CHAPTER 6

PLANNING FOR IMPLEMENTATION OF KOHA IN COLLEGE AND UNIVERSITY LIBRARIES OF ASSAM

6.1 Introduction

Planning is a systematic process to create or development of any specific project. There are many challenges to overcome when taking on an automation project for a College or a University Library. It is important to find the system that will fit both the institution’s need and its budget.

Interoperability is a property referring to the ability of diverse systems and organizations to work together. Interoperability includes the exchange of data, records, and messages between computer systems across different hardware, operating systems, and networks (Obuh and Ogheneme, 2012). Interoperability plays a vital role in the planning of use of open source software in libraries, as most of such packages are complying with interoperability issues.

Current open source LMS products have demonstrated a history of increasing functionality with models in place that promises reasonable levels of future development (Breeding, 2009). With the changed scenario of LIC’s activities and services, expectations from the professionals and also from users are increasing to a large extent and it is found that by using OSS in the LICs, the stakeholders are satisfied to a large extent. Hence, there are tremendous needs to study on the implementation of open source LMS in College and University Libraries of Assam also.

Selecting an LMS package for a library is the hardest part on several aspects. This means, the choice may not be the best suited to a particular library’s needs, features, and functions and often the selection has to be for the best among those available having maximum functionality, popularity and cost beneficial. There are lots of commercial LMS package available in the market developed by Private Firms. LibSys is one among them with lots of functionalities that can meet the global parameters, but high license fees along with separate annual maintenance contracts, updating fees, customization charges and many other hidden costs make the libraries in a confused situation. Though, INFLIBNET charges comparatively less licensing fees for SOUL package, its
functionalities and standards is not that much encouraging as the updateness of the package is very slow. It is seen that the commonly used LMS suppliers are national capital based or geographically far away from the Northeastern part of the country; hence, the customer support services provided by the commonly used software suppliers are found to be not at per as required.

On the other hand, using an open source LMS is more challenging as no vendor is responsible as the use of the packages do not need licensing fees. But, the open source packages have very strong community supports and also have commercial support for installation, customization and annual maintenance by several commercial firms.

Koha is the first open source LMS package. Koha was created in 1999 by Katipo Communications for the Horowhenua Library Trust in New Zealand. Koha is being taken for implementation in the said libraries as a model LMS package. The following are the reasons behind the selection of Koha-

- The comparative study of Koha with other open source LMS packages and commercial packages available in College and University libraries in Assam in Chapter 4 shows that Koha supports highest functionalities in library management.
- In use worldwide, its development is steered by a growing community of users collaborating to achieve their technology goals. Koha is developed using maximum library standards and protocols that ensure interpretability between Koha and other systems and technologies.
- Koha includes modules for acquisitions, circulation, cataloging, serials management, authorities, flexible reporting, label printing, multi-format notices, offline circulation for when Internet access is not available, and much more.
- Koha will work for consortia of all sizes, multi-branch, and single-branch libraries.
- In terms of functionalities and standardization Koha is evolved as a very strong LMS package in last few years and its user community is increasing in a positive manner in the Indian subcontinent.
6.2 Planning for Implementation of Koha in College and University Libraries of Assam

Today’s academic librarians are witnessing many radical changes caused by advances in library automation. By all accounts, the marvels of electronic full text, automatic bibliographic indexing, electronic publishing, file transfer of graphic images, and the emerging proliferation of multiple databases, are all capturing the creativity and imagination of librarians and information specialists everywhere (Verzosa, 1997).

Studies have shown that many libraries are discontinuing use of proprietary software to viable open source. In this model plan the researcher attempts to make an assessment of the open source library management software’s usability in library automation planning process, through an analysis of the issues and concerns and concludes with a plan for its implementation in the College and University Libraries of Assam.

The model plan starts with the selection of the LMS and ends with the maintenance of the LMS (backup and restore).

