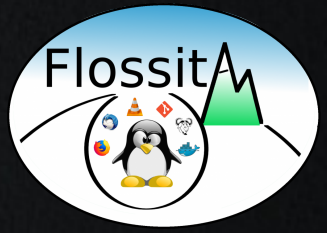
Vorteks

make IT work, make IT free

Authentication on web applications with LemonLDAP::NG



FLOSSCon 2022
2 June 2022

Speaker

Clément OUDOT
Identity Solutions Manager
Worteks

@clementoudot

LemonLDAP::NG
LDAP Tool Box
LDAP Synchronization Connector
FusionIAM
W'Sweet

KPTN - https://kptn.org
DonJon Legacy
Improcité

Worteks (\vɔʁ.tɛks\)

Service

Complex infrastructures, cloud, mail, authentication, security

- Studies, audit & consulting
- Technical expertise
- Support
- Training
- R&D and innovation

Edition

V'Sweet — Collaborative portal

V'Opla — Common developement platform

V'IDaaS — Identity and Access Management

Partners

Red Hat Advanced Business Partner Reseller

BlueMind

ONLYOFFICE

Collabora Online

All we need is you!

https://www.worteks.com/rejoindre/

Imagine SSOng

Imagine there are no passwords

Or maybe just only one

A single secured form

To access our applications

Imagine all the users

Loving security

Imagine some protocols

Made by clever people

CAS, OpenID or SAML

Even WS Federation

Imagine authentication

Interoperability

Imagine applications

No more storing passwords

Relying on a token

Even for authorizations

Imagine all developers

Loving security

You may say

I'm a hacker

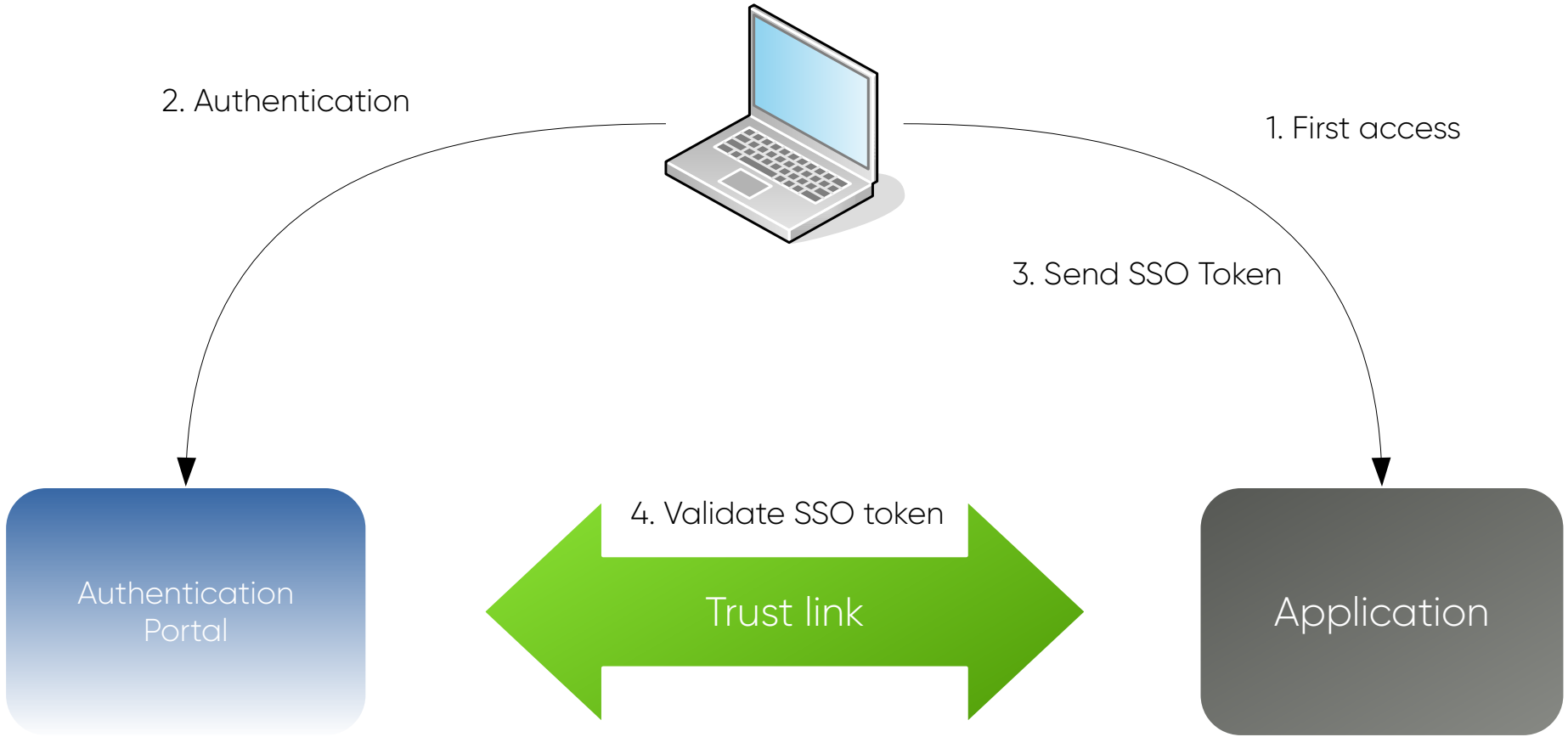
But I'm not the only one

I hope one day

You will log in

Using the Single Sign On

SSO Workflow



History

Project creation

Fork – version NG

Protocols CAS, SAML and OpenID Version 1.0

Protocol OpenID Connect

Second factors (2FA) Version 2.0

2003

2006

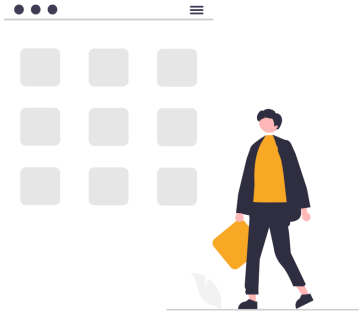
2010

2016

2018

Main features

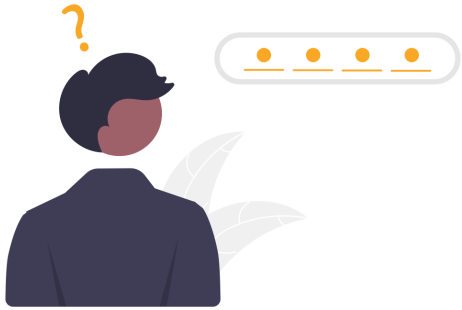
SSO & Access Control



Application menu

CAS / SAML / OIDC

Second Factor (2FA)

