11/22/09 - Installing dcm4chee an Open Source PACS under Windows 7 with MySQL Database



Open Source Clinical Image and Object Management

<u>dcm4chee</u> is an open source <u>PACS</u> software that can be used for storing, managing and retrieving medical images It fully implements the DICOM protocol designed for healthcare. It is written in Java programming language for versatility and performance. It can run under Windows, Mac OS, and Linux. It supports different databases such as: PostgreSQL, MySQL, Oracle, SQL Server..etc

dcm4chee can be integrated with OsiriX, K-PACS, ClearCanvas...etc

Since many dental professionals use Windows as their primary operating system it would be easier to install dcm4chee under Windows. In addition, compression libraries such as JPEG 2000 LS are still not available under Windows 64 bit and Mac OS. So we will use 32bit version of Windows as our server's operating system. We will be using Windows 7 since it is going to be the main stream operating system ; however, the tutorial should also work for Windows Vista or XP. MySQL database is an open source database and it is used by millions of users. In fact, Marcilan is powered by MySQL database. So we will use MySQL as our main database. Enough talk and take me to the tutorial! !

In this tutorial we will go in details and step by step installation of dcm4chee under Windows 7 Professional 32 bit and using MySQL database.

Note: For full more detailed information for installation dcm4chee for different operating system and databases, please refer to the link <u>here</u>

Minimum System Requirements:

JDK 6 or higher 512 MB RAM 200 MB hard disk space (additional to archive storage disk space) 400 MHz CPU

Download:

1. Download the latest binary of dcm4chee (currently v 2.14.7) from <u>dcm4chee Source Forge</u> repository. Select the version that matches the database we will be using <u>dcm4chee-mysql-2.14.7.zip</u>

| Browse Files for dcm4che, a DICOM Implementation in JAVA | | | | | |
|--|----------|---------|------------|-----------|-----------------|
| File/Folder Name | Platform | Size | Date ↓ | Downloads | Notes/Subscribe |
| Subdirectory (view all files) | | | | | |
| g dcm4chee | | 2.6 GB | 2009-10-16 | 44,461 | N |
| <u>2.14.7</u> | | 68.6 MB | 2009-10-16 | 2,359 | N |
| release-notes-dcm4chee- 2.14.7.html | | 6.6 KB | 2009-10-16 | 255 | |
| dcm4chee-firebird-2.14.7.zip | | 9.5 MB | 2009-10-16 | 355 | |
| Ccm4chee-mssql-2.14.7.zip | | 8.9 MB | 2009-10-16 | 207 | 2 |
| dcm4chee-oracle-2.14.7.zip | | 8.9 MB | 2009-10-16 | 103 | 2 |
| dcm4chee-db2-2.14.7.zip | | 8.9 MB | 2009-10-16 | 47 | |
| Cm4chee-hsql-2.14.7.zip | | 8.9 MB | 2009-10-16 | 38 | 2 |
| dcm4chee-mysql-2.14.7.zip | | 9.4 MB | 2009-10-16 | 861 | 2 |
| dcm4chee-psql-2.14.7.zip | | 9.3 MB | 2009-10-16 | 161 | 2 |
| Communication and the second s | | 21.7 KB | 2009-10-16 | 95 | 2 |
| Communication domains and domain | | 4.9 MB | 2009-10-16 | 237 | 2 |

2. Download the binary distribution of JBoss Application Server 4.2.3.GA from <u>their website</u> (Do NOT download v5 as it is incompatible!)

| 4.2.3.GA | Stable | 95 MB | 2008-07-18 | LGPL | 288809 | Download | Notes |
|----------|--------|-------|------------|------|--------|----------|-------|
| | | | | | | | |

