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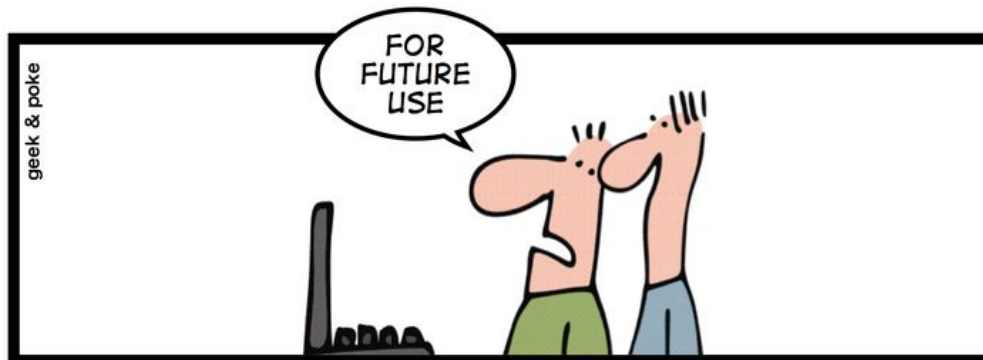
Alfresco REST API of the future

... is closer than you think 😊



Jan Vonka
Brussels, April 2016

HOW TO CREATE A STABLE API



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Jan Vonka

Alfresco Platform & Repository development



bottom-up, repository,
storage & infrastructure

top-down, public facing APIs
& services

layers & components in-
between ;-)



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Summary

- Introduction
 - REST API of the future
- Present
 - Architecture
 - Alfresco 4.2 to 5.1
- Alfresco REST API
 - Moving forward
 - Future ... is closer than you think !
 - Quick Demo
- Future Ideas
- Feedback & Questions



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DISCLAIMER

The information and features presented are subject to change.

We look forward to collaborating with you to improve and extend the Alfresco APIs 😊





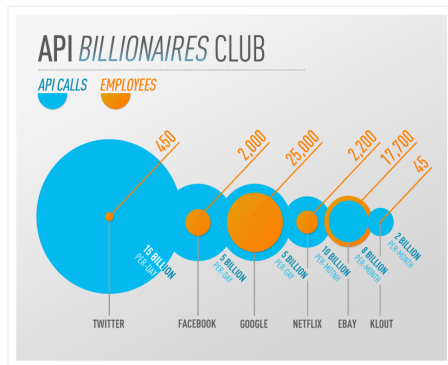
Introduction

- APIs & Platforms are everywhere & enable ...
 - platform & developer ecosystem
 - main entry point for “X”aaS
 - apps (Web & Mobile - iOS, Android & others)
 - integrations
 - add-ons into other apps (UI, extensions, ...)
 - Internet of Things (IoT)
 - ...

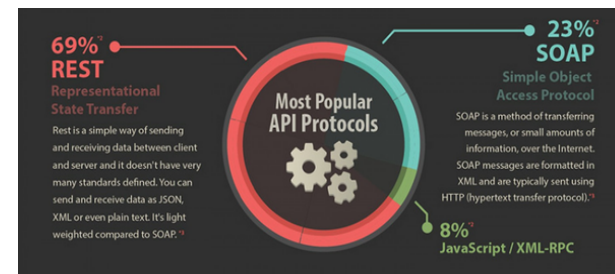


REST API of the Future

Usage is exploding and standardising



Source: Adweek



Viewer statistics		Errors	
63	Concurrent Viewers	0	Chat Rate
70	Playbacks	01:00:28	Average View Duration

TTL Stats

Consistency via Guidelines and Framework

Tenant

Scope

API Name

Version

Entity

Relationship

.../-default-/public/alfresco/versions/1/sites/{id}/members

Ref: Gavin Cornwell (January 2016)



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Contract First Design

Start with collaboration on definition rather than code.



