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CORAL: Installation and Its Utilization in Managing Electronic Resources of the Library

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ABSTRACT

This paper describes the necessity of the Electronic Resource Management System CORAL for libraries in the contemporary digital world. It explains the importance of the open-source Electronic Resources Management System CORAL, the prerequisites for its installation and its featured modules. The paper reveals that CORAL is an excellent software that can help library professionals in managing various categories of electronic resources. And unveiled that the installation and maintenance of CORAL is quite easy.

KEYWORDS: CORAL, Electronic Resource Management System, ERMS, CORAL installation, Utilization of CORAL, Electronic Resources, Digital Library.

INTRODUCTION

The invention of the internet and electronic gadgets leads the publishing industries towards electronic publishing. Today people rely on electronic resources more than print resources. It provokes library professionals to subscribe to various kinds of electronic resources for the benefit of users. And that is the only option for librarians to fulfil the user information requirements. Today libraries spend the maximum part of their budget for e-resources such as eBooks, ejournals, electronic databases, consortia-based resources etc. As result thousands of e-resources, publishers, and aggregators are raised from publishing industries. Gradually electronic resources have become one of the basic supporting pilers for building the Digital Library. The increase of resources in library collection has become a headache for library professionals. In the initial days they faced lot of difficulties while managing bulk e resources and facilitating access to various types of e resources. To solve this problem the concept of ERMS (Electronic Resource Management System) evolved.

There are several ERMS tools available on the market. But CORAL is unique because of its excellent features. And it is the open-source Electronic Resources Management System specially designed for libraries. The chosen study will focus on CORAL.

Definition of Key Terms

The review of previously published literature in the same context reveals that no systematic study has been conducted to determine the prerequisites, installation, and utilization of CORAL Electronic Resource Management System (ERMS). Therefore, the problem of the present study is stated as **"CORAL: Installation for Managing Electronic Resources of the Library and its Utilization"**

CORAL

CORAL stands for Centralized Online Resources Acquisitions and Licensing. It is an open-source software developed by University of Notre Dame's Libraries, United States. The major purpose of the software is to manage electronic resources of the library.

Installation

It is an act of keeping something in a position to perform the defined task. Here it refers to the backhand procedures followed by professionals to install the CORAL Electronic Resource Management System (ERMS) for the library.

Managing

Its actual meaning is the way of handling. In the problem's statement, it refers to the maintenance of electronic resources that can be done by libraries using CORAL Electronic Resource Management System.

Electronic Resources

The information resources available in digital form are known as electronic resources. In this study, electronic resources refer to those which can be subscribed to libraries to provide library services.

Library

The library is a place meant for preservation and dissemination of information resources to serve the needy users.

Utilization

It means the use of a particular thing for getting benefit. Here in this study, it refers to the benefits of CORAL Electronic Resource Management System. How libraries can utilize it effectively.

Need for the study

Now a days the Knowledge Management Centers must maintain electronic resources because information seekers expect electronic content for their academic and research activities. Though it is an important concept, no such study has been done to bring out the installation and utilization of CORAL Electronic Resource Management System.

OBJECTIVE OF THE STUDY

The main purpose of the study is to examine the role of CORAL Electronic Resource Management System (ERMS) in managing electronic resources of a library or the electronic resources which have been subscribed by a library. The objective of the current study is as follow:

- ✓ To determine the prerequisite for initiating CORAL ERMS for the library.
- ✓ To reveal the backhand installation process of the CORAL ERMS.
- ✓ To determine the significance of each module of CORAL ERMS.
- ✓ To determine the significance of CORAL ERMS in managing the library's electronic resources.

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Hypothesis

The literature review and the statement of the problem indicate that the present study will prove the following hypothesis.

1. There is a significant relationship among electronic resources, libraries, and Electronic Resource Management System.
2. Electronic Resource Management System CORAL plays a vital role in managing electronic resources.
3. CORAL has significant modules for managing various kinds of electronic resources.

Scope and Limitations

The focused study is confined to the installation, different modules, and related features of CORAL Electronic Resource Management System.