| Fil | e/Folder Name | Platform | Size | Date ↓ | Downloads | Notes/Subscribe |
|-----|---------------------------------------|----------|-------------|------------|-----------|-----------------|
| Su | bdirectory (view all files) | | | | | |
| jb | oss | | 299.5 MB | 2008-07-18 | 364,765 | |
| | JBoss-4.2.3.GA | | 299.5 MB | 2008-07-18 | 364,765 | |
| | jboss-4.2.3.GA-jdk6.zip.SHA-256 | | 64 Bytes | 2008-07-18 | 1,461 | 3 |
| | boss-4.2.3.GA-jdk6.zip.MD5 | | 32 Bytes | 2008-07-18 | 3,500 | 3 |
| | 🚡 jboss-4.2.3.GA-jdk6.zip | | 99.7 MB | 2008-07-18 | 174,785 | 3 |
| | jboss-4.2.3.GA- src.tar.gz SHA-256 | | 64 Bytes | 2008-07-18 | 843 | 3 |
| | jboss-4.2.3.GA-src.tar.gz.MD5 | | 32 Bytes | 2008-07-18 | 1,351 | 3 |
| | boss-4.2.3.GA-src.tar.gz | | 100.4 MB | 2008-07-18 | 26,052 | 2 |
| | boss-4.2.3.GA.zip.SHA-256 jboss-4.2.3 | | 64 Bytes | 2008-07-18 | 1,194 | 3 |
| | jboss-4.2.3.GA.zip.MD5 | | 32 Bytes | 2008-07-18 | 2,593 | 3 |
| | jboss-4.2.3.GA.zip | | 99.5 MB | 2008-07-18 | 152,986 | 3 |
| | | | | | | |

After clicking the download button, select jboss-4.2.3.GA-jdk6 which

3. Download the latest binary distribution for MySQL from <u>MySQL</u> <u>website</u>. The current GA (Stable) version for production use is 5.1. Click on the <u>link</u>. Select Windows MSI installer.

Windows downloads (platform notes)

| Windows Essentials (x86) | 5.1.41 | 39.0M | Pick a mirror |
|----------------------------------|-----------------|------------------|----------------------------------|
| | MD5: 85a8323a87 | 4f908a2dd2c6aebo | 14f59ba <mark>Signature</mark> |
| Windows MSI Installer (x86) | 5.1.41 | 104.7M | Pick a mirror |
| | MD5: d85c43554b | 422f288c2cc1a2c: | E952bc1 Signature |
| Without installer (unzip in C:\) | 5.1.41 | 113.2M | Pick a mirror |
| | MD5: d3f94a766d | E6154660734a88b | 4c2ed5b Signature |

You are downloading:

» No thanks, just take me to the downloads!

| Please take the | e time to let us know about you. Res | at assured, your information will remain private. |
|--|---|---|
| If this is the first og into all of th | st time you have downloaded from u ne MySQL.com sites, including forum | is, you will be sent a password to enable you to s and bugs. |
| lf you already l | nave a MySQL.com account, save tin | e by logging in now. |
| R | eturning Users | New Users |
| | Save time by logging in | Proceed with registration |
| Email: | | |
| Password: | | |
| | Forgot your password? | |
| | | |
| | | |

You can register if you are interested in receiving updates or you can skip the registration process.

4. Download Java Development Kit 6 (JDK6) from <u>Sun website</u>. Download JDK 6 update 17 under Java SE Development Kit.



| Platform: | |
|---|--|
| Windows | - |
| Language: Multi-language | |
| By selecting 'Download' o hereby accept the terms a SE Development Kit 6u17 | or 'Continue' below, you and conditions of the Java License Agreement. |
| Use Sun Download M | lanager (Learn More) |
| Download » | |
| File Size: 73.55 MB | |
| Est. Download Time: 7 | min |
| | |

| Log In for Downlo | ad (Optional) |
|-------------------|--|
| Java [*] | Receive Free Java SE Tutorials Get the most out of your Java SE download with the free Java SE Tutorials - emailed to your Sun Online Account email address within 24 hours of download. |
| User Name | |
| Password | |
| | Log In and Continue Need Help? |
| C | » Create a New Sun Online Account » Skip this Step |

You can register to receive latest updates or skip the registration process.

