



BeeCon 2016

What to think about when you're planning to install Alfresco

Angel Borroy

developer @ keensoft



Disclaimer

“

No source code were developed during
the making of this presentation.

In fact, no coding abilities are required at all.



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Thinking of installing Alfresco

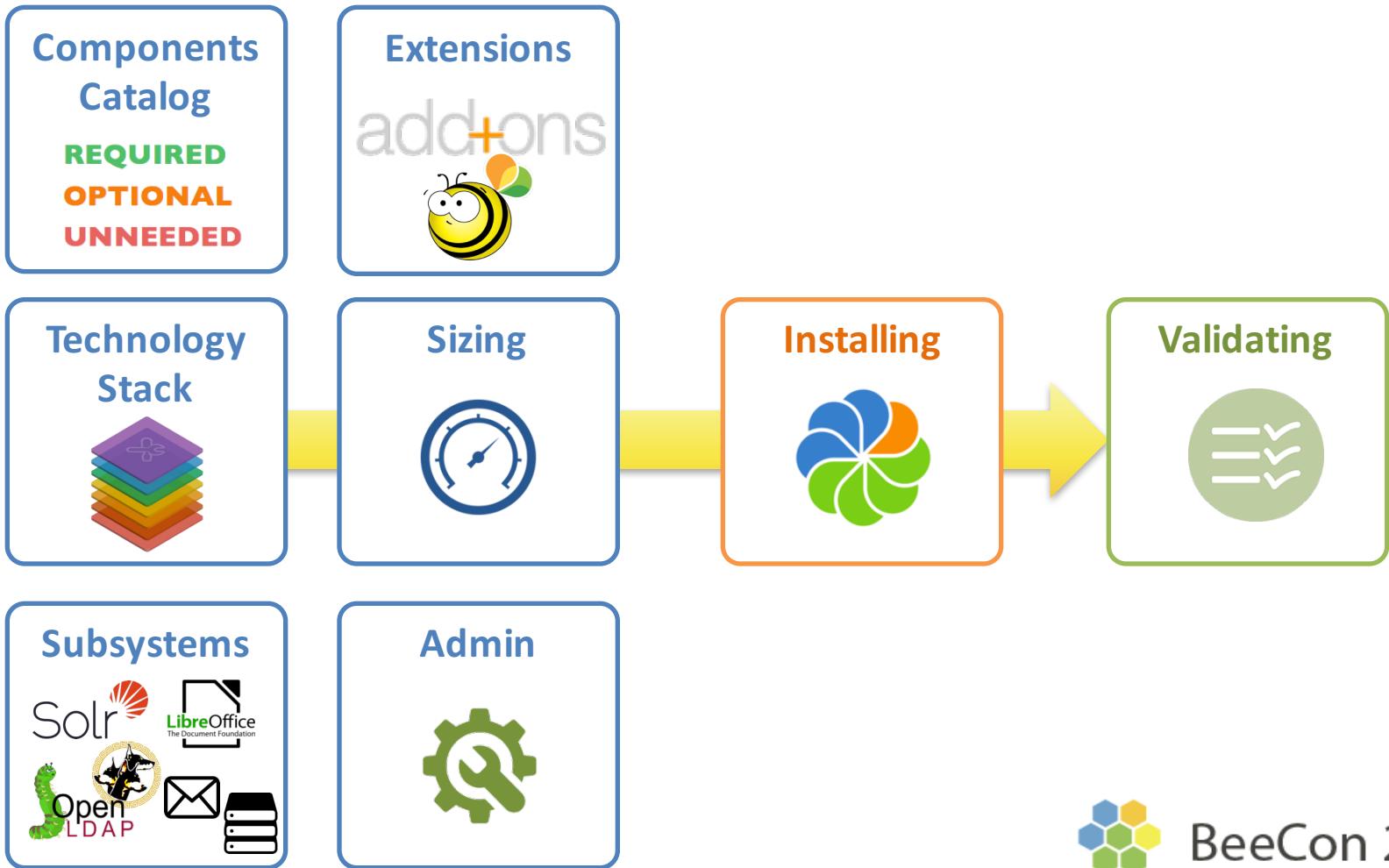
CONCEPTS



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Before installing



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After installing

Importing



Training



Supporting



Auditing



“

We can think about this later,
nevertheless it's also a matter of **thinking**



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Before installing

COMPONENTS CATALOG

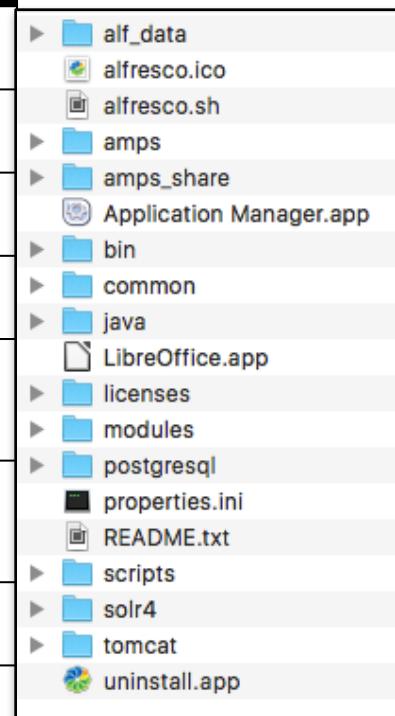


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Components catalog - Programs

Program	Default location (<i>wizard</i>)
Java	java
Repo	tomcat/alfresco.war
Activiti	tomcat/alfresco.war
Share	tomcat/share.war
SOLR	tomcat/solr4.war solr4
AOS	tomcat/vti_bin.war tomcat/ROOT.war
LibreOffice	libreoffice
ImageMagick	common/bin
GhostScript	common/bin
pdf2swf	common/bin
PostgreSQL	postgresql



Components Catalog
REQUIRED
OPTIONAL
UNNEEDED



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Components catalog - Protocols

Protocol	Default port
HTTP(s)	8080 (8443)
WebDAV	8080 (8443)
