

MUSE
KNOWLEDGE

PROXY

SEAMLESS AND SECURE REMOTE ACCESS TO RESOURCES

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WHO WE ARE AND WHAT WE DO

- More than 20 years in the market for creating custom content solutions to propel education and innovation outcomes.
- Our products: Multi-user Universal Search Environment, known as MUSE - simplify access to the best digital information collections; Muse Knowledge Search, Muse Knowledge Proxy.
- The Muse Knowledge discovery solutions support modern libraries, e-learning hubs, national education portals and research gateways in connecting people to the digital research and educational materials they need, wherever they are.
- Library Automation companies integrate MUSE in their ILS products to offer reliable single-search capabilities to thousands of research resources.
- Information Services companies distribute MUSE to provide affordable standalone federated search solutions for libraries worldwide.
- Online Database companies OEM MUSE to provide real-time unified search functionality within their search portals.
- Distance Education Companies use MUSE to deliver real-time searching in high-access virtual digital library environments.

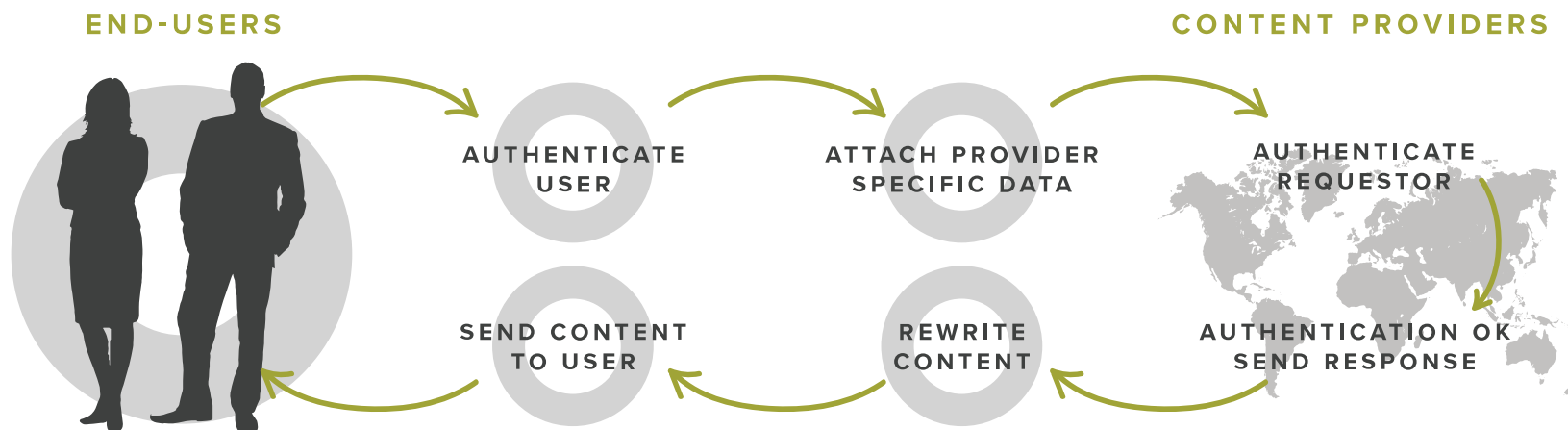


MUSEKNOWLEDGE™ PROXY

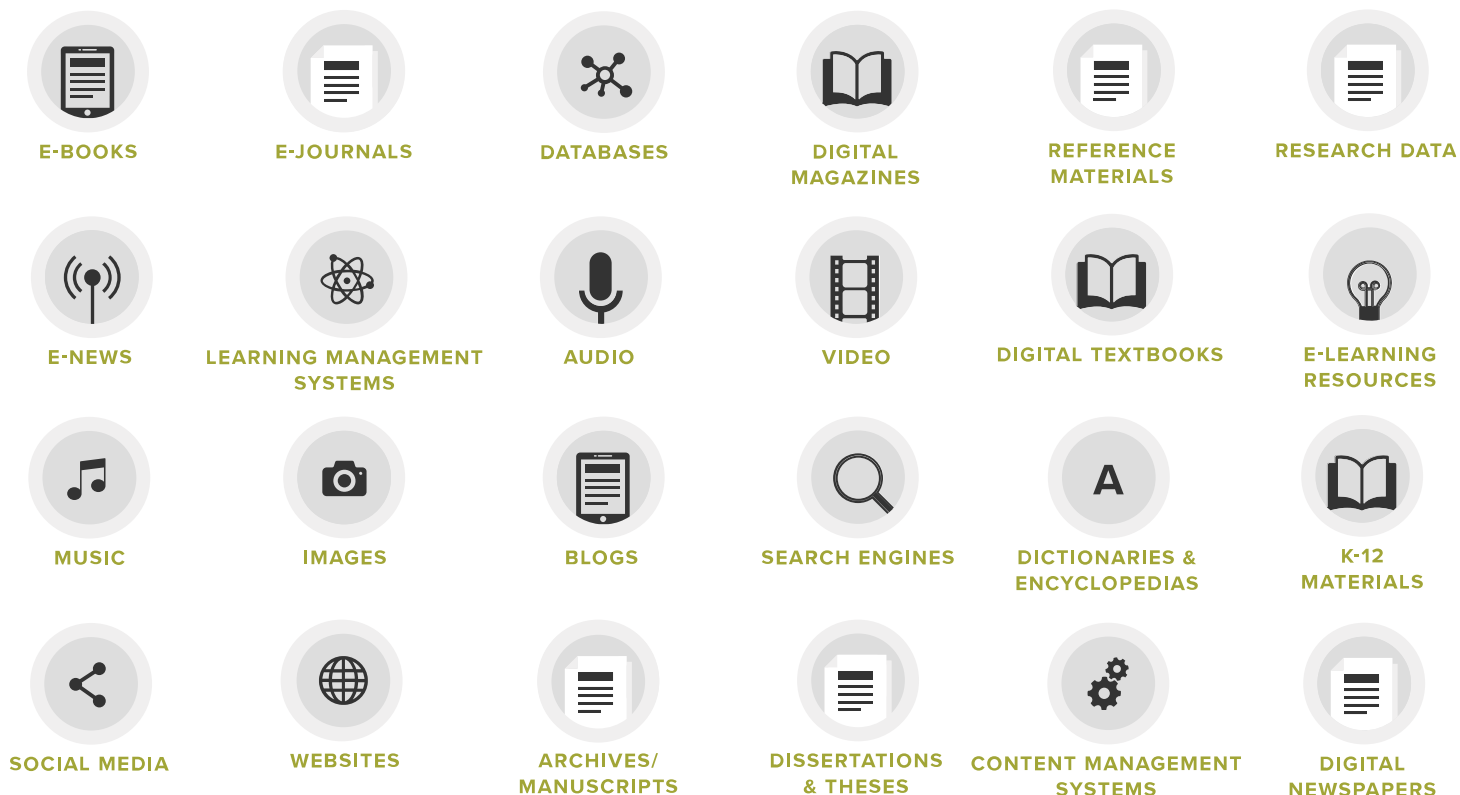
Highly customizable multi-platform proxy server

- Gateway to authenticated restricted content
- Rewriting web server
- Multi-tenant solution
- Easy to use and configure via the MuseKnowledge™ Proxy Administrator Console
- Web Access Management (WAM)
- Standard HTTP Proxy server

More than 15 years within the Muse Federated Search Platform to manage the authentication to resources and the navigation to full text.



MUSEKNOWLEDGE™ PROXY



Overview

- SAML 2.0 Single Sign-on
- Learning Tools Interoperability® (LTI) integration
- Quickly delivers rewritten pages
- Search widgets and form integration
- Corporate infrastructure: load balancer ready, API ready
- Compatible with all browsers deliver results conveniently and reliably
- System maintenance via automatic Muse Navigation component update distribution service
- Online privacy, protection, and data transparency
- Proxyfied URL (shortcuts to entry point URLs)
- Proxy by path, proxy by host and proxy by API



GENERAL FEATURES

- **Multi-tenant** architecture.
- **Cache** support and **Separate cache** directory per each Server IP, based on the configuration.
- **Configurable authentication** using pluggable authentication login modules.
- **Out of the box** end user interface organizing sources by multiple views.
- **Patterns for** defining the list of server IP(s) on which to listen.
- **Individual authentication** per each application.
- **Regular HTTP proxy with** HTTP and HTTPS (CONNECT tunnel) support.
- **Support** for SSL termination to ensure Load Balancing HTTPS traffic in a manner that avoids unnecessary encryption cycles. This is achieved by MuseKnowledge™ Proxy understanding *X-Forwarded-Proto* header field or the RFC 7239's Forwarded header field containing "proto=https" or "proto=http".
- **Support for** configuring different SSL certificate for each server IP.
- **Compression (GZIP) support** both for pages that are served after being rewritten (remote rewritten content from vendors) and for content originating to Muse Proxy itself.
- **Scripting capabilities.**
- **Default log** for messages regarding the activity and errors encountered in a human readable format.
- **Access log** in which there are written the requests served by Muse Proxy. The Access log can be analyzed using tools like AWStats (<http://awstats.sourceforge.net/>).
- **Statistics log** with detailed messages regarding Muse Knowledge™ Proxy activity in a machine readable format.
- **Support** for rewriting WebSockets non binary traffic.
- **Hot deployment** of sources and applications.



GENERAL FEATURES



- **Proxy chaining** with a next proxy using Proxy Host and Proxy Port or using Proxy PAC.
- **Support for** configuring the redirect of HTTP requests against Applications and Administrator Console to HTTPS.
- **Rewrite by Host** is selectable on a source by source basis.
- **Localization support** for server messages and also messages reported by configured login modules.
- **The static resources** are served using the Last-Modified HTTP response header in order to be cached by the browsers.
- **Administration Console** for managing Muse Proxy configurations.
- **Supports public,** authenticated and private resources in each application.

MUSEKNOWLEDGE™ NAVIGATION MANAGER (REWRITING COMPONENT) FEATURES

- **Flexible URL patterns**, using include and exclude rules, matching all URL components (domain, port, path, CGI parameters), to specify which URLs will be rewritten.
- **Extract and navigate** scenarios.
- **Automatic rewriting** of links from HTML attributes.
- **Automatic rewriting** of links constructed with JavaScript.
- **Server side management** of Cookies from the Set-Cookie HTTP Headers received from the target rewritten sites.
- **Automatic rewriting** of Cookies from *document.cookie* JavaScript object.
- **Automatic rewriting** of links from CSS files.
- **Automatic rewriting** of links written in page in plain text, using *document.write* sequences.
- **Rewriting links** from XML and JSON using Muse Navigation Manager filters.
- **Automatic rewriting** of HTML OBJECT and EMBED tags.
- **Rewriting** HTTP and HTTPS sites.
- **Automatic authentication** for rewritten links using authentication token.
- **Supporting custom charset** in the Content-Type HTTP header returned by the rewritten pages.
- **Chaining support for the rewritten links**, at server side level with a next proxy via Proxy Host and Proxy Port or Proxy PAC.
- **Scheme protocol separation** between browser and vendor access.