METHODOLOGY

The present study will follow the experimental method to reveal the backhand process for the installation of CORAL Electronic Resource Management System (ERMS). And to describe its different modules and features.

REVIEW OF LITERATURE

Saurabh Karsanbhai Prajapati and Nimesh D. Oza (2020)[1] carried out a study to examine the importance of Electronic Resource Management System CORAL. The study used survey method and collected required data through a Google form. The scope is limited to 25 libraries. The study assesses the perception of library professionals towards the open-source software CORAL and it found that CORAL is cost effective tool for libraries to manage electronic resources.

Andrea Imre, Eric Hartnett et.al (2013)[2] conducted a study to identify the benefits of implementation of CORAL electronic resource management system ERMS, the challenges behind the implementation. The study also describes each module of CORAL, and it revealed that CORAL is an essential tool for Libraries to manage its electronic resources.

Vijaykumar Verma and Aravind R. Nair (2023)[3] were done a case study on implementation of CORAL Electronic Resource Management System. The study used a survey method to identify the effectiveness of implemented electronic resource management system. The study found that 94% of the fraternity feel that ERMS is different from print resources. And 91% of the fraternity emphasize the need for ERM policy.

Andrea Langhurst and Xan Arch (2010)[4] conducted a study to reveal the usefulness of CORAL in managing license agreements related to electronic resources. It is a type of comparative analysis between two successfully CORAL installed universities. The study reveals that CORAL is more flexible and manageable software.

Richard Wisneski, Yuezeng Shen et.al (2017)[5] was done a study on why CORAL is better for managing electronic resources of the library. The study exhibits the major factors such as essential functionalities, economy etc. which make the software better than other commercial software's.

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Execution of the Installation of CORAL ERMS

The installation of CORAL requires following software components:

- An Operating Software (Preferably UBUNTU 20.04.6)
- MariaDB – the MySQL relational database management system.
- PHP – Scripting Language.
- CORAL Source Code.

To install CORAL on any platform, we must have a minimum knowledge of the above-listed basic prerequisites. With these software components we can easily install CORAL ERMS. Let's see step by step the installation process.

STEP –1: Installation of Ubuntu 20.04.6

At very first we have to download Ubuntu OS installation file from the official site (UBUNTU). Then we must create a bootable pen drive to install the OS on desktop/laptop or any other platform. When you connect the bootable drive to the target system, the system will automatically start the installation of ubuntu. It will take some time and ask you for some configuration-related information. Here we must configure each step carefully. Once the process done means installation of ubuntu is successfully completed. Now we need to install remaining prerequisite software's on ubuntu using commands.

STEP – 2: Installation of MariaDB Client-Server Database Management System.

The main purpose of the installation of MariaDB is to establish a connection between client and server for interaction. It stores the data on its database and response to the queries of the clients in real time. It is a freely available opensource software developed by the developers of MySQL. To install MariaDB we need to run the following command on the terminal.