Alfresco File Folder REST API

Provides access to the file folder capabilities of Alfresco

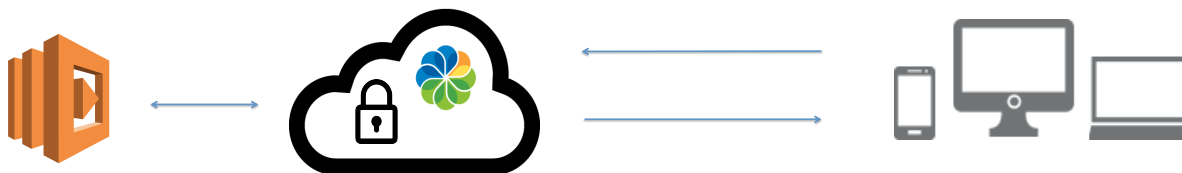
nodes : Retrieve and manage Nodes		Show/Hide	List Operations	Expand Operations
DELETE	/nodes/{nodeId}			
GET	/nodes/{nodeId}			Get Node (File or Folder) Information
PUT	/nodes/{nodeId}			Update Node (File or Folder) Information
GET	/nodes/{parentFolderNodeId}/children			List Folder Children
POST	/nodes/{parentFolderNodeId}/children			Create Node (File or Folder)
GET	/nodes/{fileNodeId}/content			Download File
PUT	/nodes/{fileNodeId}/content			Update File

[was url: /alfresco/api/-default-/public/alfresco/versions/1 , api version: 1]



Cloud Compatible Extension Model

No access to in-process extension points.

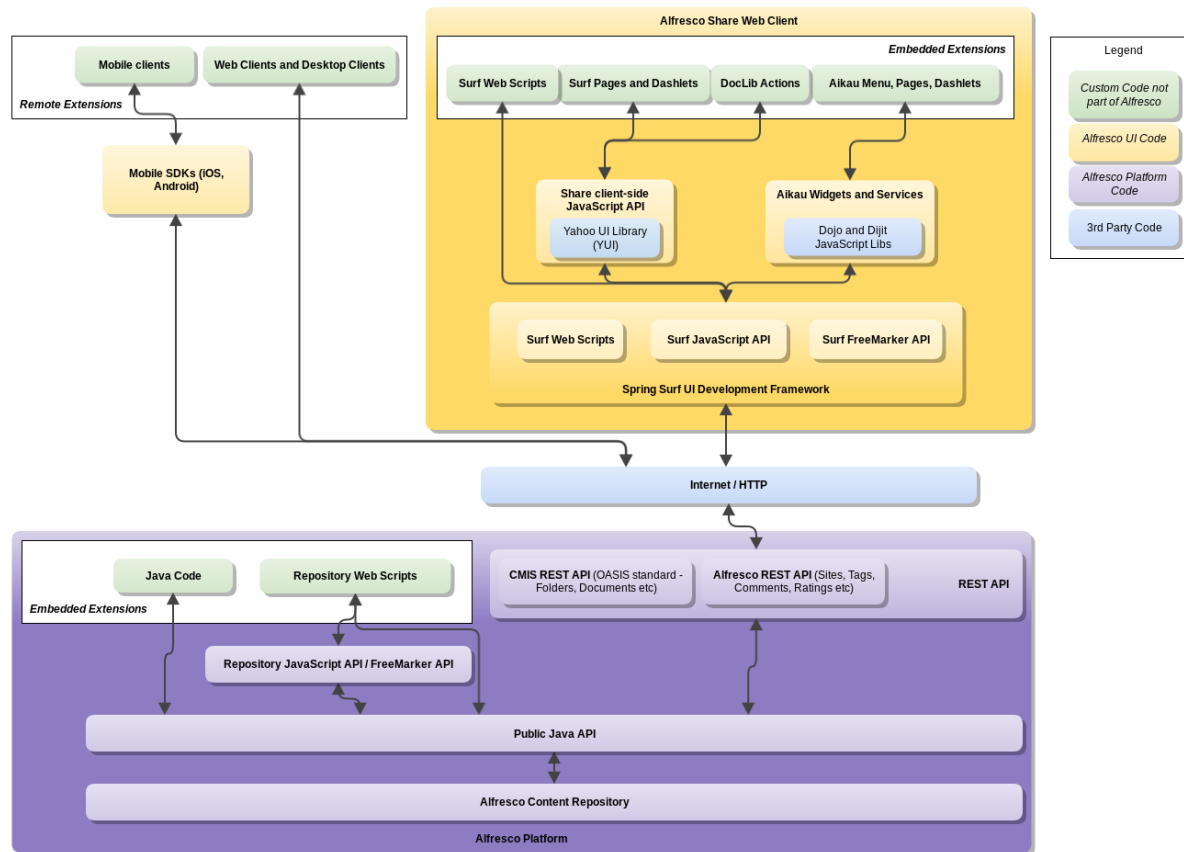


Ref: Gavin Cornwell (January 2016)