SPP	8080 (8443)
AJP	8009
CIFS	SMB 445 NetBIOS 137, 138, 139
NFS	2049
FTP	21
IMAP	143
SMTP	25
LibreOffice	8100
JMX	50500

Web
Server
80
443





Components catalog - APIs

API	Type	Use
CMIS	Remote	HTTP (REST / SOAP)
Alfresco Repository REST	Remote	HTTP (JSON / HTML)
Alfresco Repository JavaScript	Embedded	Server JavaScript (Rhino)
Alfresco Repository Freemarker Template	Embedded	Freemarker (FTL)
Alfresco Share JavaScript	Embedded	Client JavaScript (Aikau / YUI)
Alfresco Surf Platform	Embedded	Server Java (Spring Surf)
Alfresco Java Public	Embedded	Server Java (Spring)





Before installing

TECHNOLOGY STACK



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Technology stack - Server

Element	Alternatives	Supported Platforms
OS	Linux, Mac OS, Windows	Alfresco Enterprise
JDK	Oracle JDK, OpenJDK	
Application Server	Apache Tomcat <i>Jboss, WebLogic, WebSphere</i>	
Web Server	Apache HTTP, NGINX <i>Amazon ELB</i>	X
Database	PostgreSQL, MariaDB, MySQL	
Storage	NAS / NFS	
Content Transformer	LibreOffice	
Image Transformer	ImageMagick	
GhostScript	GS	



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Technology stack - Client

Element	Alternatives	Supported Platforms
OS	Linux, Mac OS, Windows	Alfresco Enterprise
Browser	Chrome, Firefox, Safari <i>Explorer, Edge</i> Opera	Supported Platforms
Office	LibreOffice 4, 5 Microsoft Office 2016 , 2013, 2011, 2010	
Mobile	iOS, Android	