#apt-get install mariadb-server mariadb-client

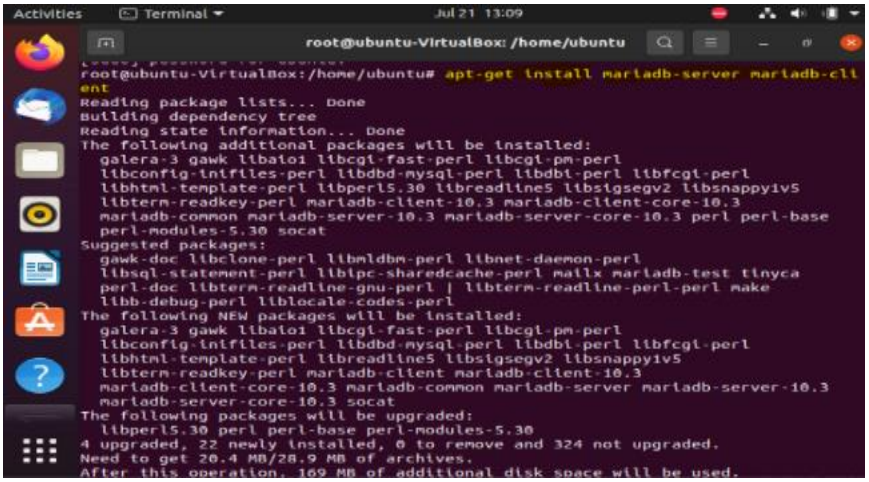


Fig 1: Installation of MariaDB

STEP – 3: Installation of PhP Script Language

The main purpose of installing PHP script language is that it will help us in web development. It is a freely available scripting language which is best for server-side scripting. To install PhP we need to run the bellow command on the terminal.

apt-get install php php

{cli,fpm,json,common,mysql,zip,gd,intl,mbstring,curl,xml,pear,tidy,soap,bcmath,xmlrpc}

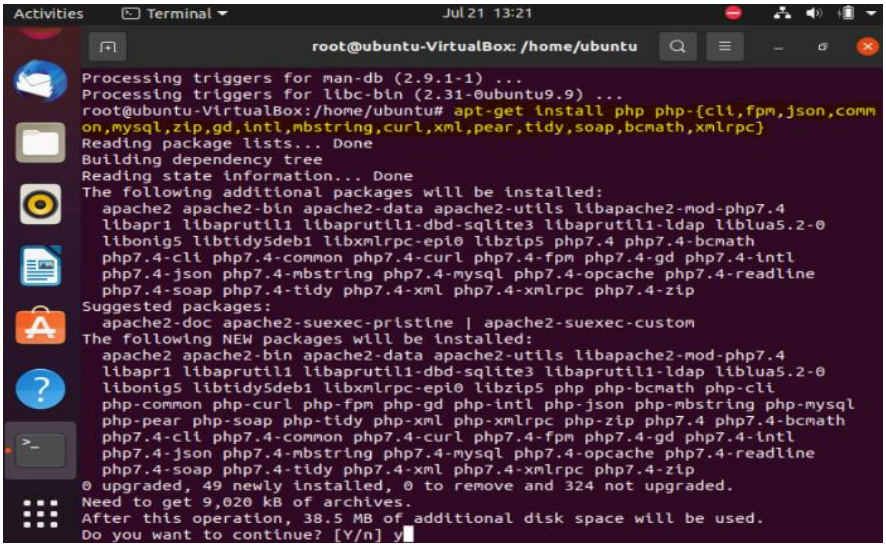


Fig 2: Installation of PhP

STEP – 4: Installation of Appache2 Web Server.

It is a more popular open-source web server. It is essential for establishing client and server interaction on the web. To get Appache2 we need to run bellow command on the terminal.

apt-get install apache2 libapache2-mod-php

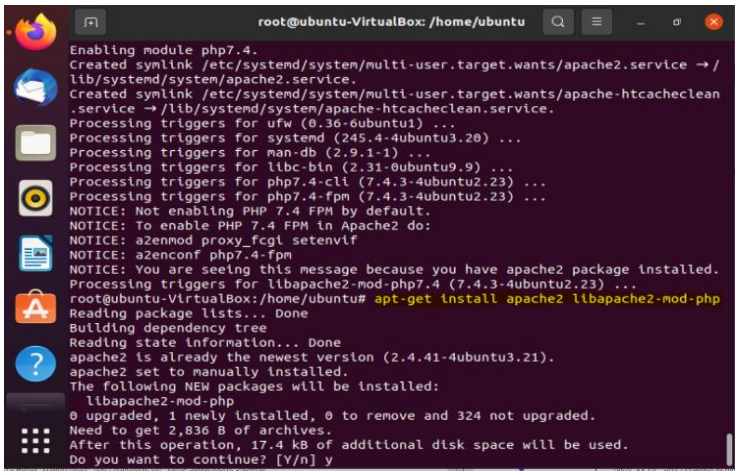


Fig 3: Installation of Appache2

STEP – 5: Security Measures to MariaDB.

