

## KOHA 16



### INTEGRATED LIBRARY SYSTEM

CHARACTERISTICS AND TECHNICAL  
REQUIREMENTS

## ABOUT THIS DOCUMENT

Identifier	WP181120		
Approved by	Luís Miguel Ferros	Approved on	2018-10-19
Classification	Public		
Distribution	N/A		

## REVISIONS

#	Date	Authors	Modifications
1	2018-06-07	Miguel Ferreira	First version of the document
2	2018-10-19	Márcia Fernandes	Change on final table about technical requirements of MySQL 6 to MySQL 5.7

## EXECUTIVE SUMMARY

Koha is a web-based integrated library system capable of managing a wide range of administrative processes typically found in modern libraries: cataloguing, authority management, serials management, circulation, acquisitions, reporting, etc.

This document aims to describe the main features and characteristics of Koha, and also to outline the technical requirements necessary for the correct deployment of the software in a production environment.

**PROMOTE YOUR  
COLLECTIONS,  
KNOW YOUR  
USERS, BRING  
THE LIBRARY  
CLOSER TO  
YOUR READERS**

## KOHA

Koha is a web-based integrated library system capable of managing a wide range of administrative processes typically found in modern libraries: cataloguing, authority management, serials management, circulation, acquisitions, reporting, etc.

Via its online catalogue (OPAC), it is possible to promote the library's collections and simultaneously provide a set of services to its readers without them having to physically commute to the library. Such services include loan renewals, reservations, submitting acquisition suggestions, etc.

Koha is compatible with various international library standards, such as, MARC21, UNIMARC, MARCXML, ISO 2709, Z39.50, SRU/SRW, SIP2, RSS, etc.

This software is implemented in thousands of libraries around the world, from small personal libraries with a few hundred items to large university libraries holding millions of items.

There is a vibrant community of developers working to improve Koha's security, stability and performance. New features come out every year making Koha the most advanced open-source library system on the market today.

## No licensing costs

Koha is an open-source software. This means that there are no licensing costs associated with it.

Koha runs on top of an open-source operating system and uses an open-source database management system, which also materializes in a reduction of costs at the infrastructure level.

## Vendor independent

Because Koha is an open-source software, the software implementation and maintenance services can be provided by any specialised company.

A library institution is, therefore, not dependent on a single vendor or service provider for support.

This alone ensures the continuity of the system in the event of disruption.

## Configurable according to the needs of your library

This solution is highly configurable. It allows circulation rules to be defined according to the policy of your institution, the attributes associated to each user profile can be adjusted, item types, collections and design of patron cards can be configured to meet the requirements of your institution.

It is also possible to set up the graphical user interfaces to meet the branding identity of the client institution.

## Support for library networks

A single Koha instance can support a network of libraries. Each of these libraries can operate independently and according to their own internal policies.

In addition to an effective reduction of costs, this enables a centralised view of the information and management processes.

Performance indicators can be extracted for all the libraries simultaneously, and the cataloguing process can be coordinated centrally.

## A library closer to its users

Readers, in addition to being able to search the library catalogue online, can place reservations and renew their current loans.

Furthermore, they can export, print, and save records, view their search history and loan history, consult fines, change personal information, manage reading preferences, create document lists, among other operations.

The software provides a set of services that take the library closer to its readers, extending it beyond its physical space.

## ARCHITECTURE AND FUNCTIONAL MODULES

Koha is composed of two application modules:

1. **Backoffice** - enables professionals and library administrators to manage and operate the entire system;
2. **Frontoffice** (i.e. the OPAC - Online Public Access Catalogue) - enables readers to access the catalogue, perform item reservations, renewals, and other operations.

