ou=people,dc=example,dc=com
- uid=ccc,ou=people,dc=example,dc=com

[Back](#) [Next](#)

Then some more checks are run, this time about the content of your LDAP directory. If you have some content in there which is not organized as FusionDirectory would expect (or not located in the branches you indicated in the configuration step), you will be able to migrate them.

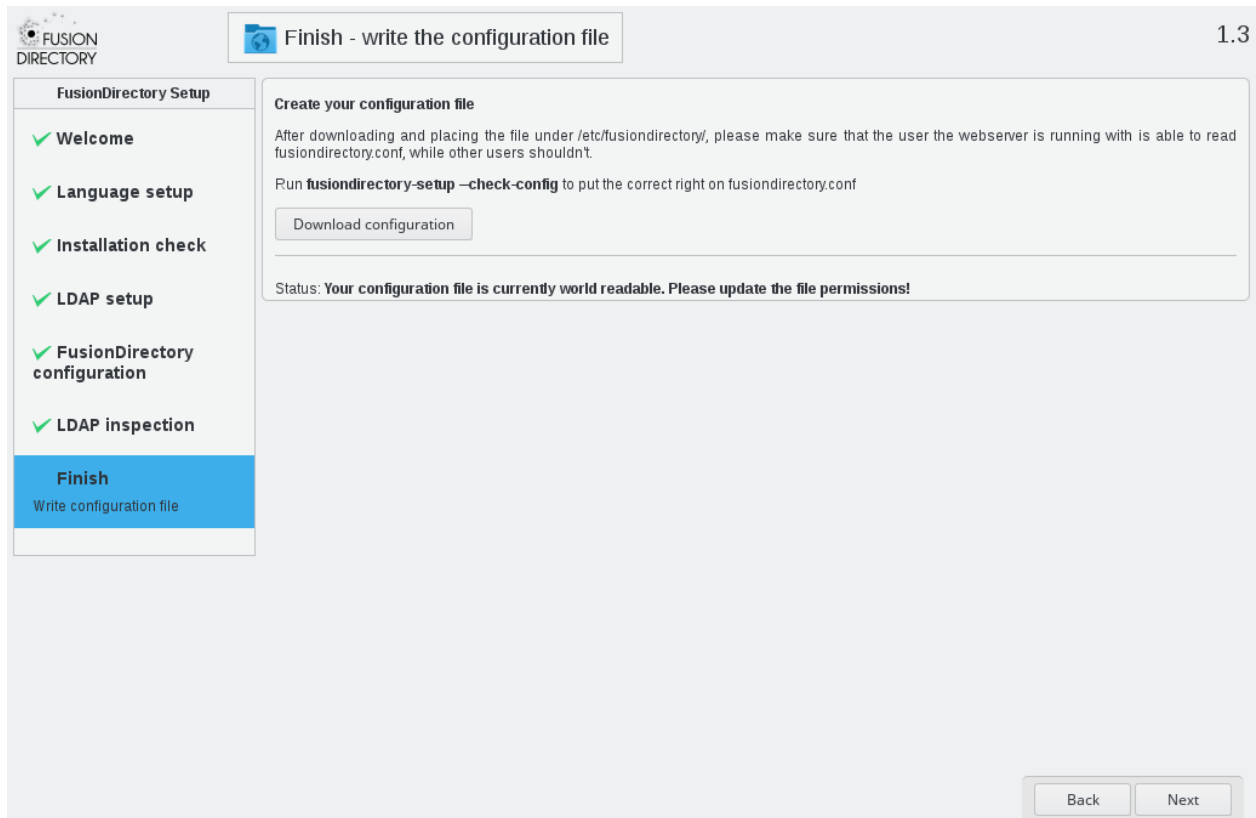
You can see the changes made to the LDAP before applying them.

Usually this is where you create an admin account for FusionDirectory, and inserting default ACL roles and groups is also a good idea, especially if you never used FusionDirectory before.

## 4.7.7 Finish



You got to the end of the web setup. You now need to download the config file using the button, and store it in /etc/fusiondirectory on the server.



You may get this additional message if the permissions are wrong in which case you can run « `fusiondirectory-setup --check-config` » as root to fix those.

Once everything is fine, clicking next will redirect you to the login screen of your FusionDirectory installation.

---

## Update FusionDirectory

---

Update FusionDirectory

### 5.1 Supported

Supported version

#### 5.1.1 Migrate FusionDirectory from 1.3 to 1.3.1

##### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly

*Debian Repository.*

*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly

*Getting the official GPG keys to active package signature.*

##### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

if you are using the sinaps plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/sinaps-fd-conf.schema
```

## Functionality Added

- The macro `%passwordClear%` is now available in the sambaAccount so that it can be used in hooks for AD sync.
- The ldapdump functionality is now available on the configuration
- The supann etablissement objects is now equal to entite objects except for the attribute ou

## Functionality removed

- The google+ account storage has been removed from personal social accounts tab

Enjoy :)

## 5.1.2 Migrate FusionDirectory from 1.2.3 to 1.3

### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly

*Debian Repository.*

*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly

*Getting the official GPG keys to active package signature.*

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade core schema of FusionDirectory

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

if you are using the audit plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/audit-fd.schema
```

if you are using the argonaut plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema
```

if you are using the community plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/community-fd.schema
```

if you are using the dhcp plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/dhcp-fd.schema
```

if you are using the ejbca plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/ejbca-fd.schema
```

if you are using the opsi plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/opsi-fd.schema
```

if you are using the postfix plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/postfix-fd.schema
```

if you are using the supann plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/supann-fd-conf.schema
```

if you are using the systems plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd-conf.schema
```

if you are using the user reminder plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/user-reminder-fd-conf.  
→ schema
```

if you are using the weblink plugin you have to update is schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/weblink-fd.schema
```

Enjoy :)

### 5.1.3 Migrate FusionDirectory from 1.2.2 to 1.2.3

#### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly  
*Debian Repository.*  
*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly  
*Getting the official GPG keys to active package signature.*

#### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

Enjoy :)

### 5.1.4 Migrate FusionDirectory from 1.2.1 to 1.2.2

#### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly  
*Debian Repository.*  
*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly  
*Getting the official GPG keys to active package signature.*

#### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.



```
apt-get install fusiondirectory-schema
```

Enjoy :)

## 5.1.5 Migrate FusionDirectory from 1.2 to 1.2.1

### New Depot Configuration

### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly  
*Debian Repository.*  
*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly  
*Getting the official GPG keys to active package signature.*

### Upgrade schema2ldif

For Jessie distribution add extra repository

```
#fusiondirectory debian-extra repository
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie/ jessie main
```

Update the package list and upgrade schema2ldif

```
apt-get update
apt-get install schema2ldif
```

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## **Upgrade of LDAP directory**

Upgrade core schema of FusionDirectory

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
```

Enjoy :)

## **5.2 Unsupported version**

Unsupported version

### **5.2.1 Migrate FusionDirectory from 1.0.1 to 1.0.2**

#### **Remove fusiondirectory-plugin-opsi**

Before migration from FusionDirectory 1.0.1 to 1.0.2 is important to remove the fusiondirectory-plugin-opsi and fusiondirectory-plugin-log to avoid errors :

#### **Debian**

```
apt-get remove fusiondirectory-plugin-opsi  
apt-get remove fusiondirectory-plugin-log
```

#### **RHEL / Fedora**

Not Applicable

#### **Upgrade fusiondirectory first**

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

#### **Debian**

```
apt-get update  
apt-get install fusiondirectory  
apt-get upgrade
```

## RHEL / Fedora

```
yum makecache  
yum upgrade fusiondirectory\*
```

### 5.2.2 Migrate FusionDirectory from 1.0.2 to 1.0.3

#### Remove fusiondirectory-plugin-goto

Before migration from FusionDirectory 1.0.2 to 1.0.3 is important to remove the fusiondirectory-plugin-goto, fusiondirectory-plugin-mit-krb5 and fusiondirectory-plugin-phpgw to avoid errors :

#### Debian

```
apt-get remove fusiondirectory-plugin-goto  
apt-get remove fusiondirectory-plugin-mit-krb5  
apt-get remove fusiondirectory-plugin-phpgw
```

## RHEL / Fedora

Not Applicable

#### Upgrade fusiondirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

#### Debian

```
apt-get update  
apt-get install fusiondirectory  
apt-get upgrade
```

## RHEL / Fedora

1. yum makecache
2. yum upgrade fusiondirectory\*

## Run setup

Starting with version 1.0.3, the addition of a plugin is handled automatically by fusiondirectory. To activate this you have to re-run the setup from the web interface.

```
mv /etc/fusiondirectory/fusiondirectory.conf /etc/fusiondirectory/fusiondirectory.conf.  
↪back
```

Then from web interface type :

[http://your\\_server/fusiondirectory/setup.php](http://your_server/fusiondirectory/setup.php)

and fill the required information.

## 5.2.3 Migrate FusionDirectory from 1.0.3 to 1.0.4

### Upgrade fusiondirectory first

Upgrade FusionDirectory core package and fusiondirectory-plugin-systems (if it's installed) before other ones to avoid dependencies errors :

### Debian

```
apt-get update  
apt-get install fusiondirectory  
apt-get upgrade
```

### Main page is changed

Starting with version 1.0.4, the main page of FusionDirectory interface is changed. From now, the main menu will be displayed in the following order :

- Administration
- Addons
- My Account

To adapt to change, you have 2 ways :

- Re-run setup
- Change data manually in fusiondirectory.conf

### Re-run setup

Before you re-run the setup from the web interface, you must do this :

```
mv /etc/fusiondirectory/fusiondirectory.conf /etc/fusiondirectory/fusiondirectory.conf.  
↪back
```

Then from web interface type :

[http://your\\_server/fusiondirectory/setup.php](http://your_server/fusiondirectory/setup.php)

and fill the required information.

## Change data manually in fusiondirectory.conf

In fusiondirectory.conf file, in the menu part, you must place sections in this order :

- section name= »Administration »
- section name= »Addons »
- section name= »My account »

## Upgrade of LDAP directory

You have to update your LDAP schema, FusionDirectory provide you dedicated LDIF file for updating your LDAP tree. If you are still using .schema files a restart of your ldap server should be sufficient.

The files to apply to your OpenLDAP server, there are stored in « /etc/ldap/schema/fusiondirectory/update-from-1.0.3 »

```
ls -l /etc/ldap/schema/fusiondirectory/update-from-1.0.3/*

/etc/ldap/schema/fusiondirectory/update-from-1.0.3/remove-trust.ldif
/etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-argonaut.ldif
/etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-fdQuota.ldif
/etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-goserver.ldif
/etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-goto.ldif
/etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-recovery.ldif
```

## Remove trust schema

If in a previous version of FusionDirectory you have installed *trust.schema*, you need to remove it. For this you can use remove-trust.ldif.

Because we can not predict the order of schema insertion in your ldap directory, you need to modify the provided remove-trust.ldif.

- Identify the number of insertion of the trust schema in your ldap directory :

```
ldapsearch -Y EXTERNAL -H ldapi:/// -LLL -b cn=schema,cn=config \ | grep "dn: cn={"

dn: cn={29}trust,cn=schema,cn=config ...
```

- edit the remove-trust.ldif file :

```
nano /etc/ldap/schema/fusiondirectory/update-from-1.0.3/remove-trust.ldif

dn: cn=trust,cn=schema,cn=config ...
```

and add the find number {29} at the first line, like this :

```
dn: cn={29}trust,cn=schema,cn=config
```

- Run the fusiondirectory-insert-schema command :

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/update-from-1.0.3/
↪ remove-trust.ldif
```

```
SASL/EXTERNAL authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
```

(suite sur la page suivante)

(suite de la page précédente)

```
executing 'ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/ldap/schema/fusiondirectory/update-
↪from-1.0.3/remove-trust.ldif'SASL/EXTERNAL
authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
modifying entry "cn={29}trust,cn=schema,cn=config"
```

## Update needed fusiondirectory schema

The following needed schema must be upgraded :

- goserver, goto, recovery

Because we can not predict the order of schema insertion in your ldap directory, you need to modify the provided update-goserver.ldif, update-goto.ldif, update-recovery.ldif.

For exemple, for goserver schema :

— Identify the number of insertion of the goserver schema in your ldap directory :

```
ldapsearch -Y EXTERNAL -H ldapi:/// -LLL -b cn=schema,cn=config \ | grep "dn: cn={"
dn: cn={9}goserver,cn=schema,cn=config ...
```

— Edit the update-goserver.ldif file :

```
nano /etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-goserver.ldif
dn: cn=goserver,cn=schema,cn=config ...
```

and add the find number {9} at the first line, like this :

```
dn: cn={9}goserver,cn=schema,cn=config
```

— Run the fusiondirectory-insert-schema command :

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/update-from-1.0.3/
↪update-goserver.ldif

SASL/EXTERNAL authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
executing 'ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/ldap/schema/fusiondirectory/update-
↪from-1.0.3/update-goserver.ldif'SASL/EXTERNAL
authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
modifying entry "cn={9}goserver,cn=schema,cn=config"
```

You must do the same for goto et recovery also.

## Upgrade argonaut schema

If you've installed *argonaut* plugin, you must upgrade his schema.

Because we can not predict the order of schema insertion in your ldap directory, you need to modify the provided update-argonaut.ldif.

- Identify the number of insertion of the argonaut schema in your ldap directory :

```
ldapsearch -Y EXTERNAL -H ldapi:/// -LLL -b cn=schema,cn=config \ | grep "dn: cn={"
dn: cn={14}argonaut,cn=schema,cn=config ...
```

- Edit the update-argonaut.ldif file :

```
nano /etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-argonaut.ldif
dn: cn=argonaut,cn=schema,cn=config
```

and add the find number {14} at the first line, like this :

```
dn: cn={14}argonaut,cn=schema,cn=config
```

- Run the fusiondirectory-insert-schema command :

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/update-from-1.0.3/
↪update-argonaut.ldif

SASL/EXTERNAL authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
executing 'ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/ldap/schema/fusiondirectory/update-
↪from-1.0.3/update-argonaut.ldif' SASL/EXTERNAL
authentication started
SASL username: gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
modifying entry "cn={14}argonaut,cn=schema,cn=config"
```

## Upgrade fdQuota schema

If you've installed *quota* plugin, you must upgrade fdQuota schema.

Because we can not predict the order of schema insertion in your ldap directory, you need to modify the provided update-fdQuota.ldif.

- Identify the number of insertion of the fdQuota schema in your ldap directory :

```
ldapsearch -Y EXTERNAL -H ldapi:/// -LLL -b cn=schema,cn=config \ | grep "dn: cn={"
dn: cn={25}fdQuota,cn=schema,cn=config ...
```

- Edit the update-fdQuota.ldif file :

```
nano /etc/ldap/schema/fusiondirectory/update-from-1.0.3/update-fdQuota.ldif
dn: cn=fdQuota,cn=schema,cn=config ...
```

and add the find number {25} at the first line, like this :

```
dn: cn={25}fdQuota,cn=schema,cn=config
```

— Run the fusiondirectory-insert-schema command :

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/update-from-1.0.3/
↪update-fdQuota.ldif

SASL/EXTERNAL authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
executing 'ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/ldap/schema/fusiondirectory/update-
↪from-1.0.3/update-fdQuota.ldif' SASL/EXTERNAL
authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0
modifying entry "cn={25}fdQuota,cn=schema,cn=config"
```

## 5.2.4 Migrate FusionDirectory from 1.0.4 to 1.0.5

### Clean FusionDirectory schema directory

#### Debian

```
rm /etc/ldap/schema/fusiondirectory/*.ldif
```

### Upgrade of LDAP directory

#### Install schema packages

Upgrade new schema core first :

#### Debian

```
apt-get update
apt-get install fusiondirectory-schema
```

Then, depending of your installation, install new schema packages for your installed plugins.

For example, if you have Systems, Dhcp and Dns plugin installed, you need to :

#### Debian

```
apt-get install fusiondirectory-plugin-systems-schema
apt-get install fusiondirectory-plugin-dhcp-schema
apt-get install fusiondirectory-plugin-dns-schema
```



## Remove old schema from your Ldap Directory

Your installed schema are in /etc/ldap/slapd.d/cn=config/cn=schema directory. For the above example, installed schema will be the following :

### Debian

```
ldapsearch -Y EXTERNAL -H ldapi:/// -LLL -b cn=schema,cn=config \ | grep "dn: cn={"

SASL/EXTERNAL authentication started SASL username:
gidNumber=0+uidNumber=0,cn=peercred,cn=external,cn=auth SASL SSF: 0 dn:
cn={0}core,cn=schema,cn=config dn: cn={1}cosine,cn=schema,cn=config dn:
cn={2}nis,cn=schema,cn=config dn:
cn={3}inetorgperson,cn=schema,cn=config dn:
cn={4}samba,cn=schema,cn=config dn: cn={5}gosystem,cn=schema,cn=config
cn={6}gofon,cn=schema,cn=config dn: cn={7}gofax,cn=schema,cn=config
cn={8}goto,cn=schema,cn=config dn:
cn={9}goserver,cn=schema,cn=config dn:
cn={10}goto-mime,cn=schema,cn=config dn:
cn={11}gosa-samba3,cn=schema,cn=config dn:
cn={12}ldapns,cn=schema,cn=config dn:
cn={13}recovery,cn=schema,cn=config dn: cn={14}dhcp,cn=schema,cn=config
cn={15}dnszone,cn=schema,cn=config
```

Schema's from "cn={0}..." to "cn={3}" doesn't change, so you can leave it.

Now you need to remove all others before install the new one's. You can start to remove before plugin schemas. Doing this is simple, just delete its relative file in the folder

```
/etc/ldap/slapd.d/cn=config/cn=schema
```

and restart slapd. A word of advice, remove schemas starting from the last. For the above example :

### Debian

```
cd /etc/ldap/slapd.d/cn=config/cn=schema
rm cn={15}dnszone.ldif
rm cn={14}dhcp.ldif
/etc/init.d/slapd stop
/etc/init.d/slapd start
```

If everything goes right, you can remove core schemas :

### Debian

```
rm cn={13}recovery.ldif
rm cn={12}ldapns.ldif
rm cn={11}gosa-samba3.ldif
rm cn={10}goto-mime.ldif
rm cn={9}goserver.ldif
rm cn={8}goto.ldif
rm cn={7}gofax.ldif
rm cn={6}gofon.ldif
rm cn={5}gosystem.ldif
rm cn={4}samba.ldif
```

(suite sur la page suivante)

(suite de la page précédente)

```
/etc/init.d/slaped stop  
/etc/init.d/slaped start
```

### Insert new schemas inside your Ldap Directory

First of all insert the new core schemas :

#### Debian

```
fusiondirectory-insert-schema
```

Then you can proceed for all the plugins schemas (here you can find a [list of available plugins with old and new relative schemas](#)), for the above example :

#### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/service-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/systems-fd-conf.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/mime-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/systems-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dhcp-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dnszone.schema
```

### Upgrade fusiondirectory first

Upgrade FusionDirectory core package and fusiondirectory-plugin-systems (if it's installed) before other ones to avoid dependencies errors :

#### Debian

```
apt-get install fusiondirectory  
apt-get install fusiondirectory-plugin-systems  
apt-get upgrade
```

### Configuration file is changed

Starting with version 1.0.5, the configuration of FusionDirectory is stored inside the ldap, in *configs* branch.

To adapt to this change, you need to Re-run setup.

### Re-run setup

Before you re-run the setup from the web interface, you must move your old configuration file, doing this :

```
mv /etc/fusiondirectory/fusiondirectory.conf /etc/fusiondirectory/fusiondirectory.conf.  
↪ back
```

Then, in your web browser, you can type :

[http://your\\_server/fusiondirectory/setup.php](http://your_server/fusiondirectory/setup.php)

and fill the required informations (look here to see more about [parameters of configuration](#)).

## Possible problems and related solutions

Below you will find some migration issues, grouped by plugin, with their solutions.

### FAI plugin

Before save modifications in a Server, look (inside your ldap directory) if there is an objectClass FAI like this one, associated at this Server :

```
objectClass: FAIobject
```

if you don't find any other FAI attribute for this Server, you need to remove the above mentioned objectClass, in order to avoid automatic generation of FAI attributes in related entry. This happens because "objectClass : FAIobject" means that FAI tab for the related server is activated.

### Mail plugin

#### unrecognized objectClass "goMailServer"

If you get an error like this :

```
LDAP operation failed!

Object: cn=mailserver.fusiondirectory.org,ou=servers,ou=systems,dc=fusiondirectory,dc=org

Error: Object class violation (unrecognized objectClass 'goMailServer', while operating
↳ on 'cn=mailserver.fusiondirectory.org,ou=servers,ou=systems,dc=fusiondirectory,dc=org'
↳ using LDAP server 'ldap://localhost:389')
```

this means that in your related ldap entry you have an objectClass like this :

```
objectClass: goMailServer
```

you need to modify this one to :

```
objectClass: fdPostfixServer
```

#### Undefined attribute type - attribute : flag\_enable\_debug

If you get an error like this :

```
LDAP operation failed!

Object: cn=mailserver.fusiondirectory.org,ou=servers,ou=systems,dc=fusiondirectory,dc=org

Error: Undefined attribute type - attribute: flag_enable_debug
(flag_enable_debug: AttributeDescription contains inappropriate characters, while
↳ operating on 'cn=mailserver.fusiondirectory.org,ou=servers,ou=systems,
↳ dc=fusiondirectory,dc=org' using LDAP server 'ldap://localhost:389')
```

this means that in your related ldap entry you have an attribute like this :

```
avFlags: DS
```

you need to remove this attribute.

## **5.2.5 Migrate FusionDirectory from 1.0.6 to 1.0.7**

### **Upgrade fusiondirectory first**

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

#### **Debian**

##### **Add new debian-extra repo to you source list**

```
deb http://repos.fusiondirectory.org/debian-extra jessie main
```

```
apt-get update
apt-get install fusiondirectory
apt-get upgrade
```

### **Upgrade of LDAP directory**

You have to update your LDAP schemas, first update the FusionDirectory core schemas. We have put a new option in fusiondirectory-insert-schema that allow you to update easily your schema without the use of ldif files.

The following schemas needs an update :

- core-fd-conf.schema
- mail-fd.schema
- service-fd.schema
- systems-fd-conf.schema
- systems-fd.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

You must do the same procedure for all other schema needing an update

## **5.2.6 Migrate FusionDirectory from 1.0.7 or 1.0.7.1 to 1.0.7.2**

### **Upgrade FusionDirectory first**

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

### Upgrade of LDAP directory

You have to update your LDAP schemas, first update the FusionDirectory core schemas. We have put a new option in fusiondirectory-insert-schema that allow you to update easily your schema without the use of ldif files.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema ``
```

## 5.2.7 Migrate FusionDirectory from 1.0.7.2 to 1.0.7.3

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

### Upgrade of LDAP directory

You have to update your LDAP schemas, first update the FusionDirectory core schemas. We have put a new option in fusiondirectory-insert-schema that allow you to update easily your schema without the use of ldif files.

In this version only the schema from the argonaut plugin needs to be update if you have the systems or argonaut plugins installed

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema ``
```

## 5.2.8 Migrate FusionDirectory from 1.0.7.3 to 1.0.7.4

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

## 5.2.9 Migrate FusionDirectory from 1.0.7.4 to 1.0.7.5

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors.

## 5.2.10 Migrate FusionDirectory from 1.0.7.4 to 1.0.8

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Remove the deprecated plugins

The rolemanagement plugin has been integrated to the core so it must be removed.

```
apt-get --purge remove fusiondirectory-plugin-rolemanagement
```

The board plugin has been renamed so it must be replaced

```
apt-get --purge remove fusiondirectory-plugin-board  
apt-get install fusiondirectory-plugin-dashboard
```

## Upgrade of LDAP directory

You have to update your LDAP schemas, first update the FusionDirectory core schemas.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema  
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

After that you have to update the schema for the plugins you are using. In this version the following schema have to be updated

- argonaut-fd-schema
- ipmi-fd.schema
- repository-fd.schema

## Migration of the FusionDirectory acls

FusionDirectory acl management has been changed from 1.0.7 to 1.0.8, so they need to be migrated. We added a command to fusiondirectory-setup for that.

```
fusiondirectory-setup --migrate-acls
```

**Avertissement :** This is tricky, don't forget to write down you acl first in case it doesnt work

## 5.2.11 Migrate FusionDirectory from 1.0.8 to 1.0.8.1

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

You have to update your LDAP schemas, first update the FusionDirectory core schemas.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosasUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosasSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags      (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosasAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosasAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

— **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean your ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.12 Migrate FusionDirectory from 1.0.8.1 to 1.0.8.2

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

— fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses  
 Deprecated attributes :

```
gosaUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosaSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags     (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosaAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosaAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

— fusiondirectory-setup --list-deprecated show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

— fusiondirectory-setup --check-deprecated will output an ldif file on the console that you can use with ldapmodify to clean up ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.13 Migrate FusionDirectory from 1.0.8.2 to 1.0.8.3

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```



## Upgrade of LDAP directory

You have to update your LDAP schemas, first update the FusionDirectory core schemas.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosasUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosasSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags      (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosasAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosasAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

— **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean your ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.14 Migrate FusionDirectory from 1.0.8.3 to 1.0.8.4

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

- **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosasUnitTag      (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosasSnapshotType (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags  (FusionDirectory -
↳ Honour unit tags)            - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosasAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosasAdministrativeUnit    (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

- **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean your ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.15 Migrate FusionDirectory from 1.0.8.4 to 1.0.8.5

### Remove the deprecated plugins

The dashboard plugin has been integrated to the core so it must be removed.

```
apt-get --purge remove fusiondirectory-plugin-dashboard
```

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

You have to update your LDAP schemas, first remove the dashboard configuration schema.

```
fusiondirectory-insert-schema -e dashboard-fd-conf
Are you sure you want to empty schema(s) dashboard-fd-conf?
[Yes/No]? Yes
```

Then update the core-fd-conf schema.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

If you are using the debconf plugin update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/debconf.schema
```

If you are using the fai plugin update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/fai.schema
```

If you are using the mail plugin update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/mail-fd.schema`
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

- **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosasUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosasSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags      (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosasAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosasAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

- **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.16 Migrate FusionDirectory from 1.0.8.5 to 1.0.8.6

### Removal of the mixed posixAccount / groupOfNames aka rfc2307bis

**Avertissement :** This was done to be more respectful of standard and not change the core openldap schema, but it seems to be causing trouble on some install, so if you use it **don't upgrade to 1.0.8.6** and **wait for 1.0.8.7 !!!**

#### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## 5.2.17 Migrate FusionDirectory from 1.0.8.6 to 1.0.8.7

#### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

#### Upgrade of LDAP directory

You have to update your LDAP schemas, first remove the dashboard configuration schema.

```
fusiondirectory-insert-schema -e dashboard-fd-conf
Are you sure you want to empty schema(s) dashboard-fd-conf?
[Yes/No]? Yes
```

Then update the core-fd-conf schema.

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema``
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

- **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosaUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosaSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags     (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosaAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosaAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

- **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean you ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.18 Migrate FusionDirectory from 1.0.8.7 to 1.0.8.8

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

Nothing to do

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

- **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosasUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosasSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags      (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosasAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosasAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

- **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean your ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.19 Migrate FusionDirectory from 1.0.8.8 to 1.0.8.9

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

Upgrade the argonaut.schema if you use the argonaut plugin

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema`
```

## Check for deprecated attributes and objectClasses in your LDAP

since FusionDirectory 1.0.8.1 two new options are in fusiondirectory-setup

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses

```
gosaUnitTag          (Takes a list of relevant mime-
↳ type|priority settings)      - 1.3.6.1.4.1.10098.1.1.12.33
gosaSnapshotType     (Takes either undo or snapshot)
↳ 1.3.6.1.4.1.10098.1.1.12.36
fdHonourUnitTags     (FusionDirectory -
↳ Honour unit tags)           - 1.3.6.1.4.1.38414.8.14.3
```

Deprecated objectClasses :

```
gosaAdministrativeUnitTag (Marker for objects below administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.16
gosaAdministrativeUnit   (Marker for administrative units (v2.6.
↳ 1))      - 1.3.6.1.4.1.10098.1.2.1.19.15
```

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

— **fusiondirectory-setup --check-deprecated** will output an ldif file on the console that you can use with ldap-modify to clean your ldap server from old attributes and objectClasses

**Avertissement :** Please read it carefully before applying !!

## 5.2.20 Migrate FusionDirectory from 1.0.8.9 to 1.0.9

### Backup your template First

The template system has been completely rewritten, and the old template will not be converted, so you need to backup them, remove them from FusionDirectory and then redo them.

The new system is much cleaner because template are stored in their own branch now and are the basis for having template for the whole application in the future.

### Backup your phones

You must backup all your phones in a LDIF and remove them. Modify your LDIF like below :

Before

```
cn=namePhone,ou=phones,ou=systems,dc=fusiondirectory,dc=org
cn: namePhone
goFonType: friend
goFonDmtfMode: inband
goFonDefaultIP:
dynamic ipHostNumber: 127.0.0.1
```

(suite sur la page suivante)

(suite de la page précédente)

```
macAddress: 00:0C:7F:31:33:F1
objectClass: top
```

After

```
cn=namePhone,ou=phones,ou=systems,dc=fusiondirectory,dc=org
cn: namePhone
ipHostNumber: 127.0.0.1
macAddress: 00:0C:7F:31:33:F1
objectClass: fdPhone
objectClass: device
objectClass: ieee802Device
objectClass: ipHost
```

After the migration you may insert your phone again in your LDAP.

You can use the next command to backup your phones

```
ldapsearch -xLLL -b ou=phones,ou=systems,dc=fusiondirectory,dc=org > backupPhones.ldif
```

### Moved Attributes

We cleaned the core of FusionDirectory to only use classical attributes and objectClass, so the FusionDirectory special attributes on the first page of FusionDirectory are now managed by the personal plugin.

The personal plugin has been made to manage all kind of personal data and is best suited to contain those data not normalized. So if you use **personalTitle**, **dateOfBirth**, **gender** you will need to install the personal plugin.

### Upgrade FusionDirectory

#### Upgrade FusionDirectory core package before other ones to avoid dependencies errors

##### Debian

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

##### RPM

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
yum remove fusiondirectory
yum install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory
```



Upgrade FusionDirectory schema package too.

```
yum remove fusiondirectory-schema
yum install fusiondirectory-schema
```

There is a new schema for the templates, so you need to run

```
fusiondirectory-insert-schema
```

## Removed obsolete plugins

In this version we removed obsolete plugin, because they were based on software no longer existing or needed an sql backend and we decided they need to be rewritten using the now ldap backend of those softwares :

- **asterisk** : old plugin not maintainable anymore based on the sql backend, but now asterisk has an ldap backend has well.
- **fax** : old code based on the gofax software from gonicus, not maintained anymore upstream.
- **openstack-compute** : openstack management interface changed and this plugin is no longer relevant
- **uw-imap** : long gone imap server, nobody that we know still use it

They are no longer supported and should be removed from your installation

## New Plugin for peoples using a mix of groupOfNames and posixGroup on the same object

We cleaned the code of FusionDirectory and by default it make posixGroup or clean standard compliant groupOfNames. If you need a mix of groupOfNames and posixGroup on the same object you will need to install a new plugin called mixedgroups.

**Avertissement** : Please take note that this plugin is for special cases and need modified core schema.!!

If you need to have a link between user and groups you are better using the standard compliant groupOfNames or roles for examples for web applications.

```
apt-get install fusiondirectory-plugin-mixedgroups
```

## Upgrade of LDAP directory

### Upgrade Core FusionDirectory Schema

The password recovery schema has been migrated into the core schema so you must remove it first

```
fusiondirectory-insert-schema -e recovery-fd
Are you sure you want to empty schema(s) recovery-fd?
[Yes/No]? Yes
```

Upgrade the core-fd.schema and core-fd-conf.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

If you use the argonaut plugin, upgrade the argonaut.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema
```

If you use the fai plugin, upgrade the fai-fd-conf.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/fai-fd-conf.schema
```

If you use the mail plugin, upgrade the mail-fd.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/mail-fd.schema
```

If you use the personal plugin, upgrade the personal-fd.schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/personal-fd.schema
```

If you use the squid plugin, upgrade the proxy-fd.schema``

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/proxy-fd.schema``
```

If you use the system plugin, upgrade the service-fd.schema, systems-fd.schema, systems-fd-conf.schema

The Phone object has been migrated to the system plugin due to the removal of the asterisk plugin.

```
fusiondirectory-insert-schema -e asterisk-fd-conf
Are you sure you want to empty schema(s) asterisk-fd-conf?
[Yes/No]? Yes
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd-conf.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema
```

## Check for deprecated attributes and objectClasses in your LDAP

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses  
Deprecated attributes :

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor              (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoAdaptPath          (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients     (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum   (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd         (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout          (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer      (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN           (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable      (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter           (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath           (Goto - Gonicus Terminal Concept, value fontPath.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev               (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable          (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant         (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis           (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs             (Goto - Gonicus Terminal Concept, value autofsf.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule          (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable        (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel       (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction   (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth        (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle         (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn      (FusionDirectory -
↳ Snapshot admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem         (Goto - Gonicus Terminal Concept, value filesystem.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber      (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``

```

(suite sur la page suivante)

(suite de la page précédente)

gosasubtreeACL	(Gosa -	
→ ACL entry)		- 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator	(FusionDirectory -	
→ An automatic way to generate new user ids)		- 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport	(Hardware definitions,	
→ value usbSupport)		- 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus	(Keeps current system status -	
→ info shown in Gosa)		- 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste	(FusionDirectory - (de)Activate copy/	
→ paste)		- 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver	(Goto - Gonicus Terminal Concept, value xDriver.	
→)		- 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel	(Goto - Gonicus Terminal Concept, value xKbmodel.	
→)		- 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN	(FusionDirectory -	
→ Personal title in dn)		- 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer	(Goto - Gonicus Terminal Concept, value lpdServer.	
→)		- 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync	(Goto - Gonicus Terminal Concept, value xHsync.	
→)		- 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags	(Goto - Flags for Profile handling -	
→ C is for caching)		- 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType	(Hardware definitions,	
→ value cpuType)		- 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution	(Goto - Gonicus Terminal Concept, value xResolution.	
→)		- 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare	(Goto -	
→ specifies a share)		- 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend	(Goto - Gonicus Terminal Concept, value scannerBackend.	
→)		- 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword	(FusionDirectory -	
→ Snapshost admin password)		- 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts	(FusionDirectory -	
→ available voicemail contexts)		- 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage	(Gosa -	
→ Defines the default language for a user)		- 1.3.6.1.4.1.10098.1.1.12.
→ 14``		
ghMemSize	(Hardware definitions,	
→ value memSize)		- 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota	(Goto -	
→ save quota for home)		- 1.3.6.1.4.1.10098.1.1.11.
→ 15``		
fdSipContexts	(FusionDirectory -	
→ available sip contexts)		- 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN	(FusionDirectory -	
→ Phone conference RDN)		- 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev	(Hardware definitions,	
→ value scsiDev)		- 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN	(FusionDirectory -	
→ Phone macro RDN)		- 1.3.6.1.4.1.38414.19.10.2``
ghNetNic	(Hardware definitions,	
→ value Network Device)		- 1.3.6.1.4.1.10098.1.1.2.8``

(suite sur la page suivante)

(suite de la page précédente)

```
gotoFloppyEnable      (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton     (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType        (Hardware definitions,
↳ value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``
```

Deprecated objectClasses :

```
goCupsServer          (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry        (Gosa -
↳ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosatemplate          (Gosa -
↳ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaccount            (Gosa -
↳ Class for Gosa Accounts) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosobject             (Gosa -
↳ Class for Gosa settings) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``
```

— **fusiondirectory-setup --check-deprecated** will output a list of dn using old attributes and objectClasses

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
cn=fusiondirectory,ou=configs,dc=fusiondirectory,dc=org contains an obsolete attribute
cn=fusiondirectory,ou=configs,dc=fusiondirectory,dc=org uses the obsolete object class.
↳ fdAsteriskPluginConf
uid=fd-admin,ou=people,dc=fusiondirectory,dc=org uses the obsolete object class.
↳ gosaccount
```

— **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes. If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

fusiondirectory-setup --ldif-deprecated

```
dn:cn=fusiondirectory,ou=configs,dc=fusiondirectory,dc=org
changetype:modify delete:fdRfc2307bis
-
delete:fdCopyPaste
-
```

```
WARNING: There are entries in the LDAP using obsolete classes, you need to edit them.
↳ manually
```

**Avertissement :** Please read it carefully before applying !!

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf**

## Problems when we removing objectClasses

When you remove gosaAccount you can have some troubles.

If you have samba plugin installed you must remove the next attributes on the users where the samba tab is not activate.

- sambaBadPasswordTime
- sambaBadPasswordCount
- sambaNTPassword
- sambaPwdLastSet

## If you use argonaut client tab on some objets

To add the new attribute argonautClientProtocol, you must only open the objets that have an argonaut client tab and save it again.

## 5.2.21 Migrate FusionDirectory from 1.0.9 to 1.0.9.1

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

Insert the core template schema

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/template-fd.schema ``
```

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

## Check for deprecated attributes and objectClasses in your LDAP

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses Deprecated attributes :

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snapshot URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd             (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout              (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer          (Goto -
↳ specifies the profile server)                - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN               (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs)                - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable          (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter               (Hardware definitions,
↳ value Grafikkarte)                - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath               (Goto - Gonicus Terminal Concept, value fontPath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                   (Hardware definitions,
↳ value ideDev)                - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable              (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant             (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis               (FusionDirectory -
↳ rfc2307bis)                - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs                 (Goto - Gonicus Terminal Concept, value autofS.
↳)                - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule              (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.29``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoCdromEnable          (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)          - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel         (Goto - Gonicus Terminal Concept, value scannerModel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction     (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth          (Goto - Gonicus Terminal Concept, value xColordepth.
↳)          - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle           (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn        (FusionDirectory -
↳ Snaphost admin dn)          - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem           (Goto - Gonicus Terminal Concept, value filesystem.
↳)          - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber       (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL           (Gosa -
↳ ACL entry)                  - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator            (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport             (Hardware definitions,
↳ value usbSupport)          - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus            (Keeps current system status -
↳ info shown in Gosa)        - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste              (FusionDirectory - (de)Activate copy/
↳ paste)                    - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver              (Goto - Gonicus Terminal Concept, value xDriver.
↳)          - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel             (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN      (FusionDirectory -
↳ Personal title in dn)      - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer            (Goto - Gonicus Terminal Concept, value lpdServer.
↳)          - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync               (Goto - Gonicus Terminal Concept, value xHsync.
↳)          - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags         (Goto - Flags for Profile handling -
↳ C is for caching)         - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType               (Hardware definitions,
↳ value cpuType)            - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution          (Goto - Gonicus Terminal Concept, value xResolution.
↳)          - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare                (Goto -
↳ specifies a share)        - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend       (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)          - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword  (FusionDirectory -
↳ Snaphost admin password)  - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts      (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``

```

(suite sur la page suivante)



(suite de la page précédente)

```

gosadefaultlanguage      (Gosa -
↳ Defines the default language for a user)          - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize                (Hardware definitions,
↳ value memSize)          - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota         (Goto -
↳ save quota for home)    - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts           (FusionDirectory -
↳ available sip contexts) - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN     (FusionDirectory -
↳ Phone conference RDN)   - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev               (Hardware definitions,
↳ value scsiDev)          - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN         (FusionDirectory -
↳ Phone macro RDN)        - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)   - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable         (Goto - Gonius Terminal Concept, value floppyEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton        (Goto - Gonius Terminal Concept, value xMouseButton.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType           (Hardware definitions,
↳ value Type of mouse)    - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer             (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheentry           (Gosa -
↳ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosatemplate             (Gosa -
↳ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaccount               (Gosa -
↳ Class for Gosa Accounts) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosobject                (Gosa -
↳ Class for Gosa settings) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

— **fusiondirectory-setup --check-deprecated** will output a list of dn using old attributes and objectClasses

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

— **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.  
If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.22 Migrate FusionDirectory from 1.0.9.1 to 1.0.9.2

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Removed obsolete plugins

In this version we removed obsolete plugin, because they where based on software no longer existing or needed an sql backend and we decided they need to be rewritten using the now ldap backend of those softwares :

- **rsyslog** : old plugin not maintainable anymore based on the sql backend, and we don't want to manage sql backend in FusionDirectory anymore
- **Database-connector** [sql abstraction code no longer needed now] that rsyslog plugin is removed

They are no longer supported and should be removed from your installation

```
apt-get remove fusiondirectory-plugin-rsyslog
```

```
apt-get remove fusiondirectory-plugin-database-connector
```

### Upgrade of LDAP directory

Upgrade the core template schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema``
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema``
```

if your are using the fusioninventory plugin you have to update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/inventory-fd.schema``
```

if your are using the supann plugin you have to update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/supann-fd.conf``
```

### Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

### Check for deprecated attributes and objectClasses in your LDAP

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses Deprecated attributes :

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd             (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout              (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer          (Goto -
↳ specifies the profile server)                - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN               (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs)                - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable          (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter               (Hardware definitions,
↳ value Grafikkarte)                - 1.3.6.1.4.1.10098.1.1.2.9``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoFontPath          (Goto - Gonicus Terminal Concept, value fontPath.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev              (Hardware definitions,
↳ value ideDev)        - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable         (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant        (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis          (FusionDirectory -
↳ rfc2307bis)          - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs            (Goto - Gonicus Terminal Concept, value autofs.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule         (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable       (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel      (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction  (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth       (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle        (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn     (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem        (Goto - Gonicus Terminal Concept, value filesystem.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber     (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL        (Gosa -
↳ ACL entry)          - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator         (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport          (Hardware definitions,
↳ value usbSupport)    - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus         (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste           (FusionDirectory - (de)Activate copy/
↳ paste)               - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver           (Goto - Gonicus Terminal Concept, value xDriver.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel          (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN   (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer         (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync            (Goto - Gonicus Terminal Concept, value xHsync.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.18``

```

(suite sur la page suivante)

(suite de la page précédente)

```
gotoProfileFlags      (Goto - Flags for Profile handling -
→ C is for caching)   - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType             (Hardware definitions,
→ value cpuType)       - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution       (Goto - Gonicus Terminal Concept, value xResolution.
→)                     - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare             (Goto -
→ specifies a share)    - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend    (Goto - Gonicus Terminal Concept, value scannerBackend.
→)                     - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
→ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts   (FusionDirectory -
→ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosaDefaultLanguage   (Gosa -
→ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
→ 14``
ghMemSize             (Hardware definitions,
→ value memSize)       - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota      (Goto -
→ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
→ 15``
fdSipContexts         (FusionDirectory -
→ available sip contexts) - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN  (FusionDirectory -
→ Phone conference RDN) - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev             (Hardware definitions,
→ value scsiDev)       - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN       (FusionDirectory -
→ Phone macro RDN)     - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic              (Hardware definitions,
→ value Network Device) - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (Goto - Gonicus Terminal Concept, value floppyEnable.
→)                     - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton      (Goto - Gonicus Terminal Concept, value xMouseButton.
→)                     - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType        (Hardware definitions,
→ value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``
```

Deprecated objectClasses :

```
goCupsServer          (CUPS server description)
→ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry        (Gosa -
→ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 3``
gosaUserTemplate      (Gosa -
→ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 11``
gosaAccount           (Gosa -
→ Class for Gosa Accounts) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 6``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gosasObject          (G0sa -
↳ Class for G0sa settings)          - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1`

```

— **fusiondirectory-setup --check-deprecated** will output a list of dn using old attributes and objectClasses

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

— **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.  
If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.23 Migrate FusionDirectory from 1.0.9.2 to 1.0.9.3

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade the core configuration schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

if your are using the system plugin you have to update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

if your are using the repository plugin you have to update his schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/repository-fd.schema
```

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

## Check for deprecated attributes and objectClasses in your LDAP

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses Deprecated attributes :

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd             (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout              (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer          (Goto -
↳ specifies the profile server)                - 1.3.6.1.4.1.10098.1.1.11.8``
```

(suite sur la page suivante)

(suite de la page précédente)