5. Download the Audit Record Repository (ARR). The ARR maintains an audit log of all transactions within the archive. This is necessary for <u>HIPAA</u> and <u>IHE</u>. (If your country does not require <u>dcm4chee-arr-mysql-3.0.8.zip</u>.

| File/Folder Name | Platform | Size | Date 1 | Downloads | Notes/Subscribe |
|---|----------|----------|------------|-----------|-----------------|
| Subdirectory (view all files) | | | | | |
| dcm4chee-arr | | 80.6 MB | 2009-05-19 | 7,951 | N |
| 3.0.8 | | 16.6 MB | 2009-05-19 | 1,339 | <u>a</u> s |
| Comunication de la comunicación | | 208.2 KB | 2009-05-19 | 131 | 2 |
| Comunication de la comunicación | | 2.6 MB | 2009-05-19 | 224 | 3 |
| dcm4chee-arr-oracle-3.0.8.zip | | 2.2 MB | 2009-05-19 | 80 | 2 |
| dcm4chee-arr-mysql-3.0.8.zip | | 2.7 MB | 2009-05-19 | 649 | 2 |
| dcm4chee-arr-mssql-3.0.8.zip | | 2.2 MB | 2009-05-19 | 162 | 2 |
| dcm4chee-arr-hsql-3.0.8.zip | | 2.2 MB | 2009-05-19 | 41 | 2 |
| dcm4chee-arr-firebird-3.0.8.zip | | 2.2 MB | 2009-05-19 | 32 | 2 |
| dcm4chee-arr-db2-3.0.8.zip | | 2.2 MB | 2009-05-19 | 20 | ₽ |

Installation:

1. Extracting the downloaded files and setting up the directories

Create a new folder in C:\ and rename it to apps. The directory path should look like this C:\apps

Copy jboss-4.2.3.GA-jdk6.zip, dcm4chee-mysql-2.14.7.zip and dcm4chee-arr-mysql-3.0.8.zip (if you have HIPAA or want to maintain ARR see step 5 of downloads above).

Extract all of them into separate categories. Do them one by one.

| dcm4chee-arr-mysql-3.0.8 11/22/2009 8: | | |
|--|--|--|
| mysql-2.14.7 | 11/22/2009 8:01 AM | |
| GA Jalie | 11/22/2000 9-19 AM | |
| Open | | |
| Open in new window | | |
| Extract All | | |
| | arr-mysql-3.0.8 mysql-2.14.7 Open Open in new window Extract All | |

After you finish extraction all of them, go into each folder, select the folder you see, right click>Cut or CTRL+X and hit Backspace or move to the previous directory and right click>paste or CTRL+V. Windows will complain that the same folder name exist. Click Yes to proceed. This will save us time navigating in the command prompt (avoid double directories). Do this for jboss-4.2.3.GA-jdk6.zip, dcm4chee-mysql-2.14.7.zip and dcm4chee-arr-mysql-3.0.8.zip (if you require HIPAA or want to maintain ARR see step 5 of downloads above).



| 🍌 🕨 Compute | r ▶ Windows (C:) ▶ apps ▶ | | 🗸 🍫 Sei |
|--------------------------------|-----------------------------|--------------------|-------------|
| Include in | library 🔻 Share with 👻 Burn | New folder | |
| rites | Name | Date modified | Туре |
| ;ktop | 퉬 dcm4chee-arr-mysql-3.0.8 | 11/22/2009 8:43 AM | File folder |
| wnloads | 퉬 dcm4chee-mysql-2.14.7 | 11/22/2009 8:43 AM | File folder |
| ent Places | 퉬 jboss-4.2.3.GA | 11/22/2009 8:26 AM | File folder |

The final folder structure should look like this

2. Copy files from JBoss to DCM4CHEE

Copy files from JBoss to dcm4chee. Dcm4chee consists of components that run within the JBoss application server platform. This step will copy the JBoss runtime files to the dcm4chee directory. Make sure that the JBoss folder name in ?C:\apps' is ?jboss-4.2.3.GA' before you continue.