MUSEKNOWLEDGE™ NAVIGATION MANAGER (REWRITING COMPONENT) FEATURES

- **Proxy-Authorization** using Basic and Digest authorization schemes, at server side level, with a next proxy, for the rewritten links. Support for separate proxy authorization for different rewritten links.
- **HTTP Authorization** for the rewritten links using Basic and Digest authorization schemes, at server side level, with the target site. Support for separate HTTP authorization for different rewritten links.
- **The Muse Navigation Manager** component (*mnm.jar* file) can be updated at run-time, without restarting Muse Proxy.
- **Tiny URL(s)** support for integration with MuseKnowledge Search.
- **Support for** setting an initial set of Cookie HTTP headers, at server side level, when navigating on a rewritten link. Support for separate sets of cookies for separate rewritten links navigated for the same target site.
- **Support for** setting an initial Referer, at server side level, when navigating on a rewritten link. Support for separate Referer authorization for different rewritten links.
- **Configurable Find and Replace filters** acting on the HTTP body as well as HTTP headers can be crafted in the XML source profiles and will be interpreted at run-time, without the need to write Java code. Two types of filters: regular Proxy Java filters. Simple (just find/replace) and complex filter expression based and MuseKnowledge™ Proxy token rule based, similar to the token rules written in Muse configurations involving conditions (such as *APPLY_IF_FIRST*) and variables are supported.
- **Cookies** handling policies.
- **Support for** Internationalized Domain Names (IDN).



MUSEKNOWLEDGE™ PROXY APPLICATIONS FEATURES

- **A MuseKnowledge™ Proxy Application can be** configured to respond only on certain server IP(s) (domains) on which Muse Proxy listens.
- **A MuseKnowledge™ Proxy Application supports** expiry after a certain date.
- **MuseKnowledge™ Proxy Applications users can** be authenticated using configurable Authentication Groups.
- **An Authentication Group used** in a MuseKnowledge™ Proxy Application performs the authentication using a list of configurable Login Modules. The current list of Login Modules that can be used by MuseKnowledge™ Proxy Applications is: IP, User/Password, SIP, LDAP, IMAP, POP, SQL, FTP, Referer, HMAC, HTTP External Authentication, LTI, SAML, OAuth, OAuth2, OpenID Connect and CAS based SSO authentications.
- **An Authentication Group has** a dedicated login page, corresponding with the list of logon parameters required by the Login Modules configured in that Authentication Group.
- **An Authentication Group used** in a MuseKnowledge™ Proxy Application allows access to the Sources from a Sources Group.
- **The MuseKnowledge™ Proxy Application web interface is** completely configurable using FreeMarker template files (see <http://freemarker.sourceforge.net/>)
- **A MuseKnowledge™ Proxy Application supports** a configurable HTML index page to be displayed when accessing the Muse Proxy Application's home URL.
- **Automatic logon** in a MuseKnowledge™ Proxy Application with IP authentication.
- **MuseKnowledge™ Proxy Applications** are ready for Load Balancing.



MUSEKNOWLEDGE™ PROXY APPLICATIONS FEATURES

- **MuseKnowledge™ Proxy supports** Single Sign on Authentication as a Client. A wide range of OAuth, OAuth2, OpenID Connect SSO based authentication are supported. out of the box OAuth specific support is for: BitBucket, DropBox, Facebook, Foursquare, Github, Google, LinkedIn, Odnoklassniki, ORCID, Paypal, Strava, Twitter, Vk, Windows Live, Word Press, Yahoo. Google ensures authentication with both the public gmail.com domain as well as Google hosted institutions via Google Apps for Education.
- **MuseKnowledge™ Proxy supports** HTTP authentication to an external source.
- **A MuseKnowledge™ Proxy Source can be** profiled via *EXTRACTORS*, *URLs*, and *POST_PARAMETERS* to conduct an extract and navigation scenario in order to obtain tokens or navigate to the desired link before handing over control to the browser with the first rewritten link.
- **MuseProxyFoundation based application supports** source icon configuration. If configured, the image will be displayed under the Source name, next to the source description.
- **Sources can be** hidden from the source listing but still usable via Entry Points either shortcuts, extended or normal.
- **A MuseKnowledge™ Proxy Application supports** a configurable logout page that is displayed when the user was logged out.
- **Links to MuseKnowledge™ Proxy Sources** from MuseKnowledge™ Proxy Applications can be embedded dynamically in external portals. In this way, a customer may use the external portal authentication, but still provide access to MuseKnowledge™ Proxy Sources links.
- **Support for** creating categories of MuseKnowledge™ Proxy Sources (grouping); E.g. group sources by subject, type, vendor, alphabetically - A to Z.



MUSEKNOWLEDGE™ PROXY APPLICATIONS FEATURES

About 1,600+ MuseKnowledge™ Proxy Sources Profiles to download at this time.

SAML 2.0 Authentication as a Service Provider is supported for a MuseKnowledge™ Proxy Application. Being based on Spring Security SAML Extension, theoretically all products supporting SAML 2.0 in Identity Provider mode (e.g. ADFS, Okta, Shibboleth, OpenAM, Efecte EIM or Ping Federate) should be compatible;

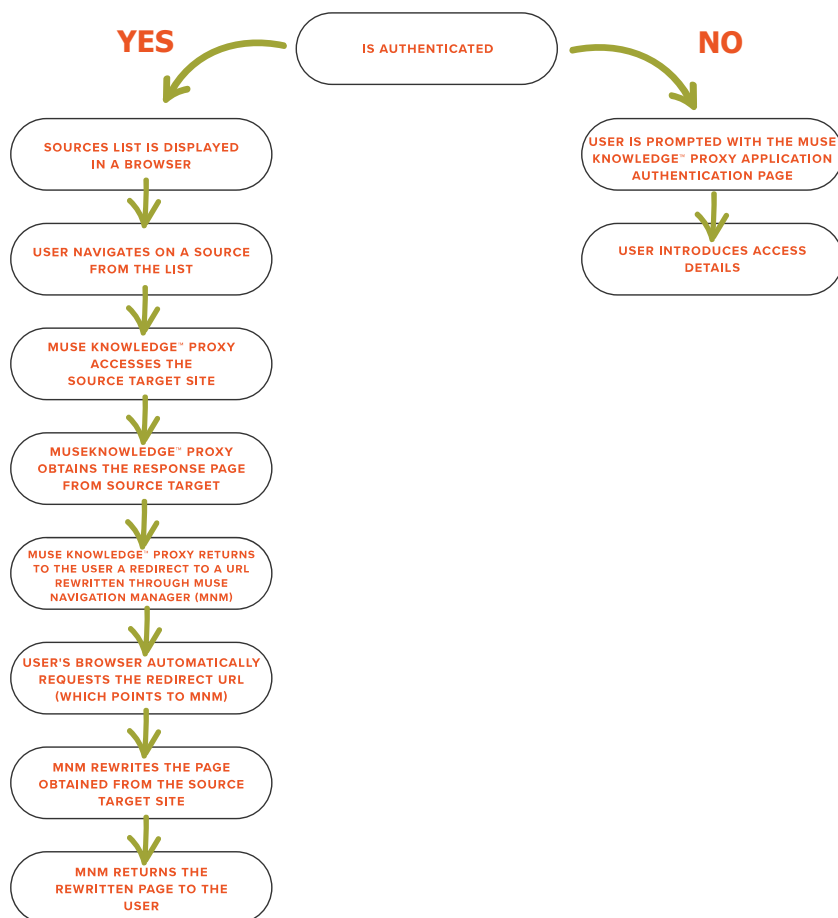
Some of the SAML 2.0 related features

- **Includes** a local Discovery service.
- **Supports** external Discovery.
- **Metadata management** supporting adding IDP metadata and generating of SP metadata, pre-validation of IDP metadata to detect the need of certificates, tests for authentication, seeing SAML attributes, guidelines and more.
- **Supports specifying** the IDP metadata either by uploading the IDP metadata file or by specifying the IDP metadata URL with a local file backup with periodically refreshes.
- **Supports specifying** IDP metadata as a file/URL containing one EntityDescriptor or as multiple EntityDescriptor wrapped in *EntitiesDescriptor* (e.g., a federation) with filters eliminating conflicts if the SP metadata is also present in the same file.
- **Post-SAML authentication** decisions via server-side JavaScript on letting the user in the application, choosing a source group, choosing an attribute to be logged into the statistics. These, as well as other settings are grouped in the *ProxyLoginModuleSAML.xml* configuration file of the SAML login module.



MUSEKNOWLEDGE™ PROXY APPLICATIONS

User accesses MuseKnowledge™ Proxy Application URL in a browser

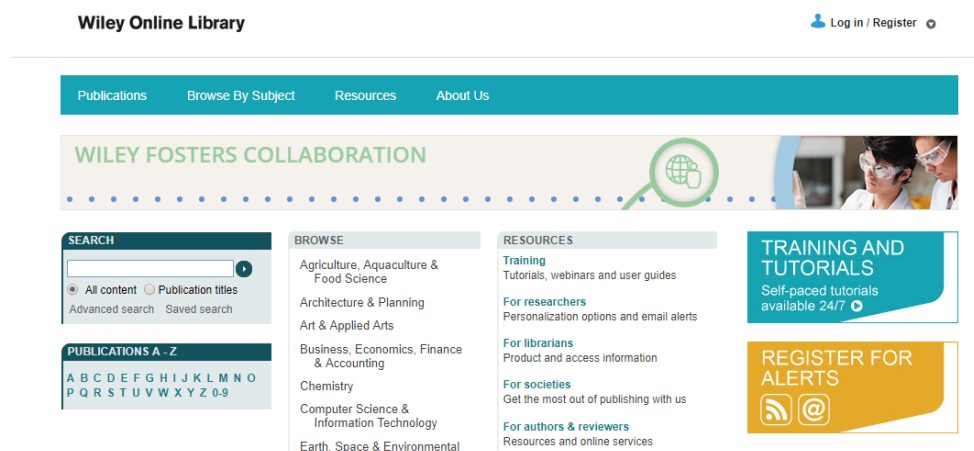
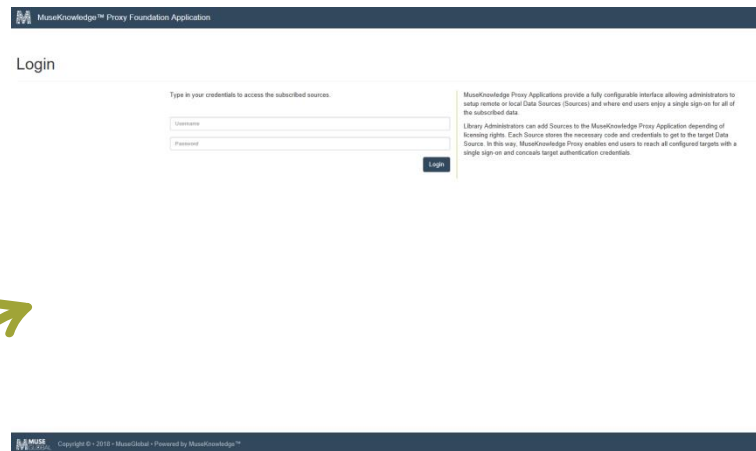


MuseKnowledge™ Proxy Applications are web interfaces providing end-users grouped access to various resources from Internet or Intranet.

