

## **Application of KOHA Open Source Software in University of Agricultural Sciences, Dharwad**

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### **Abstract**

*The University of Agricultural Sciences, Dharwad University Libraries of different campuses strengthen and enhance the teaching, research and services of the university. The UASD libraries have implemented Koha free open Source library management system to deliver information and scholarly resources conveniently to stakeholders anytime/any place. Koha is the first free and open source software for library automation. Its excellent features have made it popular among the user community within a short span of time and are being used worldwide in libraries. It is envisioned to have a national network of the Agricultural Universities by integrating all the libraries, The Indian Council of Agricultural Research, New Delhi (ICAR) has made it mandatory to implement the Koha software among all AU's libraries in India. This paper discusses the main features of Koha and described the implementation of KOHA at UASD libraries.*

**Keywords:** *Agricultural universities, Karnataka, Koha*

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## **Introduction**

Koha is an open source Integrated Library System that originated in 1999 in New Zealand. A group of three libraries, the Horowhenua Library Trust (HLT), needed to replace their current library system with a new one. Instead of purchasing an available commercial system, they contracted with a web development firm, Katipo Communications, to develop a new ILS. This new system was named Koha after the Maori word that means “gift” or “donation.” It was released as an open source product and HLT began using Koha on 1st January 2000. Currently, there are over 80 developers that have made contributions to Koha. Since its release as the first open source ILS, Koha has undergone many changes and improvements. The latest version Koha 18.05.00 recently released in November 2018.

Koha is a widely- used free open source integrated library system (ILS). It is used by thousands of libraries around the world. It is completely web-based which allows patrons and library staff to access it directly from a desktop application. This product provides complete circulation and catalogue services for subscribing libraries, including debt collection, telephone reminders, reserves, and acquisitions. Koha could be used by any type of libraries: public, academic, special, school or any kind of with a gradual increase in larger and more complex libraries. Of the open source options, Koha serves the most diverse types of libraries, and Koha is downloadable at <http://www.koha.org/>. Online Demo Of Koha

### **1. Who Uses Koha**

Koha is a full featured Integrated Library System (ILS). There is no cost for the license; there is a freedom to modify the product to adapt it to as per needs. More than 10,000 libraries are using Koha all over the world, including academic, public, school and special libraries. Most of the users are in the United States (mainly public libraries) and Europe (mainly academic libraries), but there are also significant concentrations of users in Australia (mainly other types of libraries), South America (mainly academic libraries), Africa (mainly academic libraries), and eastern Europe (mainly academic libraries). Moreover, in India, it is found that the software is more popular among the southern states of India and the number of Koha users in India is growing.

### **2. Koha Features**

- **Acquisitions:** Koha has an acquisitions module with complete functionality of recommendation, ordering, receiving, invoicing, budgeting, book funding, setting suppliers and exchange rates.

- [**Circulation:** a complete featured and powerful circulation module with customised circulation rules to suit any kind of library; it fully automates the borrowing and item management.
- **OPAC:** Koha has all the elements and attributes of OPAC with a simple and clear interface, and in addition to it also supports content from sources of collections like Amazon, Google Books, etc.
- **Flexible reporting:** Koha provides access to the RDBMS, so reports can be easily customised and prepared as per the individual requirements.
- **Customisable item types:** The catalogue items can be opted as per the preference and requirements of the individual libraries.
- **Barcode/ RFID:** The ILS Koha is based on the web browser and its is fully compatible with all kinds of barcode, QR codes, RFIDs and other similar technologies.
- **User management:** The software provides incorporation with systems like LDAP, Active Directory, Radius and SAML to allow single sign-on facility for the user's management.
- **Metadata:** Koha has a potential to generate a qualitative metadata, it uses a full text indexing engine to allow for speedy and authoritative searching of metadata.
- **Standards:** Koha uses all latest standards including MARC21, UNIMARC, Z39.50, SRU/SW, SIP2 and many more are supported.
- **Automated overdue notices:** Overdue notices are either provided by email or SMS.
- **Consortia Mode:** The ILS can work as multibranch or single-branch mode in the consortia mode.
- **Translations:** Koha is translated into many languages and is available in nearly 62 languages.
- **Offline circulation:** Koha also provides provision to do offline circulations
- **Self-Check:** Koha also facilitates the use with SIP2 compliant self-check-in, check-out machines.
- **Faceted searching:** Koha provides the federated search results which are classified for its users.