6.2.1 Goals of the Planning

The planning is hoping to achieve the three primary goals are listed below-

i. Libraries will maximize access to information and the use of the collections so that the greatest number of patrons can be served through the implementation of open source LMS. The web architecture, flexibility, user friendly interfaces for staff and OPAC users, web 2.0 compatibility, and so many added features of open source LMS packages will hoping for narrowing the gap between library documents and users.

ii. To maintain international level of standards to enable interconnectivity to a diversity of systems and to enable mutual sharing of resources and exchange of data.

iii. To establish regional networks among the various College and University Libraries within the state. The library networks will facilitate shared cataloguing and serial-listing, resource sharing, and interlibrary loan and document-delivery activities, as envisioned.
6.2.2 Financial Planning

After selecting a Library management software the next step is to consider the costs that is going to involve with the automation process. These consist of hardware cost, software cost, personnel costs, infrastructure costs, etc. So, when planning for library automation, sufficient funds have to be provided by the institution or the funding agencies. As open source software, no license cost will be required in using Koha. On the other hand, Koha runs on only Linux platform and Debian/Ubuntu is the preferred, hence, no cost will be required for server operating system also. Costs defined for LMS license and server operating system can be shifted to other heads and this will be a cost beneficial aspect in the financial planning.

6.2.3 Human Resource Development

Computer is an extension of the human brain’s function of data processing and its manipulation by machines. So, human resource is the most important component in library automation system. Library staffs mediate between information and information seekers. The success of an automated system is dependant to a large extent on the knowledge, skills, expertise and attitudes of the library staffs. Hence, the first and most important requirement for establishing an automated system is the availability of qualified and experienced staff. Not only for operating the software but also for installation, customization, configuration, personalization and updation of the package training of the staff is essential.

In case of commercial software packages, the vendors use to offer some form of training, however in some cases this is free of cost for limited numbers of peoples and some cases they take additional charges. On-site training usually involves travel costs for the trainer while web-based training is offered by most vendors at a substantially lower cost.

For Koha, as it is an open source package there will be no training from vendor’s side. But, lots of government agencies, academic institutions like colleges, universities; and also R&D institutions conduct Koha training programmes. Some of the government agencies which conduct Koha training are INFLIBNET Centre, NISCAIR, ISI, etc. DELNET also provides Koha support for libraries since last decade.
6.2.4 Hardware Requirements

Hardware selection is depends upon the institution’s need. Though, minimum requirements will needed, which include a server, few workstations for staff clients, OPAC terminals, peripheral devices, network equipments and power backup systems. Barcode and RFID is institution’s choice and they may incorporate these services.

According to Webber and Peters (2010), in purchasing servers following three points should be noted- “(1) select the highest processing power/speed, (2) purchase the most random access memory (RAM) you can afford, and (3) purchase the largest amount of hard disk memory that fits your budget” (p.31). The server should be a “server-class” machine for better durability and processing capabilities.

A typical workstation configuration might look like this-

- Processor: Dual core or Core to Duo or Intel i3 processor 2.5 to 3GHz
- RAM: 2 GB
- Hard Disk: 320 or 500 GB SATA
- CD/DVD ROM: 16x DVD RW
- Ethernet Network Card
- Standard monitor, keyboard, mouse, etc

Peripheral devices include document printers for printing order copies, reminder letters, etc.; slip printers for check out and gate pass, external hard disks for keeping backup of the databases; etc.

Most of the local area network (LAN) in the libraries consists of Cat 5 (category 5) or Cat 6 (category 6) Ethernet cabling that connects the library server with staff and public workstations to a switch. The switch is also connected to the router for access to the internet. Basically Cat 6 cable has more ability to transmit data of up to 250 MHz than Cat 5 cable which can transmit data of up to 100 MHz only. To protect the security of the library’s LAN, there should be a hardware firewall in place. It will prevent hackers from entering the library’s network and ultimately the server.
Power backup is very much essential for a library automation project. Online UPS (uninterrupted power supply), generators are necessary for supplement of unexpected power failure.

Due to continual innovations in the aspects of hardware technology it is essential for the library administrator or the system administrator to maintain constant awareness of technological advancements.

**6.2.5 Infrastructure Development**

Infrastructure facility in an automation project includes separate server rooms with air conditioning system, furniture, internet connectivity, etc. Separate server room is necessary for restrict the entry to the main library server for general library staffs as well as other peoples. Computer tables for the staff and public workstations, circulation desks, file cabinets, etc. are also necessary. Internet connectivity is needed for mailing different document to vendors, mailing to users for different services, as well as copy cataloguing and z39.50 search during data conversion, etc.

**6.3 Implementing Koha in College and University Libraries of Assam**

Implementation of open source LMS is hard task for library professionals because of its complex installation procedure. Most of the open source software packages are suitable for work only with Linux operating systems. Koha is released for Linux operating system only; hence, installation of Koha is not easy as like the installation of a user friendly Windows based software. Installation of Koha needs the library professionals’ expertise in Linux operating system.