- The authentication is made via configurable authentication login modules, allowing various authentication types:
 - User/ Password, IP, SIP, LDAP, FTP, IMAP, POP, SQL, Referer, HMAC, SAML, SSO or any combination
- Multiple Authentication Groups can be defined in order to allow end-users to authenticate differently based on their location
- 2 default templates are available:
 - MuseKnowledge™ Proxy Foundation
 - Anonymous



MUSEKNOWLEDGE™ PROXY APPLICATION - FOUNDATION

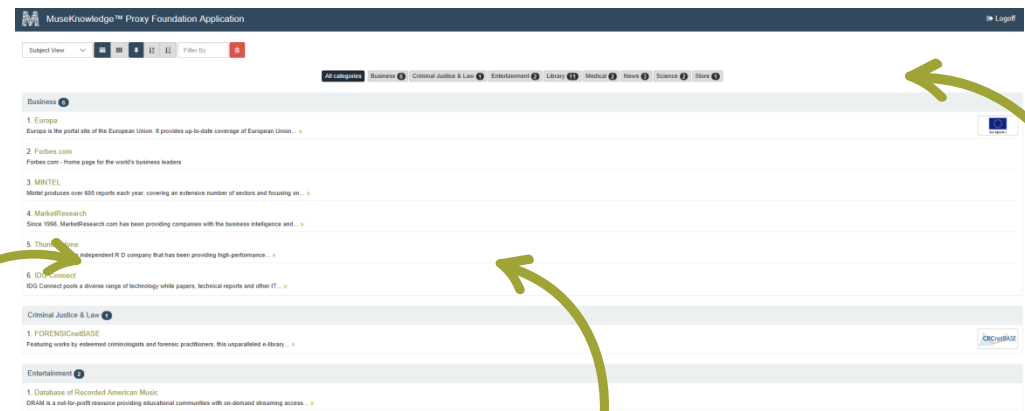


Rewritten content

Enter access details to login into the MuseKnowledge™ Proxy Application

Click on the link and navigate to the rewritten content

13

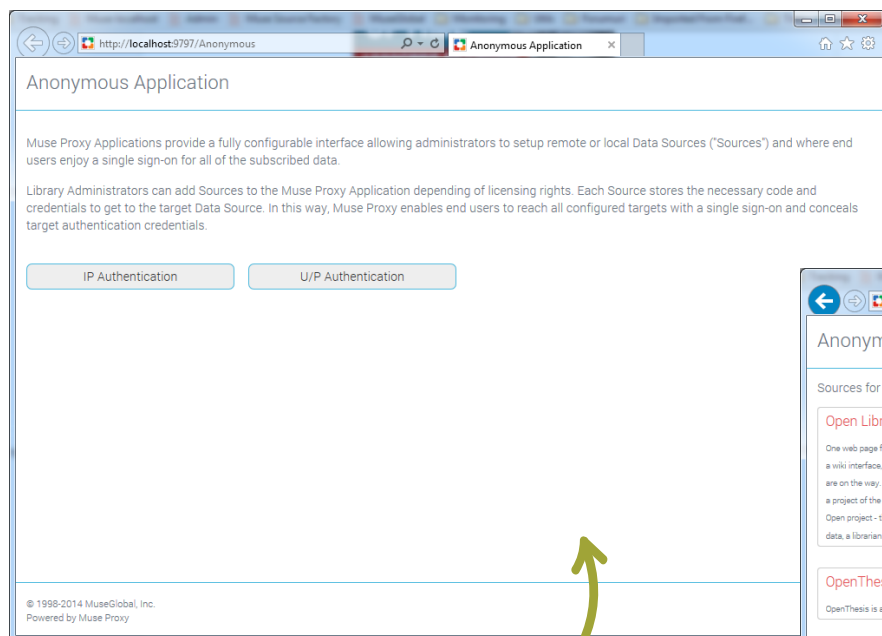


List of subscribed Sources

Filter, Sort, Groups, A to Z, Page display options

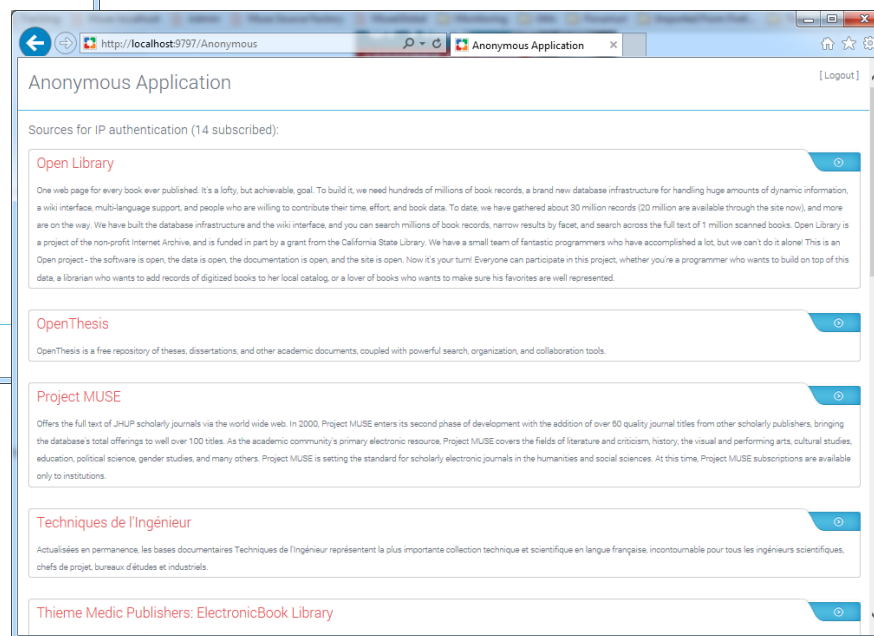


MUSEKNOWLEDGE™ PROXY APPLICATION - ANONYMOUS



Two Authentication Groups available, each having different Sources

List of Sources in a light Application interface



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE FEATURES



Run-time configuration of:

- MuseKnowledge™ Proxy Applications and their resources
- Patterns for the server IP(s) on which MuseKnowledge™ Proxy must listen
- Administrative Access Rules and Passwords
- The list of Administrative Login Modules executed to authenticate each Administrative Web Context and the regular Proxy requests
- Java Policy Rules
- Access details to Global InfoBase, used for downloading the Muse Navigation Manager (*mnm.jar*) component
- SAML Authentication / SSO Authentication

Monitoring

- Connections, Client sessions, TinyURL(s)
- View the Cache Status global statistics
- View the Cache Files for each cache directory

Download log files

Usage Limits:

- View Rules, Counters and Suspended Users



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE FEATURES



Utilities:

- Generate Type 1 rewritten links and Tiny URL(s)
- Un-Rewrite a MuseKnowledge™ Proxy Rewritten URL in Type 1 or Type 2 format
- Evaluate Shortcut URL
- Encrypt a password using SHA1, SHA512, SHA256, DES or MD5 algorithms
- Decrypt password
- HMAC URL generator
- Evaluate Regex

Server Keystores:

- Assigned KeyStores / Available KeyStores

Operations:

- Clean Proxy PAC Cache, Refresh Applications, Refresh Configuration

Applications:

- Manage MuseKnowledge™ Proxy Applications and their resources.



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE

MUSE KNOWLEDGE PROXY Administrator Console

Monitoring

A client session is a session established once for each client which tries to access MuseKnowledge™ Proxy. In this section, you can view all the client sessions managed by MuseKnowledge™ Proxy at the current moment, including ... more >

Monitoring » Client Sessions

« < 1 > » Displaying 1 - 3 of 3 Client Sessions. Per Page: 10 Go

#	Client Session ID	Client IP	Size (B)	Expires	Lifetime	Creation Time	Last Access Time
1	okhy2lzkstmn	217.156.14.173	42468	00:34:56	51s	2021-02-01T18:20:50.069	2021-02-01T18:21:37.617
2	0trx3m1kukm2m	217.156.14.14	3007	00:33:56	1m 1s	2021-02-01T18:20:39.479	2021-02-01T18:20:39.479
3	0ezrqybmima3	217.156.14.173	3475	00:34:59	3m 40s	2021-02-01T18:18:01.224	2021-02-01T18:21:41.287

Client Session Filters

Client Session ID:

Client IP:

Creation Time between:

Last Access Time between:

Web Context ID:

Utilities, HMAC Link Generator



MUSE KNOWLEDGE PROXY Administrator Console

Monitoring

This section is used to generate HMAC links used for authentication ... more >

UTILITIES » HMAC Link Generator

Proxy URL:

URL to be proxied:

Application:

Parameters/headers to use for HMAC:

userName:

ts:

userAgent:

userAddress:

New Parameter:

Separator:

Secret:

Algorithm:

Message to sign:



Monitoring, Statistics, Configuration, Cache, Muse Navigation Manager, Utilities, Advanced, Server KeyStores, Usage Limits and Applications sections



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE

This is the list with the existing applications. You can edit, copy, import, export, delete an application.