Navigate to: ?C:\apps\dcm4chee-mysql-2.14.7\bin'

Type:

install_jboss.bat c:\apps\jboss-4.2.3.GA

```
<img class="aligncenter"
src="http://www.marcilan.com/wp-content/uploads/Screen-shot-20
09-11-22-at-8.44.56-AM.png" alt="Copying dcm4chee files to
JBoss" width="550" height="279" />Array
```

3. Installing MySQL database and creating dcm4chee database





Page 13 of 34

| B MySQL Server 5.1 - Setup Wizard |
|---|
| Ready to Install the Program |
| The wizard is ready to begin installation. |
| If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard. |
| Current Settings: |
| Setup Type: |
| Typical |
| Destination Folder: |
| C:\Program Files\MySQL\MySQL Server 5.1\ |
| Data Folder: |
| C:\ProgramData\MySQL\MySQL Server 5.1\ |
| |
| |
| < Back Install Cancel |



| MySQL Server Instance Configu | uration Wizard |
|-------------------------------|--|
| | Welcome to the MySQL Server Instance Configuration Wizard 1.0.16.0 The Configuration Wizard will allow you to configure the MySQL Server 5.1 server instance. To Continue, click Next. |
| MySQL | |
| | Next > Cancel |

Install MySQL database and create dcm4chee database (Follow the screenshots)

| MySQL Server Instance Configuration Wizard |
|--|
| MySQL Server Instance Configuration Configure the MySQL Server 5.1 server instance. |
| Please select a configuration type. |
| C Detailed Configuration |
| Choose this configuration type to create the optimal server setup for this machine. |
| Standard Configuration |
| Use this only on machines that do not already have a MySQL server installation. This will use a general purpose configuration for the server that can be tuned manually. |
| < Back Next > Cancel |

You can select Standard Configuration or Detailed Configuration. For easier setup follow the Standard or select Detailed if you know what you are doing.

Check Install As Windows Service. This will allow MySQL to start automatically when Windows starts. Check also Include Bin Directory in Windows Path.

| MySQL Server Instance | Configuration Wizard | | |
|--|--|---------|--|
| MySQL Server Instan Configure the MyS | nce Configuration SQL Server 5.1 server instance. | | |
| Please set the Win | dows options. | | |
| 🔽 Install As Win | dows Service | | |
| Ser Ser | s is the recommended way to run the MySQL ver on Windows. | | |
| Ser | vice Name: MySQL Launch the MySQL Server automatically | | |
| ✓ Include Bin Directory in Windows PATH | | | |
| Character Charac | eck this option to include the directory containing e server / client executables in the Windows PATH iable so they can be called from the command line. | | |
| | < Back Next > | Cancel | |

| MySQL Server Ins | tance Configuration Wiz | ard | |
|--|---|-----------|--------------------------|
| MySQL Server I Configure th | Instance Configuration e MySQL Server 5.1 server | instance. | |
| Please set the | e security options. | | |
| Modify Security Settings | | | |
| | New root password: | ***** | Enter the root password. |
| root | Confirm: | ***** | Retype the password. |
| Enable root access from remote machines | | | |
| Create An Anonymous Account This option will create an anonymous account on this server. Please note that this can lead to an insecure system. | | | |
| | | < Back | Next > Cancel |

Put your root (administrator) password. Save this in a secure place! If you check Enable root access from remote machines, it will allow your IT admin or PACS admin to access the database remotely.

| MySQL Server Instance Configuration Wizard |
|---|
| MySQL Server Instance Configuration Configure the MySQL Server 5.1 server instance. |
| Processing configuration |
| ✓ Prepare configuration |
| 𝒞 Write configuration file (C:\Program Files\MySQL\MySQL Server 5.1\my.ini) |
| Start service |
| |
| Configuration file created. Windows service MySQL installed. Service started successfully. Security settings applied. Press [Finish] to close the Wizard. |
| < Back Finish Cancel |

| MySQL Server Instance Configuration Wizard | | |
|---|--|--|
| MySQL Server Instance Configuration Configure the MySQL Server 5.1 server instance. | | |
| Please select a server type. This will influence memory, disk and CPU usage. | | |
| O Developer Machine | | |
| This is a development machine, and many other applications will be run on it. MySQL Server should only use a minimal amount of memory. | | |
| Server Machine | | |
| Several server applications will be running on this machine. Choose this option for web/application servers. MySQL will have medium memory usage. | | |
| C Dedicated MySQL Server Machine | | |
| This machine is dedicated to run the MySQL Database Server. No other servers, such as a web or mail server, will be run. MySQL will utilize up to all available memory. | | |
| < Back Next > Cancel | | |