The GUIDOL (Gauhati University Institute of Distance Learning) Library which is my working place has been chosen for implementing Koha LMS. The library is presently automated with SOUL 2.0 software and hands-on experience on installation of Koha LMS and conversion of existing data to the Koha LMS package is found to be sound encouraging and interesting. The steps presented here in this endeavour will certainly help our professionals at the time when the particular LIC is thinking of going for automation or changing towards Koha open source LMS.
6.3.1 Koha Installation

For Koha installation Debian Linux packages are the preferred and easiest way to install Koha on Debian based operating systems is in Ubuntu platform. To install Koha the associated software packages needed are Apache web server, MySQL RDBMS and Perl scripting language.

On the other hand, experts in the open source LMS domain have created a tool to make easy the Koha installation. Live CDs and Live DVDs of Koha are such support tools, which are not officially supported by Koha, and any difficulties should be taken up with the creator of those tools. Koha Live CD/DVD is useful for implementation in a library because of the following benefits -

- Bundled with Linux operating system
- No need of high end Linux expertise for install and maintain Koha
- Customised version of Koha is ready to use
- No need of internet connection for installation
- Availability of third party applications (e.g. Web Mail Client, Multi Lingular Input, etc.)

Following are the major Live CD/DVD projects in India-

Table 6.1: Major LiveCD/DVD projects in India

<table>
<thead>
<tr>
<th>Projects</th>
<th>URL for download</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LibLive DVD developed by Dr. A.R.D. Prasad, DRTC, Bangalore and Dr. Sunita Barve, National Chemical Laboratory, Pune</td>
<td><a href="http://sourceforge.net/projects/liblivecd/">http://sourceforge.net/projects/liblivecd/</a></td>
<td>OS- Lubuntu 14.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Koha version- 3.18.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Koha version- 3.16</td>
</tr>
<tr>
<td>Live DVD By Vimal Kumar V. Mahatma Gandhi University, Kerala</td>
<td><a href="http://sourceforge.net/projects/kohalivedvd/">http://sourceforge.net/projects/kohalivedvd/</a></td>
<td>OS- Ubuntu 14.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Koha version- 3.18.6</td>
</tr>
<tr>
<td>Live CD developed by Nucsoft OSS Lab</td>
<td><a href="http://www.osslabs.biz/koha/livecd/">www.osslabs.biz/koha/livecd/</a></td>
<td>OS- openSuSE 11.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Koha version- 3.2</td>
</tr>
</tbody>
</table>
So, the researcher has chosen Live CD/DVD for Koha installation, which will be much easier for library professionals to learn installation and maintenance as they do not have much technological expertise in Linux platform. For the proposed model, LibLive DVD developed by Dr. A.R.D. Prasad and Dr. Sunita Barve is chosen for Koha installation. The following steps lead the installation-

a) Preparation of the installation disk

The ISO image of the LibLive DVD has been downloaded from the URL link given in the above table and has burned the iso image on to a DVD. Depends upon the bits of the processor of the server, whether 64 bit or 32 bit, the similar bits of LibLive DVD has to be downloaded. Otherwise, the system will not comply with, if we try different bits of operating system in server with different bits of processor.

b) Installation of LibLive DVD in the Server

Boot the system and insert the DVD in the DVD drive. Now, chose the boot priority to CD/DVD drive and this will boot the LibLive DVD. Choosing the “Install Lubuntu” option will lead to the installation directly. The following steps are to be followed in installation-

i. In the installation screen we have to select the language as “English” and click on “Continue” button.

Figure 6.1: Linux installation screenshot (language selection)

ii. In the immediate next screen nothing has to done and just click on “Continue” button.
iii. In the next screen we will select “Something else” for manual partitioning of the operating system.

*Figure 6.2: Linux installation screenshot (installation type)*

![Linux installation screenshot (installation type)](image)

iv. Partitioning in Linux is different than Windows. We will make three partitions namely Boot, Swap area and Root. Clicking on the Plus Sign (+) gives the pop up screen for adding a new partition table.