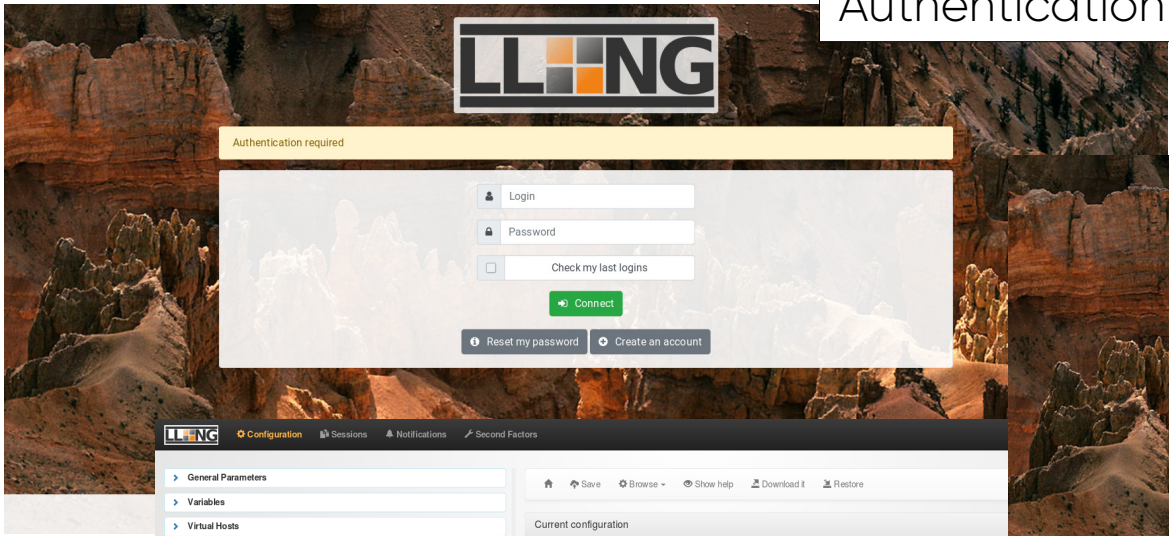


Password management

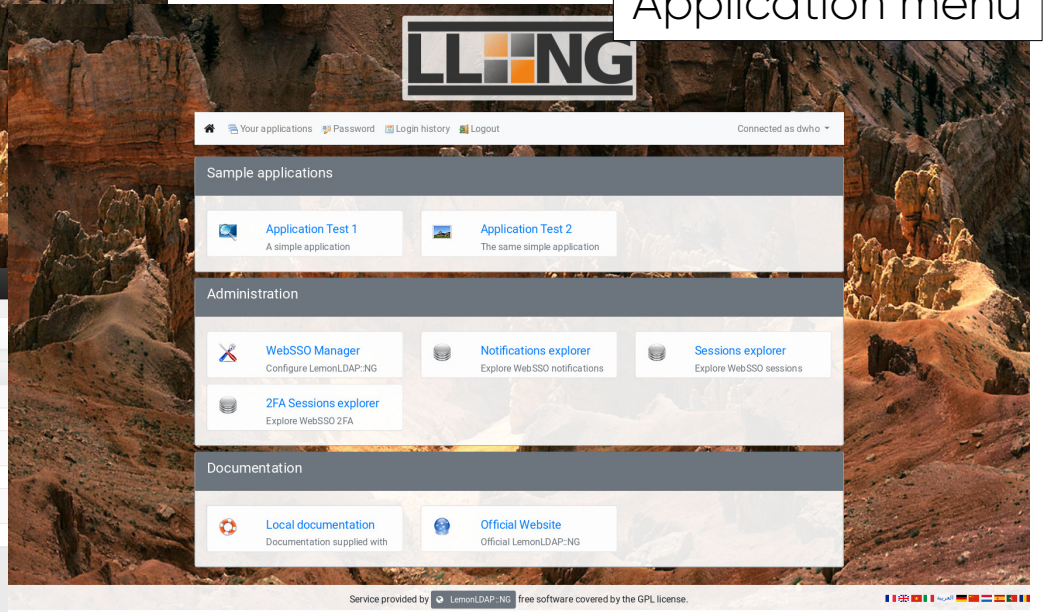
Graphical customization

Screenshots

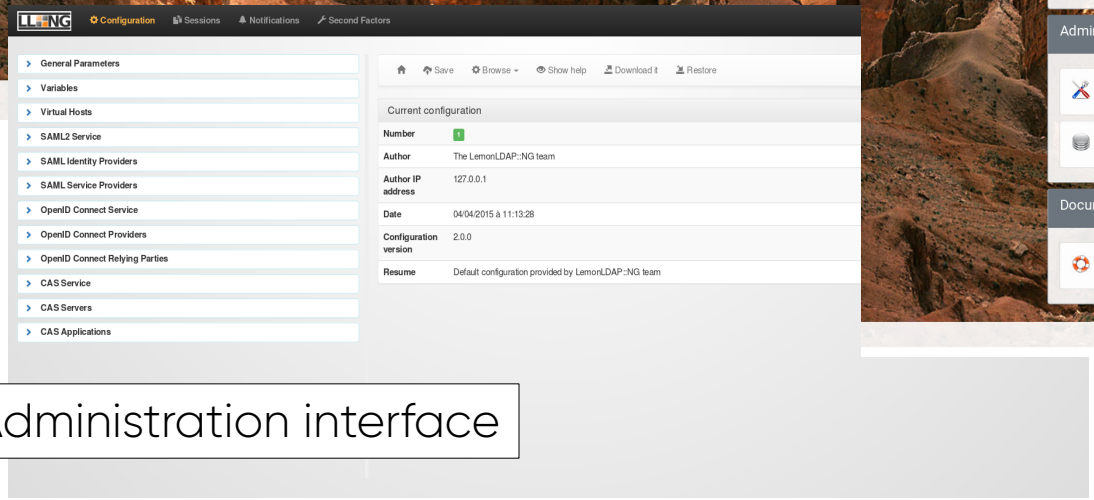
Authentication form



Application menu



Administration interface



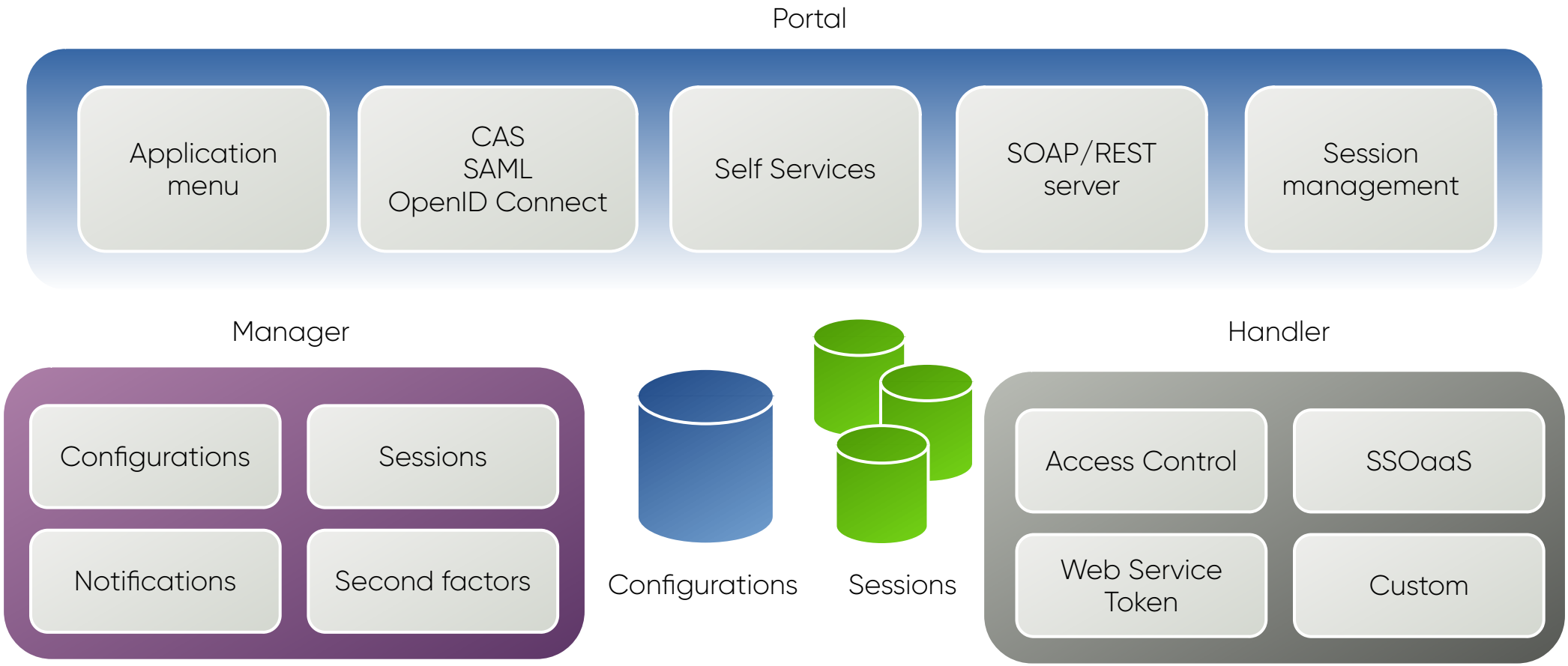
Command Line Interface

```
root@ader-worteks:~# /usr/share/lemonldap-ng/bin/lemonldap-ng-cli info

Num      : 88
Author   : clement
Author IP: localhost
Date     : Tue Dec 18 09:57:58 2018
Log      : Edited by lmConfigEditor
root@ader-worteks:~# /usr/share/lemonldap-ng/bin/lemonldap-ng-cli help
Usage: /usr/share/lemonldap-ng/bin/lemonldap-ng-cli <options> action <parameters>

Available actions:
 - help                          : print this
 - info                          : get currentconfiguration info
 - update-cache                  : force configuration cache to be updated
 - get    <keys>                 : get values of parameters
 - set    <key> <value>          : set parameter(s) value(s)
 - addKey <key> <subkey> <value> : add or set a subkey in a parameter
 - delKey <key> <subkey>         : delete subkey of a parameter

See Lemonldap::NG::Common::Cli(3) or Lemonldap::NG::Manager::CLi(3) for more
root@ader-worteks:~# /usr/share/lemonldap-ng/bin/lemonldap-ng-cli set ldapServer 'ldap://ldap.example.com'
```