Before installing

SUBSYSTEMS



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Subsystems

Subsystem	Config location	Google Docs AOS
Activities Feed	activities-jobs.properties	
Audit	repository.properties (audit.*)	
Authentication	NTLM alfresco-authentication.properties LDAP ldap-authentication.properties AD ldap-ad-authentication.properties EXT external-authentication.properties KERB kerberos-authentication.properties PASS passthru-authentication-context.properties	
Email	inboundSMTP.properties outboundSMTP.properties imap-server.properties	
File Servers	file-servers.properties	
Transformers	transformers.properties openoffice-transform.properties imagemagick-transform.properties	
Search	common-search.properties solr-search.properties	

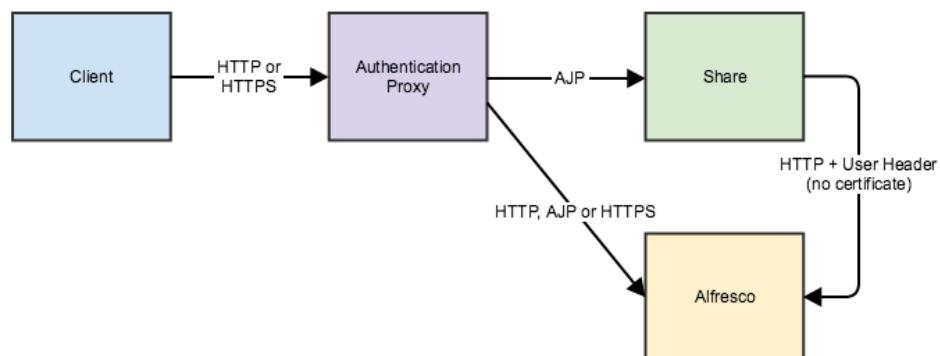


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Subsystems - Authentication

Type	Description	Single sign-on (SSO) support	CIFS authentication	User registry entry
alfrescoNtlm	Native Alfresco authentication	Yes, NTLM	Yes	No
ldap	Authentication and user registry export through the LDAP protocol (for example, OpenLDAP)	No	No	Yes
ldap-ad	Authentication and user registry export from Active Directory through the LDAP protocol	No	No	Yes
passthru	Authentication through a Windows domain server	Yes, NTLM	Yes	No
kerberos	Authentication through a Kerberos realm	Yes, SPNEGO	Yes	No
external	Authentication using an external SSO mechanism	Yes	No	No

<http://docs.alfresco.com/community/concepts/auth-subsystem-types.html>



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Before installing

EXTENSIONS



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Extensions

Addon	URL
Site Home Page Plus	https://github.com/keensoft/alfresco-site-home-page-plus
Alfresco ESign Cert	https://github.com/keensoft/alfresco-esign-cert
Alfresco My Files Quota	https://github.com/keensoft/alfresco-myfiles-quota
Alfresco Datalist Constraints	https://github.com/keensoft/alfresco-datalist-constraints
Alfresco Site Home Page	https://github.com/keensoft/alfresco-site-home-page-plus
Alfresco OCR	https://github.com/keensoft/simple-ocr-action
Alfresco Datalist Constraints	https://github.com/keensoft/alfresco-datalist-constraints
Alfresco JS Console	https://github.com/share-extras/js-console
Share Site Creators	https://github.com/jpotts/share-site-creators
Uploader Plus	https://github.com/softwareloop/uploader-plus
Share Site Logo Customize	https://github.com/douglascrp/alfresco-share-site-logo-customization
Alfresco Audit Analysis and Reporting	http://sourceforge.net/projects/aaar/files/
Java Melody	https://github.com/javamelody/javamelody