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Present: Alfresco API architecture



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Present: 4.2 to 5.1

- Public API (4.2, 5.0, 5.1)
 - API framework built on top of WebScript engine
 - set of internal RESTful guidelines
 - consistent URLs, parameters & responses (including HTTP status codes)
- On-Premise and Cloud support
 - `/alfresco/api/-default-/public/alfresco/versions/1`
 - `api.alfresco.com/{tenant}/public/alfresco/versions/1`
 - use with CMIS
- New for 5.1
 - re-vamped developer documentation
 - introduce API explorer (for existing REST APIs)
 - V0 endpoints have been deprecated





Present: URL structure & entities

Tenant

Scope

API Name

Version

Entity

Relationship

.../-default-/public/alfresco/versions/1/sites/{id}/members

Examples of entities & relationships ...

- Sites -> Memberships
- People -> Activities, (My) Favorites -> Nodes, Sites
- Nodes -> Comments, Ratings
- Tags
- Workflow
- Networks (Cloud)



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Alfresco REST API – moving forward

Share

Web Apps

Mobile
iOS, Android

Desktop

3rd party
Apps & Integrations

Aikau

Client-side SDKs & App Dev Frameworks

CMIS

Public REST APIs

ECM

BPM



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Alfresco REST API – moving forward

- Logical, Consistent, Fully-documented
 - extend & improve REST framework & patterns
- Simple + Smart
 - easy to consume & more advanced options
 - less jumping through flaming hoops ;-)
- Lighter-weight & more performant
 - minimum default response
 - eg. use “include” to expand, “fields” to restrict
- API contract
 - via Open API specification (~ Swagger)
- Major additions to V1
 - Incremental => backwards compatible



API Explorer - try it out !

- Quick & easy to get started
 - <https://api-explorer.alfresco.com>
- Use your favourite REST/HTTP client



- Coming soon ... possible options to try latest APIs
 - Nightly builds (HEAD)
 - Community EA or via SDK
 - Docker image ?



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Future ... is closer than you think

5.2 changes : Endpoints added in the 5.2 release

Show/Hide

List Operations

Expand Operations

DELETE	/nodes/{nodeId}	Delete a node
GET	/nodes/{nodeId}	Get a node
PUT	/nodes/{nodeId}	Update a node
GET	/nodes/{nodeId}/children	Get node children
POST	/nodes/{nodeId}/children	Create a node
POST	/nodes/{nodeId}/copy	Copy a node
POST	/nodes/{nodeId}/move	Move a node
GET	/nodes/{nodeId}/content	Get file content
PUT	/nodes/{nodeId}/content	Update file content
GET	/nodes/{nodeId}/renditions	List information for renditions
POST	/nodes/{nodeId}/renditions	Create rendition
GET	/nodes/{nodeId}/renditions/{renditionId}	Get rendition information
GET	/nodes/{nodeId}/renditions/{renditionId}/content	Get rendition content
GET	/deleted-nodes	Get deleted nodes
DELETE	/deleted-nodes/{nodeId}	Purge a deleted node
GET	/deleted-nodes/{nodeId}	Get a deleted node
POST	/deleted-nodes/{nodeId}/restore	Restore a deleted node
POST	/sites	Create a site
DELETE	/sites/{siteId}	Delete a site
GET	/shared-links	Find shared links
POST	/shared-links	Create a shared link to a file
DELETE	/shared-links/{sharedId}	Deletes a shared link
GET	/shared-links/{sharedId}	Get a shared link
GET	/shared-links/{sharedId}/content	Get file content
GET	/shared-links/{sharedId}/renditions/{renditionId}/content	Get shared link rendition content
POST	/shared-links/{sharedId}/email	Email shared link
GET	/queries/live-search-nodes	Live search for nodes



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Future ... is closer than you think

Nodes

- Files, Folders & Custom

Renditions

Deleted Nodes

- Trashcan

Live Search

Shared Links

....