*Table 6.2: Simple partitioning scheme in Ubuntu*

<https://help.ubuntu.com>

<table>
<thead>
<tr>
<th>Partition name / Type</th>
<th>Type of partition</th>
<th>Type file system</th>
<th>Size</th>
<th>Used for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boot (/Boot)</td>
<td>Primary</td>
<td>Ext 4</td>
<td>250MB ~ 1GB</td>
<td>Bootstrap files, boot loaders.</td>
</tr>
<tr>
<td>Swap</td>
<td>Logical</td>
<td>Swap area</td>
<td>Twice size of RAM</td>
<td>Used when the amount of physical memory (RAM) is full.</td>
</tr>
<tr>
<td>Root (/)</td>
<td>Logical</td>
<td>Ext 4</td>
<td>Rest of the space</td>
<td>For system files and applications.</td>
</tr>
</tbody>
</table>

v. After adding the partitions click on the “Install Now” button and immediately the system will ask your location where we have to select our nearest location which is Kolkata and click on “Continue” button.
vi. After that system will ask to select the Keyboard layout and by default it is “English (UK)”. We will not change the default Keyboard layout and click on “Continue” button.

Figure 6.4: Linux installation screenshot (keyboard layout)

vii. In the next screen the system will ask your name, username and password and we have to fill up as per our choice.
Now clicking on the “Continue” button will start installation process. The installation process will take some time because required files and folders will copy from the installation disk to the local disk and also the system will configuring itself.

viii. When installation will complete the system will ask you to restart the machine and the Lubuntu Linux installation is over. Along with the Linux, Koha is also installed in the machine now.

ix. When the system will boot, the login menu will appear first. We have to insert the password that we gave during installation.
x. In the Desktop there will be an icon called “Click Me” and clicking the icon will open the web browser. The localhost page will appear.

Figure 6.8: The localhost page

xi. The localhost page will give us the Koha administration URL address along with the login ID and password. The OPAC URL link is also seen and clicking the link will open the OPAC page of the Koha LMS.

Figure 6.9: Koha admin log in page
The OPAC URL link is also seen and clicking the link will open the OPAC page of the Koha LMS.

*Figure 6.10: Koha OPAC page*

![Koha OPAC page](image)

c) Access Koha from the network

When we will configure the network connection in the server machine, Koha can be opened from the workstations using the web browser. The URL of Koha administration will be http://{IP address of the Server}:8001 and OPAC URL will be http://{IP address of the Server}:8000.

### 6.3.2 Customization and Configuration of Koha

Customizations of software involve code changes to create functionality that is not available through configuration. For customization we need expertise on programming level. As Koha source code is available for general people, anyone can change or modify or create any functionality to Koha. On the other hand configuration is done through existing parameter and functionalities of software for our specific needs. We can change the behaviour of a feature by pressing a few buttons.

At present for the model, we do not need any extra functionality in Koha, hence, we will use default functionalities. But as per our need we have to configure Koha. Some configuration points are-
a) Koha administrator password change

The Koha administrator login ID in the LibLive DVD installed in the server is *koha_library* and the Koha administrator password is *library*. This is the database administrator account and it should be changed, because, it will be known by any user.

To change the password we have to enter MySQL by typing the following command in the terminal (Applications> Accessories>LXTerminal) -

```
mysql -uroot –p library
```

The system will ask the password for MySQL, the password is library and enter it. Now we have entered in to MySQL, to change the database type use *koha_library* and press enter. Then, type these lines to change the password-

```
SET PASSWORD FOR 'koha_library'@'localhost' = PASSWORD('new password');
flush privileges;
quit;
```

*Figure 6.11: Database password change in MySQL*

```
mysql> use koha_library
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A
Database changed
mysql> SET PASSWORD FOR 'koha_library'@'localhost'=PASSWORD('gautam');
Query OK, 0 rows affected (0.06 sec)
mysql> flush privileges;
Query OK, 0 rows affected (0.03 sec)
mysql> quit;
Bye
```

Now we have to go to the location */etc/koha/sites/library* to open the *koha-conf.xml* file and have to change the password for *koha_library* database there. To open and edit the file we need to open the terminal first and type as-

```
sudo gedit /etc/koha/sites/library/koha-conf.xml
```

The system will ask the password and the password is our Linux user password. The password is not visible but immediately after entering the password the *koha-conf.xml* file will open.
Now change the password for **koha_library** database and save the change.

Thus, we have changed the Koha administrator password.

**b) Configuration in Koha Administration**

The very first step in a library after installation is the configuration of the Koha administration module and set some parameters as per the norms of the library. To set the parameters, we have to login Koha and will get the Koha main interface.