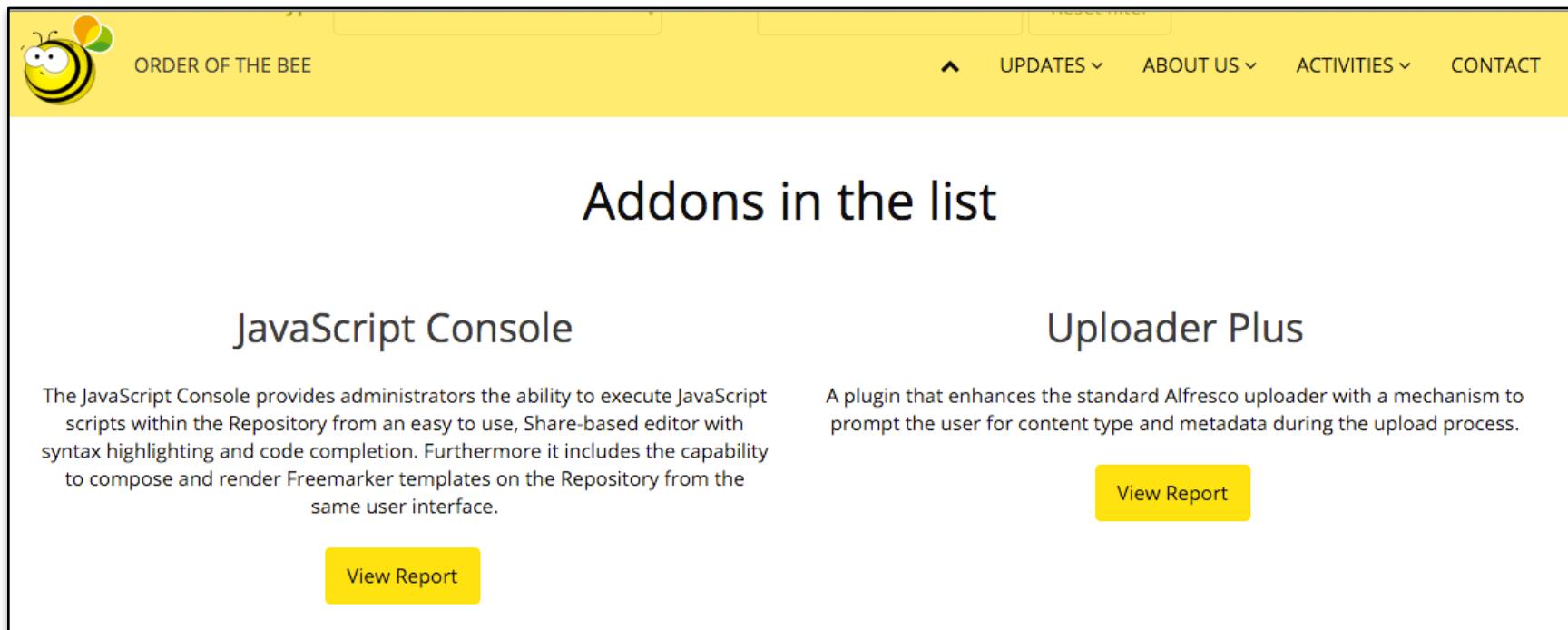
Make your own list



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Extensions



The screenshot shows a website with a yellow header bar. On the left is a logo of a bee with wings forming a hexagon. To its right are the words "ORDER OF THE BEE". Along the top right are navigation links: "UPDATES", "ABOUT US", "ACTIVITIES", and "CONTACT". Below the header, the main content area has a title "Addons in the list". There are two main sections: "JavaScript Console" and "Uploader Plus". Each section has a brief description, a "View Report" button, and a "View Report" link below it.

Addons in the list

JavaScript Console

The JavaScript Console provides administrators the ability to execute JavaScript scripts within the Repository from an easy to use, Share-based editor with syntax highlighting and code completion. Furthermore it includes the capability to compose and render Freemarker templates on the Repository from the same user interface.

[View Report](#)

Uploader Plus

A plugin that enhances the standard Alfresco uploader with a mechanism to prompt the user for content type and metadata during the upload process.

