Increase Security and Scalability: Reverse Proxy is Alfresco's buddy

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Motivation

- Easy SSL configuration

- Redirects

- Security

- Scalability and Caching*

* Inspired by Ishara Fernando (Alfresco Summit 2014/London)

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Nginx vs. Apache

Nginx	Apache
Event Driven	Process Driven
Scales much better: One worker (process) can handle thousands of simultaneous connections/requests	Every request creates a new process/thread
Requires custom compilation for the features shown	Easier to setup
http only	mod_proxy_ajp or mod_proxy_http

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Tomcat Config NGINX

```xml
<!-- Connectors for reverse proxy (nginx) -->
    <Connector port="8081" address="localhost"
        URIEncoding="UTF-8" protocol="HTTP/1.1"
        maxThreads="300" connectionTimeout="600000" maxHttpHeaderSize="32768"
        redirectPort="443" disableUploadTimeout="false"
        proxyPort="443" scheme="https" secure="false" sslProtocol="TLS"
        maxSavePostSize="-1"
        />
    <Connector port="8082" address="localhost"
        URIEncoding="UTF-8" protocol="HTTP/1.1"
        maxThreads="300" connectionTimeout="600000" maxHttpHeaderSize="32768"
        redirectPort="80" disableUploadTimeout="false"
        proxyPort="80" scheme="http" secure="false"
        maxSavePostSize="-1"
        />
```

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        />
```

Tomcat Config NGINX

- Resolve real host from reverse proxy headers instead of hard coded proxyName

```
<Valve className="org.apache.catalina.valves.RemoteIpValve"
        remoteIpHeader="x-forwarded-for"
        remoteIpProxiesHeader="x-forwarded-by"
        protocolHeader="x-forwarded-proto"
    />
```

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Tomcat Config

```
<!-- Connectors for reverse proxy (apache) -->

<Connector port="7009" address="localhost" protocol="AJP/1.3" redirectPort="7443"
     scheme="https" proxyPort="443" secure="true" URIEncoding="UTF-8"
     maxThreads="500" maxSavePostSize="-1" />
<Connector port="7010" address="localhost" protocol="AJP/1.3" redirectPort="7443"
     scheme="http" proxyPort="80" secure="false" URIEncoding="UTF-8"/>
```

WebDAV

