Installing DSpace on AIX

<?xml version="1.0" encoding="utf-8"?>
<html>
AIX is unique among users, and very little documentation exists. This guide assumes that the server is an IBM Power server running at least AIX version 5.3.0.0 TL 9.0.
For this installation, hardware was an IBM Power 520 P6 server with 4 GB RAM at Youngstown State University. It is assumed that the AIX administrator understands
some of the differences between AIX and other Unix and unix-like O/S.

AIX Prerequisites

The following needs to be configured or installed before the DSpace software and its dependencies.
Additional Software from AIX discs
Path Variables
Locale types

AIX Software

LIBM Libraries

Make sure AIX 5.3 LIBM Libraries are installed. Search for bos.adt.libm. (This will cause C compilers and their dependencies to fail when compiling Apache)

Path Variables

The $PATH statement is set in /etc/environment to include java6 and ant and other paths you wish. This will also effect the $PATH for root.

Locale

You need to have UTF-8 as your LOCALE. The LC_CYTPE has be to be reset to UTF-8. You should have your IBM AIX
installations discs available. The steps are:

- Start SMIT to begin changes
- Choose System Environments
- Then Manage Language Environment
- Change/Show Primary Language Environment
- Change/Show Cultural Convention, Language, or Keyboard
- F4 to change from a list. If UTF-8 does not appear, you will need to install this from you AIX installation discs.
- <ENTER> to "do"

You are done.

Preliminary Software installs

The following is a list of software installs that was needed before one can progress to the DSpace preliminaries and DSpace itself.

Source of software

Because AIX is a 'dialect' of UNIX, running on Power chips, some software needs to be build from source, and some can be build from rpms.

- IBM provides AIX Toolbox for Linux Applications which provides lots of software. Some of
  it not the most recent release possible.
- Michael Perzl has AIX Open Source Packages which has many of the software needs in an RPM type format.
- In both places you can download the RPM and use SMIT to install. No need to install the RPM from the Console.

List of RPMs

The following is a list of RPMs that were needed to be installed (others already installed by AIX installation). Also, please check dependencies for these. There are specific dependencies that are needed. Refere to the AIX Open Source Packages above to see what is dependent on what.

<div style="column-count:3;-moz-column-count:3;-webkit-column-count:3">

- apple
- libgcc-4.2.4-1
- info-4.6-1

- bash-3.2-1
- texinfo-4.6-1
- apr-1.3.3-1
- glib-1.2.10-3
- prngd-0.9.29-1
- zlib-1.2.3-5
- expat-2.0.1-2
- ncurses-5.6-1
- libsigsegv-2.6-1
- m4-1.4.12-1
- autoconf-2.63-1
- zlib-devel-1.2.3-5
- glib2-2.8.1-3
- gettext-0.17-1
- gettext-devel-0.17-1
- glib-devel-1.2.10-3
- libstdc++-4.2.4-1
- nano-2.0.8-1
- glib2-devel-2.8.1-3
- gcc-c++-4.2.4-1
- gcc-4.2.4-1
- libstdc++-devel-4.2.4-1
- gcc-cpp-4.2.4-1
- libgomp-4.2.4-1
- make-3.80-2 (which is GMAKE, so don't get confused)
  </div>

Installs from Source

- openssl
- tcp_wrappes-7.6
- openssh (Instructions not thorough. Add --with-tcp_wrapper. Used DSA encryption. Edit PAM.conf and sshd.conf)
- readline 6.0 (Readline 6.0 resolves issues with postgresql)
- Apache 2.2.11 (You don't need for DSpace, but comes in handy if using proxy_http or proxy_ajp).
  - Apache installed into

    ```
    /usr/local/apache2
    ```

  - The following configure was used to make sure all dso's were installed:

```
<nowiki>./configure --with-ssl=/usr/local/ssl --enable-mods-shared=ssl proxy speling rewrite info mime-magic
proxy-ajp proxy-balancer proxy-connect --enable-suexec --with-suexec-caller
--with-suexec-logfile=/usr/local/apache2/logs/suexec --with-suexec-uidmin=100 CC=gcc </nowiki>
```

DSpace Preliminaries

Ant
Maven
Java
Postgresql
Tomcat

Ant

Ant 1.7.1 installed. These are binaries. Uncompressed and placed into

```
/usr/local/ant
```

Maven

Maven 1.7.x installed. These are binaries. Uncompressed and placed into

```
/usr/local/apache-maven
```

Java

IBM has their own flavor of Sun Java. You need to refer to the [AIX Toolbox for Linux Applications](#) to retrieve the latest files for Java 6. There are numerous SRs (SR1 throught SR4 as of this writing) that need to be applied to correct issues. In addition, the following jars should be added in Java6:

In the

```
/usr/java6/jre/lib/ext
```

directory:

- bcmail-jdk16-142.jar
- bcprov-ext-jdk16-142.jar
- bcprov-jdk16-142.jar
- sunjce_provider.jar

You will need to edit

```
java.security
```

which is found at

```
/etc/java6/jre/lib/security
```

- If the file is read-only, change it to be able to be written by root. (chmod o+a java.security)
- Fine the stanza "List of providers and their preference orders ....". Just add at the end
    - security.provider.10=com.sun.crypto.provider.SunJCE
    - security.provider.11=org.bouncycastle.jce.provider.BouncyCastleProvider

DSpace requirements

Follow the directions for installing Tomcat, Postgresql, and DSpace in the DSpace documentation.

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