Applications (63)

Name	ID	Description	Actions
MKPFTTEST	MKPFTTEST	Copy of MKPF	[Edit] [Copy] [Import] [Export] [Delete]
Mohammad Bin Rashid School of Government	MBRSG	Mohammad Bin Rashid School of Government	[Edit] [Copy] [Import] [Export] [Delete]
Muse Proxy Application for EKB	EKB	Muse Proxy Foundation Application is the default Muse Proxy Application. It has one Authentication Group mapped to a Sources Group which contains a...	[Edit] [Copy] [Import] [Export] [Delete]
Muse Proxy Foundation Application	MuseProxyFoundation	Muse Proxy Foundation Application is the default Muse Proxy Application. It has one Authentication Group mapped to a Sources Group which contains a...	[Edit] [Copy] [Import] [Export] [Delete]
Muse Proxy Foundation Application	EKBSAML	Muse Proxy Foundation Application is the default Muse Proxy Application. It has one Authentication Group mapped to a Sources Group which contains a...	[Edit] [Copy] [Import] [Export] [Delete]
Muse Proxy Foundation Application	MuseProxyFoundationSAML	Muse Proxy Foundation Application is the default Muse Proxy Application. It has one Authentication Group mapped to a Sources Group which contains a...	[Edit] [Copy] [Import] [Export] [Delete]
Muse Proxy Foundation Application with LTI	MuseProxyFoundationLTI	Muse Proxy Foundation Application is the default Muse Proxy Application. It has one Authentication Group mapped to a Sources Group which contains a...	[Edit] [Copy] [Import] [Export] [Delete]
MuseKnowledge	MuseKnowledge	MuseKnowledge (de test integrare MuseProxy)	[Edit] [Copy] [Import] [Export] [Delete]
MuseKnowledgeAtoZ	MuseKnowledgeAtoZ	MuseKnowledgeAtoZ	[Edit] [Copy] [Import] [Export] [Delete]
MuseKnowledgeFoundation	MuseKnowledgeFoundation	Muse Proxy application for integration with the MuseKnowledgeFoum application.	[Edit] [Copy] [Import] [Export] [Delete]

MuseKnowledge™ Proxy Applications Management

MuseKnowledge™ Proxy Source Profiles Management

This is the application sources list. You can create a new one or update, copy, import, export, delete an existing one. Also, you can edit the source profile details.

Sources (10)

Name	ID	Description	Actions
Blackboard Learn	BlackBoard	Blackboard Learn	[Edit] [Copy] [Import] [Export] [Delete]
BMJ Journals	BMJournals	BMJ Journals publishes high quality, high impact journals serving the medical and scientific communities, publishing across the general medical...	[Edit] [Copy] [Import] [Export] [Delete]
Britannica Academic Edition	BritannicaAE	Britannica Online® delivers fast and easy access to high-quality, comprehensive information. The rich combination of the insightful Encyclopædia...	[Edit] [Copy] [Import] [Export] [Delete]
CAB Direct	cabdirect_org_IP	CAB Direct is CAB's electronic platform delivering access to over 9 million abstracts across the applied life sciences.	[Edit] [Copy] [Import] [Export] [Delete]
Ebsco Content	EbscoContent	Ebsco Content	[Edit] [Copy] [Import] [Export] [Delete]
EBSCO: EBSCOhost	EBSCO_IP	EBSCO Publishing is a part of the EBSCO Information Services group which also includes EBSCO Subscription Services.	[Edit] [Copy] [Import] [Export] [Delete]
Elsevier ClinicaKey	ElsevierClinicaKey_IP	ClinicaKey® is the next generation, online search tool that provides physicians with smarter, faster clinical answers.	[Edit] [Copy] [Import] [Export] [Delete]
EMERALD	Emerald	Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 250 journals and...	[Edit] [Copy] [Import] [Export] [Delete]
EurekaSelect BenthamScience	BenthamScienceJournals	Bentham Science - STM publisher of online and print journals, and related print/online book series. Bentham Science answers the information needs of...	[Edit] [Copy] [Import] [Export] [Delete]
Gale	Gale_IP	Gale, part of Cengage Learning, is a world leader in e-research and educational publishing for libraries, schools and business. Bentham Science...	[Edit] [Copy] [Import] [Export] [Delete]



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE

MUSE PROXY Administrator Console

Configuration > SAML Authentication > Metadata administration > Metadata generation

Metadata generation

Entity ID:

Entity base URL:

Entity alias:

Enable IDP discovery profile:

Custom URL for IDP discovery:

Custom URL for IDP discovery:

Encryption key:

Show Advanced Settings >>

Generate metadata

SAML Authentication, Add New IDP Metadata Files



MUSE PROXY Administrator Console

Configuration > SAML Authentication > Metadata administration > Add New IDP Metadata files

Add New IDP Metadata files

By URL By Upload

Take metadata from URL:

Timeout in ms to wait for metadata:

Metadata Trust Check:

Test IDP metadata



SAML Authentication, Generate New Service Provider Metadata



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE

- Monitoring
- Statistics
- Configuration
- Cache
- Navigation Manager
- Utilities
- Advanced
- Server KeyStores

This section is used manage available keystores from keystore folder... more »

Server KeyStores » Available KeyStores

File Name	Common Name	Wildcard	Validity	Action
proxy.uaemoh.keystore	*.uaemoh.proxy.deepknowledge.io	✓	Valid	[View] [Refresh] [Delete]
proxy.elm.keystore	*.proxy.elm.jo	✓	Valid	[View] [Refresh] [Delete]

+ Create



Available KeyStores, view content, delete, create new keystore self signed/by key pair import/by upload

- Monitoring
- Statistics
- Configuration
- Cache
- Navigation Manager
- Utilities
- Advanced
- Server KeyStores
- Assigned KeyStores
- Available KeyStores
- Applications

This section is used to manage assigned keystores from ... more »

Server KeyStores » Assigned KeyStores

File Name	IP	Common Name	Wildcard	Validity	Action
proxy.keystore	*	MuseGlobal	✗	Expired	[View] [Refresh] [Delete]
proxy.rcsibahrainelibrary.keystore	172.31.17.220	*.proxy.rcsibahrainelibrary.com	✓	Valid	[View] [Refresh] [Delete]
proxy.uaemoh.keystore	172.31.22.11	MuseGlobal		Valid	[View] [Refresh] [Delete]
proxy.elm.keystore	172.31.31.173	MuseGlobal		Valid	[View] [Refresh] [Delete]

+ New Assign

Server restart is necessary to take in account the changes made in this page.

Common Name MuseGlobal

Alias proxy

Subject CN=MuseGlobal,O=MuseGlobal,L=RO

Issuer CN=MuseGlobal,O=MuseGlobal,L=RO

Format X.509

Serial 7207

Valid from 2013-04-01T13:07:23Z

Valid to 2017-04-02T13:07:23Z

Validity status Expired

Key algorithm RSA

Key size 2048

Certificate content [View as PEM]

Signed [Self signed] [Generate CSR]

Assigned KeyStores, view content, edit



MUSEKNOWLEDGE™ PROXY ADMINISTRATOR CONSOLE

- Monitoring
- Statistics
- Configuration
- Cache
- Navigation Manager
- Utilities
- Advanced
- Server KeyStores
- Usage Limits
- Rules
- Counters
- Suspended Users
- Applications

This section is used to view configured usage limits rules... more »

Usage Limits » Rules

Application ID	Rule ID	Enabled	Max Requests	Max Traffic(MB)	Interval(Minutes)	Ban Time(Minutes)	Is Trigger Ban
IDMSAML	limit1	✓	5000	1024	30	60	✓
MKPF	limit1	✓	5000	1024	30	60	✓
MKPF SAML	limit1	✓	5000	1024	30	60	✓
MKPFTest	limit1	✓	5000	1024	30	60	✓
MKPFUL	applyOnAllSources	✓	15	128	30	60	✓
	applyOnAll	✓	32				
	applyOnEach	✓	20				
MuseProxyFoundation	limit1	✗	5000				

View defined usage rules

Suspended Users, view/re-enable/export

This section is used to view usage limits counters... more »

Usage Limits » Counters

Total number of usage limits counters: 6

Export

Export all usage limits counters from application as CSV:

MKPFUL

Export all usage limits counters as CSV: [Export All](#)

Delete

Delete all usage limits counters: [Delete All](#)

View current usage counters

This section is used to view suspended users... more »

Usage Limits » Suspended Users

Suspended Users

#	Application ID	User Name	End Ban Time	Action
1	MKPFUL	MKPFUL	2021-02-02T13:30:41.019	Re-enable
2	MKPFUL	MKPFUL1	2021-02-02T13:33:16.245	Re-enable
3	MKPFUL	MKPFUL3	2021-02-02T13:34:08.559	Re-enable
4	MKPFUL	MKPFUL5	2021-02-02T13:38:50.858	Re-enable

Filters

Application:

Username:

[Filter](#) [Reset filters](#)

Actions

Export all suspended users as CSV: [Export](#)

Unsuspend all users from application:



JMX FEATURES

View at run-time:

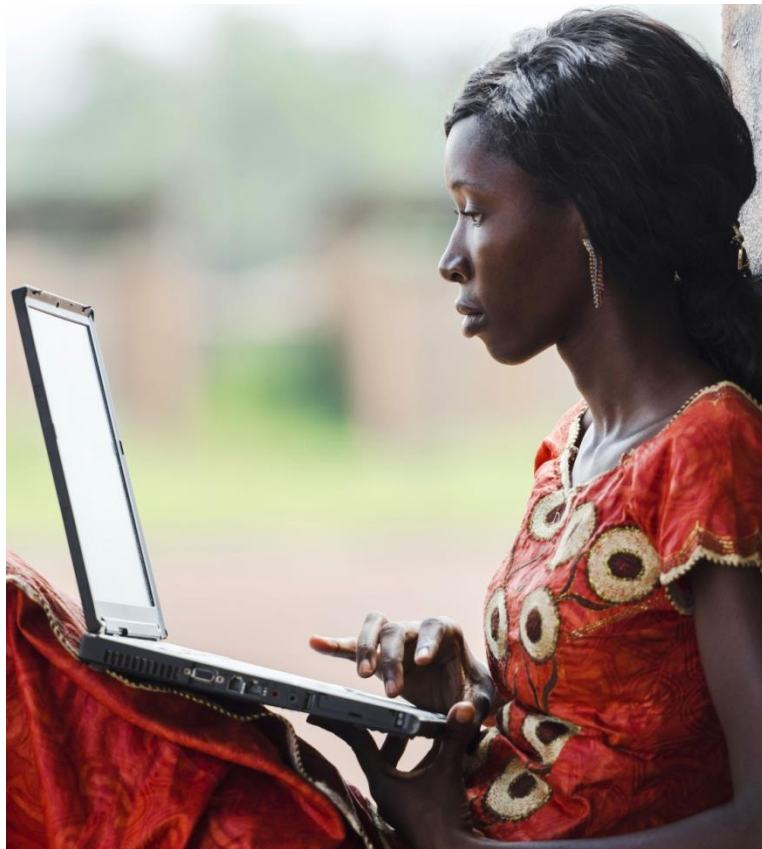
- **Information regarding the memory** and CPU used by MuseKnowledge™ Proxy
- **Information** regarding the MuseKnowledge™ Proxy threads
- **File Sets mappings** (public, authenticated and private) for each Web Context
- **MIME Mappings** for each Web Context
- **Global proxy configuration** fields and update the editable fields
- **MuseKnowledge™ Proxy Statistics** (traffic statistics and other server statistics) globally and per server IP