[View Report](#)



<https://github.com/OrderOfTheBee/addons/wiki>

<https://github.com/OrderOfTheBee/addons/wiki/Technical-inclusion-criteria>

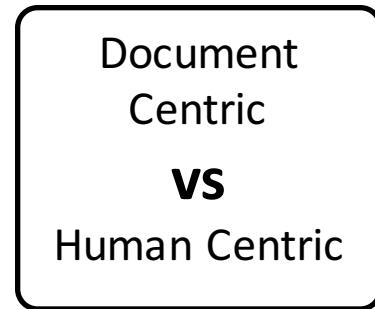


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Extensions - Development

- Content Model
 - Searching
- Custom actions
 - Archiving
 - Publishing
- Custom (simple) workflows
- Share theme customization





Before installing

SIZING



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Sizing

- Number of users
 - 10% can be considered as concurrent
- Storage volume estimation
 - 2x content
 - 0,2x search indexes
- Identifying requirements by element



Sizing



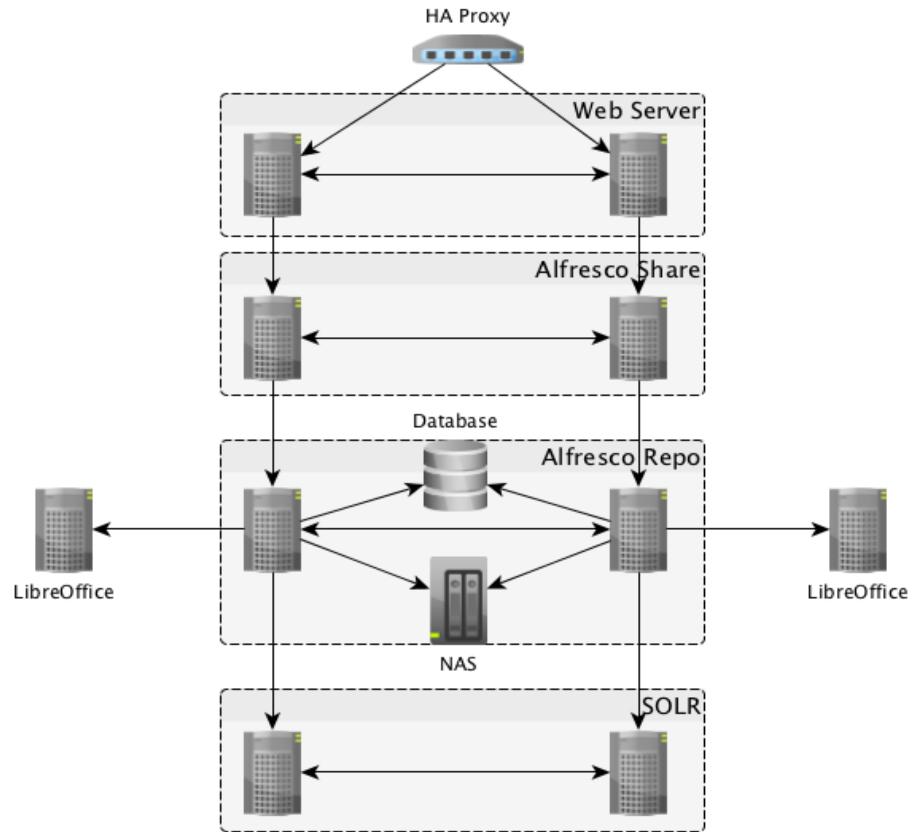
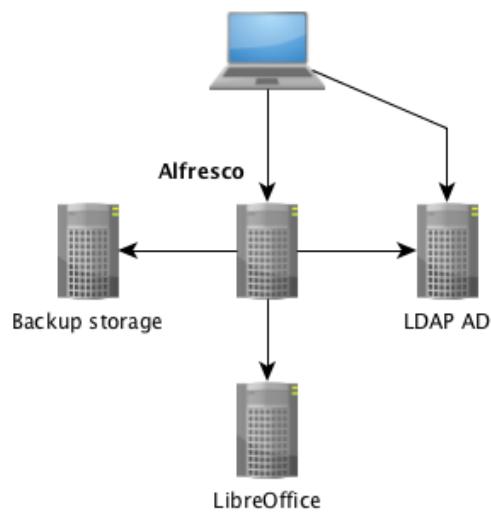
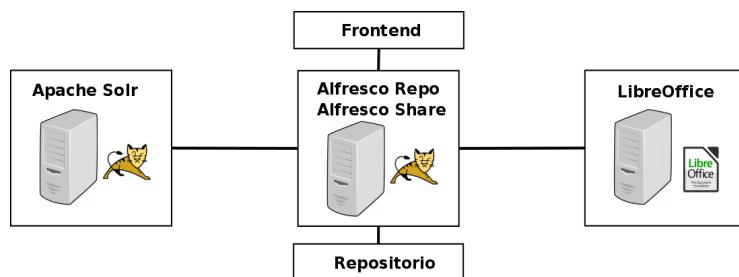
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Sizing