### **3.Koha System Architecture**

- Koha is based on client-server architecture.
- Network Server: Koha can be installed on a server running Linux, Unix,

Mac. The recommended operating system is stable version of Debian Linux, although Koha can run on any modern operating system.

- Client Workstations: Koha requires only a web browser on the workstation (a graphical browser, or even a text browser for the OPAC). Koha thus functions on PCs running Windows, PCs running Linux, Macs, or even UNIX workstations.
- Koha runs over any TCP-IP network.
- Koha accommodates low-bandwidth connections. It is completely usable on ordinary telephone line connections. This is truer of the librarian interface than of the public interface (OPAC).
- Root Access to the server better than average level of skill with the command line, Apache and MySQL tools (<http://www.mysql.com>) free
- The architecture of Koha divides the software into 3 differ layers
  1. Database Layer (which manages access to the DBMS)
  2. Processing Layer (which manages the processes required by the User)
  3. Formatting Layer (which contains templates for the HTML presentation)

The visible interface of the software is thus entirely customizable. Koha's Intranet and OPAC by selecting from several 'themes'. The librarian interface uses cascading style sheets (CSS). It is more coherent and easier to follow than was the case in version 2.0.

#### **4. Koha Server Requirements**

- To install Koha for Immediate use it is recommend (<http://www.koha.org/>)
- Server operating system: Linux, MacOS, or any other Unix.
- A Linux Server-Like Debian
- Apache(<http://www.apache.org>)
- Database MySQL(<http://www.mysql.com>)
- Perl (<http://www.cpan.org>). free

#### **5. What are the Advantages of Koha**

- There is no charge for the software itself. The major cost is local development. If the number of users is large, and they share their efforts, each user's cost is reduced.
- Automation of alerts to remind patrons and staff about, for example, overdue items or arrival of new items.

- There are no contractual restrictions on how the software is used.
- Online supervision becomes possible, reducing the line management responsibilities of senior staff.
- Library management becomes easier through automated collection of data.
- Through the acquisition module budgets can be more effectively managed.
- Koha brings together library users and staff, as both can see various aspects of the system and can work together more effectively to achieve each user's goals.

#### **6. What are the Disadvantages of Koha**

- Hosting Services do charge a fee
- If libraries want a specific function from the program, they either have to have an IT person on staff who can develop it, or they have to pay an outside company to do it for them
- Updates can be slow to roll- put
- Some technical issues cannot be resolved by the community of users, and you must pay for support
- Retraining of staff and patrons (“Why doesn't this work like the old system?”)
- Customization: Open source software may not offer the level of customization as it is being done in case of commercial software.
- Koha digitization software can be efficiently handled by only trained manpower professionals.

#### **7. Implementation of Koha at University Library UAS, Dharwad.**

The University of Agricultural Sciences, Dharwad was established on October 1, 1986. The University has five colleges, thirty research stations, six extension education units, five Krishi Vigyan Kendras and ATIC. The University has its jurisdiction over seven districts namely Bagalkot, Belgaum, Bijapur, Dharwad, Gadag, Haveri, and Uttar Kannada in northern Karnataka. The university focuses on education, research and extension activities. The main objective of the study is to know the extent usage of agricultural information resources and services available in the library by the postgraduate students and research scholars. Besides, this study aims to know the purpose of library visit, service offered in the library, frequency of use of information resources, services and level of satisfaction towards utilization of library resources.

#### **8. Process of Koha Implementation**

A feasibility study was done using Koha. In the year 2016 Koha was

implemented in University of Agricultural Sciences, Dharwad Library. The work with data migration and later Excel data was converted from Slim 21 to MARC21 format, and MARC converted data was bulk imported into Koha. However, after migration of data, Koha was open to test for data currency and relevancy. Meantime, circulation rules, cataloguing template customization, setting basic rules and parameters were configured and customized. This is how we have carried out the initial process of Koha implementation.