Now click on Koha Administration, it will open the parameters setting page where following parameters will get-

- Global system preferences
- Basic parameters
• Patrons and circulation
• Catalog
• Acquisition parameters
• Additional parameters

Figure 6.14: Koha administration module in Koha

Global system preferences configuration

Global system preferences control the way our Koha system works in general. So, we need to set at least few preferences before do anything else in Koha.

Some important preferences are-

• Insertion of Koha admin email address (under Administration preferences)
• Increase the automatically log out time in “timeout” option (under Administration preferences)
• “BiblioAddsAuthorities” must be set to “allow” (under Authorities preferences)
• “AutoBarcode” must be “not generated automatically” (under Cataloging preferences)
• Fill in the MARC organization code in “MARCOrgCode” (under Cataloging preferences)
• In “AllowReturnToBranch” option we must check “only the library the item was checked out from” (under Circulation preferences)
• Cover images from Amazon on search results on the OPAC can be viewed by showing “OPACAmazonCoverImages” (under Enhanced Content preferences)
• Cover images from Google Books on search results on the OPAC can be viewed by adding “GoogleJackets” (under Enhanced Content preferences)
• Change the date format to dd|mm|yyyy in the “dateformat” option (under I18N/L10N preferences)
• Put your library name in the “LibraryName” option to show on the OPAC (under OPAC preferences)
• To give patron code by your choice, check “Don’t” in the “autoMemberNum” option (under Patrons preferences)
• To allow uploading of patron images on the staff client check “Allow” in “patronimages” (under Patrons preferences)

This is minimal configurations for a library in Koha Global system preferences; exclusive configurations need a keen observation and knowledge of all the preferences of the functionality.

ii. Basic parameters configuration

Once the setting parameter for Global system preferences is over, we have to set the basic parameter of Koha.

The three important preferences are-

• Libraries and groups, where we have to define the Library with the code and address.
• Item types, where we have to define the library item types (books, journals, maps, etc.) used for circulation.

• Authorized values, where we have to define shelving cart location, collection codes, shelving location, departments, etc.

iii. Patrons and circulation configuration

Under this, you have to configure and define two major functionality- “Patron category” and “Circulation and fine rules”.

• In the patron category option we have to define the patron types with codes, enrolment period, enrolment fee, category type, branch limitation, etc.

• Under Circulation and fine rules we have to define how the items are circulated, how/when fines are calculated and how holds are handled.

iv. Catalog administration configuration

Though there are many options in the Catalog administration, we need not to configure any options there. If, we want to create a new bibliographic framework or edit an existing framework, we can configure it in the “MARC bibliographic framework” option. We can also add new authority type or edit existing authority type as per our need in the “Authority types” option.

v. Acquisition parameters configuration

The Koha Acquisitions module provides a way for the library to record orders placed with vendors and manage purchase budgets. Before using the acquisitions module, we need to configure few options in the acquisition parameters. They are-

• Define currencies and exchange rates for the purpose of purchasing books in the “Currencies and exchange rates” option.

• Define budget for the purpose of acquisition of library documents in the “Budgets” option.

• Using the “Funds” option, we can set the fund limit so as to use for the purpose of acquisition of library documents.
vi. Additional parameters configuration

Configuring the option “Z39.50/SRU servers”, we can connect to any Z39.50 or SRU target that is publicly available and copy both bibliographic and/or authority records from that source for our use.

6.3.3 Workflow of Koha

Koha has the following modules-

![Figure 6.15: Modules in Koha](image)

In the screenshot the serial of the modules is not maintained according to workflow. Discussion of the modules has been made as per needs to maintain the library system.

a) Koha administration

We have mentioned about Koha administration functionality during configuration of Koha.

b) Patrons

When we log in Koha as the administrator first time the following message is shown-

![Figure 6.16: Warning screen for create Superlibrarian patron in Koha’s login page](image)

So, we need to create a patron and should give the patron the Superlibrarian privilege so that the patron can administer Koha. To create patrons go to the Patrons functionality.
Clicking on the “New patron” button gives us the form to create the patron. After the creation of the patron it looks as-

Figure 6.17: Set permissions functionality in Koha’s Patron’s module

Now, set the permissions as “Superlibrarian” by clicking on the button “More” and save it. We can upload a patron image here also. Now, we will log out Koha and again log in with the Superlibrarian user and password created during the creation of the patron (Superlibrarian). Now this patron is the administrator of the library. The new administrator can add more patrons and can give some patrons some privileges like cataloguing, circulation, etc. to help him in different library operations.

c) Acquisitions

Under Acquisitions functionality we have to define the vendors along with their address and contact details.