```

fdAccountRDN                                (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs)          - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable                          (Goto - Gonicus Terminal Concept, value scannerEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter                               (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath                              (Goto - Gonicus Terminal Concept, value fontPath.
↳) - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                                   (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable                             (Goto - Gonicus Terminal Concept, value lpdEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant                            (Goto - Gonicus Terminal Concept, value xKbvariant.
↳) - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis                              (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs                               (Goto - Gonicus Terminal Concept, value autofsf.
↳) - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule                             (Goto - Gonicus Terminal Concept, value sound Modules.
↳) - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable                           (Goto - Gonicus Terminal Concept, value cdromEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel                          (Goto - Gonicus Terminal Concept, value scannerModel.
↳) - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction                     (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth                           (Goto - Gonicus Terminal Concept, value xColordepth.
↳) - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle                            (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn                        (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem                            (Goto - Gonicus Terminal Concept, value filesystem.
↳) - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber                        (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL                            (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator                             (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport                             (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus                             (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste                              (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver                              (Goto - Gonicus Terminal Concept, value xDriver.
↳) - 1.3.6.1.4.1.10098.1.1.1.28``

```

(suite sur la page suivante)



(suite de la page précédente)

```

gotoXKbModel          (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN   (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer         (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync           (Goto - Gonicus Terminal Concept, value xHsync.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags      (Goto - Flags for Profile handling -
↳ C is for caching)   - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType             (Hardware definitions,
↳ value cpuType)      - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution       (Goto - Gonicus Terminal Concept, value xResolution.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare             (Goto -
↳ specifies a share)   - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend    (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts   (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage   (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize             (Hardware definitions,
↳ value memSize)      - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota      (Goto -
↳ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts         (FusionDirectory -
↳ available sip contexts) - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN  (FusionDirectory -
↳ Phone conference RDN) - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev             (Hardware definitions,
↳ value scsiDev)      - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN       (FusionDirectory -
↳ Phone macro RDN)    - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic              (Hardware definitions,
↳ value Network Device) - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable      (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton      (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType        (Hardware definitions,
↳ value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer          (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry        (Gosa -
↳ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19
↳ 3``

```

(suite sur la page suivante)

(suite de la page précédente)

```

gosUserTemplate      (G0sa -
↳ Class for G0sa User Templates)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11 ``
gosAccount           (G0sa -
↳ Class for G0sa Accounts)              - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6 ``
gosObject            (G0sa -
↳ Class for G0sa settings)              - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1 ``

```

— **fusiondirectory-setup --check-deprecated** will output a list of dn using old attributes and objectClasses

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

— **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.  
If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.24 Migrate FusionDirectory from 1.0.9.3 to 1.0.10

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade the core configuration schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

if your are using the personal plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/personal-fd.schema
```

if your are using the system plugin you have to update its schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd-conf.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

if your are using the dns plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/dns-fd-conf.schema
```

and install a new schema

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dns-fd.schema
```

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

## Check for deprecated attributes and objectClasses in your LDAP

— **fusiondirectory-setup --list-deprecated** List deprecated attributes and objectclasses  
Deprecated attributes :

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoXMonitor          (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath          (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients    (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum  (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd        (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout          (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer     (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN          (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable     (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter          (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath          (Goto - Gonicus Terminal Concept, value fontPath.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev              (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable         (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant        (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis         (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs           (Goto - Gonicus Terminal Concept, value autofsf.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule         (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable       (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel      (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.40``
gosaLoginRestriction  (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth       (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳ academicTitle       (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn     (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem        (Goto - Gonicus Terminal Concept, value filesystem.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ ghInventoryNumber   (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``

```

(continuation sur la page suivante)

(suite de la page précédente)

gosasubtreeACL	(Gosa -	
→ ACL entry)		- 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator	(FusionDirectory -	
→ An automatic way to generate new user ids)		- 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport	(Hardware definitions,	
→ value usbSupport)		- 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus	(Keeps current system status -	
→ info shown in Gosa)		- 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste	(FusionDirectory - (de)Activate copy/	
→ paste)		- 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver	(Goto - Gonicus Terminal Concept, value xDriver.	
→)		- 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel	(Goto - Gonicus Terminal Concept, value xKbmodel.	
→)		- 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN	(FusionDirectory -	
→ Personal title in dn)		- 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer	(Goto - Gonicus Terminal Concept, value lpdServer.	
→)		- 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync	(Goto - Gonicus Terminal Concept, value xHsync.	
→)		- 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags	(Goto - Flags for Profile handling -	
→ C is for caching)		- 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType	(Hardware definitions,	
→ value cpuType)		- 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution	(Goto - Gonicus Terminal Concept, value xResolution.	
→)		- 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare	(Goto -	
→ specifies a share)		- 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend	(Goto - Gonicus Terminal Concept, value scannerBackend.	
→)		- 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword	(FusionDirectory -	
→ Snapshost admin password)		- 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts	(FusionDirectory -	
→ available voicemail contexts)		- 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage	(Gosa -	
→ Defines the default language for a user)		- 1.3.6.1.4.1.10098.1.1.12.
→ 14``		
ghMemSize	(Hardware definitions,	
→ value memSize)		- 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota	(Goto -	
→ save quota for home)		- 1.3.6.1.4.1.10098.1.1.11.
→ 15``		
fdSipContexts	(FusionDirectory -	
→ available sip contexts)		- 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN	(FusionDirectory -	
→ Phone conference RDN)		- 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev	(Hardware definitions,	
→ value scsiDev)		- 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN	(FusionDirectory -	
→ Phone macro RDN)		- 1.3.6.1.4.1.38414.19.10.2``
ghNetNic	(Hardware definitions,	
→ value Network Device)		- 1.3.6.1.4.1.10098.1.1.2.8``

(suite sur la page suivante)

(suite de la page précédente)

```
gotoFloppyEnable      (Goto - Gonicus Terminal Concept, value floppyEnable.
→)                  - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton     (Goto - Gonicus Terminal Concept, value xMouseButton.
→)                  - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType        (Hardware definitions,
→ value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``
```

Deprecated objectClasses :

```
goCupsServer          (CUPS server description)
→ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry         (Gosa -
→ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 3``
gosatemplate           (Gosa -
→ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 11``
gosaccount             (Gosa -
→ Class for Gosa Accounts) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 6``
gosobject              (Gosa -
→ Class for Gosa settings) - 1.3.6.1.4.1.10098.1.2.1.19.
→ 1``
```

— **fusiondirectory-setup --check-deprecated** will output a list of dn using old attributes and objectClasses

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

— **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with ldapmodify to clean your ldap server from old attributes.  
If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.25 Migrate FusionDirectory from 1.0.10 to 1.0.11

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## 5.2.26 Migrate FusionDirectory from 1.0.11 to 1.0.12

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Mail

In this version the mail plugin has been cleaned and his dependency to the systems has been removed. In the mean time the postfix and spamassassin service have been moved in their own plugins. The antivirus service have been removed.

The old spamassassin settings from the mail user tab have been rewritten and moved to a spamassasin plugin, they now support the real LDAP backend of spamassasin. So you will need to move your data to the new format before using them.

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

if your are using the mail plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/mail-fd.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/mail-fd-conf.schema
```

if your are using the system plugin you have to update its schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

## Postfix plugin

if you where using the postfix service in 1.0.11, you need to install the postfix plugin and insert the postfix schema

```
apt-get install fusiondirectory-plugin-postfix
apt-get install fusiondirectory-plugin-postfix-schema
```

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/postfix-fd.schema``
```

## spamassassin plugin

if you where using the spamassin service in 1.0.11, you need to install the spamassassin plugin and insert the spamassassin schema

```
apt-get install fusiondirectory-plugin-spamassassin
apt-get install fusiondirectory-plugin-spamassassin-schema
```

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/spamassassin-fd.schema
```

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
```

(suite sur la page suivante)



(suite de la page précédente)

```

fdSnapshotURI          (FusionDirectory -
↳ Snaphost URI)          - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync              (Goto - Gonikus Terminal Concept, value xVsync.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter          (Hardware definitions,
↳ value soundAdapter)    - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport          (Goto - Gonikus Terminal Concept, value xMouseport.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor            (Goto - Gonikus Terminal Concept, value xMonitor.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath           (Goto - Gonikus Terminal Concept, value adaptpath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients      (Goto - Gonikus Terminal Concept, value scannerClients.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum    (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd          (Goto - Gonikus Terminal Concept, value rootPasswd.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout           (Goto - Gonikus Terminal Concept, value xKblayout.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer       (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN            (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable       (Goto - Gonikus Terminal Concept, value scannerEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter            (Hardware definitions,
↳ value Grafikkarte)    - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath            (Goto - Gonikus Terminal Concept, value fontPath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                (Hardware definitions,
↳ value ideDev)         - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable           (Goto - Gonikus Terminal Concept, value lpdEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant          (Goto - Gonikus Terminal Concept, value xKbvariant.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis            (FusionDirectory -
↳ rfc2307bis)          - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs              (Goto - Gonikus Terminal Concept, value autofsf.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule           (Goto - Gonikus Terminal Concept, value sound Modules.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable         (Goto - Gonikus Terminal Concept, value cdromEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel        (Goto - Gonikus Terminal Concept, value scannerModel.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction    (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth         (Goto - Gonikus Terminal Concept, value xColordepth.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.21``

```

(suite sur la page suivante)

(suite de la page précédente)

```

↳ academicTitle          (Field to represent the academic title)
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn        (FusionDirectory -
↳ Snapshost admin dn)      - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem           (Goto - Gonicus Terminal Concept, value filesystem.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.6``

↳ ghInventoryNumber       (Unique number for inclusion in an inventory)
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL           (Gosa -
↳ ACL entry)                - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator            (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport             (Hardware definitions,
↳ value usbSupport)         - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus            (Keeps current system status -
↳ info shown in Gosa)       - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste              (FusionDirectory - (de)Activate copy/
↳ paste)                    - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver              (Goto - Gonicus Terminal Concept, value xDriver.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel             (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN      (FusionDirectory -
↳ Personal title in dn)     - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer            (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync              (Goto - Gonicus Terminal Concept, value xHsync.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags         (Goto - Flags for Profile handling -
↳ C is for caching)        - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType               (Hardware definitions,
↳ value cpuType)           - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution          (Goto - Gonicus Terminal Concept, value xResolution.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare                (Goto -
↳ specifies a share)        - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend       (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword  (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts      (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage      (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize                (Hardware definitions,
↳ value memSize)           - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota         (Goto -
↳ save quota for home)     - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``

```

(suite sur la page suivante)

(suite de la page précédente)

```

fdSipContexts          (FusionDirectory -
↳ available sip contexts)          - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN   (FusionDirectory -
↳ Phone conference RDN)           - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)                - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN        (FusionDirectory -
↳ Phone macro RDN)              - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)          - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton       (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType         (Hardware definitions,
↳ value Type of mouse)          - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer           (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry         (Gosa -
↳ Class for Gosa caching)        - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate       (Gosa -
↳ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount            (Gosa -
↳ Class for Gosa Accounts)       - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject             (Gosa -
↳ Class for Gosa settings)       - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.27 Migrate FusionDirectory from 1.0.12 to 1.0.13

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

if your are using the alias plugin you have to update its schema

```
fusiondirectory-insert-schema-m /etc/ldap/schema/fusiondirectory/alias-fd.schema``
```

### Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

### Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snapshot URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
```

(suite sur la page suivante)

(suite de la page précédente)

```

ghSoundAdapter          (Hardware definitions,
↳ value soundAdapter)    - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport          (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor            (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath            (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients      (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum    (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd          (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout           (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer       (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN            (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable       (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter            (Hardware definitions,
↳ value Grafikkarte)      - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath            (Goto - Gonicus Terminal Concept, value fontPath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                (Hardware definitions,
↳ value ideDev)           - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable           (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant          (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis           (FusionDirectory -
↳ rfc2307bis)             - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs              (Goto - Gonicus Terminal Concept, value autofs.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule           (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable         (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel        (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction    (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth         (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳ academicTitle          (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn       (FusionDirectory -
↳ Snaphost admin dn)     - 1.3.6.1.4.1.38414.8.17.4

```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoFilesystem          (Goto - Gonicus Terminal Concept, value filesystem.
↳)                      - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber      (Unique number for inclusion in an inventory)
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL          (Gosa -
↳ ACL entry)           - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator          (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport           (Hardware definitions,
↳ value usbSupport)    - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus          (Keeps current system status -
↳ info shown in Gosa)  - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste           (FusionDirectory - (de)Activate copy/
↳ paste)               - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver            (Goto - Gonicus Terminal Concept, value xDriver.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel           (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN    (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer          (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync             (Goto - Gonicus Terminal Concept, value xHsync.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags       (Goto - Flags for Profile handling -
↳ C is for caching)    - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType              (Hardware definitions,
↳ value cpuType)       - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution        (Goto - Gonicus Terminal Concept, value xResolution.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare              (Goto -
↳ specifies a share)    - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend     (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)                    - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts    (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage    (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize              (Hardware definitions,
↳ value memSize)       - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota       (Goto -
↳ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts          (FusionDirectory -
↳ available sip contexts) - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN    (FusionDirectory -
↳ Phone conference RDN) - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)       - 1.3.6.1.4.1.10098.1.1.2.5`` (suite sur la page suivante)

```

(suite de la page précédente)

```

fdPhoneMacroRDN          (FusionDirectory -
↳ Phone macro RDN)          - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic                  (Hardware definitions,
↳ value Network Device)      - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable          (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton          (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                          - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType            (Hardware definitions,
↳ value Type of mouse)      - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer              (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry            (Gosa -
↳ Class for Gosa caching)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate          (Gosa -
↳ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount              (Gosa -
↳ Class for Gosa Accounts)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject               (Gosa -
↳ Class for Gosa settings)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.28 Migrate FusionDirectory from 1.0.13 to 1.0.14

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Plugin deprecated

The game plugin as been removed in this version

### Upgrade of LDAP directory

if your are using the community plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/community-fd.schema``
```

if your are using the systems plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema``
```

### Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist



## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules (Goto - Gonicus Terminal Concept, value kernel modules.
↳) - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook (FusionDirectory -
↳ Password hook (external command)) - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI (FusionDirectory -
↳ Snaphost URI) - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync (Goto - Gonicus Terminal Concept, value xVsync.
↳) - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter (Hardware definitions,
↳ value soundAdapter) - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport (Goto - Gonicus Terminal Concept, value xMouseport.
↳) - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor (Goto - Gonicus Terminal Concept, value xMonitor.
↳) - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath (Goto - Gonicus Terminal Concept, value adaptpath.
↳) - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients (Goto - Gonicus Terminal Concept, value scannerClients.
↳) - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd (Goto - Gonicus Terminal Concept, value rootPasswd.
↳) - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout (Goto - Gonicus Terminal Concept, value xKblayout.
↳) - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable (Goto - Gonicus Terminal Concept, value scannerEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.
↳) - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable (Goto - Gonicus Terminal Concept, value lpdEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant (Goto - Gonicus Terminal Concept, value xKbvariant.
↳) - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs (Goto - Gonicus Terminal Concept, value autofsf.
↳) - 1.3.6.1.4.1.10098.1.1.1.31``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoSndModule          (Goto - Gonicus Terminal Concept, value sound Modules.
↳)          - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable        (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)          - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel       (Goto - Gonicus Terminal Concept, value scannerModel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction   (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth        (Goto - Gonicus Terminal Concept, value xColordepth.
↳)          - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle         (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn      (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem         (Goto - Gonicus Terminal Concept, value filesystem.
↳)          - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber     (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL         (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator          (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport           (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus          (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste            (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver            (Goto - Gonicus Terminal Concept, value xDriver.
↳)          - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel           (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN    (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer          (Goto - Gonicus Terminal Concept, value lpdServer.
↳)          - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync             (Goto - Gonicus Terminal Concept, value xHsync.
↳)          - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags       (Goto - Flags for Profile handling -
↳ C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType              (Hardware definitions,
↳ value cpuType) - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution        (Goto - Gonicus Terminal Concept, value xResolution.
↳)          - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare              (Goto -
↳ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend     (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)          - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5

```

(suite sur la page suivante)

(suite de la page précédente)

```

fdVoicemailContexts      (FusionDirectory -
↳ available voicemail contexts)      - 1.3.6.1.4.1.38414.19.11.2``
gosaDefaultLanguage      (GOsa -
↳ Defines the default language for a user)      - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize                (Hardware definitions,
↳ value memSize)                - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota          (GOto -
↳ save quota for home)          - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts            (FusionDirectory -
↳ available sip contexts)            - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN      (FusionDirectory -
↳ Phone conference RDN)            - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev                (Hardware definitions,
↳ value scsiDev)                - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN          (FusionDirectory -
↳ Phone macro RDN)              - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic                 (Hardware definitions,
↳ value Network Device)          - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable          (GOto - Gonics Terminal Concept, value floppyEnable.
↳)                                - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton          (GOto - Gonics Terminal Concept, value xMouseButton.
↳)                                - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType            (Hardware definitions,
↳ value Type of mouse)            - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer              (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry            (GOsa -
↳ Class for GOsa caching)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate          (GOsa -
↳ Class for GOsa User Templates)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount              (GOsa -
↳ Class for GOsa Accounts)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject                (GOsa -
↳ Class for GOsa settings)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses if they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean your ldap

server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## New Breezy Theme

In this version by default there is a new more modern theme called breezy. To active it completely go to the configuration plugin, click edit and in the « Look and feel » section select breezy

Enjoy :)

## 5.2.29 Migrate FusionDirectory from 1.0.14 to 1.0.15

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Plugin deprecated

The apache2 plugin as been removed in this version

```
apt-get remove fusiondirectory-plugin-apache2
```

```
apt-get remove fusiondirectory-plugin-apache2-schema
```

After removing you apache2 data from the LDAP, you may empty the schema

```
fusiondirectory-insert-schema -e mod_vhost_ldap
```

## Upgrade of LDAP directory

Upgrade the core template schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema``
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema``
```

if your are using the systems plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema``
```

if your are using the personal plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/personal-fd.schema``
```

## Remove old schema from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove **recovery-fd.schema** and **asterisk-fd.conf** if they still exist

## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses_
↳Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snapshot URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoRootPasswd      (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout        (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer    (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN         (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable    (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter         (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath         (Goto - Gonicus Terminal Concept, value fontPath.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev             (Hardware definitions,
↳ value ideDev)      - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable        (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant       (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis         (FusionDirectory -
↳ rfc2307bis)        - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs           (Goto - Gonicus Terminal Concept, value autofsf.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule        (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable      (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel     (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth      (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle       (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn    (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem       (Goto - Gonicus Terminal Concept, value filesystem.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber    (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL       (Gosa -
↳ ACL entry)         - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator        (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport         (Hardware definitions,
↳ value usbSupport)  - 1.3.6.1.4.1.10098.1.1.2.3``

```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoSysStatus          (Keeps current system status -
↳ info shown in G0sa)      - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste            (FusionDirectory - (de)Activate copy/
↳ paste)                  - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver            (G0to - Gonicus Terminal Concept, value xDriver.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel           (G0to - Gonicus Terminal Concept, value xKbmodel.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN    (FusionDirectory -
↳ Personal title in dn)      - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer          (G0to - Gonicus Terminal Concept, value lpdServer.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync            (G0to - Gonicus Terminal Concept, value xHsync.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags       (G0to - Flags for Profile handling -
↳ C is for caching)        - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType              (Hardware definitions,
↳ value cpuType)          - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution        (G0to - Gonicus Terminal Concept, value xResolution.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare              (G0to -
↳ specifies a share)        - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend     (G0to - Gonicus Terminal Concept, value scannerBackend.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts    (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage    (G0sa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize              (Hardware definitions,
↳ value memSize)          - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota       (G0to -
↳ save quota for home)    - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts          (FusionDirectory -
↳ available sip contexts)  - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN   (FusionDirectory -
↳ Phone conference RDN)   - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)          - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN        (FusionDirectory -
↳ Phone macro RDN)       - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)   - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (G0to - Gonicus Terminal Concept, value floppyEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton      (G0to - Gonicus Terminal Concept, value xMouseButton.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType         (Hardware definitions,
↳ value Type of mouse)    - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```
goCupsServer          (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry        (G0sa -
↳ Class for G0sa caching)          - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosatemplate          (G0sa -
↳ Class for G0sa User Templates)    - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaccount            (G0sa -
↳ Class for G0sa Accounts)          - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosobject             (G0sa -
↳ Class for G0sa settings)          - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``
```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## Hook

You must modify your hook so that they don't use quotes. The attributes are now automatically quotes and escape.

## New Breezy Theme

In this version by default there is a new more modern theme called breezy. To active it completely go to the configuration plugin, click edit and in the « Look and feel » section select breezy

Enjoy :)



## 5.2.30 Migrate FusionDirectory from 1.0.15 to 1.0.16

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

Upgrade the core schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
```

The lock attribute and objectClass has been changed so you need to run fusiondirectory-setup --delete-gosa-locks to remove them

```
fusiondirectory-setup --delete-gosa-locks
Delete lock tokens using old gosaLockEntry class
Deleted lock 'cn=df0c0960f4202f794a331f07f3fbcccd,ou=locks,ou=fusiondirectory,dc=org'
Deleted lock 'cn=157dc41f15328c6ae3f1a2542c0dd481,ou=locks,ou=fusiondirectory,dc=org'
```

### Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
(suite sur la page suivante)
```

(suite de la page précédente)

```

fdSnapshotURI          (FusionDirectory -
↳ Snaphost URI)          - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync              (Goto - Gonicus Terminal Concept, value xVsync.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter          (Hardware definitions,
↳ value soundAdapter)    - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport          (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor            (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath           (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients      (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum    (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd          (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout           (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer       (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN            (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable       (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter            (Hardware definitions,
↳ value Grafikkarte)    - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath            (Goto - Gonicus Terminal Concept, value fontPath.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                (Hardware definitions,
↳ value ideDev)        - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable           (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant          (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis            (FusionDirectory -
↳ rfc2307bis)          - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs              (Goto - Gonicus Terminal Concept, value autofs.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule           (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable         (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel        (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction    (Gosa -
↳ Multivalued attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth         (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.21``

```

(suite sur la page suivante)

(suite de la page précédente)

```

↳ academicTitle (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem (Goto - Gonius Terminal Concept, value filesystem.
↳) - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ ghInventoryNumber (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver (Goto - Gonius Terminal Concept, value xDriver.
↳) - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel (Goto - Gonius Terminal Concept, value xKbmodel.
↳) - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDn (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer (Goto - Gonius Terminal Concept, value lpdServer.
↳) - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync (Goto - Gonius Terminal Concept, value xHsync.
↳) - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags (Goto - Flags for Profile handling -
↳ C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType (Hardware definitions,
↳ value cpuType) - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution (Goto - Gonius Terminal Concept, value xResolution.
↳) - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare (Goto -
↳ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend (Goto - Gonius Terminal Concept, value scannerBackend.
↳) - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize (Hardware definitions,
↳ value memSize) - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota (Goto -
↳ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``

```

(suite sur la page suivante)

(suite de la page précédente)

```

fdSipContexts          (FusionDirectory -
↳ available sip contexts)          - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN   (FusionDirectory -
↳ Phone conference RDN)           - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)                - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN        (FusionDirectory -
↳ Phone macro RDN)              - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)         - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton       (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType         (Hardware definitions,
↳ value Type of mouse)         - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer           (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry         (Gosa -
↳ Class for Gosa caching)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate       (Gosa -
↳ Class for Gosa User Templates)     - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount            (Gosa -
↳ Class for Gosa Accounts)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject             (Gosa -
↳ Class for Gosa settings)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## 5.2.31 Migrate FusionDirectory from 1.0.16 to 1.0.17

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

if your are using the fai plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/fai.schema
```

if your are using the personal plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/personal-fd.schema
```

if your are using the dhcp plugin you have to install a new schema

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dhcp-fd-conf.schema
```

### Remove old Idif from /etc/ldap/schema/fusiondirectory

The old schema are not automatically removed from /etc/ldap/schema/fusiondirectory. You can safely remove /etc/ldap/schema/fusiondirectory/ppolicydefault.ldif

## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules (Goto - Gonicus Terminal Concept, value kernel modules.
↳) - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook (FusionDirectory -
↳ Password hook (external command)) - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI (FusionDirectory -
↳ Snaphost URI) - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync (Goto - Gonicus Terminal Concept, value xVsync.
↳) - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter (Hardware definitions,
↳ value soundAdapter) - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport (Goto - Gonicus Terminal Concept, value xMouseport.
↳) - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor (Goto - Gonicus Terminal Concept, value xMonitor.
↳) - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath (Goto - Gonicus Terminal Concept, value adaptpath.
↳) - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients (Goto - Gonicus Terminal Concept, value scannerClients.
↳) - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd (Goto - Gonicus Terminal Concept, value rootPasswd.
↳) - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout (Goto - Gonicus Terminal Concept, value xKblayout.
↳) - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable (Goto - Gonicus Terminal Concept, value scannerEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.
↳) - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable (Goto - Gonicus Terminal Concept, value lpdEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant (Goto - Gonicus Terminal Concept, value xKbvariant.
↳) - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs (Goto - Gonicus Terminal Concept, value autofs.
↳) - 1.3.6.1.4.1.10098.1.1.1.31``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoSndModule          (Goto - Gonicus Terminal Concept, value sound Modules.
↳)          - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable        (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)          - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel       (Goto - Gonicus Terminal Concept, value scannerModel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction   (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth        (Goto - Gonicus Terminal Concept, value xColordepth.
↳)          - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle         (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn      (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem         (Goto - Gonicus Terminal Concept, value filesystem.
↳)          - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber     (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL         (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator          (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport           (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus          (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste           (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver            (Goto - Gonicus Terminal Concept, value xDriver.
↳)          - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel           (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)          - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN    (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer          (Goto - Gonicus Terminal Concept, value lpdServer.
↳)          - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync            (Goto - Gonicus Terminal Concept, value xHsync.
↳)          - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags       (Goto - Flags for Profile handling -
↳ C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType              (Hardware definitions,
↳ value cpuType) - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution        (Goto - Gonicus Terminal Concept, value xResolution.
↳)          - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare              (Goto -
↳ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend     (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)          - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5

```

(suite sur la page suivante)

(suite de la page précédente)

```

fdVoicemailContexts      (FusionDirectory -
↳ available voicemail contexts)      - 1.3.6.1.4.1.38414.19.11.2``
gosaDefaultLanguage      (GOsa -
↳ Defines the default language for a user)      - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize                (Hardware definitions,
↳ value memSize)                - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota         (GOto -
↳ save quota for home)         - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts            (FusionDirectory -
↳ available sip contexts)            - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN     (FusionDirectory -
↳ Phone conference RDN)           - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev                (Hardware definitions,
↳ value scsiDev)                - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN          (FusionDirectory -
↳ Phone macro RDN)              - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic                 (Hardware definitions,
↳ value Network Device)          - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable         (GOto - Gonicus Terminal Concept, value floppyEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton        (GOto - Gonicus Terminal Concept, value xMouseButton.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType           (Hardware definitions,
↳ value Type of mouse)           - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer              (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry            (GOsa -
↳ Class for GOsa caching)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate          (GOsa -
↳ Class for GOsa User Templates)      - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount              (GOsa -
↳ Class for GOsa Accounts)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject               (GOsa -
↳ Class for GOsa settings)            - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap



server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

### Migrate your DHCP entries

if you were using the DHCP plugin in 1.0.16, you need to migrate your entries to the dhcp branch, run the **fusiondirectory-setup --migrate-dhcp** for this

```
fusiondirectory-setup --migrate-dhcp
```

### Checking your indexed attributes

Check that all your index still match with valid attributes present in your ldap directory

Enjoy :)

## 5.2.32 Migrate FusionDirectory from 1.0.17 to 1.0.18

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory needs the php-cas library for CAS server support. This library can normally be found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade the core schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
```

## Upgrade of LDAP directory

if your are using the systems plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema
```

## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd             (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout              (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer          (Goto -
↳ specifies the profile server)                - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN              (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs)                - 1.3.6.1.4.1.38414.8.12.
↳ 2``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoScannerEnable      (Goto - Gonicus Terminal Concept, value scannerEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter            (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath            (Goto - Gonicus Terminal Concept, value fontPath.
↳) - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                (Hardware definitions,
↳ value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable           (Goto - Gonicus Terminal Concept, value lpdEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant          (Goto - Gonicus Terminal Concept, value xKbvariant.
↳) - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis            (FusionDirectory -
↳ rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs              (Goto - Gonicus Terminal Concept, value autofsf.
↳) - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule           (Goto - Gonicus Terminal Concept, value sound Modules.
↳) - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable         (Goto - Gonicus Terminal Concept, value cdromEnable.
↳) - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel        (Goto - Gonicus Terminal Concept, value scannerModel.
↳) - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction    (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth          (Goto - Gonicus Terminal Concept, value xColordepth.
↳) - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle           (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn        (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem           (Goto - Gonicus Terminal Concept, value filesystem.
↳) - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber        (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL           (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator            (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport             (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus            (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste              (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver              (Goto - Gonicus Terminal Concept, value xDriver.
↳) - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel             (Goto - Gonicus Terminal Concept, value xKbmodel.
↳) - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN      (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5

```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoLpdServer      (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync         (Goto - Gonicus Terminal Concept, value xHsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags   (Goto - Flags for Profile handling -
↳ C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType          (Hardware definitions,
↳ value cpuType)   - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution    (Goto - Gonicus Terminal Concept, value xResolution.
↳)                - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare          (Goto -
↳ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)                - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize          (Hardware definitions,
↳ value memSize)   - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota   (Goto -
↳ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts      (FusionDirectory -
↳ available sip contexts) - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN (FusionDirectory -
↳ Phone conference RDN) - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev          (Hardware definitions,
↳ value scsiDev)   - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN    (FusionDirectory -
↳ Phone macro RDN) - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic           (Hardware definitions,
↳ value Network Device) - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable    (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton   (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType      (Hardware definitions,
↳ value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer        (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry      (Gosa -
↳ Class for Gosa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosatemplate         (Gosa -
↳ Class for Gosa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``

```

(suite sur la page suivante)

(suite de la page précédente)

```

gosAccount      (G0sa -
→ Class for G0sa Accounts)      - 1.3.6.1.4.1.10098.1.2.1.19.
→ 6 ``
gosObject       (G0sa -
→ Class for G0sa settings)      - 1.3.6.1.4.1.10098.1.2.1.19.
→ 1 ``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## Correcting acl editownpwd

**Avertissement :** To fix the error in the installed editownpwd, you need to go :

- Acl roles
- Open the editownpwd acl
- Save it

Its very important you do it, to know why look at [the users must update his role editownpasswd](#)

## Checking your indexed attributes

Check that all you index still match with valid attributes present in your ldap directory

Enjoy :)

## 5.2.33 Migrate FusionDirectory from 1.0.18 to 1.0.19

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

No upgrade

### Upgrade of LDAP directory

No Upgrade

### Correcting acl editownpwd

**Avertissement :** To fix the error in the installed editownpwd, you need to go :

- Acl roles
- Open the editownpwd acl
- Save it

Its very important you do it, to know why look at [the users must update his role editownpasswd](#)

Enjoy :)

## 5.2.34 Migrate FusionDirectory from 1.0.19 to 1.0.20

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

### Upgrade of LDAP directory

Upgrade the core schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/template-fd.schema
```

### Upgrade of LDAP directory

if your are using the argonaut plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema
```

### Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
```

(suite sur la page suivante)

(suite de la page précédente)

```

fdSnapshotURI                (FusionDirectory -
↳ Snaphost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                    (Goto - Gonicus Terminal Concept, value xVsync.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter                (Hardware definitions,
↳ value soundAdapter)          - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport                (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor                  (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath                 (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients            (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum          (Goto -
↳ quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.12``
gotoRootPasswd                (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout                 (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer             (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN                  (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable             (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter                  (Hardware definitions,
↳ value Grafikkarte)          - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath                  (Goto - Gonicus Terminal Concept, value fontPath.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev                      (Hardware definitions,
↳ value ideDev)                - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable                 (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant                (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis                  (FusionDirectory -
↳ rfc2307bis)                  - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs                    (Goto - Gonicus Terminal Concept, value autofsf.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule                 (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable               (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel              (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.40``
gosaLoginRestriction          (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth               (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.21``

```

(suite sur la page suivante)



(suite de la page précédente)

```

↳ academicTitle (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn (FusionDirectory -
↳ Snaphost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem (Goto - Gonius Terminal Concept, value filesystem.
↳) - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ ghInventoryNumber (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL (Gosa -
↳ ACL entry) - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``
gotoSysStatus (Keeps current system status -
↳ info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste (FusionDirectory - (de)Activate copy/
↳ paste) - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver (Goto - Gonius Terminal Concept, value xDriver.
↳) - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel (Goto - Gonius Terminal Concept, value xKbmodel.
↳) - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDn (FusionDirectory -
↳ Personal title in dn) - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer (Goto - Gonius Terminal Concept, value lpdServer.
↳) - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync (Goto - Gonius Terminal Concept, value xHsync.
↳) - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags (Goto - Flags for Profile handling -
↳ C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType (Hardware definitions,
↳ value cpuType) - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution (Goto - Gonius Terminal Concept, value xResolution.
↳) - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare (Goto -
↳ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend (Goto - Gonius Terminal Concept, value scannerBackend.
↳) - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snaphost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosasDefaultLanguage (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize (Hardware definitions,
↳ value memSize) - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota (Goto -
↳ save quota for home) - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``

```

(suite sur la page suivante)

(suite de la page précédente)

```

fdSipContexts          (FusionDirectory -
↳ available sip contexts)          - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN   (FusionDirectory -
↳ Phone conference RDN)           - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)                - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN        (FusionDirectory -
↳ Phone macro RDN)              - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)          - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton       (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                               - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType         (Hardware definitions,
↳ value Type of mouse)          - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```

goCupsServer           (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosaCacheEntry         (Gosa -
↳ Class for Gosa caching)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosaUserTemplate       (Gosa -
↳ Class for Gosa User Templates)     - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaAccount            (Gosa -
↳ Class for Gosa Accounts)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosaObject             (Gosa -
↳ Class for Gosa settings)           - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``

```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```

fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes

```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## Correcting acl editownpwd

**Avertissement :** To fix the error in the installed editownpwd, you need to go :

- Acl roles
- Open the editownpwd acl
- Save it

Its very important you do it, to know why look at [the users must update his role editownpasswd](#)

## Checking your indexed attributes

Check that all you index still match with valid attributes present in your ldap directory

Enjoy :)

## 5.2.35 Migrate FusionDirectory from 1.0.20 to 1.1

### Ubuntu 12.0.4 TLS users

**Avertissement :** Since 1.0.9.2 FusionDirectory need the php-cas library for CAS server support. This library can normally found in universe in the Ubuntu repositories.

In case you did not find it, grab the deb from here and install it

<http://packages.ubuntu.com/trusty/all/php-cas/download>

and select your preferred mirror

## New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly

*Debian Repository.*

*RPM Repository.*

## Removed plugins

If you used kolab2 plugin you need to remove the plugin and its schema with the following command

```
apt-get remove fusiondirectory-plugin-kolab2
apt-get remove fusiondirectory-plugin-kolab2-schema
```

## Splitted plugins

The posix tab of fusiondirectory is now a plugin by itself, if you use posix attributes install the corresponding plugin

```
apt-get install fusiondirectory-plugin-posix
```

## Upgrade schema2ldif

For Jessie distribution add extra repository

```
#fusiondirectory debian-extra repository  
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie jessie main
```

Update the package list and upgrade schema2ldif

```
apt-get update  
apt-get install schema2ldif
```

## Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade the core schemas

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd-conf.schema  
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
```

## Upgrade of LDAP directory

if you are using the argonaut plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/argonaut-fd.schema
```

if you are using the dhcp plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/dhcp-fd.schema
```

if you are using the fai plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/fai.schema
```

if you are using the mail plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/mail-fd.schema
```

if you are using the systems plugin you have to update its schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/service-fd.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd-conf.schema
```

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/systems-fd.schema
```

## Migrate old objects

If you have systems use this command to migrate them

```
fusiondirectory-setup --migrate-systems
```

If you have phones use this command to migrate them

```
fusiondirectory-setup --migrate-phones
```

If you have winstations use this command to migrate them

```
fusiondirectory-setup --migrate-winstations
```

## Check for deprecated attributes and objectClasses in your LDAP

The **list-deprecated** option of **fusiondirectory-setup** show deprecated attributes and objectClasses for FusionDirectory

```
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses.
↳ Deprecated attributes:

gotoModules                (Goto - Gonicus Terminal Concept, value kernel modules.
↳)                - 1.3.6.1.4.1.10098.1.1.1.32``
fdPasswordHook             (FusionDirectory -
↳ Password hook (external command))                - 1.3.6.1.4.1.38414.8.13.4``
fdSnapshotURI              (FusionDirectory -
↳ Snapshost URI)                - 1.3.6.1.4.1.38414.8.17.3``
gotoXVsync                 (Goto - Gonicus Terminal Concept, value xVsync.
↳)                - 1.3.6.1.4.1.10098.1.1.1.19``
ghSoundAdapter             (Hardware definitions,
↳ value soundAdapter)                - 1.3.6.1.4.1.10098.1.1.2.7``
gotoXMouseport             (Goto - Gonicus Terminal Concept, value xMouseport.
↳)                - 1.3.6.1.4.1.10098.1.1.1.22``
gotoXMonitor               (Goto - Gonicus Terminal Concept, value xMonitor.
↳)                - 1.3.6.1.4.1.10098.1.1.1.17``
gotoAdaptPath              (Goto - Gonicus Terminal Concept, value adaptpath.
↳)                - 1.3.6.1.4.1.10098.1.1.1.33``
gotoScannerClients         (Goto - Gonicus Terminal Concept, value scannerClients.
↳)                - 1.3.6.1.4.1.10098.1.1.1.11``
gotoHardwareChecksum       (Goto -
↳ quick way to see if something has changed)                - 1.3.6.1.4.1.10098.1.1.2.12``
```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoRootPasswd      (Goto - Gonicus Terminal Concept, value rootPasswd.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXKbLayout       (Goto - Gonicus Terminal Concept, value xKblayout.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.26``
gotoProfileServer   (Goto -
↳ specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.8``
fdAccountRDN        (FusionDirectory -
↳ use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12.
↳ 2``
gotoScannerEnable   (Goto - Gonicus Terminal Concept, value scannerEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.10``
ghGfxAdapter        (Hardware definitions,
↳ value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9``
gotoFontPath        (Goto - Gonicus Terminal Concept, value fontPath.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.5``
ghIdeDev            (Hardware definitions,
↳ value ideDev)     - 1.3.6.1.4.1.10098.1.1.2.4``
gotoLpdEnable       (Goto - Gonicus Terminal Concept, value lpdEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.9``
gotoXKbVariant      (Goto - Gonicus Terminal Concept, value xKbvariant.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.27``
fdRfc2307bis        (FusionDirectory -
↳ rfc2307bis)       - 1.3.6.1.4.1.38414.8.10.1``
gotoAutoFs          (Goto - Gonicus Terminal Concept, value autofsf.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.31``
gotoSndModule       (Goto - Gonicus Terminal Concept, value sound Modules.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.29``
gotoCdromEnable     (Goto - Gonicus Terminal Concept, value cdromEnable.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel    (Goto - Gonicus Terminal Concept, value scannerModel.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.40``
gosaloginRestriction (Gosa -
↳ Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.
↳ 1.12.46``
gotoXColordepth     (Goto - Gonicus Terminal Concept, value xColordepth.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.21``
↳
↳academicTitle      (Field to represent the academic title) -
↳ 1.3.6.1.4.1.10098.1.1.6.2``
fdSnapshotAdminDn   (FusionDirectory -
↳ Snapshost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFilesystem      (Goto - Gonicus Terminal Concept, value filesystem.
↳)                  - 1.3.6.1.4.1.10098.1.1.1.6``
↳
↳ghInventoryNumber   (Unique number for inclusion in an inventory) -
↳ 1.3.6.1.4.1.10098.1.1.2.10``
gosasubtreeACL      (Gosa -
↳ ACL entry)        - 1.3.6.1.4.1.10098.1.1.12.1``
fdIdGenerator       (FusionDirectory -
↳ An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4``
ghUsbSupport        (Hardware definitions,
↳ value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3``

```

(suite sur la page suivante)

(suite de la page précédente)

```

gotoSysStatus          (Keeps current system status -
↳ info shown in Gosa)      - 1.3.6.1.4.1.10098.1.1.2.11``
fdCopyPaste            (FusionDirectory - (de)Activate copy/
↳ paste)                  - 1.3.6.1.4.1.38414.8.14.5``
gotoXDriver            (Goto - Gonicus Terminal Concept, value xDriver.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel           (Goto - Gonicus Terminal Concept, value xKbmodel.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN    (FusionDirectory -
↳ Personal title in dn)      - 1.3.6.1.4.1.38414.8.12.5``
gotoLpdServer          (Goto - Gonicus Terminal Concept, value lpdServer.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.4``
gotoXHsync            (Goto - Gonicus Terminal Concept, value xHsync.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfileFlags       (Goto - Flags for Profile handling -
↳ C is for caching)        - 1.3.6.1.4.1.10098.1.1.11.7``
ghCpuType              (Hardware definitions,
↳ value cpuType)           - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXResolution        (Goto - Gonicus Terminal Concept, value xResolution.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare              (Goto -
↳ specifies a share)        - 1.3.6.1.4.1.10098.1.1.11.9``
gotoScannerBackend     (Goto - Gonicus Terminal Concept, value scannerBackend.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory -
↳ Snapshost admin password) - 1.3.6.1.4.1.38414.8.17.5``
fdVoicemailContexts    (FusionDirectory -
↳ available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosadefaultLanguage    (Gosa -
↳ Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.
↳ 14``
ghMemSize              (Hardware definitions,
↳ value memSize)           - 1.3.6.1.4.1.10098.1.1.2.2``
gotoProfileQuota       (Goto -
↳ save quota for home)     - 1.3.6.1.4.1.10098.1.1.11.
↳ 15``
fdSipContexts          (FusionDirectory -
↳ available sip contexts)  - 1.3.6.1.4.1.38414.19.11.1``
fdPhoneConferenceRDN   (FusionDirectory -
↳ Phone conference RDN)    - 1.3.6.1.4.1.38414.19.10.3``
ghScsiDev              (Hardware definitions,
↳ value scsiDev)           - 1.3.6.1.4.1.10098.1.1.2.5``
fdPhoneMacroRDN        (FusionDirectory -
↳ Phone macro RDN)        - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic               (Hardware definitions,
↳ value Network Device)    - 1.3.6.1.4.1.10098.1.1.2.8``
gotoFloppyEnable       (Goto - Gonicus Terminal Concept, value floppyEnable.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButton       (Goto - Gonicus Terminal Concept, value xMouseButton.
↳)                        - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseType         (Hardware definitions,
↳ value Type of mouse)     - 1.3.6.1.4.1.10098.1.1.1.34``

```

Deprecated objectClasses :

```
goCupsServer          (CUPS server description)
↳ 1.3.6.1.4.1.10098.1.2.1.23``
gosacacheEntry        (G0sa -
↳ Class for G0sa caching) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 3``
gosatemplate          (G0sa -
↳ Class for G0sa User Templates) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 11``
gosaccount            (G0sa -
↳ Class for G0sa Accounts) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 6``
gosobject             (G0sa -
↳ Class for G0sa settings) - 1.3.6.1.4.1.10098.1.2.1.19.
↳ 1``
```

The **check-deprecated** option will output a list of dn using old attributes and objectClasses of they are present in your ldap server

```
fusiondirectory-setup --check-deprecated
List LDAP entries using deprecated attributes or objectclasses
There are no entries in the LDAP using obsolete attributes
There are no entries in the LDAP using obsolete classes
```

The **ldif-deprecated** option will output an ldif file on the console that you can use with ldapmodify to clean you ldap server from old attributes.

