Installation Manual of ABCD in Linux

Version 1.3

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Introduction

ABCD (Automation of Libraries and Documentation Centers) is a multilingual free Web application, Open Source library management system with the main functions of a library: Acquisition, cataloging, loans and administration of databases. It also includes an advanced loans module called EmpWeb. Since 2010 BIREME (Centro Latinoamericano y del Caribe de Información en Ciencias de la Salud) made available to Cuban national institutions this application and we started with a workshop in the CUJAE, Havana, Cuba by the teacher and specialist Egbert de Smet: ABCD management software (software installation, fine-tuning and problem-solving). In this workshop participants learned how to install, configure and customize ABCD for exploitation in any of our institutions working on Windows environment.

Following the general guidelines for the use of free software (SWL) in Cuba about libraries: "Establish the use of SWL in the halls of public access, (email rooms, libraries, Youth Club, etc..) includes operating system and office applications. Each institution should develop a schedule for migrating to SWL other specific applications used in these places," we start thinking to work on ABCD in Linux.

This manual is designed for any type of specialist: computer scientists, librarians, engineers, doctors, tele communicators: for all. It has been prepared in simple language, with well explained and proven procedures, in the style of copy and paste. The commands you will find in *italics and underlined.* Importantly, the *nano* is a text editor, if you use another must replace it in each case. The contents of the files found in the blue. If you have any problem executing this commands probably you are not logged in as an administrator. You may try this to solve that problem: *sudo su* and provide your password when prompted. If this work you are a member of the administration group and you can continue with the steps of this manual, if not you don't have the necessary permissions to install and configure ABCD in your server.

In version 1.3 of this Manual we will show you the process of installation and configuration ABCD 1.3t that allows you to work with PHP 5.3.x and PHP 5.4.x which is standard in the latest versions of operating systems like Linux Debian 6 and Ubuntu 12.04. ABCD has changed since the last version including an installer package, new routes to files and databases and many fixes included. You can access all the features of ABCD through its various modules that will be accessible after completing the instructions in this manual.

Development

To install ABCD you need a PC to use as a server or Proxmox container (or similar). When you make this selection of hardware you should consider some specific aspects of the operating system to use. It is the purpose of this manual helps you install Linux and ABCD and we had chosen Linux distribution Ubuntu 12.04, though you could choose another one. The process of installing the operating system is simple and we will not stop to explain, if you have any questions can be guided by the previous manual or help from other sources.

Install ABCD

1-Connect to the server using an SSH client. This will allow you to copy and paste the commands, but you can work directly from the server.

2-If you use local Linux repositories you may want to use them rather than the ones in internet, if not skip this step and go now to step 3. To allow access to local Linux repositories edit the sources.list file and copy the content suggested changing in each case the source to your repositories:
nano /etc/apt/sources.list

deb http://repos.upr.edu.cu/ubuntu/12.04/ main restricted universe multiverse required
deb http://repos.upr.edu.cu/ubuntu/12.04/ precise-updates main restricted universe multiverse
deb http://repos.upr.edu.cu/ubuntu/12.04/ precise-security main restricted universe multiverse
deb http://repos.upr.edu.cu/ubuntu/12.04/ precise-backports main restricted universe multiverse
deb http://repos.upr.edu.cu/ubuntu/12.04/ sets-proposed main restricted universe multiverse
deb http://repos.upr.edu.cu/ubuntu/ppa/java main sets

Save and exit.
NOTE: You must remove all content you have this file and copy only your repositories.

3-Update the server:
apt-get update
apt-get upgrade

4- Install Apache, PHP and some PHP extensions necessary to run ABCD. If you already have some of this software command will avoid the one you have and install the one you don't have.

apt-get install apache2 libapache2-mod-php5 libxml2-dev libapache2-mod-proxy-html libpng12-dev libjpeg62-dev zlib1g-dev libtidy-dev libxslt1-dev curl php5-dev php-pear libyaz-dev php5-gd php5-xmlrpc php5-xsl

5-Install Java:
apt-get install openjdk-7-jre

6-Copy the installer to the ABCD 1.3t server. You can download it from:

http://abcd.netcat.be/files/

7-Change permissions of the package:
For 32 bits:
chmod 777 abcd_1.3t_i386.deb

For 64 bits:
chmod 777 abcd_1.3t_amd64.deb

8-Install ABCD:
For 32 bits:
dpkg -i abcd_1.3t_i386.deb

For 64 bits:
dpkg -i abcd_1.3t_amd64.deb

ABCD Configure

9- Configure the virtual host ABCD adding the file with the following contents (change in every case your own specifications):
nano /etc/apache2/sites-available/abcd

<VirtualHost *>
 ServerAdmin serveradmin@domain.com
 DocumentRoot "/opt/ABCD/www/htdocs"
 <Directory "/opt/ABCD/www/htdocs">
 Options Indexes FollowSymLinks MultiViews
 </Directory>
 ServerName yourabcd.com
 DirectoryIndex index.htm index.php homepage.htm
 ScriptAlias /cgi-bin/ "/opt/ABCD/www/cgi-bin/"

 <Directory "/opt/ABCD/www/cgi-bin/">
 AllowOverride None
 Options None
 Order allow,deny
 Allow from all
 </Directory>
 </VirtualHost>

save and exit

10- Create a symbolic link to the public:
ln -s /etc/apache2/sites-available/abcd /etc/apache2/sites-enabled/