Set at run-time:

- **Authentication Timeout** for Proxy Requests and save the configuration to disk
- **Default Authentication Timeout** and Client Session Timeout for the Web Contexts and save the configuration to disk
- **Authentication Timeout** for a specific Web Context and save the configuration to disk
- **Configurable parameters** for each Web Module and see the value for the read-only parameters
- **Patterns for the server IP(s)** on which MuseKnowledge™ Proxy must listen and save the configuration to disk



MUSEKNOWLEDGE™ PROXY VERSION



MuseKnowledge™ Proxy 5.2 released on May 5th 2020

- **SIP and POP** authentication modules.
- **Address latest browser security changes**, like the cross-domain standards with *SameSite=None; Secure* attributes.
- **Support for localizing** the server messages and also messages reported by configured login modules.
- **New Pre-authentication module** to interpret a set of rules which ensures that the configured login modules are called only if the request is successfully validated against those rules.
- New **administration features** are available: Add New Source from scratch, visually manage the users defined in the *ProxyLoginModuleUserPassword* file.

Available for download on the EduLib website [here](https://www.edulib.com/products/muse-proxy/download/)
<https://www.edulib.com/products/muse-proxy/download/>.

Free 90 Day Trial period for evaluation is offered. Request a Trial License Key by simply filling in the trial form [here](https://www.edulib.com/products/muse-proxy/try/)
<https://www.edulib.com/products/muse-proxy/try/>.



USAGE SCENARIOS EDUCATION AND LIBRARIES

- **MuseKnowledge™ Proxy offers** convenient access to students and professors.
- **MuseKnowledge™ Proxy isolates** and protects organizational sensitive credentials. MuseKnowledge™ Proxy ensures the decoupling of such sensitive credentials from the normal usage scenarios, keeping the credentials and resource URLs transparent with regard to end-users.
- **MuseKnowledge™ Proxy offers** library patrons access to bibliographic databases. Library patrons at home or elsewhere can log in through their library's MuseKnowledge™ Proxy server and gain access to bibliographic databases to which their library subscribes either based on IP, user/password or other credentials.
- **MuseKnowledge™ Proxy reduces hardware.** MuseKnowledge™ Proxy Server can run on a machine that has multiple IP(s). Thus, instead of having many physical or virtual machines running with many MuseKnowledge™ Proxy instances, it is enough to have just one, no matter it is physical or virtual. This means saving money for both hardware acquisition and for power consumption.
- **MuseKnowledge™ Proxy offers better network** and subscription change control. The access from the in campus computers to the Content Providers is done many times by authenticating all the IPs used by these computers to the target sites. There are situations when the campuses are changing the Internet provider, thus the entire class(es) of IPs. If all the on-campus access to the Content Providers is put through MuseKnowledge™ Proxy then this offers a fluent control of these changes.



USAGE SCENARIOS BUSINESS AND ENTERPRISE

- **MuseKnowledge™ Proxy simplifies external access** to internal web resources. Instead of using a VPN which requires additional software or hardware, by using Muse Knowledge™ Proxy the external access becomes straight forward even for mobile devices. Issue Tracking Systems, Help Desk Systems, CMS Systems, CRM Systems, ERP Systems, Internal Demonstration Systems, could selectively be grouped under one or more MuseKnowledge™ Proxy Application(s).
- **MuseKnowledge™ Proxy offers company accounts protection.** Simplified administration of the user groups authorized to access online company subscribed accounts, without the need to hand on company credentials for accessing important protected resources constitutes sensitive data and at the same time are a burden to maintain by each employee.
- **MuseKnowledge™ Proxy adds extra SSL protection.** Muse Knowledge™ Proxy can be used to encrypt the communication between the client and the proxy server using HTTPS even when loading non-SSL sites. MuseKnowledge™ Proxy only requires a single SSL certificate, because you will always access its host/domain, all the resource URLs being translated to point back to that.
- **MuseKnowledge™ Proxy offers strict access to Internet.** Enforce strict rules or access to web sites outside your Intranet. MuseKnowledge™ Proxy will then be the only gateway to the permitted resources via a configurable MuseKnowledge™ Proxy Application serving as index to those resources.



USAGE SCENARIOS SOFTWARE INTEGRATION



- **MuseKnowledge™ Proxy replicates web session and context.** If you need to transfer and use a web session from a server-side application to a distant front-end browser or a different application, then your Software can interact with MuseKnowledge™ Proxy by using session authorization elements such as cookies, referrer, HTTP authorization, to migrate web sessions and contexts from servers to clients or other servers. Examples: Federated Search Engines, Discovery Services, Crawling, Harvesting or ETL processes.
- **MuseKnowledge™ Proxy can translate** even POST or long GET requests. If the server-side handles long URLs which have more than 2047 characters then these cannot be navigated by some browsers as they are truncated. Using the Tiny URL feature, such long URL can be transformed dynamically to shorter ones.
- **MuseKnowledge™ Proxy offers distinct domains integration.** In case you need two or more distant web sites with complex JavaScript processing to be placed under the same domain use MuseKnowledge™ Proxy as a reverse URL rewriting proxy by accessing the distant site through a MuseKnowledge™ Proxy located in the first domain.

MUSEKNOWLEDGE™ PROXY AND LEARNING TOOLS INTEROPERABILITY® (LTI)

- **LTI launch requests** can be used to include a MuseKnowledge™ Proxy Application or proxified source directly within the Learning Management System (LMS) as an External Tool.
- Once a user is authenticated to the LMS (s)he can access a MuseKnowledge™ Proxy application or source being defined as an **External Tool**. MuseKnowledge™ Proxy acts as a **Tool Provider**.
- **Example** of LMS platforms supporting LTI: Moodle, Atutor, Sakai, Blackboard, Canvas.
- Working in **iframe** as long as browsers support third party cookies. Opening in new browser tabs is also possible.



MUSEKNOWLEDGE™ PROXY AND LEARNING TOOLS INTEROPERABILITY® (LTI)

Canvas

Add External App page

Add MuseKnowledge Proxy application as External App

MuseKnowledge Proxy integration in Navigation Course



MUSEKNOWLEDGE™ PROXY AND LEARNING TOOLS INTEROPERABILITY® (LTI)

Canvas

The image displays three overlapping screenshots from the Canvas LMS interface:

- Top Left:** A 'Select App' dialog box with a search bar and a list of available applications, including 'MuseKnowledge Proxy LTI Demo'.
- Top Right:** A 'Rich Content Editor' window showing an embedded 'MuseKnowledge Proxy LTI Demo' widget. The widget displays search results for 'Citation Databases' with filters for various categories like Engineering, Entertainment, and Science.
- Bottom Center:** A 'Custom Parameters' dialog box for embedding the LTI demo. It includes fields for 'Item resource name' (Wiley Online Library) and 'Custom parameters' (param1=value1, param2=value2). It also has radio buttons for 'The HTTP method used to send custom parameters' (GET or POST).

Rich Content Editor integration

Rich Content Editor with embed sources

Rich Content Editor with embed source with custom parameters



MUSEKNOWLEDGE™ PROXY AND LEARNING TOOLS INTEROPERABILITY® (LTI)

Canvas

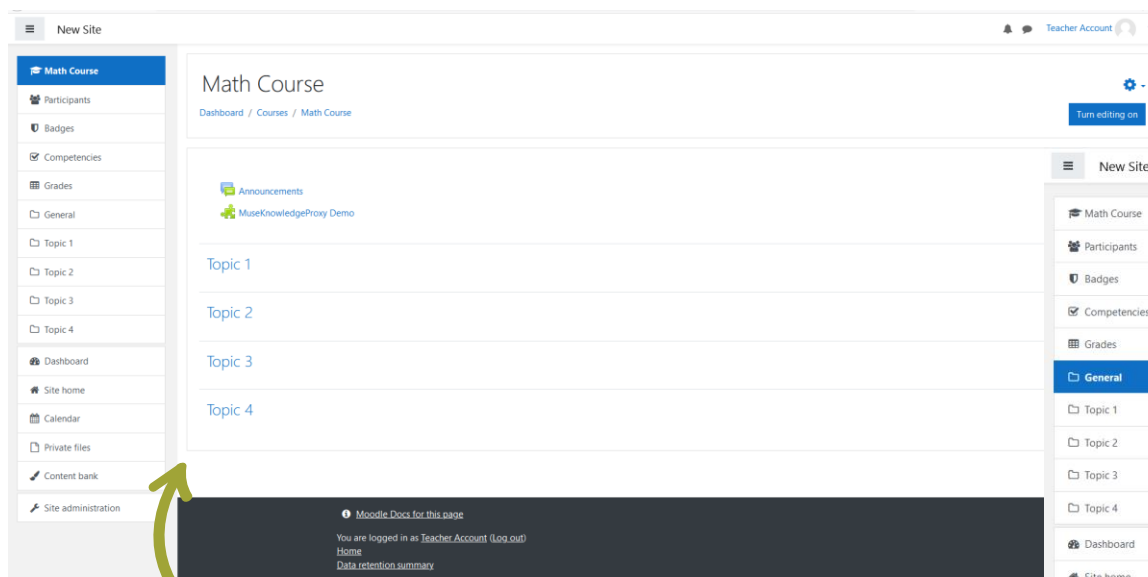
The screenshot displays the Canvas LMS interface. On the left is a navigation sidebar with icons for Home, Announcements, Assignments, Discussions, Grades, People, Pages, Files, Syllabus, Outcomes, Rubrics, Quizzes, Modules, MKPFLTI Demo, and Settings. The main content area is split into two panels. The left panel shows a preview of an article titled "Constructing Symmetric Boolean Functions With Maximum Algebraic Immunity" from IEEE Xplore. The right panel shows the full article content, including the title "Mining Conditional Functional Dependency Rules on Big Data" by Mingda Li, Hongzhi Wang*, and Jianzhong Li. The article abstract discusses Conditional Functional Dependency (CFD) discovery algorithms and their application to big data. A table of contents on the left of the article preview shows four pages. At the bottom of the article preview, there is a "Feedback" button.