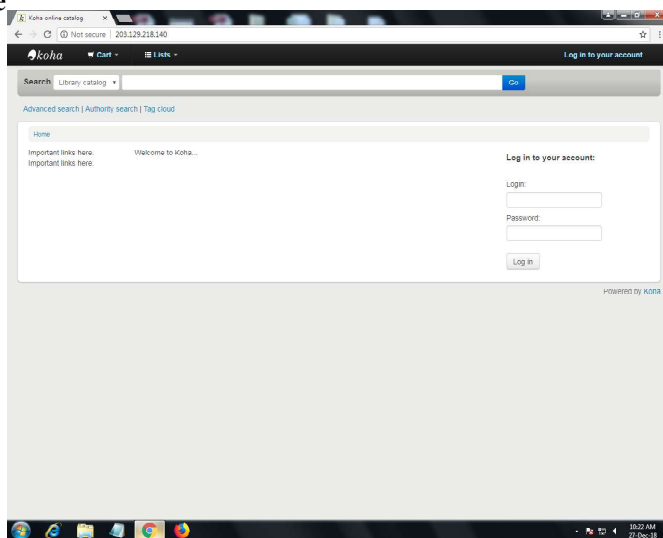
Koha automation will be start soon at

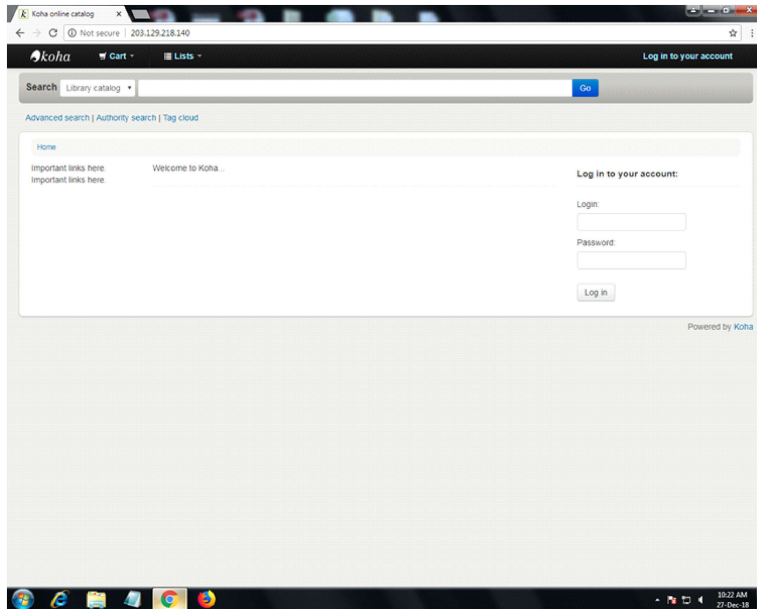
- College of Agriculture, Vijaya Pura
- College of Agriculture, Hanuman Matti
- College of Forestry, Sirsi

## 9. Customization of Special Features

Web OPAC was customized as library website, email alert services have been created. Library customized single data entry page for cataloguing, and created reports as per library requirements. OPAC users can carry out searches starting from ten fields (Keyword, Subject, Title, Class, Barcode, author, publisher, etc.). As in the librarian interface, they can order the results according to several criteria.