 11- Edit the configuration file of the virtual host:
nano /etc/apache2/sites-available/default

a-If this is a ABCD dedicated server erase all of the content a leave it blank.

b-If this is part of a virtual host (you will need a real name to access your server, the one you define if the /etc/apache2/sites-available/abcd configuration file):
Add to start:
NameVirtualHost *
And change this line <VirtualHost *:80> by <VirtualHost *>

12- Restart the apache service:
/etc/init.d/apache2 restart

13-Change the configuration file ABCD Central module (you may use the IP number intead of the name but only will work if this is a ABCD dedicated server with no more virtual host):
nano /opt/ABCD/www/htdocs/central/config.php
Change:
$wxisUrl="http://localhost:9090/cgi-bin/$cisis_ver"."wxis.exe";
by
$wxisUrl="http://Name.YourDomain/cgi-bin/$cisis_ver"."wxis.exe";

NOTE: If don't want to use the Advance Loan Module Empweb of ABCD the installation is over otherwise follow the next steps.

14-Install MySQL server:
apt-get install mysql-server

15-For the correct operation of the module EmpWeb ABCD need to import some data:
Connect to mysql (provide root password):
mysql-u root-p
Run:
source /opt/ABCD/EmpWeb/extras/university.sql
Run:
exit
16- Update ABCD with user data and Mysql password on files:
nano /opt/ABCD/www/htdocs/central/bridge/config.inc.php
(Change where it says USER and PASSWD)

nano /opt/ABCD/EmpWeb/engine/WEB-INF/conf/engineconf.xml
(Change where it says: <user> and <password>)

17-Change the localhost with the name of your site:
nano /opt/ABCD/EmpWeb/engine/WEB-INF/conf/engineconf.xml

18-Change the following variables in the configuration file EmpWeb:
nano /opt/ABCD/EmpWeb/empweb.sh
a-ABCD_URL:
Change ABCD_URL = http://localhost:80/ by ABCD_URL = http://Name.YourDomain:80/
b-JAVA_HOME:
64-bit architecture: JAVA_HOME = "/ usr/lib/jvm/java-7-openjdk-amd64/bin"
32-bit architecture: JAVA_HOME = "/ usr/lib/jvm/java-7-openjdk-i386/bin /"

19-Change the configuration file ABCD Central module (you may use the IP number intead of the name but only will work if this is a ABCD dedicated server with no more virtual host):
nano /opt/ABCD/www/htdocs/central/config.php
Change:
$empwebservicequerylocation = "http://localhost:8086/ewengine/services/EmpwebQueryService";
by
$empwebservicequerylocation = "http://Name.YourDomain/ewengine/services/EmpwebQueryService";
and
$empwebservicetranslocation = "http://localhost:8086/ewengine/services/EmpwebTransactionService";
by
$empwebservicetranslocation = "http://Name.YourDomain/ewengine/services/EmpwebTransactionService";

20- Start the jetty:
cd /opt/ABCD/EmpWeb
. /Start empweb.sh
NOTE: You must start the jetty every time your server restarts for some reason.

Ready! We have installed and configured our Linux server with ABCD 1.3t. Only remains try to access the different modules of the system through the address Name.YourDomain that you set in the configuration files. If you do not have a name for your system ABCD can ask network administrators to create a DNS record in your data center with the site name and the IP number of your server.
-To access the Central module:
http://Name.YourDomain/   Example: http://catalogo.upr.edu.cu/
Username: abcd   Password: adm

-To access the Public Site:
http://Name.YourDomain/site   Example: http://catalogo.upr.edu.cu/site

-To access the administrative part of the Public Site:
http://Name.YourDomain/site/admin   Example: http://catalogo.upr.edu.cu/site/admin
Username: admbvs   Password: adm@bvs

-To access the Serials module:
http://Name.YourDomain/secs-web   Example: http://catalogo.upr.edu.cu/secs-web
Username: admsecs   Password: admsecs   Library: Main Library

-To access the Advanced Loans module (EmpWeb):
http://Name.YourDomain:8080/empweb/   Example: http://catalogo.upr.edu.cu:8080/empweb/
Username: admin   Password: EmpWeb

Conclusions

The usage of ABCD is becoming common worldwide and Cuba has been no exception. Our Ministry of Higher Education has promoted the use of ABCD nationwide through workshops, events and national meetings. This manual can be very useful for centers that have not yet managed to have installed ABCD as Library Management System.

We have managed to install ABCD in Linux using the latest technologies to ensure the safety and speed of operations. We now have at our disposal a system that will allow us to manage all processes of a library: Acquisition, cataloging, lending and services searches in different formats.

The Central ABCD module have the modules for managing databases (database creation, editing of database structures, utilities for databases) cataloging, acquisition, circulation / lending and statistics, OPAC module: catalog allows public access meta-searches not only in local catalogs but many other sources of information such as catalogs of other national centers, the module public site that offers a search function as part of the portal page for 'end users', introducing the / their own (s) catalog (s) in a much broader information context; module SeCS module allows us to manage serials both physical and electronic and the advanced loans than provides us with some advanced features in the management of the institution loan.

Acknowledgements