Figure 6.18: Acquisition module in Koha
Now, we can give purchase order to the vendor by clicking the “New basket” button. The details of the books for purchase can be picked from patrons’ suggestions or we can insert them directly in to the order.

**Figure 6.19: Start purchase order in Koha’s Acquisition module**

After receiving an order and invoice process the items will be available in the OPAC functionality.

d) **Cataloging**

In Cataloging functionality we can complete the cataloguing of the books those are purchased using Acquisition functionality. Also we can catalogue previously purchased books here using the button “New record”. We can use z39.50 and SRU servers for bibliographic data import directly to the Cataloguing functionality. In Koha, record is entered through MARC framework. We will get few predefined framework also for cataloguing besides the default framework.

**Figure 6.20: Cataloging module in Koha**
In clicking any of the frameworks will give the data entry screen.

**Figure 6.21: MARC data entry functionality in Koha’s Cataloging module**

The default as well as the predefined framework of Cataloging functionality is very long and exclusive. So, we can configure the framework and remove the unwanted fields and sub-fields. But, the experts of the library and information science domain prefer to keep all the fields and sub-fields of MARC in the framework. After the data entry the books can be viewed from the OPAC.

**e) Circulation**

In Koha, Circulation option enables us to issue/return the document, renewal of the document, hold item (reservation) and many more.

**Figure 6.22: Circulation module in Koha**

For check out of a library book to any patron, we need to enter patron card number or partial name in the circulation box and the details of the patron will show in the screen.
We have to enter the barcode (accession number) in the check out box and press “Check out”. The book will immediately issue to the patron and we can generate the issue slip.

**Figure 6.23: Check out functionality in Koha’s Circulation module**

![Check out functionality in Koha’s Circulation module](image)

For return of the book we have to click the Check in option and have to enter again the barcode (accession number) in the check in box and press “Submit”.

**Figure 6.24: Check in functionality in Koha’s Circulation module**

![Check in functionality in Koha’s Circulation module](image)

f) Serials

The Serials module in Koha is used for keeping track of journals, newspapers and other items that come on a regular schedule. Koha provides Serial module administration is more functional in sub category to help the library staff/ clients, Serial parameters are ideal in the Koha software with all significance of journals and magazines.

- Create Vendor (under Acquisitions module)
- Fill bibliographic information (under Cataloging module using MARC framework for serials)
• Create and modify Subscription Information (under Serials module)

Figure 6.26: New subscription menu of Serials module in Koha

• Receive of journals (under Serials module)

• Check/Search on OPAC

g) Authorities

Using this option, we can define authorities such as Chronological Term, Corporate Name, Personal Name, Topical Term, etc.

Figure 6.27: New authority add functionality in Koha’s Authorities module
h) Reports

Using Koha, we can generate different types of reports. There is one link for “Koha reports library” which can be used custom report in Koha.

![Figure 6.28: Functionalities under Report module in Koha](image)

i) Tools

Using this option we can easily export/import bibliographical details about any document, details of patron and so many things. The screenshot is given below of different option under Tools functionality.

![Figure 6.29: Tools module in Koha](image)

6.3.4 Migration to Koha from other LMS

The migration of data from full-fledged running software to another package is always a great challenge, particularly from proprietary software to open source software. If
somehow we can convert the bibliographic data with holdings to MARC format (.mrc) Koha will accept that bibliographic data for migration. From SOUL we can export the bibliographic data with holdings to MARC format. But, from LibSys we cannot export the bibliographic data with holdings because they don’t provide that facility. In case of migration of patron data, if we can manage to export the data in excel format or CSV format, then it is possible to import the data to Koha. Hence, we can only migrate bibliographic data and patron data to Koha from other package. We cannot migrate the circulation data; hence, manually we have to manage it. After migration of data, to run KOHA independently, for the first few months (3-6 months) the earlier LMS will run as the primary and KOHA as the secondary. So, to do any transaction first, the transaction will done in earlier LMS first and then in KOHA. The data will be checked in KOHA for any mismatch. After 3-6 months of data validation checking KOHA will run as the primary and earlier LMS as the secondary.