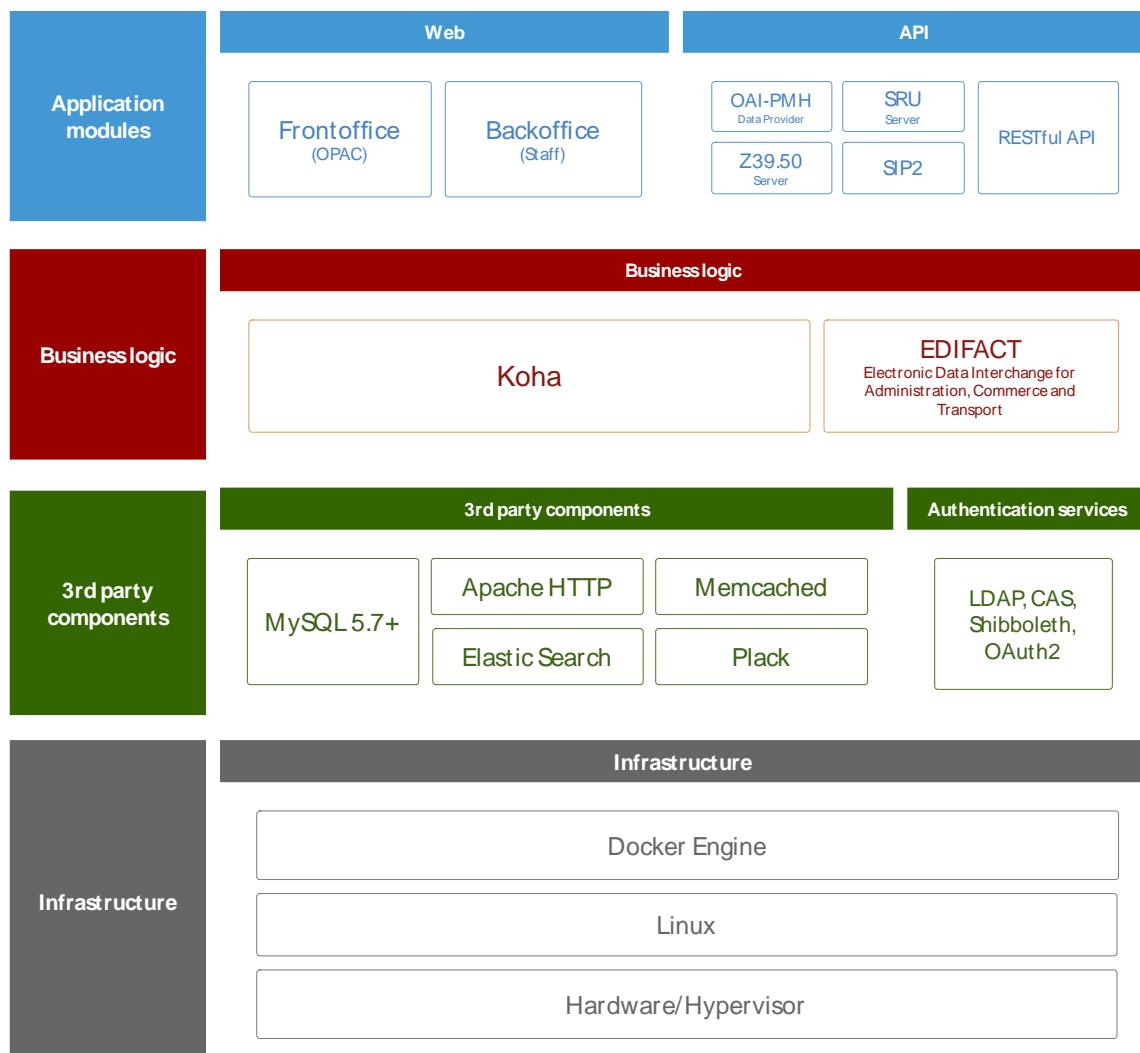


Figure 1 - Koha overall architecture

## FRONTOFFICE

The Frontoffice module, also known as OPAC (Online Public Access Catalogue), is responsible for establishing the bridge between the library and its readers. This module provides, over the Internet, the ability to search library items, make reservations and handle renewal of loans.