If you decide to go for Detailed Configuration. You will get the following screens. (Skip if you followed the Standard Configuration)

Since we will be running JBoss server and MySQL, we select: Server Machine

| MySQL Server Insta | nce Configuration Wizard | |
|--|---|--|
| MySQL Server In Configure the | stance Configuration MySQL Server 5.1 server instance. | |
| Please select th | ne database usage. | |
| • Multifunct | ional Database | |
| | General purpose databases. This will optimize the server for the use of the fast transactional InnoDB storage engine and the high speed MyISAM storage engine. | |
| C Transactio | onal Database Only | |
| | Optimized for application servers and transactional web applications. This will make InnoDB the main storage engine. Note that the MyISAM engine can still be used. | |
| C Non-Transactional Database Only | | |
| Suited for simple web applications, monitoring or logging applications as well as analysis programs. Only the non-transactional MyISAM storage engine will be activated. | | |
| | < Back Next > Cancel | |

Page 27 of 34

| MySQL Server Instance Configuration Wizard | | |
|--|--|--|
| MySQL Server Instance Configuration Configure the MySQL Server 5.1 server instance. | | |
| Please select the drive for the InnoDB datafile, if you do not want to use the default settings. InnoDB Tablespace Settings | | |
| Please choose the drive and directory where the InnoDB tablespace should be placed. | | |
| C: Installation Path Drive Info | | |
| Volume Name: Windows File System: NTFS | | |
| 18.7 GB Diskspace Used 80.8 GB Free Diskspace | | |
| < Back Cancel | | |

| MySQL Server Instance Configuration Wizard | | |
|---|--|--|
| MySQL Server Instance Configuration Configure the MySQL Server 5.1 server instance. | | |
| Please set the approximate number of concurrent connections to the server. | | |
| Decision Support (DSS)/OLAP | | |
| Select this option for database applications that will not require a high number of concurrent connections. A number of 20 connections will be assumed. | | |
| Online Transaction Processing (OLTP) | | |
| Choose this option for highly concurrent applications that may have at any one time up to 500 active connections such as heavily loaded web servers. | | |
| C Manual Setting | | |
| Please enter the approximate number of concurrent Concurrent connections: | | |
| < Back Next > Cancel | | |

Select the option based on your concurrent number of users

| MySQL Server Insta | nce Configuration Wizard | |
|---|--|--|
| MySQL Server In Configure the | stance Configuration MySQL Server 5.1 server instance. | |
| Please set the r | networking options. | |
| ✓ Enable TCP/IP Networking | | |
| 2 | Enable this to allow TCP/IP connections. When disabled, only local connections through named pipes are allowed. Port Number: 3306 💌 🖌 Add firewall exception for this port | |
| Please set the s | server SQL mode. | |
| ✓ Enable Strict Mode | | |
| This option forces the server to behave more like a traditional database server. It is recommended to enable this option. | | |
| | < Back Next > Cancel | |

| MySQL Server Instance Configuration Wizard |
|--|
| MySQL Server Instance Configuration |
| Please select the default character set |
| Standard Character Set |
| Hello! Makes Latin1 the default charset. This character set is suited for English and other West European languages. |
| C Best Support For Multilingualism |
| Make UTF8 the default character set. This is the recommended character set for storing text in many different languages. |
| C Manual Selected Default Character Set / Collation |
| Please specify the character set to use. |
| Character Set: |
| < Back Next > Cancel |

If you are going to use non-latin characters like: Japanese, Chinese, Farsi...etc, select Best support for multilingualism otherwise select Standard Character set.

The rest is the same as in Standard installation.

