

# LibreOffice Online integration with Alfresco

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# Agenda

- Introduction/background
- The technical details
- A few demo scenarios
- Questions



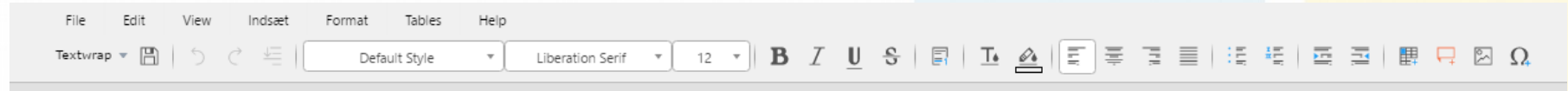
# Introduction/Background

- LibreOffice Online is an online version of the well known LibreOffice suite of productivity apps:
  - Writer (word processor)
  - Calc (spreadsheet)
  - Impress (presentation tool)
- Online version of LibreOffice has been on its way for many years now and was finally released in 2016
- General wish/demand in the market for **open source, device-independent, self hosted** and **collaborative** online office suite
- Magenta started working on the integration of LibreOffice Online with Alfresco almost a year ago, together with one of our collaborators in the public sector, Ballerup Kommune (municipality)

# LibreOffice Online advantages

- Self hosted alternative to Google Docs and Office 365
- No need to trust a third party SW provider with your data
- User's workflow can be completely liberated from the desktop
- Offers collaborative live editing

# LibreOffice Online vs desktop version of LibreOffice





# The technical details

# The technical details

## ● Notes about installation

- Installation Overview (honey for the combe)
- Installation Gotchas (bzz bzz bzz... swat swat SWAT!! )

## ● Points of integration

- WOPI protocol (how to beehave)
- Implementation (bee WOPI that OOTB/CE Alfresco)

## ● Architecture

- Brief description of LOOL architecture (bzz that hexagonal bzz to that bzzz)



# The technical details: Installation Overview

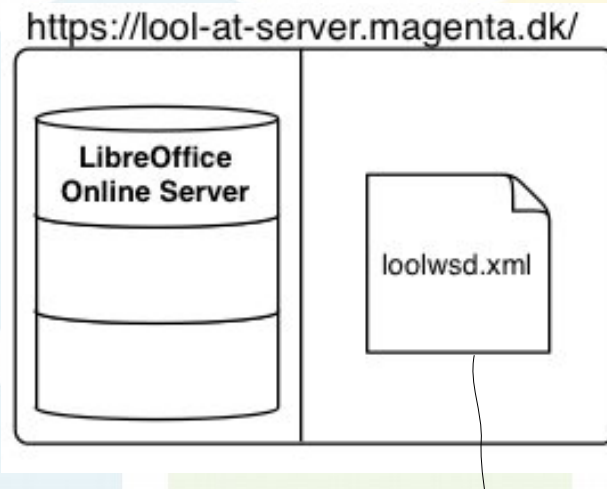
## LibreOffice Online server

- LibreOffice Core (must compile from source)
  - At the moment you must rebuild the latest LO core as is advised on Github
- LibreOffice online
  - Loolwsd web socket daemon
  - Loleaflet client

```
<storage desc="Backend storage">  
  <filesystem allow="false" />  
  <wopi desc="Allow/deny wopi storage. Mutually exclusive with webdav." allow="true">
```

Again, `${MASTER}` is location of the LibreOffice source tree with a built LibreOffice. This is work in progress, and consequently needs the latest LibreOffice master.

```
<webdav desc="Allow/deny webdav storage. Mutually exclusive with wopi." allow="false">  
  <host desc="Hostname to allow" allow="false">localhost</host>  
</webdav>  
</storage>
```