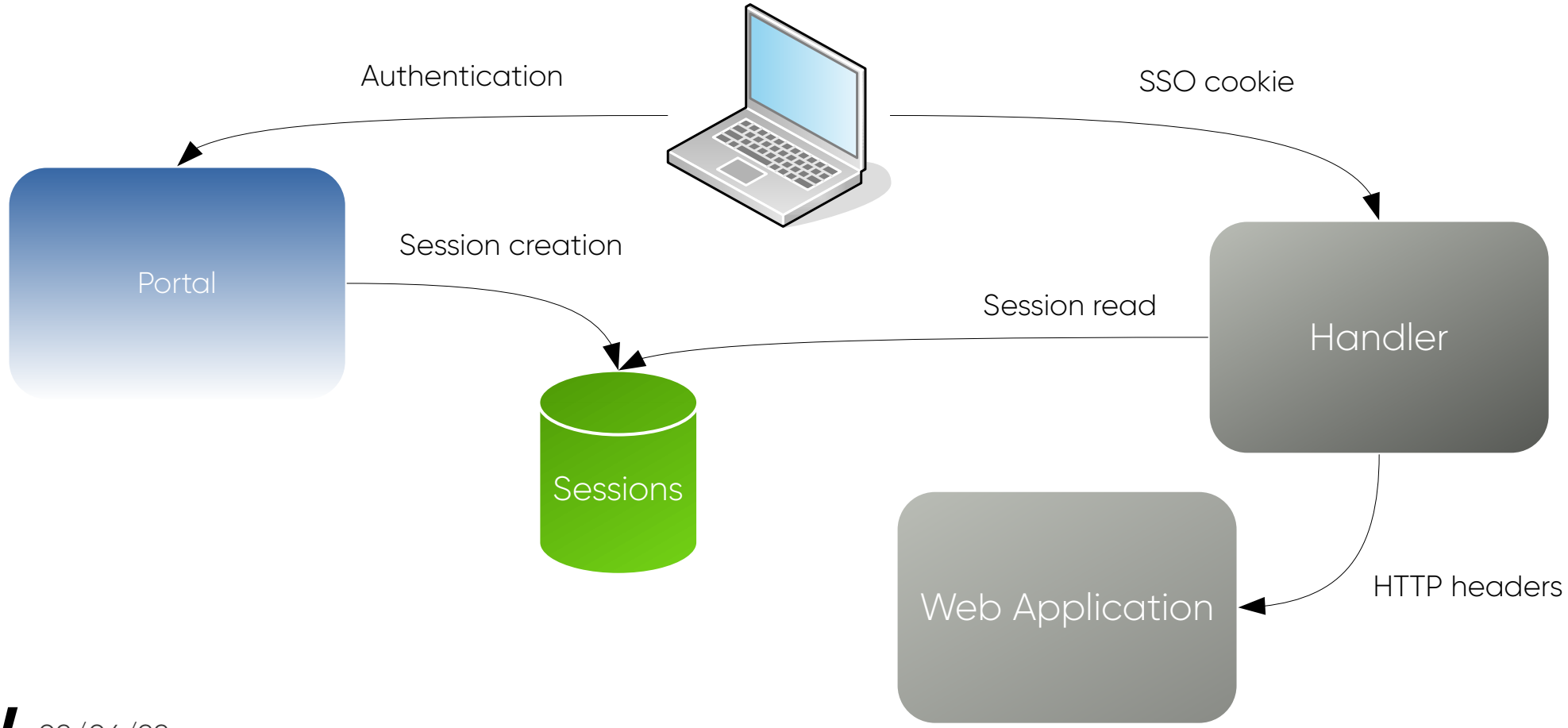
Free Software

- License GPL
- OW2 project
- Forge: https://gitlab.ow2.org/lemonldap-ng/lemonldap-ng
- Site: https://lemonldap-ng.org
- OW2 Community Award in 2014
- SSO component of FusionIAM project: https://fusioniam.org/

