JBoss Application Server

4.2

Installation Guide

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JBoss Application Server: Installation Guide

by JBoss Community Documentation Project

Introduction

JBoss Application Server is the open source implementation of the Java EE suite of services. It comprises a set of offerings for enterprise customers who are looking for preconfigured profiles of JBoss Enterprise Middleware components that have been tested and certified together to provide an integrated experience. It's easy-to-use server architecture and high flexibility makes JBoss the ideal choice for users just starting out with J2EE, as well as senior architects looking for a customizable middleware platform.

Because it is Java-based, JBoss Application Server is cross-platform, easy to install and use on any operating system that supports Java. The readily available source code is a powerful learning tool to debug the server and understand it. It also gives you the flexibility to create customized versions for your personal or business use.

Installing JBoss Application Server is simple and easy. You can have it installed and running in no time. This guide will teach you to install and uninstall JBoss.

1. Software Versions

Software	Description
JBoss Application Server	4.2.2

Table 1. Software Versions

2. Help Contribute

If you find a typographical error in the *Installation Guide*, or if you have thought of a way to make this manual better, we would love to hear from you! Please submit a report in JIRA: *http://jira.jboss.com* [http://jira.jboss.com/jira/secure/ IssueNavigator.jspa?reset=true&&pid=10030&resolution=- 1&component=12311310&sorter/field=priority&sorter/order=DESC] against the project *JBoss Application Server* and component *Installation_Guide*.

If you have a suggestion for improving the documentation, try to be as specific as possible when describing it. If you have found an error, please include the section number and some of the surrounding text so we can find it easily.

> **i** **Note**
>
> Be sure to give us your name so you can receive full credit.

> **Note**
>
> This content is taken from
> svn.jboss.org/repos/jbossas/projects/docs/trunk and has yet to be
> branched.

To access the content directly and make changes yourself:

```
 svn co https://svn.jboss.org/repos/jbossas/projects/docs/trunk
--username yourname
```

Getting Started

1. Pre-Requisites

You must have adequate disk space to install JDK and JBoss Application Server while also allowing enough space for your applications. Before installing JBoss Application Server you must have a working installation of Java. Since JBoss is 100% pure Java you can have it working on any Operating System / Platform that supports Java. However there are a few Operating System-specific issues that you must be aware of. Refer to *http://wiki.jboss.org/wiki/Wiki.jsp?page=JBossOperatingSystemSpecificIssues* for more information.

1.1. Hardware and Operating System Requirements

For the latest information on supported Operating System / JVM combinations and supported Database platforms, please refer to *http://www.jboss.com*.

1.2. Configuring Your Java Environment

You must have a working installation of **JDK 1.5** before you install JBoss Application Server. You can install the 32-bit or 64-bit JVM as per your requirements. In this guide we will show you how to install a 32-bit Sun JDK 5.0 on a Linux Platform and Microsoft Windows Platform. But before we do that let's take a look at some of the benefits of using a 64-bit JVM.

Benefits of 64-bit JVM on 64-bit OS and Hardware:

- Wider datapath: The pipe between RAM and CPU is doubled, which improves the performance of memory-bound applications.

- 64-bit memory addressing gives virtually unlimited (1 exabyte) heap allocation. However large heaps affect garbage collection.

- Applications that run with more than 1.5GB of RAM (including free space for garbage collection optimization) should utilize the 64-bit JVM.

- Applications that run on a 32-bit JVM and do not require more than minimal heap sizes will gain nothing from a 64-bit JVM. Barring memory issues, 64-bit hardware with the same relative clock speed and architecture is not likely to run Java applications faster than their 32-bit cousin.

Installing and Configuring 32-bit Sun JDK 5.0 on Linux

- Download the Sun JDK 5.0 (Java 2 Development Kit) from Sun's website: *http://java.sun.com/javase/downloads/index_jdk5.jsp*. Choose "JDK 5.0 Update <x>" (where x is the latest update number) for download and then select "RPM in

self-extracting" file for Linux[1]. Read the instructions on Sun's website for installing the JDK.