With this the basic prerequisites installation part has been completed. Now we have to provide some basic and most essential security measures to MariaDB database by running following command.

mysql_secure_installation

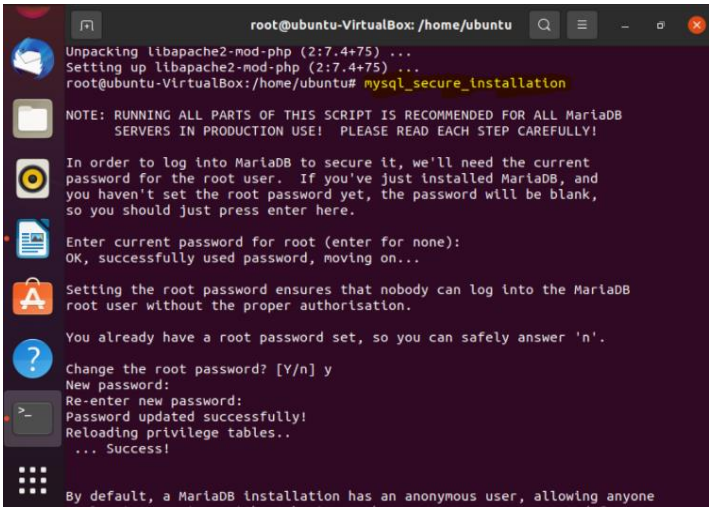


Fig 4: Security Measures to MariaDB

STEP – 6: Provide User Privileges.

Then we need to provide privileges to normal users to login as root users. For that we need to run the following command.

mysql -u root

UPDATE mysql.user SET plugin = 'mysql_native_password' WHERE

User = 'root';

FLUSH PRIVILEGES;

quit

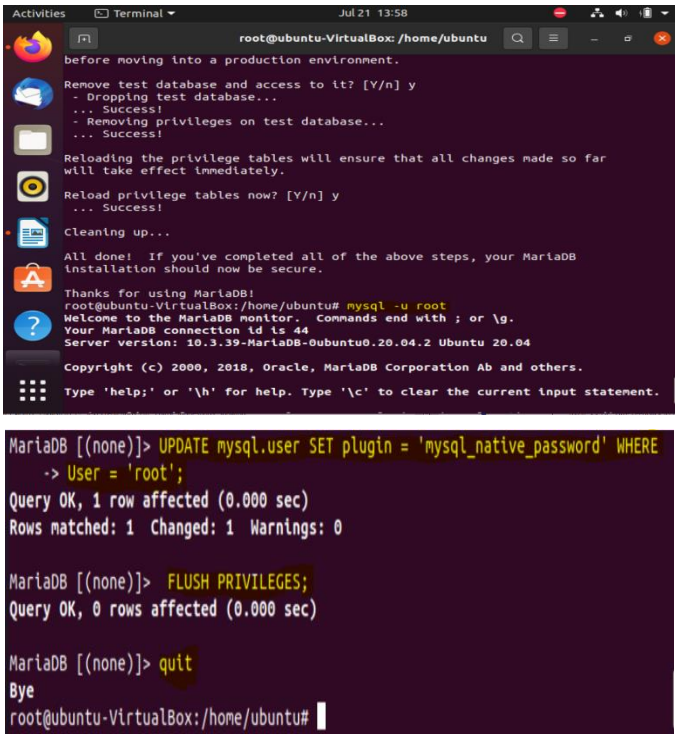


Fig 5: User Privileges

STEP – 7: Creation and Assigning Privileges to a Database for CORAL

Now we need to create a database for CORAL on MariaDB. And we have to give some essential privileges to that database. For that we have to run the following command.

mysql -u root -p

create database erms;

GRANT ALL PRIVILEGES ON erms. TO root@localhost;*

FLUSH PRIVILEGES;