Component	Requirements
Web Server	RAM Thread pool
Apache Tomcat Alfresco	RAM
Apache Tomcat Share	CPU Thread pool
Apache Tomcat SOLR4	RAM CPU Thread pool
LibreOffice	RAM CPU
Database	RAM Thread pool
Storage	HD

Sizing - Scaling



Sizing



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Before installing

ADMIN



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Admin

- Testing (and documenting) every required operation*
 - Starting and stopping Alfresco
 - Monitoring
 - Tuning adjustments
 - Backup and restoring
 - Upgrading
 - Log files management
 - Working with Alfresco modules



Admin

* YES: you have to test all these operations BEFORE installing in a production environment



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During installing

INSTALLATION PROCESS



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Installing

- Wizard installer
 - <https://www.alfresco.com/alfresco-community-download>
- Installing from scratch
 - https://wiki.alfresco.com/wiki/Community_file_list_201602-GA
- Third party distros
 - Order of the Bee, Lotfux
- Amazon AWS (marketplace)
- Alfresco SPK



Installing



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Installing

- Documenting every step
 - Base software installation
 - Frontend, database, required programs...
 - Alfresco installation
 - Configuration
 - SOLR, IMAP, SMTP, LDAP AD, CIFS, Kerberos, SPP...
 - Extension
 - Tuning

The fewer configuration files modified, the easier upgrading and maintaining will be



Installing



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During installing

VALIDATING



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Validating

- Testing services **availability**
 - Repository <https://server.org/alfresco>
 - Share <https://server.org/share>
 - Admin console <https://server.org/alfresco/s/admin>
 - Monitoring <https://server.org/alfresco/monitoring>
 - SOLR <https://server.org/solr4>
 - CMIS
 - <https://server.org/alfresco/api/-default-/public/cmis/versions/1.1/atom>
 - SPP <https://server.org/alfresco-aos>
 - WebDAV <https://server.org/alfresco/webdav>
 - CIFS <smb://server.org/alfresco>



Validating



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Validating

- **Capacity planning**
 - Alfresco Benchmark Framework*
 - Custom developed
 - CMIS client <https://chemistry.apache.org/>
 - Alfresco Repo
 - Selenium WebDriver <http://www.seleniumhq.org/projects/webdriver/>
 - Alfresco Share
 - Apache Jmeter <http://jmeter.apache.org/>
 - Alfresco Repo
 - Alfresco Share

** Use it at your own risk: nice for enormous installations but oversized for smaller one*



Validating



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Validating

- **Functional validation**
 - Customizations manual
 - Using real data
 - Identifying circuits of use
 - Execution
 - Hand made
 - Automating
 - Selenium Webdriver enhanced by LeadFoot



Validating



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Use Case

CROP TRUST



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Use case – Crop Trust



MATIJA OBREZA
INFORMATION SYSTEMS MANAGER

Nationality: Slovene
Languages Spoken: Slovene and English
Favorite Crop: [Yam](#)

Matija is responsible for information systems at the Crop Trust and global information systems in support of the conservation of crop diversity such as Genesys.



ALIREZA MOHAMMADI
IT SYSTEM ADMINISTRATOR

Nationality: Iranian
Languages Spoken: English and Persian
Favorite Crop: [Coconut](#), because the coconut palm will continue to provide everything from food and drink to rope, cooking oil, cosmetics – and sustainable livelihoods for 10 million poor households.

Ali is responsible for the organization's IT-related issues and for implementing IT security strategies and IT projects.

The Crop Trust is a small organization with a big mission. With less than 30 people, the Crop Trust has staff of broad talents and exceptional drive to ensure the conservation of crop diversity, forever.



