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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
FusionDirectory is a Web application that will need:

- a webserver;
- 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;
• icov: for the samba integration;
• imagen: 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:

```php
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
CHAPTER 3

Install FusionDirectory

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.

3.1.1 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
```

3.1.2 Getting the development gpg key

```
gpg --keyserver keys.gnupg.net --recv-key 0xAD3A1B88B29AE4A
```

```
gpg --export -a "FusionDirectory Packagers <fusiondirectory-packages@lists.
 fusiondirectory.org>" > FD-archive-dev-key
```

3.1.3 Adding the key to apt for Debian/Ubuntu

```
apt-key add FD-archive-key
```
3.1.4 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
```

3.2 Debian Repository

3.2.1 Debian Stretch

To use the lastest 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
```

3.2.2 Debian Jessie

To use the lastest 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 !!!

3.3 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 lastest published version put this in your yum config:

3.3.1 CentOS 6 / RHEL 6

To use the lastest 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 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 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 !!!

3.3.2 CentOS 7 / RHEL 7

To use the latest published version put this

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

3.4 Downloading the source

The source download area is here
http://repos.fusiondirectory.org/sources/
3.5 Install FusionDirectory on Debian

Install FusionDirectory

3.5.1 Installing Dependencies

All The needed dependencies are resolved by the debian packages

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

3.5.2 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

3.5.3 Install FusionDirectory

You can then install FusionDirectory by running:

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

3.5.4 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

3.6 Install FusionDirectory on Centos

Install FusionDirectory


3.6.1 Installing Dependencies

FusionDirectory requires both the EPEL repository and the REMI repository for PHP 7.1

- To install epel

```bash
```

- To install remi repository

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

- To enable Remi repo an PHP 7.1

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

3.6.2 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

3.6.3 Install FusionDirectory

You can then install FusionDirectory by running:

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

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

3.6.4 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:

```bash
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
```

3.6. Install FusionDirectory on Centos
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

### 3.7 Setup FusionDirectory

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

#### 3.7.1 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.
3.7.2 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 your browser ask FusionDirectory for your preferred language.
3.7.3 Checks

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

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

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.
### 3.7.7 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

4.1 Supported

Supported version

4.1.1 Migrate FusionDirectory from 1.3 to 1.3.1

New Depot Configuration

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

Debian Repository.

RPM Repository.

**Warning:** 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.

Fonctionality Added

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

Fonctionality removed

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

Enjoy :)

4.1.2 Migrate FusionDirectory from 1.2.3 to 1.3

New Depot Configuration

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

Debian Repository.

RPM Repository.

**Warning:** 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社区 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 :)
4.1.3 Migrate FusionDirectory from 1.2.2 to 1.2.3

New Depot Configuration

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

*Debian Repository.*

*RPM Repository.*

**Warning:** 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

Enjoy :)

4.1.4 Migrate FusionDirectory from 1.2.1 to 1.2.2

New Depot Configuration

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

*Debian Repository.*

*RPM Repository.*

**Warning:** 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.
apt-get install fusiondirectory-schema

Enjoy :)

4.1.5 Migrate FusionDirectory from 1.2 to 1.2.1

New Depot Configuration

New Depot Configuration

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

*Debian Repository.*

*RPM Repository.*

**Warning:** 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

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

Update the package list and upgrade schema2ldif

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

**Upgrade FusionDirectory first**

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

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

**Upgrade of LDAP directory**

Upgrade core schema of FusionDirectory

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

Enjoy :)

4.1. Supported
4.2 Unsupported version

Unsupported version

4.2.1 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\*
```

4.2.2 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

and fill the required information.

**4.2.3 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

```bash
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

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”
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 cannot 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
  ```

Update needed fusiondirectory schema

The following needed schema must be upgraded:

- goserver, goto, recovery

Because we cannot 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 example, for goserver schema:

4.2. Unsupported version
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:
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="
```

- Edit the update-fdQuota.ldif file:

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

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
```

4.2.4 Migrate FusionDirectory from 1.0.4 to 1.0.5

Clean FusionDirectory schema directory

Debian
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
dn: cn={6}gofon, cn=schema, cn=config
dn: cn={7}gofax, cn=schema, cn=config
dn: cn={8}goto, cn=schema, cn=config
dn: cn={9}goserver, cn=schema, cn=config
dn: cn={10}gomoim, cn=schema, cn=config
dn: cn={11}gosamba3, cn=schema, cn=config
dn: cn={12}ldapns, cn=schema, cn=config
dn: cn={13}recovery, cn=schema, cn=config
dn: cn={14}dhcpp, cn=schema, cn=config
dn: 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

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

Chapter 4. Update FusionDirectory
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
/etc/init.d/slapd stop
/etc/init.d/slapd 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/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

```
```

4.2. Unsupported version
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 \textit{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:

\texttt{mv /etc/fusiondirectory/fusiondirectory.conf /etc/fusiondirectory/fusiondirectory.conf.back}

Then, in your web browser, you can type:

\texttt{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:

\texttt{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

\texttt{unrecognized objectClass 'goMailServer'}

If you get an error like this:

\texttt{LDAP operation failed!}

\texttt{Object: cn=mailserver.opensides.be,ou=servers,ou=systems,dc=opensides,dc=be}

Error: Object class violation \{unrecognized objectClass 'goMailServer', while operating on 'cn=mailserver.opensides.be,ou=servers,ou=systems,dc=opensides,dc=be' 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.opensides.be,ou=servers,ou=systems,dc=opensides,dc=be
Error: Undefined attribute type - attribute: flag_enable_debug
(flag_enable_debug: AttributeDescription contains inappropriate characters, while operating on 'cn=mailserver.opensides.be,ou=servers,ou=systems,dc=opensides,dc=be', 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.

### 4.2.5 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

### 4.2.6 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
```

### 4.2.7 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
```

### 4.2.8 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:
4.2.9 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.

4.2.10 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
```
4.2.11 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

Upgrade of LDAP directory

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

```bash
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

<table>
<thead>
<tr>
<th>Deprecated attributes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaUnitTag (Takes a list of relevant mime-type</td>
</tr>
<tr>
<td>gosaSnapshotType (Takes either undo or snapshot) - 1.3.6.1.4.1.10098.1.1.12.36</td>
</tr>
<tr>
<td>fdHonourUnitTags (FusionDirectory - Honour unit tags) - 1.3.6.1.4.1.38414.8.14.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deprecated objectClasses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaAdministrativeUnitTag (Marker for objects below administrational units (v2.6.1)) - 1.3.6.1.4.1.10098.1.2.1.19.16</td>
</tr>
<tr>
<td>gosaAdministrativeUnit (Marker for administrative units (v2.6.1)) - 1.3.6.1.4.1.10098.1.2.1.19.15</td>
</tr>
</tbody>
</table>

```
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
4.2.12 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

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>gosaUnitTag</td>
</tr>
<tr>
<td>gosaSnapshotType</td>
</tr>
<tr>
<td>fdHonourUnitTags</td>
</tr>
</tbody>
</table>

- fusiondirectory-setup --check-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 you ldap server from old attributes and objectClasses

Warning: Please read it carefully before applying !!

4.2.13 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:

4.2. Unsupported version
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

<table>
<thead>
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<th>Deprecated attributes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaUnitTag</td>
</tr>
<tr>
<td>–type</td>
</tr>
<tr>
<td>gosaSnapshotType</td>
</tr>
<tr>
<td>– 1.3.6.1.4.1.10098.1.1.12.36</td>
</tr>
<tr>
<td>fdHonourUnitTags</td>
</tr>
<tr>
<td>– Honour unit tags)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deprecated objectClasses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaAdministrativeUnitTag</td>
</tr>
<tr>
<td>(Marker for objects below administrative units (v2.6. –1))</td>
</tr>
<tr>
<td>– 1.3.6.1.4.1.10098.1.2.1.19.16</td>
</tr>
<tr>
<td>gosaAdministrativeUnit</td>
</tr>
<tr>
<td>(Marker for administrative units (v2.6. –1))</td>
</tr>
<tr>
<td>– 1.3.6.1.4.1.10098.1.2.1.19.15</td>
</tr>
</tbody>
</table>

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

Warning: Please read it carefully before applying !!

4.2.14 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
  
  **Deprecated attributes:**
  
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaUnitTag</td>
<td>Takes a list of relevant mime-type</td>
<td>priority settings)</td>
</tr>
<tr>
<td>gosaSnapshotType</td>
<td>Takes either undo or snapshot</td>
<td>1.3.6.1.4.1.10098.1.1.12.36</td>
</tr>
<tr>
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<td>FusionDirectory Honour unit tags</td>
<td>1.3.6.1.4.1.38414.8.14.3</td>
</tr>
</tbody>
</table>

  **Deprecated objectClasses:**
  
<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaAdministrativeUnitTag</td>
<td>Marker for objects below administrational units (v2.6.1)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.16</td>
</tr>
<tr>
<td>gosaAdministrativeUnit</td>
<td>Marker for administrative units (v2.6.1)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.15</td>
</tr>
</tbody>
</table>

- **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

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

### 4.2.15 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.

### 4.2. Unsupported version
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

  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 adminstrational 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 objectclasses

- **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
Warning: Please read it carefully before applying !!

4.2.16 Migrate FusionDirectory from 1.0.8.5 to 1.0.8.6

Removal of the mixed posixAccount / groupOfNames aka rfc2307bis

Warning: 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
```

4.2.17 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```

4.2. Unsupported version
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-\(\rightarrow\)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 administrational units (v2.6.\(\rightarrow\)-1)) - 1.3.6.1.4.1.10098.1.2.1.19.16
  - gosaAdministrativeUnit (Marker for administrational units (v2.6.\(\rightarrow\)-1)) - 1.3.6.1.4.1.10098.1.2.1.19.15

- **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

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

4.2.18 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
Deprecated objectClasses:

- gosaAdministrativeUnitTag (Marker for objects below administrational units (v2.6.1)) - 1.3.6.1.4.1.10098.1.2.1.19.16
- gosaAdministrativeUnit (Marker for administrational units (v2.6.1)) - 1.3.6.1.4.1.10098.1.2.1.19.15

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

### 4.2.19 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 --check-deprecated** will output an ldif file on the console that you can use with `ldapmodify` to clean your ldap server from old attributes and objectClasses
FusionDirectory User Manual Documentation, Release 1.3

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaUnitTag</td>
<td>Takes a list of relevant mime-type</td>
<td>priority settings</td>
</tr>
<tr>
<td>gosaSnapshotType</td>
<td>Takes either undo or snapshot</td>
<td>1.3.6.1.4.1.10098.1.1.12.36</td>
</tr>
<tr>
<td>fdHonourUnitTags</td>
<td>FusionDirectory - Honour unit tags</td>
<td>1.3.6.1.4.1.38414.8.14.3</td>
</tr>
</tbody>
</table>

Deprecated objectClasses:

<table>
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<tr>
<th>Attribute</th>
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<tr>
<td>gosaAdministrativeUnitTag</td>
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</tr>
<tr>
<td>gosaAdministrativeUnit</td>
<td>Marker for administrational units (v2.6.1)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.15</td>
</tr>
</tbody>
</table>

```
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

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

### 4.2.20 Migrate FusionDirectory from 1.0.8.9 to 1.0.9

**Backup you 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 they 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=labo,dc=opensides,dc=be
  cn: namePhone
  goFonType: friend
  goFonDmtfMode: inband
  goFonDefaultIP:
  dynamic ipHostNumber: 127.0.0.1
  macAddress: 00:0C:7F:31:33:F1
  objectClass: top
```

**After**

...
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=labo,dc=opensides,dc=be > backupPhones. -ldif
```

**Moved Attributes**

We cleaned the core of FusionDirectory to only used 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

4.2. Unsupported version
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 :

- **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.

**Warning**: 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.s
chema
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:

gotoModules (G0to - 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 (G0to - 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 (G0to - Gonicus Terminal Concept, value xMouseport. - 1.3.6.1.4.1.10098.1.1.1.22
gotoXMonitor (G0to - Gonicus Terminal Concept, value xMonitor. - 1.3.6.1.4.1.10098.1.1.1.17
gotoAdaptPath (G0to - Gonicus Terminal Concept, value adaptpath. - 1.3.6.1.4.1.10098.1.1.1.33
gotoScannerClients (G0to - Gonicus Terminal Concept, value scannerClients.) - 1.3.6.1.4.1.10098.1.1.1.11
gotoHardwareChecksum (G0to - quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.2.

(continues on next page)
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
<th>Object Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoRootPasswd</td>
<td>(Goto - Gonicus Terminal Concept, value rootPasswd.</td>
<td>1.3.6.1.4.1.10098.1.1.1.14</td>
</tr>
<tr>
<td>gotoXKbLayout</td>
<td>(Goto - Gonicus Terminal Concept, value xKblayout.</td>
<td>1.3.6.1.4.1.10098.1.1.1.26</td>
</tr>
<tr>
<td>gotoProfileServer</td>
<td>(Goto - specifies the profile server)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1</td>
</tr>
<tr>
<td>gotoScannerEnable</td>
<td>(Goto - Gonicus Terminal Concept, value scannerEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.10</td>
</tr>
<tr>
<td>ghGfxAdapter</td>
<td>(Hardware definitions, value Grafikkarte)</td>
<td>1.3.6.1.4.1.10098.1.1.2.9</td>
</tr>
<tr>
<td>gotoFontPath</td>
<td>(Goto - Gonicus Terminal Concept, value fontPath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.5</td>
</tr>
<tr>
<td>ghIdeDev</td>
<td>(Hardware definitions, value ideDev)</td>
<td>1.3.6.1.4.1.10098.1.1.2.4</td>
</tr>
<tr>
<td>gotoLpdEnable</td>
<td>(Goto - Gonicus Terminal Concept, value lpdEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.9</td>
</tr>
<tr>
<td>gotoXKbVariant</td>
<td>(Goto - Gonicus Terminal Concept, value xKbvariant.</td>
<td>1.3.6.1.4.1.10098.1.1.1.27</td>
</tr>
<tr>
<td>fdRfc2307bis</td>
<td>(FusionDirectory - rfc2307bis)</td>
<td>1.3.6.1.4.1.10098.1.1.1.27</td>
</tr>
<tr>
<td>gotoAutoFs</td>
<td>(Goto - Gonicus Terminal Concept, value autofs.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31</td>
</tr>
<tr>
<td>gotoSndModule</td>
<td>(Goto - Gonicus Terminal Concept, value sound Modules.</td>
<td>1.3.6.1.4.1.10098.1.1.1.29</td>
</tr>
<tr>
<td>gotoCdromEnable</td>
<td>(Goto - Gonicus Terminal Concept, value cdromEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.8</td>
</tr>
<tr>
<td>gotoScannerModel</td>
<td>(Goto - Gonicus Terminal Concept, value scannerModel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.40</td>
</tr>
<tr>
<td>gosaLoginRestriction</td>
<td>(Gosa - Multivalue attribute to carry a number of allowed ips/subnets)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.46</td>
</tr>
<tr>
<td>gotoXColordepth</td>
<td>(Goto - Gonicus Terminal Concept, value xColordepth.</td>
<td>1.3.6.1.4.1.10098.1.1.1.21</td>
</tr>
<tr>
<td>academicTitle</td>
<td>(Field to represent the academic title)</td>
<td></td>
</tr>
<tr>
<td>fdSnapshotAdminDn</td>
<td>(FusionDirectory - Snaphost admin dn)</td>
<td>1.3.6.1.4.1.10098.1.1.1.38414.8.17.4</td>
</tr>
<tr>
<td>gosFileSystem</td>
<td>(Gosta - Gosto - Gonicus Terminal Concept, value filesystem.</td>
<td>1.3.6.1.4.1.10098.1.1.1.6</td>
</tr>
<tr>
<td>ghInventoryNumber</td>
<td>(Unique number for inclusion in an inventory)</td>
<td></td>
</tr>
<tr>
<td>fdIdGenerator</td>
<td>(FusionDirectory - An automatic way to generate new user ids)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.10</td>
</tr>
<tr>
<td>ghUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status - info shown in Gossa)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.5</td>
</tr>
</tbody>
</table>
FusionDirectory User Manual Documentation, Release 1.3

```
goXDriver (Goto - Gonicus Terminal Concept, value xDriver.
    ) - 1.3.6.1.4.1.10098.1.1.1.28```
```
goXKbModel (Goto - Gonicus Terminal Concept, value xKbmodel.
    ) - 1.3.6.1.4.1.10098.1.1.1.25```
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```
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`

• **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
dn:cn=fusiondirectory,ou=configs,dc=labo,dc=opensides,dc=be contains an obsolete attribute
"cn=fusiondirectory,ou=configs,dc=labo,dc=opensides,dc=be uses the obsolete object class fdAsteriskPluginConf";
uid=fd-admin,ou=people,dc=labo,dc=opensides,dc=be uses the obsolete object class gosaAccount
```

• **fusiondirectory-setup --ldif-deprecated** will output an ldif file on the console that you can use with Ldifmodify to clean up 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.

```
fusiondirectory-setup --ldif-deprecated

dn:cn=fusiondirectory,ou=configs,dc=labo,dc=opensides,dc=be
changetype:modify delete:fdRfc2307bis
- delete:fdCopyPaste
-
WARNING: There are entries in the LDAP using obsolete classes, you need to edit them manually
```

**Warning:** 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 objects

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

4.2.21 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`
gdPasswordHook (FusionDirectory - Password hook (external command)) - 1.3.6.1.4.1.38414.8.13.4`
gdSnapshotURI (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`
```

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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) - 1.3.6.1.4.1.10098.1.1.1.2.
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) - 1.3.6.1.4.1.10098.1.1.1.8

fdAccountRDN (FusionDirectory - use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.
gotoScannerEnable (Goto - Gonicus Terminal Concept, value scannerEnable.) - 1.3.6.1.4.1.10098.1.1.1.10

ghGfxAdapter (Hardware definitions, value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.1.2.9

gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.) - 1.3.6.1.4.1.10098.1.1.1.1.5

ghIdeDev (Hardware definitions, value ideDev) - 1.3.6.1.4.1.10098.1.1.1.2.4

gotoLpdEnable (Goto - Gonicus Terminal Concept, value lpdEnable.) - 1.3.6.1.4.1.10098.1.1.1.9

gotoX KbVariant (Goto - Gonicus Terminal Concept, value xKbVariant.) - 1.3.6.1.4.1.10098.1.1.1.27

dfRfc2307bis (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.) - 1.3.6.1.4.1.10098.1.1.1.31

gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable.) - 1.3.6.1.4.1.10098.1.1.1.29

gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel.) - 1.3.6.1.4.1.10098.1.1.1.18

gosaLoginRestriction (Gosa - Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.
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) - 1.3.6.1.4.1.10098.1.1.1.6.2

dfSnapshotAdminDn (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) - 1.3.6.1.4.1.10098.1.1.1.2.10

gosaSubtreeACL (Gosa - ACL entry) - 1.3.6.1.4.1.10098.1.1.1.12.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>fdIdGenerator</td>
<td>An automatic way to generate new user ids</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>gbUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status, info shown in G0sa)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.38414.8.14.5</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(G0to - Gonicus Terminal Concept, value xDriver.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(G0to - Gonicus Terminal Concept, value xKbmodel.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(G0to - Gonicus Terminal Concept, value lpdServer.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.4</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(G0to - Gonicus Terminal Concept, value xHsync.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.18</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(G0to - Flags for Profile handling - C is for caching)</td>
<td>1.3.6.1.4.1.10098.1.1.1.7</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions, value cpuType)</td>
<td>1.3.6.1.4.1.10098.1.1.2.1</td>
</tr>
<tr>
<td>gotoResolution</td>
<td>(G0to - Gonicus Terminal Concept, value xResolution.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.20</td>
</tr>
<tr>
<td>gotoShare</td>
<td>(G0to - specifies a share)</td>
<td>1.3.6.1.4.1.10098.1.1.11.9</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(G0to - Gonicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>1.3.6.1.4.1.38414.8.17.5</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.2</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(G0sa - Defines the default language for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.14</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.2</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(G0to - save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.15</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.1</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.3</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.5</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions, value Network Device)</td>
<td>1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(G0to - Gonicus Terminal Concept, value floppyEnable.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.8</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(G0to - Gonicus Terminal Concept, value xMouseButtons.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.23</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>(Hardware definitions, value Type of mouse)</td>
<td>1.3.6.1.4.1.10098.1.1.1.34</td>
</tr>
</tbody>
</table>

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### 4.2. Unsupported version

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Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>DN</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>(CUPS server description)</td>
<td>1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>(GOsa - Class for GOsa caching)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.3</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>(GOsa - Class for GOsa User Templates)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.11</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>(GOsa - Class for GOsa Accounts)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.6</td>
</tr>
<tr>
<td>gosaObject</td>
<td>(GOsa - Class for GOsa settings)</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.1</td>
</tr>
</tbody>
</table>

- `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.