Quit

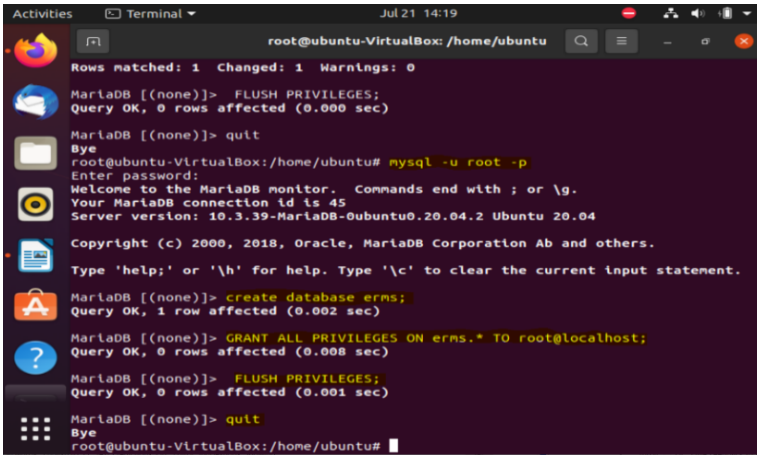


Fig 6: Database Privileges

STEP – 8: Download CORAL Source Code

Now we need to locate the CORAL source code file on its official website. And copy the tar.gz file link from the site, by using that link we can directly download the CORAL to our system through following commands.

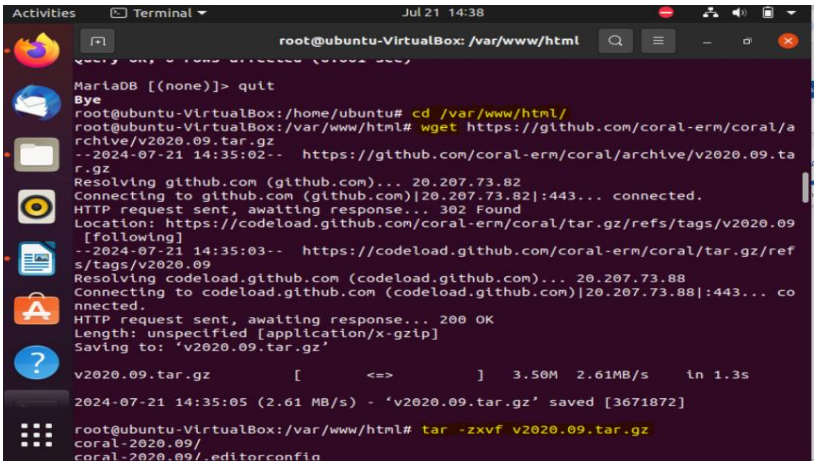
cd /var/www/html/

wget

tar -zxvf

mv (file name)/target folder name

chmod -R 777 /var/www/html/coral



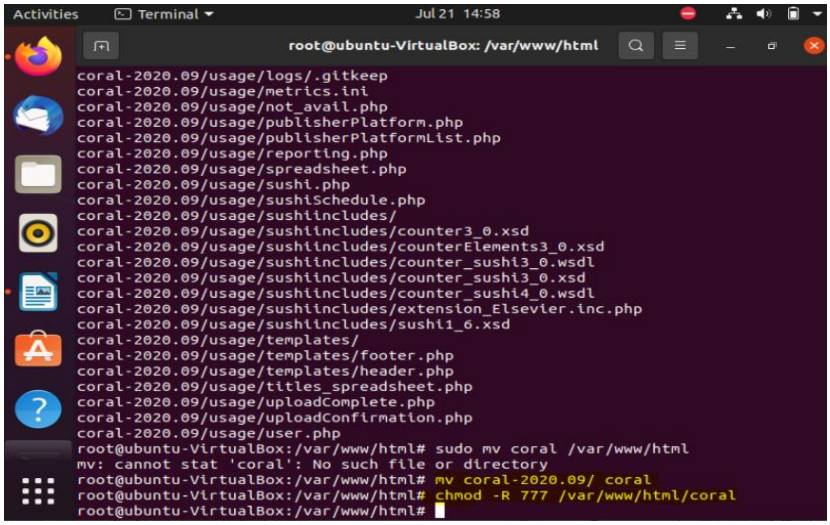


Fig 7: Downloading CORAL

With this the backhand installation process of CORAL has been successfully completed. Now we can access the CORAL interface on the web with the host name which we had given while installing. Just enter the host name on the browser, it will direct you to CORAL. Here we need to configure the CORAL interface by providing some basic details as follows.