```
fusiondirectory-setup --ldif-deprecated > remove_deprecated.ldif
```

If they are old objectClasses it will warn you and you will have to remove it by hand, they have been specified at the **fusiondirectory-setup --check-deprecated** step.

**Avertissement :** Please read it carefully before applying !!

## Checking your indexed attributes

Check that all you index still match with valid attributes present in your ldap directory

## New format for repository service

If you have a repository service. Open and save it back so it will use the new format

Enjoy :)



## 5.2.36 Migrate FusionDirectory from 1.1 to 1.1.1

### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly  
*Debian Repository.*  
*RPM Repository.*

### Upgrade schema2ldif

For Jessie distribution add extra repository

```
#fusiondirectory debian-extra repository

deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie jessie main
```

Update the package list and upgrade schema2ldif

```
apt-get update
apt-get install schema2ldif
```

### Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

Enjoy :)

## 5.2.37 Migrate FusionDirectory from 1.1.1 to 1.2

### New Depot Configuration

**Avertissement :** The repositories have been cleaned and reorganized please update your configuration accordingly  
*Debian Repository.*  
*RPM Repository.*

**Avertissement :** The gpg keys for FusionDirectory and Argonaut have been renewed so you need to install the new keys for the packages to install correctly  
*Getting the official GPG keys to active package signature.*

## Upgrade schema2ldif

For Jessie distribution add extra repository

```
#fusiondirectory debian-extra repository  
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie jessie main
```

Update the package list and upgrade schema2ldif

```
apt-get update  
apt-get install schema2ldif
```

## Upgrade FusionDirectory first

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

Upgrade FusionDirectory core package before other ones to avoid dependencies errors :

```
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```
apt-get install fusiondirectory-schema
```

## Upgrade of LDAP directory

Upgrade core schema of FusionDirectory

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/core-fd.schema
```

if you are using the renater plugin you have to add its new schema

```
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/renater-partage-fd.  
↪ schema
```

if you are using the sympa plugin you have to update its schema

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/sympa-fd-conf.schema  
fusiondirectory-insert-schema -m /etc/ldap/schema/fusiondirectory/sympa-fd.schema
```

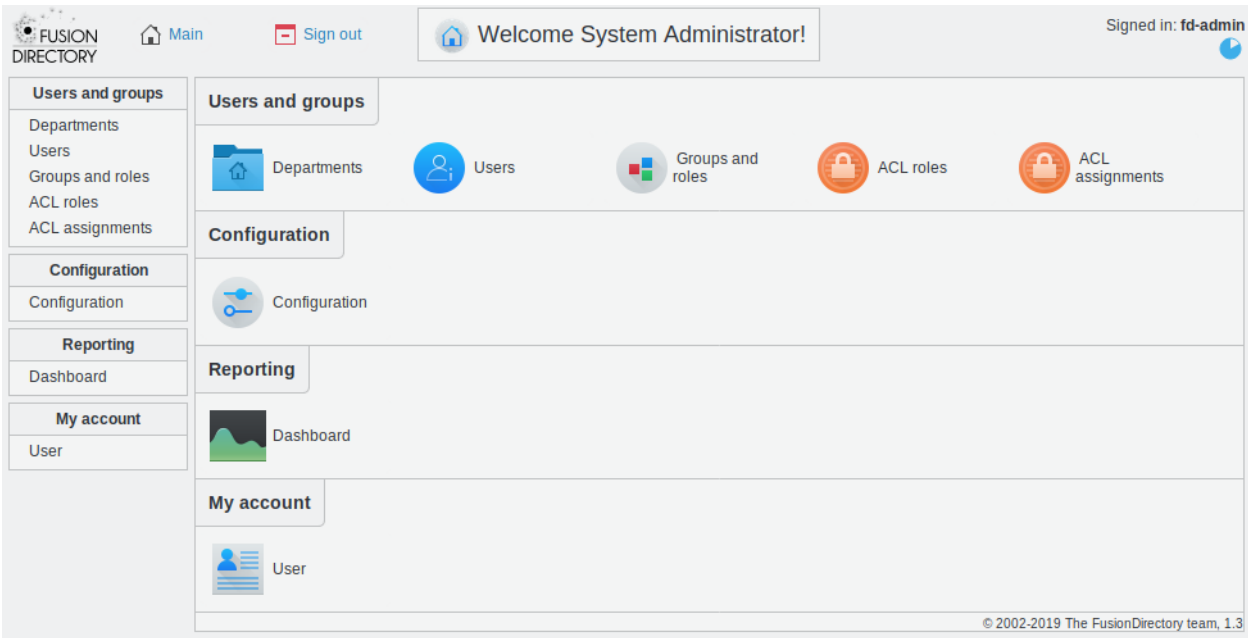
In case you use system template that have a DNS tab, you need to remake it because the separator « | » is changed to « ^ »

Enjoy :)

FusionDirectory Core

6.1 Main menu

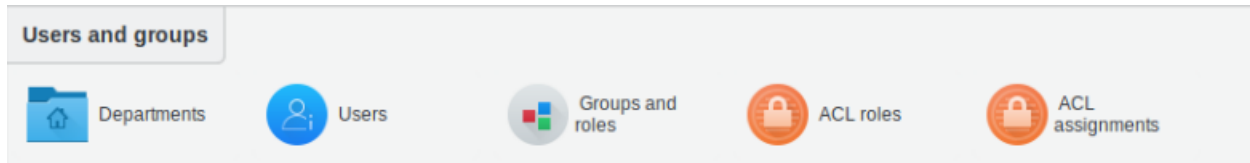
Once logged in into FusionDirectory, you get to the main menu. Here is what it looks like with core view :



### 6.1.1 Users and groups

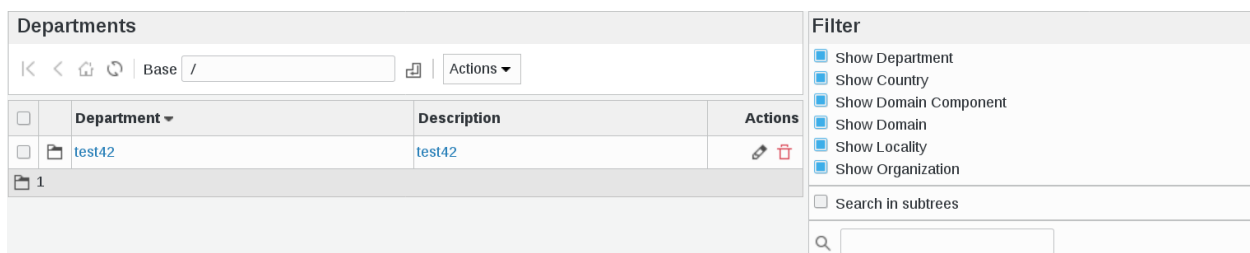
This section contains most plugins allowing to manage objects in your LDAP, by default mainly users and groups as the name suggest, but as you install plugin you may end up handling other types of objects.

In our example, this user can access the following Users and groups sections :



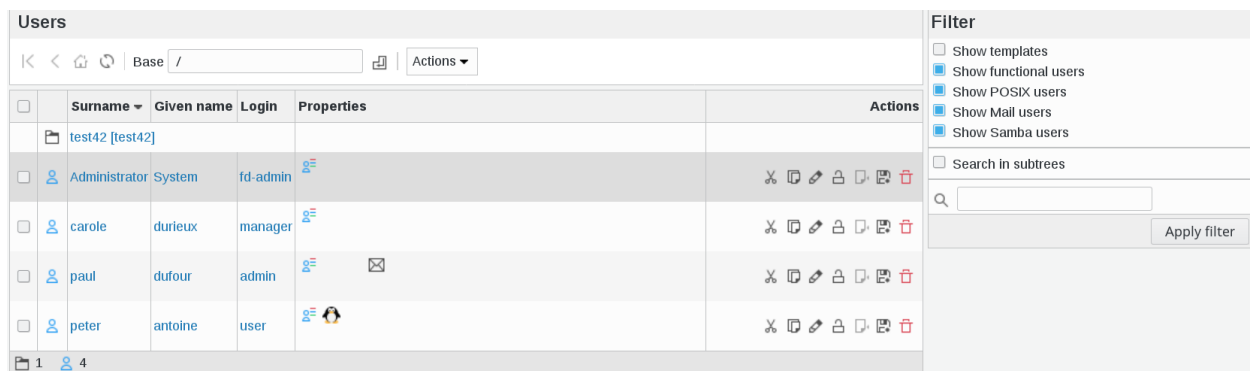
- **Departments** : manage Departments, countries, domain components, domains, localities and organization nodes

Here is an overview of Departments section details



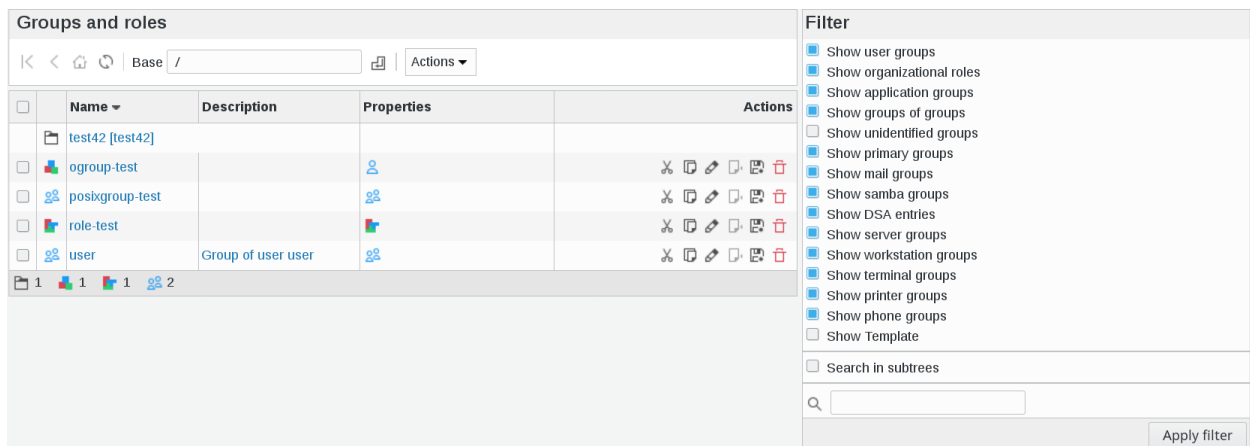
- **Users** : manage user accounts and their properties

Here is an overview of Users section details



- **Groups and roles** : allows you to manage objects groups, POSIX groups and roles

Here is an overview of Groups and roles section details



— **ACL roles** : manage ACL roles

Here is an overview of ACL roles section details

ACL roles				Filter	
<div> <div> <div></div> <div></div> <div></div> <div></div> </div> <div>Base /</div> <div>Actions</div> </div>				<input checked="" type="checkbox"/> Show ACL role	
				<input type="checkbox"/> Search in subtrees	
				<input type="text"/>	
				<input type="button" value="Apply filter"/>	
<input type="checkbox"/>	Name	Description	Actions		
<input type="checkbox"/>	test42 [test42]				
<input type="checkbox"/>	admin	Donner tous les droits sur tous les objets	✂️ 📄 📄 📄 📄 📄		
<input type="checkbox"/>	editowninfos	Permet aux utilisateurs d'éditer leur propres informations (onglet principal et posix, à n'utiliser que sur la base)	✂️ 📄 📄 📄 📄 📄		
<input type="checkbox"/>	manager	Donner tous les droits sur les utilisateurs de cette branche	✂️ 📄 📄 📄 📄 📄		
1 3					

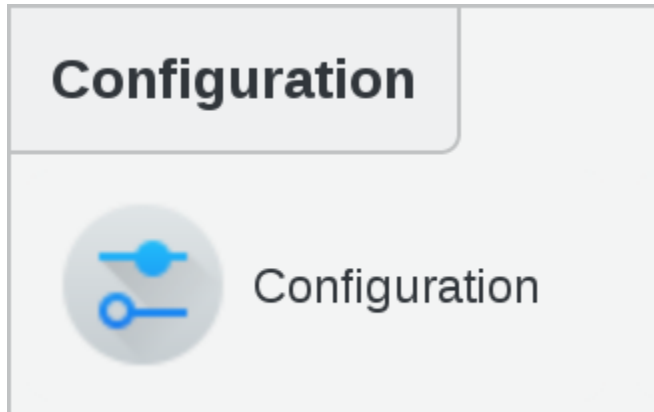
— **ACL assignments** : manage ACL roles assignments to users

Here is an overview of ACL assignments section details

ACL assignments				Filter	
<div> <div></div> <div>Actions</div> </div>				<input checked="" type="checkbox"/> Show ACL assignment	
				<input type="checkbox"/> Search in subtrees	
				<input type="text"/>	
				<input type="button" value="Apply filter"/>	
<input type="checkbox"/>	Name	Description	Actions		
<input type="checkbox"/>	[ACL Assignment]	fusiondirectory	📄 📄 📄 📄		
<input type="checkbox"/>	templates [ACL Assignment]		📄 📄 📄 📄		
<input type="checkbox"/>	test42 [ACL Assignment]	test42	📄 📄 📄 📄		
3					

## 6.1.2 Configuration

This section contains the configuration page of your FusionDirectory installation, and it may contain configuration screen for other plugins as you install them.



Here is an overview of configuration section details

Sign out

FusionDirectory configuration

Signed in

cn=config,ou=fusiondirectory,dc=demo-fusiondirectory,dc=org Click the 'Edit' button below to change information in t

Configuration

Samba

Mail

Plugins

Systems

User reminder

Password recovery

FAI configuration

Look and feel

LanguageEnglish (English)

Theme\*breezy

Timezone\*Europe/Brussels

Password settings

Password default hash\*ssha

Force default hash

Password minimum length

Password minimum differs

Use account expiration

SASL Realm

SASL Exop

SSL

Key path/etc/ssl/private/fd.key

Core settings

LDAP size limit200

Edit lockingentryCSN

Enable logging

Schema validation

Enable snapshots

Snapshot baseou=snapshots,dc=demo-fus

Wildcard foreign keys

Login and session

Login attribute\*uid

Enforce encrypted connections

Warn if session is not encrypted

Session lifetime\*1800

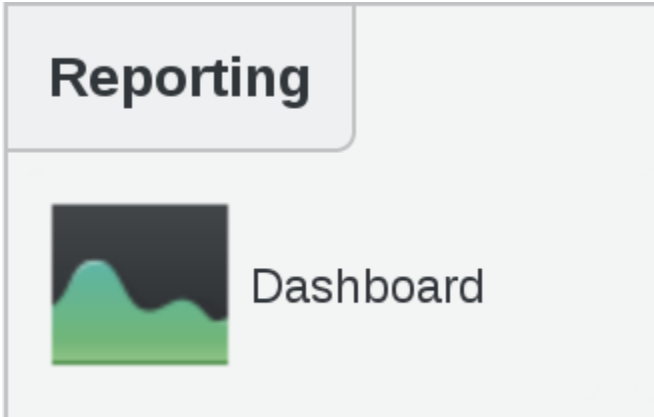
HTTP Basic authentication

HTTP Header authentication

Header nameAUTH\_USER

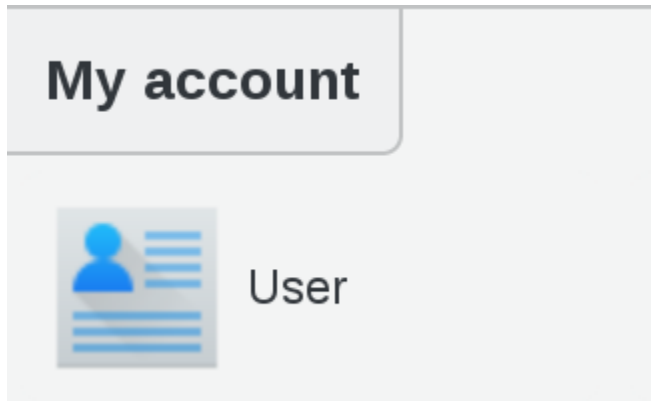
6.1.3 Reporting

This section contains the dashboard and any reporting plugin you may install.



## 6.1.4 My account

This special category shows you the user tabs for the user account you signed in as. It's in this section that your users will be able to edit their own informations if you give them ACL rights to do so.



Here is an overview of user section details

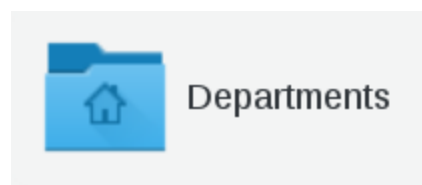
 A screenshot of the user account details page. The page is divided into several sections:
 

- Personal information:** Includes fields for Last name (paul), First name (dufour), Description, and Picture (Browse... No file selected.).
- Account information:** Includes Base (/), Login\* ([Root]), Preferred language (test42 [test42]), Password method\* (History [History students]), Password, and Password again.
- Organizational information:** Includes Location, State, Address, Room No., Phone, Mobile, Pager, Fax, and Homepage.
- Personal contact information:** Includes Display name, Home address, and Private phone.

 The page also shows a 'Sign out' button and a 'User' tab. A message at the top right says 'Signed in'. A small message at the bottom right says 'Ed'.

## 6.2 Departments

This page allows you to manage your LDAP tree structure, so that you may sort the other objects in branches later. Click on Departments icon on FusionDirectory main page



Your will be directed to Departments management page

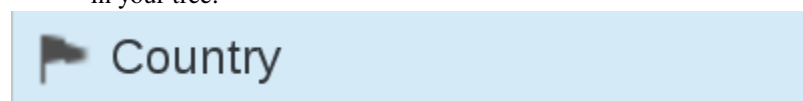
Departments				Filter
<div> <span>⏪</span> <span>⏴</span> <span>🏠</span> <span>🔄</span>   Base <input type="text" value="/"/> <span>📄</span>   Actions ▼         </div>				<input checked="" type="checkbox"/> Show Department <input checked="" type="checkbox"/> Show Country <input checked="" type="checkbox"/> Show Domain Component <input checked="" type="checkbox"/> Show Domain <input checked="" type="checkbox"/> Show Locality <input checked="" type="checkbox"/> Show Organization <input type="checkbox"/> Search in subtrees <input type="text" value=""/> <input type="button" value="Apply filter"/>
<input type="checkbox"/>	Department ▼	Description	Actions	
<input type="checkbox"/>	test42	test42	✎ 🗑	
<div>📁 1</div>				

The following actions are available :

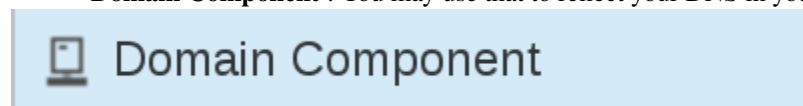
- **Create Department** : Think of this as the LDAP equivalent of a folder, it's the basic container for organizing objects in your LDAP.

Actions ▼	<input checked="" type="checkbox"/> Show Department <input checked="" type="checkbox"/> Show Country
<div>📁 Create ▶</div>	<div>📁 Department</div>

- **Create Country** : You may use this if your activity is spread over several countries and you want to reflect that in your tree.



- **Domain Component** : You may use that to reflect your DNS in your tree



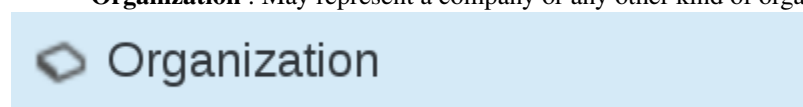
- **Domain** : Same as above but if you want to put the whole domain as only one node (ie *d=example.com* instead of *dc=example,dc=com*)



- **Locality** : You may use this if your activity is spread over several locations and you want to reflect that in your tree.



- **Organization** : May represent a company or any other kind of organization.



- **Export list** :



- PDF : Export the current object list as a PDF document
- CSV : Export the current object list as a CSV file



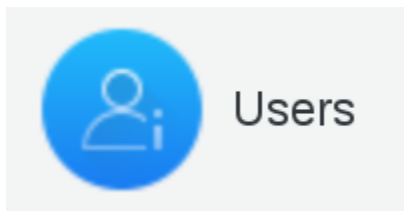
**Remove** : Delete an existing department



## 6.3 Users

This page is for user management.

You can access Users management in two ways : either by clicking Users icon on FusionDirectory main page



or by clicking Users entry in Users and Groups Menu on the left

## Users and groups

Departments

Users

Groups and roles

NIS Netgroups

Aliases

Sympa

ACL roles

ACL assignments

SupAnn structures

Sudo

EJBCA

DSA

Applications

You will be directed on users management page

Users						
<div> <span>⏪</span> <span>⏴</span> <span>🏠</span> <span>🔄</span>   Base <input type="text" value="/"/> <span>📄</span>   Actions ▼         </div>						
<input type="checkbox"/>		Surname ▼	Given name	Login	Properties	Actions
		test42	[test42]			
<input type="checkbox"/>		Administrator	System	fd-admin		✂️ 📄 ✎️ 🔒 📄 📄 🗑️
<input type="checkbox"/>		carole	durieux	manager		✂️ 📄 ✎️ 🔒 📄 📄 🗑️
<input type="checkbox"/>		paul	dufour	admin		✂️ 📄 ✎️ 🔒 📄 📄 🗑️
<input type="checkbox"/>		peter	antoine	user		✂️ 📄 ✎️ 🔒 📄 📄 🗑️

**Note :** All management pages you will see in FusionDirectory look like this. This one allows to manage users.

Click on one user entry in order to access this user's information overview

uid=user,ou=people,dc=demo-fusiondirectory,dc=

User

Unix

Personal

Mail

Samba

Groups and roles

SSH

Nagios

Quota

Proxy

Flp

Freeradius

NIS Netgroup

SupAnn

Subcontracting

SpamAssassin

Certificates

Newsletter

GPG

EJBCA

References

LDAP

Last name\*

First name\*

Description

Picture

peter

antoine

Browse... No file selected.

Account information

Base

Login\*

Preferred language

Password method\*

Password

Password again

/

user

ssha

Organizational contact information

Location

State

Address

Room No.

Phone

Mobile

Pager

Fax

Homepage

Personal contact information

Display name

Home address

Private phone

FusionDirectory is based on tabs. You will find the same tab-system in plugins, configuration etc.

Activated tabs are always in black and non-activated tab are gray.

User

Unix

Personal

Mail

Samba

Groups and roles

SSH

Nagios

Quota

### 6.3.1 Navigation

The navigation bar allows you to navigate your tree. The first icon will take you to your LDAP root, the second one will move one branch up, the third one goes to the LDAP base the user you are signed in as is stored. Then there is a refresh button, and then the Base dropdown allows you to quickly jump anywhere in your tree.

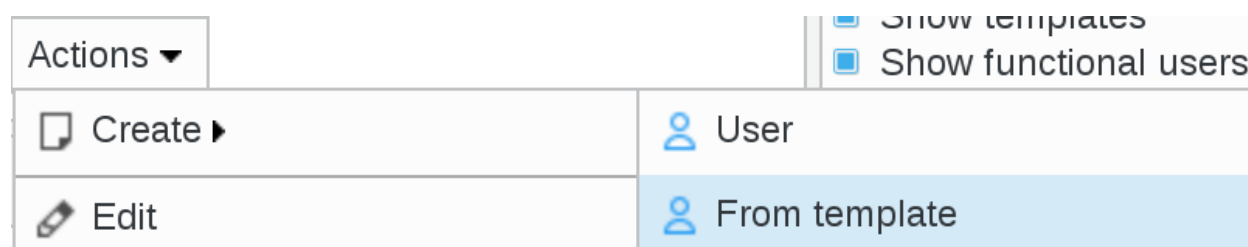
### 6.3.2 Actions

The following actions are available :

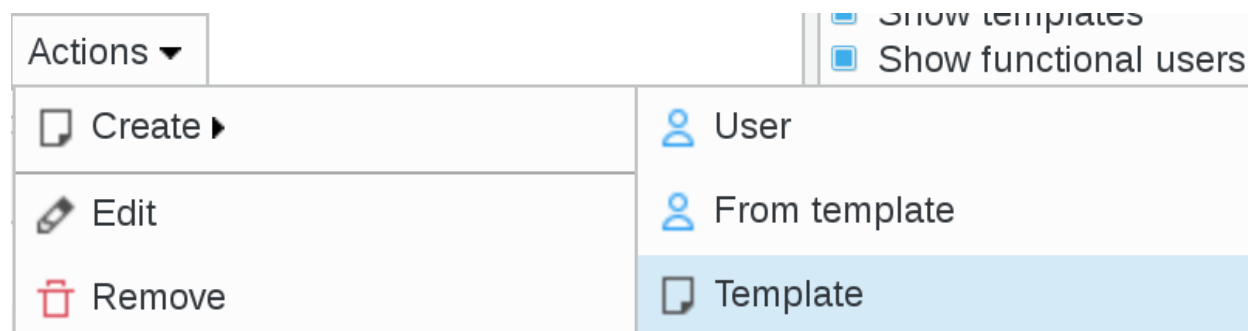
**Create User** : Create a new user



**Create From template** : Create a new user from a template



**Create Template** : Create a user template




**Edit** : Edit an existing user




**Remove** : Delete an existing user




**Lock users** : Lock existing users

 Lock users

**Unlock users** : Unlock existing users

 Unlock users


**Apply template** : Apply a template to an existing user

 Apply template

**Export list**

- PDF : Export the current object list as a PDF document
- CSV : Export the current object list as a CSV file


 Export list ►

 CSV

 Copy

 PDF


**Copy** : Copy users

 Copy


**Cut** : Cut users to move them

 Cut

**Paste** : Paste copied or cut users to the current base

 Paste

**Restore snapshots** : Restore snapshots of users

 Restore snapshots

### 6.3.3 Filter

On the right, you have a very practical Filter menu. The filter box let you filter what you are listing.

You can select which object types you want to list or hide, if you want to show templates or hide them.

You can also filter objects depending on which tabs are activated on them.

You can also use the text box to do a text search.

## Filter

☐ Show templates
 ☒ Show functional users
 ☐ Show POSIX users
 ☒ Show Mail users
 ☐ Show Samba users

☐ Search in subtrees

Click on the filter you are interested in in order to show all the users that apply to that filter.

For example, if you select « Show Templates » filter, you will see the list of user's template

Users						Filter
<div> <input type="button" value="Back"/> <input type="button" value="Forward"/> <input type="button" value="Refresh"/> <input type="button" value="Base"/> <input type="text" value="/"/> <input type="button" value="Actions"/> </div>						<input checked="" type="checkbox"/> Show templates <input type="checkbox"/> Show functional users <input type="checkbox"/> Show POSIX users <input type="checkbox"/> Show Mail users <input type="checkbox"/> Show Samba users <input type="checkbox"/> Search in subtrees <input type="text"/> <input type="button" value="Apply filter"/>
<input type="checkbox"/>	Surname ▼	Given name	Login	Properties	Actions	
<input type="checkbox"/>	test42	[test42]				
<input type="checkbox"/>	template_fd-user					
<div> <input type="button" value="1"/> <input type="button" value="1"/> </div>						

Checking the « Search in subtrees » checkbox allows to search in the whole subtree under the current base.

☒ Search in subtrees

### 6.3.4 List

In the list you see objects matching current filter options under the currently selected base.

In this example, we selected the three following filters : SHow functional users, SHow Mail users and Show Samba users

Users						Filter
<div> <span>&lt;</span> <span>&lt;</span> <span>↺</span> <span>↻</span>   Base / <input type="text"/> <span>📄</span>   Actions ▼         </div>						<input type="checkbox"/> Show templates <input checked="" type="checkbox"/> Show functional users <input type="checkbox"/> Show POSIX users <input checked="" type="checkbox"/> Show Mail users <input checked="" type="checkbox"/> Show Samba users <input type="checkbox"/> Search in subtrees <input type="text"/> <span>🔍</span> <input type="button" value="Apply filter"/>
<input type="checkbox"/>	Surname ▲	Given name	Login	Properties	Actions	
<input type="checkbox"/>	test42 [test42]					
<input type="checkbox"/>	paul	dufour	admin			
<input type="checkbox"/>	carole	durieux	manager			
<input type="checkbox"/>	Administrator	System	fd-admin			

You can click on column headers to sort the list

Surname	Given name ▼	Login	Properties
---------	--------------	-------	------------

and you can quickly access actions on an object using the icons in the last column

Actions

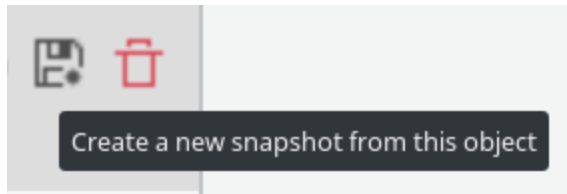
You may also check several objects in the first column and apply an action to all of them using the actions menu.

Under the list is a summary of how many objects of each type are shown (in this example there is 1 Department and 3 Users)

1
 3

**Note :** In FusionDirectory you can show **each icon description** by simply putting the cursor on the concerned icon

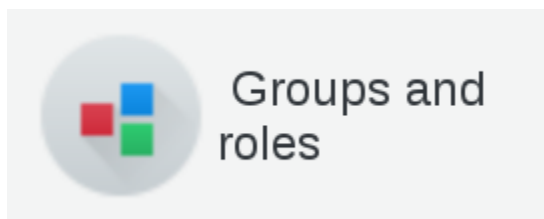
For example, the « floppy disk » icon means « Create a new snapshot from this object »



## 6.4 Groups

This page is for groups and roles management.

Click on Groups and roles icon on FusionDirectory main page



You will be directed to Groups and roles management page

## Groups and roles

< > Base / Actions ▼

	Name ▼	Description	Properties	Actions
	test42 [test42]			
	ogroup-test			
	posixgroup-test			
	role-test			
	user	Group of user user		

1   
 1   
 1   
 2

### Filter

- ☒ Show user groups
- ☒ Show organizational roles
- ☒ Show application groups
- ☒ Show groups of groups
- ☐ Show unidentified groups
- ☒ Show primary groups
- ☒ Show mail groups
- ☒ Show samba groups
- ☒ Show DSA entries
- ☒ Show server groups
- ☒ Show workstation groups
- ☒ Show terminal groups
- ☒ Show printer groups
- ☒ Show phone groups
- ☐ Show Template

☐ Search in subtrees

Apply filter

Click on one group entry in order to access this group's information overview



cn=ogroup-test,ou=groups,dc=demo-fusiondirectory,dc=org

Object group   Mail   Partage   References   LDAP

Properties	
Base	/
Name*	ogroup-test
Description	
Owner	None

Member objects	
	<div> <div>antoine peter [user]</div> <div>Alain Deloin [adeloin]</div> </div>
<div>Add   Delete</div>	

System trust	
Trust mode	disabled
<div>Add   Delete</div>	

Ok   Apply   Cancel

On the previous page, the following actions are available :

**Create Template Group** : Create a group template

Actions ▾

☒ Show user groups  
 ☒ Show organizational roles

☒ Create ▸  
 ☒ Template ▸  
 ☒ Group

**Create Template Role** : Create a role template

☒ Role

**Create POSIX Group** : Create a POSIX group template

☒ POSIX group

**Create From Template Role** : Create a role using a template

☒ Role

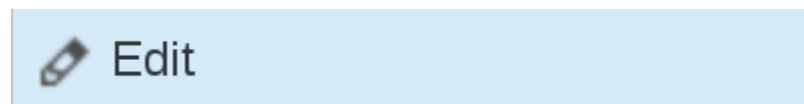
**Create From Template POSIX Group** : Create a POSIX group using a template

☒ POSIX group

Of course, you can also create groups, roles and POSIX groups from scratch, by clicking on Actions→ Create → Group, Actions→ Create → Roles, Actions→ Create → POSIX Groups

Actions ▾	<div> <div>Show user groups</div> <div>Show organizational roles</div> </div>
<div>Create ▸</div> <div>Edit</div> <div>Remove</div>	<div> <div>Template ▸</div> <div>From template ▸</div> <div>Group</div> <div>Role</div> <div>POSIX group</div> </div>
<div>Export list ▸</div> <div>Copy</div>	

**Edit** : Edit an existing group



**Remove** : Delete an existing group

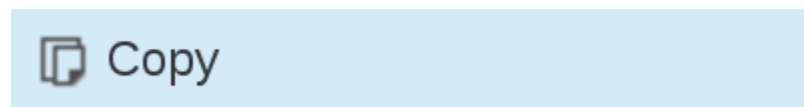


#### Export list

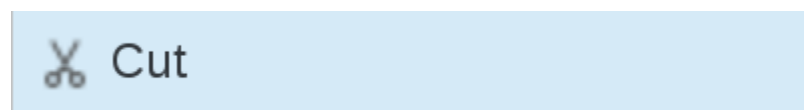
- PDF : Export the current object list as a PDF document
- CSV : Export the current object list as a CSV file

Export list ▸	<div> <div>CSV</div> <div>PDF</div> </div>
Copy	

**Copy** : Copy groups



**Cut** : Cut groups to move them



**Paste** : Paste copied or cut groups to the current base



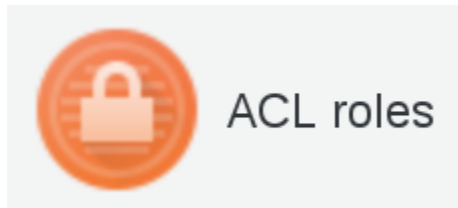
**Restore snapshots** : Restore snapshots of groups



## 6.5 ACL Roles

This page allows to manage ACL Roles

Click on ACL roles icon on FusionDirectory main page



You will be directed to ACL roles management page, where you can see the list of all created ACL roles

ACL roles

<

<

Base

/

Actions

	Name	Description	Actions
	test42 [test42]		
	admin	Donner tous les droits sur tous les objets	
	editowninfos	Permet aux utilisateurs d'éditer leur propres informations (onglet principal et posix, à n'utiliser que sur la base)	
	manager	Donner tous les droits sur les utilisateurs de cette branche	

1

3

Filter

☒ Show ACL role
 ☐ Search in subtrees

Apply filter

**Note :** ACL roles can be used to give rights to users through ACL assignment. Setup offers to create a few default roles for you with common usecases.

If you click on one ACL role, you will see the rights of this role

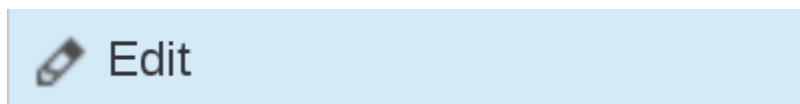
Role	
References LDAP	
Properties	
Base	/
Name*	manager
Description	Donner tous les droits sur les utilisateurs de cette branche
ACLs	
Contains settings for these objects: user/password, user/user, user/posixAccount	
<div> <div>*</div> <div></div> </div>	
Add	

The following actions are available :

**Create ACL role** : Create a new ACL role



**Edit** : Edit an existing ACL role



**Remove** : Delete an existing ACL role



**Export list**

- PDF : Export the current object list as a PDF document
- CSV : Export the current object list as a CSV file



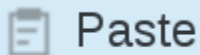
**Copy** : Copy ACL role



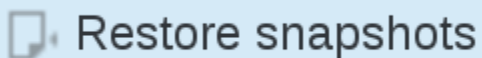
**Cut** : Cut ACL roles to move them



**Paste** : Paste copied or cut ACL roles to the current base

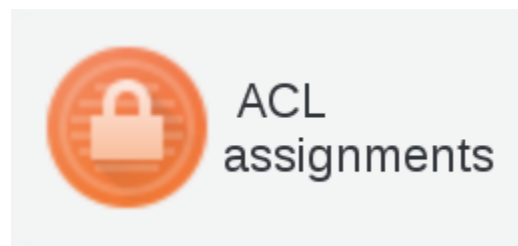


**Restore snapshots** : Restore snapshots of ACL roles



## 6.6 ACL Assignments

Click on ACL assignments icon on FusionDirectory main page









This page allows to assign ACL roles to user and manage existing assignments.

ACL assignments				Filter	
<div> <div>Actions ▾</div> </div>				<input checked="" type="checkbox"/> Show ACL assignment	
				<input checked="" type="checkbox"/> Search in subtrees	
				<div> <input type="text"/> </div>	
				<div>Apply filter</div>	
<input type="checkbox"/>	Name ▾	Description	Actions		
<input type="checkbox"/>	. [ACL Assignment]	fusiondirectory			
<input type="checkbox"/>	templates [ACL Assignment]				
<input type="checkbox"/>	test42 [ACL Assignment]	test42			
3					

**Note** : Note that only existing assignments are shown here, if you want to add ACL assignment on a department which has none yet, you need to go in **Departments**, edit this object and go to the ACL tab.


Click on an ACL assignments to see its assignments

ACL Assignment				ou=test42,dc=demo-fusiondirectory,dc=org
Assignments on object or subtree ou=test42,dc=demo-fusiondirectory,dc=org				
subtree	cn=manager,ou=acldroles,dc=demo-fusiondirectory,dc=org	uid=rhollandais,ou=people,ou=test42,dc=demo-fusiondirectory,dc=org	  	
subtree	cn=student,ou=acldroles,ou=test42,dc=demo-fusiondirectory,dc=org	uid=pitalienne,ou=people,ou=test42,dc=demo-fusiondirectory,dc=org	  	


The following actions are available :

**Create ACL assignment** : Create a new ACL assignment


Actions ▼

 Create

**Edit** : Edit an existing ACL assignment

 Edit


**Remove** : Delete an existing ACL assignment

 Remove

**Export list**

- PDF : Export the current object list as a PDF document
- CSV : Export the current object list as a CSV file


 Export list ▶

 CSV

 Copy

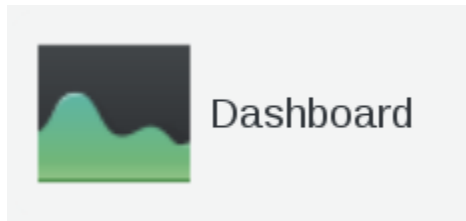
 PDF

**Restore snapshots** : Restore snapshots of ACL assignments

 Restore snapshots

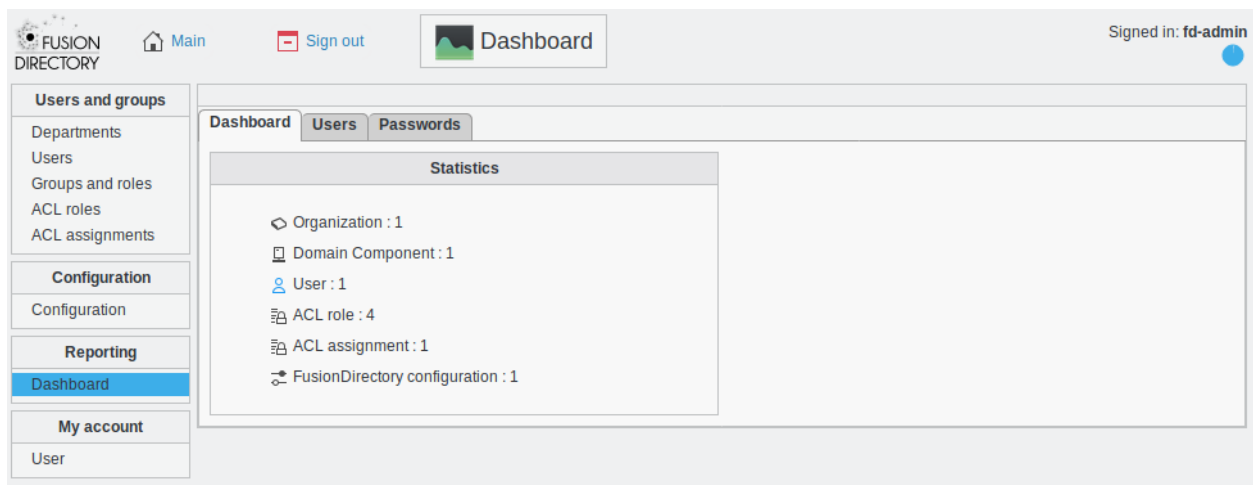
## 6.7 Dashboard

Click on Dashboard icon on FusionDirectory main page



The dashboard screen allows you to consult statistics about the content of your LDAP tree.

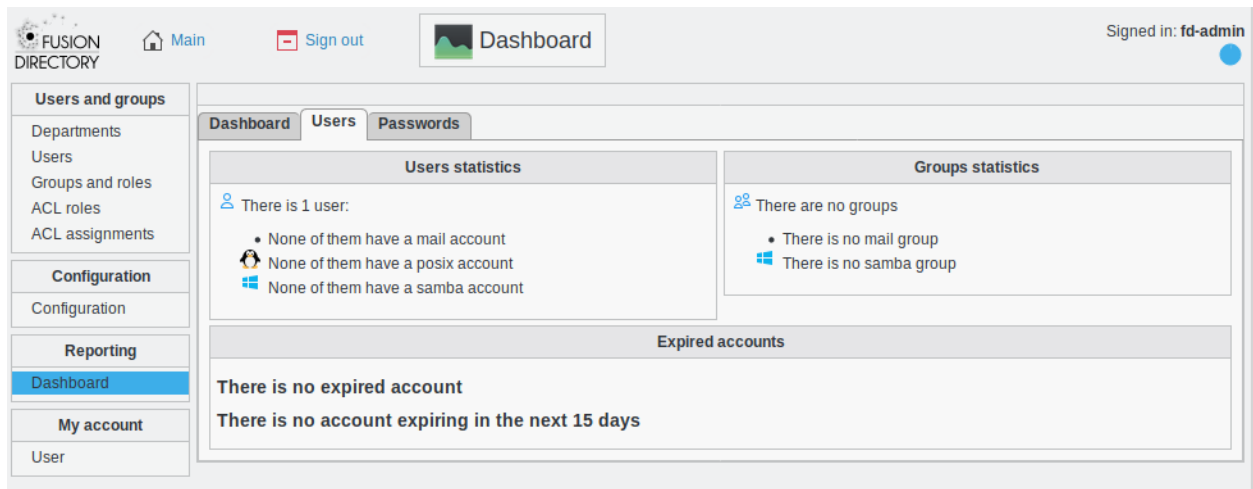
The first tab shows the number of objects for each type known to your FusionDirectory installation. Clicking them will lead you the management page for them, if any.



### 6.7.1 Users

User tab shows more detailed statistics about users.

It is especially useful to track expired on soon-to-expire users, when using posix plugin.

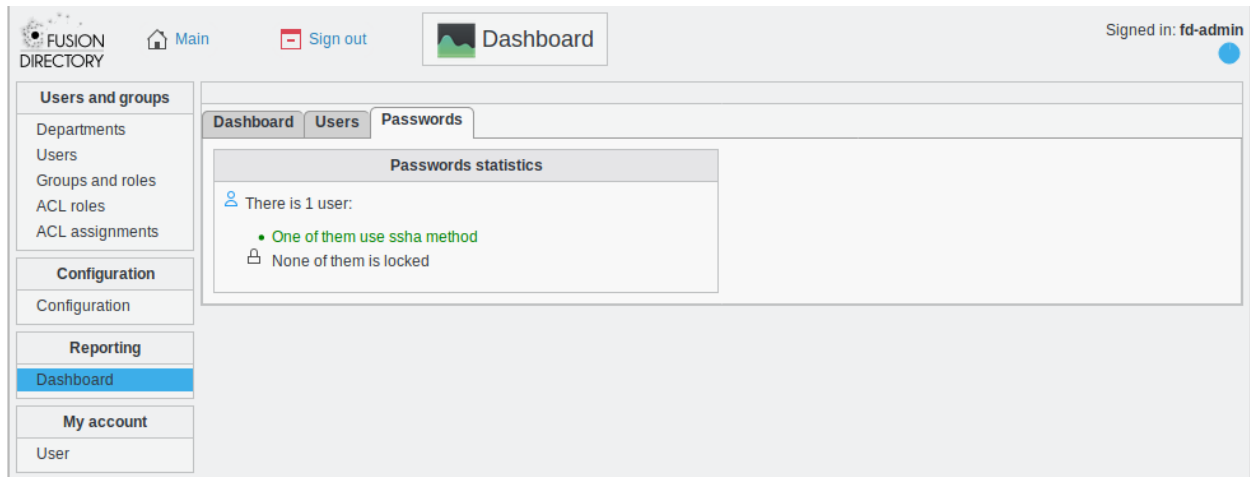


— **Users statistics** : it shows you the number of users and the e-mail account type of each user

- **Groups statistics** : it shows you how many groups there are
- **Expired accounts** : It shows you the expired accounts and the accounts that will expire soon

## 6.7.2 Passwords

Passwords tab shows statistics about passwords, and it is especially useful for tracking old accounts still using an obsolete password method in order to update them.





FusionDirectory Configuration

### 7.1 Configuration

All the configuration is stored inside the ldap, in FusionDirectory branch.

If you need to modify something, you can access to FD configuration by the « Configuration » entry in the « Addons » section of the main menu.

Look and feel	Core settings
Language <input type="text" value="Automatic"/>	LDAP size limit <input type="text" value="200"/>
Theme* <input type="text" value="breezy"/>	Edit locking <input type="text" value="entryCSN"/>
Timezone* <input type="text" value="Europe/Brussels"/>	Enable logging <input type="checkbox"/>
	Schema validation <input type="checkbox"/>
	Enable snapshots <input type="checkbox"/>
	Snapshot base <input type="text" value="ou=snapshots,dc=demo-fus"/>
	Wildcard foreign keys <input type="checkbox"/>
Password settings	Login and session
Password default hash* <input type="text" value="ssha"/>	Login attribute* <input type="text" value="uid"/>
Force default hash <input type="checkbox"/>	Enforce encrypted connections <input type="checkbox"/>
Password minimum length <input type="text" value="8"/>	Warn if session is not encrypted <input type="checkbox"/>
Password minimum differs <input type="text" value="2"/>	Session lifetime* <input type="text" value="1800"/>
Use account expiration <input type="checkbox"/>	HTTP Basic authentication <input type="checkbox"/>
SASL Realm <input type="text" value=""/>	HTTP Header authentication <input type="checkbox"/>
SASL Exop <input type="text" value=""/>	Header name <input type="text" value="AUTH_USER"/>
	<input type="button" value="Edit..."/>
SSL	CAS
Key path <input type="text" value="/etc/ssl/private/fd.key"/>	Enable CAS <input type="checkbox"/>
Certificate path <input type="text" value="/etc/ssl/certs/fd.cert"/>	CA certificate path <input type="text" value="/etc/ssl/certs/ca.cert"/>
CA certificate path <input type="text" value="/etc/ssl/certs/ca.cert"/>	Host <input type="text" value="localhost"/>
	Port <input type="text" value="443"/>
	CAS context <input type="text" value="/cas"/>
People and group storage <small>(editing this can break your LDAP)</small>	Debugging
People DN attribute* <input type="text" value="uid"/>	Display errors <input type="checkbox"/>
CN pattern* <input type="text" value="%givenName% %sn%"/>	Maximum LDAP query time <input type="text" value="30"/>
Strict naming policy <input type="checkbox"/>	Log LDAP statistics <input type="checkbox"/>
Users RDN* <input type="text" value="ou=people"/>	Debug level <input type="text" value="Trace"/>
ACL role RDN* <input type="text" value="ou=acroles"/>	<input type="button" value="Trace"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
Restrict role members <input type="checkbox"/>	
Separate address fields <input type="checkbox"/>	
Postal address pattern <input type="text" value=""/>	
Miscellaneous	Hooks
Display summary in listings <input type="checkbox"/>	Hooks <input type="text" value=""/>
Show ACL tab on all objects <input type="checkbox"/>	Tab* <input type="text" value="DnsRecordPlugin"/>
Available department categories <input type="text" value=""/>	Mode* <input type="text" value="postcreate"/>
<input type="button" value="Add"/> <input type="button" value="Delete"/>	Command* <input type="text" value=""/>
Plugin menu blacklist <input type="text" value=""/>	<input type="button" value="Add"/>
Group ogroup-test <input type="text" value=""/>	Display hook output <input type="checkbox"/>
ACL assignments <input type="text" value=""/>	
<input type="button" value="Add"/>	

You need to click on « Edit » first to access edition and then « Ok » once you've finished.

### 7.1.1 Look and feel

- **Language** : Defines the default language used by FusionDirectory. Normally FusionDirectory autodetects the language from the browser settings. If this is not working or you want to force the language, just modify the language here.
- **Theme** : (required) Defines what theme is used to display FusionDirectory pages. You can install some corporate identity like theme and/or modify certain templates to fit your needs within themes.
- **Timezone** : (required) Defines the timezone used within FusionDirectory to handle date related tasks, such as password expiration, vacation messages, etc. The timezone value should be a unix conform timezone value like in /etc/timezone.

### 7.1.2 Core settings

- **LDAP size limit** : Tells FusionDirectory to retrieve the specified maximum number of results. The user will get a warning, that not all entries were shown.
- **Edit locking** : Enables FusionDirectory to check if a entry currently being edited has been modified from someone else outside FusionDirectory in the meantime. It will display an informative dialog then. It can be set to *entryCSN* for OpenLDAP based systems or *contextCSN* for Sun DS based systems.
- **Enable logging** : Enables event logging on FusionDirectory side. Setting it to true, FusionDirectory will log every action a user performs via syslog. If you use rsyslog and configure it to mysql logging, you can browse all events within FusionDirectory.
- **Schema validation** : Validate the installed schema before connecting to FusionDirectory
- **Enable snapshots** : This enables you to save certain states of entries and restore them later on.
- **Snapshot base** : Defines the base where snapshots should be stored inside of the LDAP.
- **Wildcard foreign keys** : Whether to activate foreign key handling in cases where a wildcard filter is needed. For instance when moving a department containing users, this will make sure any reference to a user in this department is updated. This maintain consistency but may be a bit slow on big trees.

### 7.1.3 Password settings

- **Password default hash** : (required) Defines the default password hash to choose for new accounts.  
Valid values are :
  - crypt/standard-des
  - crypt/enhanced-des
  - crypt/md5
  - crypt/blowfish
  - crypt/sha-256
  - crypt/sha-512
  - smd5
  - md5
  - sasl
  - ssh
  - shaThese values will be overridden when using templates.
- **Force default hash** : Enable/Disable force the use of the default password hash.
- **Password minimum length** : Determines the minimum length of a new password entered to be considered valid. Note that this only affect passwords that are set by the user, not by the admins.
- **Password minimum differs** : Determines how many characters that must be different from the previous password. Note that this only affect passwords that are set by the user, not by the admins.

- **Use account expiration** : Enables shadow attribute tests during the login to FusionDirectory and forces password renewal or account locking.
- **SASL Realm** : Defines the way the kerberos realm is stored in the userPassword attribute. Set it to REALM.NET in order to get {sasl}user@REALM.NET.
- **SASL Exop** : Defines the attribute to be stored in the userPasword attribute. Set it to uid in order to get the {sasl}uid of the user.

### 7.1.4 Login and session

- **Login attribute** : (required) Defines which LDAP attribute is used in Fusiondirectory as the login name during login. It can be set to uid, mail or both.
- **Enforce encrypted connections** : Enables PHP security checks to force encrypted access (https) to the web interface.
- **Warn if session is not encrypted** : Enables PHP security checks to detect non encrypted access to the web interface. FusionDirectory will display a warning in this case.
- **Session lifetime** : (required) Defines when a session will expire in seconds. For Debian systems, this will not work because the sessions will be removed by a cron job instead. Please modify the value inside of your php.ini instead.
- **HTTP authentication** : Activate HTTP authentication (basic auth).
- **HTTP Header authentication** : Activate HTTP header authentication (default [LemonLDAP::NG](#) method)
- **Header name** : Define the name of the header you will use for HTTP Header Authentication

### 7.1.5 SSL

- **Key path** : Path of the private key for FusionDirectory on the server.
- **Certificate path** : Path of the certifiante for FusionDirectory on the server.
- **CA certificate path** : Path of the CA on the server.

### 7.1.6 CAS

- **Enable CAS** : Enable CAS.
- **CA certificate path** : Path of the CA for the CAS server.
- **Host** : Host of the CAS Server.
- **Port** : Port of the CAS Server.
- **CAS context** : CAS context to be used

### 7.1.7 People and group storage

#### Pay attention to the changes in this section of the configuration

- **People DN attribute** : (required) Defines the attribute to use at the beginning of users dn.  
Possible values are *uid* and *cn*
  - *uid* style DN : uid=superuser,ou=staff,dc=example,dc=net
  - *cn* style DN : cn=Foo Bar,ou=staff,dc=example,dc=net
- **CN pattern** : The pattern to use to build the common name field.
- **Strict naming policy** : Enables strict checking of uids and group names. If you need characters like . or - inside of your accounts, don't enable this option.
- **Users RDN** : (required) Defines the location where new accounts will be created inside of defined departments. The default is ou=people.
- **ACL role RDN** : The branch where ACL roles are stored.
- **Restrict role members** : When enabled only users from the same branch or members of groups from the same branch can be added to a role.

- **Separate address fields** : When enabled, expose *street*, *postOfficeBox* and *postalCode* fields instead of *postalAddress*.
- **Postal address pattern** : When **Separate address fields** is enabled, filling this allows to fill *postalAddress* using values from the separate fields in a pattern.

### 7.1.8 Debugging

- **Display errors** : Defines whether to enable the display of PHP errors in the upper part of the screen. This should be disabled in productive deployments, because there might be some passwords in it.
- **Maximum LDAP query time** : Tells FusionDirectory to stop LDAP actions if there is no answer within the specified number of seconds.
- **Log LDAP statistics** : Tells FusionDirectory to track LDAP timing statistics to the syslog. This may help to find indexing problems or bad search filters.
- **Debug level** : Display certain debug informations on each page load. Valid values are LDAP, Database, Shell, POST, SESSION, ACL, SI, Mail. The different values can also be combined with each other.

### 7.1.9 Miscellaneous

- **Display summary in listings** : Determines whether a status bar will be shown on the bottom of FusionDirectory generated lists, displaying a short summary of type and number of elements in the list.
- **Show ACL tab on all objects** : For very specific ACL rights setting where you might need to give rights on a single object.
- **Available department categories** : Available categories in the departments category dropdown.
- **Plugin menu blacklist** : A list of plugins to hide from FusionDirectory menu for a given group of users.

### 7.1.10 Hooks


- **Hooks** : Defines hooks that are called when specific actions happens.  
Each hook is defined by :
  - **Tab** : The plugin tab triggering this hook
  - **Mode** : When this hook is triggered
  - **Command** : The executed command when this hook is triggered. Use the placeholder syntax to pass attribute values to the hook.
- **Display hook output** : Activate to display the hook output.

## 7.2 Configure Password recovery

FusionDirectory has a password recovery fonction.


- If the Mail plugin is installed it can use the mail attribute
- If the Personal plugin is installed it can use the fdPrivateMail
- If the Supann plugin is installed it can use the supannMailPerso


In the login window of the user's connection, you will find the option "I forgot my password".



## Sign in

Please use your username and your password to log into the site administration system.






[I forgot my password](#)

This option allows your users to generate a new password.

If you click on “I forgot my password” now, the following window appears :



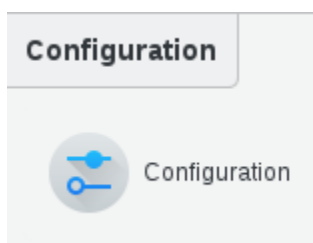
## Lost password

Password recovery is not activated. If you have lost your password, please contact your administrator

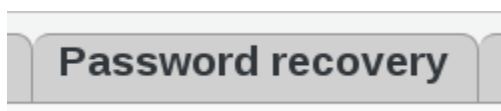
To activate the recovery of the password, the administrator must set it up

— Configuration

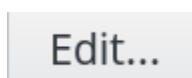
Connect as administrator and click on Configuration button in FusionDirectory



Go to Password recovery tab



In the next windows click on “Edit” button bottom right



### Password recovery settings

Activate password recovery	<input checked="" type="checkbox"/>
Sender email address*	<input type="text" value="to.be@chang.ed"/>
Link validity (minutes)*	<input type="text" value="10"/>
Salt for tokens*	<input type="text" value="SomethingSecretAndVery!"/>
Allow the use of alternate addresses	<input type="checkbox"/>
Login attribute*	<input type="text" value="uid"/>

To activate password recovery you must check the box next to “Activate password recovery”

### Activate password recovery



- Sender email address : e-mail address from which e-mails will be sent (required)
- Link validity (minutes) : number of minutes before a recovery link expires (required)
- Salt for tokens : just a security measure, you can put anything in there, even random characters (required)
- Allow the use of alternate addresses : if checked, users will also be able to enter one of their alternate addresses to recover their password

Fill-in First email settings

### First email

Subject*	<input type="text" value="[FusionDirectory] Passwor"/>
Body (first %s is login, second is link)*	<input type="text" value="Hello, Here are your"/>

- Subject : subject of the first e-mail (required)
- Body (first %s is login, second is link) : body of the first e-mail, sent when the users asks for a new password. Use % for the login and the recovery link (required)

Fill-in Second email settings


### Second email

Subject*	<input type="text" value="[FusionDirectory] Passwor"/>
Body (%s is login)*	<input type="text" value="Hello, Your password has been"/>

- Subject : subject of the second e-mail (required)


- Body (%s is login) : body of the first e-mail, sent to confirm that the password has been changed. Use % for the user login (required)
- Use it

Now your users can be able to use password recovery. When they will click on “I forgot my password” this windows will appear



## Lost password

Enter your current e-mail address in the field below and press the 'Change' button.  
=> Use your e-mail in the long format, e.g : John Doe => john.doe@example.com



[Return to login screen](#)

[Change](#)

They will enter their full e-mail address and after click on “Change”

A message will appear on the screen informing your user of sending an e-mail to his address, with a link to change his password.

Your user will receive a mail like this :