- If you don't want to use SysV service scripts you can install the "self-extracting file" for Linux instead of choosing the "RPM in self-extracting" file. In that case you can skip the next step mentioned here. But it is recommended to use the SysV service scripts for production servers.

- Download and install the appropriate `-compat RPM` from `JPackage` *here* [ftp://jpackage.hmdc.harvard.edu/JPackage/1.7/generic/RPMS.non-free/]. Please ensure you choose a matching version of the `-compat` package to the JDK you installed.

- Create an environment variable that points to the JDK installation directory and call it `JAVA_HOME`. Add `$JAVA_HOME/bin` to the system path to be able to run `java` from the command line. You can do this by adding the following lines to the `.bashrc` file in your home directory.

```
#In this example /usr/java/jdk1.5.0_11 is the JDK installation
 directory.
export JAVA_HOME=/usr/java/jdk1.5.0_11
export PATH=$PATH:$JAVA_HOME/bin
```

Set this variable for the user account doing the installation and also for the user account that will run the server.

- If you have more than one version of JVM installed in your machine, make sure you are using the JDK1.5 installation as the default source for the `java` and `javac` executables. You can do this using the alternatives system. The alternatives system allows different versions of Java, from different sources to co-exist on your system.

Select alternatives for java, javac and java_sdk_1.5.0

- As root, type the following command at the shell prompt and you should see something like this:

```
[root@vsr ~]$ /usr/sbin/alternatives --config java
There are 2 programs which provide 'java'.
Selection    Command
-----------------------------------------------
   1           /usr/lib/jvm/jre-1.4.2-gcj/bin/java
*+ 2          /usr/lib/jvm/jre-1.5.0-sun/bin/java
Enter to keep the current selection[+], or type selection
 number:
```

Make sure the Sun version [`jre-1.5.0-sun` in this case] is selected (marked with a '+' in the output), or select it by entering its number as prompted.

- Repeat the same for javac and java_sdk_1.5.0.

```
[root@vsr ~]$ /usr/sbin/alternatives --config javac
There are 1 programs which provide 'javac'.
 Selection    Command
-----------------------------------------------
*+ 1            /usr/lib/jvm/java-1.5.0-sun/bin/javac
Enter to keep the current selection[+], or type selection
 number:
```

```
[root@vsr ~]$ /usr/sbin/alternatives --config java_sdk_1.5.0
There are 1 programs which provide 'java_sdk_1.5.0'.
 Selection    Command
---------------------------------------------
*+ 1            /usr/lib/jvm/java-1.5.0-sun
Enter to keep the current selection[+], or type selection
 number:
```

You should verify that java, javac and java_sdk_1.5.0 all point to the same manufacturer and version.

> **ℹ Note**
>
> You can always override this step by setting the `JAVA_HOME` environment variable as explained in the previous step.

- Make sure that the `java` executable is in your path and that you are using an appropriate version. To verify your Java environment, type `java -version` at the shell prompt and you should see something like this:

```
[root@vsr ~]$ java -version
java version "1.5.0_11"
Java(TM) 2 Runtime Environment, Standard Edition (build
 1.5.0_11-b03)
Java HotSpot(TM) Client VM (build 1.5.0_11-b03, mixed mode,
 sharing)
```

Installing and Configuring 32-bit Sun JDK 5.0 on Microsoft Windows

- Download the Sun JDK 5.0 (Java 2 Development Kit) from Sun's website: *http://java.sun.com/javase/downloads/index_jdk5.jsp*. Choose "JDK 5.0 Update <x>" (where x is the latest update number) for download and then select your Windows Platform options to perform the installation.

- Create an environment variable called `JAVA_HOME` that points to the JDK installation directory, for example: `C:\Program Files\Java\jdk1.5.0_11\`. In order to run java from the command line add the `jre\bin` directory to your path, for example: `C:\Program Files\Java\jdk1.5.0_11\jre\bin`. To do this, open the Control Panel from the Start Menu, switch to Classic View if necessary, open the System Control Panel applet, select the Advanced Tab, and click on the Environment Variables button.