Site Mgmt

- Create & Delete Site

Auth (Ticket)

Nodes Assocs

- Child & Peer Assocs

More (Live) Search

Versioning

....

Batching

Content Modeling

Lock/Unlock

- CheckOut/CheckIn

Async / Push

- Polling / Long-Polling ?
- Server-Sent Events ?
- Web Hooks ?
- Web Sockets ?

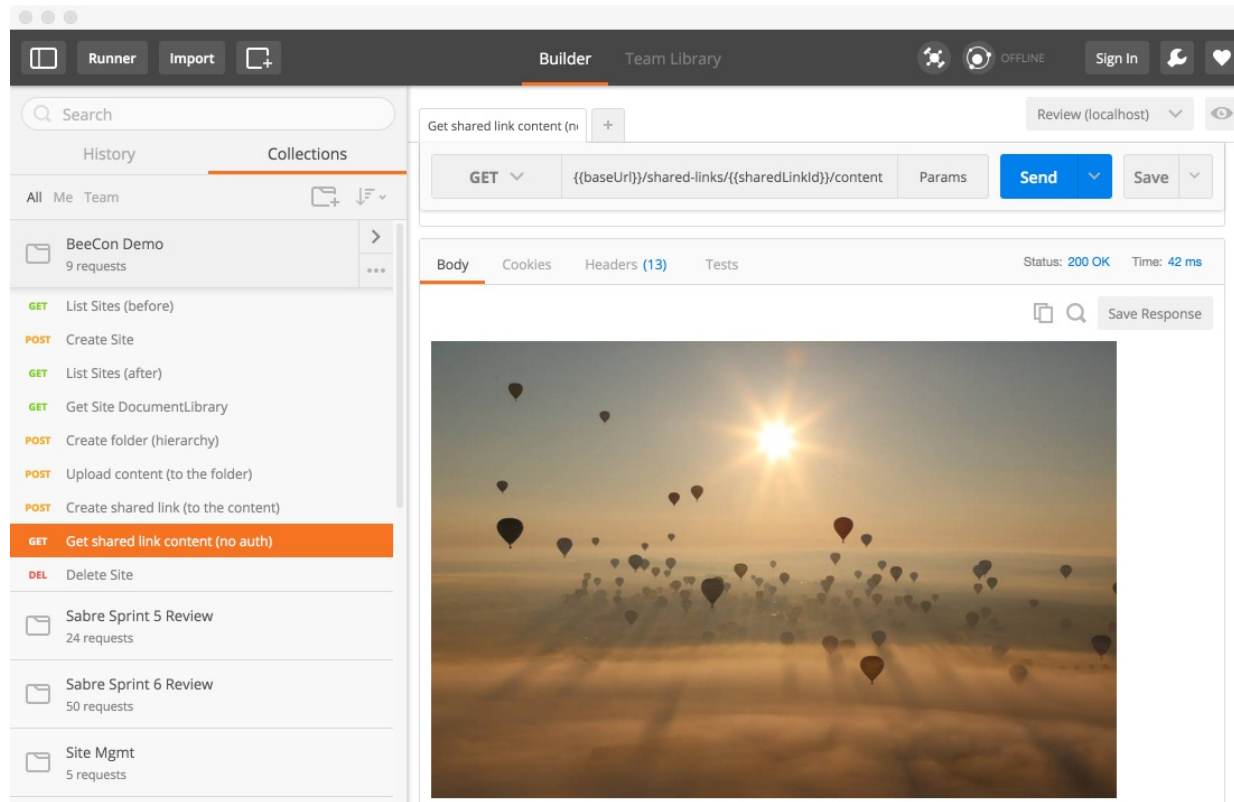
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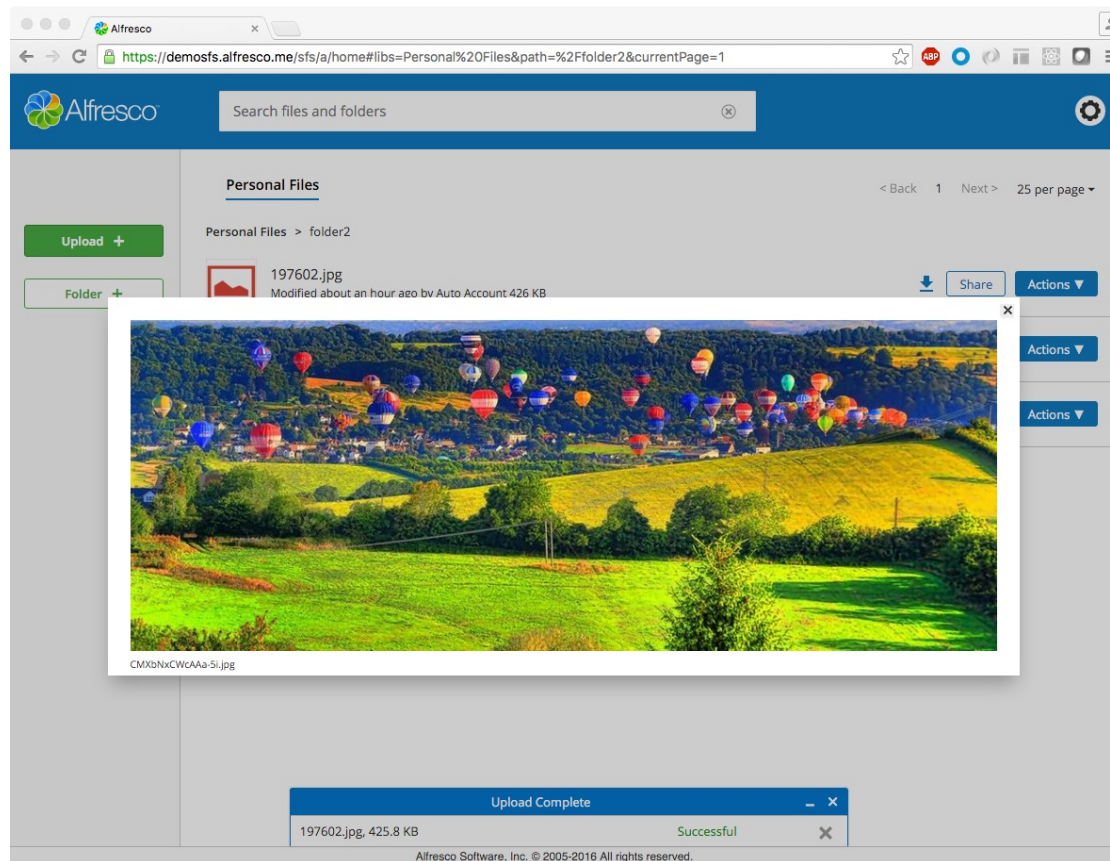
Note: subject to change ;-)