For migration from other package to Koha, we need to configure Koha administration functionality up to some extent. They are-

Under basic parameters:

- Define your library and enter the information and code.
- Define your list of item types.
- Define all of your authorized values.

Under patrons and circulation:

- Define your patron categories and their codes.
- Define your circulation/fine rules.

Under global system preferences:

- Set the important preferences of Administration, Authorities, Cataloguing, Circulation, and Patrons.

**a) Migration of data from SOUL**

SOUL provides MARC export facility for general users.
But, the data exported from SOUL in MARC format does not support Koha directly. Because, in SOUL, for holding information MARC tag 852 is used; on the other hand, Koha uses tag 952 for holding information.

Hence, MARC validation and mapping will needed. To overcome the problem we need to take help of the software called MarcEdit. By using this software we can manage to change the tag from 852 to 952 and also remove the un-wanted MARC subfields and records. Then by using KOHA’s data import tool (Koha Home > Tools > Catalog > Stage MARC records for import) data in .mrc format can be uploaded to KOHA database. This will generate a complete report of the successful and unsuccessful data uploading.
On the other hand, to migrate patron data from SOUL we need to generate the list of patrons with details as a single report or category wise multiple reports, which will be in excel files. In Koha’s import patron functionality (Koha Home > Tools > Patrons and circulation > Import patrons) we will get the option to download the starter CSV file for patron import. This CSV file contains columns for insertion of patron data where the values will be comma-separated. We need to insert the patron data generated from SOUL into the CSV file as directed and not changing the column order. Now, this CSV file can be uploaded into Koha’s import patron functionality.

Figure 6.33: Koha’s import patron functionality

b) Migration of data from LibSys

The bibliographic data export facility in LIBSYS is not available. So, by generating report it is data can be exported. The report generated from LibSys must be in excel or CSV file, than only we can convert to .mrc format by using MarcEdit software. Conversion of excel or CSV file to .mrc format using MarcEdit software is mentioned below in the following steps-

Step 1

We will convert the excel file or CSV file to tab delimited file. For this, we need to open the excel file first.
We have to save the excel file in .txt format (tab delimited).

Step 2

Now, we will convert the tab delimited .txt file into .mrk format in MarcEdit software.
Now clicking on the “Delimited Text Translator” functionality we will get the screen below. In the screen we have to select the source file (tab delimited .txt file) and have to define the output file. After selecting the “UTF-8 Encoded” option we have to press the “Next” button.

**Figure 6.37: Delimited Text Translator functionality in MarcEdit**

Now we will be prompted for mapping the fields to recognise the fields by standard marc format. After mapping all fields we have to click on “Finish” button.

**Figure 6.38: Conversion of .txt (tab delimited) file to .mrk in MarcEdit**
And then a window will appear indicating that the .mrk file has been created.

**Step 3**

We will convert .mrk file that we have created in the above steps into .mrc format that can be directly imported into Koha. For this again we have to use the MarcEdit software and have to select “MARC Tools” functionality.

The bellow screen will appear after clicking “MARC Tools” functionality. In the screen we will select “MarcMaker” in the “Functions” field. We will have select the .mrk file as input file and have to define the output file with .mrc extension.

*Figure 6.39: Conversion of .mrk to .mrc in MarcEdit*

![Image of MarcEdit software interface showing conversion of .mrk to .mrc](image)

Clicking on the “Execute” button the .mrc file will generate. Now this file can be uploaded in to Koha.

**Step 4**

Migration of patron data from LibSys can be done by list of patrons with details as a single report or category wise multiple reports, which will be in excel files. The procedure will be similar to that of SOUL’s patron data migration.
6.3.5 Backup and Restore

Maintenance is the most important part of a library automation project. Taking backup of the system in regular intervals is a prime job for the system administrator or the concerned library professional. On the other hand, Koha releases new updates very quickly, hence, as soon as the version updates we also need to update our package also.

a) Backup of Koha database

To take backup of the Koha database, we need to open the terminal in the server and type the following command-

```
mysqldump -u[root user] -p[root user password] [database name] > [backup name.sql]
```

The command will look like in the terminal as-

![Figure 6.40: Backup command for Koha database](image)

`/home/library/Desktop/` is the destination of the backup file which will be stored in the Desktop of the Linux. The backup file should be kept in other location like external drive or pen drive or in a CD/DVD, etc.

b) Restore of Koha database

To restore, we need to install Koha first and need to keep the backup file previously taken in the local machine. In the terminal of the server we need to type following command to restore Koha database-

```
mysql -u[root user] -p[root user password] [database name] < [backup name.sql]
```

The command will look like in the terminal as-

![Figure 6.41: Restore command for Koha database](image)

`/home/library/Desktop/` is the location where the previously taken backup file is kept.
6.4 The Model Union Catalogue for the College and University Libraries of Assam

Union Catalogue is a combined library catalogue describing the collections of a number of libraries. The first step to develop Union Catalogue is the collection of bibliographic information in some standard formats consisting of various mandatory and optional bibliographic data elements or metadata of the book.