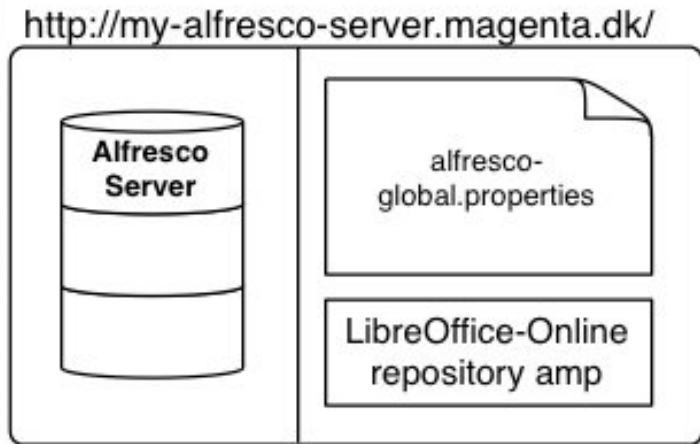




# The technical details: Installation Overview

## Alfresco server

- Amps developed against 5.0.d
- Alfresco amps
  - Repo amp <https://github.com/magenta-aps/libreoffice-online-repo>
    - WOPI discovery.xml
  - Share amp <https://github.com/magenta-aps/libreoffice-online-share>



lool.wopi.url=https://lool.magenta.dk:9980  
lool.wopi.alfresco.host=https://alfedu.magenta.dk/alfresco/s  
lool.wopi.url.discovery=https://alfedu.magenta.dk/discovery.xml

# The technical details: Notes about installation

## What do you need?

- Server requirements (Recommended)
  - Linux
    - Ubuntu 16.04 / Debian Jessie
    - 8Gb RAM
    - Minimum 30Gb
- Software
  - LibreOffice Core
  - Use/compile the official poco library
  - Node JS and NPM

# The technical details: Installation Gotchas

- Install node JS and npm first in loleaflet directory
  - Install jake in the loleaflet directory first then go back to working with wsd
  - Symlink nodejs to node (because Debian packages it as **nodejs** and most commands expect it to be '**node**')  
**sudo** ln -s /usr/bin/nodejs /usr/bin/node
- The user that is used to build LibreOffice is given the ***cap\_sys\_chroot*** ability, hence you should compile and build LibreOffice online as the user that will eventually run it.
- If you should need to update the code and rebuild:
  - ♦ Save your loolwsd.xml and diff compare it with the newly generated

# The technical details: Points of integration

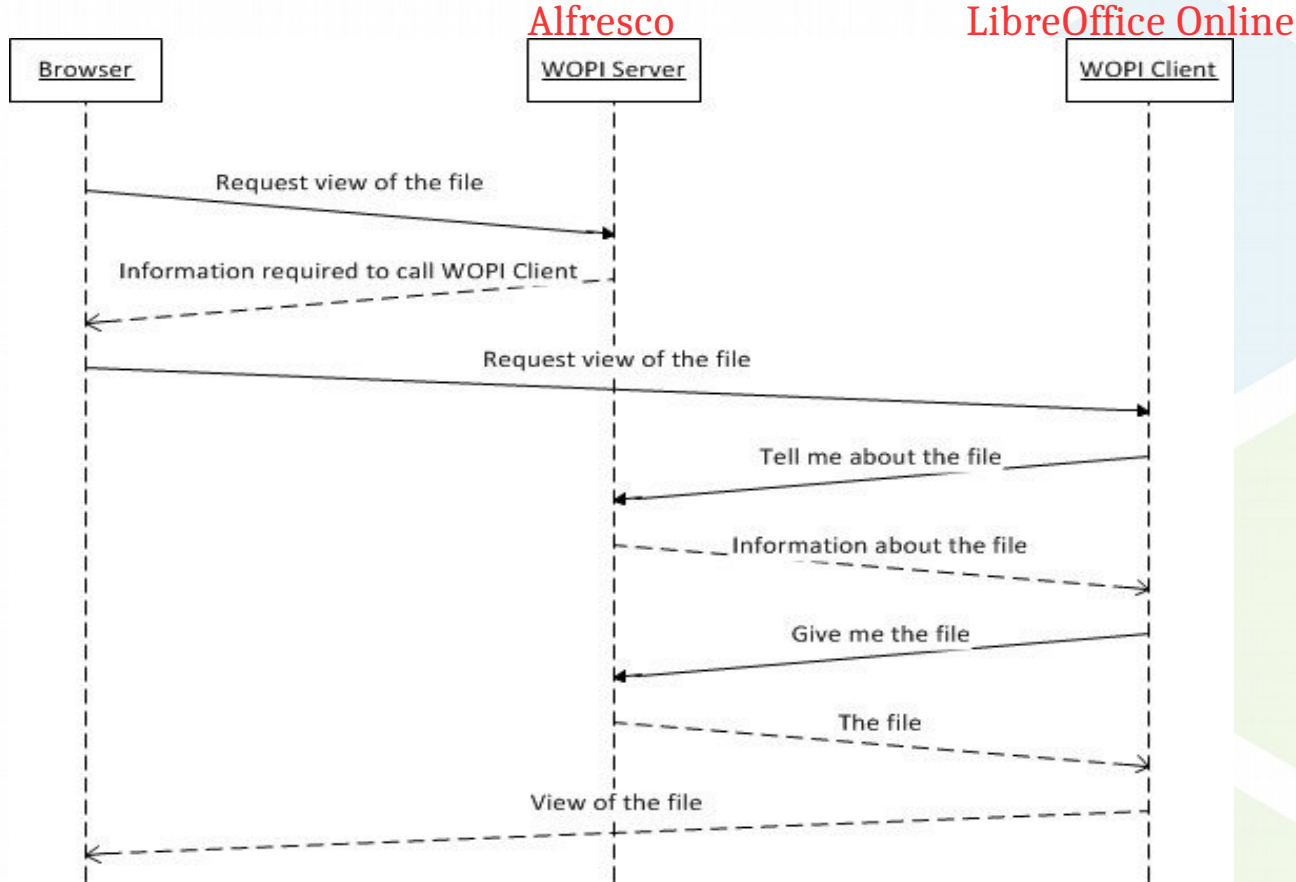
## Web Application Open Platform Interface (WOPI) protocol