```
[FusionDirectory] Password recovery link
From: reset@fusiondirectory.org
To: myname@acme.org
Hello,
Here are your informations :
- Login : myname
- Link : http://fusiondirectory.org/fusiondirectory/recovery.php?
  ↳uniq=KSDnZ31AYR7psZETCtHNGyNkzMKfZK0XP9xpTAF5nprwwMnwF3ZH28EL9&uid=tototot&address_
  ↳mail=myname@acme.org
This link is only valid for 10 minutes.
```

When user will browse to the link sending him by e-mail, a message like this will appear on the screen

Now the user need to fill the required new password and then click on “Change”. A confirmation email is sent to his mailbox :

```
[FusionDirectory] Password Changed recovery successful
From: reset@fusiondirectory.org
To: myname@acme.org

Hello,
Your password has been changed.
Your login is still myname.
```

He just needs to click on “Return to login screen” to connect with his new password

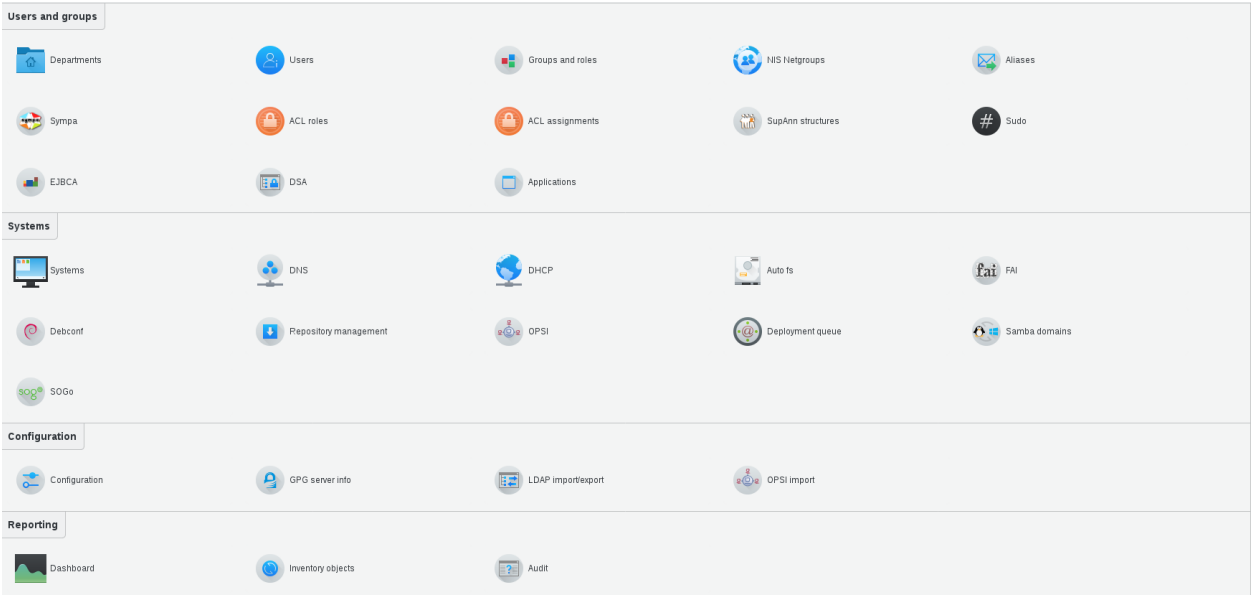


FusionDirectory ACLs

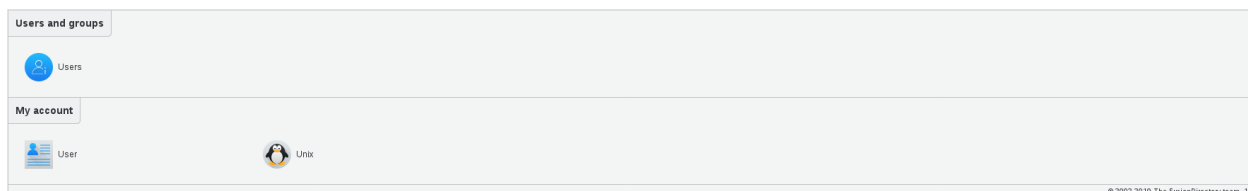
8.1 Introductions

FusionDirectory ACLs can be used to give rights on FusionDirectory content to other users than the admin. They can be used to allow users to edit their own information for instance, or to allow a project manager to edit the users from his team.

For example, here is the Admin view of the interface. As you can see, the Admin has access to all the plugins



And here is the Manager view. As you can see, the Manager can only access Users and groups, account and Unix

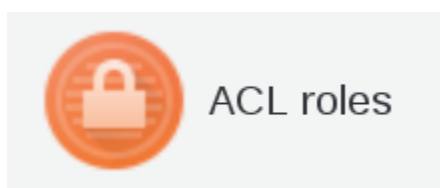


## 8.2 Functionalities

### 8.2.1 ACL roles

— What can a person do in FusionDirectory ?

Click on ACL roles icon on the main page of FusionDirectory



The ACL role groups all the rights you want to give to a group or a user

You will see the list of created roles.

Each role has two columns :

- **Name** : this is the name of the role
- **Description** : a short description of what can be done by this role

<input type="checkbox"/>		Name ▾	Description
		test42 [test42]	
<input type="checkbox"/>		admin	Donner tous les droits sur tous les objets
<input type="checkbox"/>		editowninfos	Permet aux utilisateurs d'éditer leur propres informations (onglet principal et posix, à n'utiliser que sur la base)
<input type="checkbox"/>		manager	Donner tous les droits sur les utilisateurs de cette branche

Click on a role, in this example manager; you will be on Role tab

Properties settings

Properties	
Base	/
Name*	manager
Description	Donner tous les droits sur les utilisateurs de cette branche

— **Base** : object base



If you put the cursor on the base field, you will see all the base objects and you will be able to choose the one that you need.

— **Name** : a name for this role (required)

— **Description** : short description of this role

ACLs settings

This field is very important because it defines the settings of the rights that this role has and the objects that it can manage

ACLs	
Contains settings for these objects: user/password, user/user, user/posixAccount	 
<div style="border: 1px solid gray; height: 40px; background-color: #f0f0f0;"></div>	
<div style="border: 1px solid gray; padding: 2px;">Add</div>	

In order to see the list of ACL categories assigned to this role, click on the little pencil on the right



This will bring you to the whole list of available ACL categories. Scroll down to see the categories assigned to this role.

In this example, User is assigned to this role and it is marked as « ACL for these objects : posixAccount, user ».

User	ACL for these objects: posixAccount, user	 
------	---	---

Click on the little pencil next to User category on the right



This will give you a simplified view of Object User attributes, highlighted in purple

Object: Unix		Show/hide advanced settings
<input checked="" type="checkbox"/> Create objects	<input checked="" type="checkbox"/> Move objects	<input checked="" type="checkbox"/> Remove objects
<input type="checkbox"/> Grant permission to owner		Complete object: <input checked="" type="checkbox"/> read <input checked="" type="checkbox"/> write

The **beauty** and the **strength** of FusionDirectory is that you can also play on each single attribute of the object.

To do this, click on « Show/hide advances settings » button on next to the object you are interested in

## Show/hide advanced settings

This will open a dialog including all the object settings and you can check/uncheck the ones you need

Object: User		Show/hide advanced settings
<input checked="" type="checkbox"/> Create objects <input checked="" type="checkbox"/> Move objects <input checked="" type="checkbox"/> Remove objects <input type="checkbox"/> Grant permission to owner		Complete object: <input checked="" type="checkbox"/> read <input checked="" type="checkbox"/> write
hidden (cn) <input type="checkbox"/> read <input type="checkbox"/> write	Last name of this user (sn) <input type="checkbox"/> read <input type="checkbox"/> write	First name of this user (givenName) <input type="checkbox"/> read <input type="checkbox"/> write
Short description of the user (description) <input type="checkbox"/> read <input type="checkbox"/> write	The avatar for this user (jpegPhoto) <input type="checkbox"/> read <input type="checkbox"/> write	Location (l) <input type="checkbox"/> read <input type="checkbox"/> write
State (st) <input type="checkbox"/> read <input type="checkbox"/> write	Business postal address (postalAddress) <input type="checkbox"/> read <input type="checkbox"/> write	Room number (roomNumber) <input type="checkbox"/> read <input type="checkbox"/> write
Business phone number (telephoneNumber) <input type="checkbox"/> read <input type="checkbox"/> write	Business mobile number (mobile) <input type="checkbox"/> read <input type="checkbox"/> write	Business pager number (pager) <input type="checkbox"/> read <input type="checkbox"/> write
Business fax number (facsimileTelephoneNumber) <input type="checkbox"/> read <input type="checkbox"/> write	Personal homepage (labeledURI) <input type="checkbox"/> read <input type="checkbox"/> write	Login of this user (uid) <input type="checkbox"/> read <input type="checkbox"/> write
Preferred language (preferredLanguage) <input type="checkbox"/> read <input type="checkbox"/> write	Password of the user (userPassword) <input type="checkbox"/> read <input type="checkbox"/> write	Name this user should appear as. Used by Exchange. (displayName) <input type="checkbox"/> read <input type="checkbox"/> write
Home postal address (homePostalAddress) <input type="checkbox"/> read <input type="checkbox"/> write	Home phone number (homePhone) <input type="checkbox"/> read <input type="checkbox"/> write	Title of a person in their organizational context. Each title is one value of this multi-valued attribute (title) <input type="checkbox"/> read <input type="checkbox"/> write
Organization (o) <input type="checkbox"/> read <input type="checkbox"/> write	Organizational unit this user belongs to (ou) <input type="checkbox"/> read <input type="checkbox"/> write	Department number (departmentNumber) <input type="checkbox"/> read <input type="checkbox"/> write
Employee number (employeeNumber) <input type="checkbox"/> read <input type="checkbox"/> write	Employee type (employeeType) <input type="checkbox"/> read <input type="checkbox"/> write	Manager (manager) <input type="checkbox"/> read <input type="checkbox"/> write
User lock status (userLock) <input type="checkbox"/> read <input type="checkbox"/> write		
		<input type="button" value="Apply"/> <input type="button" value="Cancel"/>

Then you have a part for each user tab depending on your installed plugins. The **Create** right on a tab allows to activate it while the **Remove** one allows to deactivate. The **Grant permission** to owner checkbox allows to give rights only on the user's own node as in the editowninfos role we used earlier.

### Special cases about rights

#### Template

The template part is available for objects which support templates and allow to give rights on templates, and control rights on the template\_cn field.

To be able to create a user using a template, the connected user needs :

- Read right of user/template :template\_cn on the template object (or any parent department)
- Create right of user/user on the base the user is created in (or any parent department)
- Write right of the fields required by the templates on the base the user is created in (or any parent department)

#### Snapshot

There is a Snapshot part for objects which supports snapshots.

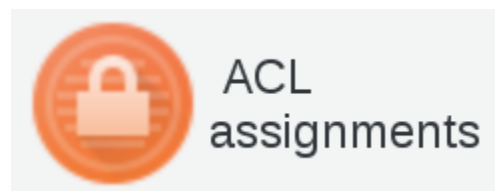
- Create right means the user will be able to take new snapshots
- Delete right means he will be able to delete existing snapshots
- Write right on restore\_over field means he will be able to restore snapshots of an existing object
- Write right on restore\_deleted field means he will be able to restore snapshots of deleted objects

## 8.2.2 ACL assignments

— How to assign ACLs

After the creation of a role, we can say what a person has the right to do.

Click on ACL Assignments icon in FusionDirectory



You will see the list of ACL Assignments

<input type="checkbox"/>		Name ▼	Description	Actions
<input type="checkbox"/>		. [ACL Assignment]	fusiondirectory	
<input type="checkbox"/>		templates [ACL Assignment]		
<input type="checkbox"/>		test42 [ACL Assignment]	test42	

Click on an ACL Assignment, in this example test42 and you will see three columns

ACL Assignment		
Assignments on object or subtree ou=test42,dc=demo-fusiondirectory,dc=org		
subtree	cn=manager,ou=aclroles,dc=demo-fusiondirectory,dc=org	uid=manager,ou=people,dc=demo-fusiondirectory,dc=org

- **first column** : on what mode of operation the LDAP will work
- **second column** : the dn of the role. It defines the rights assigned to the person in column 3 in relation to the ACLs assigned to him
- **third column** : person to which the ACL is assigned

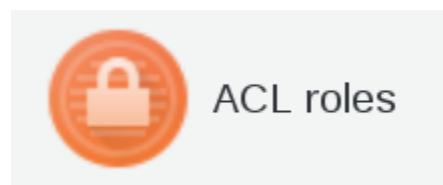
## 8.3 Create ACLs

— How to create an ACL role

To give rights to users, the first step is to define an ACL role which will list the permissions you want to give.

Now let's get more into the details of which kind of permission an ACL role can give.

Click on ACL roles icon on FusionDirectory main page



Click on Actions -> Create -> ACL role

Actions ▾

Create ▶

ACL role

SHOW ACL ROLE

Search in subtree

Fill name and description as you see fit.\

Properties

Base

/test42

Name\*

student

Description

Student can change his phone number

Click **Add** button bottom left ACLs

ACLs

\*

Add

You will see a screen listing the ACL categories :

**Users and groups**

- Departments
- Users
- Groups and roles
- ACL roles**
- ACL assignments

**Configuration**

- Configuration

**Reporting**

- Dashboard

**My account**

- User
- Groups and roles

**ACL roles management**

Signed in: **fd-admin**

**List of available ACL categories**

Category	ACL settings for this category	
ACL & ACL roles	No ACL settings for this category	
* All categories	No ACL settings for this category	
FusionDirectory configuration	No ACL settings for this category	
Departments	No ACL settings for this category	
Group	No ACL settings for this category	
Role	No ACL settings for this category	
User	No ACL settings for this category	

Apply Cancel

Click on pencil icon next to User category



Then you have a part for each user tab depending on your installed plugins. The **Create** right on a tab allows to activate it while the **Remove** one allows to deactivate.

The **Grant permission to owner** checkbox allows to give rights only on the user's own node as in the editowninfos role we used earlier.

In this case we want to create a role named student having the rights to read and write his phone number.

Role **References** **LDAP**

Edit ACL for "User"

Toggle C		Toggle M		Toggle D		-	Toggle R		Toggle W		-	R+		W+	
C+	C-	M+	M-	D+	D-	-	R+	R-	W+	W-	-	R+	R-	W+	W-
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Object: EJBCA** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects ☐ Grant permission to owner Complete object: ☐ read ☐ write

**Object: Template** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects Complete object: ☐ read ☐ write

**Object: GPG** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects ☐ Grant permission to owner Complete object: ☐ read ☐ write

**Object: Newsletter** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects ☐ Grant permission to owner Complete object: ☐ read ☐ write

**Object: Certificates** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects ☐ Grant permission to owner Complete object: ☐ read ☐ write

**Object: User** Show/hide advanced settings

☐ Create objects ☐ Move objects ☐ Remove objects ☒ Grant permission to owner Complete object: ☐ read ☐ write

Check the box against Grant permission to owner

**Object: User**

☐ Create objects ☐ Move objects ☐ Remove objects ☒ Grant permission to owner

Go to object User and click on Show/hide advanced settings button

**Show/hide advanced settings**

Check read and write options in Business mobilenumber

**Business mobile number (mobile)**

☒ read ☒ write

Click on Apply button

**Apply**

Now, on the List of available ACL categories you can see that User category changed to ACL for these objects : user




<b>User</b>	<b>ACL for these objects: user</b>
-------------	------------------------------------

Click on Apply button

**Apply**

Now you can see that ACL's settings are filled-in



ACLs	
Contains settings for these objects: user/user	 
* 	

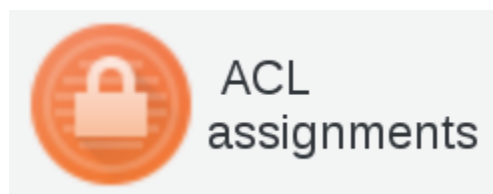
Click on Ok button bottom right

Ok






## 8.4 Use ACLs

### 8.4.1 ACLs Assignment









Click on ACL assignments on FusionDirectory main page



Click on the ACL assignment that you need

<input type="checkbox"/>		. [ACL Assignment]	fusiondirectory	   
--------------------------	---	--------------------	-----------------	---

ACL Assignment tab you can see all the assignments

ACL Assignment		
Assignments on object or subtree dc=demo-fusiondirectory,dc=org		
subtree	cn=admin,ou=acroles,dc=demo-fusiondirectory,dc=org	uid=fd-admin,ou=people,dc=demo-fusiondirectory,dc=org  
subtree	cn=admin,ou=acroles,dc=demo-fusiondirectory,dc=org	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org  
subtree	cn=manager,ou=acroles,dc=demo-fusiondirectory,dc=org	uid=manager,ou=people,dc=demo-fusiondirectory,dc=org  
subtree	cn=editowninfos,ou=acroles,dc=fusiondirectory,dc=org	uid=user,ou=people,dc=fusiondirectory,dc=org  

Click on Add button bottom left

Add

Select ACL Assignment properties as follows

- **Mode** : subtree
- **Role** : student

ACL Assignment

Properties

Mode\*

Subtree ▾

Role\*

student ▾

For all users

☐


Members\*

Add

Delete

Select a user by clicking on Add button under Members field

Select the user to whom you wish to assign student role (in this example, leheros toto)

<input type="checkbox"/>		Name ▾	Login	Description
<input checked="" type="checkbox"/>		leheros toto	toto	

Click on Add button bottom right

Add

In ACL Assignment tab you can now see toto in Members field

Members\*

toto
















Add

Delete

Click on Add button bottom right

Add

You can see that ACL Assignment tab is now correctly filled

ACL Assignment			
Assignments on object or subtree dc=demo-fusiondirectory,dc=org			
subtree	cn=admin,ou=acldroles,dc=demo-fusiondirectory,dc=org	uid=fd-admin,ou=people,dc=demo-fusiondirectory,dc=org	  
subtree	cn=admin,ou=acldroles,dc=demo-fusiondirectory,dc=org	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	  
subtree	cn=manager,ou=acldroles,dc=demo-fusiondirectory,dc=org	uid=manager,ou=people,dc=demo-fusiondirectory,dc=org	  
subtree	cn=editowninfos,ou=acldroles,dc=fusiondirectory,dc=org	uid=user,ou=people,dc=fusiondirectory,dc=org	  
subtree	cn=student,ou=acldroles,ou=test42,dc=demo-fusiondirectory,dc=org	uid=toto,ou=people,ou=test42,dc=demo-fusiondirectory,dc=org	  

Click on Ok button bottom right to save


Ok

## 8.4.2 Result

— User view


Now let's see how the ACL has been applied to our User


Login as toto




# Sign in

Please use your username and your password to log into the site administration system.  
**Warning:** Session is not encrypted!



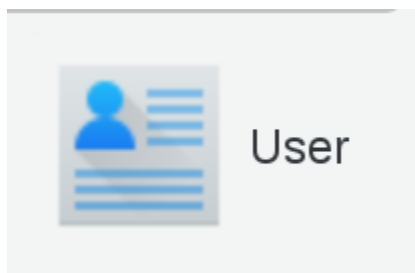


[I forgot my password](#)

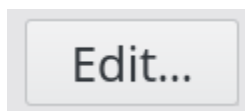


Sign in




Click on User icon



Click on Edit button bottom right



You will see that the only editable field is Mobile (this user can only modify his mobile number as per the ACL that we set earlier)

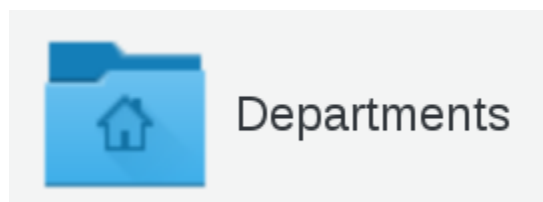
 Organizational contact information	
Location	<input type="text"/>
State	<input type="text"/>
Address	<input type="text"/>
Room No.	<input type="text"/>
Phone	<input type="text"/> 
Mobile	<input type="text"/> 
Pager	<input type="text"/>
Fax	<input type="text"/>
Homepage	<input type="text"/>

## 8.5 Use ACLs with department



### 8.5.1 delegate department management

So, let's say you want to give manager rights to user **Richard Hollandais** to the branch **ou=test42,dc=demo-fusiondirectory,dc=org**

Start by clicking on Departments icon on FusionDirectory main page



Then click on edit icon (pencil) against test42 department line

<input type="checkbox"/>		test42	test42	
--------------------------	---	--------	--------	---

Go to ACL Assignment tab.

Department	Community project	ACL Assignment	References	LDAP
------------	-------------------	----------------	------------	------

Assignments on object or subtree ou=test42,dc=demo-fusiondirectory,dc=org

Click on Add button bottom left

Add

Fill-in ACL Assignment tab settings

Department	Community project	ACL Assignment	References	LDAP
------------	-------------------	----------------	------------	------

**Properties**

Mode\* Subtree ▾

Role\* manager ▾

For all users ☐

Members\*

Add



Delete

- **Mode** : subtree
- **Role** : manager
- **Members** : rhollandais

In order to select members, click on add button against member

Add

Select user Richard Hollandais from the users list



		Richard Hollandais	rhollandais	
---	---	--------------------	-------------	--

Click on Add button bottom right



Click again on Add button bottom right

You can now see the ACL Assignment tab filled with role manager for user Richard Hollandais


Department	Community project	ACL Assignment	References	LDAP
Assignments on object or subtree ou=test42,dc=demo-fusiondirectory,dc=org				
subtree	cn=manager,ou=aclroles,dc=demo-fusiondirectory,dc=org	uid=rhollandais,ou=people,ou=test42,dc=demo-fusiondirectory,dc=org	 	

Click on Ok button bottom right



### 8.5.2 Result


Now in order to see that Manager Richard Hollandais can manage student Paola Italienne, let's sign in FusionDirectory as rhollandais




# Sign in


Please use your username and your password to log into the site administration system.

**Warning:** Session is not encrypted!






[I forgot my password](#)



As manager role, he can see Users icon on his interface



[Main](#)
[Sign out](#)

Welcome Richard Hollandais!



**Users and groups**  
Users

**My account**  
User  
Unix












**Users and groups**

 Users

**My account**

 User
 Unix

Click on Users icon and you will see the users Richard can manage

Users						
<div> <div> <div> <div></div> <div></div> <div></div> <div></div> </div> <div>Base</div> <div>/test42</div> <div></div> <div>Actions ▼</div> </div> </div>						
<input type="checkbox"/>		Surname ▼	Given name	Login	Properties	Actions
		History [History students]				
<input type="checkbox"/>		Hollandais	Richard	rhollandais		  
<input type="checkbox"/>		Italienne	Paola	pitalienne		  



FusionDirectory Plugins

## 9.1 Alias

FusionDirectory Plugins Alias

### 9.1.1 Description

This plugin is used in the management of two types of aliases :

- Mailbox redirection (e.g. when a person leaves the company) from alias FORWARD TO another/s mail address
- Mailbox distribution when receive a message for alias SEND TO mailbox in mail-server

### 9.1.2 Installation

**Install packages**

**Debian**

```
apt-get install fusiondirectory-plugin-alias  
apt-get fusiondirectory-plugin-alias-schema
```

## RHEL

```
yum install fusiondirectory-plugin-alias
yum install fusiondirectory-plugin-alias-schema
```

### Install schemas

#### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/alias-fd-conf.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/alias-fd.schema
```

## RHEL

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/alias-fd-conf.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/alias-fd.schema
```

### 9.1.3 Configuration

No configuration needed for this plugin.

### 9.1.4 Functionalities

- Alias create temporary mail

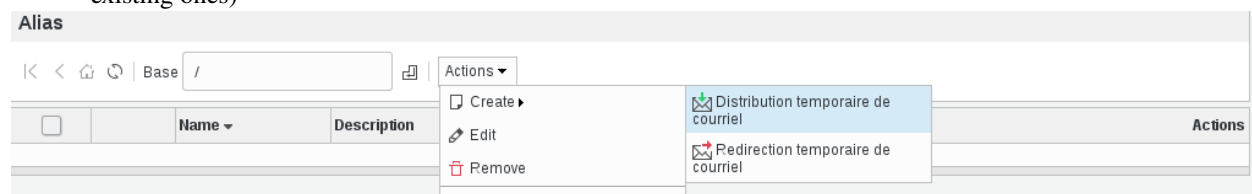
For example, we need that all mails send to :

- [myboss.sharedbox@acme.com](mailto:myboss.sharedbox@acme.com) (mail attribute)
- [myboss@acme.com](mailto:myboss@acme.com) (gosaMailAlternateAddress)

are delivered to :

- [bigboss@acme.com](mailto:bigboss@acme.com) (mail Attribute) mailbox on mailbox.server.com (gosaMailServer)

Click on the “Aliases” entry or icon, in administration section, to join the “Alias management” page. Now you can add a new Mailbox distribution via “Actions → Create → Temporary Mail distribution” (or modify the existing ones)



A new dialog is open :

- Alias create temporary mail view

**Distribution temporaire d...** **Références** **LDAP**

**Mail distribution**

Base: /

Name\*:

Description:

Email address\*:

Email aliases\*:

Mail server: ▼

Expiration date:

Add Delete

- Base : Object base
- Name : Name to identify this alias (required)
- Description : Description of this alias
- Email address : Email address (required)
- Email aliases : Aliases of this email address (required)
- Mail server : Mail server for this alias (required)
- Expiration date : Date after which the distribution should be deleted. Leave empty for no deletion.

**Temporary mail distribution** **Références** **LDAP**

**Mail distribution**

Base: /

Name\*: myboss

Description: mail distribution for myboss

Email address\*: bigboss@acme.com

Email aliases\*: myboss.sharedbox@acme.com  
myboss@acme.com

Mail server: ▼

Expiration date: 17.04.2019

Add Delete

- Alias create temporary mail redirection

For example we need to forward (duplicate and send) all mails send to :

- it.support@acme.com
- it.team@acme.com
- it.help@acme.com

towards :

- technician1@acme.com
- technician2@acme.com
- technician3@acme.com

Click on the entry or on the icon in administration section to join the “Alias management” page. Now you can add a new Mailbox redirection via “Actions → Create → Temporary Mail redirection” (or modify the existing ones) :



- Alias create temporary mail redirection view

Redirection temporaire de... **Références** **LDAP**

### Mail redirection

Base: /

Name\*

Description

Redirect from\*

Redirect to\*

Expiration date

- Base : Object base
- Name : (required) Name to identify this redirection.
- Description : Description of this redirection.
- Redirect from : (required) Mail address from which you want to redirect. This means the mail alias.
- Redirect to : (required) Destination of this redirection.
- Expiration date : Date after which the redirection should be deleted. Leave empty for no deletion.

Fill the required information, for the above example :

- Alias create temporary mail redirection filled

Temporary mail redirection
References
LDAP

Mail redirection

Base

/

Name\*

technicians

Description

Redirect from\*

it.support@acme.com  
it.team@acme.com  
it.help@acme.com

Add
Delete

Redirect to\*

technician1@acme.com  
technician2@acme.com  
technician3@acme.com

Add
Delete

Expiration date

17.04.2019

Aliases

<
<
Base
/

Actions

 1

## 9.2 Applications

FusionDirectory Plugins Applications

### 9.2.1 Description

The application plugin is used to add the definition of web and desktop applications. The web applications can be used on a roles or used to make a portal where users can click on icons. The Desktop applications can be used with deployment systems to create desktop entries

### 9.2.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-applications
apt-get install fusiondirectory-plugin-applications-schema
```

## RHEL

```
yum install fusiondirectory-plugin-applications
yum install fusiondirectory-plugin-applications-schema
```

### Install schemas

#### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd-conf.
↪ schema
```

## RHEL

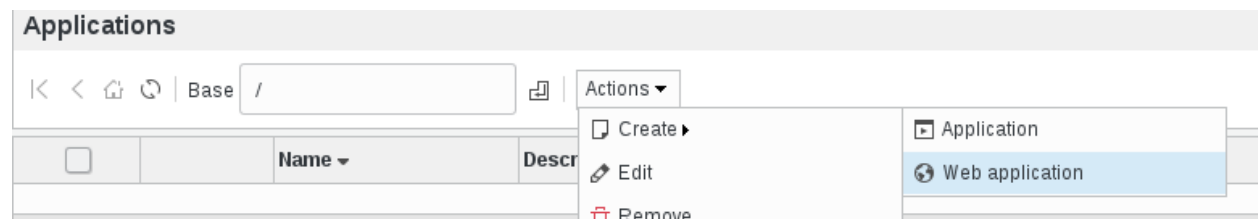
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd-conf.
↪ schema
```

## 9.2.3 Configuration

No configuration needed for this plugin.

## 9.2.4 Functionalities

### Add a web application








A new dialog box will open, fill the forms and save your application :

- Base : where is the application entry in the LDAP
- Name : applications name
- Description : description of the application
- URL : URL of the application
- Display Name : the name that we display (FusionDirectory portal)
- Set your icon for you application (FusionDirectory portal)






Web application   **References**   LDAP

Application	
Base	/
Name *	wordpress
Description	
URL *	https://wordpress.com
Display Name *	wordpress

Click « ok », and you will see the wordpress line created in the application

<input type="checkbox"/>  wordpress	   
--	---

Now, if you click on the menu entry « Groups and roles » on the left, you will find a « role-test » group

Groups and roles	
NIS Netgroups	<input type="checkbox"/> Name ▼
Aliases	<input type="checkbox"/>  FR [france]
Sympa	<input type="checkbox"/>  internet
ACL roles	<input type="checkbox"/>  ogroup-test
ACL assignments	<input type="checkbox"/>  posixgroup-test
SupAnn structures	<input type="checkbox"/>  role-test
Sudo	
EJBCA	

If you click on the role-test group, you will see the Applications tab

**Role**   **Applications**   References   LDAP

This account has Applications settings enabled. You can disable them by clicking below.