Component roles



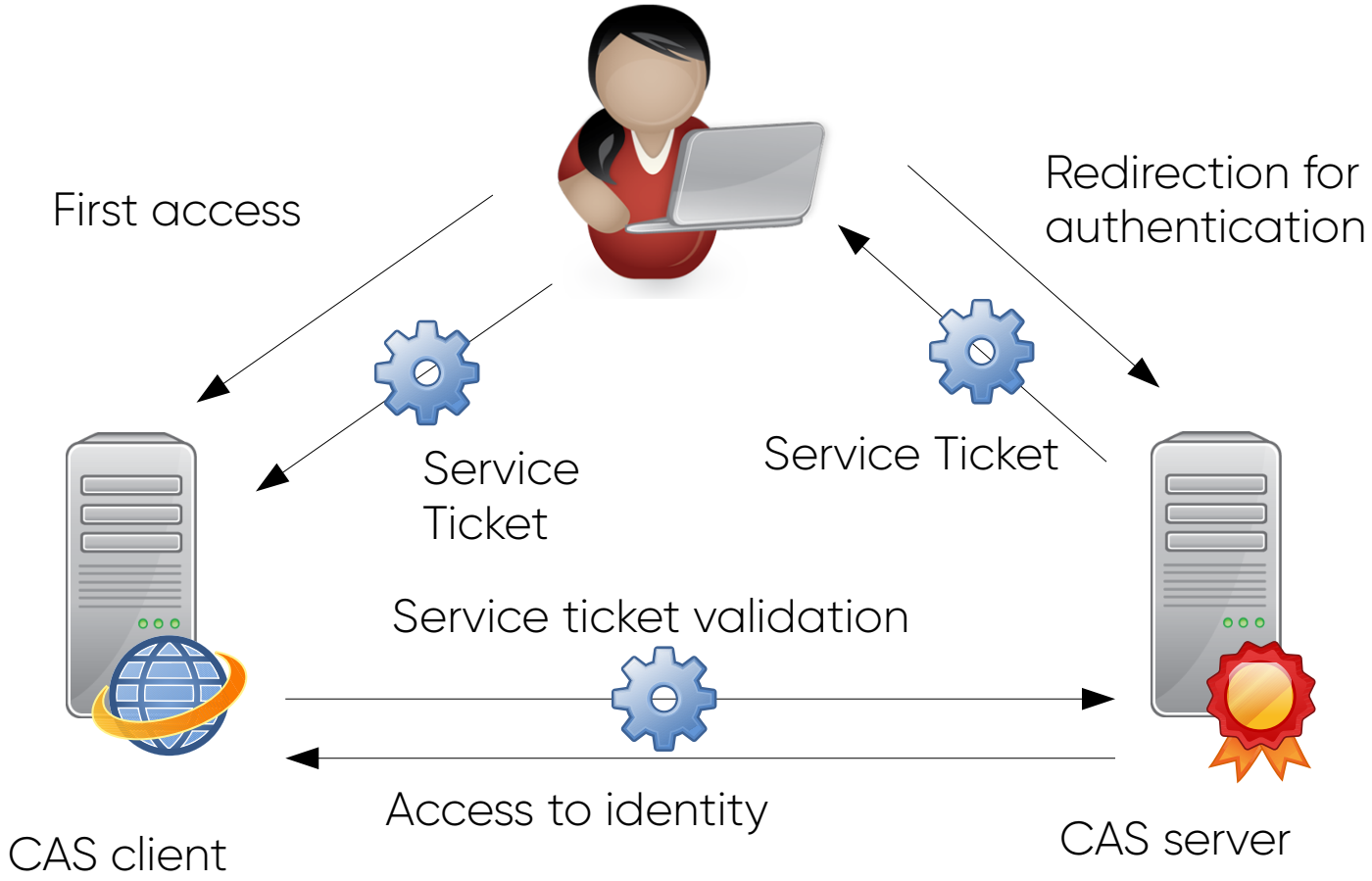
Web application



CAS

- Created by University of Yale
- Central Authentication Service
- Proxy mode since v2.0
- Attributes sharing since v3.0
- https://www.apereo.org/projects/cas