End user access to article content



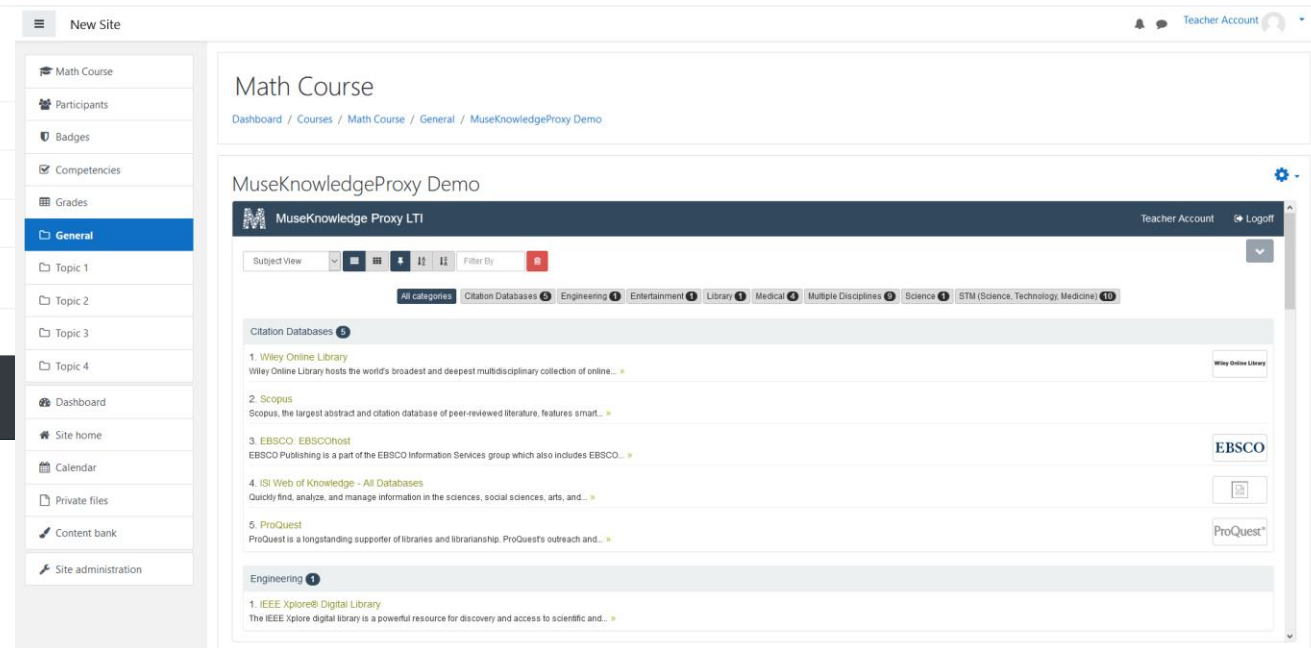
MUSEKNOWLEDGE™ PROXY AND LEARNING TOOLS INTEROPERABILITY® (LTI)

Moodle

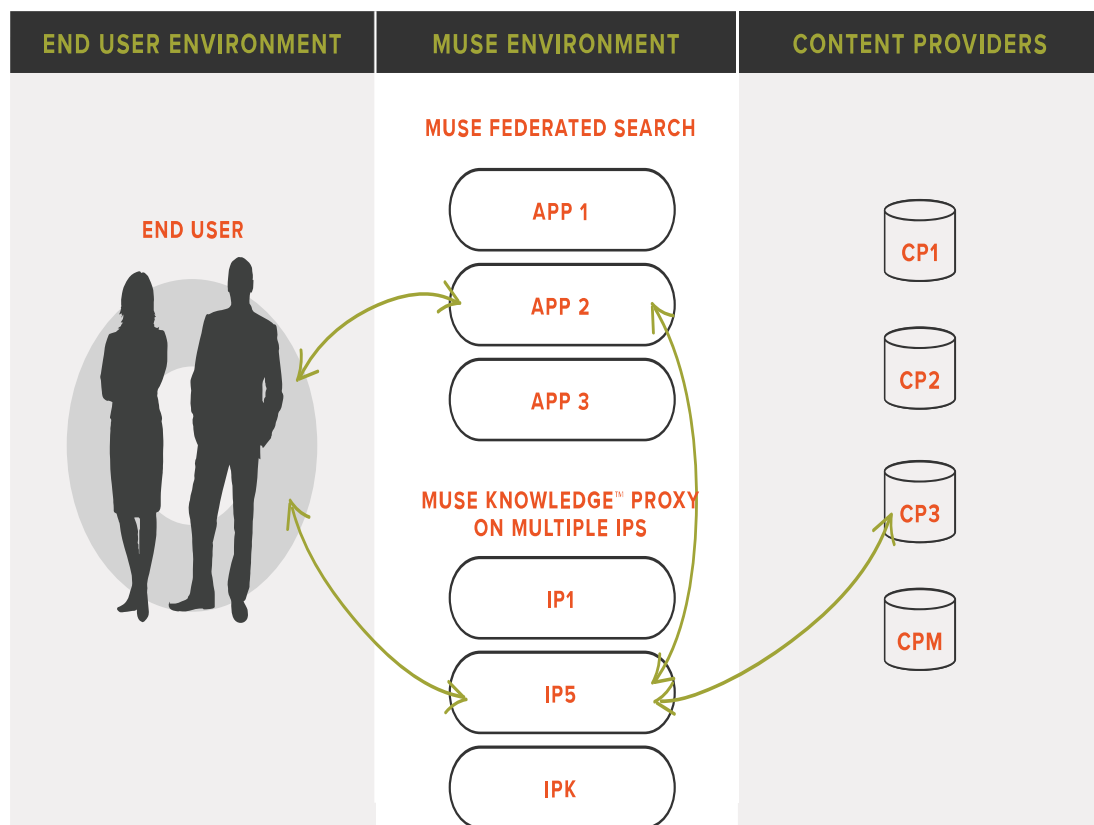


Proxy Course Page integration

Proxy Course



MUSEKNOWLEDGE™ PROXY WITH MUSEKNOLEDGE™ FEDERATED SEARCH



- **End user logs** into Muse Search Application 2 and begins a search
- **The search passes through** the authenticated and configured IP – IP5
- **Information is extracted** and the processing starts
- **MuseKnowledge™ Records** are created and stored in temporarily workroom including cookies and session IDs
- **MuseKnowledge™ Proxy is queried** for services and URLs are matched against configured patterns and rewritten
- **Tiny URLs are created** and stored in the Muse Knowledge™ Proxy session
- **MuseKnowledge™ Application** displays the records to the End user
- **End user clicks** on a rewritten record link or Tiny URL to access full content
- **The MuseKnowledge™ Proxy connects** to Content Provider 3 via IP5 to get the full content page; the initial search connection is recreated due to the cookies and session IDs
- **The MuseKnowledge™ Proxy connects** to Content Provider 3 via IP5

MUSEKNOWLEDGE™ PROXY MONITORING

The screenshot displays the MuseKnowledge™ Proxy Monitoring interface, which includes several key components:

- Client Sessions Table:** A table listing 12 client sessions with columns for Client Session ID, Client IP, Size (B), Expires, Lifetime, Creation Time, and Last Access Time. The table is filtered to show 10 of 12 sessions.
- Client Session Filters:** Input fields for Client Session ID, Client IP, Creation Time between, and Last Access Time between.
- Web Context ID:** A dropdown menu set to 'Any'.
- Requests [MuseGlobal Customers] - Monthly:** A bar chart showing requests per second over a 4-week period (Week 16 to Week 19). The chart shows a peak in Week 19.
- Java Monitoring & Management Console:** A window showing the configuration of the proxy's logging and monitoring. The 'Attribute values' table is visible, showing settings like 'Enabled' (true), 'FlushInterval' (15000), 'LogFileName' (C:\Muse\proxy\logs\MuseProxy.log), 'LogFileSize' (10485760), 'LogTimeInterval' (24), 'LoggerName' (default), 'LoggingFormat' ([0, date, yy/MM/dd hh:mm:ss a z] {1}: {4}): {3}), 'LoggingLevel' (default), 'LoggingLevelMask' (NOTICE), 'MaxBackupIndex' (10), and 'RotationRules' (daily, ,0.0).
- Countries (Top 10):** A table showing the top 10 countries by hits and bandwidth.

Countries	Hits	Bandwidth
United States	139,427	141,021
Romania	51	145
China	49	153.51 KB
Taiwan	25	25
India	18	18
Chile	13	13
France	12	12
Germany	12	12
Japan	6	6
Canada	5	5
Others	10	10
- Hosts (Top 10):** A table showing the top 10 hosts by hits and bandwidth.

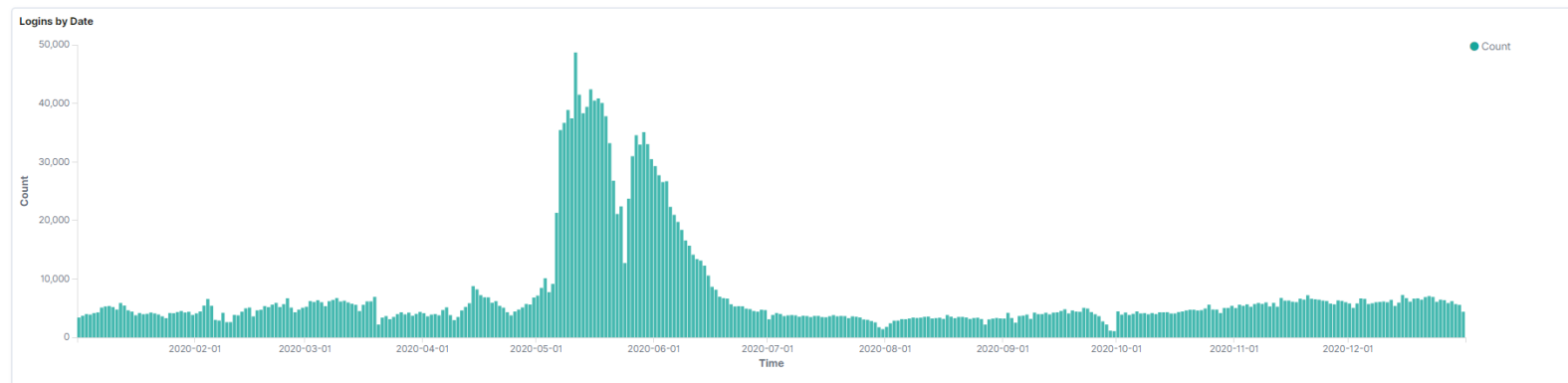
Hosts	Pages	Hits	Bandwidth	Last visit
8k03.museglobal.com	130,376	130,376	2.11 GB	13 May 2014 - 05:50
ncc.museglobal.com	8,612	8,612	1.45 MB	13 May 2014 - 05:59
.museglobal.ro	50	144	1.04 MB	13 May 2014 - 01:13
00-35-56-175.mwknsl.fica.verizon.net	44	50	2.90 MB	08 May 2014 - 07:46
2-68-67.lightspeed.milwi.sbcglobal.net	41	41	3.56 MB	12 May 2014 - 13:32
lbbd442.static.optonline.net	39	182	5.97 MB	07 May 2014 - 12:44
dnat-64-26-100-49.bcpl.lib.md.us	36	191	5.77 MB	12 May 2014 - 14:53
ool-addr02.static.optonline.net	31	163	4.04 MB	10 May 2014 - 09:18
c-24-16-174-164.hsd1.wa.comcast.net	30	96	1.86 MB	06 May 2014 - 12:46
122-146-47-35.adsl.static.sparonet.net	25	25	78.32 KB	13 May 2014 - 04:22
Others	344	1,436	35.92 MB	
- Robots/Spiders visitors (Top 10):** A table showing 0 different robots.