```
# webdav extra methods
    <LocationMatch "^/alfresco/webdav/.+$">
        <Limit OPTIONS PROPFIND GET REPORT MKACTIVITY
         PROPPATCH PUT CHECKOUT MKCOL MOVE COPY DELETE
         LOCK UNLOCK MERGE>
                Order Deny,Allow
                Allow from all
                # change this or add your own IP
                  to allow webdav access
                # Deny from all
                # Allow from 234.234.234.234
                # Allow from 127.0.0.1
                    Satisfy Any
        </Limit>
    </LocationMatch>
```

WebDAV NGINX

No WebDAV support by default!

"To add HTTP and WebDAV methods like
PUT, DELETE, MKCOL, COPY and MOVE you need to
compile nginx with HttpDavModule!"

s.

Caching (e.g. Site DocLib)

Full Reload

- nginx with caching

● 200	GET	claro_025b76d478d52769a40f555...	🔒 alf-appliance5.e...	css	206,06 KB	206,06 KB		
● 200	GET	tinymce.min.js?checksum=f34ea2...	🔒 alf-appliance5.e...	js	292,42 KB	292,42 KB		
● 200	GET	tinymce.min.js	🔒 alf-appliance5.e...	js	292,42 KB	292,42 KB		
● 200	GET	de752c45381d52bd3cb5a8b08100...	🔒 alf-appliance5.e...	js	366,94 KB	366,62 KB		
● 200	GET	pdf.worker_3956013bb1591ad91...	🔒 alf-appliance5.e...	js	577,04 KB	577,04 KB		
● 200	GET	yui-common_0ebd1fff37640abe89...	🔒 alf-appliance5.e...	js	695,43 KB	695,43 KB		

All | HTML | CSS | JS | XHR | Fonts | Images | Media | Flash | Other | 🔍 | ⏱ **170 requests, 5.235,30 KB, 14,62 s** | Clear

- Tomcat directly

● 200	GET	claro_025b76d478d52769a40f555...	🔒 alf-appliance5.e...	css	206,06 KB	206,06 KB		
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● 200	GET	tinymce.min.js	🔒 alf-appliance5.e...	js	292,42 KB	292,42 KB		
● 200	GET	de752c45381d52bd3cb5a8b08100...	🔒 alf-appliance5.e...	js	366,94 KB	366,62 KB		
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Caching (e.g. Site DocLib)

Reload

- nginx with caching

○	200	GET	edit-site.js	🔒	alf-appliance5.e...	js	cached	4,69 KB
●	200	GET	authenticated?noCache=1460983...	🔒	alf-appliance5.e...	json	0,02 KB	0,02 KB
●	200	GET	tags?d=1460983791762&topN=100	🔒	alf-appliance5.e...	json	0,04 KB	0,04 KB
●	200	GET	documentLibrary?perms=false&chi...	🔒	alf-appliance5.e...	json	0,28 KB	0,28 KB
●	200	GET	documentlibrary	🔒	alf-appliance5.e...	html	23,29 KB	104,66 KB
●	200	GET	/share/service/components/docum...	🔒	alf-appliance5.e...	json	49,73 KB	49,73 KB

All	HTML	CSS	JS	XHR	Fonts	Images	Media	Flash	Other	🔍	⊘ 121 requests, 4.591,53 KB, 4,87 s	Clear

- Tomcat directly

○	200	GET	edit-site.js	🔒	alf-appliance5.e...	js	cached	4,69 KB
●	200	GET	authenticated?noCache=1460983...	🔒	alf-appliance5.e...	json	0,02 KB	0,02 KB
●	200	GET	tags?d=1460983887076&topN=100	🔒	alf-appliance5.e...	json	0,04 KB	0,04 KB
●	200	GET	documentLibrary?perms=false&chi...	🔒	alf-appliance5.e...	json	0,28 KB	0,28 KB
●	200	GET	/share/service/components/docum...	🔒	alf-appliance5.e...	json	49,73 KB	49,73 KB
●	200	GET	documentlibrary	🔒	alf-appliance5.e...	html	104,66 KB	104,66 KB

All	HTML	CSS	JS	XHR	Fonts	Images	Media	Flash	Other	🔍	⊘ 121 requests, 4.591,53 KB, 4,99 s	Clear

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Caching (e.g. Site DocLib)

- Requests **to Tomcat**

	Nginx with caching	Tomcat directly
Full reload		
share	**5**	**170**
alfresco	**6**	**13**
Open URL		
share	5	5
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Caching (e.g. Site DocLib)

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Open URL		
share	5	5
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Caching

NGINX

```
proxy_buffering on;

proxy_cache_path  /var/cache/nginx   keys_zone=alfresco-cache:1512m
inactive=1d;
proxy_cache_key "$scheme$request_method$host$request_uri";
```

```
        location /share {
                proxy_pass        http://tomcat_server_http/share;
                include           /etc/nginx/proxy_params;
                proxy_cache    alfresco-cache;
           #add_header X-Proxy-Cache $upstream_cache_status;
        }
```

Caching   NGINX

– Caching Thumbnails on Server Disk

```
## Forcing Nginx to cache Document Thumbnail Images on Disk ,
   but NOT by the Web Browser

 location ~ (^/share/.*/thumbnails/.*$)
     {
      proxy_cache_valid   200   301  302  10m ;
      proxy_cache_valid 404 1m;
      include          /etc/nginx/proxy_params;
      expires  20m ;
      proxy_cache   alfresco-cache;
      proxy_pass     http://tomcat_server_https;
     }
```

Caching NGINX

– Overwrite Caching on Client Side by Header

```
## Forcing Web Browsers to Cache CSS , JS , etc
location  ~
(^/share/.*\.js$|^/share/.*\.css$|^/share/.*\.gif$|^/share/.*\.png$|^/share/.*\.woff$|
^/share/.*\.ttf$|^/share/.*\.eot$|^/share/.*/images/|^/share/.*icons/) {
                add_header  Cache-Control  public;
                expires  7d ;
                proxy_set_header X-Forwar
                proxy_pass
                proxy_
                                    che $upstream_cache_status;
```

No Effect for Alfresco 5.x

Page optimization: PageSpeed Module

```
pagespeed on;
pagespeed  FileCachePath  /var/ngx_pagespeed_cache;
pagespeed  EnableFilters combine_css,combine_javascript,rewrite_javascript;
```


No Effect for Alfresco 5.x

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Page optimization: PageSpeed Module

```
pagespeed on;
pagespeed   FileCachePath  /var/ngx_pagespeed_cache;
pagespeed   EnableFilters combine_css,combine_javascript,rewrite_javascript;
```


No Effect for Alfresco 5.x

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Skripts, Config, Howto's

github.com/ecm4u/alfresco-reverse-proxy

Any Feedback, CoWork welcome!

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