**Warning:** Please read it carefully before applying !!
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 rsylog 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

<table>
<thead>
<tr>
<th>Deprecated attributes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoModules</td>
</tr>
<tr>
<td>fdPasswordHook</td>
</tr>
</tbody>
</table>

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fdSnapshotURI (FusionDirectory - Snaphost URI) - 1.3.6.1.4.1.38414.8.17.3

gotoXVsync (Goto - Gonicus Terminal Concept, value xVsync.

ghSoundAdapter (Hardware definitions, value soundAdapter) - 1.3.6.1.4.1.10098.1.1.2.7

gotoXMouseport (Goto - Gonicus Terminal Concept, value xMouseport.

ghSoundAdapter (Hardware definitions, value soundAdapter) - 1.3.6.1.4.1.10098.1.1.2.7

gotoXMonitor (Goto - Gonicus Terminal Concept, value xMonitor.

ghIdeDev (Hardware definitions, value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4

gotoScannrabbit (Goto - Gonicus Terminal Concept, value xKbvariant.

fdRfc2307bis (FusionDirectory - rfc2307bis) - 1.3.6.1.4.1.38414.8.10.1

gotoAutoFs (Goto - Gonicus Terminal Concept, value autosfs.

fdAccountRDN (FusionDirectory - use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.12

gotoScannerEnable (Goto - Gonicus Terminal Concept, value scannerEnable.

ghGfxAdapter (Hardware definitions, value Grafikkarte) - 1.3.6.1.4.1.10098.1.1.2.9

gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.

ghIdeDev (Hardware definitions, value ideDev) - 1.3.6.1.4.1.10098.1.1.2.4

gotoLpdEnable (Goto - Gonicus Terminal Concept, value lpdEnable.

gotoXKbLayout (Goto - Gonicus Terminal Concept, value xKbLayout.

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.

academicTitle (Field to represent the academic title) - 1.3.6.1.4.1.10098.1.1.16.2
fdSnapshotAdminDn (FusionDirectory -
  Snaphost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFileSystem (Goto - Gonicus Terminal Concept, value filesystem.
  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.1.6``
  1``
fdSnapshotAdminPassword (FusionDirectory -
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gotoProfileFlags (Goto - Flags for Profile handling -
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gotoSysStatus (Goto - Gonicus Terminal Concept, value lpdServer.
  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``
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  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.1.28``
gotoXKbModel (Goto - Gonicus Terminal Concept, value xKbmodel.
  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.1.25``
fdPersonalTitleInDN (FusionDirectory -
  Personal title in dn) - 1.3.6.1.4.1.38414.8.12.1``
gotoLpdServer (Goto - Gonicus Terminal Concept, value lpdServer.
  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.2.1``
gotoXHsync (Goto - Gonicus Terminal Concept, value xHsync.
  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.1.18``
gotoProfile (Goto - Gonicus Terminal Concept, value lpdServer.
  Info shown in GOsa) - 1.3.6.1.4.1.10098.1.1.2.11``
fdSipContexts (FusionDirectory -
  Available sip contexts) - 1.3.6.1.4.1.38414.19.10.3``
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  Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.1.12.
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gbMemSize (Hardware definitions,
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fdSipContexts (FusionDirectory -
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<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>fdPhoneMacroRDN</td>
<td>FusionDirectory - Phone macro RDN - 1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>gbNetNic</td>
<td>Hardware definitions, value Network Device - 1.3.6.1.4.1.10098.1.1.2.8</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>Goto - Gonicus Terminal Concept, value floppyEnable. - 1.3.6.1.4.1.10098.1.1.1.7</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>Goto - Gonicus Terminal Concept, value xMouseButtons. - 1.3.6.1.4.1.10098.1.1.1.23</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>Hardware definitions, value Type of mouse - 1.3.6.1.4.1.10098.1.1.1.34</td>
</tr>
<tr>
<td>goCupsServer</td>
<td>CUPS server description - 1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>GOsa - Class for GOsa caching - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>GOsa - Class for GOsa User Templates - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>GOsa - Class for GOsa Accounts - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaObject</td>
<td>GOsa - Class for GOsa settings - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
</tbody>
</table>

Deprecated object Classes:

<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>CUPS server description - 1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>GOsa - Class for GOsa caching - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>GOsa - Class for GOsa User Templates - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>GOsa - Class for GOsa Accounts - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
<tr>
<td>gosaObject</td>
<td>GOsa - Class for GOsa settings - 1.3.6.1.4.1.10098.1.2.1.1</td>
</tr>
</tbody>
</table>

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

**Usage:**

```shell
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.

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

### 4.2.23 Migrate FusionDirectory from 1.0.9.2 to 1.0.9.3

**Ubuntu 12.0.4 TLS users**

**Warning:** 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 you are using the system plugin you have to update his schema

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

if you 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

  Deprecated attributes:

gotoModules (Goto - Gonicus Terminal Concept, value kernel modules.) - 1.3.6.1.4.1.10098.1.1.1.32`
gdPasswordHook (FusionDirectory) - 1.3.6.1.4.1.38414.8.13.4`
gdSnapshotURI (Gdon - Gdon's terminal concept) - 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. - 1.3.6.1.4.1.10098.1.1.22`
gotoXMonitor (Goto - Gonicus Terminal Concept, value xMonitor. - 1.3.6.1.4.1.10098.1.1.1.17`
```

(continues on next page)
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoAdaptPath</td>
<td>(Goto - Gonicus Terminal Concept, value adaptpath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.33</td>
</tr>
<tr>
<td>gotoScannerClients</td>
<td>(Goto - Gonicus Terminal Concept, value scannerClients.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11</td>
</tr>
<tr>
<td>gotoHardwareChecksum</td>
<td>(Goto - quick way to see if something has changed)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.12</td>
</tr>
<tr>
<td>gotoRootPasswd</td>
<td>(Goto - Gonicus Terminal Concept, value rootPasswd.</td>
<td>1.3.6.1.4.1.10098.1.1.1.14</td>
</tr>
<tr>
<td>gotoXKbLayout</td>
<td>(Goto - Gonicus Terminal Concept, value xKblayout.</td>
<td>1.3.6.1.4.1.10098.1.1.1.26</td>
</tr>
<tr>
<td>gotoProfileServer</td>
<td>(Goto - specifies the profile server)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.8</td>
</tr>
<tr>
<td>fdAccountRDN</td>
<td>(FusionDirectory - use a placeholder pattern for generating account RDNs)</td>
<td>1.3.6.1.4.1.38414.8.12.2</td>
</tr>
<tr>
<td>gotoScannerEnable</td>
<td>(Goto - Gonicus Terminal Concept, value scannerEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.10</td>
</tr>
<tr>
<td>ghGfxAdapter</td>
<td>(Hardware definitions, value Grafikkarte)</td>
<td>1.3.6.1.4.1.10098.1.1.2.9</td>
</tr>
<tr>
<td>gotoFontPath</td>
<td>(Goto - Gonicus Terminal Concept, value fontPath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.5</td>
</tr>
<tr>
<td>ghIdeDev</td>
<td>(Hardware definitions, value ideDev)</td>
<td>1.3.6.1.4.1.10098.1.1.2.4</td>
</tr>
<tr>
<td>gotoLpdEnable</td>
<td>(Goto - Gonicus Terminal Concept, value lpdEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.9</td>
</tr>
<tr>
<td>gotoXKbVariant</td>
<td>(Goto - Gonicus Terminal Concept, value xKbvariant.</td>
<td>1.3.6.1.4.1.10098.1.1.1.27</td>
</tr>
<tr>
<td>fdRfc2307bis</td>
<td>(FusionDirectory - rfc2307bis)</td>
<td>1.3.6.1.4.1.38414.8.10.1</td>
</tr>
<tr>
<td>gotoAutoFs</td>
<td>(Goto - Gonicus Terminal Concept, value autos.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31</td>
</tr>
<tr>
<td>gotoSndModule</td>
<td>(Goto - Gonicus Terminal Concept, value sound Modules.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31.29</td>
</tr>
<tr>
<td>gotoCdromEnable</td>
<td>(Goto - Gonicus Terminal Concept, value cdromEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.29.1</td>
</tr>
<tr>
<td>gotoScannerModel</td>
<td>(Goto - Gonicus Terminal Concept, value scannerModel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.8</td>
</tr>
<tr>
<td>gosaLoginRestriction</td>
<td>(Gosa - Multivalue attribute to carry a number of allowed ips/subnets)</td>
<td>1.3.6.1.4.1.10098.1.1.12.46</td>
</tr>
<tr>
<td>gotoXColordepth</td>
<td>(Goto - Gonicus Terminal Concept, value xColordepth.</td>
<td>1.3.6.1.4.1.10098.1.1.1.21</td>
</tr>
<tr>
<td>academicTitle</td>
<td>(Field to represent the academic title)</td>
<td>1.3.6.1.4.1.10098.1.1.1.6.2</td>
</tr>
<tr>
<td>fdSnapshotAdminDn</td>
<td>(FusionDirectory - Snaphost admin dn)</td>
<td>1.3.6.1.4.1.38414.8.17.4</td>
</tr>
<tr>
<td>gotoFileSystem</td>
<td>(Goto - Gonicus Terminal Concept, value filesystem.</td>
<td>1.3.6.1.4.1.10098.1.1.1.6</td>
</tr>
<tr>
<td>ghInventoryNumber</td>
<td>(Unique number for inclusion in an inventory)</td>
<td>1.3.6.1.4.1.10098.1.1.2.10</td>
</tr>
<tr>
<td>gosaSubtreeACL</td>
<td>(Gosa - ACL entry)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.10.0</td>
</tr>
</tbody>
</table>

(continues on next page)
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 (GOnicus Terminal Concept, value xDriver. –) - 1.3.6.1.4.1.10098.1.1.1.28
gotoXKbModel (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
gotoIpdsServer (GOnicus Terminal Concept, value IpdsServer. –) - 1.3.6.1.4.1.10098.1.1.1.4
gotoXHsync (GOnicus Terminal Concept, value xHsync. –) - 1.3.6.1.4.1.10098.1.1.1.18
gotoProfileFlags (GOnicus Terminal Concept, value for Profile handling – C is for caching) - 1.3.6.1.4.1.10098.1.1.1.11.7
gChpType (Hardware definitions, value cpuType) - 1.3.6.1.4.1.10098.1.1.2.1
gotoXResolution (GOnicus Terminal Concept, value xResolution. –) - 1.3.6.1.4.1.10098.1.1.1.12.20
gotoShare (GOnicus Terminal Concept, specifies a share) - 1.3.6.1.4.1.10098.1.1.11.9
gotoScannerBackend (GOnicus Terminal Concept, value scannerBackend.) - 1.3.6.1.4.1.10098.1.1.1.39
dfsnapshotAdminPassword (FusionDirectory – Snaphost admin password) - 1.3.6.1.4.1.38414.8.17.5
dfVoicemailContexts (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 (GOnicus Terminal Concept, save quota for home) - 1.3.6.1.4.1.10098.1.1.11.15
dfSipContexts (FusionDirectory – available sip contexts) - 1.3.6.1.4.1.38414.19.11.1
dfPhoneConferenceRDN (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
dfPhoneMacroRDN (FusionDirectory – Phone macro RDN) - 1.3.6.1.4.1.38414.19.10.2
ghNetNic (Hardware definitions, value Network Device) - 1.3.6.1.4.1.38414.19.10.2
gotoFloppyEnable (GOnicus Terminal Concept, value floppyEnable. –) - 1.3.6.1.4.1.10098.1.1.1.1.7
gotoXMouseButtons (GOnicus Terminal Concept, value xMouseButtons. –) - 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

4.2. Unsupported version
Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>DN</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>CUPS server description</td>
<td>1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>GOsa Cache Entry</td>
<td>1.3.6.1.4.1.10098.1.2.1.23.19.3</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>GOsa User Template</td>
<td>1.3.6.1.4.1.10098.1.2.1.23.19.11</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>GOsa Account</td>
<td>1.3.6.1.4.1.10098.1.2.1.23.19.6</td>
</tr>
<tr>
<td>gosaObject</td>
<td>GOsa Object</td>
<td>1.3.6.1.4.1.10098.1.2.1.23.19.1</td>
</tr>
</tbody>
</table>

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

```bash
tempfusiondirectory-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.

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

### 4.2.24 Migrate FusionDirectory from 1.0.9.3 to 1.0.10

**Ubuntu 12.0.4 TLS users**

**Warning:** 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:

```bash
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
```

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:
```
```
gotoModules (GOto - Gonicus Terminal Concept, value kernel modules.) - 1.3.6.1.4.1.10098.1.1.1.32```
```
fPasswordHook (FusionDirectory) - 1.3.6.1.4.1.38414.8.13.4```
```
- Password hook (external command) - 1.3.6.1.4.1.38414.8.13.4```
```
fSnapshotURI (FusionDirectory - Snaphost URI) - 1.3.6.1.4.1.38414.8.17.3```
```
gotoXVsync (GOto - Gonicus Terminal Concept, value xVsync.) - 1.3.6.1.4.1.38414.8.17.4```
```
ghSoundAdapter (Hardware definitions, value soundAdapter) - 1.3.6.1.4.1.10098.1.1.1.19```
```
```
(continues on next page)
gotoXMoueport (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) - 1.3.6.1.4.1.10098.1.1.1.2.
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) - 1.3.6.1.4.1.10098.1.1.1.11.
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.
→) - 1.3.6.1.4.1.10098.1.1.1.1.29`
gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable.
→) - 1.3.6.1.4.1.10098.1.1.1.1.8`
gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel.
→) - 1.3.6.1.4.1.10098.1.1.1.1.40`
gosaLoginRestriction (Gosa - Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.
gotoXColordepth (Goto - Gonicus Terminal Concept, value xColordepth.
→) - 1.3.6.1.4.1.10098.1.1.1.1.21`
academicTitle (Field to represent the academic title)
→) - 1.3.6.1.4.1.10098.1.1.1.6.2`
fdsnapshotAdminDn (FusionDirectory - Snaphost admin dn) - 1.3.6.1.4.1.38414.8.17.4`
gotoFilesystem (Goto - Gonicus Terminal Concept, value filesystem.
→) - 1.3.6.1.4.1.10098.1.1.1.1.6`
ghInventoryNumber (Unique number for inclusion in an inventory)
→) - 1.3.6.1.4.1.10098.1.1.1.2.10
(continues on next page)
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gosaSubtreeACL</td>
<td>(GOsa - ACL entry)</td>
<td>1.3.6.1.4.1.10098.1.1.12.1</td>
</tr>
<tr>
<td>fdIdGenerator</td>
<td>(FusionDirectory - An automatic way to generate new user ids)</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>gbUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status - info shown in GOsa)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.38414.8.14.5</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(Goto - Gonicus Terminal Concept, value xDriver)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(Goto - Gonicus Terminal Concept, value xKbmodel)</td>
<td>1.3.6.1.4.1.10098.1.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5</td>
</tr>
<tr>
<td>.gotoLpdServer</td>
<td>(Goto - Gonicus Terminal Concept, value lpdServer.</td>
<td>1.3.6.1.4.1.10098.1.1.1.4</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(Goto - Gonicus Terminal Concept, value xHsync.</td>
<td>1.3.6.1.4.1.10098.1.1.1.18</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(Goto - Flags for Profile handling - C is for caching)</td>
<td>1.3.6.1.4.1.10098.1.1.11.7</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions, value cpuType)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.1</td>
</tr>
<tr>
<td>gotoXResolution</td>
<td>(Goto - Gonicus Terminal Concept, value xResolution.</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.20</td>
</tr>
<tr>
<td>gotoShare</td>
<td>(Goto - specifies a share)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(Goto - Gonicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>1.3.6.1.4.1.38414.8.17.5</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.2</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(GOsa - Defines the default language for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.14</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.2</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(Goto - save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.15</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.1</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.3</td>
</tr>
<tr>
<td>gbScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.5</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions, value Network Device)</td>
<td>1.3.6.1.4.1.10098.1.1.2.8</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(Goto - Gonicus Terminal Concept, value floppyEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.7</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(Goto - Gonicus Terminal Concept, value xMouseButtons.</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.23</td>
</tr>
</tbody>
</table>

4.2. Unsupported version
FusionDirectory User Manual Documentation, Release 1.3

gotoXMouseType (Hardware definitions, → value Type of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``

Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>DN</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>CUPS server description</td>
<td>1.3.6.1.4.1.10098.1.2.1.23`</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>Class for GOsa caching</td>
<td>1.3.6.1.4.1.10098.1.2.1.23`</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>Class for GOsa User Templates</td>
<td>1.3.6.1.4.1.10098.1.2.1.21`</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>Class for GOsa Accounts</td>
<td>1.3.6.1.4.1.10098.1.2.1.20`</td>
</tr>
<tr>
<td>gosaObject</td>
<td>Class for GOsa settings</td>
<td>1.3.6.1.4.1.10098.1.2.1.21`</td>
</tr>
</tbody>
</table>

• 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.

Warning: Please read it carefully before applying !!