Here, a model has designed for setting of the Union Catalogue of College and University Libraries of Assam, which will be known as “UniCat Assam”. But to implement the model Union Catalogue of College and University Libraries of Assam the following guideline are to be followed-

a) **Willingness to participate:** The purpose of the creation of the Union Catalogue is to collaborative one-window approach to search of library catalogues of College and University Libraries of Assam by the Global community. To fulfil the purpose, firstly, we have to create a consortium for those libraries which are willing to participate.

b) **Financial issues:** To run such kind of project financial assistance will be needed. The consortia of participated libraries will arrange such assistance by consortia registration, annual fee, etc. They can also approach few funding agencies like INFLIBNET, UGC, etc.

c) **Accessibility:** Guwahati is known as The Gateway of North East India, and Gauhati University is located in the heart of Assam. Hence, it is the central place to reach from all the corners of the State.

d) **Infrastructure:** The infrastructure for the project includes a room with some IT equipments like a server, few workstations, and LAN and internet connectivity, which may not be a big challenge for the well established University Department like DLISc, Gauhati University.

e) **Manpower:** There will be no shortage of manpower as the DLISc, Gauhati University produces lots of Postgraduate LIS students every year. The faculty members of the Department are also well aware about the technological advancements, which will be an added strength.
f) **Record Format:** The records should be in any of the following formats by the participating College and University Libraries of Assam.

- MARC format
- CCF format
- Excel Format

The creation of the Union catalogue comprises of the following steps, these are-

- A Koha Server will be installed and will be configured. The Server will be connected to internet using Static IP. A Static IP address is a number that is assigned to a computer by an Internet Service Provider (ISP) to be its permanent address on the internet. BSNL (Bharat Sanchar Nigam Limited) is popular among the Internet Service Providers in Assam. By applying the Static IP in the server we can access it from the web.

- Koha can manage multiple libraries; hence, the OPAC can be used as Union Catalogue of the participating libraries. So, we will define library details of the participating libraries in the Koha administration and also will configure other parameters too.

- In the next phase, we will collect the bibliographic records with holdings from the participating libraries in the prescribed format.

- Because of different software being used and because of the unavailability of proper guidelines with the software packages of the participating libraries, we need to refine the data using MarcEdit software before uploading in the Koha server. The data will be changed to .mrc format, because this is the acceptable format for Koha bibliographic data import.

- The refined final record will be added to the Union Catalogue, i.e. Koha server using the “Stage MARC records for import” functionality (Koha Home › Tools › Catalog › Stage MARC records for import). After uploading the MARC records, by using the functionality “Staged MARC record management” (Koha Home › Tools › Catalog › Manage staged MARC records) we can import the data to the catalogue.
• In the final step, we will check the data from the Union Catalogue interface and if any errors and find inconsistencies in the record found we have to resolve the problems.

**Figure 6.42: The model for creation of “UniCat Assam” – workflow chart**

**Figure 6.43: Homepage of “UniCat Assam”**
6.5 Summing Up

Establishing, developing, and maintaining a library automation program is a serious and time consuming continuous process with great responsibility. To carry out such a successful programme as outlined in this model plan will require perseverance, commitment and hard work. Money is another notable factor, as hardware and manpower are not free in the situation. Many problems and hurdles will come up with the starting of the project. After this dramatic paradigm shift from the “traditional” to the “digital,” library patrons are likely to become more sensitive and impatient to human errors and thereby, more prone to criticize. Administrators, too, become impatient and worrisome over delays. A good plan contains the seeds of its modification, and changes are apt to take place even before the timetables have been reached. This twenty-first century transition of libraries from traditional to digital or “virtual” will depend to a great extent on the external and internal environment - institutional support, economic growth, social and cultural transformation, and regional cooperation.