[Remove Applications settings](#)

Application list	
Applications *	<div> <div></div> <div></div> </div> <div> <div>wordpress ▼</div> <div>Add</div> <div>Delete</div> </div>

Click on the entry that you created before and click « add », and you will see your webapplication added

Now go to LDAP tab and click on the entry you see

Role

Applications

References

LDAP

• cn=role-test,ou=roles

createTimestamp2019-04-11 22:14:01

modifyTimestamp2019-04-17 11:35:13

cnrole-test

roleOccupantuid=admin,ou=people,dc=demo-fusiondirectory,dc=org

objectClassorganizationalRole

objectClassfdApplicationRights

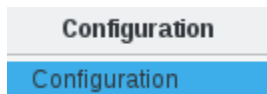
fdApplicationAllowedcn=wordpress,ou=apps,dc=demo-fusiondirectory,dc=org

This will give you an overview of attributes **fdApplicationAllowed** that you will be able to use in a filter to restrict who can login

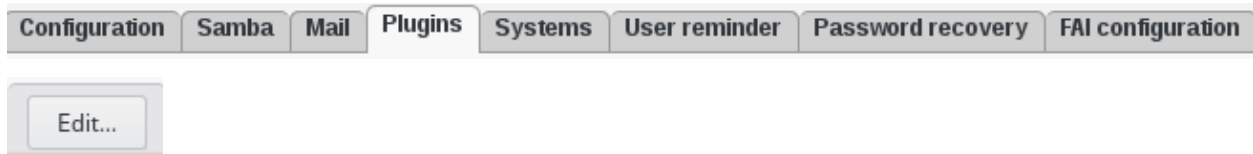
## Use FusionDirectory as portal

— Activate portal mode

Go in configuration



Click on plugins section and then click edit in the bottom right corner



Select your portal mode in the « Show web applications in menu » drop-down menu

Applications	
Application RDN*	<input type="text" value="ou=apps"/>
Web applications RDN*	<input type="text" value="ou=apps"/>
Show web applications in menu*	<input type="button" value="None"/> ▼

- None : no use portal mode
- Only allowed : only allow user that are in a role that have your application
- All : the icons are displayed for everyone



## 9.3 Audit

FusionDirectory Plugins Audit

### 9.3.1 Description

This plugin is used to audit all the operation done from FusionDirectory.

### 9.3.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-audit  
apt-get install fusiondirectory-plugin-audit-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-audit  
yum install fusiondirectory-plugin-audit-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/audit-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/audit-fd-conf.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/audit-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/audit-fd-conf.schema
```

### 9.3.3 Configuration









No configuration needed for this plugin.

## 9.3.4 Functionalities

### — Audit list

Audit

Actions

Time	Author	Action	Type	Target
 2019-04-15, 13:21:48	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	modify	plugin/configInLdap	cn=config,ou=fusiondirectory,dc=demo-fusiondirectory,dc=org
 2019-04-14, 23:28:44	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	create	plugin/hagiosAccount	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org
 2019-04-14, 18:41:46	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	modify	plugin/user	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org
 2019-04-14, 18:41:03	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	modify	plugin/user	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org
 2019-04-14, 15:33:59	uid=manager,ou=people,dc=demo-fusiondirectory,dc=org	create	plugin/postAccount	uid=manager,ou=people,dc=demo-fusiondirectory,dc=org
 2019-04-14, 05:42:21	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	create	plugin/vogroup	cn=infemet,ou=groups,dc=demo-fusiondirectory,dc=org
 2019-04-12, 08:42:40	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	modify	plugin/userRoles	uid=user,ou=people,dc=demo-fusiondirectory,dc=org
 2019-04-12, 08:42:40	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	create	plugin/personalInfo	uid=user,ou=people,dc=demo-fusiondirectory,dc=org

8

Filter

Newer than

Older than

☐ Search in subtrees

Q

Apply filter

### — Create a filter

Filter

Newer than

15.04.2019

Older than

☐ Search in subtrees

Apply filter

### — Audit filter result

Audit

Actions

Time	Author	Action	Type	Target
2019-04-15, 13:21:48	uid=admin,ou=people,dc=demo-fusiondirectory,dc=org	modify	plugin/configInLdap	cn=config,ou=fusiondirectory,dc=demo-fusiondirectory,dc=org

Filter

Newer than15.04.2019


Older than

☐ Search in subtrees

Q

Apply filter

### — Audit event

Événement d'audit		Références	LDAP
Event			
Time*	2019-04-15, 13:21:48		
Action*	modify		
Author*	 dufour paul		
Object type*	plugin/configInLdap		
Object*	cn=config,ou=fusiondirectory,dc=demo-fusiondirectory,dc=org		
Attributes	fdLanguage, fdTimezone		
Result	Success		

If you click on the author icon, you will get the author information

### — Audit author

Utilisateur

Unix

Personnel

Courriel

Samba

Groupe et rôles

SSH

Nagios

Quota

Proxy

Ftp

Freeradius

Groupe HES

SupAn

Sous-traitance

SpamAssassin

Certificats

Bulletin d'actualités

GPG

EJBCA

Références

LDAP

Personal information

Last name\*

paul

First name\*

dufour

Description

Picture

Browse...

No file selected.

☐
☐

Organizational contact information

Location

State

Address

Room No.

Phone

## 9.4 Autofs

FusionDirectory Plugins Supann

### 9.4.1 Description

The Autofs plugin is used to manage autofs through an LDAP directory.

Autofs is a program for automatically mounting directories on an as-needed basis.

Auto-mounts are mounted only as they are accessed, and are unmounted after a period of inactivity.

Because of this, automounting NFS/Samba shares conserves bandwidth and offers better overall performance compared to static mounts via fstab.

### 9.4.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-autofs
apt-get install fusiondirectory-plugin-autofs-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-autofs
yum install fusiondirectory-plugin-autofs-schema
```

#### Install schemas

##### Debian

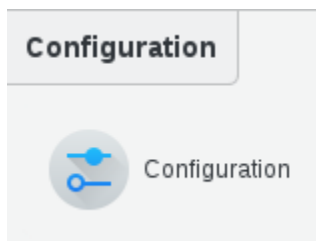
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/autofs-fd-conf.schema
```

##### RHEL

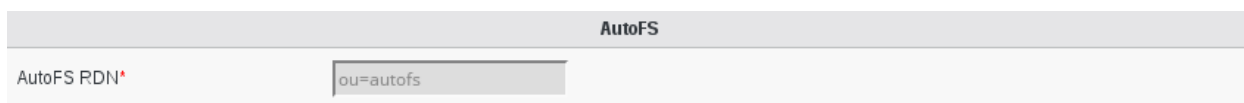
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/autofs-fd-conf.schema
```

### 9.4.3 Configuration

If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :

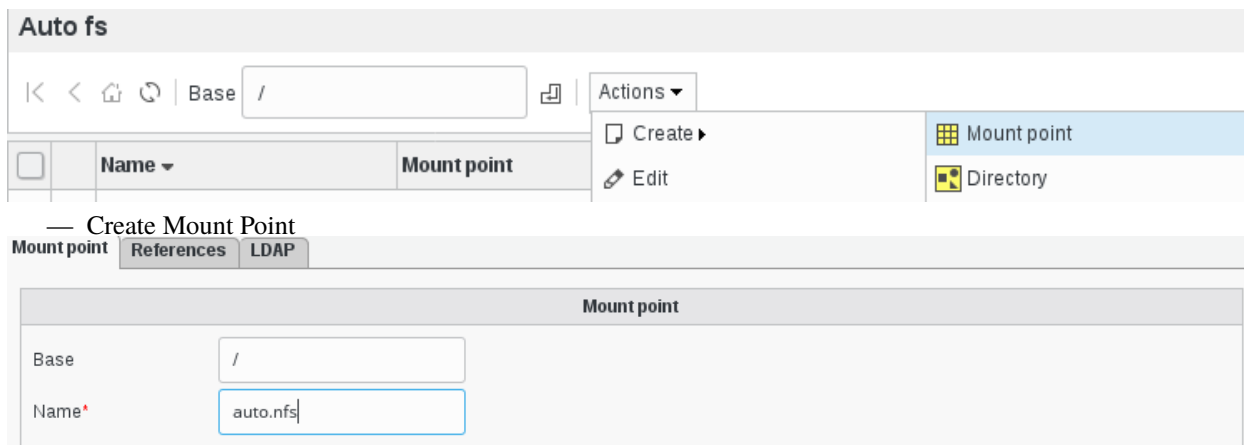


Access to configuration is read-only. If you need to make changes, then you must press the “Edit” button at the bottom right of the window.



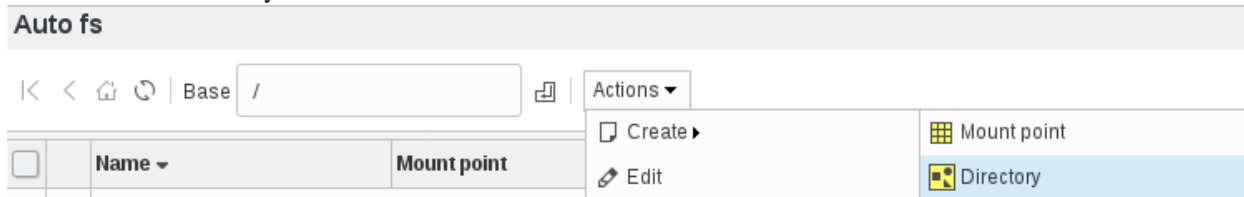
### 9.4.4 Functionalities

In your FusionDirectory web interface you have now, in the “Administration” section, a new tab and a new icon called “Autofs” that you can use to manage auto-mounts in your infrastructure :



Fill the different informations and click on ok to save it.

— Create a directory



Directory **References** LDAP

Directory	
Base	<input type="text" value="/"/>
Name*	<input type="text" value="/misc"/>
Automount entry*	<input type="text" value="ldap://192.168.10.80:nisMapName=auto.nfs,ou=autofs,dc=labo,dc=opensides,dc=be --ghost"/>
Mount point*	<input type="text" value=""/>

Fill the different informations and click on ok to save it.

<input type="checkbox"/>	<input type="checkbox"/>	auto.nfs	auto.nfs		✂️ 📄 🖋️ 🗑️ 📁
▶ 1	<input type="checkbox"/>	1			

## 9.5 Certificates

FusionDirectory Plugins Supann

### 9.5.1 Description

The Certificates plugin is used to to store private certificates in pem format.

### 9.5.2 Installation

#### Install packages

##### Debian

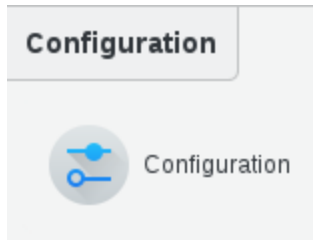
```
apt-get install fusiondirectory-plugin-certificates
```

##### RHEL

```
yum install fusiondirectory-plugin-certificates
```

### 9.5.3 Configuration

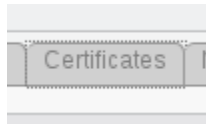
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



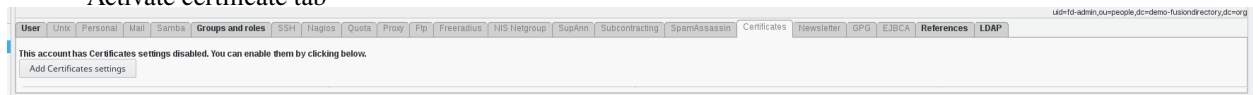
## 9.5.4 Functionalities

- Add a certificate

Select an user and click on certificate tab



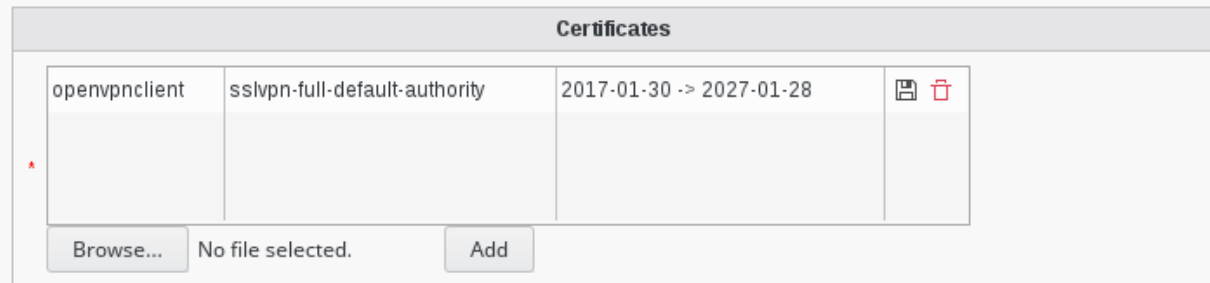
- Activate certificate tab



- Add a browsable crt or pem certificate

This account has **Certificates settings enabled**. You can disable them by clicking below.

[Remove Certificates settings](#)



## 9.6 Community

FusionDirectory Plugins Community

### 9.6.1 Description

The Community plugin is used to manage user communities in FusionDirectory.

## 9.6.2 Installation

### Install packages

#### Debian

```
apt-get install fusiondirectory-plugin-community
apt-get install fusiondirectory-plugin-community-schema
```

#### RHEL

```
yum install fusiondirectory-plugin-community
yum install fusiondirectory-plugin-community-schema
```

### Install schemas

#### Debian

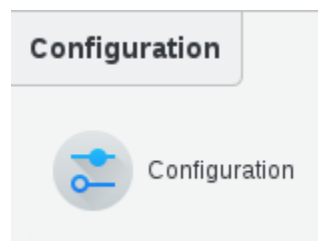
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/community-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/community-fd-conf.
↪ schema
```

#### RHEL

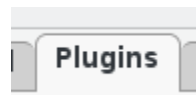
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd-conf.
↪ schema
```

## 9.6.3 Configuration

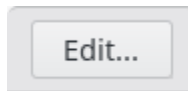
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



Go to Plugins tab



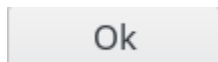
Click on Edit button bottom right



Fill-in Community options

A form titled "Community" with a light gray header. The main area is divided into two sections. The left section is labeled "Membership choices" and "type". The right section contains a large text input field with a vertical scrollbar on the right side. Below the input field is a smaller text input field. To the right of the smaller input field is an "Add" button. Below the smaller input field is a "Delete" button.

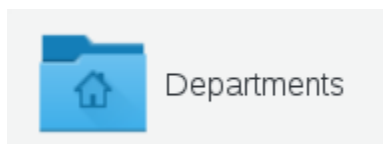
Click on OK button bottom right to save your options



## 9.6.4 Functionalities

— Create a department

Click on Departments icon in FusionDirectory



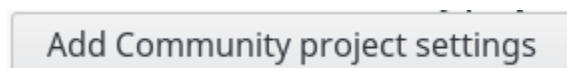
Click on Actions -> Create -> Department



Go to Community Project tab



Click on Add Community projects settings





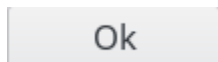
Fill-in all required fields

Project	Dates
Project full name <input type="text"/>	Start date* <input type="text" value="14.06.2019"/>
Project key <input type="text"/>	End date <input type="text"/>

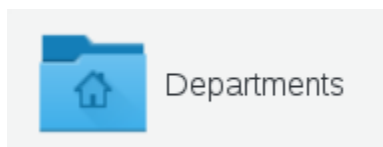
Contact
First name <input type="text"/>
Last name <input type="text"/>
Address <input type="text"/>
City <input type="text"/>
State <input type="text"/>
Country <input type="text"/>

Click on OK button bottom right to save settings

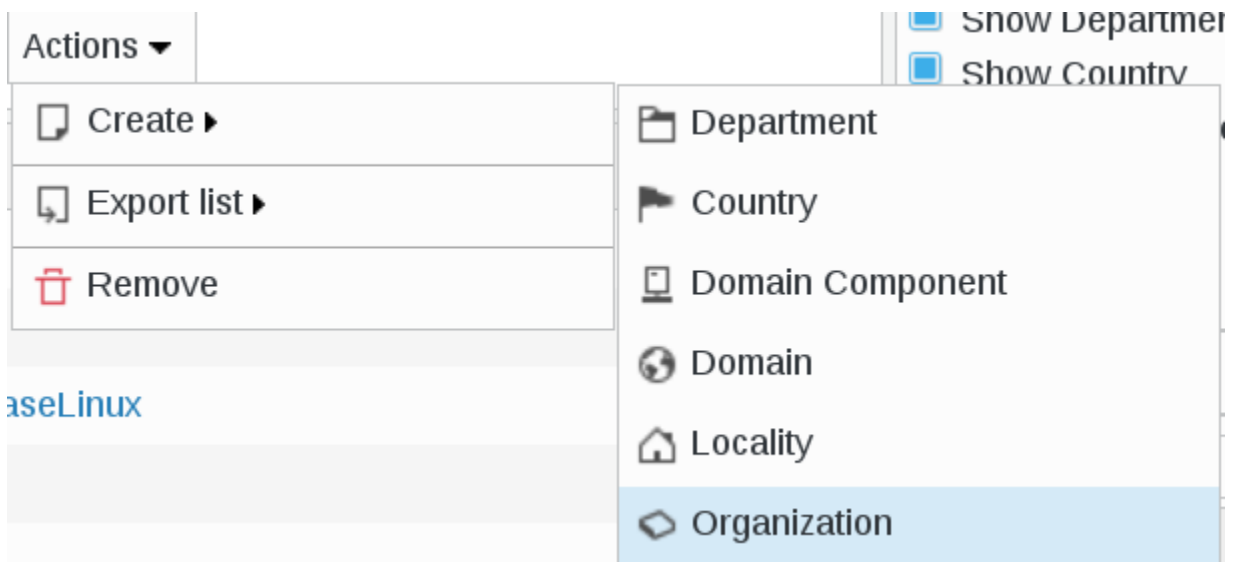


— Create an organization

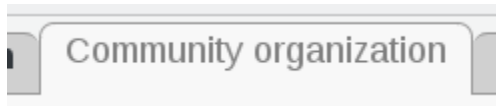
Click on Departments icon in FusionDirectory



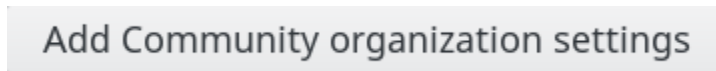
Click on Actions → Create → Organization





Click on Community organization tab



Click on Add Community organization settings



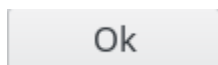
Fill-in all required fields

Membership	Dates
<p>Membership type <input type="text" value="v"/></p> <p>Agreement signed <input type="checkbox"/></p> <p>Active <input type="checkbox"/></p> <p>Hidden <input type="checkbox"/></p>	<p>Start date* <input type="text" value="14.06.2019"/> </p> <p>End date <input type="text"/> </p>

Contact
<p>First name <input type="text"/></p> <p>Last name <input type="text"/></p> <p>Address <input type="text"/></p> <p>City <input type="text"/></p> <p>State <input type="text"/></p> <p>Country <input type="text"/></p>

Click on OK button bottom right to save settings



## 9.7 Cyrus

FusionDirectory Plugins Cyrus

### 9.7.1 Description

This plugin is used to manage Cyrus mailboxes with FusionDirectory.

## 9.7.2 Installation

### Install packages

#### Debian

```
apt-get install fusiondirectory-plugin-cyrus
apt-get install fusiondirectory-plugin-cyrus-schema
```

#### RHEL

```
yum install fusiondirectory-plugin-cyrus
yum install fusiondirectory-plugin-cyrus-schema
```

### Install schemas

#### Debian

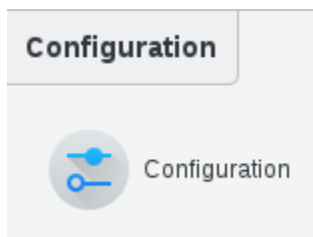
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/cyrus-fd.schema
```

#### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/cyrus-fd.schema
```

## 9.7.3 Configuration

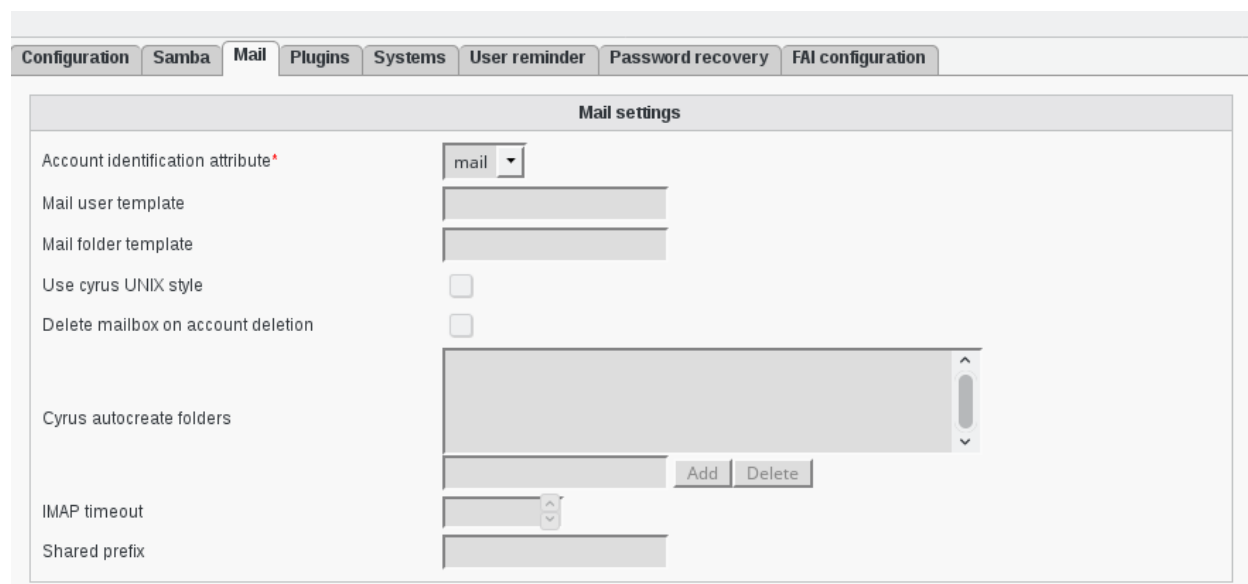
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



— Cyrus mail configuration

Access to configuration is read-only. If you need to make changes, then you must press the “Edit” button at the bottom right of the window.

In Mail tab you will find the configuration of the cyrus plugin.



### Mail settings

- Account identification attribute : (required) Determines which attribute FusionDirectory will use to create accounts. Valid values are mail and uid.
- Mail user template : Allows to override the user account creation syntax. See the “Mail folder template” description for more details.

Examples :

```
%prefix%%uid%          => user.foobar
```

```
my-prefix.%uid%%domain% => my-prefix.foobar@example.com
```

- Mail folder template : Allows to override the methods default account creation syntax.

Examples :

```
%prefix%%cn%          => shared.development
```

```
my-prefix.%cn%%domain% => my-prefix.development@example.com
```

- Placeholders for the Mail folder template usage :

```
%prefix%    The methods default prefix. (Depends on 'Use cyrus UNIX style')
```

```
%cn%        The groups/users cn.
```

```
%uid%       The users uid.
```

```
%mail%      The objects mail attribute.
```

```
%domain%    The domain part of the objects mail attribute.
```

```
%mailpart%  The user address part of the mail address.
```

%uattrib% Depends on mailAttribute (uid/mail).

- Use cyrus UNIX style : Determines if FusionDirectory should use “foo/bar” instead of “foo.bar” namespaces in IMAP. Unix style is with slashes.

To use this option, you must set “unixhierarchysep” parameter to “yes” in your imap.conf configuration file.

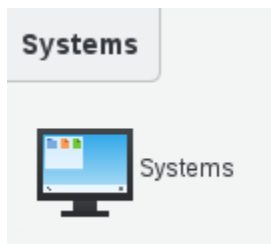
unixhierarchysep: yes

- Delete mailbox on account deletion : Determines if FusionDirectory should remove the mailbox from your IMAP server or keep it after the account is deleted in LDAP.
- Cyrus autcreate folders : Contains a comma separated list of personal IMAP folders that should be created along initial account creation.
- IMAP timeout : Sets the connection timeout for imap actions. Default value is 10 seconds.
- Shared prefix : Defines the prefix to add for mail shared folders.

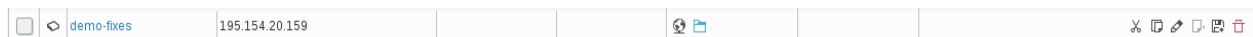
## 9.7.4 Functionalities

- Add Cyrus service

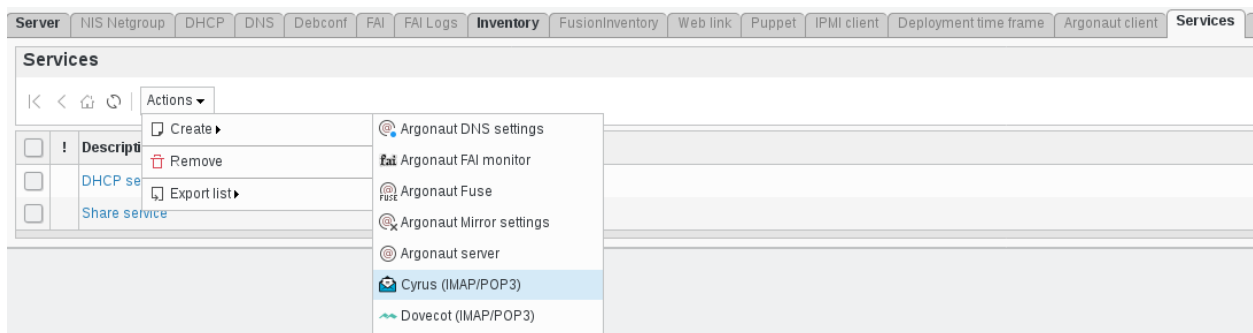
Click on the System button located in the System section of FusionDirectory main page



Click on the server you wish to configure cyrus service, in this exemple we assume that the server name is “demo-fixes”



Click on “Services” tab and click on “action - create - cyrus IMAP/POP3 :



Fill in required fields then click “Save” :

The screenshot shows the FusionDirectory web interface with two panels: 'Cyrus settings' and 'Sieve settings'. The 'Cyrus settings' panel has fields for Hostname (demo-fixes), Port (143), Option (notls), Valid certificates (dropdown), Admin user (cyrus), and Password (masked). The 'Sieve settings' panel has fields for Hostname, Port (4190), and Option (notls). Both panels have 'Save' and 'Cancel' buttons at the bottom right.

### Cyrus settings

- Hostname : Hostname of the Cyrus server.
- Port : Port number on which Cyrus server should be contacted.
- Option : (required) Options for contacting Cyrus server. Valid values are notls, tls and ssl.
- Valide certificats : Whether or not to validate server certificate on connexion. Valid values are validate and no-validate.
- Admin user : (required) Imap server admin user.
- Password : (required) Admin user password.

### Sieve settings

- Hostname : Hostname of the Cyrus Sieve server.
- Port : Port number on which Cyrus Sieve server should be contacted.
- Option : (required) Options for contacting Cyrus Sieve server. Valid values are notls, tls and ssl.

Click on “save”

Now, in services column, you can see the cyrus icon :



From now you can create User Mailbox

## 9.8 Developers

FusionDirectory Plugins Developers

### 9.8.1 Description

The Developers plugin gives information for developers in FusionDirectory.

### 9.8.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-developers
```

## RHEL

```
yum install fusiondirectory-plugin-developers
```

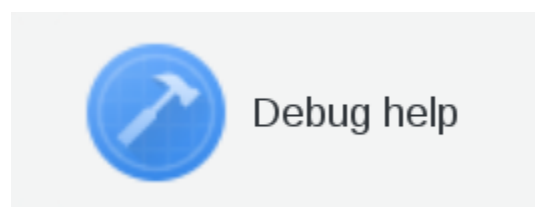
### 9.8.3 Configuration

No configuration needed for this plugin.

### 9.8.4 Functionalities

— Debug help

In the Reporting section in FusionDirectory, click on Debug help icon



Debug help

You can download a diagram and see the content of all object types

Diagrams	
Object types diagram	<a href="#">Get</a>

Object Types
<ul style="list-style-type: none"> <li>• Dashboard</li> <li>• FusionDirectory configuration</li> <li>• Group</li> <li>• Debug help</li> <li>• GPG server info</li> <li>• Printer</li> <li>• special</li> <li>• OPSI import</li> <li>• Inventory object</li> <li>• OPSI ondemand list</li> <li>• Organization</li> <li>• OPSI software list</li> <li>• POSIX group</li> <li>• OPSI profile</li> <li>• Public form</li> <li>• Phone</li> <li>• SOGo resource</li> <li>• Sudo role</li> <li>• Sympa list alias</li> <li>• Simple security object</li> <li>• Terminal</li> <li>• User</li> <li>• Web application</li> <li>• Workstation</li> <li>• Repository distribution</li> <li>• Repository section</li> <li>• Role</li> <li>• Samba Domain</li> </ul>

- Server
- Locality
- Network device
- Audit event
- Build repository
- Country
- Domain Component
- Debconf profile
- Department
- DHCP configuration
- Argonaut task import
- ACL assignment
- ACL role
- Application
- Argonaut task
- Directory
- LDAP Manager
- FAI Profile
- FAI script
- FAI template
- FAI variable
- Temporary mail distribution
- Temporary mail redirection
- Mobile phone
- NIS Netgroup
- Mount point
- FAI partition table
- FAI package configuration
- DNS view
- DNS acl
- DNS zone
- FAI Package

- FAI script
- FAI template
- FAI variable
- Temporary mail distribution
- Temporary mail redirection
- Mobile phone
- NIS Netgroup
- Mount point
- FAI partition table
- FAI package configuration
- DNS view
- DNS acl
- DNS zone
- FAI Package
- Domain
- EJBCA certificate
- SupAnn Entity
- SupAnn Establishment
- FAI hook

When you click on an object type, in this example FusionDirectory configuration, you can see the content of this object



- FusionDirectory configuration

**aclCategory** configuration

**mainAttr**

**ou** ou=fusiondirectory,

**filter** (objectClass=fusionDirectoryConf)

**tabClass** tabs\_configInLdap

**tabGroup** CONFIGURATIONTABS

**mainTab** configInLdap

**management** configInLdap

**count** 1

## 9.9 Dovecot

FusionDirectory Plugins Supann

### 9.9.1 Description

The Dovecot plugin allows to manage Dovecot mailbox in FusionDirectory.

### 9.9.2 Installation

**Install packages**

**Debian**

```
apt-get install fusiondirectory-plugin-dovecot
apt-get install fusiondirectory-plugin-dovecot-schema
```

## RHEL

```
yum install fusiondirectory-plugin-dovecot
yum install fusiondirectory-plugin-dovecot-schema
```

### Install schemas

#### Debian

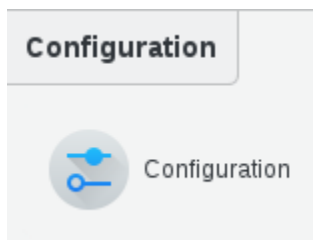
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dovecot-fd.schema
```

## RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/dovecot-fd.schema
```

## 9.9.3 Configuration

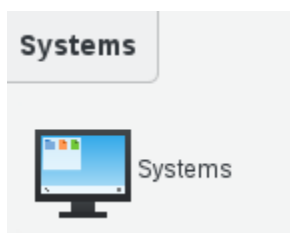
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



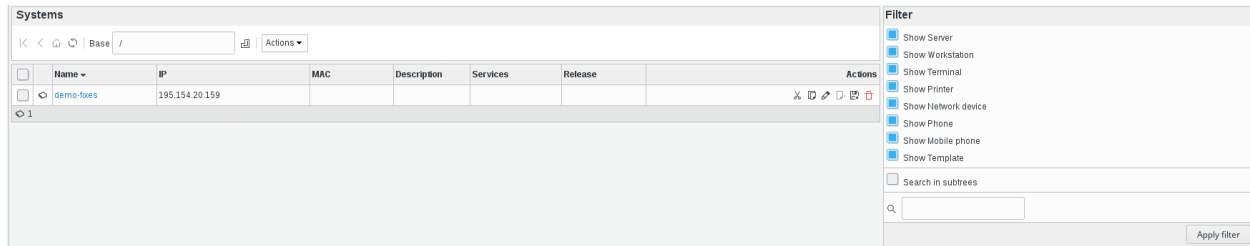
## 9.9.4 Functionalities

- Add Dovecot service

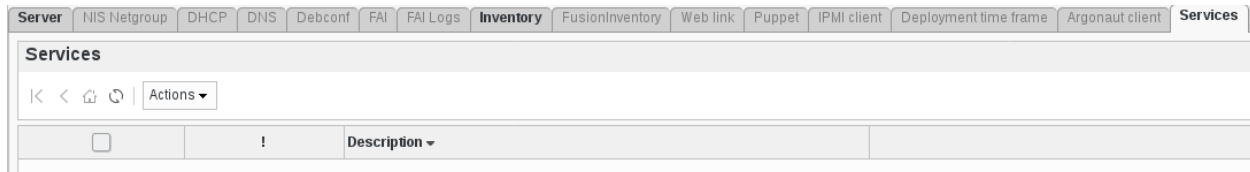
Go to Systems



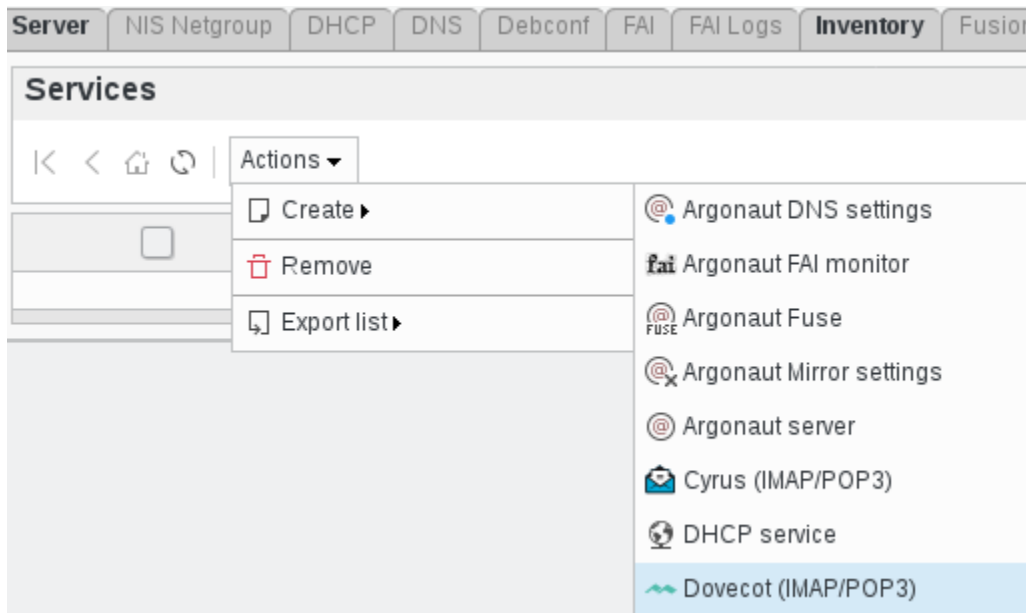
- Create your server or edit an server



Click on services tab



Add Dovecot service



Fill the fields for the Dovecot plugin and save it :

- Hostname : the hostname of the server
- Port : port for the connexion
- Option : tls or not
- Validate certificate : if we validate the certificate or not

Fill in Dovecot connections

Server	NIS Netgroup	DHCP	DNS	Debconf	FAI	FAI Logs	<b>Inventory</b>	FusionInventory	Web link	Puppet	IPMI client	Deployment time
--------	--------------	------	-----	---------	-----	----------	------------------	-----------------	----------	--------	-------------	-----------------

Dovecot connection

Hostname\*

Port\*

143

^

v

Option\*

notls

v

Validate TLS/SSL Certificates

v

Options

Create the user folder via Argonaut\*

☐

Fill in Dovecot master credentials

Master credentials	
Admin user*	<input type="text"/>
Password*	<input type="password"/>
Mail directory*	/var/mail

Click on ok to save your server

Save	Cancel
------	--------

## 9.10 Dsa

FusionDirectory Plugins Dsa

### 9.10.1 Description

The dsa plugin is used to to create Directory Service Accounts for administrative purpose (like pam\_ldap, dns, nssldap, smbldap-tools, argonaut etc.) inside the LDAP directory.

### 9.10.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-dsa
apt-get install fusiondirectory-plugin-dsa-schema
```

## RHEL

```
yum install fusiondirectory-plugin-dsa
yum install fusiondirectory-plugin-dsa-schema
```

### Install schemas

#### Debian

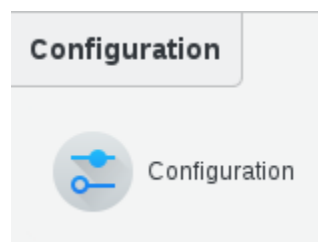
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dsa-fd-conf.schema
```

## RHEL

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/dsa-fd-conf.schema
```

### 9.10.3 Configuration

If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



Access to configuration is read-only. If you need to make changes, then you must press the “Edit” button at the bottom right of the window.

In Plugins tab you will find the block DSA, which is related to the configuration of the Dsa plugin

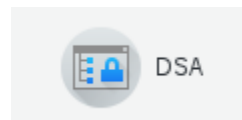
— DSA RDN : (required) Branch in which Directory Service Account (dsa) will be stored

DSA	
DSA RDN*	<input type="text" value="ou=dsa"/>

### 9.10.4 Functionalities

#### How use custom the DSA plugin

In your FusionDirectory Web interface, in the « Users and Groups » section, you will find an icon called “DSA” that you can use to manage service accounts in your ldap directory :

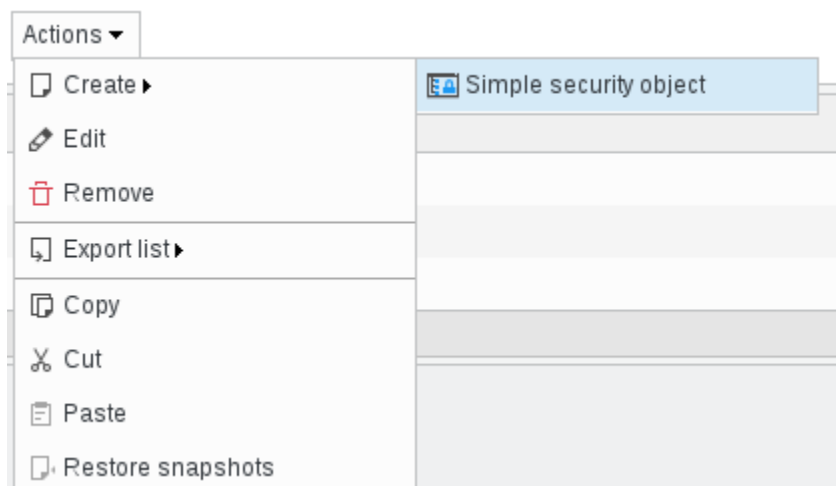


- Create a DSA account

Click on the “DSA” entry or icon, in users and groups section, to join the “DSA management” page.

DSA		
<div> <div> <div>&lt;</div> <div>&gt;</div> <div>Base</div> <div>/</div> </div> <div> <div>Actions</div> <div>▼</div> </div> </div>		
<input type="checkbox"/>	Name ▼	Description
<input type="checkbox"/>	active [active]	
<input type="checkbox"/>	bar [test bar]	
<input type="checkbox"/>	fff [fff]	

Now you can add a new account (simple security object) via “Actions → Create” (or modify the existing ones) :



A new dialog is open, fill at least in required fields :

- Base : object base
- Entry Name : (required) Service Account name

Simple security object	
Base	/
Entry name*	
Description	

- Change password

Fill in the required fields :

- Password method : (required) Password hash method to use
- Password : (required) Service Account password
- Password again : (required) Same password as above, to avoid errors

Change password	
Password method*	ssha
Password*	
Password again*	

## 9.11 EJBCA

FusionDirectory Plugins EJBCA

### 9.11.1 Description

The EJBCA plugin is used to read ssl certificates published by EJBCA into LDAP with FusionDirectory.