4.2.25 Migrate FusionDirectory from 1.0.10 to 1.0.11

Ubuntu 12.0.4 TLS users

Warning: 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:
FusionDirectory User Manual Documentation, Release 1.3

apt-get install fusiondirectory

Upgrade FusionDirectory schema package too.

apt-get install fusiondirectory-schema

4.2.26 Migrate FusionDirectory from 1.0.11 to 1.0.12

Ubuntu 12.0.4 TLS users

**Warning:** 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 spamassasin 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

4.2. Unsupported version
**Postfix plugin**

If you were using the postfix service in 1.0.11, you need to install the postfix plugin and insert the postfix schema.

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

**spamassasin plugin**

If you were using the spamassassin service in 1.0.11, you need to install the spamassassin plugin and insert the spamassassin schema.

```bash
apt-get install fusiondirectory-plugin-spamassassin
apt-get install fusiondirectory-plugin-spamassassin-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.

```bash
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses. (continues on next page)
```

(continues on next page)
gotoAdaptPath (Goto - Gonicus Terminal Concept, value adaptpath.)
→ 1.3.6.1.4.1.10998.1.1.1.13`
gotoScannerClients (Goto - Gonicus Terminal Concept, value scannerClients.)
→ 1.3.6.1.4.1.10998.1.1.1.11`
gotoHardwareChecksum (Goto - quick way to see if something has changed)
→ 1.3.6.1.4.1.10998.1.1.1.2`
gotoRootPasswd (Goto - Gonicus Terminal Concept, value rootPasswd.)
→ 1.3.6.1.4.1.10998.1.1.1.14`
gotoXKbLayout (Goto - Gonicus Terminal Concept, value xKbLayout.)
→ 1.3.6.1.4.1.10998.1.1.1.26`
gotoProfileServer (Goto - specifies the profile server)
→ 1.3.6.1.4.1.10998.1.1.1.11.8`

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.)
→ 1.3.6.1.4.1.10998.1.1.1.10`

ghGfxAdapter (Hardware definitions, value Grafikkarte)
→ 1.3.6.1.4.1.10998.1.1.1.2.9`
gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.)
→ 1.3.6.1.4.1.10998.1.1.1.1.5`

ghIdeDev (Hardware definitions, value ideDev)
→ 1.3.6.1.4.1.10998.1.1.1.2.4`
gotoLpdEnable (Goto - Gonicus Terminal Concept, value lpdEnable.)
→ 1.3.6.1.4.1.10998.1.1.1.1.9`
gotoXKbVariant (Goto - Gonicus Terminal Concept, value xKbVariant.)
→ 1.3.6.1.4.1.10998.1.1.1.27`

fdRfc2307bis (FusionDirectory - rfc2307bis)
→ 1.3.6.1.4.1.38414.8.10.1`
gotoAutoFs (Goto - Gonicus Terminal Concept, value autofs.)
→ 1.3.6.1.4.1.10998.1.1.1.1.31`
gotoSndModule (Goto - Gonicus Terminal Concept, value sound Modules.)
→ 1.3.6.1.4.1.10998.1.1.1.1.31`
gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable.)
→ 1.3.6.1.4.1.10998.1.1.1.1.29`
gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel.)
→ 1.3.6.1.4.1.10998.1.1.1.1.8`
gossaLoginRestriction (GoSa - Multivalue attribute to carry a number of allowed ips/subnets)
→ 1.3.6.1.4.1.10998.1.1.1.12.46`
gotoXColordepth (Goto - Gonicus Terminal Concept, value xColordepth.)
→ 1.3.6.1.4.1.10998.1.1.1.1.21`

academicTitle (Field to represent the academic title)
→ 1.3.6.1.4.1.10998.1.1.1.6.2`

fdSnapshotAdminDn (FusionDirectory - Snaphost admin dn)
→ 1.3.6.1.4.1.38414.8.17.4`
gotoFilesystem (Goto - Gonicus Terminal Concept, value filesystem.)
→ 1.3.6.1.4.1.10998.1.1.1.6`

ghInventoryNumber (Unique number for inclusion in an inventory)
→ 1.3.6.1.4.1.10998.1.1.1.2.10`
gossaSubtreeACL (GoSa - ACL entry)
→ 1.3.6.1.4.1.10998.1.1.1.12.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>fdIdGenerator</td>
<td>An automatic way to generate new user ids</td>
<td>1.3.6.1.4.1.38414.8.12.4``</td>
</tr>
<tr>
<td>ghUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.2.3``</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status - info shown in GOsa)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11``</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.38414.8.14.5``</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(G0to - Gonicus Terminal Concept, value xDriver)</td>
<td>1.3.6.1.4.1.10098.1.1.1.28``</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(G0to - Gonicus Terminal Concept, value xKbmodel)</td>
<td>1.3.6.1.4.1.10098.1.1.1.25``</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5``</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(G0to - Gonicus Terminal Concept, value lpdServer)</td>
<td>1.3.6.1.4.1.10098.1.1.1.4``</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(G0to - Gonicus Terminal Concept, value xHsync)</td>
<td>1.3.6.1.4.1.10098.1.1.1.18``</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(G0to - Flags for Profile handling - C is for caching)</td>
<td>1.3.6.1.4.1.10098.1.1.11.7``</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions, value cpuType)</td>
<td>1.3.6.1.4.1.10098.1.1.2.1``</td>
</tr>
<tr>
<td>gotoXResolution</td>
<td>(G0to - Gonicus Terminal Concept, value xResolution)</td>
<td>1.3.6.1.4.1.10098.1.1.1.20``</td>
</tr>
<tr>
<td>gotoShare</td>
<td>(G0to - specifies a share)</td>
<td>1.3.6.1.4.1.10098.1.1.1.9``</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(G0to - Gonicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39``</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>1.3.6.1.4.1.38414.8.17.5``</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.2``</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(G0sa - Defines the default language for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.14``</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.2``</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(G0to - save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.15``</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.1``</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.3``</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>1.3.6.1.4.1.10098.1.1.2.5``</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.2``</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions, value Network Device)</td>
<td>1.3.6.1.4.1.38414.19.10.2``</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(G0to - Gonicus Terminal Concept, value floppyEnable)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.7``</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(G0to - Gonicus Terminal Concept, value xMouseButtons)</td>
<td>1.3.6.1.4.1.10098.1.1.1.23``</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>(Hardware definitions, value Type of mouse)</td>
<td>1.3.6.1.4.1.10098.1.1.1.34``</td>
</tr>
</tbody>
</table>
Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>CUPS server description</td>
<td>1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>Class for GOsa caching</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.3</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>Class for GOsa User Templates</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.11</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>Class for GOsa Accounts</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.6</td>
</tr>
<tr>
<td>gosaObject</td>
<td></td>
<td>1.3.6.1.4.1.10098.1.2.1.19.1</td>
</tr>
</tbody>
</table>

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

```bash
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.

```bash
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.

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

### 4.2.27 Migrate FusionDirectory from 1.0.12 to 1.0.13

**Ubuntu 12.0.4 TLS users**

**Warning:** 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``
fSnapshottURI (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. value) - 1.3.6.1.4.1.10098.1.1.22``
gotoXMonitor (GOto - Gonicus Terminal Concept, value xMonitor. value) - 1.3.6.1.4.1.10098.1.1.17``
gotoAdaptPath (GOto - Gonicus Terminal Concept, value adaptpath. value) - 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) - 1.3.6.1.4.1.10098.1.1.1.3.``
- 12``
gotoRootPasswd (GOto - Gonicus Terminal Concept, value rootPasswd. value) - 1.3.6.1.4.1.10098.1.1.1.14``
gotoXXKbLayout (GOto - Gonicus Terminal Concept, value xKbLayout. value) - 1.3.6.1.4.1.10098.1.1.26``
gotoProfileServer (GOto - specifies the profile server) - 1.3.6.1.4.1.10098.1.1.11.
- 8``
```
(continues on next page)
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``

gbGfxAdapter (Hardware definitions, value Grafiikkarte) - 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``
gbIdev (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.) - 1.3.6.1.4.1.10098.1.1.1.1.29``
gotoCdmrEnable (Goto - Gonicus Terminal Concept, value cdmrEnable.) - 1.3.6.1.4.1.10098.1.1.1.8``
gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel.) - 1.3.6.1.4.1.10098.1.1.1.1.40``
gosLoginRestriction (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.) - 1.3.6.1.4.1.10098.1.1.1.1.21``

academicTitle (Field to represent the academic title) - 1.3.6.1.4.1.10098.1.1.1.6.2``
fdSnapShotAdminDn (FusionDirectory - Snaphost admin dn) - 1.3.6.1.4.1.38414.8.17.4``
gotoFs (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) - 1.3.6.1.4.1.10098.1.1.1.2.10``

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) - 1.3.6.1.4.1.10098.1.1.1.2.3``
gotoSysStatus (Keeps current system status - info shown in Gosa) - 1.3.6.1.4.1.10098.1.1.1.2.11``
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``

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<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoLpdServer</td>
<td>(GOnicus Terminal Concept, value lpdServer.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.4`</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(GOnicus Terminal Concept, value xHsync.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.18`</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(GOnicus Terminal Concept, value xHsync.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.11.7`</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions, value cpuType)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.1`</td>
</tr>
<tr>
<td>gotoXResolution</td>
<td>(GOnicus Terminal Concept, value xResolution.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.20`</td>
</tr>
<tr>
<td>gotoShare</td>
<td>(GOnicus Terminal Concept, specifies a share)</td>
<td>- 1.3.6.1.4.1.10098.1.1.11.9`</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(GOnicus Terminal Concept, value scannerBackend.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.39`</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>- 1.3.6.1.4.1.38414.8.17.5`</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>- 1.3.6.1.4.1.38414.19.11.2`</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(GOsa - Defines the default language for a user)</td>
<td>- 1.3.6.1.4.1.10098.1.1.12.14`</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.2`</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(GOnicus Terminal Concept, save quota for home)</td>
<td>- 1.3.6.1.4.1.10098.1.1.11.15`</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>- 1.3.6.1.4.1.38414.19.11.1`</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>- 1.3.6.1.4.1.38414.19.10.3`</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.5`</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>- 1.3.6.1.4.1.38414.19.10.2`</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions, value Network Device)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.8`</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(GOnicus Terminal Concept, value floppyEnable)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.1.7`</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(GOnicus Terminal Concept, value xMouseButtons.</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.1.23`</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>(Hardware definitions, value Type of mouse)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.1.34`</td>
</tr>
</tbody>
</table>

Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>(CUPS server description)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.1.23`</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>(GOsa - Class for GOsa caching)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.1.19.3`</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>(GOsa - Class for GOsa User Templates)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.1.19.11`</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>(GOsa - Class for GOsa Accounts)</td>
<td>- 1.3.6.1.4.1.10098.1.1.1.2.1.19.6`</td>
</tr>
</tbody>
</table>

(continues on next page)
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.

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

## 4.2.28 Migrate FusionDirectory from 1.0.13 to 1.0.14

### Ubuntu 12.0.4 TLS users

**Warning:** 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`
fPasswordHook (FusionDirectory) - 1.3.6.1.4.1.38414.8.13.4`
fSnapshotURI (FusionDirectory) - 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`
gotoXMmouseport (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`
ghHardwareChecksum (Goto - quick way to see if something has changed) - 1.3.6.1.4.1.10098.1.1.1.2.`
   -12`
gotoRootPasswd (Goto - Gonicus Terminal Concept, value rootPasswd.) - 1.3.6.1.4.1.10098.1.1.14`
gotoXKbLayout (Goto - Gonicus Terminal Concept, value xKbLayout.) - 1.3.6.1.4.1.10098.1.1.1.26`
gotoProfileServer (Goto - specifies the profile server) - 1.3.6.1.4.1.10098.1.1.1.11.`
   -8`
fdAccountRDN (FusionDirectory - use a placeholder pattern for generating account RDNs) - 1.3.6.1.4.1.38414.8.`
   -12.2`
```
(continues on next page)
<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoScannerEnable</td>
<td>(Goto - Gonicus Terminal Concept, value scannerEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.10</td>
</tr>
<tr>
<td>gbGfxAdapter</td>
<td>(Hardware definitions, value Grafikkarte)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.9</td>
</tr>
<tr>
<td>gotoFontPath</td>
<td>(Goto - Gonicus Terminal Concept, value fontPath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.15</td>
</tr>
<tr>
<td>gbIdeDev</td>
<td>(Hardware definitions, value ideDev)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.4</td>
</tr>
<tr>
<td>gotoLpdEnable</td>
<td>(Goto - Gonicus Terminal Concept, value lpdEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.9</td>
</tr>
<tr>
<td>gotoXKbVariant</td>
<td>(Goto - Gonicus Terminal Concept, value xKbvariant.</td>
<td>1.3.6.1.4.1.10098.1.1.1.27</td>
</tr>
<tr>
<td>fdRfc2307bis</td>
<td>(FusionDirectory - rfc2307bis)</td>
<td>1.3.6.1.4.1.38414.8.10.1</td>
</tr>
<tr>
<td>gotoAutoFs</td>
<td>(Goto - Gonicus Terminal Concept, value autoFs.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31</td>
</tr>
<tr>
<td>gotoSnidModule</td>
<td>(Goto - Gonicus Terminal Concept, value sound Modules.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31.1</td>
</tr>
<tr>
<td>gotoCdromEnable</td>
<td>(Goto - Gonicus Terminal Concept, value cdromEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.8</td>
</tr>
<tr>
<td>gotoScannerModel</td>
<td>(Goto - Gonicus Terminal Concept, value scannerModel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.40</td>
</tr>
<tr>
<td>gosaLoginRestriction</td>
<td>(GOsa - Multivalue attribute to carry a number of allowed ips/subnets)</td>
<td>1.3.6.1.4.1.10098.1.1.12.46</td>
</tr>
<tr>
<td>gotoXColordepth</td>
<td>(Goto - Gonicus Terminal Concept, value xColordepth.</td>
<td>1.3.6.1.4.1.10098.1.1.1.21</td>
</tr>
<tr>
<td>academicTitle</td>
<td>(Field to represent the academic title)</td>
<td></td>
</tr>
<tr>
<td>fdSnapshotAdminDn</td>
<td>(Snaphost admin dn)</td>
<td>1.3.6.1.4.1.38414.8.17.4</td>
</tr>
<tr>
<td>gotoFilesystem</td>
<td>(Goto - Gonicus Terminal Concept, value filesystem.</td>
<td>1.3.6.1.4.1.10098.1.1.1.6</td>
</tr>
<tr>
<td>ghInventoryNumber</td>
<td>(Unique number for inclusion in an inventory)</td>
<td></td>
</tr>
<tr>
<td>gosaSubtreeACL</td>
<td>(GOsa - ACL entry)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.1</td>
</tr>
<tr>
<td>fdIdGenerator</td>
<td>(An automatic way to generate new user ids)</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>gbUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status - info shown in GOsa)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.38414.8.14.5</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(Goto - Gonicus Terminal Concept, value xDriver.</td>
<td>1.3.6.1.4.1.10098.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(Goto - Gonicus Terminal Concept, value xKbmodel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(Goto - Gonicus Terminal Concept, value lpdServer.</td>
<td>1.3.6.1.4.1.10098.1.1.1.4</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(Goto - Gonicus Terminal Concept, value xHsync.</td>
<td>1.3.6.1.4.1.10098.1.1.1.18</td>
</tr>
</tbody>
</table>

### 4.2 Unsupported version

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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) - 1.3.6.1.4.1.10098.1.1.12.1``
gotoXResolution (GOto - Gonicus Terminal Concept, value xResolution.
→) - 1.3.6.1.4.1.10098.1.1.11.20``
gotoShare (GOto -
→ specifies a share) - 1.3.6.1.4.1.10098.1.1.11.
→9``
gotoScannerBackend (GOto - Gonicus Terminal Concept,
→ value scannerBackend,) - 1.3.6.1.4.1.10098.1.1.11.
→9``
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``
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.
→) - 1.3.6.1.4.1.10098.1.1.11.7``
gotoXMouseButtons (GOto - Gonicus Terminal Concept, value xMouseButtons.
→) - 1.3.6.1.4.1.10098.1.1.11.23``
gotoXMouseType (Hardware definitions,
→ value of mouse) - 1.3.6.1.4.1.10098.1.1.1.34``

Deprecated objectClasses:

```text
goCupsServer (CUPS server description)
→ 1.3.6.1.4.1.10098.1.1.2.1.23``
gosaCacheEntry (GOsa -
→ Class for GOsa caching) - 1.3.6.1.4.1.10098.1.1.2.1.1``
→19.3``
gosaUserTemplate (GOsa -
→ Class for GOsa User Templates) - 1.3.6.1.4.1.10098.1.1.2.1.1.
→19.11``
gosaAccount (GOsa -
→ Class for GOsa Accounts) - 1.3.6.1.4.1.10098.1.1.2.1.1.
→19.6``
gosaObject (GOsa -
→ Class for GOsa settings) - 1.3.6.1.4.1.10098.1.1.2.1.1.
→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

```bash
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.

```bash
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.

**Warning:** 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 :)

#### 4.2.29 Migrate FusionDirectory from 1.0.14 to 1.0.15

**Ubuntu 12.0.4 TLS users**

**Warning:** 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

```bash
apt-get install fusiondirectory-schema
```
Plugin deprecated

The apache2 plugin has been removed in this version.