Installation Alternatives

You can install the JBoss Application Server in one of these three modes:

- *Graphical Installer*

  Using the Graphical Installer can simplify the installation and configuration process for non-sophisticated users. In addition to the basic installation, the installer provides you with basic configuration capabilities, allows you to control whether the JMX interfaces are secured and the ability to enter console username/password. The graphical installer is available for *subscribed users* on *https://network.jboss.com*.

- *ZIP download*

  In this form of installation, simply unzip the downloaded zip file to the directory of your choice. You can unzip the platform on any operating system that supports the zip format. The zip file is available on *http://labs.jboss.com/jbossas/downloads/* and for subscribed users on *https://network.jboss.com*.

- *RPM download*

  In this form of installation, you can automatically install the platform on a system using the `up2date` command. The RPM installer is available for *subscribed users* on the Red Hat Network (RHN) on *http://rhn.redhat.com*.

When you install from the installer, you get a smaller install image that is more tuned for your environment. However, the directory structure will be slightly different than when using the rpm/zip archive.

Four types of server configurations will be included in your installation - *minimal*, *default*, *production* and *all*. The Getting Started Guide explains in detail the different server configuration file sets.

Installation Using The Graphical Installer

Launching the Graphical Installer

- The installer is an executable JAR file named `jboss-installer-<release>.jar`

- On many operating systems, you can run executable JARs by double-clicking them. If your system doesn't support that, you can run the installer directly from the command line:

```
[vsr]$ java -jar jboss-installer-<release>.jar
```

- The installer will then guide you through a series of installation steps explained in detail in the following section. You can quit the installation process any time before you confirm the final installation.
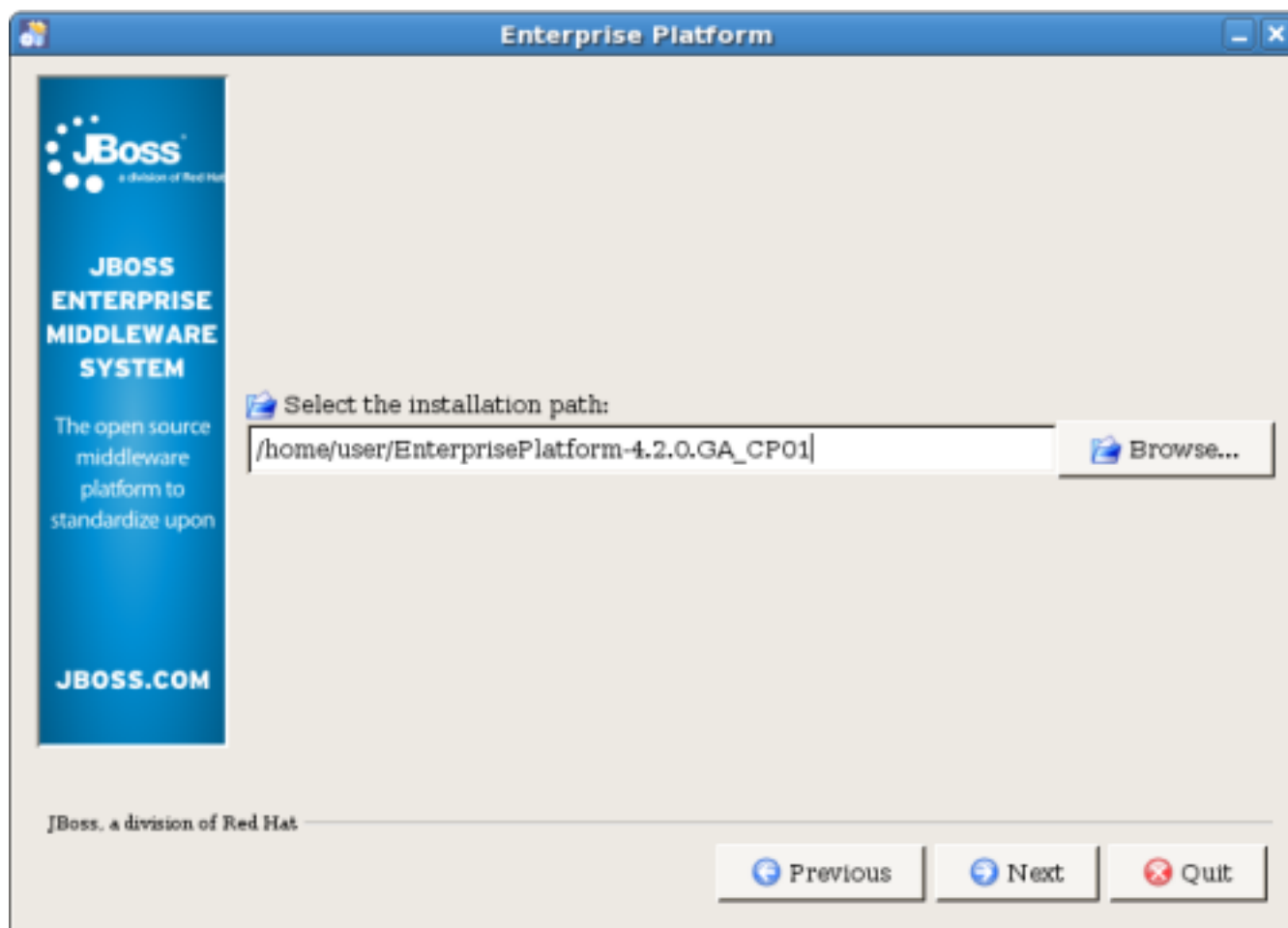
Installation Steps