### 9.11.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-ejbca  
apt-get install fusiondirectory-plugin-ejbca-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-ejbca  
yum install fusiondirectory-plugin-ejbca-schema
```

#### Install schemas

##### Debian

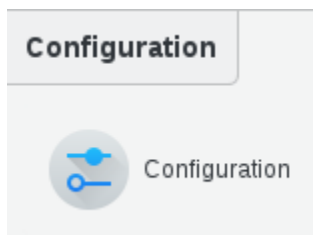
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/ejbca-fd*
```

##### RHEL

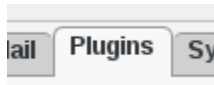
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/ejbca-fd*
```

### 9.11.3 Configuration

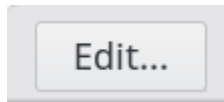
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



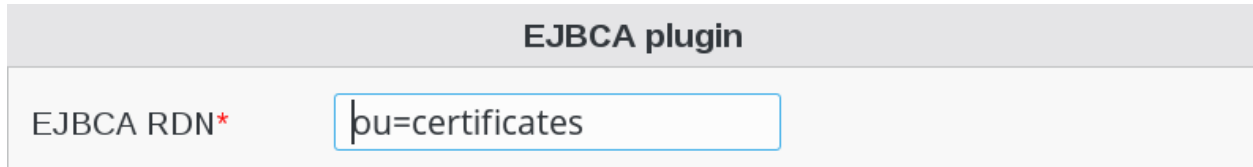
Go to Plugins tab



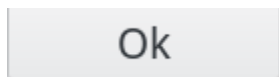
Click on Edit button bottom right



Fill-in EJBCA RDN



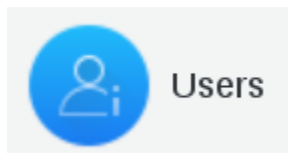
Click on OK button bottom right to save



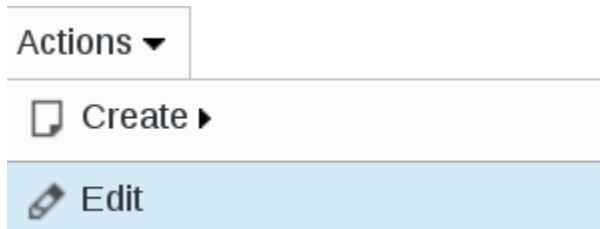
### 9.11.4 Functionalities

— Assign a certificate at a user

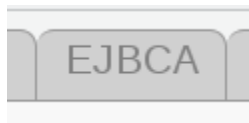
Click on Users icon in FusionDirectory



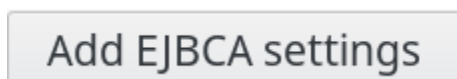
Click on Actions -> Edit



Activate EJBCA tab



Click on EJBCA settings button

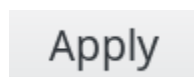




Select a certificate from the list

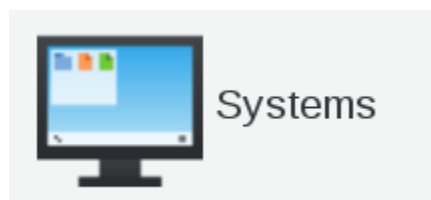


Click on Apply button bottom right to save

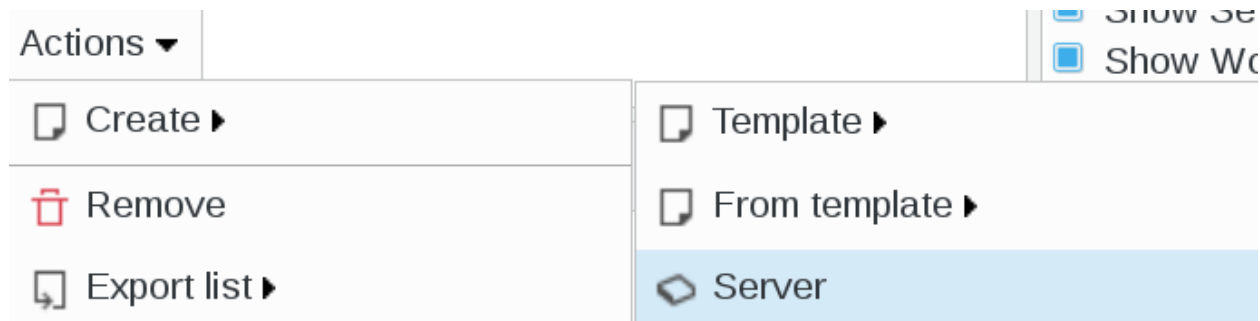


— Assign a certificate at a system

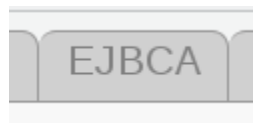
Click on Systems icon in FusionDirectory



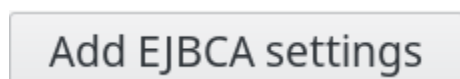
Click on Actions -> Create -> Server



Activate EJBCA tab



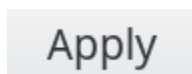
Click on EJBCA settings button



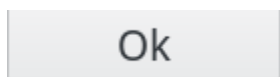
Select a certificate from the list



Click on Apply button bottom right to save

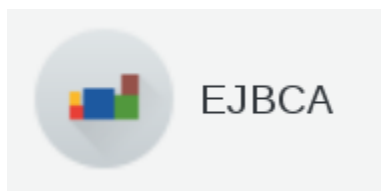


Click on OK button bottom right to save

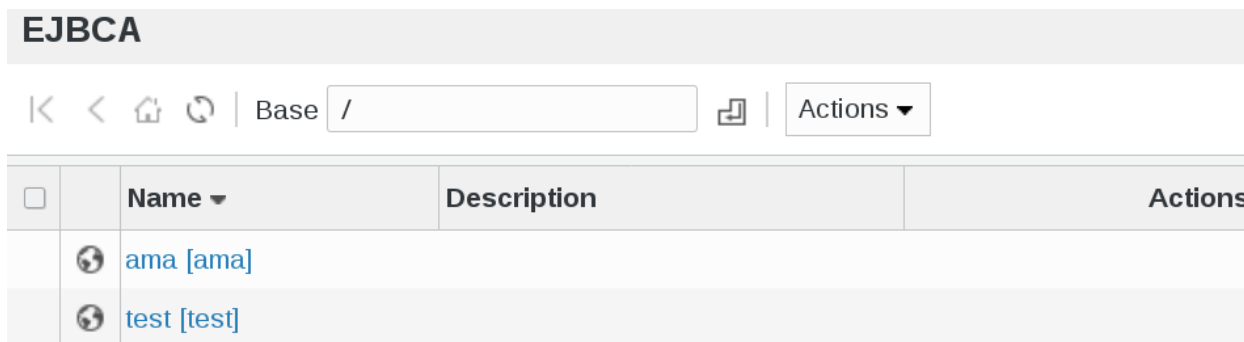


— Add a certificate

Click on EJBCA icon in FusionDirectory



EJBCA part in FusionDirectory



You can download your certificate here, but you may click on his name and see more info

## 9.12 GPG

FusionDirectory Plugins GPG

### 9.12.1 Description

The GPG plugin is used to store GPG keys in your directory through FusionDirectory.

### 9.12.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-gpg
apt-get install fusiondirectory-plugin-gpg-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-gpg
yum install fusiondirectory-plugin-gpg-schema
```

#### Install schemas

##### Debian

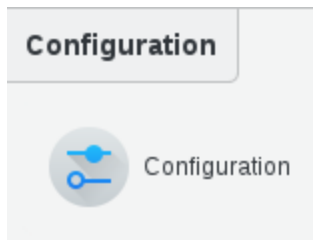
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/gpg-fd.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/pgp*
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/gpg-fd.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/pgp*
```

### 9.12.3 Configuration

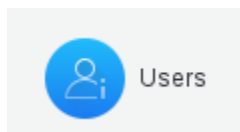
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



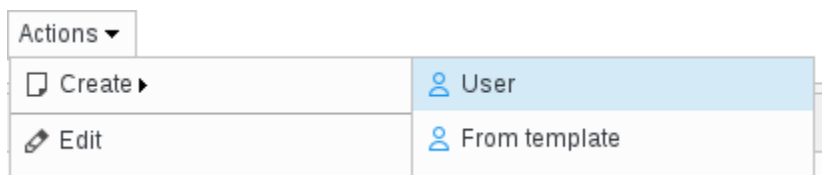
## 9.12.4 Functionalities

— Create a user

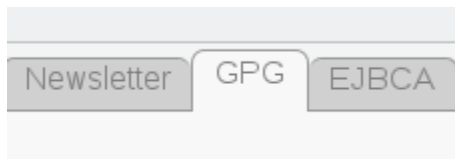
Click on « users » icon in FusionDirectory



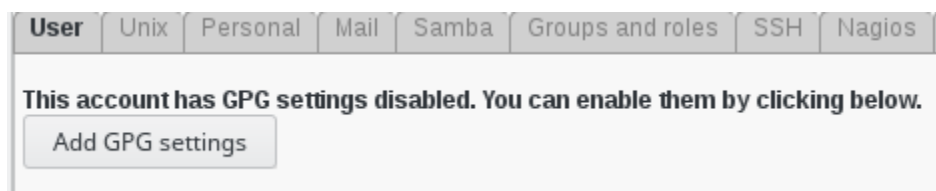
Click on Actions -> create -> user



Activate GPG tab



Click on Add GPG settings



Add a key that is in your LDAP

### 9.13 Ipmi

### 9.13.1 Description

### 9.13.2 Installation

## Debian

## RHEL

## Install schemas

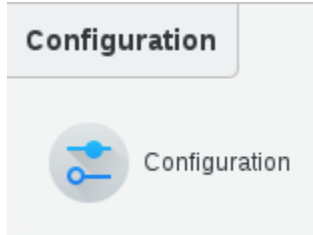
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/ipmi-fd.schema
```

## RHEL

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/ipmi-fd.schema
```

### 9.13.3 Configuration

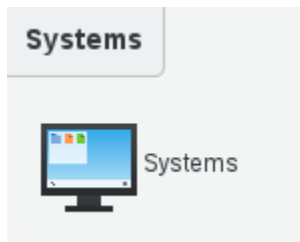
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



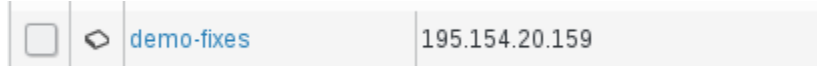
### 9.13.4 Functionalities

— How to add an Ipmi client

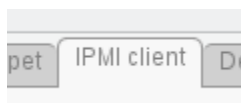
Go to Systems



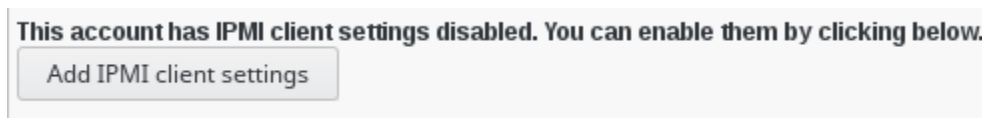
— Edit a server



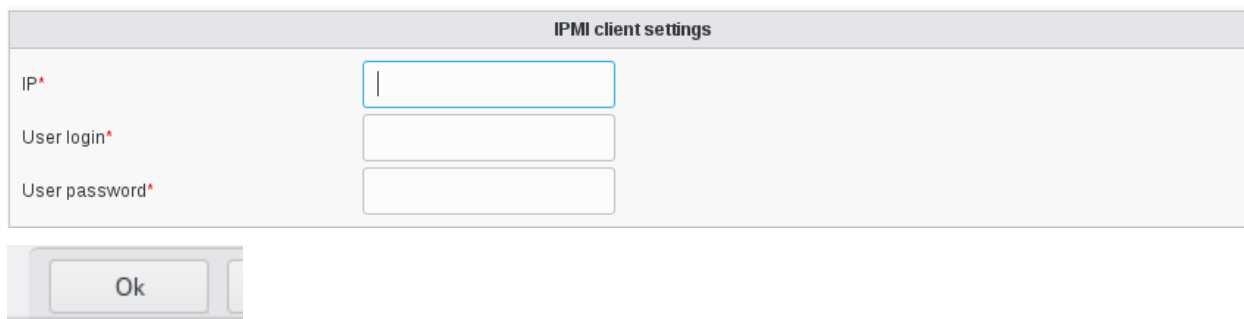
Click on Ipmi client tab



Click on Add Ipmi client settings button



Fill IP, user login and user password Click on ok to save it



The image shows a dialog box titled "IPMI client settings". It contains three input fields: "IP\*" with a blue border, "User login\*", and "User password\*". Below the fields is an "Ok" button.

## 9.14 Ldapdump

FusionDirectory Plugins Ldapdump

### 9.14.1 Description

The Ldapdump plugin gives all the information from an object that is stored in the LDAP.

### 9.14.2 Installation

#### Install packages

##### Debian

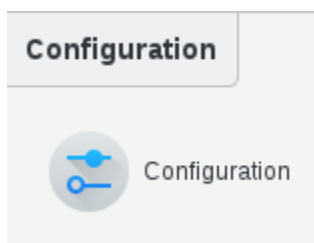
```
apt-get install fusiondirectory-plugin-ldapdump
```

##### RHEL

```
yum install fusiondirectory-plugin-ldapdump
```

### 9.14.3 Configuration

If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :

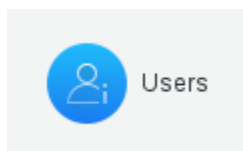


### 9.14.4 Functionalities

— How to use the LDAP Dump plugin

For example to see the ldapdump of a user object

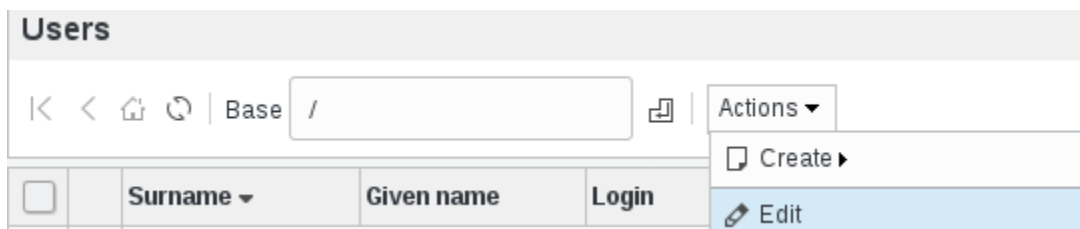
Click on Users icon in FusionDirectory



Select a user by thicking the little box



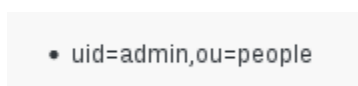
Click on Actions -> Edit



Go to LDAP tab at the bottom



In the LDAP tab, you can see the DN of your element



If you click on your element, you will see all the informations that the LDAP contains



createTimestamp	2019-05-09 11:52:54
modifyTimestamp	2019-06-04 12:09:01
sn	paul
givenName	dufour
uid	admin
cn	dufour paul
userPassword	{SSHA}3N/UeGTl6Bt3+gFs++MZ10e2/2nO/SKS
homeDirectory	/home/blabla
gecos	dufour paul
uidNumber	1101
gidNumber	1102
shadowLastChange	18025
fdPhotoVisible	TRUE
sambaSID	0-815-4711-2203
sambaDomainName	DEFAULT
sambaMungedDial	IAAgACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAA AgACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAIAAagACAAUAAEABoACAABAEMAd AB4AEAMAZgBnAFAAcgBIAHMAZQBuaHQANTUxZTBiYjAYAAgAAQBDahQAeABDAGYAzwBGAGwAYQBNhAHMAMQAwMGUwMDAxMBIACAABAEMAdAB4AFMAaABhAGQAbwB3ADAxMDAwMDAwKgACAEEAQwb0AHgATQBPAg4ARQBuaGMAcgb5AHAadABPAG8AbgBMAGUAdbgBIAGwAMDAA=
sambaAcctFlags	[U]
radiusTunnelMediumType	IEEE-802
radiusTunnelType	VLAN
radiusFramedProtocol	PPP
radiusFramedImageAddress	255.255.255.254
radiusFramedMTU	1500
radiusFramedCompression	Van-Jacobson-TCP/IP
radiusServiceType	Framed-User
radiusIdleTimeout	10

## 9.15 Ldap manager

FusionDirectory Plugins Ldap manager

### 9.15.1 Description

The LDAP Manager plugin is used to export/import ldif and csv with/without templates in FusionDirectory.

### 9.15.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-ldapmanager
```

##### RHEL

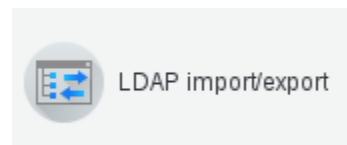
```
yum install fusiondirectory-plugin-ldapmanager
```

### 9.15.3 Configuration

There is no configuration for ldap manager

### 9.15.4 Functionalities

In your FusionDirectory web interface you have now, in the Configuration section, a new tab and a new icon called “Ldap import/export” that you can use to manage ldif in your infrastructure :



When you click on this tab or icon, then you can :

- Export ldif
- Import ldif
- Import CSV
- Export ldif

The LDIF export plugin provides methods to download a complete snapshot of the running LDAP directory as ldif. You may save these files for backup purpose or when initializing a new server.

Export		
Export single entry	<input type="text"/>	<input type="button" value="Export"/>
Filter	<input type="text" value="(objectClass=*)"/>	
Export complete LDIF for	<input type="text" value="/"/>	<input type="button" value="Export"/>

« Export single entry » allows you to export a single ldap record. For example, in my ldap directory, if I ask to export the sales group :

```
cn=sales,ou=groups,dc=fusiondirectory,dc=org
```

the result is an ldif file with this content :

```
dn: cn=sales,ou=groups,dc=fusiondirectory,dc=org
cn: sales
gidNumber: 1105
memberUid: Homer.Sympson
memberUid: gmarquez
objectClass: top
objectClass: posixGroup
```

« Export complete LDIF for » allows you to export all records of your ldap directory.

#### — Import ldif

The LDIF import plugin provides methods to upload a set of entries to your running LDAP directory as ldif. You may use this to add new or modify existing entries. Remember that FusionDirectory will not check your ldifs for FusionDirectory conformance.

Import LDIF	
Overwrite existing entries	<input type="checkbox"/>
Import LDIF file	<input type="text"/> <div> <input type="button" value="Browse..."/> <span>No file selected.</span> <input type="button" value="Upload"/> <input type="button" value="Import"/> </div>

#### — Import LDIF File (Modify existing objects, keep untouched attributes)

For example, in FusionDirectory, I have this posixgroup-test group :

Group **Mail** **Partage** **Samba** **Freeradius** **References** **LDAP**

**Properties**

Base: /

Name\*: posixgroup-test

Description:

Force GID: ☐

GID: 1101

**System trust**

Trust mode: disabled

Add Delete

**Group members**

durieux Bcarole

Add Delete

which corresponds at this entry in my ldap directory :

```
dn: cn=posix-group,ou=groups,dc=fusiondirectory,dc=org
cn: posix-group
gidNumber: 1105
memberUid: durieux.Bcarole
objectClass: top
objectClass: posixGroup
```

#### — CSV import

The CSV import plugin provides methods to generate user accounts from a file containing Semi-Colon Separated Values. The administrator can decide which columns should be transfered to which attribute and select a template to apply.

**LDIF** **CSV import**

**Import CSV**

Object type\*: User

Template\*:

CSV file:  No file selected.

Separator\*: ,

Fixed values:

Add Delete

Import

**Template filling**

Note that the file must not contain a header line, all lines are treated as data to import, except if they start with a #.

## 9.16 Mail

FusionDirectory Plugins Mail

### 9.16.1 FusionDirectory mail concept

#### — Mail methods

FusionDirectory supports different ways to manage your mail accounts, each type of mail account is represented by a so called mail method.

Every method implements a specific storage of mail accounts. The mail methods can also add functionalities specific for each kin of server we manage.

For now we support :

- The base method explained in the mail plugin you are reading
- [The Cyrus mail method](#)
- [Dovecot](#)
- [RENATER Partage](#)

The basic method just store the data that can be used by other service like postfix for example. The other method like cyrus, dovecot, renater-partage need the corresponding server

### 9.16.2 Description

The Mail plugin is used to manage basic mail attributes in FusionDirectory.

### 9.16.3 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-mail
apt-get install fusiondirectory-plugin-mail-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-mail
yum install fusiondirectory-plugin-mail-schema
```

## Install schemas

### Debian

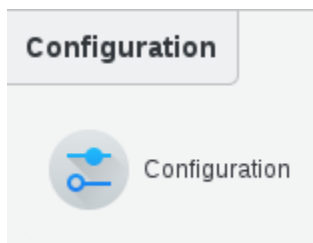
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/mail-fd.schema  
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/mail-fd-conf.schema
```

### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/mail-fd.schema  
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/mail-fd-conf.schema
```

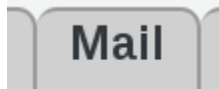
## 9.16.4 Configuration

If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



Access to configuration is read-only. If you need to make changes, then you must press the “Edit” button at the bottom right of the window.

In Mail tab you will find the configuration of the plugin



Mail settings	
Account attribute*	identification <span>mail ▾</span>
Mail user template	<input type="text"/>
Mail folder template	<input type="text"/>
Use cyrus UNIX style	<input type="checkbox"/>
Delete mailbox on account deletion	<input type="checkbox"/>
Cyrus autcreate folders	<div><input type="text"/></div> <div> <input type="button" value="Delete"/> <input type="button" value="Add"/> </div>
IMAP timeout	<input type="text"/>
Shared prefix	<input type="text"/>

#### Mail settings

- Account attribute Identification : (required) Determines which attribute FusionDirectory will use to create accounts. Valid values are mail and uid
- Mail user template : Allows to override the user account creation syntax. See the “Mail folder template” description for more details

Examples :

```
%prefix%%uid%      => user.foobar
```

```
my-prefix.%uid%%domain% => my-prefix.foobar@example.com
```

- Mail folder template : Allows to override the methods default account creation syntax

Examples :

```
%prefix%%cn%      => shared.development
```

```
my-prefix.%cn%%domain% => my-prefix.development@example.com
```

#### Placeholders

%prefix%	The methods default prefix. (Depends on 'Use cyrus UNIX style')
----------	---

%cn%	The groups/users cn.
------	----------------------

%uid%	The users uid.
-------	----------------

%mail%	The objects mail attribute.
--------	-----------------------------

%domain%	The domain part of the objects mail attribute.
----------	--

%mailpart%	The user address part of the mail address.
------------	--

%uattrib%	Depends on mailAttribute (uid/mail).
-----------	--------------------------------------

- Use cyrus UNIX style : Determines if FusionDirectory should use “foo/bar” instead of “foo.bar” namespaces in IMAP. Unix style is with slashes. To use this option, you must set “unixhierarchysep” parameter to “yes” in your imapd.conf configuration file.
- Delete mailbox on account deletion : Determines if FusionDirectory should remove the mailbox from your IMAP server or keep it after the account is deleted in LDAP
- Cyrus autocreate folders : Contains a comma separated list of personal IMAP folders that should be created along initial account creation
- IMAP timeout : Sets the connection timeout for imap actions. Default value is 10 seconds
- Shared prefix : Defines the prefix to add for mail shared folders

## 9.16.5 Functionalities

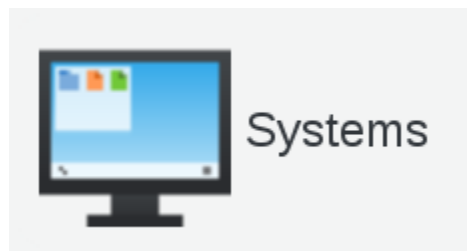
### Basic service provided

- Services installed

From now, you have this new services available for every system server :

IMAP/POP3 generic service.

Click on Systems icon in FusionDirectory



Select a server (in this example demo-dev)

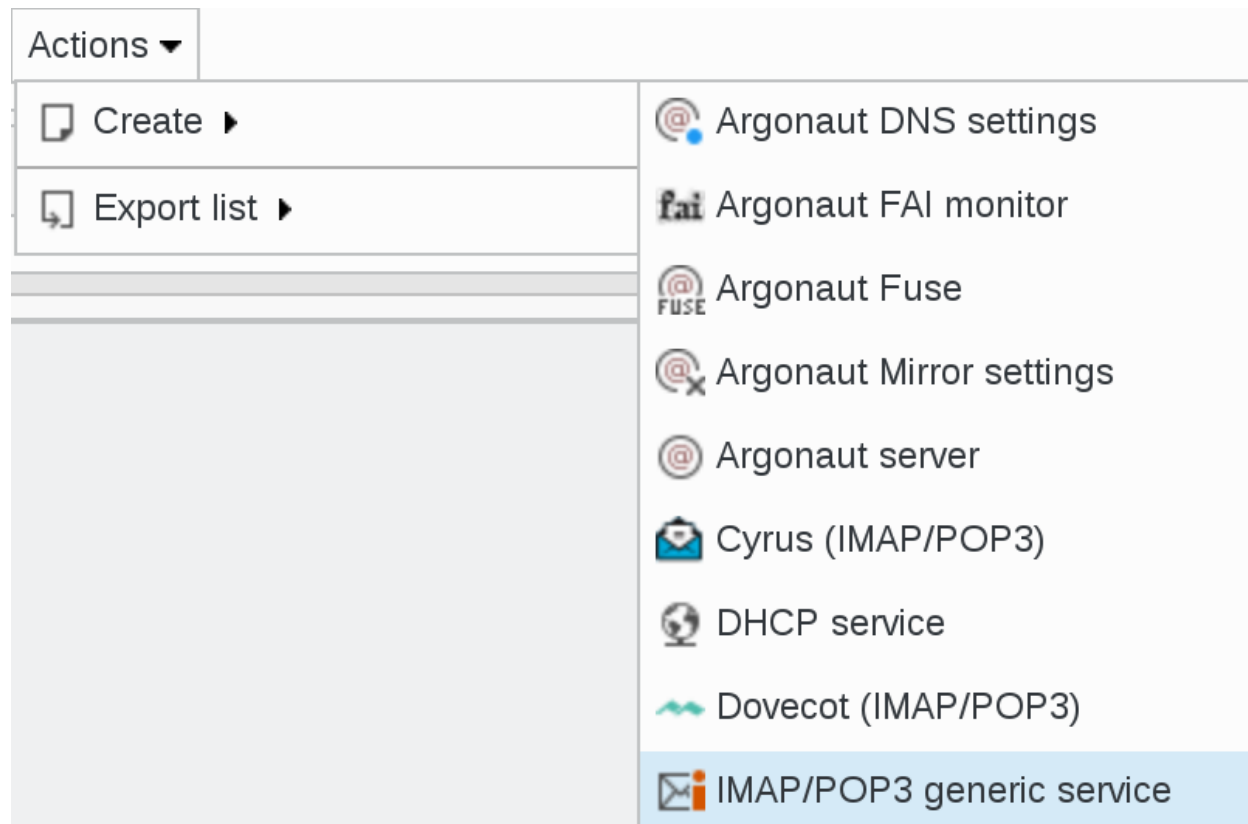
<input type="checkbox"/>		Name	IP	Mac	Description	Services	Release	Actions
<input type="checkbox"/>		demo-dev	195.154.20.159					

Go to Services tab



## Services

In the drop-down menu click on Actions → Create → IMAP/POP3 generic service



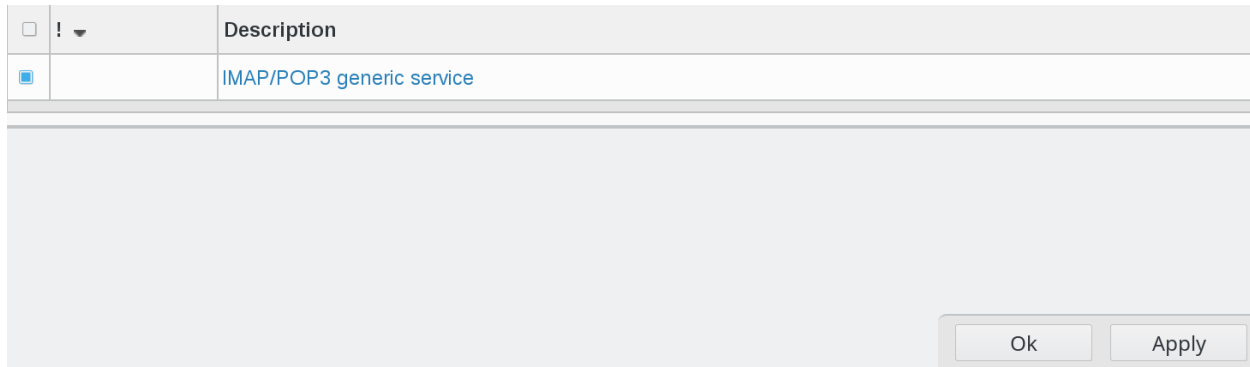
If you choose this service, a new dialog is opened

### This server runs an IMAP or POP3 server









You just need to click on « Save » button bottom right

Save

Click on Apply button



Now, in services column, you can see the imap/pop3 icon

<input type="checkbox"/>		Name	IP	Mac	Description	Services	Release	Actions
<input type="checkbox"/>		demo-dev	195.154.20.159					     

## 9.17 Newsletter

FusionDirectory Plugins Newsletter

### 9.17.1 Description

The Newsletter plugin is used to tell to which newsletter a user has subscribed to in FusionDirectory.

### 9.17.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-newsletter
apt-get install fusiondirectory-plugin-newsletter-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-newsletter
yum install fusiondirectory-plugin-newsletter-schema
```

## Install schemas

### Debian

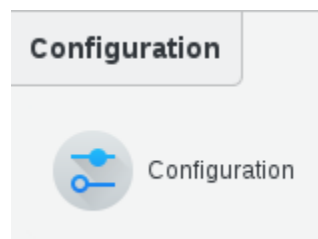
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd.  
↪ schema  
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-conf.  
↪ schema
```

### RHEL

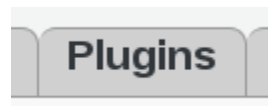
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd.  
↪ schema  
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-conf.  
↪ schema
```

### 9.17.3 Configuration

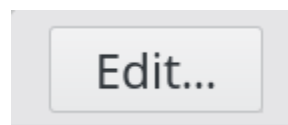
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



Go to Plugins tab



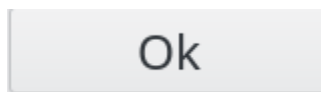
Click on Edit button bottom right



Go to Newsletter choices and fill-it as required



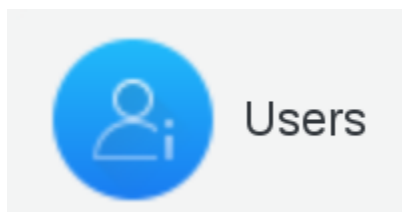
Click OK to save your settings



#### 9.17.4 Functionalities

— Create Newsletter for a user

Click on Users icon in FusionDirectory



Select a user



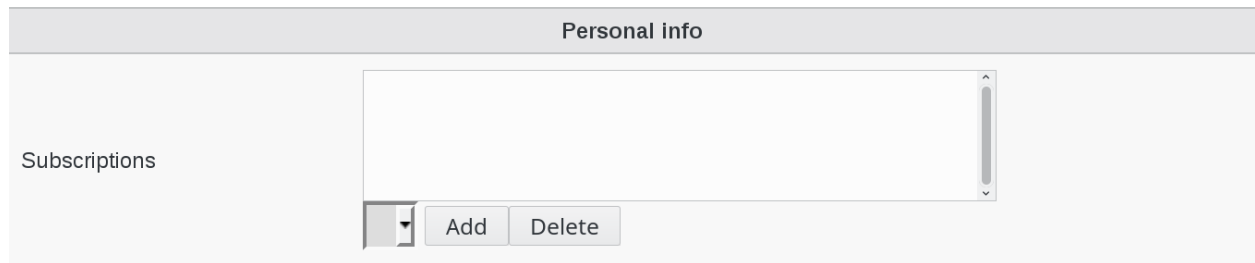
Go to Newsletter tab



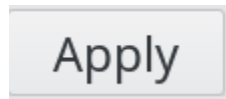
Click on Add Newsletter settings button



Fill-in Personal info



Click on Apply button bottom right to save your settings



## 9.18 Personal

FusionDirectory Plugins Personal

### 9.18.1 Description

The personal plugin is used to store all kind of personal information that are not standardized in the core LDAP schemas.

It stores social accounts, nicknames, private email, start and end date of contract, if the photo should be visible in a white page applications etc...

### 9.18.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-personal
apt-get install fusiondirectory-plugin-personal-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-personal
yum install fusiondirectory-plugin-personal-schema
```

## Install schemas

### Debian

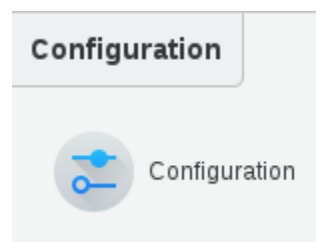
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/personal-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/personal-fd-conf.schema
```

### RHEL

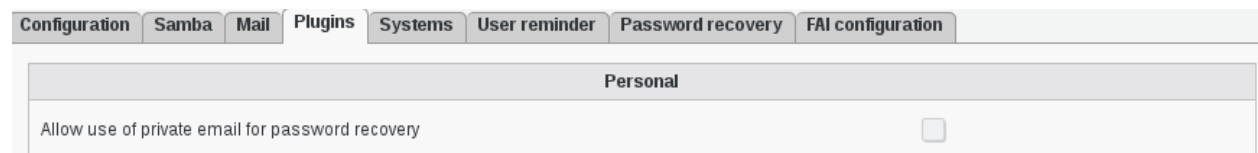
```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/personal-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/personal-fd-conf.schema
```

## 9.18.3 Configuration

If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



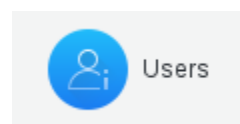
You can tick the « Allow use of private email for password recovery » option, so that the personal address can be used for password recovery : configuration -> plugins -> personal in FusionDirectory



## 9.18.4 Functionalities

— Edit a user

In FusionDirectory, click on users icon



This will bring you to the users overview

Users

Base

/

Actions

▼

	Surname ▼	Given name	Login	Properties	Actions
	active [active]				
	bar [test bar]				
	fff [fff]				
<input type="checkbox"/>	Administrator	System	fd-admin		
<input type="checkbox"/>	Bcarole	durieux	manager		
<input type="checkbox"/>	paul	dufour	admin		
<input type="checkbox"/>	peter	antoine	user		

3

4

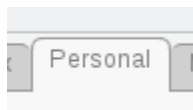
Filter

☐ Show templates
 ☒ Show functional users
 ☒ Show POSIX users
 ☒ Show Mail users
 ☒ Show Samba users

☐ Search in subtrees

Apply filter

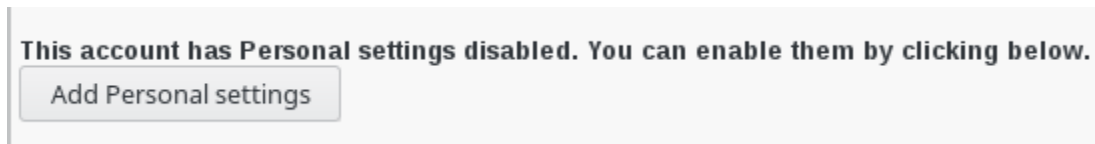
Click on a user and go to Personal tab



In this example, I selected peter antoine's profile



Activate the personal tab, fill it like you want and save it



Personal info

Personal title

Nickname

Add

Delete

Badge Number

Date of birth

Sex

Country

Start date

End date

Photo Visible

Contact

Social account

Site

Facebook

Id

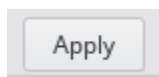
Add

Private email

Add

Delete

Click on « Apply » button bottom right



Now, if you go back to user list, you will see a new icon that defines that personal plugin is activated for your user



## 9.19 Pureftpd

FusionDirectory Plugins Pureftpd

### 9.19.1 Description

The Pureftpd plugin is used to manage pureftpd account inside the LDAP directory.

### 9.19.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-pureftpd  
apt-get install fusiondirectory-plugin-pureftpd-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-pureftpd  
yum install fusiondirectory-plugin-pureftpd-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/pureftpd.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/pureftpd.schema
```

### 9.19.3 Configuration

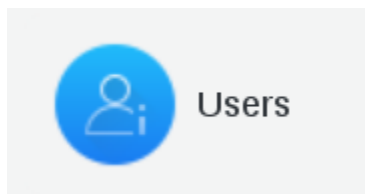
No configuration needed for this plugin.



### 9.19.4 Functionalities

#### — Create Pureftpd User

In order to create a pureftpd user, you need to have a valid pureftpd server in your structure environnement.



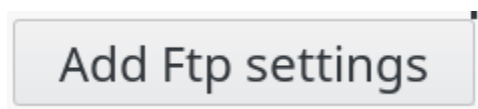
Click on existing user or create a new one



Click on “Ftp” tab



Click on « Add Ftp settings » button



Fill the desired fields

Bandwidth	
Upload bandwidth (kb/sec)	<input type="text"/>
Download bandwidth (kb/sec)	<input type="text"/>

Bandwidth :

- Upload bandwidth (kb/sec) : Maximum upload bandwidth in Kb/sec
- Download bandwidth (kb/sec) : Maximum download bandwidth in Kb/sec

Ratio	
Uploaded files	<input type="text"/>
Downloaded files	<input type="text"/>

Ratio :

- Uploaded files : Defines upload ratio
- Downloaded files : Defines download ratio

Quota	
Files	<input type="text"/>
Size (MB)	<input type="text"/>

Quota :

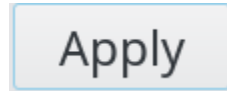
- Files : restrict the maximum number of files of a user directory
- Size (MB) : restrict the maximum size, in MB, of a user directory

Miscellaneous	
Enable FTP access	<input type="checkbox"/>

Miscellaneous :

- Enable FTP access : thick the box if needed

Click on « Apply » button bottom right to save your settings



## 9.20 Renater Partage

FusionDirectory Plugins Renater Partage

### 9.20.1 Description

The RENATER Partage plugin manages the email component of the [Partage de RENATER](#) system, used by the research and education community in France.

To use it you need to be a Renater Partage partner and have a valid contract with a domain name and API key.

### 9.20.2 Installation

In order to install renater-partage plugin, you need to have installed and configured mail plugin.

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-renater-partage
apt-get install fusiondirectory-plugin-renater-partage-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-renater-partage
yum install fusiondirectory-plugin-renater-partage-schema
```

## Insert schemas

### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/openldap/renater-
↵partage-fd.schema
```

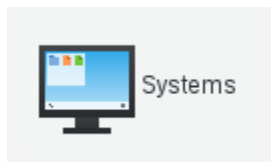
### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/openldap/renater-
↵partage-fd.schema
```

## 9.20.3 Functionalities

### Add Renater Partage service

Go to Systems



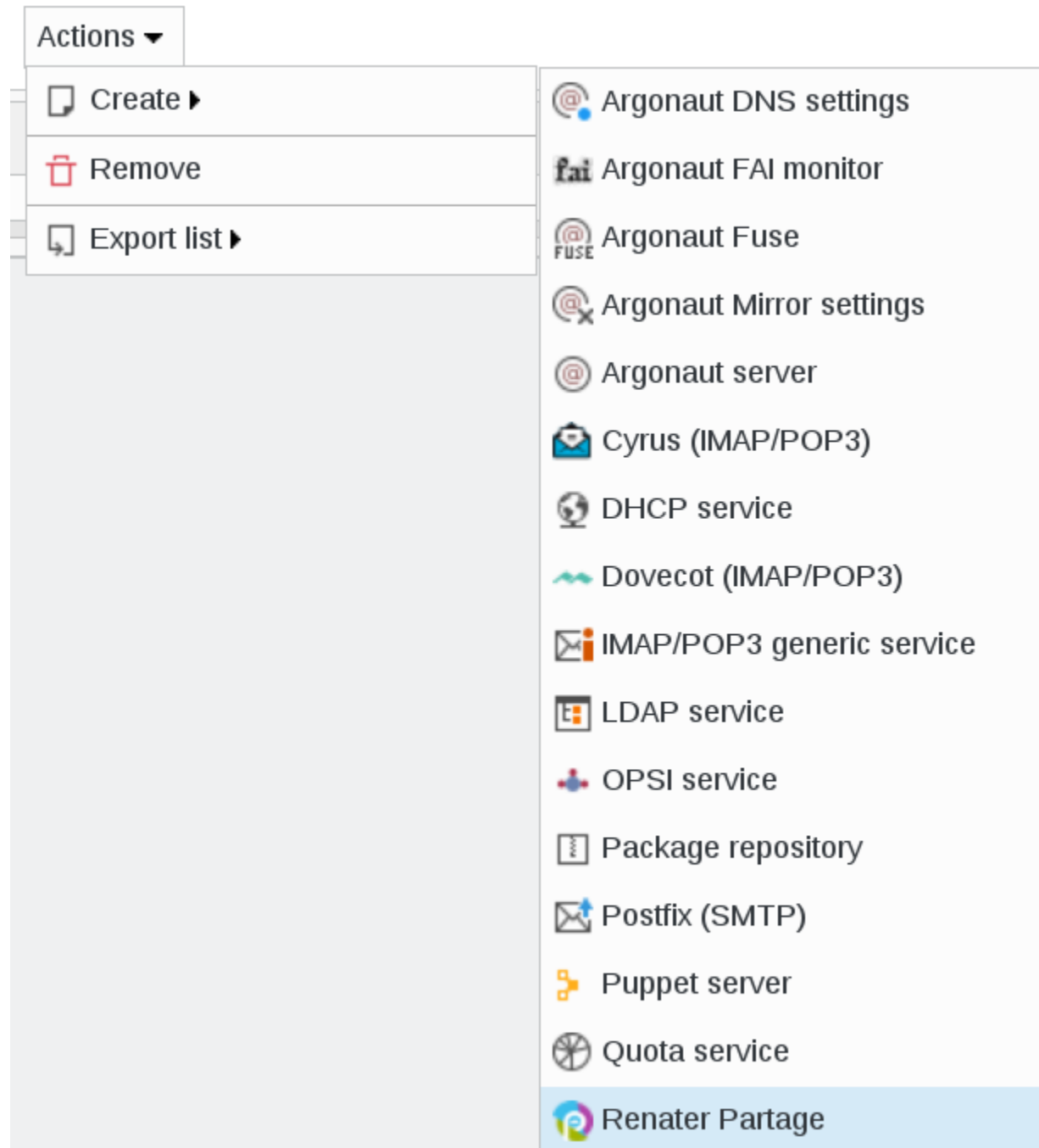
Create your server or edit an existing server



Click on services tab



Add the Renater Partage service



Fill the fields for the Renater plugin and save it

**Settings**

URI\*

User Agent\*

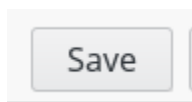
Mailbox deletion\*

**Domains**

Domain*	Key*	Classes of service*
<input type="text"/>	<input type="text"/>	<input type="text"/>

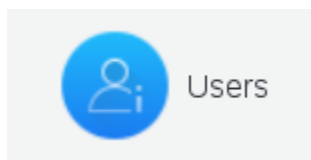
- Global settings :
  - URI : url of the webservice
  - User Agent : name of the user agent
  - Mailbox deletion : should i delete the mailbox after removing the account
- Per domains settings :
  - Domain : mail domain ex : acme.com
  - Key : API key received from Renater
  - Class of service : Service class name | cos id (zimbra cos id)

Click on « save » button bottom right to save your server



### Add Renater Partage to a user

Click on « users » button in FusionDirectory main page



Select a user



Go to Mail tab and click on « Add mail settings »

**User** | Unix | Personal | **Mail** | Samba | Groups and roles | SSH | Nagios | Q

This account has Mail settings disabled. You can enable them by clicking below.

Fill in all the required information : mail account and other addresses and redirections

Mail account	
Primary address*	<input type="text"/>
Server	<div>▼</div>
Quota size	<div><div></div><div>▲▼</div></div>
Quota usage	Unlimited

Vacation message	
Activate vacation message	<input type="checkbox"/>
Vacation message	<div></div>

Other addresses and redirections	
Alternative addresses	<div><div></div><div><input type="text"/> Add Delete</div></div>
Forward messages to	<div><div></div><div><input type="text"/> Add Add (from list) Delete</div></div>

Advanced mail options	
User is only allowed to send and receive local mails	<input type="checkbox"/>
No delivery to own mailbox	<input type="checkbox"/>

Click on « Apply » button bottom right to save your settings

Apply

## Add Renater Partage to a group

In the same way you can use the mail tab of a user group to synchronize it with PARTAGE. In this case you can activate and use the PARTAGE tab of the group to fill additional information.

## Fields synchronised by renater-partage plugin

Here are the fields which are synchronized for users :

PARTAGE	LDAP	Notes
zimbraCOSId		COS id from Renater Partage service
zimbraMailQuota	gosaMailQuota	Converted to Mio
zimbraPrefMailLocalDelivery-Disabled		Checkbox « No delivery to own mailbox »
zimbraPrefMailForwardingAddress	gosaMailForwardingAddress	Only one value
description	description	
displayName	displayName	
facsimileTelephoneNumber	facsimileTelephoneNumber	
givenName	givenName	
homePhone	homePhone	
l	l	
mobile	mobile	
ou	ou	
pager	pager	
sn	sn	
st	st	
telephoneNumber	telephoneNumber	
title	title	
street	street	Activate « Separate address fields » configuration to see this field
postalCode	postalCode	Activate « Separate address fields » configuration to see this field
postOfficeBox	postOfficeBox	Activate « Separate address fields » configuration to see this field
company	o	
physicalDeliveryOfficeName	roomNumber	
zimbraAccountStatus		Computed from FD lock status
initials		Computed from givenName and sn
carLicense	eduPersonPrincipal-Name	From SupAnn tab
zimbraHideInGal	supannListeRouge	From SupAnn tab
co	co	From personal tab

Here are the fields which are synchronized for groups :

PARTAGE	LDAP
description	description
displayName	displayName
zimbraMailStatus	fdRenaterPartageGroupMailStatus
zimbraNotes	fdRenaterPartageGroupNotes
zimbraHideInGal	fdRenaterPartageGroupHideInGal
zimbraDistributionListSendShareMessageToNew-Members	fdRenaterPartageGroupSendShareMessageToNew-Members

## 9.20.4 Attributes

### Attributes synchronised by renater-partage plugin

Here are the fields which are synchronized for users :

PARTAGE	LDAP	Notes
zimbraCOSId		COS id from Renater Partage service
zimbraMailQuota	gosaMailQuota	Converted to Mio
zimbraPrefMailLocalDelivery-Disabled	gosaMailDelivery-Mode	Checkbox « No delivery to own mailbox »
zimbraPrefMailForwardingAddress	gosaMailForwardingAddress	Only one value
description	description	
displayName	displayName	
facsimileTelephoneNumber	facsimileTelephoneNumber	
givenName	givenName	
homePhone	homePhone	
l	l	
mobile	mobile	
ou	ou	
pager	pager	
sn	sn	
st	st	
telephoneNumber	telephoneNumber	
title	title	
street	street	Activate « Separate address fields » configuration to see this field
postalCode	postalCode	Activate « Separate address fields » configuration to see this field
postOfficeBox	postOfficeBox	Activate « Separate address fields » configuration to see this field
company	o	
physicalDeliveryOfficeName	roomNumber	
zimbraAccountStatus		Computed from FD lock status
initials		Computed from givenName and sn
carLicense	eduPersonPrincipal-Name	From SupAnn tab
zimbraHideInGal	supannListeRouge	From SupAnn tab
co	co	From personal tab



Here are the fields which are synchronized for groups :

PARTAGE	LDAP
description	description
displayName	displayName
zimbraMailStatus	fdRenaterPartageGroupMailStatus
zimbraNotes	fdRenaterPartageGroupNotes
zimbraHideInGal	fdRenaterPartageGroupHideInGal
zimbraDistributionListSendMessageToNew-Members	fdRenaterPartageGroupSendMessageToNew-Members

## 9.21 Supann

FusionDirectory Plugins Supann

### 9.21.1 Description

The Supann plugin is used to store Supann data's in FusionDirectory.

The plugin support Supann 2009.

### 9.21.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-supann
apt-get install fusiondirectory-plugin-supann-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-supann
yum install fusiondirectory-plugin-supann-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/internet2.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/supann_2009.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/supann-fd-conf.schema
```

## RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/internet2.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/supann_2009.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/supann-fd-conf.
↪ schema
```

## 9.21.3 Configuration

The SupAnn standard specifies how to fill cn attribute : <https://services.renater.fr/documentation/supann/supann2018/recommandations2018/attributs/cn>

You can change how FusionDirectory fill cn attribute by modifying CN Pattern by « `%t[fr_FR]sn%  
%t[fr_FR]givenName%` » in the configuration backend *People and group storage*

## 9.21.4 Functionalities

## — Create an entity

The screenshot shows the 'Entity' form in the FusionDirectory web interface. It has tabs for 'Entity', 'References', and 'LDAP'. The 'Entity' tab is active, showing fields for 'Name\*' (with value 'entityname'), 'Entity type' (a dropdown menu), 'Entity code\*' (with value '15648'), 'Parent entity' (a dropdown menu), and 'Reference ID'. To the right, under 'Administrative information', there are fields for 'Telephone', 'Fax', 'Postal address', and 'Description'.