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

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

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

If you 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```

```
  →fPasswordHook (Password hook (external command)) - 1.3.6.1.4.1.38414.8.13.4```

```
  →fdSnapshotURI (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```

(continues on next page)
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) - 1.3.6.1.4.1.10098.1.1.1.12

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) - 1.3.6.1.4.1.10098.1.1.1.11.8

groadcastRDN (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) - 1.3.6.1.4.1.10098.1.1.1.2.9

gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath.) - 1.3.6.1.4.1.10098.1.1.1.1.5

ghIdeDev (Hardware definitions, value ideDev) - 1.3.6.1.4.1.10098.1.1.1.2.4

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

fdAccountRDN (FusionDirectory - Snaphost admin dn) - 1.3.6.1.4.1.38414.8.10.1
gotoAutoFs (Goto - Gonicus Terminal Concept, value autosfs.) - 1.3.6.1.4.1.10098.1.1.1.1.31

gotoSndModule (Goto - Gonicus Terminal Concept, value sound Modules.) - 1.3.6.1.4.1.10098.1.1.1.1.30

gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable.) - 1.3.6.1.4.1.10098.1.1.1.29

gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel.) - 1.3.6.1.4.1.10098.1.1.1.1.40

gosaLoginRestriction (Gosa - Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.1.1.12.46

gotoXColordepth (Goto - Gonicus Terminal Concept, value xColordepth.) - 1.3.6.1.4.1.10098.1.1.1.1.21

academicTitle (Field to represent the academic title) - 1.3.6.1.4.1.10098.1.1.1.6.2

fdSnapshotAdminDn (FusionDirectory - Snaphost admin dn) - 1.3.6.1.4.1.38414.8.17.4
gotoFilesystem (Goto - Gonicus Terminal Concept, value filesystem.) - 1.3.6.1.4.1.10098.1.1.1.1.6

ghInventoryNumber (Unique number for inclusion in an inventory) - 1.3.6.1.4.1.10098.1.1.1.1.21.10
gosaSubtreeACL (Gosa - ACL entry) - 1.3.6.1.4.1.10098.1.1.1.1.21.10.1

4.2. Unsupported version

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<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>fdIdGenerator</td>
<td>An automatic way to generate new user ids</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>ghUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>info shown in GOsa</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.38414.8.14.5</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(GOnicus Terminal Concept, value xDriver)</td>
<td>1.3.6.1.4.1.10098.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(GOnicus Terminal Concept, value xKbmodel)</td>
<td>1.3.6.1.4.1.10098.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(GOnicus Terminal Concept, value lpdServer)</td>
<td>1.3.6.1.4.1.10098.1.1.1.4</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(GOnicus Terminal Concept, value xHsync)</td>
<td>1.3.6.1.4.1.10098.1.1.1.18</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(GOnicus Terminal Concept, value C is for caching)</td>
<td>1.3.6.1.4.1.10098.1.1.11.7</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions, value cpuType)</td>
<td>1.3.6.1.4.1.10098.1.1.2.1</td>
</tr>
<tr>
<td>gotoShare</td>
<td>(GOnicus Terminal Concept, value xResolution)</td>
<td>1.3.6.1.4.1.10098.1.1.1.20</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(GOnicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>1.3.6.1.4.1.38414.8.17.5</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.2</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(GOnicus Terminal Concept, value for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.12.14</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.2</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(GOnicus Terminal Concept, value save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.15</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>1.3.6.1.4.1.38414.19.11.1</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.3</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>1.3.6.1.4.1.10098.1.1.2.5</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions, value Network Device)</td>
<td>1.3.6.1.4.1.10098.1.1.2.8</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(GOnicus Terminal Concept, value floppyEnable)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.7</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(GOnicus Terminal Concept, value xMouseButtons)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.23</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>(Hardware definitions, value Type of mouse)</td>
<td>1.3.6.1.4.1.10098.1.1.1.34</td>
</tr>
</tbody>
</table>
Deprecated objectClasses:

<table>
<thead>
<tr>
<th>ObjectClass</th>
<th>Description</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>CUPS server description</td>
<td>1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>Class for GOsa caching</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.3</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>Class for GOsa User Templates</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.11</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>Class for GOsa Accounts</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.6</td>
</tr>
<tr>
<td>gosaObject</td>
<td>Class for GOsa settings</td>
<td>1.3.6.1.4.1.10098.1.2.1.19.1</td>
</tr>
</tbody>
</table>

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.

**Warning:** 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 :)

**4.2.30 Migrate FusionDirectory from 1.0.15 to 1.0.16**

4.2. Unsupported version
Ubuntu 12.0.4 TLS users

Warning: 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

Upgrade of LDAP directory

Upgrade the core schemas

```bash
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

```bash
fusiondirectory-setup --delete-gosa-locks
Delete lock tokens using old gosaLockEntry class
Deleted lock 'cn=df0c0960f4202f794a331f57f3fbcccd,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

```bash
fusiondirectory-setup --list-deprecated List deprecated attributes and objectclasses
  Deprecated attributes:
    gotoModules (G0to - 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 (G0to - Gonicus Terminal Concept, value xVsync. ) - 1.3.6.1.4.1.10098.1.1.1.19```
```
(continues on next page)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>ghSoundAdapter</td>
<td>(Hardware definitions, value soundAdapter)</td>
<td>1.3.6.1.4.1.10098.1.1.2.7</td>
</tr>
<tr>
<td>gotoXMouseport</td>
<td>(Goto - Gonicus Terminal Concept, value xMouseport)</td>
<td>1.3.6.1.4.1.10098.1.1.1.22</td>
</tr>
<tr>
<td>gotoXMonitor</td>
<td>(Goto - Gonicus Terminal Concept, value xMonitor)</td>
<td>1.3.6.1.4.1.10098.1.1.1.17</td>
</tr>
<tr>
<td>gotoAdaptPath</td>
<td>(Goto - Gonicus Terminal Concept, value adaptpath)</td>
<td>1.3.6.1.4.1.10098.1.1.1.33</td>
</tr>
<tr>
<td>gotoScannerClients</td>
<td>(Goto - Gonicus Terminal Concept, value scannerClients)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11</td>
</tr>
<tr>
<td>gotoHardwareChecksum</td>
<td>(Goto - quick way to see if something has changed)</td>
<td>1.3.6.1.4.1.10098.1.1.2.12</td>
</tr>
<tr>
<td>gotoRootPasswd</td>
<td>(Goto - Gonicus Terminal Concept, value rootPasswd)</td>
<td>1.3.6.1.4.1.10098.1.1.1.14</td>
</tr>
<tr>
<td>gotoXKbLayout</td>
<td>(Goto - Gonicus Terminal Concept, value xKblayout)</td>
<td>1.3.6.1.4.1.10098.1.1.1.26</td>
</tr>
<tr>
<td>gotoProfileServer</td>
<td>(Goto - specifies the profile server)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.8</td>
</tr>
<tr>
<td>fdAccountRDN</td>
<td>(FusionDirectory - use a placeholder pattern for generating account RDNs)</td>
<td>1.3.6.1.4.1.38414.8.12.2</td>
</tr>
<tr>
<td>gotoScannerEnable</td>
<td>(Goto - Gonicus Terminal Concept, value scannerEnable)</td>
<td>1.3.6.1.4.1.10098.1.1.1.10.1</td>
</tr>
<tr>
<td>ghGfxAdapter</td>
<td>(Hardware definitions, value Grafikkarte)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.9</td>
</tr>
<tr>
<td>goto𝔽ontPath</td>
<td>(Goto - Gonicus Terminal Concept, value fontPath)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.5</td>
</tr>
<tr>
<td>ghIdeDev</td>
<td>(Hardware definitions, value ideDev)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.4</td>
</tr>
<tr>
<td>gotoLpdEnable</td>
<td>(Goto - Gonicus Terminal Concept, value lpdEnable)</td>
<td>1.3.6.1.4.1.10098.1.1.1.9</td>
</tr>
<tr>
<td>gotoXKbVariant</td>
<td>(Goto - Gonicus Terminal Concept, value xKbvariant)</td>
<td>1.3.6.1.4.1.10098.1.1.1.27.9</td>
</tr>
<tr>
<td>fdRfc2307bis</td>
<td>(FusionDirectory - rfc2307bis)</td>
<td>1.3.6.1.4.1.38414.8.10.1.1</td>
</tr>
<tr>
<td>gotoAutoFs</td>
<td>(Goto - Gonicus Terminal Concept, value autofs)</td>
<td>1.3.6.1.4.1.10098.1.1.1.31.8</td>
</tr>
<tr>
<td>gotoSndModule</td>
<td>(Goto - Gonicus Terminal Concept, value sound Modules)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.9.1</td>
</tr>
<tr>
<td>gotoCdromEnable</td>
<td>(Goto - Gonicus Terminal Concept, value cdromEnable)</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.29.1</td>
</tr>
<tr>
<td>gotoScannerModel</td>
<td>(Goto - Gonicus Terminal Concept, value scannerModel)</td>
<td>1.3.6.1.4.1.10098.1.1.1.8.1</td>
</tr>
<tr>
<td>gosaLoginRestriction</td>
<td>(Gosa - Multivalue attribute to carry a number of allowed ips/subnets)</td>
<td>1.3.6.1.4.1.10098.1.1.12.46.1</td>
</tr>
<tr>
<td>gotoXColordepth</td>
<td>(Goto - Gonicus Terminal Concept, value xColordepth)</td>
<td>1.3.6.1.4.1.10098.1.1.1.21.1</td>
</tr>
<tr>
<td>academicTitle</td>
<td>(Field to represent the academic title)</td>
<td>1.3.6.1.4.1.10098.1.1.1.6.2</td>
</tr>
<tr>
<td>fdSnapshotAdminDn</td>
<td>(FusionDirectory - Snaphost admin dn)</td>
<td>1.3.6.1.4.1.38414.8.17.4.1</td>
</tr>
<tr>
<td>gotoFileSystem</td>
<td>(Goto - Gonicus Terminal Concept, value filesystem)</td>
<td>1.3.6.1.4.1.10098.1.1.1.6.4</td>
</tr>
</tbody>
</table>

4.2. Unsupported version
→ 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.
→ 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) - 1.3.6.1.4.1.10098.1.1.12.1
→ 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
→ gotoProfileQuota (GOto - save quota for home) - 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) - 1.3.6.1.4.1.38414.19.11.1
→ gosaDefaultLanguage (GOsa - Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.11.12
→ ghMemSize (Hardware definitions, value memSize) - 1.3.6.1.4.1.10098.1.1.1.2.2
→ gotoProfileQuota (GOto - save quota for home) - 1.3.6.1.4.1.10098.1.1.11.11
→ 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

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gotoFloppyEnable (Goto - Gonicus Terminal Concept, value floppyEnable. →) - 1.3.6.1.4.1.10098.1.1.1.7``
gotoXMouseButtons (Goto - Gonicus Terminal Concept, value xMouseButtons. →) - 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.

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

### 4.2.31 Migrate FusionDirectory from 1.0.16 to 1.0.17

**Ubuntu 12.0.4 TLS users**

**Warning:** 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

### 4.2. Unsupported version
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 ldif 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:

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoModules</td>
<td>(GOto - Gonicus Terminal Concept, value kernel modules.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.32</td>
</tr>
<tr>
<td>fdPasswordHook</td>
<td>(FusionDirectory - value password hook (external command))</td>
<td>1.3.6.1.4.1.38414.8.13.4</td>
</tr>
<tr>
<td>fdSnapshotURI</td>
<td>(FusionDirectory - value snapshot URI)</td>
<td>1.3.6.1.4.1.38414.8.17.3</td>
</tr>
<tr>
<td>gotoXVsync</td>
<td>(GOto - Gonicus Terminal Concept, value xVsync. value xVsync.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.19</td>
</tr>
<tr>
<td>ghSoundAdapter</td>
<td>(Hardware definitions, value soundAdapter)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.7</td>
</tr>
<tr>
<td>gotoXMouseport</td>
<td>(GOto - Gonicus Terminal Concept, value xMouseport.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.22</td>
</tr>
<tr>
<td>gotoXMonitor</td>
<td>(GOto - Gonicus Terminal Concept, value xMonitor. value xMonitor.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.17</td>
</tr>
</tbody>
</table>
```

(continues on next page)
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) - 1.3.6.1.4.1.10098.1.1.1.2.12``
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) - 1.3.6.1.4.1.10098.1.1.1.18``
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) - 1.3.6.1.4.1.10098.1.1.1.2.9``
gotoFontPath (Goto - Gonicus Terminal Concept, value fontPath. →) - 1.3.6.1.4.1.10098.1.1.1.1.5``
ghIdeDev (Hardware definitions, → value ideDev) - 1.3.6.1.4.1.10098.1.1.1.2.4``
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. →) - 1.3.6.1.4.1.10098.1.1.1.31.9``
gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable. →) - 1.3.6.1.4.1.10098.1.1.1.18``
gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel. →) - 1.3.6.1.4.1.10098.1.1.1.40``
gosaLoginRestriction (GOs - → 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) - 1.3.6.1.4.1.10098.1.1.1.6.2``
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 (GOs - → ACL entry) - 1.3.6.1.4.1.10098.1.1.1.12.
<table>
<thead>
<tr>
<th>Identifier</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>fdIdGenerator</td>
<td>An automatic way to generate new user ids</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>ghUsbSupport</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>info shown in GOSa</td>
<td></td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste</td>
<td>1.3.6.1.4.1.38414.8.14.5</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(GOnicus Terminal Concept, value xDriver.</td>
<td>1.3.6.1.4.1.10098.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(GOnicus Terminal Concept, value xKbmodel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.38414.8.12.5</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(GOnicus Terminal Concept, value lpdServer.</td>
<td>1.3.6.1.4.1.10098.1.1.1.4</td>
</tr>
<tr>
<td>gotoXHsync</td>
<td>(GOnicus Terminal Concept, value xHsync.</td>
<td>1.3.6.1.4.1.10098.1.1.1.18</td>
</tr>
<tr>
<td>gotoProfileFlags</td>
<td>(GOnicus Terminal Concept, value C is for caching)</td>
<td>1.3.6.1.4.1.10098.1.1.1.7</td>
</tr>
<tr>
<td>ghCpuType</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.2.1</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(GOnicus Terminal Concept, save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.11.9</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(GOnicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.38414.8.17.5</td>
</tr>
<tr>
<td>gotoVoicemailContexts</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.38414.19.11.2</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(GOnicus Terminal Concept, defines the default language for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.14</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.2</td>
</tr>
<tr>
<td>gotoSipContexts</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.10098.1.1.1.11.15</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.38414.19.11.1</td>
</tr>
<tr>
<td>gotoPhoneConferenceRDN</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.38414.19.10.3</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.5</td>
</tr>
<tr>
<td>gotoPhoneMacroRDN</td>
<td>(FusionDirectory -</td>
<td>1.3.6.1.4.1.38414.19.10.2</td>
</tr>
<tr>
<td>ghNetNic</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.8</td>
</tr>
<tr>
<td>gotoFloppyEnable</td>
<td>(GOnicus Terminal Concept, value floppyEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.17</td>
</tr>
<tr>
<td>gotoXMouseButtons</td>
<td>(GOnicus Terminal Concept, value xMouseButtons.</td>
<td>1.3.6.1.4.1.10098.1.1.1.23</td>
</tr>
<tr>
<td>gotoXMouseType</td>
<td>(Hardware definitions,</td>
<td>1.3.6.1.4.1.10098.1.1.1.34</td>
</tr>
<tr>
<td></td>
<td>(value of mouse)</td>
<td>1.3.6.1.4.1.10098.1.1.1.34</td>
</tr>
</tbody>
</table>
Deprecated objectClasses:

<table>
<thead>
<tr>
<th>Class</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>goCupsServer</td>
<td>1.3.6.1.4.1.10098.1.2.1.23</td>
</tr>
<tr>
<td>gosaCacheEntry</td>
<td>(GOsa Class for GOsa caching)</td>
</tr>
<tr>
<td></td>
<td>1.3.6.1.4.1.10098.1.2.1.19.3</td>
</tr>
<tr>
<td>gosaUserTemplate</td>
<td>(GOsa Class for GOsa User Templates)</td>
</tr>
<tr>
<td></td>
<td>1.3.6.1.4.1.10098.1.2.1.19.11</td>
</tr>
<tr>
<td>gosaAccount</td>
<td>(GOsa Class for GOsa Accounts)</td>
</tr>
<tr>
<td></td>
<td>1.3.6.1.4.1.10098.1.2.1.19.6</td>
</tr>
<tr>
<td>gosaObject</td>
<td>(GOsa Class for GOsa settings)</td>
</tr>
<tr>
<td></td>
<td>1.3.6.1.4.1.10098.1.2.1.19.1</td>
</tr>
</tbody>
</table>

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 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.

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

**Migrate your DHCP entries**

if you where 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 you index still match with valid attributes present in your ldap directory

Enjoy :)

**4.2.32 Migrate FusionDirectory from 1.0.17 to 1.0.18**
Ubuntu 12.04 TLS users

Warning: 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:

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

Upgrade of LDAP directory

Upgrade the core schemas

```bash
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

```bash
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

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

  gotoModules (G0to - 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```
```
(continues on next page)
### 4.2. Unsupported version

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>ghSoundAdapter</td>
<td>(Hardware definitions, value soundAdapter)</td>
<td>1.3.6.1.4.1.10098.1.1.2.7</td>
</tr>
<tr>
<td>gotoXMouseport</td>
<td>(Goto - Gonicus Terminal Concept, value xMouseport.</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.7</td>
</tr>
<tr>
<td>gotoXMonitor</td>
<td>(Goto - Gonicus Terminal Concept, value xMonitor.</td>
<td>1.3.6.1.4.1.10098.1.1.1.17</td>
</tr>
<tr>
<td>gotoAdaptPath</td>
<td>(Goto - Gonicus Terminal Concept, value adaptpath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.33</td>
</tr>
<tr>
<td>gotoScannerClients</td>
<td>(Goto - Gonicus Terminal Concept, value scannerClients.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11</td>
</tr>
<tr>
<td>gotoHardwareChecksum</td>
<td>(Goto - quick way to see if something has changed)</td>
<td>1.3.6.1.4.1.10098.1.1.2.12</td>
</tr>
<tr>
<td>gotoRootPasswd</td>
<td>(Goto - Gonicus Terminal Concept, value rootPasswd.</td>
<td>1.3.6.1.4.1.10098.1.1.1.14</td>
</tr>
<tr>
<td>gotoXKbLayout</td>
<td>(Goto - Gonicus Terminal Concept, value xKblayout.</td>
<td>1.3.6.1.4.1.10098.1.1.1.26</td>
</tr>
<tr>
<td>gotoProfileServer</td>
<td>(Goto - specifies the profile server)</td>
<td>1.3.6.1.4.1.10098.1.1.1.11</td>
</tr>
<tr>
<td>fdAccountRDN</td>
<td>(FusionDirectory - use a placeholder pattern for generating account RDNs)</td>
<td>1.3.6.1.4.1.38414.8.12</td>
</tr>
<tr>
<td>gotoScannerEnable</td>
<td>(Goto - Gonicus Terminal Concept, value scannerEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.10</td>
</tr>
<tr>
<td>ghGfxAdapter</td>
<td>(Hardware definitions, value Grafikkarte)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.9</td>
</tr>
<tr>
<td>gotoFontPath</td>
<td>(Goto - Gonicus Terminal Concept, value fontPath.</td>
<td>1.3.6.1.4.1.10098.1.1.1.1.5</td>
</tr>
<tr>
<td>ghIdeDev</td>
<td>(Hardware definitions, value ideDev)</td>
<td>1.3.6.1.4.1.10098.1.1.1.2.4</td>
</tr>
<tr>
<td>gotoLpdEnable</td>
<td>(Goto - Gonicus Terminal Concept, value lpdEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.9</td>
</tr>
<tr>
<td>gotoXKbVariant</td>
<td>(Goto - Gonicus Terminal Concept, value xKbvariant.</td>
<td>1.3.6.1.4.1.10098.1.1.1.27</td>
</tr>
<tr>
<td>fdRfc2307bis</td>
<td>(FusionDirectory - rfc2307bis)</td>
<td>1.3.6.1.4.1.38414.8.10.1</td>
</tr>
<tr>
<td>gotoAutoFs</td>
<td>(Goto - Gonicus Terminal Concept, value autoFs.</td>
<td>1.3.6.1.4.1.10098.1.1.1.31</td>
</tr>
<tr>
<td>gotoSndModule</td>
<td>(Goto - Gonicus Terminal Concept, value sound Modules.</td>
<td>1.3.6.1.4.1.10098.1.1.1.29</td>
</tr>
<tr>
<td>gotoCdromEnable</td>
<td>(Goto - Gonicus Terminal Concept, value cdromEnable.</td>
<td>1.3.6.1.4.1.10098.1.1.1.8</td>
</tr>
<tr>
<td>gotoScannerModel</td>
<td>(Goto - Gonicus Terminal Concept, value scannerModel.</td>
<td>1.3.6.1.4.1.10098.1.1.1.40</td>
</tr>
<tr>
<td>gosaLoginRestriction</td>
<td>(Goa - Multivalue attribute to carry a number of allowed ips/subnets)</td>
<td>1.3.6.1.4.1.10098.1.1.12.46</td>
</tr>
<tr>
<td>gotoXColordepth</td>
<td>(Goto - Gonicus Terminal Concept, value xColordepth.</td>
<td>1.3.6.1.4.1.10098.1.1.1.21</td>
</tr>
<tr>
<td>academicTitle</td>
<td>(Field to represent the academic title)</td>
<td>1.3.6.1.4.1.10098.1.1.6.2</td>
</tr>
<tr>
<td>fdSnapshotAdminDn</td>
<td>(FusionDirectory - Snapshost admin dn)</td>
<td>1.3.6.1.4.1.38414.8.17.4</td>
</tr>
<tr>
<td>gotoFilesystem</td>
<td>(Goto - Gonicus Terminal Concept, value filesystem.</td>
<td>1.3.6.1.4.1.10098.1.1.1.6</td>
</tr>
</tbody>
</table>
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