CORAL Frontend Configuration

Step 1: Modules Configuration

To manage various kinds of electronic resources of the library we must need all modules that are listed in the bellow screenshot. So, select all the listed modules and click on continue.

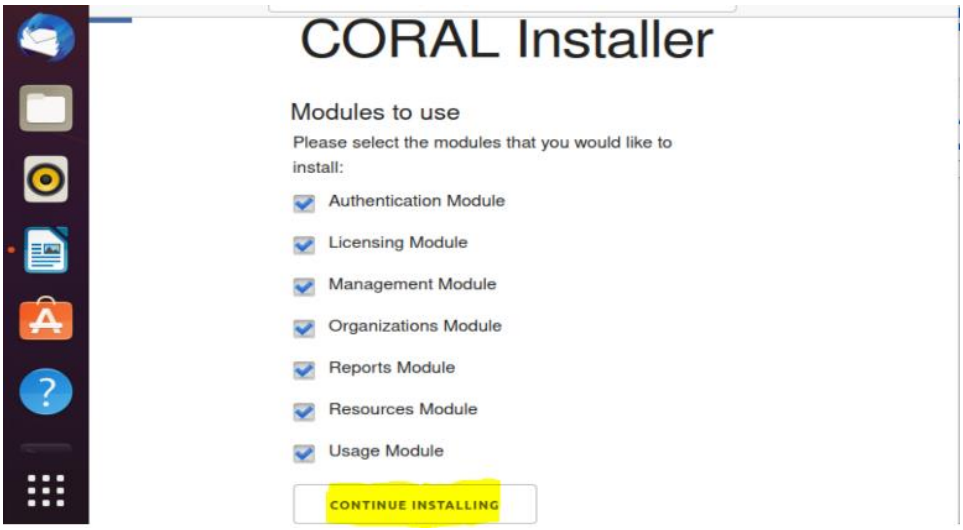


Fig 8: Modules Configuration

Step 2: Database Configuration

Here we must give database username and password along with host name. Here we must give the exact username and password which we had given while creating database on the terminal. Then click on Continuing installing.

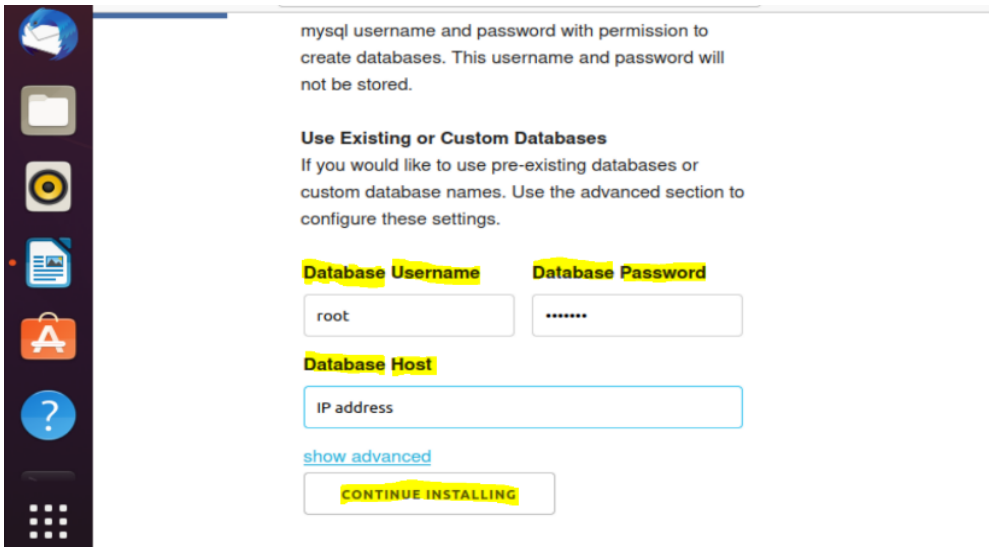


Fig 9: Database Configuration

Step 3: Database User Configuration

After the configuration of Database. It will ask the database user details such as username and password. We must provide this information and then have to click on the continuing installation button.