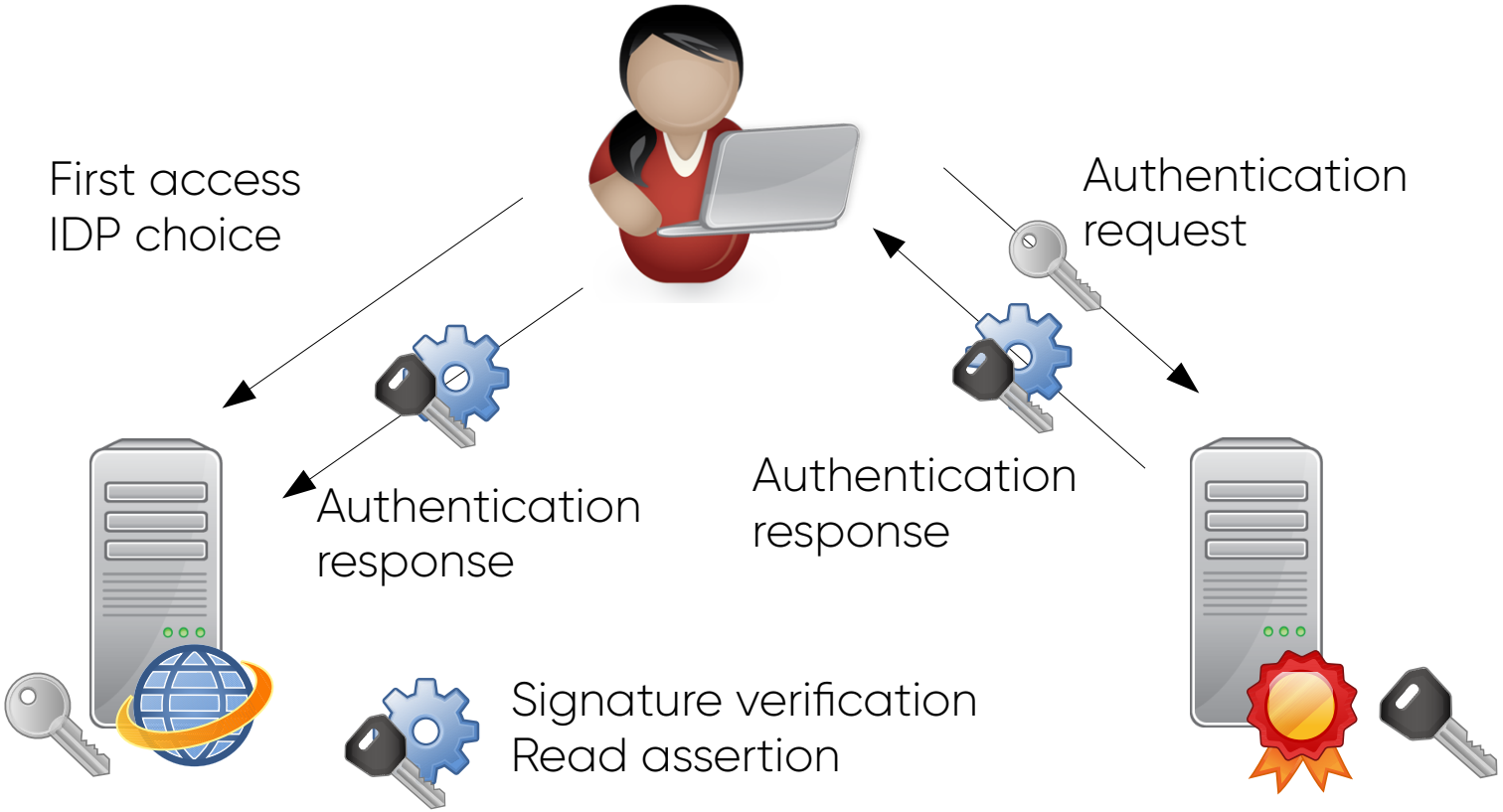
CAS


First access
Redirection for authentication
Service Ticket
Service Ticket
Service ticket validation
Access to identity
CAS client
CAS server

SAML

- Created by OASIS organization
- Security Assertion Markup Language
- Version 1.0 in 2002
- Version 1.1 in 2003
- Version 2.0 in 2005 merging SAML, Shibboleth and ID-FF (Liberty Alliance)