fdIdGenerator (FusionDirectory - An automatic way to generate new user ids) - 1.3.6.1.4.1.38414.8.12.4

gbUsbSupport (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) - 1.3.6.1.4.1.10098.1.1.1.18

gotoXHsync (Goto - Gonicus Terminal Concept, value xHsync) - 1.3.6.1.4.1.10098.1.1.1.1.20

fdSnapshotAdminPassword (FusionDirectory - Snaphost admin password) - 1.3.6.1.4.1.10098.1.1.1.39

fdPhoneConferenceRDN (FusionDirectory - Phone conference RDN) - 1.3.6.1.4.1.38414.8.17.5

gbScsiDev (Hardware definitions, value scsiDev) - 1.3.6.1.4.1.10098.1.1.1.1.39

gotoProfileFlags (Goto - Flags for Profile handling - C is for caching) - 1.3.6.1.4.1.10098.1.1.11.7

gbCpuType (Hardware definitions, value cpuType) - 1.3.6.1.4.1.10098.1.1.1.2.1

gotoProfileQuota (Goto - save quota for home) - 1.3.6.1.4.1.10098.1.1.11.9

fdVoicemailContexts (FusionDirectory - available voicemail contexts) - 1.3.6.1.4.1.10098.1.1.1.11.12

gosaDefaultLanguage (Gosa - Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.1.1.12

ghMemSize (Hardware definitions, value memSize) - 1.3.6.1.4.1.10098.1.1.1.2.2

gotoProfileQuota (Goto - save quota for home) - 1.3.6.1.4.1.10098.1.1.1.11

fdVoicemailContexts (FusionDirectory - available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2

gbScsiDev (Hardware definitions, value scsiDev) - 1.3.6.1.4.1.10098.1.1.1.1.39

gbSipContexts (FusionDirectory - available sip contexts) - 1.3.6.1.4.1.38414.8.17.5

gbUsbSupport (Hardware definitions, value usbSupport) - 1.3.6.1.4.1.10098.1.1.2.3

gbSipContexts (FusionDirectory - available sip contexts) - 1.3.6.1.4.1.38414.19.11.1

gbSipContexts (FusionDirectory - Phone conference RDN) - 1.3.6.1.4.1.38414.19.10.3

gbScsiDev (Hardware definitions, value scsiDev) - 1.3.6.1.4.1.10098.1.1.1.2.5

gbSipContexts (FusionDirectory - Phone macro RDN) - 1.3.6.1.4.1.38414.19.10.2

gbNetNic (Hardware definitions, value Network Device) - 1.3.6.1.4.1.10098.1.1.1.2.8
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gotoFloppyEnable (Goto - Gonicus Terminal Concept, value floppyEnable.)
- 1.3.6.1.4.1.10098.1.1.1.7`
gotoXMouseButtons (Goto - Gonicus Terminal Concept, value xMouseButtons.)
- 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.

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

**Correcting acl editownpwd**

**Warning:** 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

4.2. Unsupported version

99
Checking your indexed attributes

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

Enjoy :)”

4.2.33 Migrate FusionDirectory from 1.0.18 to 1.0.19

Ubuntu 12.0.4 TLS users

**Warning:** 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

**Warning:** 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 :)
4.2.34 Migrate FusionDirectory from 1.0.19 to 1.0.20

Ubuntu 12.0.4 TLS users

**Warning:** 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 (G0to - 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`
```

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gon

ght


gotoXVsync (Goto - Gonicus Terminal Concept, value xVsync. →) - 1.3.6.1.4.1.10098.1.1.1.19``

gbSoundAdapter (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) - 1.3.6.1.4.1.10098.1.1.1.12``

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) - 1.3.6.1.4.1.10098.1.1.1.11``

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. →) - 1.3.6.1.4.1.10098.1.1.1.12.5``

gotoCdromEnable (Goto - Gonicus Terminal Concept, value cdromEnable. →) - 1.3.6.1.4.1.10098.1.1.1.5``

gotoScannerModel (Goto - Gonicus Terminal Concept, value scannerModel. →) - 1.3.6.1.4.1.10098.1.1.1.1.1.40``

gosaLoginRestriction (Gosa - → Multivalue attribute to carry a number of allowed ips/subnets) - 1.3.6.1.4.1.10098.1.1.1.1.2.46``

gotoXColordepth (Goto - Gonicus Terminal Concept, value xColordepth. →) - 1.3.6.1.4.1.10098.1.1.1.1.21``

→ academicTitle (Field to represent the academic title) - 1.3.6.1.4.1.10098.1.1.6.2``
fdsnapshotAdminDn (FusionDirectory - → Snapshost admin dn) - 1.3.6.1.4.1.10098.1.1.1.17.4``

(continues on next page)
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>OID</th>
</tr>
</thead>
<tbody>
<tr>
<td>gotoFilesystem</td>
<td>(Goto - Gonicus Terminal Concept, value filesystem.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.6</td>
</tr>
<tr>
<td>ghInventoryNumber</td>
<td>(Unique number for inclusion in an inventory)</td>
<td>1.3.6.1.4.1.10098.1.1.2.10</td>
</tr>
<tr>
<td>gosaSubtreeACL</td>
<td>(GOsa - ACL entry)</td>
<td>1.3.6.1.4.1.10098.1.1.1.12.1</td>
</tr>
<tr>
<td>fdIdGenerator</td>
<td>(FusionDirectory - An automatic way to generate new user ids)</td>
<td>1.3.6.1.4.1.38414.8.12.4</td>
</tr>
<tr>
<td>ghUsbSupport</td>
<td>(Hardware definitions, value usbSupport)</td>
<td>1.3.6.1.4.1.10098.1.1.2.3</td>
</tr>
<tr>
<td>gotoSysStatus</td>
<td>(Keeps current system status - info shown in GOsa)</td>
<td>1.3.6.1.4.1.10098.1.1.2.11</td>
</tr>
<tr>
<td>fdCopyPaste</td>
<td>(FusionDirectory - (de)Activate copy/paste)</td>
<td>1.3.6.1.4.1.10098.1.1.2.12</td>
</tr>
<tr>
<td>gotoXDriver</td>
<td>(GOto - Gonicus Terminal Concept, value xDriver.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.28</td>
</tr>
<tr>
<td>gotoXKbModel</td>
<td>(GOto - Gonicus Terminal Concept, value xKbmodel.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.25</td>
</tr>
<tr>
<td>fdPersonalTitleInDN</td>
<td>(FusionDirectory - Personal title in dn)</td>
<td>1.3.6.1.4.1.10098.1.1.2.15</td>
</tr>
<tr>
<td>gotoLpdServer</td>
<td>(GOto - specifies a share)</td>
<td>1.3.6.1.4.1.10098.1.1.11.9</td>
</tr>
<tr>
<td>gotoScannerBackend</td>
<td>(GOto - Gonicus Terminal Concept, value scannerBackend.)</td>
<td>1.3.6.1.4.1.10098.1.1.1.39</td>
</tr>
<tr>
<td>fdSnapshotAdminPassword</td>
<td>(FusionDirectory - Snaphost admin password)</td>
<td>1.3.6.1.4.1.10098.1.1.11.17</td>
</tr>
<tr>
<td>fdVoicemailContexts</td>
<td>(FusionDirectory - available voicemail contexts)</td>
<td>1.3.6.1.4.1.10098.1.1.11.12</td>
</tr>
<tr>
<td>gosaDefaultLanguage</td>
<td>(GOsa - Defines the default language for a user)</td>
<td>1.3.6.1.4.1.10098.1.1.11.14</td>
</tr>
<tr>
<td>ghMemSize</td>
<td>(Hardware definitions, value memSize)</td>
<td>1.3.6.1.4.1.10098.1.1.12.2</td>
</tr>
<tr>
<td>gotoProfileQuota</td>
<td>(Goto - save quota for home)</td>
<td>1.3.6.1.4.1.10098.1.1.11.15</td>
</tr>
<tr>
<td>fdSipContexts</td>
<td>(FusionDirectory - available sip contexts)</td>
<td>1.3.6.1.4.1.10098.1.1.12.15</td>
</tr>
<tr>
<td>fdPhoneConferenceRDN</td>
<td>(FusionDirectory - Phone conference RDN)</td>
<td>1.3.6.1.4.1.10098.1.1.12.16</td>
</tr>
<tr>
<td>ghScsiDev</td>
<td>(Hardware definitions, value scsiDev)</td>
<td>1.3.6.1.4.1.10098.1.1.12.17</td>
</tr>
<tr>
<td>fdPhoneMacroRDN</td>
<td>(FusionDirectory - Phone macro RDN)</td>
<td>1.3.6.1.4.1.10098.1.1.12.18</td>
</tr>
</tbody>
</table>

4.2. Unsupported version
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 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.

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

**Correcting acl editownpwd**

**Warning:** 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 :)

4.2.35 Migrate FusionDirectory from 1.0.20 to 1.1

Ubuntu 12.0.4 TLS users

**Warning:** 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

**Warning:** 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
```

4.2. Unsupported version
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`
fPasswordHook (FusionDirectory) -
  -> Password hook (external command) - 1.3.6.1.4.1.38414.8.13.4`
fSnapshotURI (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`
gbSoundAdapter (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) - 1.3.6.1.4.1.10098.1.1.1.12`
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) - 1.3.6.1.4.1.10098.1.1.1.8`
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`
```

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4.2. Unsupported version

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gotoFontPath (GOto - Gonicus Terminal Concept, value fontPath.
  →) - 1.3.6.1.4.1.10098.1.1.1.1.5`
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.
  →) - 1.3.6.1.4.1.10098.1.1.1.31`
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 (continues on next page)
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\begin{verbatim}
gotoXResolution (Goto - Gonicus Terminal Concept, value xResolution. →) - 1.3.6.1.4.1.10098.1.1.1.20``
gotoShare (Goto - → specifies a share) - 1.3.6.1.4.1.10098.1.1.1.29``
gotoScannerBackend (Goto - Gonicus Terminal Concept, → value scannerBackend.) - 1.3.6.1.4.1.10098.1.1.1.39``
fdSnapshotAdminPassword (FusionDirectory - → Snaphost admin password) - 1.3.6.1.4.1.38414.8.17.15``
fdVoicemailContexts (FusionDirectory - → available voicemail contexts) - 1.3.6.1.4.1.38414.19.11.2``
gosaDefaultLanguage (GOs - → Defines the default language for a user) - 1.3.6.1.4.1.10098.1.1.12.14``
ghMemSize (Hardware definitions, → value memSize) - 1.3.6.1.4.1.10098.1.1.1.2.2``
gotoProfileQuota (Goto - → save quota for home) - 1.3.6.1.4.1.10098.1.1.1.13``
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) - 1.3.6.1.4.1.10098.1.1.1.2.5``
fdPhoneMacroRDN (FusionDirectory - → Phone macro RDN) - 1.3.6.1.4.1.38414.19.10.2``
ghNetNic (Hardware definitions, → value Network Device) - 1.3.6.1.4.1.10098.1.1.1.2.8``
gotoFloppyEnable (Goto - Gonicus Terminal Concept, value floppyEnable. →) - 1.3.6.1.4.1.10098.1.1.1.23``
gotoXMouseButtons (Goto - Gonicus Terminal Concept, value xMouseButtons. →) - 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:

\begin{verbatim}
goCupsServer (CUPS server description) - 1.3.6.1.4.1.10098.1.2.1.23``
goCachesEntry (GOsa - → Class for GOsa caching) - 1.3.6.1.4.1.10098.1.2.1.1.1.19.3``
goUserTemplate (GOsa - → Class for GOsa User Templates) - 1.3.6.1.4.1.10098.1.2.1.1.1.19.11``
goAccount (GOsa - → Class for GOsa Accounts) - 1.3.6.1.4.1.10098.1.2.1.1.1.19.6``
goObject (GOsa - → Class for GOsa settings) - 1.3.6.1.4.1.10098.1.2.1.1.19.1``
\end{verbatim}

The \texttt{check-deprecated} option will output a list of dn using old attributes and objectClasses of they are present in your ldap server.

\section{Unsupported version}

4.2. Unsupported version

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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.

**Warning:** 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 :)

### 4.2.36 Migrate FusionDirectory from 1.1 to 1.1.1

**New Depot Configuration**

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

*Debian Repository.*

*RPM Repository.*

**Upgrade schema2ldif**

For Jessie distribution add extra repository

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

Update the package list and upgrade schema2ldif

```bash
apt-get update
apt-get install schema2ldif
```
Upgrade FusionDirectory first

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

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

Enjoy :)

### 4.2.37 Migrate FusionDirectory from 1.1.1 to 1.2

**New Depot Configuration**

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

*Debian Repository.*

*RPM Repository.*

**Warning:** 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

```bash
#fusiondirectory debian-extra repository

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

Update the package list and upgrade schema2ldif

```bash
apt-get update

apt-get install schema2ldif
```

**Upgrade FusionDirectory first**

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

```bash
apt-get install fusiondirectory
```

Upgrade FusionDirectory schema package too.

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

### 4.2. Unsupported version
Upgrade of LDAP directory

Upgrade core schema of FusionDirectory

```bash
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

```bash
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

```bash
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 :)
Core FusionDirectory Core

5.1 Main menu

Once logged in into FusionDirectory, you get to the main menu. Here is what it looks like with core view:
5.1.1 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

<table>
<thead>
<tr>
<th>Departments</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Departments Section" /></td>
<td><img src="image" alt="Filter Section" /></td>
</tr>
</tbody>
</table>

- **Users**: manage user accounts and their properties

Here is an overview of Users section details

<table>
<thead>
<tr>
<th>Users</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Users Section" /></td>
<td><img src="image" alt="Filter Section" /></td>
</tr>
</tbody>
</table>

- **Groups and roles**: allows you to manage objects groups, POSIX groups and roles

Here is an overview of Groups and roles section details

<table>
<thead>
<tr>
<th>Groups and roles</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Groups and roles Section" /></td>
<td><img src="image" alt="Filter Section" /></td>
</tr>
</tbody>
</table>
- **ACL roles**: manage ACL roles

Here is an overview of ACL roles section details

- **ACL assignments**: manage ACL roles assignments to users

Here is an overview of ACL assignments section details

### 5.1.2 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

### 5.1.3 Reporting

This section contains the dashboard and any reporting plugin you may install.
5.1.4 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.

My account

Here is an overview of user section details

5.2 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

<table>
<thead>
<tr>
<th>Departments</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Departments" /></td>
<td><img src="image" alt="Filter" /></td>
</tr>
<tr>
<td><img src="image" alt="Create Department: Think of this as the LDAP equivalent of a folder, it’s the basic container for organizing objects in your LDAP." /></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Create Country: You may use this if your activity is spread over several countries and you want to reflect that in your tree." /></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Domain Component: You may use that to reflect your DNS in your tree" /></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="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)" /></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Locality: You may use this if your activity is spread over several locations and you want to reflect that in your tree." /></td>
<td></td>
</tr>
</tbody>
</table>

118 Chapter 5. Core
• **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

### 5.3 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
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.

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.

5.3.1 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.
5.3.2 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

**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

Copy

Copy users

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

5.3.3 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 you the text box to do a text search.
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

Checking the “Search in subtrees” checkbox allows to search in the whole subtree under the current base.

5.3.4 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
You can click on column headers to sort the list

<table>
<thead>
<tr>
<th>Surname</th>
<th>Given name</th>
<th>Login</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>test42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paul</td>
<td>dufour</td>
<td>admin</td>
<td></td>
</tr>
<tr>
<td>carole</td>
<td>durieux</td>
<td>manager</td>
<td></td>
</tr>
<tr>
<td>Administrator</td>
<td>System</td>
<td>fd-admin</td>
<td></td>
</tr>
</tbody>
</table>

and you can quickly access actions on an object using the icons in the last column

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)

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”
5.4 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

Click on one group entry in order to access this group’s information overview
On the previous page, the following actions are available:

**Create Template Group**: Create a group template

```
<table>
<thead>
<tr>
<th>Actions ▼</th>
<th>Show user groups</th>
<th>Show organizational roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create ▶</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