## Web OPAC Customized as Library Website





**Figure 1: Koha Modules**

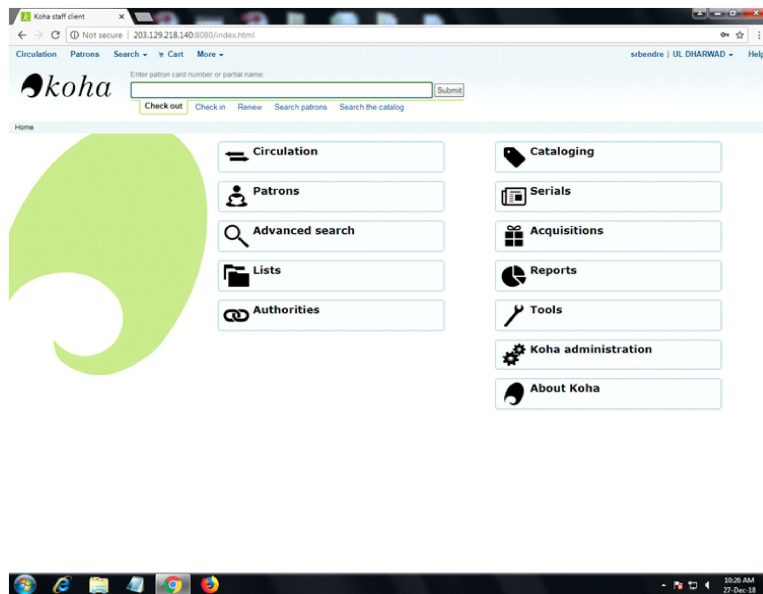


Figure 2: Customized Single Data Entry Page for Cataloguing

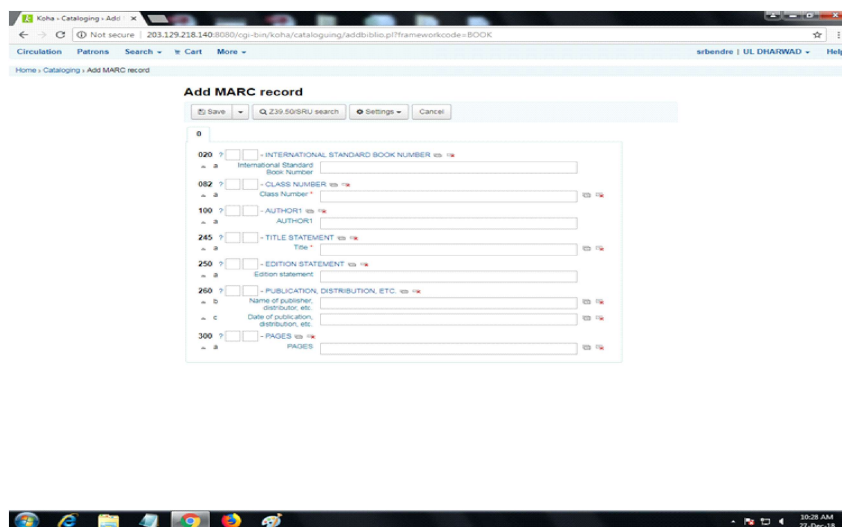
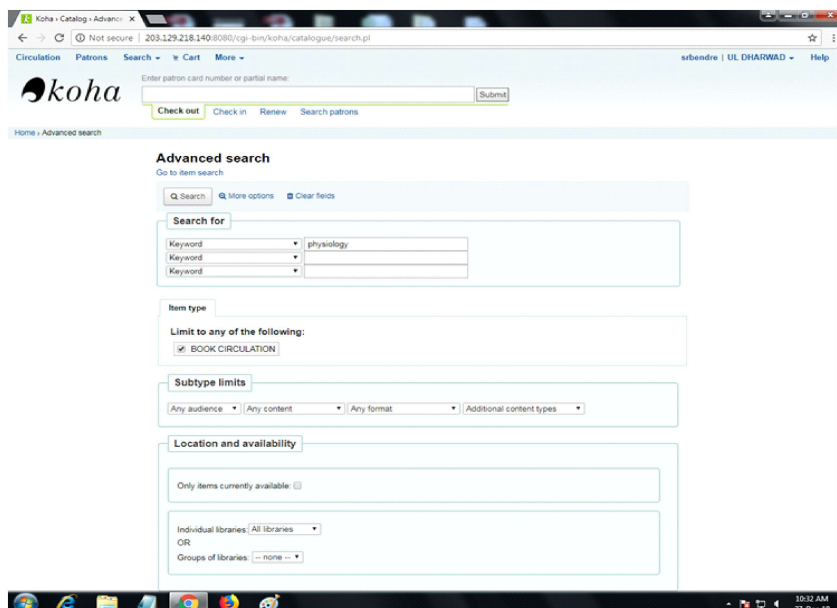
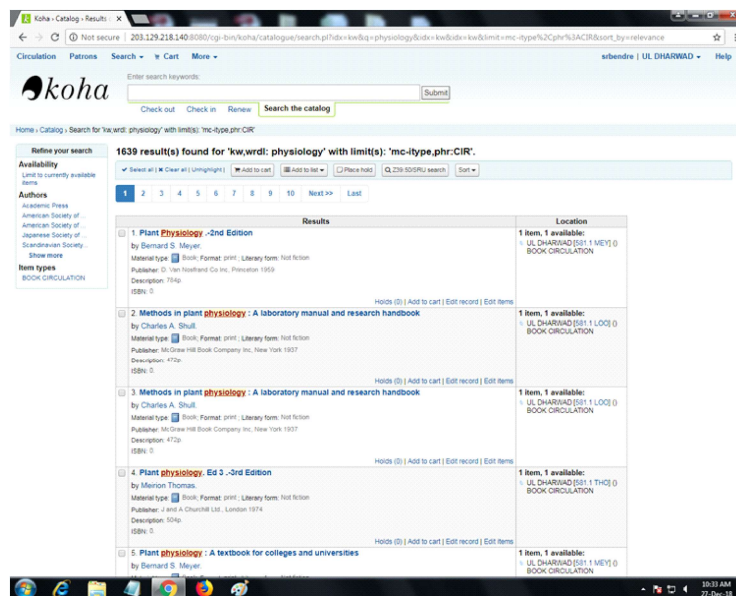