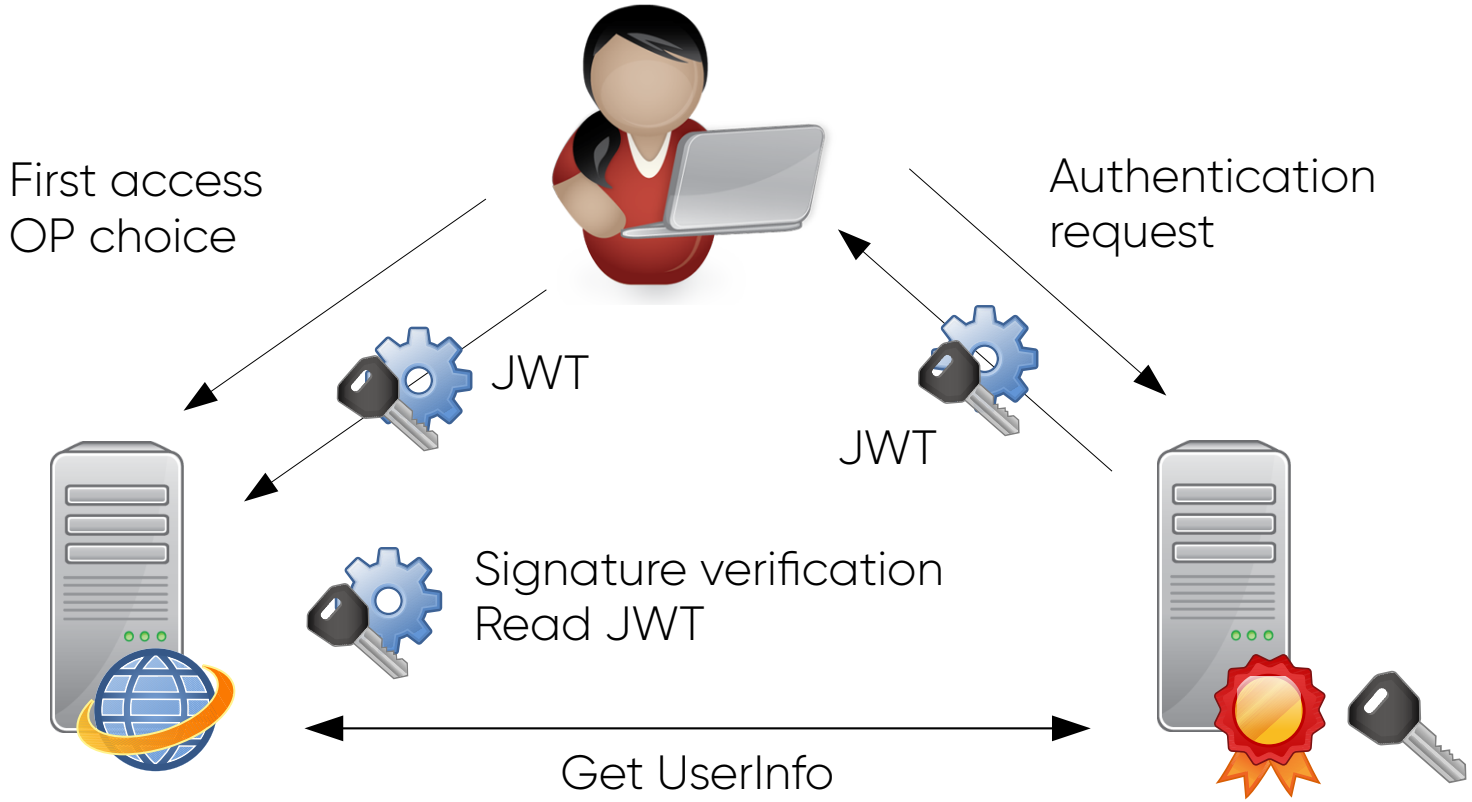
SAML


First access
IDP choice
Authentication
request
Authentication
response
Authentication
response
Signature verification
Read assertion
Service Provider (SP)
Identity Provider (IDP)

OpenID Connect

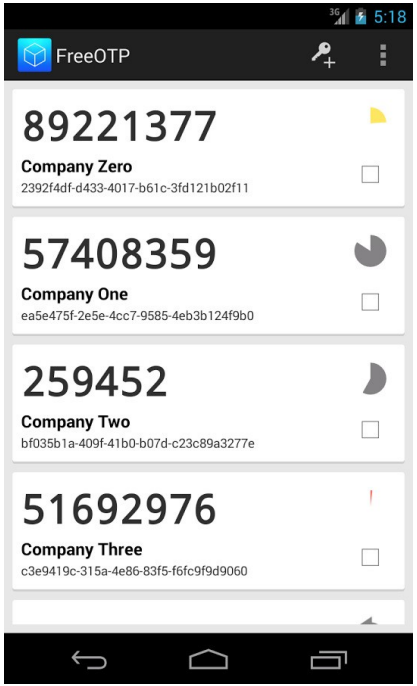
- Created in 2014
- Presented at RMLL in 2015
- Based on OAuth 2.0, REST, JSON, JWT, JOSE
- Adapted to web browser and native mobile applications
- Attributes sharing trough UserInfo endpoint

OpenID Connect



Second Factor Authentication (2FA)

- LemonLDAP::NG can use the following 2FA:
  - TOTP
  - WebAuthn
  - Mail
  - External (SMS)
  - REST
  - Yubikey
  - Radius