**Create Template Role**: Create a role template

**Create POSIX Group**: Create a POSIX group template

```
<table>
<thead>
<tr>
<th>Actions ▼</th>
<th>Show user groups</th>
<th>Show organizational roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create ▶</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

**Create From Template Role**: Create a role using a template

**Create From Template POSIX Group**: Create a POSIX group using a template

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

<table>
<thead>
<tr>
<th>Actions ▼</th>
<th>Show user groups</th>
<th>Show organizational roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create ▶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export list ▶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Edit**: Edit an existing group

**Remove**: Delete an existing group

5.4. Groups
5.5 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 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.

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

5.6 ACL Assignments

Click on ACL assignments icon on FusionDirectory main page

This page allows to assign ACL roles to user and manage existing assignments.
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

The following actions are available:

Create ACL assignment: Create a new ACL assignment

Edit: Edit an existing ACL assignment

Remove: Delete an existing ACL assignment

Export list
- PDF: Export the current object list as a PDF document
• CSV: Export the current object list as a CSV file

<table>
<thead>
<tr>
<th>Export list ✨</th>
<th>CSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy</td>
<td>PDF</td>
</tr>
</tbody>
</table>

**Restore snapshots**: Restore snapshots of ACL assignments

5.7 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.

5.7.1 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

### 5.7.2 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

6.1 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

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Automatic</td>
</tr>
<tr>
<td>Theme</td>
<td>breezy</td>
</tr>
<tr>
<td>Timezone</td>
<td>Europe/Brussels</td>
</tr>
</tbody>
</table>

### Core settings

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP size limit</td>
<td>200</td>
</tr>
<tr>
<td>Edit locking</td>
<td>entryCSN</td>
</tr>
<tr>
<td>Enable logging</td>
<td></td>
</tr>
<tr>
<td>Schema validation</td>
<td></td>
</tr>
<tr>
<td>Enable snapshots</td>
<td></td>
</tr>
<tr>
<td>Snapshot base</td>
<td>ou=snapshots,dc=demo-fiuc</td>
</tr>
<tr>
<td>Wildcard foreign keys</td>
<td></td>
</tr>
</tbody>
</table>

### Login and session

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login attribute</td>
<td>uid</td>
</tr>
<tr>
<td>Enforce encrypted</td>
<td></td>
</tr>
<tr>
<td>If session is not encrypted</td>
<td></td>
</tr>
<tr>
<td>Session lifetime</td>
<td>1800</td>
</tr>
<tr>
<td>HTTP Basic authentication</td>
<td></td>
</tr>
<tr>
<td>HTTP Header authentication</td>
<td></td>
</tr>
<tr>
<td>Header name</td>
<td>AUTH_USER</td>
</tr>
</tbody>
</table>

### SSL

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key path</td>
<td>/etc/ssl/private/fd.key</td>
</tr>
<tr>
<td>Certificate path</td>
<td>/etc/ssl/certs/fd.cert</td>
</tr>
<tr>
<td>CA certificate path</td>
<td>/etc/ssl/certs/ca.cert</td>
</tr>
</tbody>
</table>

### People and group storage

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>People DN attribute</td>
<td>uid</td>
</tr>
<tr>
<td>CN pattern</td>
<td>givenName=%h</td>
</tr>
<tr>
<td>Strict naming policy</td>
<td></td>
</tr>
<tr>
<td>Users RDN</td>
<td>ou=people</td>
</tr>
<tr>
<td>ACL role RDN</td>
<td>ou=acroles</td>
</tr>
<tr>
<td>Restrict role members</td>
<td></td>
</tr>
<tr>
<td>Separate address fields</td>
<td></td>
</tr>
<tr>
<td>Postal address pattern</td>
<td></td>
</tr>
</tbody>
</table>

### Miscellaneous

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display summary in listings</td>
<td></td>
</tr>
<tr>
<td>Show ACL tab on all objects</td>
<td></td>
</tr>
</tbody>
</table>

### Debugging

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display errors</td>
<td></td>
</tr>
<tr>
<td>Maximum LDAP query time</td>
<td></td>
</tr>
<tr>
<td>Log LDAP statistics</td>
<td></td>
</tr>
</tbody>
</table>

### Debug level

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td></td>
</tr>
</tbody>
</table>

---

**Chapter 6. Configuration**
You need to click on “Edit” first to access edition and then “Ok” once you’ve finished.

### 6.1.1 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.

### 6.1.2 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.

### 6.1.3 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
– sssha
– sha

These 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 userPassword attribute. Set it to uid in order to get the {sasl}uid of the user.

### 6.1.4 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

### 6.1.5 SSL

- **Key path**: Path of the private key for FusionDirectory on the server.
- **Certificate path**: Path of the certificate for FusionDirectory on the server.
- **CA certificate path**: Path of the CA on the server.

### 6.1.6 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

### 6.1.7 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.

### 6.1.8 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 certains 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.

### 6.1.9 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.
6.1.10 Hooks

- **Hooks**: Defines hooks that are called when specific actions happen. 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.

6.2 Configure Password recovery

FusionDirectory has a password recovery function.

- 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”.

This option allows your users to generate a new password.

If you click on “I forgot my password” now, the following window appears:

![Sign in](image)

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

To activate password recovery you must check the box next to “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 theirs alternate addresses to recover their password

Fill-in First email settings
### First email

<table>
<thead>
<tr>
<th>Subject*</th>
<th>[FusionDirectory] Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body (first %s is login, second is link)*</td>
<td>Hello, Here are your</td>
</tr>
</tbody>
</table>

- **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

<table>
<thead>
<tr>
<th>Subject*</th>
<th>[FusionDirectory] Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body (%s is login)*</td>
<td>Hello, Your password has been</td>
</tr>
</tbody>
</table>

- **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 window 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

[Enter e-mail address]

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=KSDnZ31AYR7psZETCtHNGyNkzMKfZK0XP9xpTAF5nprwMnwF3ZH286L9&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

7.1 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.
7.2 Functionalities

7.2.1 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

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>test42 [test42]</td>
<td>Donner tous les droits sur tous les objets</td>
</tr>
<tr>
<td></td>
<td>admin</td>
<td>Donner tous les droits sur tous les objets</td>
</tr>
<tr>
<td></td>
<td>editowninfos</td>
<td>Permet aux utilisateurs d'éditer leur propres informations (onglet principal et posix, à n'utiliser que sur la base)</td>
</tr>
<tr>
<td></td>
<td>manager</td>
<td>Donner tous les droits sur les utilisateurs de cette branche</td>
</tr>
</tbody>
</table>

Click on a role, in this example manager; you will be on Role tab

Properties settings
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.

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”.

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.
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.

<table>
<thead>
<tr>
<th>Object: User</th>
<th>Show/hide advanced settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create objects</td>
<td>Last name of this user (sn)</td>
</tr>
<tr>
<td>Move objects</td>
<td>Read</td>
</tr>
<tr>
<td>Remove objects</td>
<td>Read</td>
</tr>
<tr>
<td>Grant permission to owner</td>
<td>Read</td>
</tr>
<tr>
<td>Complete object</td>
<td>Read</td>
</tr>
</tbody>
</table>

| hidden (cn) | State (st) | Business phone number (telephoneNumber) | Business fax number (facsimileTelephoneNumber) | Business mobile number (mobile) | Business postal address (postalAddress) | Business pager number (pager) | Business address (streetAddress) |
| Read | Write | Read | Write | Read | Write | Read | Write |

**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

7.2.2 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

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Description</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[ACL Assignment]</td>
<td>fusiondirectory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>templates</td>
<td>[ACL Assignment]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>test42</td>
<td>[ACL Assignment]</td>
<td></td>
</tr>
</tbody>
</table>

Click on an ACL Assignment, in this example test42 and you will see three columns

• **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

7.3 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

Fill name and description as you see fit.

**Properties**

<table>
<thead>
<tr>
<th>Base</th>
<th>/test42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>student</td>
</tr>
<tr>
<td>Description</td>
<td>Student can change his phone number</td>
</tr>
</tbody>
</table>

Click **Add** button bottom left ACLs

You will see a screen listing the ACL categories:
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.
Check the box against 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

Now, on the List of available ACL categories you can see that User category changed to ACL for these objects: user

User

ACL for these objects: user

Click on Apply button

Now you can see that ACL's settings are filled-in
7.4 Use ACLs

7.4.1 ACLs Assignment

Click on ACL assignments on FusionDirectory main page

ACL Assignment tab you can see all the assignments

Click on Add button bottom left

Select ACL Assignment properties as follows:

- **Mode**: subtree
- **Role**: student
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)

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Login</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>leheros toto</td>
<td>toto</td>
<td></td>
</tr>
</tbody>
</table>

Click on Add button bottom right

In ACL Assignment tab you can now see toto in Members field

Click on Add button bottom right
You can see that ACL Assignment tab is now correctly filled

![ACL Assignment Table]

Click on Ok button bottom right to save

![Ok Button]

### 7.4.2 Result

- **User view**

Now let’s see how the ACL has been applied to our User

Login as toto
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)
7.5 Use ACLs with department

7.5.1 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
Go to ACL Assignment tab.

Click on Add button bottom left

Add

Fill-in ACL Assignment tab settings

- **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

7.5.2 Result

Now in order to see that Manager Richard Hollandais can manage student Paola Italienne, let’s sign in FusionDirectory as rhollandais

As manager role, he can see Users icon on his interface
Click on Users icon and you will see the users Richard can manage

<table>
<thead>
<tr>
<th>□</th>
<th>Surname</th>
<th>Given name</th>
<th>Login</th>
<th>Properties</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>History [History students]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>Hollandais</td>
<td>Richard</td>
<td>rhollandais</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>Italiene</td>
<td>Paola</td>
<td>pitalienne</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FusionDirectory Plugins

8.1 Alias

FusionDirectory Plugins Alias

8.1.1 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

8.1.2 Installation

Install packages

Archlinux

```
yaur -S fusiondirectory-plugin-alias
yaur -S fusiondirectory-plugin-alias-schema
```

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

Archlinux

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

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
```

8.1.3 Configuration

No configuration needed for this plugin.

8.1.4 Functionalities

- **Alias create temporary mail**
  
  For example, we need that all mails send to:
  
  - **myboss.sharedbox@acme.com** (mail attribute)
  
  - **myboss@acme.com** (gosaMailAlternateAddress)
  
  are delivered to:
  
  - **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**

<table>
<thead>
<tr>
<th>Base</th>
<th>/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>myboss</td>
</tr>
<tr>
<td>Description</td>
<td>mail distribution for myboss</td>
</tr>
<tr>
<td>Email address</td>
<td><a href="mailto:bigboss@acme.com">bigboss@acme.com</a></td>
</tr>
<tr>
<td>Email aliases</td>
<td><a href="mailto:myboss@acme.com">myboss@acme.com</a>, <a href="mailto:myboss.sharedbox@acme.com">myboss.sharedbox@acme.com</a></td>
</tr>
<tr>
<td>Mail server</td>
<td></td>
</tr>
<tr>
<td>Expiration date</td>
<td>17.04.2019</td>
</tr>
</tbody>
</table>

- **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.
• 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

  • 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

  • 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

<table>
<thead>
<tr>
<th>Temporary mail redirection</th>
<th>References</th>
<th>LDAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mail redirection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>/</td>
<td></td>
</tr>
<tr>
<td>Name*</td>
<td>technicians</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redirect from*</td>
<td><a href="mailto:itsupport@acme.com">itsupport@acme.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:itteam@acme.com">itteam@acme.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:ithelp@acme.com">ithelp@acme.com</a></td>
<td></td>
</tr>
<tr>
<td>Redirect to*</td>
<td><a href="mailto:technician1@acme.com">technician1@acme.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:technician2@acme.com">technician2@acme.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:technician3@acme.com">technician3@acme.com</a></td>
<td></td>
</tr>
<tr>
<td>Expiration date</td>
<td>17.04.2019</td>
<td></td>
</tr>
</tbody>
</table>

**8.2 Applications**

FusionDirectory Plugins Applications

**8.2.1 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.

**8.2.2 Installation**

Install packages
Archlinux

```
# Archlinux
yaourt -S fusiondirectory-plugin-applications
yaourt -S fusiondirectory-plugin-applications-schema
```

Debian

```
# Debian
apt-get install fusiondirectory-plugin-applications
apt-get install fusiondirectory-plugin-applications-schema
```

RHEL

```
# RHEL
yum install fusiondirectory-plugin-applications
yum install fusiondirectory-plugin-applications-schema
```

Install schemas

Archlinux

```
# Archlinux
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd.
   -schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd-
   -conf.schema
```

Debian

```
# 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

```
# RHEL
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd.
   -schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/applications-fd-
   -conf.schema
```

8.2.3 Configuration

No configuration needed for this plugin.
8.2.4 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)

Click “ok”, and you will see the wordpress line created in the application

Now, if you click on the menu entry “Groups and roles” on the left, you will find a “role-test” group

If you click on the role-test group, you will see the Applications tab
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.

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

<table>
<thead>
<tr>
<th>Applications</th>
<th>OU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application RDN*</td>
<td>ou=apps</td>
</tr>
<tr>
<td>Web applications RDN*</td>
<td>ou=apps</td>
</tr>
<tr>
<td>Show web applications in menu*</td>
<td>None</td>
</tr>
</tbody>
</table>

- 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

8.3 Audit

FusionDirectory Plugins Audit

8.3.1 Description

This plugin is used to audit all the operation done from FusionDirectory.

8.3.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-audit
yaourt -S fusiondirectory-plugin-audit-schema
```

Debian

```bash
apt-get install fusiondirectory-plugin-audit
apt-get install fusiondirectory-plugin-audit-schema
```

RHEL

```bash
yum install fusiondirectory-plugin-audit
yum install fusiondirectory-plugin-audit-schema
```
8.3.3 Configuration

No configuration needed for this plugin.

8.3.4 Functionalities

- Audit list

- Create a filter

Filter

Newer than 15.04.2019

Older than

Search in subtrees
• Audit filter result

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Action</th>
<th>Type</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-04-25 13:33:40</td>
<td>Paul Winters, <a href="mailto:paulwinters@example.com">paulwinters@example.com</a></td>
<td>modify</td>
<td>pluginconfig, dcap</td>
<td>pluginconfig, <a href="mailto:paulwinters@example.com">paulwinters@example.com</a></td>
</tr>
</tbody>
</table>

• Audit event

<table>
<thead>
<tr>
<th>Time*</th>
<th>Author*</th>
<th>Action*</th>
<th>ObjectType*</th>
<th>Object*</th>
<th>Attributes</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-04-15 13:33:40</td>
<td>Paul Winters</td>
<td>modify</td>
<td>pluginconfig, dcap</td>
<td>pluginconfig, <a href="mailto:paulwinters@example.com">paulwinters@example.com</a></td>
<td>f5_language, FSTimezone</td>
<td>Success</td>
</tr>
</tbody>
</table>

If you click on the author icon, you will get the author information

• Audit author

8.4 Autofs

FusionDirectory Plugins Supann

8.4.1 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.

8.4.2 Installation

Install packages
FusionDirectory User Manual Documentation, Release 1.3

Archlinux

`yaourt -S fusiondirectory-plugin-autofs`
`yaourt -S fusiondirectory-plugin-autofs-schema`

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

Archlinux

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

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`

8.4.3 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.

<table>
<thead>
<tr>
<th>AutoFS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoFS RID*</td>
</tr>
</tbody>
</table>

### 8.4.4 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:

- **Create Mount Point**

Fill the different informations and click on ok to save it.

- **Create a directory**

Fill the different informations and click on ok to save it.
8.5 Certificates

FusionDirectory Plugins Supann

8.5.1 Description

The Certificates plugin is used to store private certificates in pem format.

8.5.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-certificates
```

Debian

```bash
apt-get install fusiondirectory-plugin-certificates
```

RHEL

```bash
yum install fusiondirectory-plugin-certificates
```

8.5.3 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:

8.5.4 Functionalities

- Add a certificate

Select an user an 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

<table>
<thead>
<tr>
<th>Certificates</th>
</tr>
</thead>
<tbody>
<tr>
<td>openvpnclient</td>
</tr>
<tr>
<td>Browse...</td>
</tr>
</tbody>
</table>

8.6 Community

FusionDirectory Plugins Community

8.6.1 Description

The Community plugin is used to manage user communities in FusionDirectory.

8.6.2 Installation

Install packages

Archlinux

`yaourt -S fusiondirectory-plugin-community`
`yaourt -S fusiondirectory-plugin-community-schema`

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`

8.6. Community 175
Install schemas

Archlinux

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd.
```

```bash
→ schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd-
```

```bash
→ conf.schema
```

Debian

```bash
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/community-fd.schema
```

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

RHEL

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd.
```

```bash
→ schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/community-fd-
```

```bash
→ conf.schema
```

8.6.3 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
8.6.4 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
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

**Add Community organization settings**

Fill-in all required fields

<table>
<thead>
<tr>
<th>Membership</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership type</td>
<td>Start date:</td>
</tr>
<tr>
<td>Agreement signed</td>
<td>14.06.2019</td>
</tr>
<tr>
<td>Active</td>
<td>End date:</td>
</tr>
<tr>
<td>Hidden</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>First name</td>
</tr>
<tr>
<td>Last name</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>City</td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>Country</td>
</tr>
</tbody>
</table>

Click on OK button bottom right to save settings

![Ok button](button.png)

### 8.7 Cyrus

FusionDirectory Plugins Cyrus

#### 8.7.1 Description

This plugin is used to manage Cyrus mailboxes with FusionDirectory.

#### 8.7.2 Installation

**Install packages**

**Archlinux**

```bash
yaourt -S fusiondirectory-plugin-cyrus
yaourt -S fusiondirectory-plugin-cyrus-schema
```
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

Archlinux

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

Debian

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/cyrus-fd.schema
```

RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/cyrus-fd.schema
```

8.7.3 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 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.

### 8.7.4 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 example 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’: 
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.
- Validate certificate: 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

8.8 Developers

FusionDirectory Plugins Developers

8.8.1 Description

The Developers plugin gives information for developers in FusionDirectory.

8.8.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-developers
```
8.8.3 Configuration

No configuration needed for this plugin.

8.8.4 Functionalities

- Debug help

In the Reporting section in FusionDirectory, click on Debug help icon

You can download a diagram and see the content of all object types

<table>
<thead>
<tr>
<th>Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object types diagram</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Object Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dashboard</td>
</tr>
<tr>
<td>FusionDirectory configuration</td>
</tr>
<tr>
<td>Group</td>
</tr>
<tr>
<td>Debug help</td>
</tr>
<tr>
<td>GPG server info</td>
</tr>
<tr>
<td>Printer</td>
</tr>
<tr>
<td>special</td>
</tr>
<tr>
<td>OPSI import</td>
</tr>
<tr>
<td>Inventory object</td>
</tr>
<tr>
<td>OPSI ondemand list</td>
</tr>
<tr>
<td>Organization</td>
</tr>
<tr>
<td>OPSI software list</td>
</tr>
<tr>
<td>Preek group</td>
</tr>
<tr>
<td>OPSI profile</td>
</tr>
<tr>
<td>Public form</td>
</tr>
<tr>
<td>Phone</td>
</tr>
<tr>
<td>SOGo resource</td>
</tr>
<tr>
<td>Sudo role</td>
</tr>
<tr>
<td>Sympa list alias</td>
</tr>
<tr>
<td>Simple security object</td>
</tr>
<tr>
<td>Terminal</td>
</tr>
<tr>
<td>User</td>
</tr>
<tr>
<td>Web application</td>
</tr>
<tr>
<td>Workstation</td>
</tr>
<tr>
<td>Repository distribution</td>
</tr>
<tr>
<td>Repository section</td>
</tr>
<tr>
<td>Role</td>
</tr>
<tr>
<td>Samba Domain</td>
</tr>
</tbody>
</table>
When you click on an object type, in this example FusionDirectory configuration, you can see the content of this object.
8.9 Dovecot

FusionDirectory Plugins Supann

8.9.1 Description

The Dovecot plugin allows to manage Dovecot mailbox in FusionDirectory.

8.9.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-dovecot
yaourt -S fusiondirectory-plugin-dovecot-schema
```
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

Archlinux

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

Debian

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

RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/dovecot-fd.schema
```

8.9.3 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:

8.9.4 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
8.10 Dsa

FusionDirectory Plugins Dsa

8.10.1 Description

The dsa plugin is used to create Directory Service Accounts for administrative purpose (like pam_ldap, dns, nssldap, smbldap-tools, argonaut etc.) inside the LDAP directory.