Fig 10: Database User Configuration

Step 4: Admin User Credentials

Fig 11: Setting up Admin Credentials

Once the database is configured, then it will ask us to create a user ID and password for admin login. We should remember these credentials because it is required this to login CORAL after its successful installation.

Step 5: Module options.

After the creation of admin ID and password, it will ask permission to add some essential features to all the modules of CORAL. First, we have to select respective features of the modules on front end side of the software and click on 'continue installing'. And finally, we need to give rights to all selected modules on backend by running following commands in terminal.

sudo su

cd /var/www/html/coral

chmod 777 common

chmod 777 auth/admin

chmod 777 licensing/admin

chmod 777 management/admin

chmod 777 organizations/admin

chmod 777 reports/admin

chmod 777 resources/admin chmod 777 usage/admin

Installation Completed Successfully

Once the installation and front-end configuration is completed successfully you will get the following opening page of CORAL. Then click on any module that will ask you to provide admin credentials with that you can enter the CORAL admin environment.

CORAL

Fig 12: CORAL

Different Modules of CORAL ERMS

As we discussed at the beginning of this paper, CORAL is an open-source electronic resource management system. It has four different modules that can help us in overall maintenance of electronic resources. Let's have a look at its modules one by one.

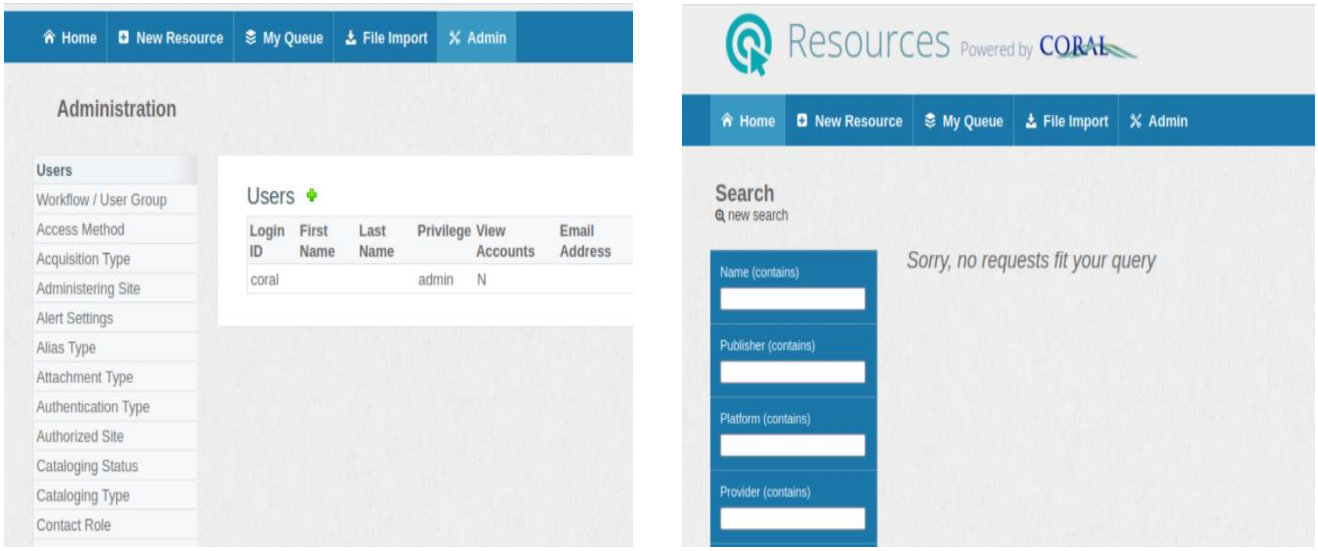
Module: Organization

It enables us to create individual records for organizations and publishers. While creating it will ask for contact details, type of organization etc. This information will provide a connecting link to other modules in managing electronic resources. Here we can create the records for organizations and publishers with whom the library is dealing electronic resources.