Now we need to create a database for dcm4chee. To do so we initiate the pacsdb database instance using dcm4chee-mysql-2.14.7/sql/create.mysql

Go to command prompt and type:

mysql -uroot -p



Input your MySQL root password. Now you will get: mysql> Type the following line by line including the ; at the end and press Enter key at the end of each line.

create database pacsdb;Arraygrant all on pacsdb.* to
'pacs'@'localhost' identified by 'pacs';Array\qArrayArrayThen
type:Arraymysql -upacs -ppacs pacsdb <
c:/apps/dcm4chee-mysql-2.14.7/sql/create.mysql</pre>



For more information, refer to dcm4chee MySQL database setup <u>here</u>4. Deploy the Audit Record Repository (ARR)

Execute the command install_arr.bat in the command prompt in the bin directory of dcm4chee and include the path to dcm4chee-arr-3.0.8 as seen in the screenshot.

```
<img class="aligncenter size-full wp-image-2776"
src="http://www.marcilan.com/wp-content/uploads/Screen-shot-20
09-11-22-at-8.47.57-AM1.png" alt="Deploying dcm4chee auditory
records repository" width="550" height="40" />Array
```

5. Installing Java Development Kit and Setting up the environment variable for JAVA_HOME to JDK location

| 🛃 Java(TM) SE Development Kit 6 Update 17 - Custom Setup | | | |
|---|---|--|--|
| Custom Setup Select the program features you want install | ed. | | |
| Select optional features to install from the list below. You can change your choice of features after installation by using the Add/Remove Programs utility in the Control Panel | | | |
| Development Tools Demos and Samples Source Code Public JRE Java DB | Feature Description Java(TM) SE Development Kit 6 Update 17, including private JRE 6 Update 17. This will require 300MB on your hard drive. | | |
| Install to: C:\Program Files\Java\jdk1.6.0_17\ | Change | | |
| < Back | Next > Cancel | | |

| 🛃 Java Set | up - Destination Folder | × |
|---------------------------|---|--------|
| Java | Destination Folder Click "Change" to install Java to a different folder. | Sun. |
| Install to: C:\Program | Files\Java\jre6\ | Change |
| | Cancel | Next > |



To set up the environment variable to JDK location, right click on my computer>Properties>Advanced System Settings> Environment Variables

| Computer | |
|--------------|-------------------------|
| Computer | Open |
| Control Pa 🔮 | Manage |
| Devices ar | Map network drive |
| Default Dr | Disconnect network anve |
| Delault Pr | Show on Desktop |
| Help and \$ | Rename |
| | Properties |
| | |



| System Properties | _ | - | _ | | × | |
|---|--|----------|-------------------|--------------|------|--|
| Computer Name | Hardware | Advanced | System Protection | Remote | | |
| You must be logged on as an Administrator to make most of these changes. | | | | | | |
| Performance Visual effects processor scheduling, memory usage, and virtual memory | | | | | | |
| | | | | Settings | | |
| User Profiles | | | | | 5 11 | |
| Desktop settin | Desktop settings related to your logon | | | | | |
| | | | | Settings | | |
| Startup and R | Startup and Recovery | | | | | |
| System startup, system failure, and debugging information | | | | | | |
| | | | | Settings | | |
| | | | Environme | nt Variables | | |
| | | | | | | |
| | | OK | Cancel | Appl | y | |

| Variable | Value | - |
|--------------|-----------------------------|---|
| ComSpec | C:\Windows\system32\cmd.exe | - |
| FP_NO_HOST_C | NO | |
| NUMBER_OF_P | 2 | |
| OS | Windows_NT | Ŧ |
| ſ | New Edit Delet | - |

| New System Variab | le X | | | |
|-------------------|-----------------------------------|--|--|--|
| Variable name: | JAVA_HOME | | | |
| Variable value: | C:\Program Files\Java\jdk1.6.0_17 | | | |
| | OK Cancel | | | |

Here we are referring to the installed version of JDK 6 update 17. If you are using a different version go and check your program files under Java.

Click Ok. Now Reboot your Windows for changes (Environment variables) to take effect.

6. Launching DCM4CHEE



We are ready to test all the work we did previously. Go to command prompt again and navigate to dcm4chee-mysql-2.14.7/bin then execute run.bat Allow access for Java through Windows Firewall