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Use case – Crop Trust

Element	Adaptation
Share	REQUIRED
Repo	REQUIRED
SOLR 4	REQUIRED
LibreOffice	REQUIRED
ImageMagick	REQUIRED
GhostScript	REQUIRED
pdf2swf	UNNEEDED
Activiti	REQUIRED
CIFS	REQUIRED
WebDAV	REQUIRED
FTP	OPTIONAL
IMAP	REQUIRED
SMTP	REQUIRED
SPP	REQUIRED

Components Catalog
REQUIRED
OPTIONAL
UNNEEDED

	CMIS	REQUIRED
Alfresco Repository REST		OPTIONAL
Alfresco Repository JavaScript		UNNEEDED
Alfresco Repository Freemarker		UNNEEDED
Template		
Alfresco Share JavaScript		UNNEEDED
Alfresco Surf Platform		UNNEEDED
Alfresco Java Public		UNNEEDED



Activities Feed	REQUIRED
Audit	UNNEEDED
Authentication	REQUIRED
Email	REQUIRED
File Servers	REQUIRED
Transformers	REQUIRED
Google Docs	OPTIONAL



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Use case – Crop Trust

Addon	Adaptation
Site Home Page Plus	OPTIONAL
Alfresco Firma	OPTIONAL
Alfresco Site Groups	UNNEEDED
Alfresco My Files Quota	UNNEEDED
Alfresco Agreement Filter	UNNEEDED
Alfresco Datalist Constraints	OPTIONAL
Alfresco OCR	REQUIRED
Share Site Creators	REQUIRED
Uploader Plus	OPTIONAL
Share Site Logo Customize	UNNEEDED
Alfresco Unzip Action	UNNEEDED
Alfresco Audit Analysis and Reporting	UNNEEDED
EML previewer	REQUIRED



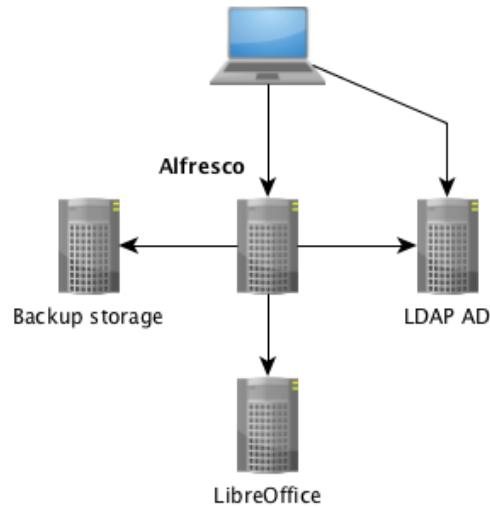


Component	Supported version (or upper)
OS	Ubuntu 14.04.1 LTS x64
JDK	Oracle JDK 8 U31 x64
Application Server	Apache Tomcat 7.0.59
Web Server	Apache HTTP server 2.2 ¹
Database	PostgreSQL 9.3.5 MySQL 5.6.19a / MariaDB 10.0.14 Amazon Aurora
Storage	NAS / NFS ²
Content Transformer	LibreOffice 4.2.5.2
Image Transformer	ImageMagick 6.8.6-6
SWF	SWFTools 0.9.2
Previewer	
Ghostscript	GS 8.7.0
Finder	10.9.1



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Use case – Crop Trust



Component	Requirements
Web Server	512 Kb RAM Default thread pool
Apache Tomcat Alfresco	3 GB RAM 2x server CPU >= 2.0 GHz Default thread pool
Apache Tomcat SOLR4	3 GB RAM 2x server CPU >= 2.0 GHz Default thread pool
LibreOffice	2 GB RAM
Database	1 GB RAM Default thread pool
Storage	120 GB 200 MB/s or higher





Use case – Crop Trust

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Installing



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4.6	Share site home page	17



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After installing

HAVE WE FINISHED YET?



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After installing

Importing



Training



Supporting



Auditing



“What to think about once you’ve
installed Alfresco”

Maybe next year



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What to think about when you're planning to install Alfresco

Angel Borroy

developer @ keensoft