8.10.2 Installation

Install packages

Archlinux

```
yaurt -S fusiondirectory-plugin-dsa
yaurt -S fusiondirectory-plugin-dsa-schema
```
### Debian

```bash
apt-get install fusiondirectory-plugin-dsa
apt-get install fusiondirectory-plugin-dsa-schema
```

### RHEL

```bash
yum install fusiondirectory-plugin-dsa
yum install fusiondirectory-plugin-dsa-schema
```

### Install schemas

**Archlinux**

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

**Debian**

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

**RHEL**

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

### 8.10.3 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:

![Configuration](image)

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

<table>
<thead>
<tr>
<th>DSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSA RDN</td>
</tr>
</tbody>
</table>
8.10.4 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.

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
• 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

<table>
<thead>
<tr>
<th>Change password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password method*</td>
</tr>
<tr>
<td>Password*</td>
</tr>
<tr>
<td>Password again*</td>
</tr>
</tbody>
</table>

8.11 EJBCA

FusionDirectory Plugins EJBCA

8.11.1 Description

The EJBCA plugin is used to read ssl certificates published by EJBCA into LDAP with FusionDirectory.

8.11.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-ejbca
yaourt -S fusiondirectory-plugin-ejbca-schema
```

Debian

```bash
apt-get install fusiondirectory-plugin-ejbca
apt-get install fusiondirectory-plugin-ejbca-schema
```

RHEL

```bash
yum install fusiondirectory-plugin-ejbca
yum install fusiondirectory-plugin-ejbca-schema
```
Install schemas

Archlinux

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/ejbca-fd*
```

Debian

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/ejbca-fd*
```

RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/ejbca-fd*
```

8.11.3 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

```
EJBCA plugin

EJBCA RDN* bu=certificates
```

Click on OK button bottom right to save
8.11.4 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

Activating EJBCA tab

Click on EJBCA settings button

Add EJBCA settings

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

8.11. EJBCA
8.12 GPG

FusionDirectory Plugins GPG

8.12.1 Description

The GPG plugin is used to store GPG keys in your directory through FusionDirectory.

8.12.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-gpg
yaourt -S fusiondirectory-plugin-gpg-schema
```

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**

**Archlinux**

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/gpg-fd.schema
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/pgp*
```

**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*
```

### 8.12.3 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:

![Configuration Icon]

### 8.12.4 Functionalities

- Create a user

Click on “users” icon in FusionDirectory

![Users Icon]

Click on Actions → create → user
Activate GPG tab

Click on Add GPG settings

Add a key that is in your LDAP

Thick the key and save it

8.13 Ipmi

FusionDirectory Plugins Ipmi

8.13.1 Description

This impi plugin is used to store the impi credentials to connect to the impi component inside your systems.

8.13.2 Installation

Install packages
8.13.3 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:
8.13.4 Functionalities

- How to add an Ipmi client

Go to Systems

System

- Edit a server

Click on Ipmi client tab

Click on Add Ipmi client settings button

This account has IPMI client settings disabled. You can enable them by clicking below.
Add IPMI client settings

Fill IP, user login and user password Click on ok to save it

8.14 Ldapdump

FusionDirectory Plugins Ldapdump

8.14.1 Description

The Ldapdump plugin gives all the information from an object that is stored in the LDAP.
8.14.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-ldapdump
```

Debian

```bash
apt-get install fusiondirectory-plugin-ldapdump
```

RHEL

```bash
yum install fusiondirectory-plugin-ldapdump
```

8.14.3 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:

8.14.4 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

<table>
<thead>
<tr>
<th></th>
<th>paul</th>
<th>dufour</th>
<th>admin</th>
</tr>
</thead>
</table>

Click on Actions → Edit
Go to LDAP tab at the bottom

In the LDAP tab, you can see the DN of your element

- **uid=admin,ou=people**

If you click on your element, you will see all the informations that the LDAP contains
8.15 Ldap manager

FusionDirectory Plugins Ldap manager

8.15.1 Description

The LDAP Manager plugin is used to export/import ldif and csv with/without templates in FusionDirectory.
8.15.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-ldapmanager
```

Debian

```bash
apt-get install fusiondirectory-plugin-ldapmanager
```

RHEL

```bash
yum install fusiondirectory-plugin-ldapmanager
```

8.15.3 Configuration

There is no configuration for ldap manager

8.15.4 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:

![LDAP import/export](image)

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.

<table>
<thead>
<tr>
<th>Export</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Export single entry</td>
<td></td>
</tr>
<tr>
<td>Filter</td>
<td>(objectClass=*)</td>
</tr>
<tr>
<td>Export complete LDIF for</td>
<td>/</td>
</tr>
</tbody>
</table>
“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=opensides,dc=be
```

the result is an ldif file with this content:

```
dn: cn=sales,ou=groups,dc=opensides,dc=be
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 File (Modify existing objects, keep untouched attributes)**

For example, in FusionDirectory, I have this posixgroup-test group:

![Ldif manager](image)

which corresponds at this entry in my ldap directory:
• 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 transferred to which attribute and select a template to apply.

Note that the file must not contain a header line, all lines are treated as data to import, except if they start with a #.

8.16 Mail

FusionDirectory Plugins Mail

8.16.1 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 kind 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

### 8.16.2 Description

The Mail plugin is used to manage basic mail attributes in FusionDirectory.

### 8.16.3 Installation

#### Install packages

**Archlinux**

```
yaourt -S fusiondirectory-plugin-mail
yaourt -S fusiondirectory-plugin-mail-schema
```

**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

**Archlinux**

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/mail-fd.schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/mail-fd-conf.schema
```

**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
```

8.16. Mail
### 8.16.4 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

<table>
<thead>
<tr>
<th>Mail settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account identification attribute</td>
</tr>
<tr>
<td>Mail user template</td>
</tr>
<tr>
<td>Mail folder template</td>
</tr>
<tr>
<td>Use cyrus UNIX style</td>
</tr>
<tr>
<td>Delete mailbox on account deletion</td>
</tr>
<tr>
<td>Cyrus autocreate folders</td>
</tr>
<tr>
<td>IMAP timeout</td>
</tr>
<tr>
<td>Shared prefix</td>
</tr>
</tbody>
</table>

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

8.16.5 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)

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>demo-dev</td>
<td>195.154.20.159</td>
</tr>
</tbody>
</table>

Go to Services tab

In the drop-down menu click on Actions –> Create –> IMAP/POP3 generic service

- Argonaut DNS settings
- Argonaut FAI monitor
- Argonaut Fuse
- Argonaut Mirror settings
- Argonaut server
- Cyrus (IMAP/POP3)
- DHCP service
- Dovecot (IMAP/POP3)
- 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

Click on Apply button

Now, in services column, you can see the imap/pop3 icon

8.17 Newsletter

FusionDirectory Plugins Newsletter

8.17.1 Description

The Newsletter plugin is used to tell to which newsletter a user has subscribed to in FusionDirectory.

8.17.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-newsletter
yaourt -S fusiondirectory-plugin-newsletter-schema
```
Debian

```bash
apt-get install fusiondirectory-plugin-newsletter
apt-get install fusiondirectory-plugin-newsletter-schema
```

RHEL

```bash
yum install fusiondirectory-plugin-newsletter
yum install fusiondirectory-plugin-newsletter-schema
```

Install schemas

Archlinux

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-conf.schema
```

Debian

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-conf.schema
```

RHEL

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/newsletter-fd-conf.schema
```

8.17.3 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

![Plugins](image)

Click on Edit button bottom right

![Edit...](image)

Go to Newsletter choices and fill-in as required

![Newsletter](image)

Click OK to save your settings

![Ok](image)

**8.17.4 Functionalities**

- Create Newsletter for a user

Click on Users icon in FusionDirectory

![Users](image)

Select a user

<table>
<thead>
<tr>
<th></th>
<th>peter</th>
<th>antoine</th>
<th>user</th>
</tr>
</thead>
</table>

8.17. Newsletter
Go to Newsletter tab

Click on Add Newsletter settings button

Fill-in Personal info

Click on Apply button bottom right to save your settings

8.18 Personal

FusionDirectory Plugins Personal

8.18.1 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…

8.18.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-personal
yaourt -S fusiondirectory-plugin-personal-schema
```
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

Archlinux

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

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
```

8.18.3 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:

```
Configuration
```

You can thick 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
### 8.18.4 Functionalities

- **Edit a user**

In FusionDirectory, click on users icon

![Users icon](image)

This will bring you to the users overview

<table>
<thead>
<tr>
<th>Users</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Users table" /></td>
<td><img src="image" alt="Filter options" /></td>
</tr>
</tbody>
</table>

Click on a user and go to Personal tab

![Personal tab](image)

In this example, I selected peter antoine’s profile

![User profile](image)

Activate the personal tab, fill it like you want and save it

This account has Personal settings disabled. You can enable them by clicking below.

[Add Personal settings]
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

![User List Icon](image)

### 8.19 Pureftpd

FusionDirectory Plugins Pureftpd

#### 8.19.1 Description

The Pureftpd plugin is used to manage pureftpd account inside the LDAP directory.

#### 8.19.2 Installation

**Install packages**

**Archlinux**

```bash
yaourt -S fusiondirectory-plugin-pureftpd
yaourt -S fusiondirectory-plugin-pureftpd-schema
```

**Debian**

```bash
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

Archlinux

fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/pureftpd.schema

Debian

fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/pureftpd.schema

RHEL

fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/pureftpd.schema

8.19.3 Configuration

No configuration needed for this plugin.

8.19.4 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
Add Ftp settings

Fill the desired fields

**Bandwidth**

- **Upload bandwidth (kb/sec)**: Maximum upload bandwidth in Kb/sec
- **Download bandwidth (kb/sec)**: Maximum download bandwidth in Kb/sec

**Ratio**

- **Uploaded files**: Defines upload ratio
- **Downloaded files**: Defines download ratio

**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**: thick the box if needed

Click on “Apply” button bottom right to save your settings

8.20 Renater Partage

FusionDirectory Plugins Renater Partage
8.20.1 Description

The RENATER Partage plugin manages the mail component of the Partage de RENATER <https://partage.renater.fr/> systems, 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.

8.20.2 Installation

In order to install renater partage plugin, you need to have installed and configured mail plugin.

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-renater-partage
yaourt -S fusiondirectory-plugin-renater-partage-schema
```

Debian

```
apt-get install fusiondirectory-plugin-renater-partage
apt-get install fusiondirectory-plugin-renater-partage-schema
```

RHEL

```
yum install fusiondirectory-plugin-renater-partage
y whole install fusiondirectory-plugin-renater-partage-schema
```

Install schemas

Archlinux

```
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/openldap/renater-partage-fd.schema
```

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
```
8.20.3 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:

- Configuration

8.20.4 Functionalities

Add Renater Partage service

Go to systems

- Systems

Create your server or edit an existing server

| demo-fixes | 195.154.20.159 |

Click on services tab

- Services

Add the Renater Partage service
Fill the fields for the Renater plugin and save it
• 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”
Fill in all the required information: mail account and other addresses and redirections

**Mail account**

Primary address

Server

Quota size

Quota usage

**Vacation message**

Activate vacation message

Vacation message

**Other addresses and redirections**

Alternative addresses

Forward messages to

**Advanced mail options**

User is only allowed to send and receive local mails

No delivery to own mailbox

Click on “Apply” button bottom right to save your settings

---

8.21 Supann

FusionDirectory Plugins Supann
8.21.1 Description

The Supann plugin is used to store Supann data’s in FusionDirectory.
The plugin support Supann 2009.

8.21.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-supann
yaourt -S fusiondirectory-plugin-supann-schema
```

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

Archlinux

```
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
```

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
```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/internet2.schema
→schema
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/supann-fd-conf.
→schema

8.21.3 Configuration

No configuration needed for this plugin.

8.21.4 Functionalities

- Create an entity

- Create an establishment

- Create an user with supann informations
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)
8.22 Sinaps

FusionDirectory Plugins Sinaps

8.22.1 Description

The Sinaps plugin is used to synchronize user and structures information from Sinaps: http://www.amue.fr/pilotage/logiciels/sinaps/presentation/

8.22.2 Installation

Install packages

Archlinux

```
yaurt -S fusiondirectory-plugin-sinaps
yaurt -S fusiondirectory-plugin-sinaps-schema
```

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

archlinux

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/sinaps-fd-conf.
```

debian

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

rhel

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/sinaps-fd-conf.
```

8.22.3 configuration

<table>
<thead>
<tr>
<th>Sinaps</th>
<th>Sinaps Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable SINAPS integration</td>
<td>☐</td>
</tr>
<tr>
<td>Dry run mode</td>
<td>☐</td>
</tr>
<tr>
<td>Acknowledgement URL</td>
<td><a href="http://sinaps.example.com/">http://sinaps.example.com/</a></td>
</tr>
<tr>
<td>Dump folder</td>
<td>/var/cache/fusiondirectory/</td>
</tr>
<tr>
<td>Application identifier*</td>
<td>FUSIONDIRECTORY</td>
</tr>
<tr>
<td>Applications identifiers to sync</td>
<td>SAP</td>
</tr>
<tr>
<td>UUID prefix*</td>
<td>LDAPUUID</td>
</tr>
<tr>
<td>User base*</td>
<td>ou=sinaps,dc=example,dc=com</td>
</tr>
<tr>
<td>User template</td>
<td>None</td>
</tr>
<tr>
<td>API Tokens</td>
<td>taken!</td>
</tr>
</tbody>
</table>

8.22. Sinaps

- **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

### 8.22.4 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.
<table>
<thead>
<tr>
<th>FusionDirectory field</th>
<th>Sinaps XML field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ou</td>
<td>libelle20</td>
<td></td>
</tr>
<tr>
<td>description</td>
<td>descriptifLong</td>
<td></td>
</tr>
<tr>
<td>supannCodeEntite</td>
<td>codeStructure</td>
<td>Must be unique as it’s used in the dn</td>
</tr>
<tr>
<td>supannTypeEntite</td>
<td>codeSousType</td>
<td>You need to configure Sinaps to transcoded this into a valid value</td>
</tr>
<tr>
<td>supannRefId</td>
<td>referenceCroisee</td>
<td>Formatted as {identifiantApplication}identifiantExterne</td>
</tr>
<tr>
<td>telephoneNumber</td>
<td>methodesDeContact/methodeDeContact/valeur</td>
<td>If codeTypeMethodeContact is TEL</td>
</tr>
<tr>
<td>facsimileTelephoneNumber</td>
<td>methodesDeContact/methodeDeContact/valeur</td>
<td>If codeTypeMethodeContact is FAX</td>
</tr>
<tr>
<td>postalAddress</td>
<td>methodesDeContact/methodeDeContact/*</td>
<td>If codeTypeMethodeContact is ADR and temoinAdressePrincipale is true</td>
</tr>
<tr>
<td>supannCodeEntiteParent</td>
<td>liensStructure/lienStructure/codeStructureMere</td>
<td>If codeTypeLien is HIE</td>
</tr>
<tr>
<td>fdSupannStartDate</td>
<td>dateDebutValidite</td>
<td></td>
</tr>
<tr>
<td>fdSupannEndDate</td>
<td>dateFinValidite</td>
<td></td>
</tr>
</tbody>
</table>

### 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 User Manual Documentation, Release 1.3

<table>
<thead>
<tr>
<th>FusionDirectory field</th>
<th>Sinaps XML field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>supannCivilite</td>
<td>civilite</td>
<td></td>
</tr>
<tr>
<td>sn</td>
<td>nomUsage</td>
<td></td>
</tr>
<tr>
<td>description</td>
<td>descriptifLong</td>
<td></td>
</tr>
<tr>
<td>dateOfBirth</td>
<td>dateNaissance</td>
<td></td>
</tr>
<tr>
<td>gender</td>
<td>sexe</td>
<td></td>
</tr>
<tr>
<td>supannRefId</td>
<td>referenceCroisee</td>
<td>Formatted as {identifiantApplication}identifiantExterne</td>
</tr>
<tr>
<td>givenName</td>
<td>prenoms</td>
<td>Cut at first ';'</td>
</tr>
<tr>
<td>homePhone</td>
<td>methodesDeContact/methodeContact/valeur</td>
<td>If typeMethodeContact is TELPERSO. Can only have one value.</td>
</tr>
<tr>
<td>fdPrivateMail</td>
<td>methodesDeContact/methodeContact/valeur</td>
<td>If typeMethodeContact is MAILPERSO. Can have multiple values.</td>
</tr>
<tr>
<td>postalAddress</td>
<td>methodesDeContact/methodeContact/*</td>
<td>If codeTypeMethodeContact is ADR and temoinAdressePrincipale is true, and codeTypeAdresse is not ADRPERSO</td>
</tr>
<tr>
<td>homePostalAddress</td>
<td>methodesDeContact/methodeContact/*</td>
<td>Same as above but codeTypeAdresse is ADRPERSO</td>
</tr>
<tr>
<td>supannEntiteAffectationPrincipale</td>
<td>rattachements/rattachement/roles/role/personne</td>
<td>Only if codeTypeRole/exterieur/elementCarriere/corpsroles/role/exterieur/elementCarriere/corps the cross reference is found in the LDAP</td>
</tr>
<tr>
<td>supannEntiteAffectation</td>
<td>rattachements/rattachement/roles/role/personne</td>
<td>Same as above</td>
</tr>
<tr>
<td>supannEmpCorps</td>
<td>rattachements/rattachement/roles/role/personne</td>
<td>Only if codeTypeRole/exterieur/elementCarriere/corps</td>
</tr>
<tr>
<td>supannActivite</td>
<td>rattachements/rattachement/roles/role/personne</td>
<td>Only if codeTypeRole/exterieur/elementCarriere/bapReferens</td>
</tr>
<tr>
<td>supannRoleGenerique</td>
<td>rattachements/rattachement/fonctionsOccupees</td>
<td>functionOccupe/fonctionRh</td>
</tr>
<tr>
<td>supannTypeEntiteAffectation</td>
<td>rattachements/rattachement/fonctionsOccupees</td>
<td>fonctionOccupe/fonctionRh</td>
</tr>
<tr>
<td>supannEntiteAffectation</td>
<td>rattachements/rattachement/fonctionsOccupees</td>
<td>fonctionOccupe/fonctionRh</td>
</tr>
<tr>
<td>supannRoleEntite</td>
<td>rattachements/rattachement/fonctionsOccupees</td>
<td>functionOccupe/fonctionRh</td>
</tr>
</tbody>
</table>

### 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 sent as a `rattachement` with `roles/role/typeRole = EXT` and `roles/role/externe/typeExterne` the value configured in **Acquisition external type** in the configuration
8.23 Sogo

FusionDirectory Plugins Sogo

8.23.1 Description

The SOGo plugin is used to manage location (thing and group) in FusionDirectory.

8.23.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-sogo
yaourt -S fusiondirectory-plugin-sogo-schema
```

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

Archlinux

```
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
```

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.

fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/calEntry.schema

fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/calRessources.
```

8.23.3 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

Click on Ok button bottom right to save settings

8.23.4 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

<table>
<thead>
<tr>
<th>SOGo resource</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base</strong></td>
</tr>
<tr>
<td><strong>Entry name</strong></td>
</tr>
<tr>
<td><strong>Mail</strong></td>
</tr>
<tr>
<td><strong>description</strong></td>
</tr>
<tr>
<td><strong>Multiplebookings</strong></td>
</tr>
<tr>
<td><strong>Kind</strong></td>
</tr>
</tbody>
</table>

Click on Ok button bottom right to save your settings

---

### 8.24 Squid

FusionDirectory Plugins Squid
8.24.1 Description

The Squid plugin provides management for squid proxy users in FusionDirectory.

