

# **Intégration d'Elasticsearch dans Koha**

**Stefano Bargioni - Koha Gruppo Italiano**

KohaLa Symposium - Lyon, June 28th, 2016

# The Koha Gruppo Italiano

Founded February 20, 2013

Franziska Wallner, AUR

Sebastian Hierl, AAR

Juan Diego Ramírez, PUSC

Stefano Bargioni, PUSC + AUR IT consultant

Paolo Bizzarri (1963-2012)

AUR is the first Koha user, and one of the first EDS users in Italy



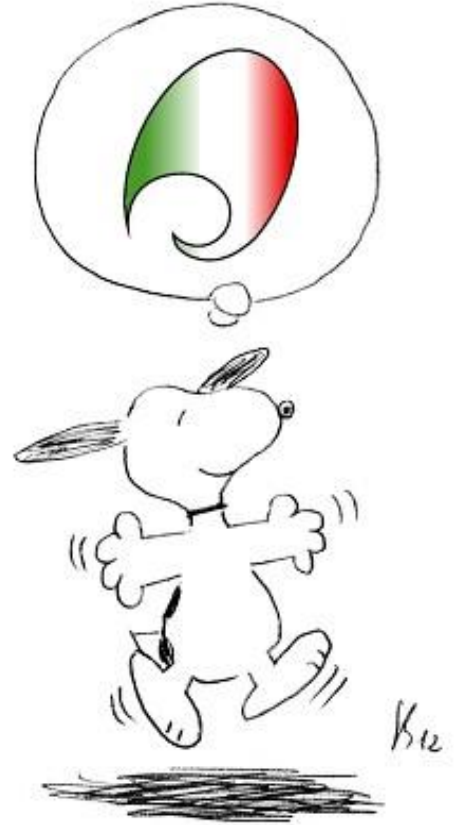
# The Koha Gruppo Italiano

<http://www.kohagruppoitaliano.it>

Snoopy was drawn at KohaCon12

When the KGI was looking for a logo, we modified its *dream* into the Italian flag

The *thinking dog* is very Ko-happy to stay in Lyon



# The limitations of Zebra

The power of Zebra

Better facets

The need of a browse search method

The French experience with Solr

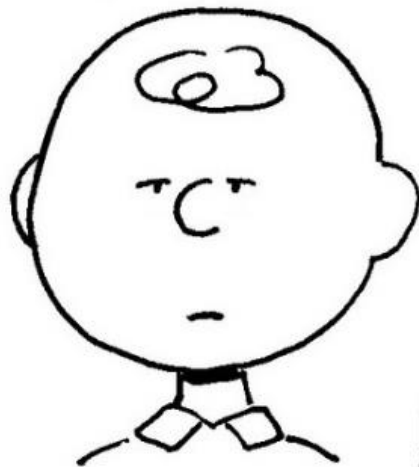
New requirements from RDA, FRBR, RDF...



RDF, BIBFRAME, LINKED DATA...  
Le catalogage en bibliothèque  
pourrait changer énormément  
dans quelques années



Soit nous évoluons  
soit nous allons  
finir dans Jurassic  
MARC...



13/14



# A browse Search Method

It mimics a card catalog

Relevant for "see" and "see from" entries

Count of records, links to relevant external resources

Based on Solr

No way to do it using Zebra?

Library catalog Start your search here

Advanced search | Authority search | Browse Search

## Browse authors, subject headings, classifications...

Browse list of indexes

List: Authors

starting from: france

results per page: 10

Submit Reset Statistics

Previous headings

1	France.	9	see: <a href="#">Francia.</a>
2	<a href="#">France, Anatole.</a>	1	
3	<a href="#">Francé, Raoul H.</a>	1	
4	<a href="#">France, Richard T.</a>	6	
5	<a href="#">France, Richard Thomas.</a>	1	
6	<a href="#">Francella, Osvaldo.</a>	2	
7	<a href="#">Frances, Bryan..</a>	1	
8	<a href="#">Francès, Madeleine.</a>	1	
9	<a href="#">Francés, Miquel.</a>	1	
10	<a href="#">Francesca Romana, s., 1384-1440.</a>	1	

Next headings



# A browse Search Method



Academic browse

Authors

Titles

uniform

series

Subjects

Dewey

...

Library catalog Start your search here Go

Advanced search | Authority search | Browse Search

### Browse authors, subject headings, classifications...

Browse list of indexes

List Dewey

starting from 300.22

results per page 10

Submit Reset Statistics

Previous headings

1	<a href="#">300 (22)</a>	1	SCIENZE SOCIALI, POLITICHE, ECONOMICHE DIRITTO EDUCAZIONE COMUNICAZIONI USI E COSTUMI
2	<a href="#">300 (23)</a>	1	SCIENZE SOCIALI, POLITICHE, ECONOMICHE DIRITTO EDUCAZIONE COMUNICAZIONI USI E COSTUMI
3	<a href="#">300.2855369 (21)</a>	1	SCIENZE SOCIALI. Programmi specifici per microelaboratori
4	<a href="#">300.72</a>	9	SCIENZE SOCIALI. Ricerca
5	<a href="#">300.72 (20)</a>	2	SCIENZE SOCIALI. Ricerca
6	<a href="#">300.72 (21)</a>	6	SCIENZE SOCIALI. Ricerca
7	<a href="#">300.720434164 (20)</a>	1	
8	<a href="#">300.723 (20)</a>	13	SCIENZE SOCIALI. Ricerca descrittiva
9	<a href="#">300.723 (21)</a>	4	SCIENZE SOCIALI. Ricerca descrittiva
10	<a href="#">300.727</a>	1	SCIENZE SOCIALI. Metodi statistici

Next headings

# The French Experience with Solr

Many reasons to participate in KohaCon12:

Meet the Koha Community

Meet BibLibre and share ideas about Solr in Koha

Present the browse search method





# Hackfest 2014, Marseille



What about to replace Zebra?