## — Create an establishment

The screenshot shows the 'Establishment' form in the FusionDirectory web interface. It has tabs for 'Establishment', 'References', and 'LDAP'. The 'Establishment' tab is active, showing fields for 'Root Establishment' (a checkbox), 'Name\*' (with value 'myestablishement'), and 'Description' (with value 'This is my establishment'). Below these are 'SUPANN properties' including 'Establishment code\*' (with value '{CODE}'), 'SUPANN code\*' (with value '123456'), 'Legal name\*' (with value 'login'), 'Home page URI', 'Institution URI', and 'White pages URI'. To the right, under 'Location', there are fields for 'Location', 'Address', 'Telephone', and 'Fax'.

## — Create an user with supann informations

Identity		Contact	
Civilite	<input type="text"/>	Other phone numbers	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
Alias login	<input type="text"/>	Other mail addresses	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
eduPersonPrincipalName	<input type="text"/>	Personal mail addresses	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
Nick name	<input type="text"/>	red List*	<input type="checkbox"/>
Ref ids	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>		
Affectation		Affiliation	
Entity primary assignment	<input type="text"/>	Primary affiliation	<input type="text"/>
Entity assignment	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>	Affiliations	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
Entity type assignment	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>	Establishment	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>
Student profile			
INE code	<input type="text"/>		
Student ID	<input type="text"/>		
Student subscriptions			
<div></div>			
Establishment*	<input type="text"/>	Year*	<input type="text"/>
Subscription type*	<input type="text"/>	Disciplinary Sector*	<input type="text"/>
Diploma type*	<input type="text"/>	Curriculum year *	<input type="text"/>
Entity assignment	<input type="text"/>	Diploma	<input type="text"/>
Step	<input type="text"/>	educational element	<input type="text"/>
<input type="button" value="Add"/>			
Personal profile			
Personal ID	<input type="text"/>		
Personal corps	<input type="text"/>		
Activity	<input type="text"/> <input type="button" value="Add"/> <input type="button" value="Delete"/>		
Roles			
<div></div>			
Generic role	<input type="text"/>	Entity assignment type	<input type="text"/> <input type="button" value="Add"/>

## How use custom lists

For some attributes like diplome you can extend them with a custom file in `/etc/fusiondirectory/supann/`

This process work for the following attributes :

- `supannTypeEntiteAffectation` (entite) only from FD 1.3
- `supannEtuDiplome_diplome` (diplome)
- `supannEtuEtape` (etuetape is default empty)
- `supannEtuElementPedagogique` (etuelementpedagogique is default empty)
- `supannActivite` (activite)
- `supannRoleGenerique` (role)

You need to do the following to make it work.

- Add a file like `diplome_CUSTOM` in `/etc/fusiondirectory/supann/`
- Fill your file with your customs entries

In FusionDirectory you will need to select your « CUSTOM » part before selecting your entry that are in your file

## 9.22 Sinaps

FusionDirectory Plugins Sinaps

### 9.22.1 Description

The Sinaps plugin is used to synchronize user and structures information from Sinaps : <http://www.amue.fr/pilotage/logiciels/sinaps/presentation/>

### 9.22.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-sinaps
apt-get install fusiondirectory-plugin-sinaps-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-sinaps
yum install fusiondirectory-plugin-sinaps-schema
```

## Install schemas

### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/sinaps-fd-conf.schema
```

### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/sinaps-fd-conf.  
→ schema
```

## 9.22.3 Configuration

### Sinaps

Enable SINAPS integration ☒

Dry run mode ☐

Acknowledgement URL

Dump folder

Application identifier\*

Applications identifiers to sync

UUID prefix\*

User base\*

User template

API Tokens

### Sinaps Acquisition

Acquisition URL

Login

Password

Acquisition external type\*

LDAP	Sinaps	
telephoneNumber	TELPRO	<input type="button" value="edit"/> <input type="button" value="delete"/>
facsimileTelephoneNumber	FAXPRO	<input type="button" value="edit"/> <input type="button" value="delete"/>
mail	MAILPRO	<input type="button" value="edit"/> <input type="button" value="delete"/>
mobile	TELMOBILEPRO	<input type="button" value="edit"/> <input type="button" value="delete"/>

### Basic configuration

- **Enable SINAPS integration** : This can be unchecked if you need to deactivate SINAPS integration for some time, or before you finished configuration for instance.
- **Dry run mode** : Can be used for tests, this deactivates sinaps integration but still dumps XML received and what would be send in the dump folder.
- **Acknowledgement URL** : The URL for the acknowledgement end point of Sinaps
- **Dump folder** : If this is set to a directory path, all messages sent to or received from sinaps will be dumped here. Can be useful for debugging.
- **Application identifier** : String that identifies this FusionDirectory instance in Sinaps. This what will be looked for in cross references.
- **Applications identifiers to sync** : Identifiers of other applications for which we want to store cross references in supannRefId field.
- **UUID prefix** : The prefix you want to be added before the UUID in the supannRefId field.
- **User base** : The base in which users created by sinaps will be stored.

- **User template** : The template to use for creating such users.
- **API Tokens** : A list of valid API tokens to be accepted by the sinaps end point. You can put what you want in here, but using long strings generated by cryptographically strong random sources is better.

### Acquisition configuration

- **Acquisition URL** : The URL for the acquisition end point of Sinaps
- **Login** : The login to use to contact this end point
- **Password** : The password to use
- **Acquisition external type** : The string that will be put in typeExterne tag in the XML
- **Contact methods** : Which LDAP fields to be send for acquisition, and as which Sinaps contact method

## 9.22.4 Functionalities

Once your FusionDirectory instance is correctly set to be receiving user and structures diffusion events in Sinaps and Sinaps plugin is up and running (see [Configuration](#) ), creation and modification on Sinaps objects will be applied in FusionDirectory with the following rules.

### Diffusion

When a Diffusion event is received :

- FusionDirectory first looks at the cross references and search for the application identifier set in the configuration
- If no reference is found or the reference found is not found in the LDAP, an object is created.
- Otherwise the matching object is updated.

### Structure

Structures are synchronized as *Supann* entities.

FusionDirectory field	Sinaps XML field	Details
ou	libelle20	
description	descriptifLong	
supannCodeEntite	codeStructure	Must be unique as it's used in the dn
supannTypeEntite	codeSousType	You need to configure Sinaps to transcode this into a valid value
supannRefId	referenceCroisee	Formatted as {identifiantApplication}identifiantExterne
telephoneNumber	methodesDeContact/methodeDeContact/valeur	If codeTypeMethodeContact is TEL
facsimileTelephoneNumber	methodesDeContact/methodeDeContact/valeur	If codeTypeMethodeContact is FAX
postalAddress	methodesDeContact/methodeDeContact/*	If codeTypeMethodeContact is ADR and temoinAdressePrincipale is true
supannCodeEntite-Parent	liensStructure/lienStructure/codeStructureMere	If codeTypeLien is HIE
fdSupannStartDate	dateDebutValidite	
fdSupannEndDate	dateFinValidite	

## Personne

Persons are synchronized as users.

If *rattachements* is empty, the event is considered as a deletion, in which case :

- The current date is stored in fdContractEndDate
- The account is locked
- The fields telephoneNumber, facsimileTelephoneNumber and mobile are emptied
- The mail tab is removed

Otherwise the following fields are synchronized :

FusionDirectory field	Sinaps XML field	Details
supannCivile	civilite	
sn	nomUsage	
description	descriptifLong	
dateOfBirth	dateNaissance	
gender	sexe	
supannRefId	referenceCroisee	Formatted as {identifiantApplication}identifiantExterne
givenName	prenoms	Cut at first “;”
homePhone	methodesDeContact/methodeContact/valeur	If typeMethodeContact is TELPERSO. Can only have one value.
fdPrivateMail	methodesDeContact/methodeContact/valeur	If typeMethodeContact is MAILPERSO. Can have multiple values.
postalAddress	methodesDeContact/methodeContact/*	If codeTypeMethodeContact is ADR and temoinAdressePrincipale is true, and codeTypeAdresse is not ADRPERSO
homePostalAddress	methodesDeContact/methodeContact/*	Same as above but codeTypeAdresse is ADRPERSO
supannEntiteAffectation-Principale	rattachements/rattachement/roles/role/personne	Only if codeTypeRols/affectation is found in the cross reference is found in the LDAP
supannEntiteAffectation	rattachements/rattachement/roles/role/personne	Same as above
supannEmp-Corps	rattachements/rattachement/roles/role/personne	Only if codeTypeRols/affectation is found in the cross reference is found in the LDAP
supannActi-vite	rattachements/rattachement/roles/role/personne	Only if codeTypeRols/affectation is found in the cross reference is found in the LDAP
supannRole-Generique	rattachements/rattachement/fonctionsOccupees	fonctionOccupee/fonctionRh
supannTypeEntiteAffectation	rattachements/rattachement/fonctionsOccupees	If functionOccupee is found in the LDAP
supannEntiteAffectation	rattachements/rattachement/fonctionsOccupees	If functionOccupee is found in the LDAP
supannRoleEntite	rattachements/rattachement/fonctionsOccupees	Groups Occupees from the three fields above

## Acquisition

Once FusionDirectory is properly configured to send Acquisition events to Sinaps, it will do so when a user is modified, with the following rules :

- Fields listed in **Contact methods** in the configuration are sent as the indicated contact methods
- *supannEntiteAffectationPrincipale* is send as a *rattachement* with *roles/role/typeRole* = EXT and *roles/role/externe/typeExterne* the value configured in **Acquisition external type** in the configuration

## 9.23 Sogo

FusionDirectory Plugins Sogo

### 9.23.1 Description

The SOGo plugin is used to manage location (thing and group) in FusionDirectory.

### 9.23.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-sogo
apt-get install fusiondirectory-plugin-sogo-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-sogo
yum install fusiondirectory-plugin-sogo-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/sogo-fd-conf.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/calEntry.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/calRessources.schema
```

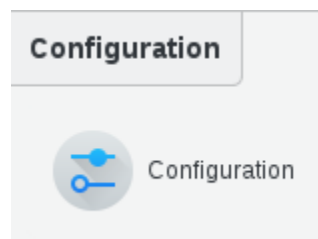


## RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/sogo-fd-conf.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/calEntry.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/calRessources.
↪ schema
```

## 9.23.3 Configuration

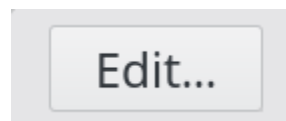
If you need to modify something, you can access to FD configuration of the plugin by the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory Configuration Interface :



Click on Plugins tab



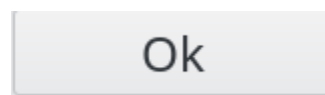
Click on Edit button bottom right and fill in SOGo settings



SOGo RDN : (required) Branch in which SOGo resources will be stored

SOGo	
SOGo RDN*	<input type="text" value="ou=resources"/>

Click on Ok button bottom right to save settings



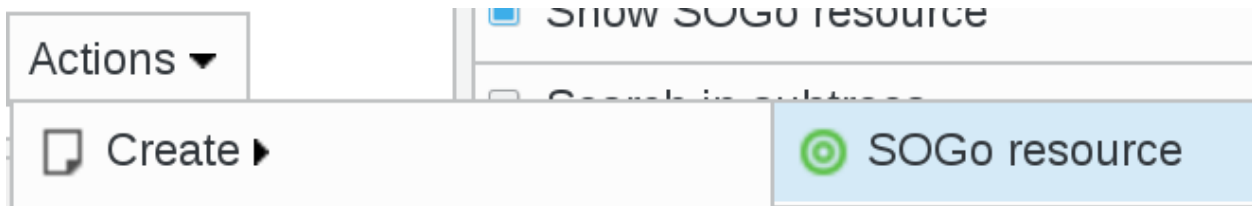
### 9.23.4 Functionalities

— How to use SOGo plugin

In your FusionDirectory web interface you have now, in the “Systems” section, click on SOGo icon



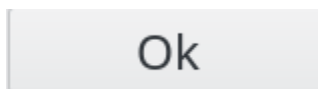
Click on Actions → Create → SOGo resource



Fill-in the required information

SOGo resource	
Base	<input type="text" value="/"/>
Entry name*	<input type="text"/>
Mail*	<input type="text"/>
description	<input type="text"/>
Multiplebookings	<input type="text" value="1"/>
Kind	<input type="text" value="location"/>

Click on Ok button bottom right to save your settings



## 9.24 Squid

FusionDirectory Plugins Squid

### 9.24.1 Description

The Squid plugin provides management for squid proxy users in FusionDirectory.

### 9.24.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-squid  
apt-get install fusiondirectory-plugin-squid-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-squid  
yum install fusiondirectory-plugin-squid-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/proxy-fd.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/proxy-fd.schema
```

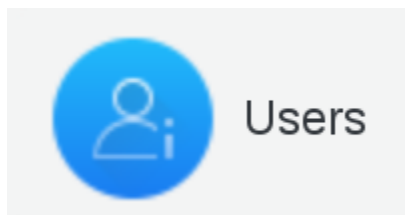
### 9.24.3 Configuration

No configuration needed for this plugin.

## 9.24.4 Functionalities

### — Create Squid User

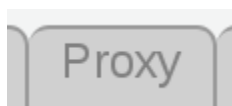
Click on Users icon in FusionDirectory



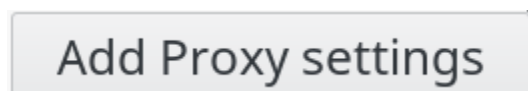
Click on an existing user



Click on “Proxy” tab



Click on “Add Proxy Settings” button



Fill the desired fields then click “Ok” to save

Proxy account	
Filter unwanted content (i.e. pornographic or violence related)	<input type="checkbox"/>
Limit proxy access to working time	<input type="checkbox"/> 01 : 00 -- 01 : 00
Restrict proxy usage by quota	<input type="checkbox"/> 21 KB per hour

### Proxy account

- Filter unwanted content (i.e. pornographic or violence related) : Check if you want enable filtering unwanted content (i.e. pornographic or violence related) for this user.
- Limit proxy access to working time : Check if you want enable limit proxy access to working time. Choose the start and the end of working time beside, once enabled.
- Restrict proxy usage by quota : Check if you want enable restrict proxy usage by quota. Choose the quota amount beside, once enabled.

Now, in Properties tab, you can see the squid icon



## 9.25 SSH

FusionDirectory Plugins SSH

### 9.25.1 Description

The SSH plugin provides management for ssh public key in FusionDirectory.

### 9.25.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-ssh  
apt-get install fusiondirectory-plugin-ssh-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-ssh  
yum install fusiondirectory-plugin-ssh-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/openssh-lpk.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/openssh-lpk.schema
```

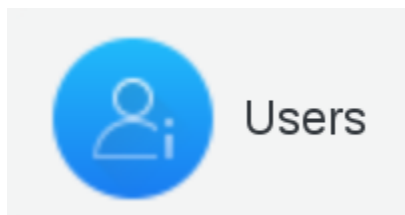
### 9.25.3 Configuration

No configuration needed for this plugin.

## 9.25.4 Functionalities

— Create SSH user

Click on Users icon in FusionDirectory



Click on a user



Click on SSH Tab



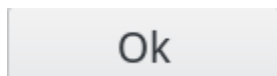
Click on « Add SSH settings » button



Load the user's ssh public key and click “Add” to upload the key



Click on « Ok » button bottom right to save your settings



Now, in Properties tab, you can see the ssh icon



## 9.26 Subcontracting

FusionDirectory Plugins Subcontracting

### 9.26.1 Description

The Subcontracting plugin is used to manage user from your company but who works in other companies for long periods of time in FusionDirectory.

### 9.26.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-subcontracting  
apt-get install fusiondirectory-plugin-subcontracting-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-subcontracting  
yum install fusiondirectory-plugin-subcontracting-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i subcontracting-fd.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i subcontracting-fd.schema
```

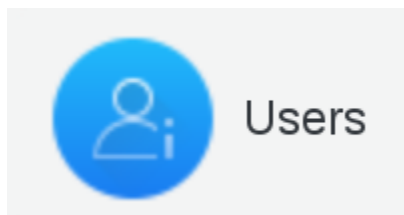
### 9.26.3 Configuration

No configuration needed for this plugin.

### 9.26.4 Functionalities

- Create a subcontracting user

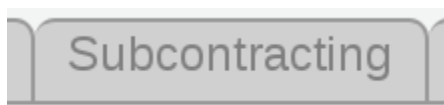
In FusionDirectory, click on Users icon



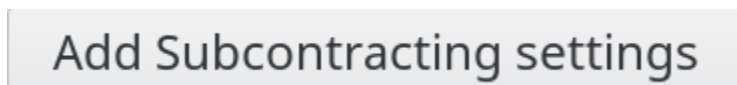
Select a user



Go to Subcontracting tab



Click on « Add Subcontracting settings » button

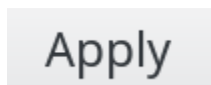


Fill-in SubContracting Information

- Intermediate : Contact to the Final Customer
- Final Customer : Final Customer for this mission
- Mail Address : mail address assigned for this mission
- Phone : phone number assigned for this mission
- Street Address : address where this mission is executed

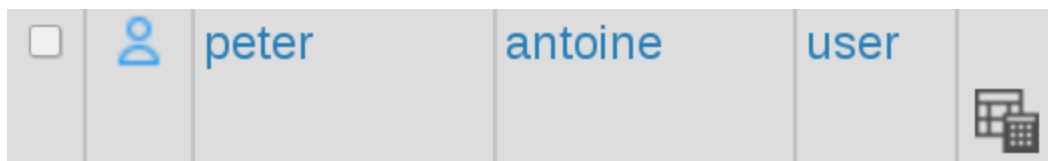
SubContracting Information	
Intermediate	<input type="text"/>
Final Customer	<input type="text"/>
Mail Address	<input type="text"/>
Phone	<input type="text"/>
Street Address	<input type="text"/>

Click on Apply button bottom right to save your settings



Now, on your user profile line you can see the Subcontracting icon





## 9.27 User-reminder

FusionDirectory Plugins user-reminder

### 9.27.1 Description

The user-reminder plugin is a plugin that reminds the users that their account will expire.

### 9.27.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-user-reminder
apt-get install fusiondirectory-plugin-user-reminder-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-user-reminder
yum install fusiondirectory-plugin-user-reminder-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/user-reminder-fd-conf.
↪ schema
```

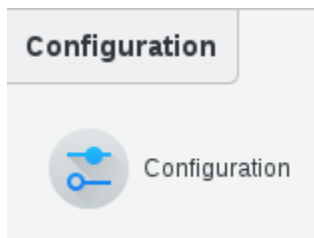
##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/user-reminder-fd-
↪ conf.schema
```

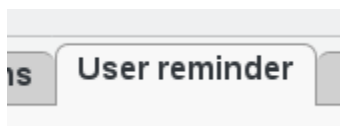
### 9.27.3 Configuration

- How to configure User-Reminder plugin

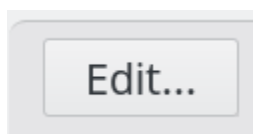
Click on COnfiguration icon in FusionDirectory



Go to User reminder tab



Click on the edit button at the bottom right



Fill-in user-reminder settings :

- Delay before expiration : days before expiration when we send the email
- Delay before sending again : days before sending a second email
- Extension of the validity : number of days for the postpone
- Sender email address : sender e-mail address
- Allow use of alternate addresses : thick this box if needed

User reminder settings	
Delay before expiration*	15
Delay before sending again*	7
Extension of the validity*	15
Sender email address*	to.be@chang.ed
Allow use of alternate addresses*	<input type="checkbox"/>

Fill-in Ppolicy email settings :

- Forward alerts to the manager : thick to send alert to manager
- Subject : subject of the e-mail
- Body (%s are cn and login) : content of the e-mail

Ppolicy email settings	
Forward alerts to the manager	<input type="checkbox"/>
Subject	[FusionDirectory] Votre m
Body (%s are cn and login)	<div> Dear %1\$s,  your password for  account %2\$s is about </div>

Fill-in Alert email settings :

- Forward alerts to the manager : thick to send alert to manager
- Subject : subject of the e-mail
- Body (%s are cn and login) : content of the e-mail

Alert email settings	
Forward alerts to the manager*	<input type="checkbox"/>
Subject	[FusionDirectory] Votre co
Body (%s are cn, login, and link token)	<div> Dear %1\$s,  your account %2\$s is  about to expire. </div>

Fill-in Confirmation email settings :

- Forward alerts to the manager : thick to send alert to manager
- Subject : subject of the e-mail
- Body (%s are cn and login) : content of the e-mail

Confirmation email settings	
Forward confirmation to the manager*	<input type="checkbox"/>
Subject	[FusionDirectory] L'expirati
Body (%s are cn and login)	<div> Cher %1\$s,  l'expiration de  votre compte %2\$s a </div>

Click on « ok » to save your configuration

Ok
----

!!Don't forget to add password expiration date in Unix tab.!!

## 9.27.4 Functionalities

The user reminder plugin is used in conjunction with the `argonaut-user-reminder` program

## 9.28 Weblink

FusionDirectory Plugins Weblink

### 9.28.1 Description

The weblink plugin gives a link to simply access your configuration interface of your device, system, etc.

### 9.28.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-weblink
apt-get install fusiondirectory-plugin-systems-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-weblink
yum install fusiondirectory-plugin-systems-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/
fusiondirectory/systems-fd.schema /etc/ldap/schema/
fusiondirectory/systems-fd-conf.schema
```

##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/systems-fd.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/systems-fd-conf.
↪ schema
```

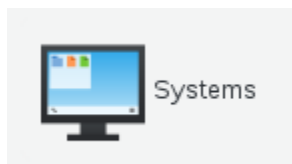
### 9.28.3 Configuration

No configuration needed for this plugin.

### 9.28.4 Functionalities

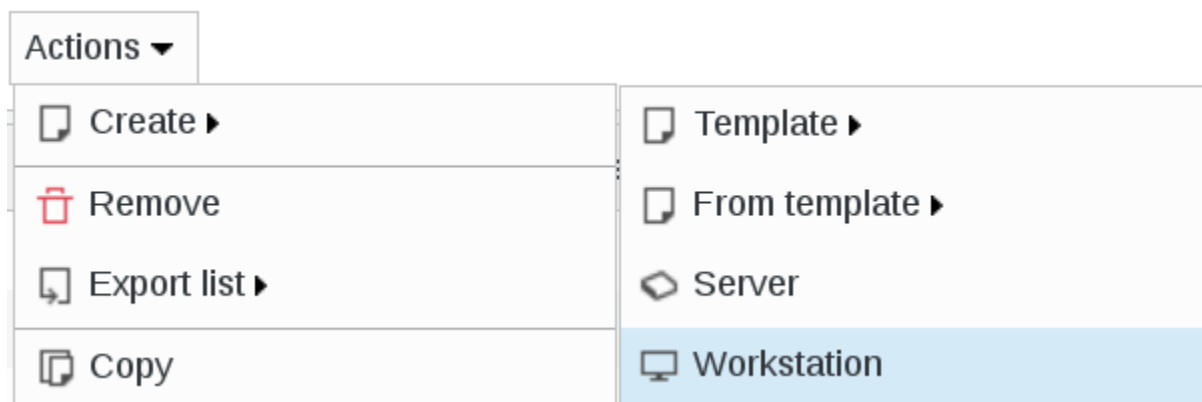
— How to use the weblink plugin

Click on Systems icon in FusionDirectory

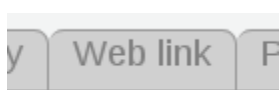


— Create a workstation

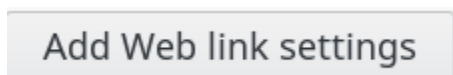
Click on Action -> Create -> Workstation



Click on the web link tab



Click on Add Web link settings



Choose the protocol for your link

Click on OK button bottom right to save

Ok

## 9.29 Webservice

FusionDirectory Plugins Webservice

### 9.29.1 Description

The Webservice plugin is used to configure webservice of FusionDirectory.

### 9.29.2 Installation

#### Install packages

##### Debian

```
apt-get install fusiondirectory-plugin-webservice  
apt-get install fusiondirectory-plugin-webservice-schema
```

##### RHEL

```
yum install fusiondirectory-plugin-webservice  
yum install fusiondirectory-plugin-webservice-schema
```

#### Install schemas

##### Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/webservice-fd-conf.  
↪ schema
```

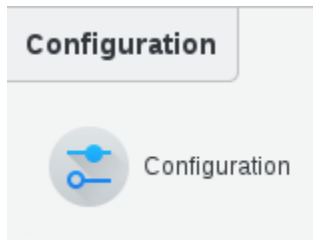
##### RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/webservice-fd-conf.  
↪ schema
```

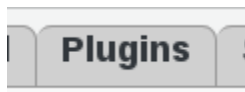
### 9.29.3 Configuration

— Webservice configuration

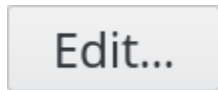
Go to Configuration



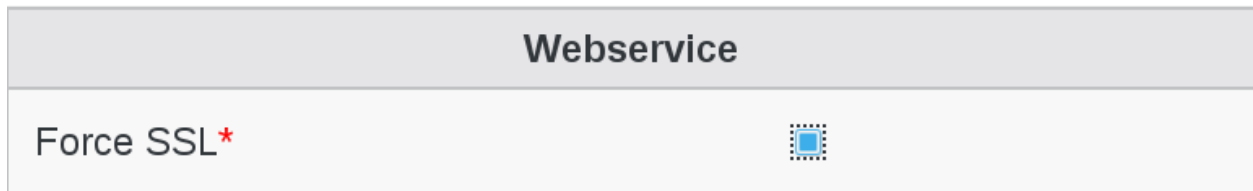
Open Plugins tab



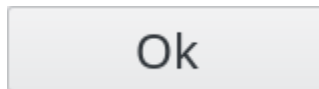
Click on Edit button bottom right



«Force SSL» option is on by default, you can unthick it if you want to call the webservice over HTTP



Click on OK button bottom right to save it



### 9.29.4 Functionalities

FusionDirectory WebService plugin exposes a JSONRPC webservice you can use if you want to access LDAP content through FusionDirectory system. This way, you ensure that things like foreign keys are kept consistent, and you have a nicer API than the low-level LDAP one.

It is a standard JSONRPC server served on HTTPS protocol.

Note that you can allow HTTP in plugin configuration, but please avoid doing so except for testing purposes.

The [webservice methods](#) are detailed here.





FusionDirectory Templates

### 10.1 Functionalities

FusionDirectory user template's, you can give the possibility to automatically create some entries during your new user creation process.

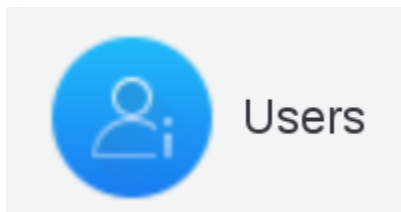
The concept of templates in FusionDirectory is to allow you to automatically create any objects stored inside Fusion-directory in a programmable way.

- Define precisely how the attributes will be constructed, uppercase, lowercase, first letter of an attribute+4 letters of another attribute ...
- Fill other attributes based on value stored elsewhere
- Generate random password
- Calculate date / time for account expiration

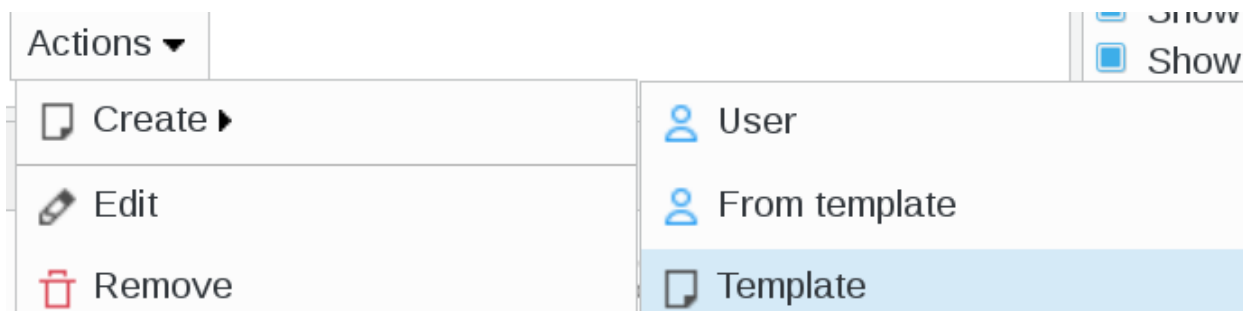
and so much more ...

### 10.2 Create a user template

Click on tab or icon Users, in the Users and groups section in FusionDirectory



Click Actions -> Create -> Template

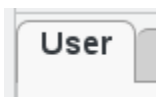


Depending on which other plugins you have installed, you can configure your template like you need. Below, you can find some example.

You can find the documentation on how to create a macro here [Macros](#).

### 10.2.1 User


The user tab is the base of your template, click on User tab

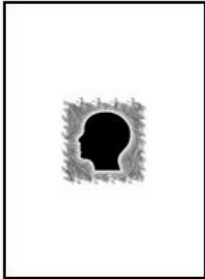


Generic User tab : this is the base tab to create a user template.

Template name\*

---



 **Personal information**




Last name\*

First name\*

Description

Picture  No file selected.  

---

 **Account information**

Base

Login\*

Preferred language

Password method\*

Password

In this example we set the following macros to create a user :

- Login : `%alps[1]|givenName%%alps[1]|sn%` meaning that login will be first letter of first name in low character followed by last name in low characters

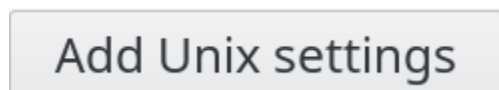
— Password : %r[12]% meaning that password will contain 12 random characters

### 10.2.2 Unix

When you are creating or editing your template, click on Unix tab Then click on Add Unix settings. A new dialog is opened



Then click on Add Unix settings. A new dialog is opened



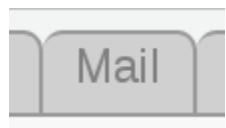
Fill-in Unix settings

— Home directory : the path to the home directory of this user (required).  
You can use macro to automatically build the name of home directory users

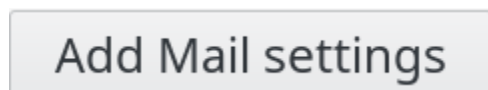
For example : **/home/%uid%**

### 10.2.3 Mail

When you are creating or editing your template, click on Mail tab



Then click on Add Mail settings. A new dialog is opened



Fill-in Mail account settings

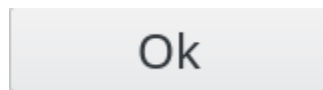
Mail account	
Primary address*	<input type="text" value="%uid%@acme.com"/>
Server	<input type="text" value="v"/>
Quota size	<input type="text"/>
Quota usage	Unlimited

— Primary address : primary mail address (required)

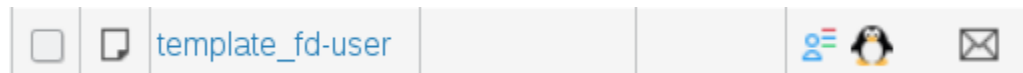
You can use the macros to automatically build the name of mail user account.

In this example we set macro **%uid%@acme.com** meaning that the mail account will be **userid@acme.com**

Click on Ok button bottom right



Now on the main page, on you template line, you will see the mail icon



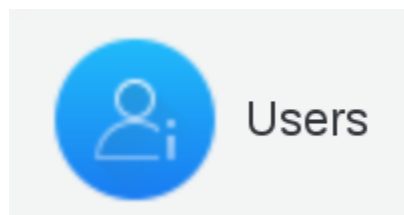
## 10.3 Use a user template

— How to apply a template

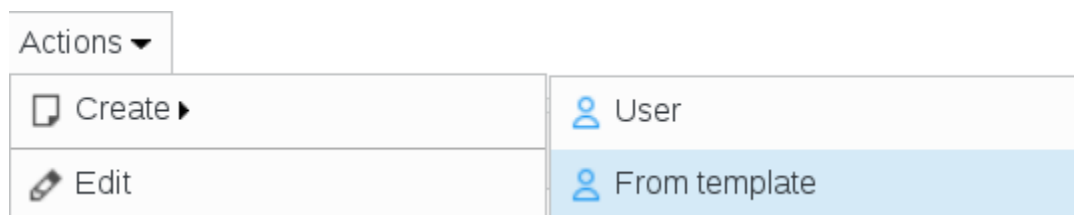
Here is an example of how templates works.

We will take the most common example of creating a user from a template.

Click on tab or icon Users, in the Users and groups section in FusionDirectory



Click on Actions -> Create -> From template



A new page called Creating a new object using templates will appear. Choose the template the you wish to use from the drop-down menu

## Creating a new object using templates

Template  ▾

Click on Continue button bottom right

Continue

Fill-in the required information

Creating a new object using templates

user	
Last name*	<input type="text" value="Pallin"/>
First name*	<input type="text" value="Poppy"/>
Base	<input type="text" value="/"/>

- Last name : last name of this user (required)
- First name : first name of this user (required)
- Base : object base

Click on Continue button bottom right

Continue


You will now automatically see the User tab filled as per the macros you have put in your template.

See how to use macros : (url à mettre)

In this example, the user personal info look like this :

User **Unix** Personal **Mail** Samba Groups and roles SSH Nagios Quota Proxy Ftp Freeradius NIS



### Personal information



Last name\*  
Pallin

First name\*  
Poppy

Description

Picture  
Browse... No file selected.  

### Account information

Base  
/

Login\*  
ppallin

Preferred language  
▼

Password method\*  
ssha ▼

Password  
●●●●●●●●

Password again  
●●●●●●●●

And the Unix info look like this :

User **Unix** Personal **Mail** Samba Groups and roles SSH Nagios Quota Proxy Ftp Freeradius NIS

This account has Unix settings enabled. You can disable them by clicking below.  
[Remove Unix settings](#)

### Unix

Home directory\*  
/home/ppallin

Shell\*  
/bin/ash ▼

Primary group  
- automatic - ▼

Status  
active

Force user/group id  
☐

User id  
[ ] < >

Group id  
[ ] < >

And the Mail info look like this :

User	Unix	Personal	Mail	Samba	Groups and roles	SSH	Nagios	Quota	Proxy	Ftp	Freeradius	NIS
------	------	----------	------	-------	------------------	-----	--------	-------	-------	-----	------------	-----

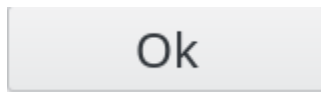
This account has Mail settings enabled. You can disable them by clicking below.

[Remove Mail settings](#)

---

Mail account	
Primary address*	<input type="text" value="ppallin@acme.com"/>
Server	<input type="text" value="v"/>
Quota size	<input type="text" value=""/>
Quota usage	Unlimited

Click on Ok button bottom right



Now on the main page you can see the new user, with the Unix and Mail icons



## 10.4 Macros

You can use macros to automate the creation of attributes based on rules inside the templates.

— How to use a macro

macro must always be enclosed in %.

%sn%	The value of "Last name" field, entered during account creation.
------	--

— Macros

**a**

The **a** macro can be used to return the unaccented version of the parameter.

Examples :

%a sn%	"Last name" field returned <b>in</b> unaccented. If "sn=Valérie" <b>then</b> the returned value is "Valerie"
--------	---

**b**

The **b** macro can be used to convert to base64.

**c**

The **c** macro can be used to put a comment. An example :

%c this is just a comment%	returns an empty string.
----------------------------	--------------------------

It can also be used to make a template uid unique when 2 templates have the same uid pattern :

```
%a|sn%c|template1%
%a|sn%c|template2%
```

## d

The **d** macro can be used to generate dates and times.

- First parameter is date string (defaults to “now”)
- Second one is date format (defaults to “d.m.Y”, to be used in date fields).

Examples :

```
%d|% 15.03.2017
%d[tomorrow]|% 16.03.2017
%d[today+6days]|% 21.03.2017
%d[now,1 jS \of F Y h:i:s A]|% Wednesday 15th of March 2017 02:12:18 PM
```

as POSIX date fields expects a specific format you need to add “epoch” as second parameter to the d modifier.

```
%d[today+30days,epoch]|% 15.04.2017
```

## i

The **i** macro can be used to have the first letter of a word in capital letters and the rest in lower case letters.

Examples :

```
%i|sn% if our sn is "MY LAST NAME" we will have "My Last Name" in description.
```

We do not allow element to be transformed by itself.

Example : we cannot do %i|sn% in %sn% because it would make a loop.

If we try it we will have this kind of error

```
Recursive dependency in the template fields: "givenName" cannot depend on "givenName" as
↪ "givenName" already depends on "givenName".
```

## l

The **l** macro can be used to return the lowercase version of the parameter.

```
%l|sn% "Last name" field returned in lowercase.
If "sn=Valérie" then the returned value is "valérie"
```

## p

The **p** macro can be used to remove whitespaces. It can also be used for any search and replace based on preg\_replace.

For this provide 2 arguments

- first one is regexp
- second one is replacement string.

Default values are /s/ and empty string, to remove all whitespaces as in previous behavior.

Examples :

```
%p|sn% "Last name" field, without whitespaces. "O Connor" becomes "OConnor".
%p[/\s/, -]|sn% "Last name" field, with whitespaces replaced by dashes. "O Connor"
↪ becomes "O-Connor".
```



**r**

The **r** macro can be used to generate random strings, for instance for passwords.

It can take up to three arguments

- min length
- max length
- character type.

Third argument should be either

- **l** for letters
- **d** for digits
- **b** for both.

Default is both.

The default length is 8 and if there is only one argument it will be used as a fixed length.

Examples :

```
%r[6,10]|%      a random string with a random length between 6 and 10 chars containing
↳both letters and digits
%r|%            a random string of length 8
%r[12]|%        a random string of length 12
%r[5,10,d]|%    a random string of a random length between 5 and 10 containing only
↳digits
```

**s**

The **s** macro can be used to generate substrings.

Examples :

```
%s[1,3]|sn%      a substring of "Last name" field, taking 3 characters and starting
↳at position 1.
%s[0,1]|sn%      the first character of "Last name" field.
%s[1]|sn%         the first character of "Last name" field (short syntax).
%s[5]|sn%         a substring of "Last name" field, taking 5 first characters.
%s[2,4-8]|sn%     a substring of "Last name" field, taking minimum 4 characters
↳(more if needed for unicity)
                  and starting at position 2.
%s[4-8]|sn%       a substring of "Last name" field, taking minimum 4 characters
↳(more if needed for unicity).
%s[-5,2]|sn%      a substring of "Last name" field, taking 2 characters and starting
↳5 characters from the end.
%s[-5,5]|sn%      a substring of "Last name" field, taking the last 5 characters.
```

**t**

The **t** macro can be used to return the transliterated version of the parameter. The parameters are the list of locales to use for transliteration (first one will be used by non-interactive uses of the template).

Examples :

```
%t[de_DE]|sn%    "Last name" field returned transliterated.
                  If "sn=Süßkartoffel" then the returned value is "Suesskartoffel"
```

Note that the locale used must be installed on the server (and web server needs to be restarted after locale installation).

- Array macro

## C

The **C** macro (added in version 1.0.10) returns the count of values in the attribute. It can be 0.

<code>%C arrayAttribute%</code>	returns the number of values <b>in</b> arrayAttribute
---------------------------------	---

## F

The **F** macro returns the first value of the array

## J

The **J** macro returns the values joined together. It takes the separator as parameter.

<code>%J[:] arrayAttribute%</code>	returns the values joined and separated by <code>:</code> character
------------------------------------	---

## L

The **L** macro returns the last value of the array

— Combining examples

<code>%al sn%</code>	"Last name" field returned <b>in</b> lowercase unaccented. If "sn=Valérie" <b>then</b> the returned value is "valerie"
----------------------	---

<code>%au sn%</code>	"Last name" field returned <b>in</b> uppercase unaccented. If "sn=Valérie" <b>then</b> the returned value is "VALERIE"
----------------------	---

<code>%alp sn%</code>	"Last name" field returned <b>in</b> lowercase unaccented without whitespaces. If "sn=Valérie DUPONT" <b>then</b> the returned value is "valeriedupont"
-----------------------	--

<code>%us[0,4] sn%</code>	a substring of "Last name" field, taking 4 characters, starting at ↪ position 0 and converting <b>in</b> uppercase. If "sn=Valérie" <b>then</b> the returned value is "VALÉ".
---------------------------	--

<code>%ls[1,4] sn%</code>	a substring of "Last name" field, taking 4 characters, starting at ↪ position 1 and converting <b>in</b> lowercase. If "sn=Valérie" <b>then</b> the returned value is "alér".
---------------------------	--

<code>%las[4] sn%</code>	a substring of "Last name" field, taking the first 4 characters and ↪ converting <b>in</b> unaccented lowercase. If "sn=Valérie" <b>then</b> the returned value is "vale".
--------------------------	---

<code>%r[8,8,1]u %</code>	a random string of length 8, containing uppercase letters.
---------------------------	--

FusionDirectory Triggers

### 11.1 Functionalities

All plugins can run external scripts when an action is triggered for creating, modifying or deleting. You can use pre and post events depending when you want to run the script.

#### 11.1.1 Pre triggers

- **precreate** : Execute the script before creation.
- **premodify** : Execute the script before editing.
- **preremove** : Execute the script before removing.

The trigger works well and does not display information if it returns 0 On error, prevents save and displays error.

#### 11.1.2 Post triggers

- **postcreate** : Execute the script after creation.
- **postmodify** : Execute the script after editing.
- **postremove** : Execute the script after removing.

The hook works well and does not display information if it returns 0 On error, displays command output.

### 11.1.3 Check triggers

- Execute the script in the check step (before saving), if it outputs anything, prevent save and show output as an error.

The trigger is considered to have passed if it returns 0 and does not display any message. (If it outputs anything it appears as a check failure, if it returns anything other than 0 it is considered a script error, for instance if the script was not able to do the check for some reason).

### 11.1.4 LDAP attributes

You can use ldap attributes as command line options. Use the macro syntax.

### 11.1.5 LDAP arrays

If you put a var that is an array in the args of the hook, gosaAlternateMailAddress for instance, only the first value will be returned unless you use a modifier : macro

### 11.1.6 Special variables

- `%callerDN%` gives the DN of the author of the modification
- `%callerCN%` gives the CN of the author of the modification
- `%callerUID%` gives the UID of the author of the modification
- `%callerSN%` gives the SN of the author of the modification
- `%callerGIVENNAME%` gives the GIVENNAME of the author of the modification
- `%dn%` gives the dn of the modified object
- `%location%` gives the name of the location of the LDAP

On users you get these extra variables available :

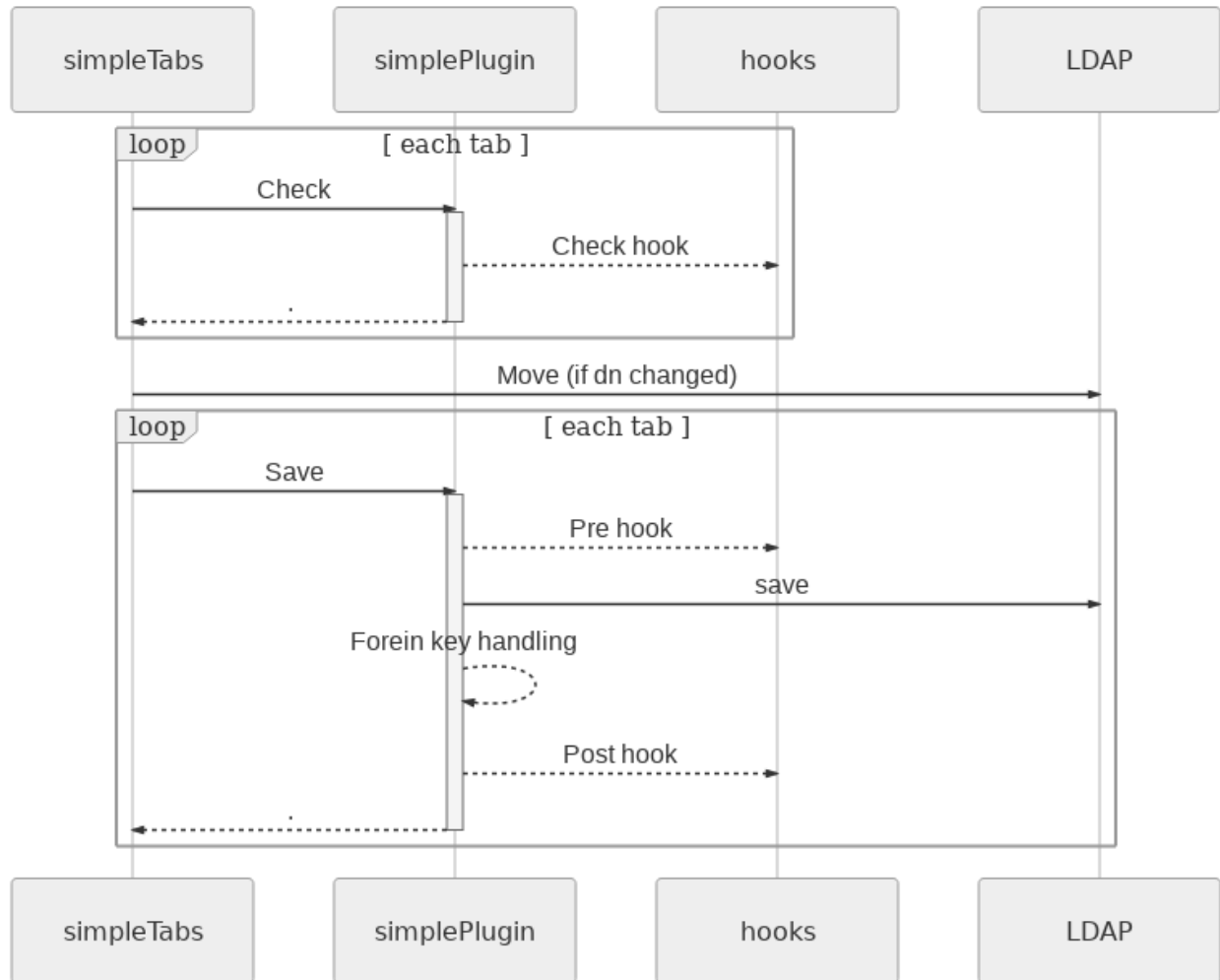
- `%userPassword%` to get password hash
- `%passwordMethod%` to get password method (usually ssh)
- `%passwordClear%` to get clear password
- `%userLocked%` to get user lock status (0 or 1)

### 11.1.7 Complete saving cycle

When an object is saved, all check triggers are run first, then if no errors were returned, the plugin is moved if the dn changed, and then each tab is saved separately, running its precreate/premodify triggers, saving itself to the LDAP, and then running its postcreate/postmodify. This means that when your trigger is called, the tabs after the one that triggered it are not saved yet. Any trigger error (code returned other than 0) will interrupt the saving cycle.