It is possible to adapt the design of this module to meet the customer's graphic design (i.e., logos, colours, etc.). In addition, it adjusts perfectly to devices with smaller screens, smartphones, tablets, etc.

This module promotes the inclusion of all citizens. In accordance with the Web Content Accessibility Guidelines (WCAG 2.0), the system enhances accessibility by implementing a wide range of recommendations to make Web content more accessible to people with disabilities.

### Compatible with any platform

Koha is a 100% Web-based solution.

To use the system, you only need a browser. The software is centralized on a server, and there is no need to install applications on users' workstations.

Access to the system can be done from anywhere and from any device, desktop or tablet.

## BACKOFFICE

The Backoffice module provides a set of operations that are typically reserved to the employees of the library. These operations range from evaluating the performance of the library and its staff members, to cataloguing and indexing new acquisitions. This module is thus divided in different functional modules. Among these, the following stand out:

### Cataloguing

The cataloguing module allows library technicians to create bibliographic records and manage their respective items. The bibliographic records can be created from scratch or imported from other library systems using the Z39.50 communication protocol (e.g. the national library catalogue or the Library of Congress).

The software allows the configuration of distinct cataloguing models for each document type. These models make the cataloguing process simpler, since they only show the fields that are essential for cataloguing of each type of document.

Editing, duplication, unification and elimination of bibliographic records are also possible, as well as the association of cover images for later presentation in the OPAC.

### Authorities

This module aims to control the values that can be inserted in certain fields of a bibliographic record. Typically, authorities serve the purpose of controlling values inserted in the fields subjects, authors, and publishers, but they are not limited to these.

Similar to the creation of bibliographic records, an authority record can be created from scratch or imported from other libraries via Z39.50.

Editing, eliminating, and unifying authority records are also available operations in this module.

### Interoperability is key

Koha implements interoperability protocols such as OAI-PMH and Z39.50, enabling the import of records from other information systems.

The system also supports the import and export of bibliographic records and users in various formats such as ISO 2709 and MARC XML.

These features facilitate the interoperability of information with other library management systems, as well as the reuse of existing information and a perfect exit strategy in case of succession.

## Serials

Serials are a special type of document whose publication takes place at a given frequency. Its acquisition by the library is usually associated with a subscription.

Koha's serials management module is used to keep track of all the subscriptions acquired by the library, as well as to handle their receipt.

The subscriptions are associated with a particular bibliographic record, suppliers can be configured, the frequency of receipt, the duration of the subscription, if the automatic creation of items for each number received is desired, among other things.

## Circulation

This module enables the library to manage loan-related operations such as reservations, loans, returns and renewals.

These operations are performed through a simple interface and they are compatible with any bar code reader. The identification of readers may be performed through their reader number, name, or by reading the bar code on the reader's card.

The circulation module operates in accordance with the loan rules (number of authorized loans, number of loan days, fines, etc.) set in the system preferences.

Proof of their loans, returns and renewals can be delivered to the reader, either by SMS or e-mail.

## Acquisitions

The acquisition module allows the registration and monitoring of orders made to vendors, as well as the management of budgets and funds available.

In this module, it is also possible to manage acquisition suggestions submitted by readers via the OPAC. These suggestions follow an approval workflow that can be inspected by the reader that has submitted the suggestion.

## Reporting and statistics

Reports are a way to obtain information about the current or past state of the system. These can be used to generate lists of patrons, bibliographic records, or any other information available in the database.

All reports can be exported to Microsoft Excel in CSV format.

Statistics, in turn, allow the user to obtain consolidated data on the state of the system, such as total monthly loans, number of users per category, sum of fines accumulated during the year, etc.

The Koha instance provided by KEEP SOLUTIONS comes preloaded with over 60 predefined reports, however, should new needs arise, new reports and statistics can be added at any time.

## User management

This module allows the management of system users. After the registration, it is possible to print a reader card, to define the operations that will be available to that user and to consult the information associated with each individual patron.

In the administration module, user categories can be defined in order to enable the definition of specific circulation rules.