- Real time monitoring with JMX
- RRD graphs
- AWStats like statistics for Muse Knowledge™ Proxy Access log files
- MuseKnowledge™ Proxy Administration Console



USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

- **Easy to access**, web based;
- **Provides visual charts and reports** on logins, sessions, accessed resources;
- **Advanced filtering capabilities**;
- **Provides enhanced usage statistics** per publisher, downloads (full text PDF/HTML/EPUB, etc.), journals, books;
- **Export data**;
- **Enrich** with third party mechanisms for getting additional information;
- **Dashboards** with predefined statistical information;
- **COUNTER** Compliant Statistics <https://www.projectcounter.org/>

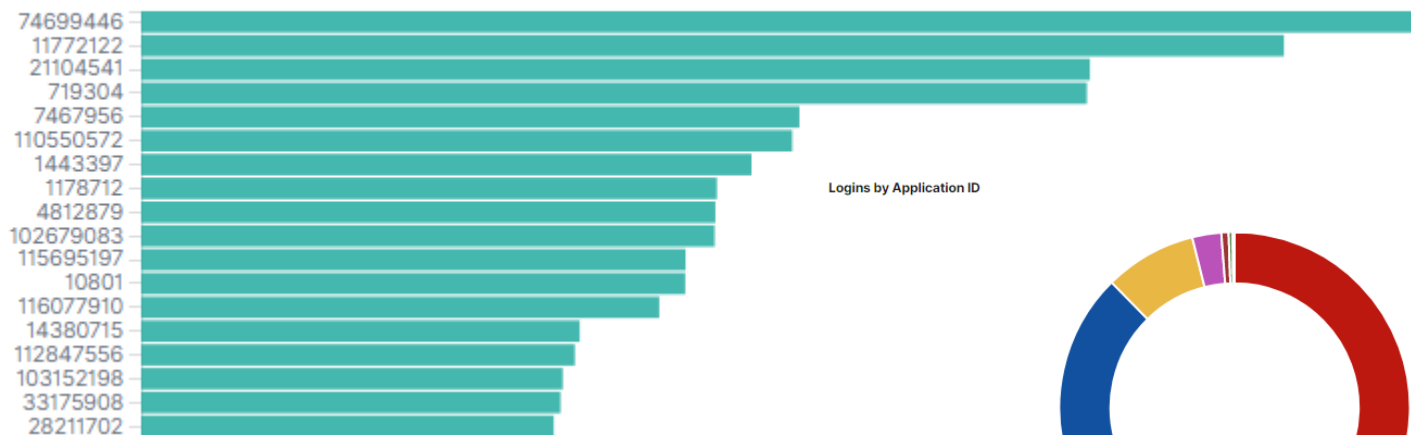


USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

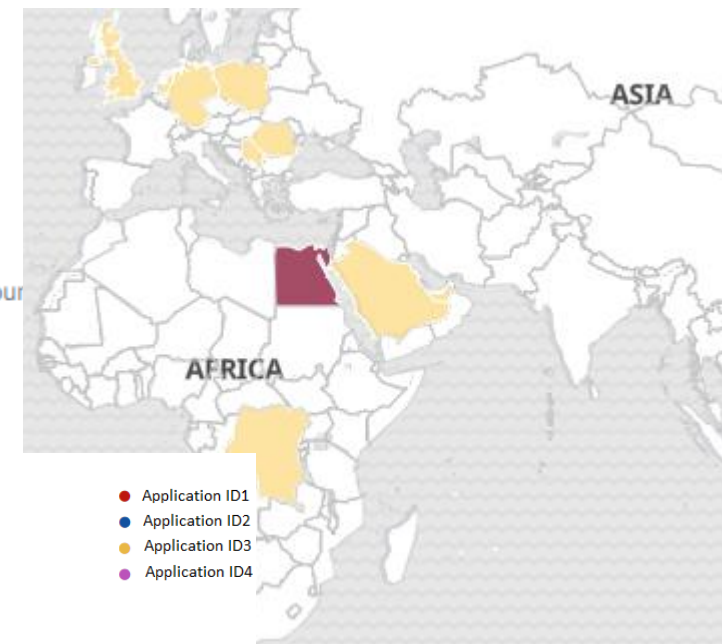
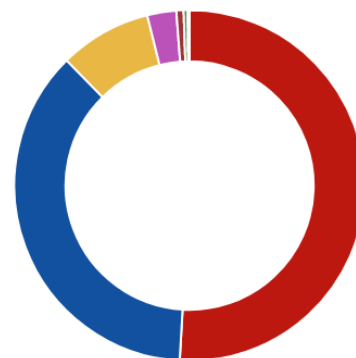
General Usage Statistics: Application Logins

- Total Number of Logins
- Total Number of Unique Users
- Logins by Date, by Muse Proxy Application ID, by User ID, by User IP, by User Country, by Server

Top 100 Logins by User ID



Logins by Application ID

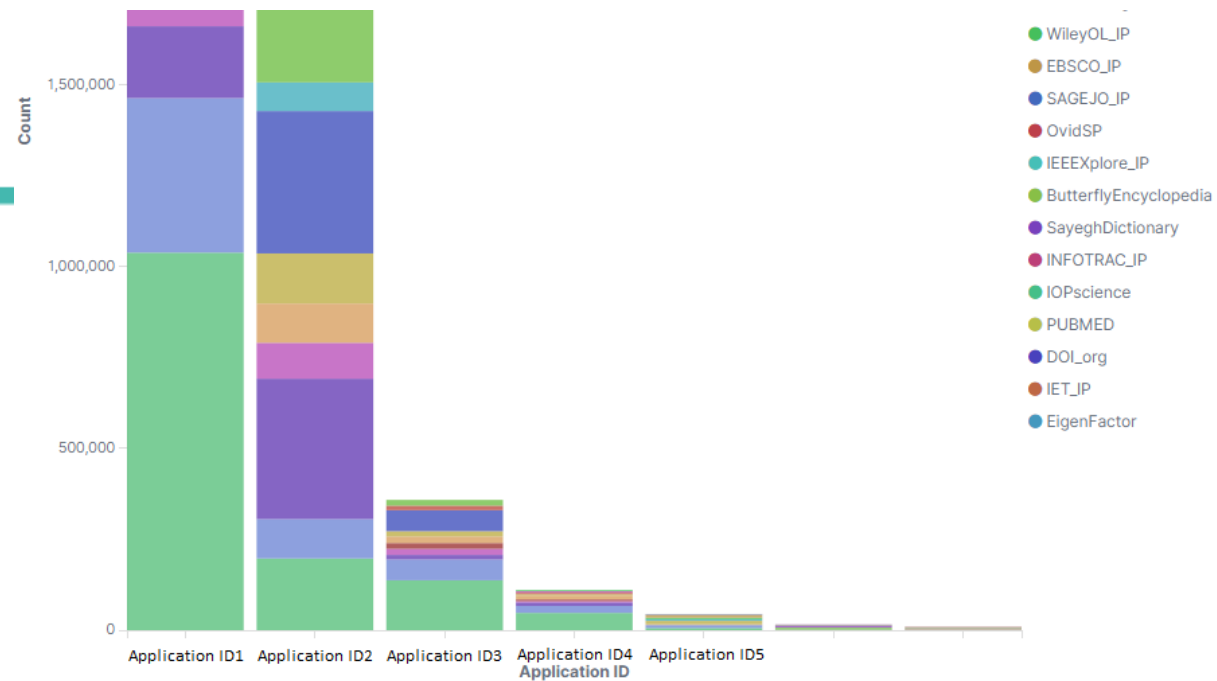
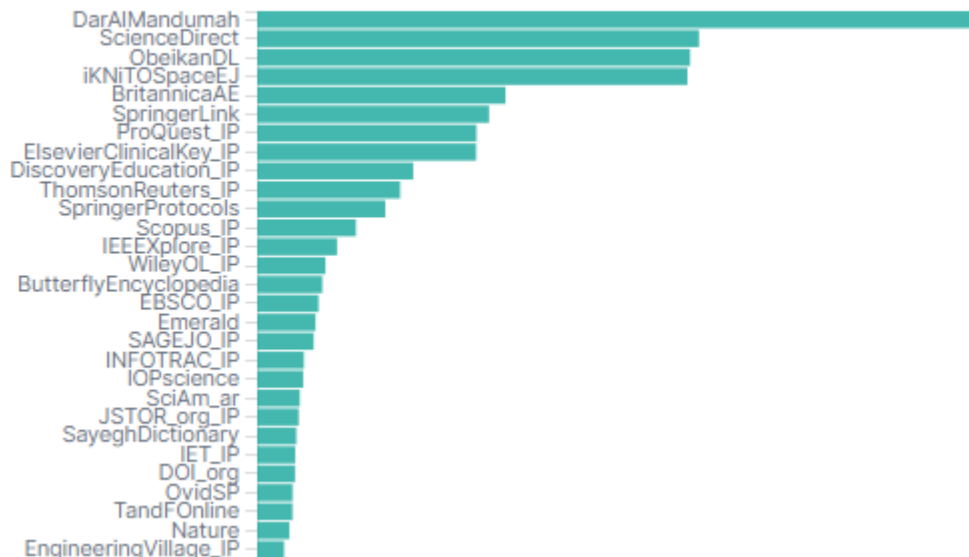


USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

General Usage Statistics: Source Accesses

- Top 100 Access by Source ID
- Top 10 Accessed Sources per Application ID
- Raw data

Top 100 Access by Source ID

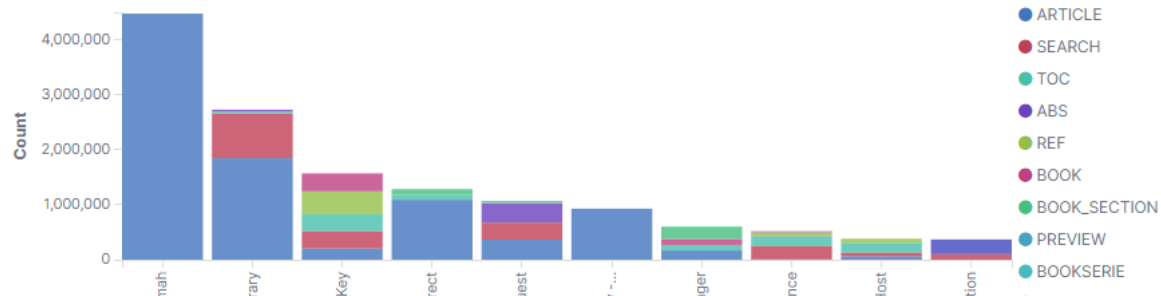


USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

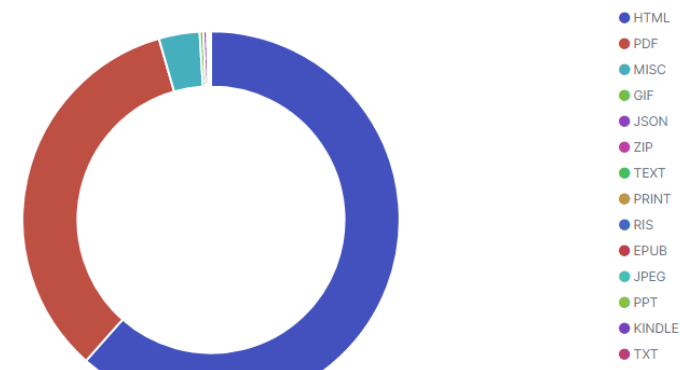
Publisher Content Access Statistics

- Accessed Events (Full Text accesses, PDF downloads, etc.), by Date, by Muse proxy Application ID, by Platform, by Resource Type, by Resource Format, by Domain, by Identifier, by Publication Title

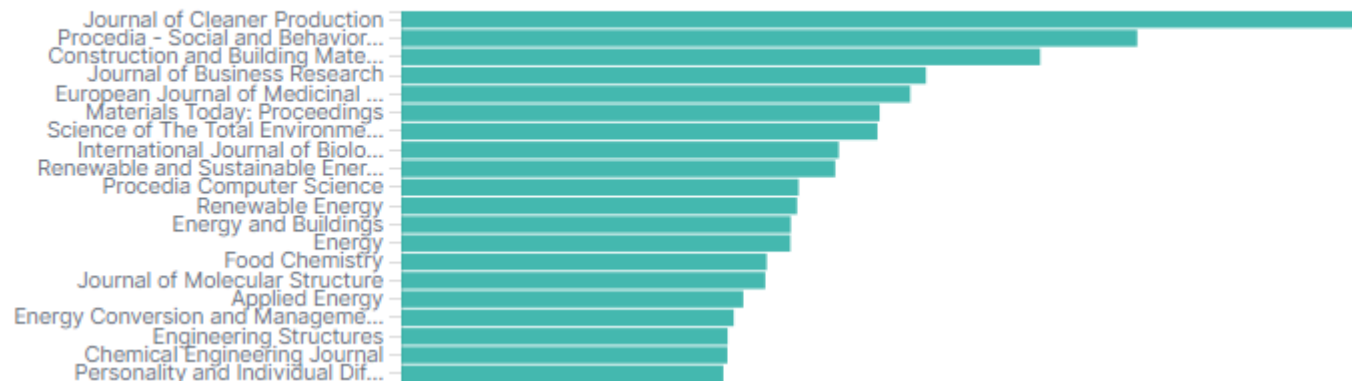
Top 10 Platforms by Resource Type



Access by Resource Format



Top 100 Access by Publication Title



● Count

EX



USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

Security

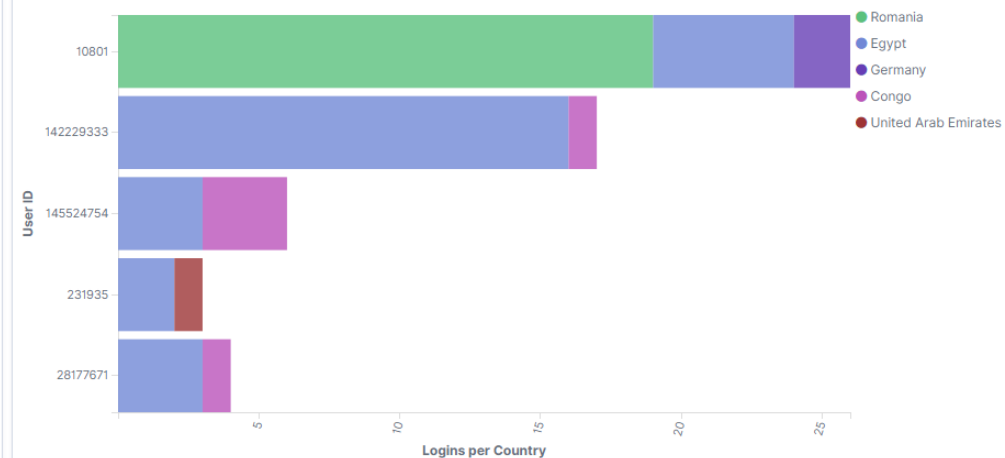
- Find possible compromised accounts based on the originating IP address and Geolocation

Logins From Multiple Geographies

User ID	Unique Countries Count
10801	3
142229333	2
145524754	2
231935	2
28177671	2

Export: [Raw](#) [Formatted](#)

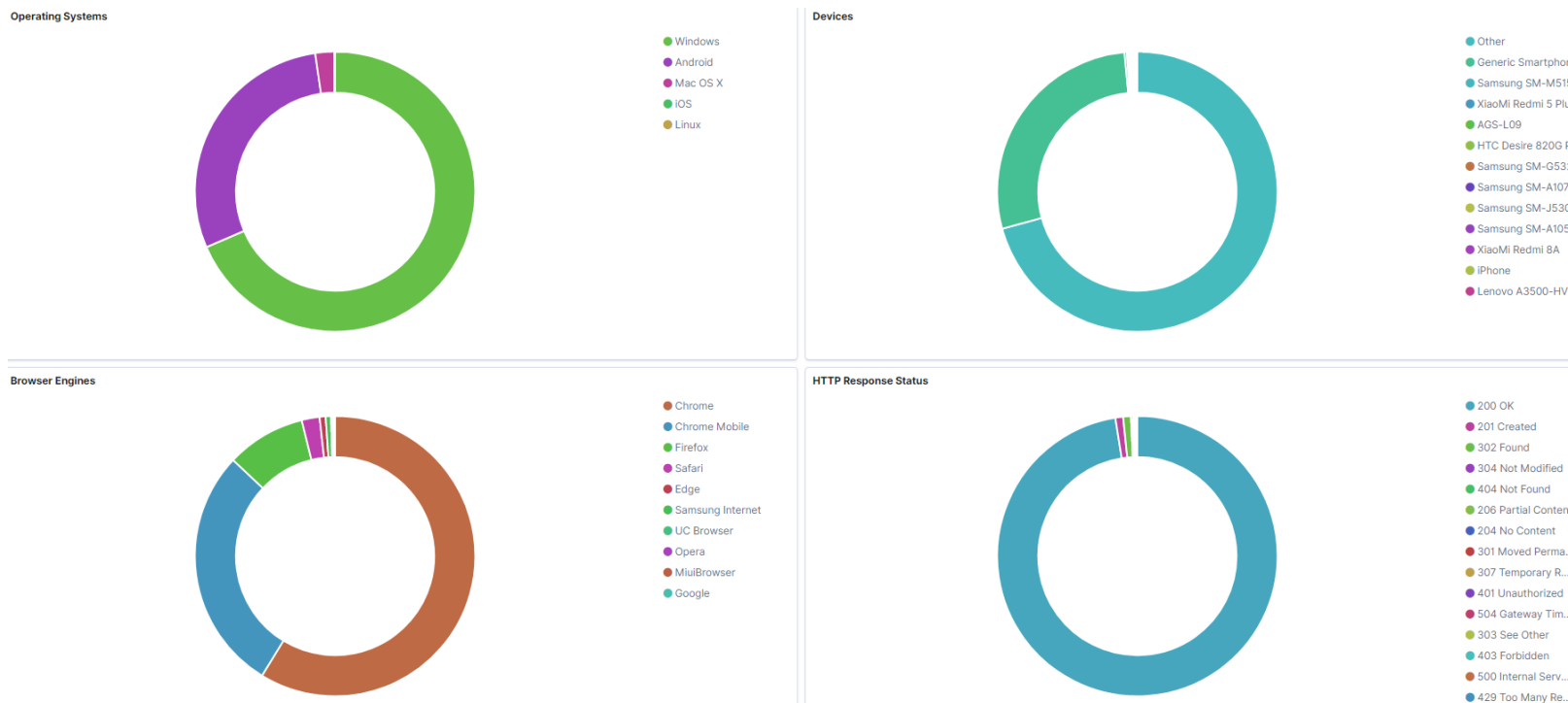
Logins From Multiple Geographies



USE CASE: MUSEKNOWLEDGE™ STATISTICS PLATFORM

User Activity

- Detailed user actions: Number of Logins, First Visit, Last Visit, Total Time Spent, Sessions, Accessed Sources, Number of Events (Full Text accesses, PDF downloads, etc.), Accessed Publication Titles, Operating Systems/Devices/Browsers used.



REFERENCES

- Muse Proxy.pdf
- Muse Proxy Advanced Configuration.pdf
- Muse Proxy Administrator Console.pdf
- "MuseKnowledge Proxy Administration Console" presentation
- "MuseKnowledge Proxy and OAuth Authentication" presentation
- "MuseKnowledge Proxy and SAML Authentication" presentation
- "MuseKnowledge Proxy Applications" presentation
- "MuseKnowledge Proxy Integration" presentation
- "MuseKnowledge Proxy Source Profiling" presentation



MUSE
KNOWLEDGE

PROXY

SEAMLESS AND SECURE REMOTE
ACCESS TO RESOURCES