Figure 3: Advanced Search customized Book Titles







**Figure 4 : Search the catalogue with Keywords Search**

## 10. Automated Serial Module

It is possible to register subscriptions with different periodicity. Koha manages late issues, and claims with the suppliers. Koha notify about the expired serials and expired one's can be renewed and subscription can be ordered through acquisition module.

## 11. Koha Acquisition Module

The full Acquisition module makes it possible to manage Budget, Funds, Vendor, late orders, Invoicing etc. Fund status is shown with spent amount, and it notifies at the time of ordering if fund amount is about to finish (limit can be set at the time of creating fund). Borrowing a book from any branch (not just the branch where the borrower first registered), returning an item at any branch and reserving an item at any branch. The circulation rules can be defined for each member category, item category, and holding branch of the item, the duration of the loan, the maximum number of books loan able and fine amount per day for due items. Returning items (“checking-in”) is extremely easy: Simply scan the barcodes of the items being returned.

## 12. Koha Cataloguing Module

**MARC Management:** The cataloguing module is one of the principal strong points of Koha. Several “frameworks” can be defined to do different

cataloguing (monographs, periodicals, books, project reports, CD/DVD's etc.)

- **Export/Import:** Importing records in MARC21 format and through Z39.50 for fast cataloguing and exporting in MARC21, csv format.
- **Copy records:** One or more copy records can be attached to each bibliographic record.
- **MARC view and simple view:** Catalogue data can be displayed in MARC format, in simplified form.
- **Searching:** Searches can be performed on any MARC field. Advanced functions, search on one word, the beginning of the field, greater than, less than, etc are also available.

### 13. Koha Administration Module

Koha allows you to set various parameters which control the operating environment of the library.

- **Library branches:** Defining branch categories, branches, and contact information.
- **Item types:** Define library items. Set rental charges of any amount to users for borrowing items.
- **Not for loan:** “for item types which is not to be issued”.
- **Define Borrower Categories:** Set “Category Codes”, “Descriptions”, “Enrolment Periods”, “Upper Age Limit” and “Age Required” for each user type;
- **Issuing rules:** Define issuing and fines based on borrower categories, item types, and circulation units.
- **Z39.50:** Define servers for searching using Koha's Z39.50 client (for cataloguing); to add servers, enter the domain name or IP address of the server, the port number to use, and the name of the database to access.
- **Book funds:** Set up accounts that keep track of expenditures for library materials.

### 14. Frequently Asked Questions (FAQ)

- Collection Size- How many books Record can Koha handle?
- Readers- How many readers can Koha handle?
- Circulation- How many transactions can Koha handle per year?
- All the data i.e. records, readers, circulations data is stored in database MySQL. All the limitations are enforced your hardware, network

connectivity, not by the software.

### **Conclusion**

Koha is a free and open source library automation package which frees libraries from vendor lock-in, and allows customisation, control of the libraries data at no cost. Koha has become popular worldwide with thousands of installations with around translations in 62 languages. KOHA is built by a community of open source experts who are interested in the development and maintenance of the software. Koha is installed in diverse libraries ranging from academic, public, legal, research, corporate and specialist libraries, and in view of mandate of Indian Council of Agricultural Research, New Delhi, UASD Libraries have taken an initiative to implementing Koha software in all campus libraries.

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