In the command prompt you will notice lines moving up quickly. (It might take a minute or two to finish loading). You shouldn't see any errors like access denied or couldn't create connection. Otherwise, something has gone wrong from the previous

| Administrator: C:\Windows\system32\cmd.exe - run.bat |
|--|
| I Depend On: persistence.units:ear=dcm4chee-arr-mysq1-3.0.8.ear,unitName=dcm4chee-arr |
| ObjectName: jboss.mq:service=PersistenceManager State: FAILED |
| Reason: org.jboss.mq.SpyJMSException: Could not resolve uncommited transaction s. Message recovery may not be accurate; - nested throwable: (org.jboss.util.Ne stedSQLException: Could not create connection; - nested throwable: (java.sql.SQL Exception: Access denied for user 'pacs'@'localhost' (using password: YES)); - n ested throwable: (org.jboss.resource.JBossResourceException: Could not create co nnection; - nested throwable: (java.sql.SQLException: Access denied for user 'pa cs'@'localhost' (using password: YES))) |
| I Depend On: jboss.jca:service=DataSourceBinding,name=pacsDS |
| Depends On Me: |
| jboss.mq-service-bestinationnanager |
| 08:59:29,989 INFO [Http11Protocol] Starting Coyote HTTP/1.1 on http-0.0.0.0-808 0 |
| 08:59:30,002 INFO [Http11Protocol] Starting Coyote HTTP/1.1 on http-8443 |
| 08:59:30.022 INFO [Server] JBoss (MX MicroKernel) [4.2.3.GA (build: SUNTAGE JRog |
| S_4_2_3_GA date=200807181439)] Started in 53s:544ms www.marcilan.c |

If everything is right you will see a window similar to this:

| Administrator: C:\Windows\system32\cmd.exe - run | |
|--|---|
| 09:56:51,415 INFO [Contexts] starting up: org.jboss.seam.security.persistentPer | ^ |
| 09:56:51,416 WARN [PersistentPermissionResolver] no permission store available - please install a PermissionStore with the name 'org.jboss.seam.security.jpaPer missionStore' if persistent permissions are required. | |
| 09:56:51,416 INFO [Contexts] starting up: org.jboss.seam.security.permissionMap | |
| 09:56:51,417 INFO [Contexts] starting up: org.jboss.seam.navigation.pages 09:56:51,420 INFO [Contexts] starting up: org.jboss.seam.security.entityPermiss ionChecker | |
| 09:56:51,421 INFO [Contexts] starting up: org.jboss.seam.security.facesSecurity | |
| 09:56:51,421 INFO [Initialization] done initializing Seam 09:56:51,423 INFO [SeamFilter] Initializing filter: org.jboss.seam.web.redirect Filter | |
| 09:56:51,423 INFO [SeamFilter] Initializing filter: org.jboss.seam.web.exceptio | |
| nriiter 09:56:51,424 INFO [SeamFilter] Initializing filter: org.jboss.seam.web.multipar tFilter | |
| 09:56:51,424 INFO [SeamFilter] Initializing filter: org.jboss.seam.web.identity | |
| 09:56:51,424 INFO [SeanFilter] Initializing filter: org.jboss.seam.web.loggingF | |
| 09:56:51,440 INFO [EARDeployer] Started J2EE application: file:/C:/apps/dcm4che | |
| 09:56:51,506 INFO [Http11Protocol] Starting Coyote HTTP/1.1 on http-0.0.0.0-808 | |
| 09:56:51,519 INFO [Http11Protocol] Starting Coyote HITP/1.1 on http-8443 09:56:51,527 INFO [AjpProtocol] Starting Coyote AJP/1.3 on ajp-0.0.0.0-8009 09:56:51,550 INFO [Server] JBoss (MX MicroKernel) [4.2.3.GA (build: SUNTag=JBos | |
| s_4_2_3_GA date=200807181439>] Started in 34s:528ns | - |

Check the last line. Started!!

7. Login into the web interface

Now keep the command prompt open. Open your web browser and go to http://localhost:8080/dcm4chee-web/

| 🕹 Login - Mozilla Firefox | | |
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| Done | | zotero |

You should get dcm4chee web interface

Now for the username type: admin

and the password is also: admin

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| | | | | | | | | |

Cross your fingers!

Congratulations! you just managed to install a web server, setup a database, and deploy a fully functional free PACS that can be used to interface with your Cone Beam CT (CBCT) machine, CT, MRI, ..etc and your viewing software in your imaging center or dental school for all your imaging needs. In part 2 of the tutorial we will see how to make dcm4chee starts automatically with Windows to avoid the console window all together.