Do you prefer Solr, Elasticsearch, another noSQL engine...?

We will need a lot of money!



# Where Funds can come from?

Events organized by Koha Gruppo Italiano have sponsors not related to Koha

Their companies are interested in open source in libraries

- add flexibility to IT services

- save money for the ILS, and spend it for other products

They can fund projects, if they trust in Koha and in its community



# The First Grant

Gianluca Di Bella, VP of Sales, EBSCO Information Services - Latin Europe and Israel

Some months later, Ebsco accepted: N,000 USD for Elasticsearch

One more month, Ebsco final decision: 2N,000 USD for Elasticsearch and some more goals

Jan 10, 2014 - "Carrol Preston Barber Research Grant" requested from ALA - Unsuccessful



# The Goals of the First Grant

Strategic upgrade of Koha's core full-text search engine technology to **ElasticSearch**

Increased functionality and accuracy of **facets**

Development of a **browse** function (author, title, subject, call number)

Improved **speed**

Full OPAC functionality within **EBSCO Discovery Service** User Interface via Koha API for:

- Renewals

- Holdings

- Transaction history of Fines

Greater flexibility in ingesting **metadata schemas beyond MARC21**



# Cataloging in a Linked Data Environment



# The Flow

The whole grant from Ebsco to AUR

A description of the work done, followed by an invoice from ByWater Solutions to AUR

Three invoices



# The Agreements - Memo of Understanding



An agreement between Ebsco and The American University of Rome

An agreement between the American University of Rome and ByWater Solutions

Include deadlines

ByWater Solutions will coordinate the realization, eventually involving other companies

A chain of trust



# The Decision About the Realization

Hackfest,  
Marseille 2015

Who will do the job?





# Elasticsearch in Koha, as of 16-05



**Administration preferences**

Save all Administration preferences

- ▶ CAS authentication
- ▶ Google OpenID Connect
- ▶ Interface options
- ▶ Login options
- ▶ Mozilla Persona
- ▶ SSL client certificate authentication
- ▼ Search Engine

Preference	Value
SearchEngine	<input checked="" type="checkbox"/> Zebra is the search engine used.

Save all Administration preferences    Cancel

**Koha 16.05**

# Elasticsearch in Koha, as of 16-05

The main "bug": 12478 - Elasticsearch support for Koha

An important signoff:

Bug 14899 - Mapping configuration page for Elastic search

Bug 14567 - Browse interface for OPAC



# Elasticsearch in Koha, as of 16-05

/usr/share/koha/

lib/Koha/SearchEngine/Elasticsearch/QueryBuilder.pm

lib/Koha/SearchEngine/Elasticsearch/Search.pm

intranet/cgi-bin/admin/searchengine/elasticsearch/mappings.yaml (2695 rows) for auth and  
bib tags



# Elasticsearch in Koha, as of 16-05

Specific tool(s):

`bin/search_tools/rebuild_elastic_search.pl`



# Install Elasticsearch 1.7

<https://wiki.koha-community.org/wiki/Elasticsearch>

[http://debian.koha-community.org/koha/otherthings/elasticsearch\\_deps.tar.gz](http://debian.koha-community.org/koha/otherthings/elasticsearch_deps.tar.gz)

Do not use [http://debian.koha-community.org/koha/otherthings/\\*.deb](http://debian.koha-community.org/koha/otherthings/*.deb)



# Rebuild Elasticsearch Indices

From koha-shell run

bin/search\_tools/rebuild\_elastic\_search.pl

- d (delete)
- v (verbose)
- a (authority)
- b (bibs)
- h (help)



# Zebra and Elasticsearch

When Elasticsearch is active, Zebra cannot be stopped, if Z39.50 server is required

You can switch back and forth between Elasticsearch and Zebra, but ES indices must be rebuilt

I experienced unsuccessful queries using Elasticsearch ...



# QueryParser

QueryParser, a new layer for Zebra, Elasticsearch, and... Solr?

"This will allow us to migrate completely away from C4::Search.

The idea is that with the QueryParser we could pass any search and then have it output into multiple search engines in the query language that they want.

So there would be a Zebra driver, a ES driver, a SOLR driver (whatever driver someone wanted)." (Brendan G.)





# The Second grant

Ebsco asked to meet the Koha Gruppo Italiano on February 22, 2016



The big project of the OSLSP was schematically presented us by Ron Burns, Christopher Spalding and Rui Francisco

They asked us for new goals for Koha, and were identified:

- Creation of an Acquisitions API for YBP's Gobi (ByW)

- Complete implementation of EDIFACT ordering and invoicing

- Integration of Coral Open Source ERM administration (BibL)

- Integration to Italy's Indice SBN (AtCult)

# What we learnt in Thessaloniki

*"We always need to share to strengthen our wisdom"*

A very strong community, focused both in technical and in management stuff

Some kind of cooperation  
among European users groups

The FOLIO Project

<http://www.futureisopen.org>



NEVER  
UNDERESTIMATE THE  
IMPACT FACTOR OF A  
LIBRARIAN!

KOHA



# Thank You

[bargioni@pusc.it](mailto:bargioni@pusc.it)

Koha Gruppo Italiano

<https://www.facebook.com/KohaGruppoItaliano>