- Identifies a set of operations that enables a client to access and change files stored by a server
- Discovery.xml

```
<?xml version="1.0" encoding="utf-8"?>
<wopi-discovery>
  <net-zone name="external-http">
    <app name="application/vnd.lotus-wordpro">
      <action name="edit" ext="lwp" urlsrc="https://my-lool-server.dk:9980/loleaflet/dist/loleaflet.html?"/>
      <action name="view" ext="lwp" urlsrc="https://my-lool-server.dk:9980/loleaflet/dist/loleaflet.html?"/>
    </app>
  </net-zone>
</wopi-discovery>
```



# The technical details: Points of integration (see WOPI that OOTB/CE Alfresco)



# The technical details: Architecture

LibreOffice Online

## The WebSocket Daemon (LoolWSD)

- Server (should be run as a service)
- Spawns a

→ **LoolForkit** is spawned to managed children (Kits) per request?

→ **LoolKit** is a spawned child that hosts a document.

# The technical details: Some Links

- **Building LibreOffice core** - <https://wiki.documentfoundation.org/Development/BuildingOnLinux>
- **Building LibreOffice online** - <https://github.com/LibreOffice/online>
  - [../tree/master/wsd](https://github.com/LibreOffice/online/tree/master/wsd)
  - [../tree/master/loleaflet](https://github.com/LibreOffice/online/tree/master/loleaflet)
- **Official POCO project download** - <https://pocoproject.org/download/>
  - requires mysql-server installation. Why?
- **Node Package Manager** - <https://nodejs.org/en/download/package-manager/#debian-and-ubuntu-based-linux-distributions>

## WOPI

- **Understanding WOPI protocol** - <https://blogs.msdn.microsoft.com/officedevdocs/2013/03/21/introducing-wopi/>
- **Github WOPI implementation code** - <https://github.com/LibreOffice/online/blob/master/wsd/Storage.cpp#L423>
- **Response body for checkfileInfo** - [https://msdn.microsoft.com/en-us/library/hh622920\(v=office.12\).aspx](https://msdn.microsoft.com/en-us/library/hh622920(v=office.12).aspx)
- **Endpoints documentation** - <http://wopi.readthedocs.io/projects/wopirest/en/latest/endpoints.html#endpoints>



# Demo scenarios



# Demo scenarios

- LibreOffice Online integrated with Alfresco Share
- LibreOffice Online integrated with Alfresco Angular (OpenDesk)
- Collaborative live editing
- Platform independency





Questions ?



Thank you!

## Speaker contacts

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