Fig 13: Module - Organization

Module: Resources

It has systematic workflow for acquiring various kinds of electronic resources. It will help us to manage each resource systematically. It also enables us to create and maintain separate records for individual resources. It provides rights to the admin to define the user limit, access method, authentication type etc.



This module will help us in managing and preserving the agreements, MOU's documents, and other confidential documents related to subscription of electronic resources of a library.

Fig 15: Module – Licensing

Module: Usage Statistics

COUNTER is a standard for analyzing the usage of journal publications. It will give you detailed information about how many documents have been consulted by users and how many documents have been downloaded by using a number of metrics, it will give you accurate information about resource usage. CORAL incorporated the same metrics and methods to provide usage statistics. It will definitely save the time of the library professional in preparing reports related to the usage of electronic resources.

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Fig 16: Module – Usage Reports

Module: Management

It is something like an admin to all other modules. Here the librarian can easily manage the resources. This module enables him to administer the workflow, categorization, procedures and policies related to various kinds of electronic resources.

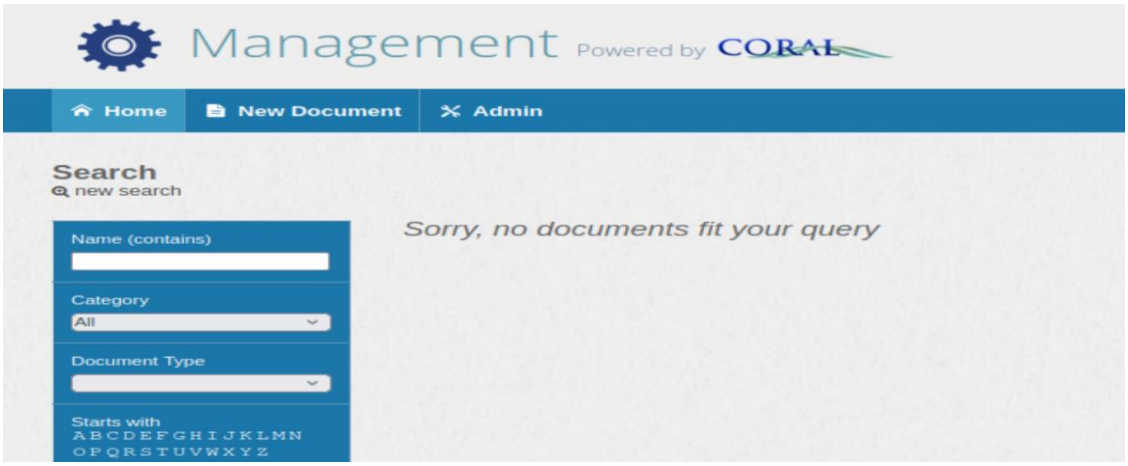

Fig 15: Module – Management

FINDINGS AND RECOMMENDATIONS

The study found that,

- ✓ CORAL is the best freely available Electronic Resource Management System.
- ✓ The modules and workflow of CORAL made it as extraordinary ERMS.
- ✓ The installation of CORAL on Ubuntu Operating System is quite easy.
- ✓ The minimum knowledge of Ubuntu basic commands is enough to install and handle CORAL.
- ✓ CORAL has several features that help us to manage various types of electronic resources.
- ✓ Present digital libraries must adopt CORAL to enhance its functionalities and services.

CONCLUSION

The world has become digital world, the resources has become electronic resources, and the people has become smart people. In this scenario the preservation and dissemination of electronic resources is not easy. It requires technical skills, suitable software's etc. And CORAL is one of the best and more suitable software for libraries to manage its various types of electronic resources and services.

Conflict of Interest Statement

The work is soley done by me, I have not got any fund for this study from any individuals and organization. I assure that this work is not affiliated to any institution, and it doesn't contain any confidential information.

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