fido ALLIANCE

RENATER / eduGAIN

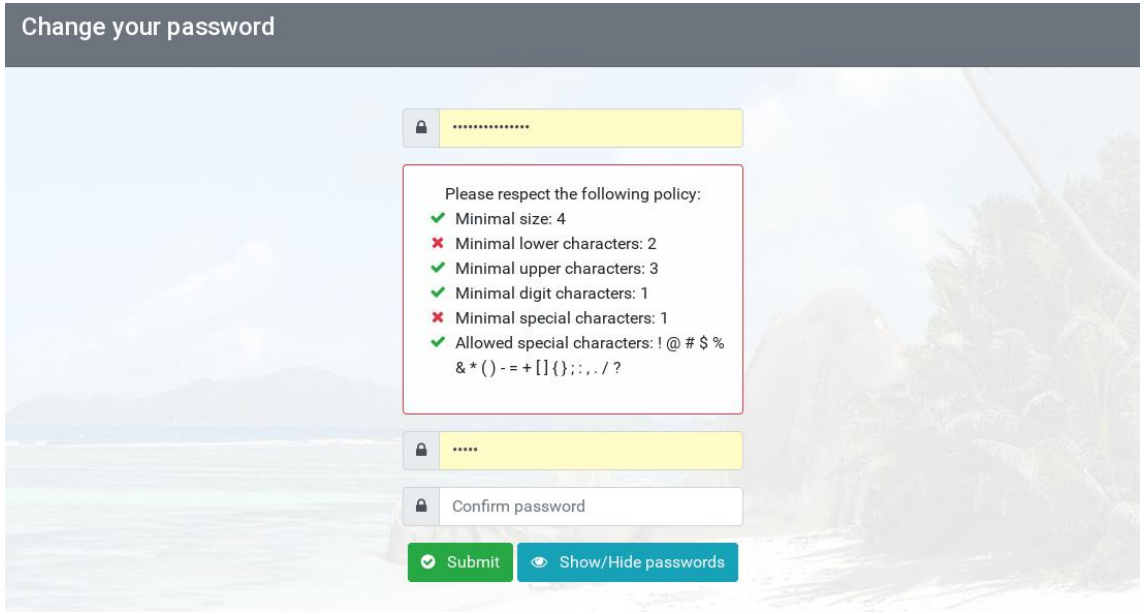
- Support of RENATER / eduGAIN via SAML2:
  - Service Provider
  - Identity Provider
- Call to Identity Provider selection page (WAYF) via SAML Discovery Protocol
- Metadata bulk import script

Plugin engine

- Portal code was fully rewritten, and it now allows to write plugins
- Plugin examples, provided by default:
  - Auto Signin: direct authentication for some IP
  - Brute Force: protect against brute-force attacks
  - Stay Connected: "remember me" button
  - Public Pages: create static pages using portal skin
- Write a custom plugin: https://lemonldap-ng.org/documentation/latest/plugincustom

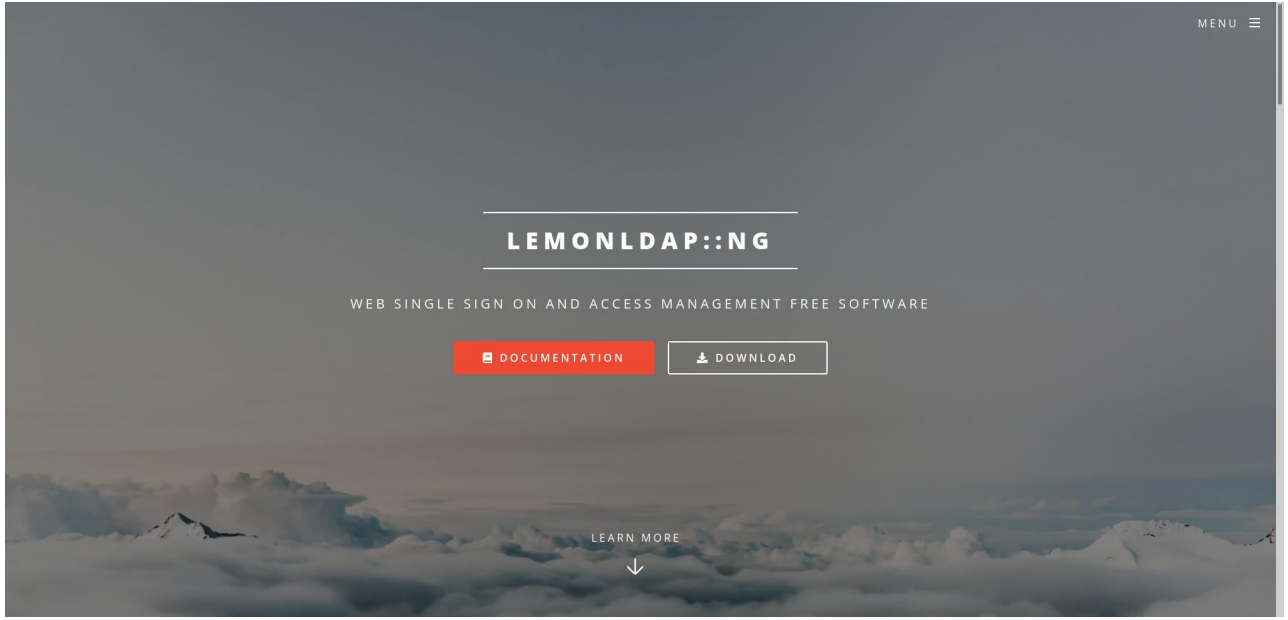
Password Policy

- A local password policy can now be configured (minimal size, type of characters, ...)
- A graphical form shows which criteria are filled



Documentation and Website

- Documentation was rewritten with Sphinx (reStructuredText)
- Website rebuilt as static pages with Templer



Keep informed about LL::NG

- Register to lemonldap-ng-announces mailing list
  https://mail.ow2.org/wws/subscribe/lemonldap-ng-announces
- Follow project updates
  https://projects.ow2.org/bin/view/lemonldap-ng/
- Social networks:
  - Twitter: https://twitter.com/lemonldapng/
  - Facebook: https://www.facebook.com/lemonldapng/

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