There is no specific order between triggers on the same event of the same tab. If you need several triggers to run in a specific order on a same tab, call them from a script that you set as trigger, allowing you to control the order.

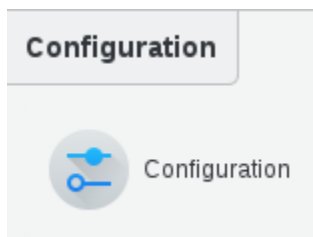
Also note that the save will only happen if something changed in the tab. If no data was modified, no saving is needed, and thus the triggers won't get called.



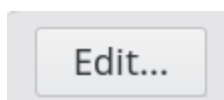
## 11.2 Configuration

— How you can use a trigger

You can access to triggers management via the “Configuration” icon or entry in the “Addons” section of the main page of FusionDirectory



Access is read-only. If you need to make changes, then you must press the “Edit” button at the bottom right of the window.









In Hooks section you can define all your triggers

Hooks	
Hooks	<div></div>
Tab*	DnsRecordPlugin
Mode*	postcreate
Command*	<div></div>
	<div>Add</div>
Display hook output	<input type="checkbox"/>

- **Hooks** : triggers that are called when specific actions happens
- **Tab** : the tab that this triggers concerns (mandatory)
- **Mode** : when to call this command (required)
- **Command** : the command that will be called (mandatory)
- **Display hook output** : when enables successful trigger execution output is displayed to the user using a dialog

**Note** : The arguments are automatically escape and surrounds by quote so you may not use quote in command.

### Example

Hooks									
Hooks	<table border="1"> <thead> <tr> <th>user</th> <th>check</th> <th>command</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>sudo /usr/local/sbin/fd-userCheckHookSendMail.sh %dn% %fdPrivateMail% %givenName% %sn% %uid% %callerGIVENNAME% %callerSN% %passwordClear% %nbCheckErrors%</td> <td> </td> </tr> </tbody> </table>	user	check	command				sudo /usr/local/sbin/fd-userCheckHookSendMail.sh %dn% %fdPrivateMail% %givenName% %sn% %uid% %callerGIVENNAME% %callerSN% %passwordClear% %nbCheckErrors%	 
user	check	command							
		sudo /usr/local/sbin/fd-userCheckHookSendMail.sh %dn% %fdPrivateMail% %givenName% %sn% %uid% %callerGIVENNAME% %callerSN% %passwordClear% %nbCheckErrors%	 						
Tab*	DnsRecordPlugin								
Mode*	postcreate								
Command*	<div></div>								
	<div>Add</div>								
Display hook output	<input type="checkbox"/>								

The line :

```
check      sudo /usr/local/sbin/fd-userCheckHookSendMail.sh %dn% %fdPrivateMail%
↪%givenName% %sn% %uid% %callerGIVENNAME% %callerSN% %passwordClear% %nbCheckErrors%
```

This will generate an automated e-mail like this :

Hello bilbo the hobbit,

Your account hbilbo has been created with password "vegOtNubraw7"

Please follow the next steps:

- Go to <https://acme.fusiondirectory.org/>
- Modify your password.
- Fill your infos if you want
- You can access the gitlab at <https://gitlab.fusiondirectory.org>

(suite sur la page suivante)

(suite de la page précédente)

Enjoy,

FusionDirectory's Team

## 11.3 Most frequent mistakes

Nothing happens, the script seems not to be called

- Check the sudoers entry for the webserver user (www-data, wwwrun, ..) and don't forget to use "NOPASSWD"
- Try to run the script as webserver user, use the complete command used in fusiondirectory configuration (/usr/bin/sudo ...).
- Ensure that you have placed the post event correctly in the fusiondirectory configuration.

Example

```
%www-data ALL=(ALL:ALL) NOPASSWD:/usr/local/bin/hook.sh
```





FusionDirectory Frequent asked Questions

## 12.1 Acls Issues

- How can I let a person do administrative tasks under a specific department ?

FusionDirectory implements a flexible but complex ACL management, please have a look at the following wiki page : FusionDirectory Acls

- How can I permit users to change some of their own attributes ?

FusionDirectory implements a flexible but complex ACL management system, please have a look at the following wiki page : FusionDirectory Acls

Additionally you have to check the option “Apply this acl only for users own entries”.

- How can I disable ACLs in case of misconfiguration ?

The **ignoreAcl** value tells FusionDirectory to ignore complete ACL sets for the given DN. Add your DN and you’ll be able to restore accidently dropped ACLs.

You need to add **ignoreAcl** in the main section of your **fusiondirectory.conf** like in this exemple :

```
<main default="default">
  <!-- ... -->
  ignoreAcl="put_the_desired_dn"
  <!-- ... -->
</main>
```

## 12.2 Migrations issues

- After installing FusionDirectory using an existing LDAP tree, my user accounts are not listed.

You need to add the following objectClasses to your accounts :

```
objectClass: person
objectClass: organizationalPerson
```

if you follow the fusiondirectory web setup those accounts will be migrated automatically

## 12.3 Administrators issues

- I can't logon as Administrator, what is wrong ?  
It looks like you are missing an fusiondirectory administrative account.

```
fusiondirectory-setup --check-ldap
```

1. *Welcome*
  2. *Code of Conduct*
  3. *I just have a question!*
  4. *How Can report a bug / feature missing ?*
    - *Finding Wonderful Bugs*
    - *Any Feedback To Enhance Our Apps*
- 

### 13.1 Welcome

«Here's a list of our guidelines, If you want to share a best practice, or think one of these guidelines should be removed, feel free to share it with us.»

First off, thanks for taking the time to report bug and missing features !

Now, sit comfortably at the fireplace, grab your glasses and immerse yourself in our documentation.

### 13.2 Code Of Conduct

All projects and everyone participating in it is governed by FusionDirectory *Code of Conduct*

By participating, you are expected to uphold this code. Please read this before.

## 13.3 I just have a question !

---

**Note :** Please don't file an issue to ask a question. You'll get faster results by using the resource below.

---

We have an various channel of communications

- [#fusiondirectory](#), the irc channel of FusionDirectory on freenode, channel #fusiondirectory
- FusionDirectory Users mailing list
- FusionDirectory dev mailing list

## 13.4 Reporting bug or missing features

### 13.4.1 Register for a FusionDirectory project account

To create a FusionDirectory project Account you must go to

- [FusionDirectory Sign UP](#)

### 13.4.2 Put FusionDirectory in debug mode

- Go into FusionDirectory configuration
- Activate the displaying of PHP errors, and the TRACE debug level

### 13.4.3 Finding Wonderful Bugs

---

**Note :** This section guides you through submitting a bug report. Following these guidelines helps maintainers and the community understand your report, reproduce the behavior, and find related reports.

---

When you are creating a bug report, please include as many details as possible. Fill out the **Bugs** template to create issues, the information it asks for helps us resolve issues faster.

Explain the problem and include additional details to help maintainers reproduce the problem :

- **Use a clear and descriptive title** for the issue to identify the problem.
- **Describe the exact steps which reproduce the problem** in as many details as possible. For example, start by explaining wich browser and it's version. When listing steps, don't just say what you did, but explain how you did it. For example, if you moved the cursor to the end of an input, explain if you used the mouse, or a keyboard.
- **Describe the behavior** you observed after following the steps and point out what exactly is the problem with that behavior.
- **Explain which behavior** you expected to see instead and why.
- **Include screenshots and animated GIFs** which show you following the described steps and clearly demonstrate the problem. You can use [this tool](#) to record GIFs on macOS and Windows, and [this tool](#) on Linux.
- **Include the PHP errors and trace** collected at the debug step above
- **If the problem is linked to a specific LDAP entry** attach its LDAP dump.

Fill in a report on :

- [FusionDirectory](#) for the core program
- [FusionDirectory Plugins](#) for plugins.

### 13.4.4 Any Feedback To Enhance FusionDirectory

---

**Note :** This section guides you through submitting an enhancement suggestion, including completely new features and minor improvements to existing functionality. Following these guidelines helps maintainers and the community understand your suggestion and find related suggestions.

---

When you are creating an enhancement report, please include as many details as possible. Fill out the **Enhancement** template to create those issues, the information it asks for helps us resolve issues faster.

- [FusionDirectory](#) for the core program
  - [FusionDirectory Plugins](#) for plugins.
  - **Use a clear and descriptive title** for the issue to identify the suggestion.
  - **Provide a step-by-step description of the suggested enhancement** in as many details as possible.
  - **Describe the current behavior** and **explain which behavior you expected to see instead** and why.
  - **Include screenshots and animated GIFs** which help you demonstrate the steps which the suggestion is related to. You can use [this tool](#) to record GIFs on macOS and Windows, and [this tool](#) on Linux.
  - **Explain why this enhancement would be useful** to most FusionDirectory users.
- 

This document is strongly inspired by the following resources : [ovh-ux-guidelines](#), [project-guidelines](#), [Atom Guidelines](#), [Angularjs guidelines](#).

With love



This section explain the release cycle and where contributions, fixes will be merged

## 14.1 FusionDirectory Version policy

### 14.1.1 Versioning

FusionDirectory can have 3 digits at maximum in a version : **X.Y.Z**

**Z** version increments (X.Y.Z1 -> X.Y.Z2, for example 1.2.1 to 1.2.2) are minor bug fix only releases.

**Y** or **X** version increments are major releases (X.Y1.Z -> X.Y2.Z, for exemple 1.1 to 1.2) are major releases.

### 14.1.2 Major Release

- Can contain any type of bugfix, new features and code refactor.
- Can remove attributes or objectclasses from the schema only if they were declared OBSOLETE in the previous major release.
- Can put **OBSOLETE** attributes and classes which are no longer used by the code.
- Two 2 major releases are needed before removing OBSOLETE attributes and objectClass.
- Can provide migration scripts in fusiondirectory-setup if needed for those, and/or migration instructions in the documentation.
- Have to provide migration instruction from previous major release.

### 14.1.3 Minor release

Minor release are small releases containing only bugfix to the last major release. It should be numbered with 3 digits.

Minor release **cannot** contain :

- Schema changes
- New features
- Code refactor
- Poorly tested code
- Changes which may break existing plugins or themes for previous release (or scripts based on the webservice)

Minor release contain :

- bugfix : should fix a bug observed in a previous release, something which did not work as intended.

Exceptions can be made :

- New feature can be included if it does not require any schema change and does not interfere with existing features
- Code refactor can be included if it leads to a significant performance gain and is thoroughly tested
- New plugin may be added if it does not require schema change (but it can add new schemas as this is non-intrusive)

Minor release must be released as soon as possible when :

- Security breach is found in the last stable release
- Regression (a bug which was not there in previous releases) is found in the last stable release
- Major bug is found in the last stable release

## 14.2 FusionDirectory Life Cycle

A maintained version is a **major** version for which we release **minor** bug fix releases and communicate about security vulnerabilities.

Our general support policy is to maintain major releases until **12 months** after the next major version is released to give some time for upgrading.



### 15.1 License

FusionDirectory is available under the [GNU General Public License 2.0](#)

FusionDirectory documentation is under the [Creative Commons Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](#)



Contents :

### 16.1 What is schema2ldif ?

[Schema2ldif](#) provides a solution to the conversion and management of schema inside an [OpenLDAP](#) directory.

OpenLDAP since version 2.4 has a backend named **cn=config** where everything is stored in ldif format including schemas.

Schemas must therefore be converted from schema format to ldif format to be inserted in the directory, you must also be able to update, delete, add schemas during the life of your directory.

To simplify all these operations we have written two utilities that can be used by everyone, including those that would not use FusionDirectory.

- ldap-schema-manager : list, insert, modify, insert diagrams
- schema2ldif : which converts your schemas to ldif

### 16.2 Prerequisites

Schema2ldif is a shell application that will need :

- perl 5 ;
- ldap command line tools ;

## 16.3 Install Schema2ldif

Install Schema2ldif

### 16.3.1 Getting the official GPG keys to active package signature

Our packages for Debian and Centos/RHEL are signed with the official gpg key of the project.

#### Getting the new official gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xD744D55EACDA69FF  
  
gpg --export -a "FusionDirectory Project Signing Key <contact@fusiondirectory.org>" > FD-  
↪archive-key
```

#### Getting the development gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xADD3A1B88B29AE4A  
  
gpg --export -a "FusionDirectory Packagers <fusiondirectory-packages@lists.  
↪fusiondirectory.org>" > FD-archive-dev-key
```

#### Adding the key to apt for Debian/Ubuntu

```
apt-key add FD-archive-key
```

#### Adding the key to RPM for Centos / RHEL / Scientific Linux

```
cp FD-archive-key /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY  
  
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

### 16.3.2 Debian Repository

#### Debian Stretch

To use the latest published version for **stretch** put this in your `/etc/apt/sources.list`

```
#fusiondirectory extra repository  
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-stretch stretch main
```

## Debian Jessie

To use the latest published version for **jessie** put this in your `/etc/apt/sources.list`

```
#fusiondirectory extra repository
deb http://repos.fusiondirectory.org/fusiondirectory-extra/debian-jessie jessie main
```

### 16.3.3 RPM Repository

A repository is available for Centos7

#### CentOS 7 / RHEL 7

To use the latest published version put this

```
[fusiondirectory-extra]
name=Fusiondirectory Extra Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/fusiondirectory-extra/rhel7/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

### 16.3.4 Downloading the source

The source download area is here

<https://repos.fusiondirectory.org/sources/>

### 16.3.5 Install Schema2ldif on Debian

Install schema2ldif

#### Installing Dependencies

All The needed dependancies are resolved by the debian packages

---

**Note :** The repositories are in https for Debian so you will need to install **apt-transport-https**

---

#### Install the Schema2ldif Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your Debian version

*Debian Stretch*

*Debian Jessie*

Create one new `.list` file fusiondirectory-extra with your favorite text editor in `/etc/apt/source.list.d`

## Install Schema2ldif

You can then install schema2ldif by running :

```
apt-get install schema2ldif
```

## 16.3.6 Install Schema2ldif on Centos

Install Schema2ldif

### Installing Dependencies

#### Install the FusionDirectory Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your centos version

*RPM Repository*

Create one new repo file for fusiondirectory-extra with your favorite text editor in */etc/yum.repos.d/*

## Install Schema2ldif

You can then install schema2ldif by running :

```
yum install -y schema2ldif
```

## 16.4 ldap-schema-manager

### 16.4.1 Description

This program will list, insert, empty or modify the ldap schemas into the ldap server.

### 16.4.2 Functionalities

#### How it works

List schemas already installed :

```
ldap-schema-manager -l
```

### Insert a new schema :

```
ldap-schema-manager -i /path/to/your/file.schema
```

If a schema of the same name is already present the insertion will fail. If the file doesn't have a .schema extension added to the name, ldap-schema-manager will add .ldif

### Update a schema :

```
ldap-schema-manager -m /path/to/your/file.schema
```

If a schema of the same name is not present the update will fail.

### Empty a schema :

```
ldap-schema-manager -e schema_name
```

**Avertissement :** This will clean the schema but it stays inside your ldap server in `cn=schema,cn=config`. It's impossible right now to remove a node from `cn=schema,cn=config`. ldap-schema-manager provides this solution to be able to remove a schema without stopping the ldap server, but the schema will still be listed by running `-l`.

---

**Note :** The conversion is done by `schema2ldif`. The only constraint is that the schema first lists attributes then objectclass, which is the case in all the standard schemas we saw.

---

---

**Note :** If you want to insert again a schema emptied by `-e`, you should use `-m` and not `-i`.

---

## 16.5 Schema2ldif

### 16.5.1 Description

Schema2ldif will read the given input file and convert it to an LDIF file that you can insert into your LDAP directory.

### 16.5.2 Functionalities

```
schema2ldif <options> <FILE> > file.ldif
```

## How it works

### convert a schema :

```
schema2ldif cosine.schema > cosine.ldif
```

the name of the file (without extension) will be used as cn.

### options :

-c

Use CN as cn for the schema (mandatory if no file provided)

-b

Use BRANCH instead of cn=schema,cn=config

---

**Note :** If <FILE> is not provided, it will read from standard input. In this case, the -c option is mandatory.

---

## 16.6 License

Schema2ldif is available under the [BSD 3 Clause](#)

FusionDirectory documentation is under the [Creative Commons Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](#)





## CHAPITRE 17

---

Argonaut

---



## 17.1 What is Argonaut ?

**Argonaut** is the companion of **FusionDirectory** , its goal is to allow the management of services and integrate the deployment system(s) from **FusionDirectory**.

### 17.1.1 Features

**Argonaut** is composed of a client **Argonaut Client** and a server **Argonaut Server**

Both client and server sides can load modules at start, those modules are strongly related to a FusionDirectory plugin.

Modules can be classified into three categories :

- FusionDirectory integration
- argonaut-user-reminder to manage the account reminder plugin of **FusionDirectory**
- argonaut-clean-audit to clean the audit branch of **FusionDirectory**
- Services management
- argonaut-ldap2zone : update a dns zone, create view, create acls for **Bind**
- argonaut-quota : apply a quota
- argonaut-dovecot : create the mailbox quota and applies it **Dovecot**
- argonaut-fuse : create on the fly pxelinux.cfg file that matches the type of machine to be deployed, allowing automatic boot during an install by pxe
- Integration with deployment tools
- **FAI**
- argonaut-fai-nfsroot : Tools, queues and status management for **FAI** (Fully Automated Install) installations.
- argonaut-fai-mirror : create a synchronization script Mirror of debian or RPM packages
- argonaut-fai-monitor : follow **FAI** installation and report states to **FusionDirectory**
- argonaut-fai-server : Argonaut server module to manage **FAI**
- **OPSI**
- argonaut-server-module-opsi : queues, profiles management

## 17.2 Install Argonaut

Install Argonaut

### 17.2.1 Getting the official GPG keys to active package signature

Our packages for Debian and Centos/RHEL are signed with the official gpg key of the project.

### Getting the new official gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xD744D55EACDA69FF

gpg --export -a "FusionDirectory Project Signing Key <contact@fusiondirectory.org>" > FD-
↪archive-key
```

### Getting the development gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xADD3A1B88B29AE4A

gpg --export -a "FusionDirectory Packagers <fusiondirectory-packages@lists.
↪fusiondirectory.org>" > FD-archive-dev-key
```

### Adding the key to apt for Debian/Ubuntu

```
apt-key add FD-archive-key
```

### Adding the key to RPM for Centos / RHEL / Scientific Linux

```
cp FD-archive-key /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY

rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

## 17.2.2 Debian Repository

### Debian Stretch

To use the latest published version for **stretch** put this in your `/etc/apt/sources.list`

```
#fusiondirectory repository
deb https://repos.fusiondirectory.org/argonaut-current/debian-stretch/ stretch main
```

```
#fusiondirectory extra repository
deb https://repos.fusiondirectory.org/argonaut-extra/debian-stretch/ stretch main
```

## 17.2.3 RPM Repository

A repository is available for Centos7

This repository contains the stable version of Argonaut. It also contains the extra packages needed to use Argonaut.

To use the latest published version put this in your yum config :

## CentOS 7 / RHEL 7

To use the latest published version put this

```
[argonaut]
name=Argonaut Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/argonaut-current/rhel7/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

```
[argonaut-extra]
name=Argonaut Extra Packages for RHEL / CentOS 7
baseurl=http://repos.fusiondirectory.org/argonaut-extra/rhel7/RPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

SRPMS are also available in the following repo :

```
[argonaut-src]
name=Argonaut Packages for RHEL / CentOS 7
baseurl=https://repos.fusiondirectory.org/argonaut-current/rhel7/SRPMS/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-FUSIONDIRECTORY
```

### 17.2.4 Downloading the source

The source download area is here

<https://repos.fusiondirectory.org/sources/>

### 17.2.5 Install Argonaut on Debian

Install FusionDirectory

#### Installing Dependencies

All The needed dependancies are resolved by the debian packages

#### Install the Argonaut Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your Debian version

*Debian Stretch*

Create 2 new *.list* file your favorite text editor in */etc/apt/source.list.d*

- One for argonaut
- One for argonaut-extra

## Install Argonaut

You can then install FusionDirectory by running :

```
apt-get install argonaut-common
```

## 17.2.6 Install Argonaut on Centos

Install FusionDirectory

### Installing Dependencies

Argonaut requires the [EPEL](#) repository

- To install epel

```
yum install epel-release
```

### Install the FusionDirectory Repos

To easily install the latest version, you can install the fusion directory repos

Chose the repositories that goes with your centos version

*CentOS 7 / RHEL 7*

Create 2 new repo file your favorite text editor.

- One for argonaut
- One for argonaut-extra

## Install Argonaut

You can then install Argonaut by running :

```
yum install -y argonaut-common
```

## 17.3 Configure Argonaut

Argonaut use a global configuration file that is used by all programs : **/etc/argonaut.conf**. This file is composed of various sections, all sections are filled with correct basic values.

---

**Note :** To function correctly Argonaut need a correctly configured **/etc/ldap/ldap.conf** or **/etc/openldap/ldap.conf**

---

### 17.3.1 Argonaut configuration files section

#### [server]

This section contains all the argonaut server parameters :

```
server_ip = 172.16.0.1
```

The ip address the server listen to. This address must match with the MAC address of argonaut server provided in FusionDirectory interface.

#### [client]

This section contains all the argonaut server parameters :

```
client_ip = 172.16.0.1
```

The ip address the server listen to. This address must match with the MAC address of argonaut server provided in FusionDirectory interface.

#### [ldap]

This section contains all the ldap parameters :

```
config = /etc/ldap/ldap.conf
```

Where is stored your ldap.conf configuration file.

```
dn = cn=admin,dc=fusiondirectory,dc=org
```

What is your bind dn.

```
password = secret
```

What is the password for the provided bind dn.

```
tls = off
```

whether communication should be encrypted or not

## 17.4 Applications

### 17.4.1 Argonaut Components

#### Global components

#### Argonaut Libraries

- argonaut-common : main argonaut library (LDAP, package management)
- argonaut-common-fai : FAI library needed by various FAI components of Argonaut

## Argonaut Server and Client

- argonaut-server : server that receive orders from FusionDirectory (interact with clients in JSON RPC)
- argonaut-client : client to interact with argonaut-server
- argonaut-fuse : FUSE tftp component that manage pxelinux.cfg directory and create files for PXE boot from LDAP

## Argonaut Modules

- argonaut-server-module-fai : [FAI](#) module for argonaut-server, it add FAI deployment functions
- argonaut-server-module-opsi : OPSI module for argonaut-server, it add OPSI deployment functions
- argonaut-fuse-module-fai : [FAI](#) module for argonaut-fuse, create files for PXE boot from LDAP for FAI
- argonaut-fuse-module-opsi : OPSI module for argonaut-fuse, create files for PXE boot from LDAP For OPSI
- argonaut-dovecot : [Dovecot](#) module that create users directories for the mailbox from FusionDirectory

## Argonaut Applications

- argonaut-ldap2zone : tool that create bind files with information from [FusionDirectory](#)
- argonaut-quota : tool that grab quota information from [FusionDirectory](#) and create it on the system
- argonaut-samba : program to create samba share from [FusionDirectory](#)
- argonaut-fusiondirectory : program that complement a plugin in [FusionDirectory](#), currently has **argonaut-user-reminder** and **argonaut-clean-audit**

## Debian components

- argonaut-fai-server : package to install on [FAI](#) server (not in NFSROOT)
  - argonaut-fai-monitor : grab installation status from [FAI](#) and send it to argonaut-server (need argonaut-client)
  - fai2ldif : tool that convert [FAI](#) classes in LDIF that we can insert in LDAP
- argonaut-fai-nfsroot : integration package for FAI NFSROOT
  - argonaut-ldap2fai : create [FAI](#) classes in /var/lib/fai/config from LDAP
  - get-config-dir-argonaut : LDAP method for [FAI](#)
- argonaut-fai-mirror
  - argonaut-repository : create script to update local mirrors (cron.daily) that are in FusionDirectory
  - argonaut-debconf-crawler : extract debconf from packages in a distant repository

## Centos components

- argonaut-fai-monitor : grab installation status from [FAI](#) and send it to argonaut-server (need argonaut-client)
- yumgroup2yumi : convert yumgroups into yumi in a ldif file so it can be imported into FusionDirectory [FAI](#) management interface



## 17.4.2 User-Reminder

Argonaut User-Reminder

### Description

The user-reminder application is used to send mail to users warning that the account will expire and provide a way of extending it if needed

### Installation

#### Install packages

##### Debian

```
apt-get install argonaut-fusiondirectory
```

##### RHEL

```
yum install argonaut-fusiondirectory
```

### Functionalities

The user-reminder application is used to send mail to users warning that the account will expire and provide a way of extending it if needed

You will need the user-reminder plugin installed into FusionDirectory to make it work

### How it works

Argonaut-user-reminder look at different source (posix, ppolicy, supann) and can send a mail or make the account expire

The arguments are the following :

- -help
- -verbose
- -posix
- -ppolicy
- -supann
- -all (posix, ppolicy and supann)
- -supan-update (maintain the supann workflow through webservice it need the REST configuration in argonaut.conf)

Depend on which source you want to use you also need the FusionDirectory plugin that match (posix, ppolicy, supann)

You run argonaut-user-reminder in a cron so that it keep all the informations updated

## Examples

```
# Expiration for all
argonaut-user-reminder --verbose --all
# Expiration for ppolicy
argonaut-user-reminder --verbose --ppolicy
# Expiration for posix
argonaut-user-reminder --verbose --posix
# Expiration for supann
argonaut-user-reminder --verbose --supann
# Maintain supann workflow through webservice
argonaut-user-reminder --verbose --supann-update
```

### 17.4.3 Clean-Audit

Argonaut Clean-Audit

#### Description

The clean-audit application is used to purge old audit entries stored by the FusionDirectory audit plugin

#### Installation

##### Install packages

##### Debian

```
apt-get install argonaut-fusiondirectory
```

##### RHEL

```
yum install argonaut-fusiondirectory
```

#### Functionalities

The clean-audit application is used to purge audit entries after a selected amount of time

You will need the audit plugin installed into FusionDirectory to make it work

## How it works

Argonaut-clean-audit look at conservation delay in FusionDirectory configuration, by default its 120 days

When run argonaut-clean-audit it will purge all the entries older than the number of days mentionned in FusionDirectory config

The arguments are the following :

— -verbose

You run argonaut-clean-audit in a cron so that it purge older audit entries

## Examples

```
# Basic clean audit run
argonaut-clean-audit
# Clean audit run in verbose mode
argonaut-clean audit --verbose
```

## 17.5 Contribute

There is a complete set of guidelines that you should read

[Contributing to Argonaut](#)

[Develop with Argonaut](#)

## 17.6 License

FusionDirectory is available under the [GNU General Public License 2.0](#)

FusionDirectory documentation is under the [Creative Commons Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](#)

**orphan**



FusionDirectory Support Options

### 18.1 Professional paid support

FusionDirectory helps you keep FusionDirectory running smoothly

Why choose FusionDirectory ?

- You are the publishers of FusionDirectory.
- We have over 16 years experience in the support of LDAP directories and applications directory management.
- We support and maintains OpenLDAP architectures for various entities from small to very big on a daily basis
- We maintain and develop the [PHP LDAP](#) module

You are sure to get :

- Answers to your questions about FusionDirectory by phone, email or web,
- Packages containing bug fixes between two stable versions
- Assistance for the development of FusionDirectory modules tailored to your needs,
- Assistance on the update of FusionDirectory
- A technician on site if the situation requires.

Support Options :

- [Get support for your FusionDirectory instance](#)
- [Get training for your daily use of FusionDirectory](#)
- [Get support on specialized plugins of FusionDirectory](#)

## 18.2 Community support

For any question regarding FusionDirectory support (installation, configuration, usage, etc...), the preferred way to get some support is through the [mailing list](#) or [irc](#).

### 19.1 Digital signature

Our official packages for Debian and Centos/RHEL are signed with the official gpg key of the project.

#### 19.1.1 Official gpg key

```
pub  rsa4096/0xD744D55EACDA69FF 2017-07-02 [SC] [expire : 2022-07-01]
     A94DE63F2EDB5F0DC0785EBBD744D55EACDA69FF
uid          [ totale ] FusionDirectory Project Signing Key
↳ <contact@fusiondirectory.org>
```

Our official development packages for Debian and Centos/RHEL are signed with the official development gpg key of the project.

#### 19.1.2 Development gpg key

```
pub  rsa2048/0xADD3A1B88B29AE4A 2014-02-25 [SC]
     8ABF887BF6254D6F57B82069ADD3A1B88B29AE4A
uid          [ totale ] FusionDirectory Packagers <fusiondirectory-packages@lists.
↳ fusiondirectory.org>
```

## 19.2 Security issues

If you find a security issue inside FusionDirectory you can report it to directly to security team [security@fusiondirectory.org](mailto:security@fusiondirectory.org).

you can sign your message with the public key from

**Benoit Mortier 0xEF2FF1E48638EAD1**



This is the alphabetical list of all people that have contributed to the FusionDirectory project, beeing code, translations, documentation and additional help.

As FusionDirectory is originaly a fork from GOsa<sup>2</sup> you also have a list of GOsa<sup>2</sup> Contributors

## 20.1 Original GOsa<sup>2</sup> AUTHORS

This is the alphabetical list of all people that have contributed to the original GOsa<sup>2</sup> project before the fork to FusionDirectory

- Markus Amersdorfer <[der.plusch@subnet.at](mailto:der.plusch@subnet.at)>
  - Wiki setup, Testing, hints, proposals
- Alessandro Amici <[a.amici@bopen.it](mailto:a.amici@bopen.it)>
  - Italian translation
- Craig Chang <[craig0310@gmail.com](mailto:craig0310@gmail.com)>
  - Fixes for magic\_quotes\_gpc
- Guillaume Delecourt <[guillaume.delecourt@opensides.be](mailto:guillaume.delecourt@opensides.be)>
  - Setup fixes, nagios tab plugin, xls addons ldapmanager
  - pptp connectivity option, phpscheduleit connectivity option
- Alejandro Escanero Blanco <[aescanero@chaosdimension.org](mailto:aescanero@chaosdimension.org)>
  - Fixes, improvements, translation, netgroup plugin, Guide and some extensions
- Fabian Hickert <[hickert@gonicus.de](mailto:hickert@gonicus.de)>
  - Improvements for setup, various fixes and plugins
- Niels Klomp <[nk@careworks.nl](mailto:nk@careworks.nl)>
  - Dutch translation
- Steve Moitozo <god at zilla dot us>
  - Password checker
- Benoit Mortier <[benoit.mortier@opensides.be](mailto:benoit.mortier@opensides.be)>
  - Butracking, QA, French translation
- Igor Muratov <[migor@altlinux.org](mailto:migor@altlinux.org)>
  - Various fixes and speed enhancements
- Michael Pasdziernik <[mp@secio.de](mailto:mp@secio.de)>

- Documentation for GOsa and safe-mode, fixes
- Cajus Pollmeier <[pollmeier@gonicus.de](mailto:pollmeier@gonicus.de)>
  - Virtually everything which is GOsa related
- Piotr Rybicki <[meritus@innervision.pl](mailto:meritus@innervision.pl)>
  - Polish translation
- Henning Schmiedehausen <[hps@intermeta.de](mailto:hps@intermeta.de)>
  - Various fixes, support for user defined people/group base
- Alfred Schröder <[schroeder@gonicus.de](mailto:schroeder@gonicus.de)>
  - German translation
- Jan Wenzel <[jan.wenzel@gonicus.de](mailto:jan.wenzel@gonicus.de)>
  - Implementation and research for samba munged dial support,
  - fixing of « Fiptehlers »(TM) in the german translations.
- Leila El Hitori <[leila.elhitori@opensides.be](mailto:leila.elhitori@opensides.be)>
  - French online documentation
  - English online documentation
- Vincent Seynhaeve <[vincent.seynhaeve@opensides.be](mailto:vincent.seynhaeve@opensides.be)> \* Xls export plugin
- Leonid Bogdanov <[leonid\\_bogdanov@mail.ru](mailto:leonid_bogdanov@mail.ru)>
  - patch for the manager fonctionnality in the General user tab
- Olivier BONHOMME <[obonhomme@nerim.net](mailto:obonhomme@nerim.net)>
  - Corrected RPM building

## 20.2 FusionDirectory AUTHORS

This is the alphabetical list of all people that have contributed to the FusionDirectory project, beeing code, translations, documentation and additional help.

- Benjamin Carpentier <[carpentierbenjamin@gmail.com](mailto:carpentierbenjamin@gmail.com)>
  - Tested FusionDirectory, corrected copyright issues and locales
  - Written fusiondirectory-setup
- Giuliano Di Vito <[giuliano@opensides.be](mailto:giuliano@opensides.be)>
  - Italian Translator and bug finder
- Roman Widmann <[archme.mail@gmail.com](mailto:archme.mail@gmail.com)>
  - Arch linux packager
- Bernigaud Côme <[come.bernigaud@laposte.net](mailto:come.bernigaud@laposte.net)>
  - New daemon code class\_supportDaemon.inc, and all the new deployment stuff :)
  - Simple plugin framework developper
- Alexis Michon <[alexis.michon@ibcp.fr](mailto:alexis.michon@ibcp.fr)>
  - Testing, First version of Password reset
  - Support for two or more MAC address for a system
- Mike Gabriel <[mike.gabriel@das-netzwerkteam.de](mailto:mike.gabriel@das-netzwerkteam.de)>
  - Various patches from debian-edu
  - Apache 2.4 support
  - Mcrypt decrypt enhancement
  - Browsing inactive tab
- Jeremy Williame <[williamejeremy@hotmail.com](mailto:williamejeremy@hotmail.com)>
  - Cleanup and writer of the FusionDirectory doxygen api documentation
- Rudy Hardeman <[zarya@gigafreak.net](mailto:zarya@gigafreak.net)>
  - Option to remove sambaLMpassword storage
- Feth Arezki <[feth@majerti.fr](mailto:feth@majerti.fr)>
  - First version of the autofs plugin
- Daniel B <[daniel@firewall-services.com](mailto:daniel@firewall-services.com)>
  - Cleanup of the sambaPwdMustChange, sambaPwdCanChange
- Regis patronix <[regis.patroux@thecosmocompany.com](mailto:regis.patroux@thecosmocompany.com)>

- Allow special characters in passwords
- Antoine Gallavardin <[antoine.gallavardin@free.fr](mailto:antoine.gallavardin@free.fr)>
  - Add support for social network ORCID in personal
  - Dhcp plugin patch to manage key and update zone in dhcp for dyndns
  - First version of the quota plugin
  - First version of the supann plugin
  - First version of the board plugin
- Sergio Talens-Oliag <[sto@iti.es](mailto:sto@iti.es)>
  - Configuration setting to force the use of a hash when setting or changing passwords
  - Add support for crypt/sha-256 and crypt/sha-512
  - Use the passwordDefaultHash for new users
  - Fix for icons in core plugins
  - Provide a way to show hook execution results to the user via web
  - Hide userPassword on change\_password postmodify hook error message
- Stefan Krüger <[shadow\\_7@gmx.net](mailto:shadow_7@gmx.net)>
  - Add support for various database to the rsyslog plugin
- Guillaume Chéramy <[guillaume@cheramy.name](mailto:guillaume@cheramy.name)>
  - Patches for the template system
- Mathias Friman [mathias.friman@knorca.se](mailto:mathias.friman@knorca.se)
  - Translation to swedish
- Alexandre Magnat <[alexandre.magnat@mecaprotec.fr](mailto:alexandre.magnat@mecaprotec.fr)>
  - Snapshot bug reporter
- Guillaume RODRIGUEZ <[rodriguez.guillaume@icloud.com](mailto:rodriguez.guillaume@icloud.com)>
  - asterisk plugin error reporter
- Guillard Olivier <[fd@guillard.nom.fr](mailto:fd@guillard.nom.fr)>
  - SSH plugin key storage problem reporter
- Fabien Brachere <[fabien.brachere@e-tera.com](mailto:fabien.brachere@e-tera.com)>
  - Fix support for special caracters in password
- Arnaud Patard <[apatard@hupstream.com](mailto:apatard@hupstream.com)>
  - Fix for Invalid uri in the password recovery mail
  - Fix for start tls on fusiondirectory setup and gnutls
- Adrian Reyer <[are+fd@lihas.de](mailto:are+fd@lihas.de)>
  - Modifier for templates to convert german umlauts to 7-bit ASCII
- Samuel Bosquin <[samuel.bosquin@ibcp.fr](mailto:samuel.bosquin@ibcp.fr)>
  - Plugin FAI - LVM partitions
- IOhannes umlaeute <[noc@iem.at](mailto:noc@iem.at)>
  - generateLdif() fails with bind-passwords containg “\$” patch
- Karsten Becker <[karsten.becker@ecologic.eu](mailto:karsten.becker@ecologic.eu)>
  - Suse install from tarballs Documentation
- Felix Weissbeck <[contact-fusiondirectory@w7k.de](mailto:contact-fusiondirectory@w7k.de)>
  - Method to add a change password dialog on sasl+kerberos
- Tobias Göbel
  - Fixes for PHP7 compatibility
- Christian Kreidl <[christian.kreidl@ziti.uni-heidelberg.de](mailto:christian.kreidl@ziti.uni-heidelberg.de)>
  - ppolicy improvement
- Martin Hamant <[mh@ow2.org](mailto:mh@ow2.org)>
  - Coded the LockUser fonction for the webservice
- Jonathan Swaelens <[jonathan@opensides.be](mailto:jonathan@opensides.be)>
  - QA on FusionDirectory
  - RPM packaging maintener and ArchLinux Packager
- Timothée Giet <[timo@timotheegiet.com](mailto:timo@timotheegiet.com)>
  - New breezy icon Theme
- Clement Oudot <[clem.oudot@gmail.com](mailto:clem.oudot@gmail.com)>
  - HTTP header authentication

- Password expiration date in dashboard
- Thomas Niercke <[thomas@niercke.de](mailto:thomas@niercke.de)>
  - Code and ideas for making Argonaut Events Extensible
- Paola Penati <[paolapenati@hotmail.com](mailto:paolapenati@hotmail.com)>
  - Italian translation of FusionDirectory and the website
- Martin Hamant <[mh@ow2.org](mailto:mh@ow2.org)>
  - Adding DSA accounts into groups
- Mathias Soupault <[mathias.soupault@inalco.fr](mailto:mathias.soupault@inalco.fr)>
  - Making supannAliasLogin usage possible in password recovery
- Patzke Thomas <[thomas.patzke2@thyssenkrupp.com](mailto:thomas.patzke2@thyssenkrupp.com)>
  - Security and vulnerability testing
- Janne Heß
  - Enhance the login and password reset theme
- Peter Linss
  - Added catchall table to postfix plugin

## 20.3 FusionDirectory libraries

This is the alphabetical list of libraries and their authors that FusionDirectory is using

- Dan Ellis <[danellis@rushmore.com](mailto:danellis@rushmore.com)>
  - class\_sieve.inc
- Eric Kilfoil <[eric@ipass.net](mailto:eric@ipass.net)>
  - ldap.inc
- Thomas Schüßler <[tulpe@atomar.de](mailto:tulpe@atomar.de)>
  - debuglib.inc
- Wouter Verhelst <[wouter@debian.org](mailto:wouter@debian.org)>
  - accept-to-gettext.inc
- Steve Moitozo <[god@zilla.us](mailto:god@zilla.us)>
  - pwdStrength.js
- Roland Gruber
  - class\_smbHash.inc
- Knallgrau New Medias Solutions GmbH
  - pulldown.js
- Mathieu Jondet <[mathieu@eulerian.com](mailto:mathieu@eulerian.com)>
  - datepicker.js

## CHAPITRE 21

---

### Contact Us

---

We are also contactable on :

- Mailing list : <https://lists.fusiondirectory.org/www/lists>
- IRC : #fusiondirectory on irc.freenode.org <irc://irc.freenode.org/fusiondirectory>

Follow Us

- On twitter : <https://twitter.com/fusiondirectory>
- On linkedin : <https://www.linkedin.com/company/fusiondirectory>



### 22.1 Our Pledge

In the interest of fostering an open and welcoming environment, we as contributors and maintainers pledge to making participation in our project and our community a harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, gender identity and expression, level of experience, nationality, personal appearance, race, religion, or sexual identity and orientation.

### 22.2 Our Standards

Examples of behavior that contributes to creating a positive environment include :

- Using welcoming and inclusive language
- Being respectful of differing viewpoints and experiences
- Gracefully accepting constructive criticism
- Focusing on what is best for the community
- Showing empathy towards other community members

Examples of unacceptable behavior by participants include :

- The use of sexualized language or imagery and unwelcome sexual attention or advances
- Trolling, insulting/derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or electronic address, without explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

## 22.3 Our Responsibilities

Project maintainers are responsible for clarifying the standards of acceptable behavior and are expected to take appropriate and fair corrective action in response to any instances of unacceptable behavior.

Project maintainers have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct, or to ban temporarily or permanently any contributor for other behaviors that they deem inappropriate, threatening, offensive, or harmful.

## 22.4 Scope

This Code of Conduct applies both within project spaces and in public spaces when an individual is representing the project or its community. Examples of representing a project or community include using an official project e-mail address, posting via an official social media account, or acting as an appointed representative at an online or offline event. Representation of a project may be further defined and clarified by project maintainers.

## 22.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting the project team at [coc@fusiondirectory.org](mailto:coc@fusiondirectory.org). All complaints will be reviewed and investigated and will result in a response that is deemed necessary and appropriate to the circumstances. The project team is obligated to maintain confidentiality with regard to the reporter of an incident. Further details of specific enforcement policies may be posted separately.

Project maintainers who do not follow or enforce the Code of Conduct in good faith may face temporary or permanent repercussions as determined by other members of the project's leadership.

## 22.6 Attribution

This Code of Conduct is adapted from the [Contributor Covenant](https://www.contributor-covenant.org/version/1/4), version 1.4, available at <https://www.contributor-covenant.org/version/1/4>

**orphan**