Quick Demo



Using Postman here ... also just as simple with
Curl or any other HTTP/REST client

File Sharing app (using new APIs)



Files & Folders
Upload & Download
Preview
Live Search
Shared Links
Move & Copy
Delete & Undo
....



Futures Ideas (1)

- Agile API ...
 - new & improved APIs & services
 - based on developer feedback
 - API lifecycle
 - EA might need to be tweaked
 - GA implies backwards compatible !
 - Trust
 - simple, smart & reliable upgrades
 - V2 only if we need to change the core pattern





Future Ideas (2)

- Expose more Platform Services
 - existing & new
- Batch operations
 - Async by default ?
 - Optionally Sync w/ timeout ?
- Event Notifications
 - Server-Sent Events / Web Hooks / WebSockets
 - Event subscription – eg. Policy behaviours ?
- What else ?
 - driven by App scenarios & your solution requirements 😊





Future Ideas (3)

- Client-side SDKs
 - Java / Android
 - see also an EA example for Activiti (by Jean Marie)
<https://github.com/Alfresco/activiti-client-sdk>
 - uses Retrofit (from Square)
- App Dev Framework
 - JavaScript





Reference Links

- Alfresco REST API Docs (5.1 initially ...)– <http://docs.alfresco.com/5.1/pr/1/topics/pr-welcome.html>
- API Explorer (5.1 initially ...)– <https://api-explorer.alfresco.com/api-explorer/>
- API Specification– <https://github.com/Alfresco/rest-api-explorer>– see also “develop” branch for in-progress api changes
- Tech Talk Live #93– <https://plus.google.com/events/c3155sfr64gbnn3us7fvjv8v90s>



Feedback & Questions

Feedback (now or later) is very welcome ! Thank You 😊



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