Koha allows the integration with external authentication systems via LDAP (Lightweight Directory Access Protocol), CAS (Centralized Authentication System), OAuth2 and Shibboleth.

## Tools

Koha provides a set of tools specifically designed to meet the needs of the modern library.

These include the ability to add news to OPAC's main page, set up templates for book labels and reader cards, manage the library's operational calendar (holidays, off-days, etc.), moderate comments submitted by readers, import and export bibliographic records, among many other operations.

## ADMINISTRATION

Koha is a highly customizable software. In its administration module, a user with appropriate privileges can take advantage of hundreds of configuration options to activate or deactivate features and define dozens of system behavioural parameters.

The following settings are available to the administrator: define the set of libraries to be managed by the software, configure document types, define user types and their respective permissions, configure document circulation rules, manage controlled vocabularies, configure cataloguing templates, etc.

Due to its high configurability, this product is able to adjust to the specific policies of each institution without the need for any development work to take place.

## WEB CONTENT ACCESSIBILITY

The Web Content Accessibility Guidelines (WCAG) 2.0 are a set of recommendations issued by W3C that aim to make Web content more accessible. Compliance with these guidelines makes content published on the Web more accessible to people with disabilities, such as blindness and low vision, hearing loss and poor hearing, learning disabilities, cognitive limitations, movement limitations, speech impairment, photosensitivity, and others.

Following these guidelines also allows Web content to become more usable by users in general and by mobile devices such as smartphones, tablets, or wristwatches.

Given the importance of this issue, legislation was created to promote the adoption of these guidelines throughout public bodies of the European Union - *Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies*.

KEEP SOLUTIONS supports this initiative and ensures that all of its products are in full compliance with the AA+ level of the Web Content Accessibility Guidelines (WCAG) 2.0.

### Compatible with any platform

Koha is a 100% Web solution. To use the system, you only need a browser.

The software is centralized on a server, and there is no need to install applications on the users' workstations.

Access to the system can be done anywhere and from any device, desktop or tablet.

## TECHNICAL REQUIREMENTS

Koha requires a minimum of two computers to operate:

- **Server** - the server is responsible for hosting all the information produced by the users, as well as supporting all business logic.
- **Workstation** - the workstation is used by end-users to access the software.

The following sections describe the minimum requirements necessary for the correct operation of the software on the various computers.

### SERVER

RAM	8 GB 16 GB recommend
CPU	1 Ghz Quad-Core or superior
HDD	50 GB Depends on the number of records and their growth rate
Operating system	Ubuntu Server 16.04 LTS or compatible No licensing costs
Software	Docker engine MySQL 5.7 or superior No licensing costs
Network	100 Mbit/s or superior 1 Gbit/s recommended

Note: For greater performance and security we recommend the use of two servers, one for the application and another to support the database management system.

### WORKSTATION

RAM	4 GB
CPU	Intel Dual-Core or superior
Monitor	1280x768 pixels or superior
Operating system	Windows/Linux/MacOS
Software	Web browser
Network	100 Mbit/s or superior 1 Gbit/s recommended

## KEEP SOLUTIONS



[www.keep.pt](http://www.keep.pt)



+351 253 066 735



[info@keep.pt](mailto:info@keep.pt)



[sales@keep.pt](mailto:sales@keep.pt)



KEEP SOLUTIONS, LDA.

Rua Rosalvo de Almeida, nº 5,  
4710-429 Braga  
Portugal

KEEP SOLUTIONS is a company whose mission is to provide advanced solutions for information management and digital preservation.

Our approach consists in providing software and services to allow our customers to make a more efficient management of their information assets.

The company started its activity in 2008, having acquired the status of academic spin-off of the University of Minho, for being a business initiative with strong bonds with research centres and departments from this institution.

Our clients are mostly found in the public sector, more specifically in the areas related to archives, libraries and museums.

We invest in the continuous development of innovative solutions. To support that, we remain active in the production of scientific knowledge while engaging in large-scale R&D projects in cooperation with national and international institutions.