8.24.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-squid
yaourt -S fusiondirectory-plugin-squid-schema
```

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

Archlinux

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

Debian

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

RHEL

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

8.24.3 Configuration

No configuration needed for this plugin.
8.24.4 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) : 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

8.25 SSH

FusionDirectory Plugins SSH
8.25.1 Description

The SSH plugin provides management for ssh public key in FusionDirectory.

8.25.2 Installation

Install packages

Archlinux

```bash
yaourt -S fusiondirectory-plugin-ssh
yaourt -S fusiondirectory-plugin-ssh-schema
```

Debian

```bash
apt-get install fusiondirectory-plugin-ssh
apt-get install fusiondirectory-plugin-ssh-schema
```

RHEL

```bash
yum install fusiondirectory-plugin-ssh
yum install fusiondirectory-plugin-ssh-schema
```

Install schemas

Archlinux

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/openssh-lpk.schema
```

Debian

```bash
fusiondirectory-insert-schema -i /etc/ldap/schema/fusiondirectory/openssh-lpk.schema
```

RHEL

```bash
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/openssh-lpk.schema
```

8.25.3 Configuration

No configuration needed for this plugin.
8.25.4 Functionalities

• Create SSH user

Click on Users icon in FusionDirectory

Click on a user

Click on SSH Tab

Click on “Add SSH settings” button

Add SSH settings

Load the user’s ssh public key and click “Add” to upload the key

Click on “Ok” button bottom right to save your settings

Ok

Now, in Properties tab, you can see the ssh icon

8.26 Subcontracting

FusionDirectory Plugins Subcontracting
8.26.1 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.

8.26.2 Installation

Install packages

Archlinux

yaourt -S fusiondirectory-plugin-subcontracting
yaourt -S fusiondirectory-plugin-subcontracting-schema

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

Archlinux

fusiondirectory-insert-schema -i subcontracting-fd.schema

Debian

fusiondirectory-insert-schema -i subcontracting-fd.schema

RHEL

fusiondirectory-insert-schema -i subcontracting-fd.schema

8.26.3 Configuration

No configuration needed for this plugin.
8.26.4 Functionalities

- Create a subcontracting user

In FusionDirectory, click on Users icon

Select a user

Go to Subcontracting tab

Click on “Add Subcontracting settings” button

Add Subcontracting settings

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

Click on Apply button bottom right to save your settings

Now, on your user profile line you can see the Subcontracting icon
8.27 User-reminder

FusionDirectory Plugins user-reminder

8.27.1 Description

The user-reminder plugin is a plugin that reminds the users that their account will expire.

8.27.2 Installation

Install packages

Archlinux

```
yaurt -S fusiondirectory-plugin-user-reminder
yaourt -S fusiondirectory-plugin-user-reminder-schema
```

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

Archlinux

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/user-reminder-->fd-conf.schema
```
8.27.3 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

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delay before expiration*</td>
<td>15</td>
</tr>
<tr>
<td>Delay before sending again*</td>
<td>7</td>
</tr>
<tr>
<td>Extension of the validity*</td>
<td>15</td>
</tr>
<tr>
<td>Sender email address*</td>
<td><a href="mailto:to.be@chang.ed">to.be@chang.ed</a></td>
</tr>
<tr>
<td>Allow use of alternate addresses*</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward alerts to the manager</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>[FusionDirectory] Votre mo</td>
</tr>
<tr>
<td>Body (%s are cn and login)</td>
<td>Dear %1$s, your password for account %2$s is about</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward alerts to the manager*</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>[FusionDirectory] Votre co</td>
</tr>
<tr>
<td>Body (%s are cn, login, and link token)</td>
<td>Dear %1$s, your account %2$s is about to expire.</td>
</tr>
</tbody>
</table>

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

Click on “ok” to save your configuration

Don’t forget to add password expiration date in Unix tab. !/

8.27.4 Functionalities

The user reminder plugin is used in conjunction with the argonaut-user-reminder program

8.28 Weblink

FusionDirectory Plugins Weblink

8.28.1 Description

The weblink plugin gives a link to simply access your configuration interface of your device, system, etc.

8.28.2 Installation

Install packages

Archlinux

yaourt -S fusiondirectory-plugin-weblink
yaourt -S fusiondirectory-plugin-systems-schema
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

Archlinux

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

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
```

8.28.3 Configuration

No configuration needed for this plugin.

8.28.4 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

8.29 Webservice

FusionDirectory Plugins Webservice

8.29.1 Description

The Webservice plugin is used to configure webservice of FusionDirectory.
8.29.2 Installation

Install packages

Archlinux

```
yaourt -S fusiondirectory-plugin-webservice
yaourt -S fusiondirectory-plugin-webservice-schema
```

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

Archlinux

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

Debian

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

RHEL

```
fusiondirectory-insert-schema -i /etc/openldap/schema/fusiondirectory/webservice-fd-conf.sch
```

8.29.3 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

8.29.4 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

9.1 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 FusionDirectory 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 . . .

9.2 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 exemple.

You can find the documentation on how to create a macro here Macros.

### 9.2.1 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.

In this example we set the following macros to create a user:
• Login : %alps[1]!givenName% %alps|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

9.2.2 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

![Add Unix settings]

Fill-in Unix settings

<table>
<thead>
<tr>
<th>Unix</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home directory</strong></td>
</tr>
<tr>
<td><strong>Shell</strong></td>
</tr>
<tr>
<td><strong>Primary group</strong></td>
</tr>
</tbody>
</table>

• 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%

9.2.3 Mail

When you are creating or editing your template, click on Mail tab

Then click on Add Mail settings. A new dialog is opened

![Add Mail settings]
Fill-in Mail account settings

<table>
<thead>
<tr>
<th>Mail account</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary address</strong></td>
</tr>
<tr>
<td><strong>Server</strong></td>
</tr>
<tr>
<td><strong>Quota size</strong></td>
</tr>
<tr>
<td><strong>Quota usage</strong></td>
</tr>
</tbody>
</table>

- **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

**9.3 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.

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: template_fd-user - /

Click on Continue button bottom right

Continue

Fill-in the required information

<table>
<thead>
<tr>
<th>Last name</th>
<th>First name</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>last name</td>
<td>first name</td>
<td>/</td>
</tr>
</tbody>
</table>

• 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 :

9.3. Use a user template
And the Unix info look like this:

And the Mail info look like this:
Click on Ok button bottom right

Now on the main page you can see the new user, with the Unix and Mail icons

9.4 Macros

You can use macros to automate the creation of attributes based on rules inside the templates.

- How to use a macro

  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:

  "Last name" field returned in unaccented.

  If "sn=Valérie" then 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:

  returns an empty string.

It can also be used to make a template uid unique when 2 templates have the same uid pattern:
**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 %isn% 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".
```
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:

```plaintext
%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
```

The **s** macro can be used to generate substrings.

Examples:

```plaintext
%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 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.
```

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:

```plaintext
%t[de_DE]|sn% "Last name" field returned transliterated. "Suesskartoffel"
```
Note that the locale used must be installed on the server (and web server needs to be restarted after locale installation).

- Array macro

\texttt{C}

The \texttt{C} macro (added in version 1.0.10) returns the count of values in the attribute. It can be 0.

\begin{verbatim}
%C|arrayAttribute% returns the number of values in arrayAttribute
\end{verbatim}

\texttt{F}

The \texttt{F} macro returns the first value of the array

\texttt{J}

The \texttt{J} macro returns the values joined together. It takes the separator as parameter.

\begin{verbatim}
%J[:]|arrayAttribute% returns the values joined and separated by : character
\end{verbatim}

\texttt{L}

The \texttt{L} macro returns the last value of the array

- Combining examples

\begin{verbatim}
%al|sn% "Last name" field returned in lowercase unaccented.
   If "sn=Valérie" then the returned value is "valerie"

%au|sn% "Last name" field returned in uppercase unaccented.
   If "sn=Valérie" then the returned value is "VALERIE"

%alp|sn% "Last name" field returned in lowercase unaccented without whitespaces.
   If "sn=Valérie DUPONT" then the returned value is "valeriedupont"

%us[0,4]|sn% a substring of "Last name" field, taking 4 characters, starting at position 0 and converting in uppercase.
   If "sn=Valérie" then the returned value is "VALÉ".

%ls[1,4]|sn% a substring of "Last name" field, taking 4 characters, starting at position 1 and converting in lowercase.
   If "sn=Valérie" then the returned value is "alér".

%las[4]|sn% a substring of "Last name" field, taking the first 4 characters and converting in unaccented lowercase.
   If "sn=Valérie" then the returned value is "vale".

%r[8,8,1]u% a random string of length 8, containing uppercase letters.
\end{verbatim}
FusionDirectory Triggers

10.1 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.

10.1.1 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.

10.1.2 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.

10.1.3 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).

10.1.4 LDAP attributes

You can use ldap attributes as command line options. Use the macro syntax.

10.1.5 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

10.1.6 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 ssha)
- %passwordClear% to get clear password
- %userLocked% to get user lock status (0 or 1)

10.2 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**: triggers that are called when specific actions happen
- **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**

The line:

```bash
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

Enjoy,

FusionDirectory's Team

### 10.3 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

```bash
%www-data ALL=(ALL:ALL) NOPASSWD:/usr/local/bin/hook.sh
```
FusionDirectory Frequent asked Questions

11.1 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"
    ...
```

11.2 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:
if you follow the fusiondirectory web setup those accounts will be migrated automatically

### 11.3 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
```
12. 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

12.1 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.

12.2 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.
12.3 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 a various channel of communications

- #fusiondirectory, the irc channel of FusionDirectory on freenode, channel #fusiondirectory
- FusionDirectory Users mailing list
- FusionDirectory dev mailing list

12.4 Reporting bug or missing features

12.4.1 Register for a FusionDirectory project account

To create a FusionDirectory project account you must go to

- FusionDirectory Sign UP

12.4.2 Put FusionDirectory in debug mode

- Go into FusionDirectory configuration
- Activate the displaying of PHP errors, and the TRACE debug level

12.4.3 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 which 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.

12.4.4 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 a 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 explains the release cycle and where contributions, fixes will be merged.

### 13.1 FusionDirectory Version policy

#### 13.1.1 Versioning

FusionDirectory can have 3 digits at maximum in a version: \( X.Y.Z \)

- \( Z \) version increments \((X.Y.Z1 \rightarrow X.Y.Z2\), for example 1.2.1 to 1.2.2\) are minor bug fix only releases.
- \( Y \) or \( X \) version increments are major releases \((X.Y1.Z \rightarrow X.Y2.Z\), for example 1.1 to 1.2\) are major releases.

#### 13.1.2 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.

#### 13.1.3 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

13.2 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.
14.1 Distribution and PHP support Policy

Distribution OSes have different interpretations of what a ‘supported version’ is, here are the OS and PHP versions FusionDirectory support.

14.1.1 Server OSes

- Debian: stable and oldstable
- Ubuntu: the two latest LTS releases
- Enterprise Linux (RHEL, CentOS, . . .): the latest major release

14.2 PHP versions

The version of PHP depend on the FusionDirectory version.
Fusiondirectory need at least PHP 5.6.
- Fusiondirectory 1.3 need PHP 5.6
- Fusiondirectory 1.4 need PHP 7.0
FusionDirectory Support Options

### 15.1 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
15.2 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.
16.1 Digital signature

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

16.1.1 Official gpg key

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

16.1.2 Development gpg key

16.2 Security issues

If you find a security issue inside FusionDirectory you can report it to directly to security team security@fusiondirectory.org.

you can sign your message with the public key from

Benoit Mortier 0xEF2FF1E48638EAD1
17.1 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)
Authors

This is the alphabetical list of all people that have contributed to the FusionDirectory project, being code, translations, documentation and additional help.

As FusionDirectory is originally a fork from GOsa² you also have a list of GOsa² Contributors

18.1 Original GOsa² AUTHORS

This is the alphabetical list of all people that have contributed to the original GOsa² project before the fork to FusionDirectory

- Markus Amersdorfer <der.plusch@subnet.at>
  - Wiki setup, Testing, hints, proposals
- Alessandro Amici <a.amici@bopen.it>
  - Italian translation
- Craig Chang <craig0310@gmail.com>
  - Fixes for magic_quotes_gpc
- Guillaume Delecourt <guillaume.delecourt@opensides.be>
  - Setup fixes, nagios tab plugin, xls addons ldapmanager
  - pptp connectivity option, phpscheduleit connectivity option
- Alejandro Escanero Blanco <aescanero@chaosdimension.org>
  - Fixes, improvements, translation, netgroup plugin, Guide and some extensions
- Fabian Hickert <hickert@gonicus.de>
  - Improvements for setup, various fixes and plugins
- Niels Klomp <nk@careworks.nl>
FusionDirectory USER MANUAl Documentation, Release 1.3

– Dutch translation

• Steve Moitozo <god @ zilla dot us>
  – Password checker

• Benoit Mortier <benoit.mortier @ opensides.be>
  – Butracking, QA, French translation

• Igor Muratov <migor @ allinux.org>
  – Various fixes and speed enhancements

• Michael Pasdziernik <mp @ secio.de>
  – Documentation for GOsa and safe-mode, fixes

• Cajas Pollmeier <pollmeier @ gonicus.de>
  – Virtually everything which is GOsa related

• Piotr Rybicki <meritus @ innervision.pl>
  – Polish translation

• Henning Schmiedehausen <hps @ intermeta.de>
  – Various fixes, support for user defined people/group base

• Alfred Schröder <schroeder @ gonicus.de>
  – German translation

• Jan Wenzel <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>
  – French online documentation
  – English online documentation

• Vincent Seynhaeve <vincent.seynhaeve @ opensides.be> * Xls export plugin

• Leonid Bogdanov <leonid_bogdanov @ mail.ru>
  – patch for the manager fonctionality in the General user tab

• Olivier BONHOMME <obonhomme @ nerim.net>
  – Corrected RPM building

18.2 FusionDirectory AUTHORS

This is the alphabetical list of all people that have contributed to the FusionDirectory project, being code, translations, documentation and additional help.

• Benjamin Carpentier <carpentierbenjamin @ gmail.com>
  – Tested FusionDirectory, corrected copyright issues and locales
  – Written fusiondirectory-setup

• Giuliano Di Vito <giuliano @ opensides.be>
• Italian Translator and bug finder

- Roman Widmann <archme.mail@gmail.com>
  - Arch linux packager

- Bernigaud Côme <come.bernigaud@laposte.net>
  - New daemon code class_supportDaemon.inc, and all the new deployment stuff :)
  - Simple plugin framework developer

- Alexis Michon <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>
  - Various patches from debian-edu
  - Apache 2.4 support
  - Mcrypt decrypt enhancement
  - Browsing inactive tab

- Jeremy Williame <williamejeremy@hotmail.com>
  - Cleanup and writer of the FusionDirectory doxygen api documentation

- Rudy Hardeman <zarya@gigafreak.net>
  - Option to remove sambaLMpassword storage

- Feth Arezki <feth@majerti.fr>
  - First version of the autofs plugin

- Daniel B <daniel@firewall-services.com>
  - Cleanup of the sambaPwdMustChange, sambaPwdCanChange

- Regis patronix <regis.patroix@thecosmocompany.com>
  - Allow special characters in passwords

- Antoine Gallavardin <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>
  - 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 postmodfy hook error message

• Stefan Krüger <shadow_7@gmx.net>
  – Add support for various database to the rsyslog plugin

• Guillaume Chéramy <guillaume@cheramy.name>
  – Patches for the template system

• Mathias Friman mathias.friman@knorca.se
  – Translation to swedish

• Alexandre Magnat <alexandre.magnat@mecaprotec.fr>
  – Snapshot bug reporter

• Guillaume RODRIGUEZ <rodriguez.guillaume@icloud.com>
  – asterisk plugin error reporter

• Guillard Olivier <fd@guillard.nom.fr>
  – SSH plugin key storage problem reporter

• Fabien Brachere <fabien.brachere@e-ter.com>
  – Fix support for special caracters in password

• Arnaud Patard <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>
  – Modifier for templates to convert german umlauts to 7-bit ASCII

• Samuel Bosquin <samuel.bosquin@ibcp.fr>
  – Plugin FAI - LVM partitions

• IOhannes umlaeute <noc@iem.at>
  – generateLdif() fails with bind-passwords containg ‘$’ patch

• Karsten Becker <karsten.becker@ecologic.eu>
  – Suse install from tarballs Documentation

• Felix Weissbeck <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>
  – ppolicy improvement

• Martin Hamant <mh@ow2.org>
  – Coded the LockUser fonction for the webservice

• Jonathan Swaelens <jonathan@opensides.be>
  – QA on FusionDirectory
- RPM packaging maintener and ArchLinux Packager
  - Timothée Giet <timo@timotheegiet.com>
    - New breezy icon Theme
  - Clement Oudot <clem.oudot@gmail.com>
    - HTTP header authentication
    - Password expiration date in dashboard
  - Thomas Niercke <thomas@niercke.de>
    - Code and ideas for making Argonaut Events Extensible
  - Paola Penati <paolapenati@hotmail.com>
    - Italian translation of FusionDirectory and the website
  - Martin Hamant <mh@ow2.org>
    - Adding DSA accounts into groups
  - Mathias Soupault <mathias.soupault@inalco.fr>
    - Making supannAliasLogin usage possible in password recovery
  - Patzke Thomas <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

### 18.3 FusionDirectory libraries

This is the alphabetical list of libraries and their authors that FusionDirectory is using

- Dan Ellis <danellis@rushmore.com>
  - class_sieve.inc
- Eric Kilfoil <eric@ipass.net>
  - ldap.inc
- Thomas Schüßler <tulpe@atomar.de>
  - debuglib.inc
- Wouter Verhelst <wouter@debian.org>
  - accept-to-gettext.inc
- Steve Moitozo <god@zilla.us>
  - pwdStrength.js
- Roland Gruber
  - class_smbHash.inc
• Knallgrau New Medias Solutions GmbH
  – pulldown.js
• Mathieu Jondet <mathieu@eulerian.com>
  – datepicker.js
Contact Us

We are also contactable on:

* Mailing list: https://lists.fusiondirectory.org/wws/lists
* IRC: #fusiondirectory on irc.freenode.org irc://irc.freenode.org/fusiondirectory

Follow Us

on twitter: http://twitter.com/fusiondirectory
on linkedin: https://www.linkedin.com/company/fusiondirectory
20.1 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.

20.2 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
20.3 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.

20.4 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.

20.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting the project team at 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.

20.6 Attribution

This Code of Conduct is adapted from the Contributor Covenant, version 1.4, available at https://www.contributor-covenant.org/version/1/4.

orphan