- Read the License Agreement carefully. If you agree to the terms of the agreement select "I accept the terms of this license agreement" option and press the Next button. If you do not accept to the terms then choose "I do not accept to the terms of this license agreement" option. If you choose the second option you will not be able to proceed with the installation.

- Select the Installation Path where you would like JBoss Application Server to be installed. You can either type the complete path or browse for it. If the directory corresponding to the path you entered does not exist, the installer will create the target directory in the specified path. If the directory corresponding to the path you entered exists already, the installer will overwrite the contents of the directory. In either case the installer will prompt you to confirm the action.

> **Note**
>
> It does not matter where on your system you install JBoss Application Server, however note that installing JBoss Application Server into a directory that has a name containing spaces causes problems in some situations with Sun-based VMs. This is caused by bugs with file URLs not correctly escaping the spaces in the resulting URL.

Figure 3.1. Select Installation Path

- Configure JMX Security - In this section you can control the security settings for the JMX interfaces. You can choose to secure the following services:

  jmx-console.war , **web-console.war** , **jmx-invoker-services** , **http invoker**

  It is recommended that you click to enable security for all services and change the username/password from the default `admin`/`admin` values.
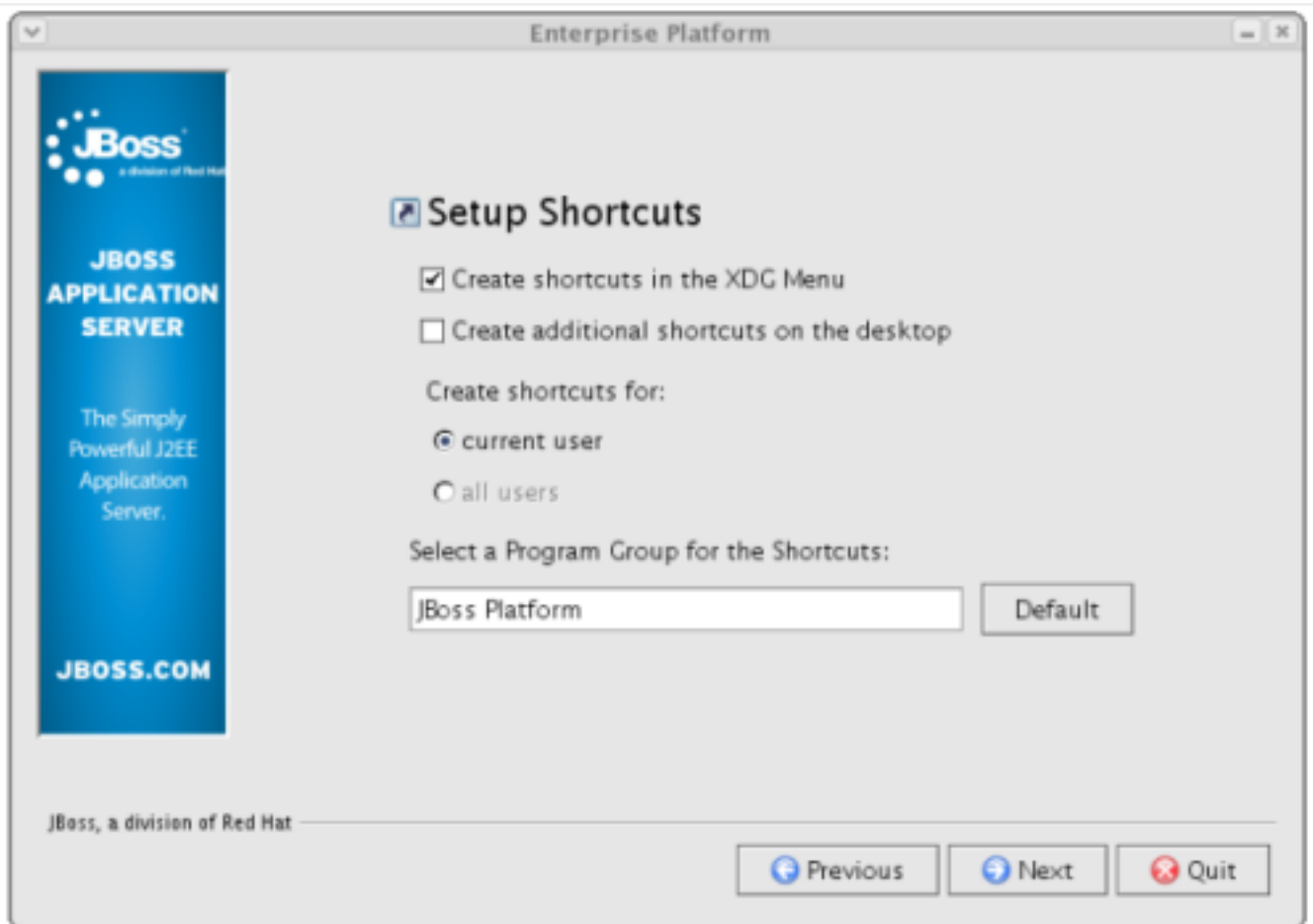
Figure 3.2. Configure JMX Security

> **Note**
>
> The JMX and web console would ask for your password if you install from the GUI installer.

- JBoss Application Server is now ready to install. Verify the installation path displayed in the summary screen before you hit the Next button. Pressing the Next button will begin the installation.

- You can add the JBoss menu in the XDG menu and also choose to create shortcuts on the desktop. If you select the "Create additional shortcuts on the desktop" checkbox, the installer will create the following shortcuts:

  - Shortcut to Start the application server

  - Shortcut to Stop the application server

- Shortcut to the documentation

- Shortcut to the JMX Console

- Shortcut to start the demo application

If you run the installer as the root user you can choose to create these shortcuts for all users.

Figure 3.3. Create Desktop Shortcuts

- You are done with the installation! You should now have a directory called `jboss-4.2.2.GA`, or whatever other name you specified. To explore the Server directory structure and to understand the layout in detail, refer to the Getting Started Guide.

Installation With ZIP Download

1. Download

You can download the zip file from *http://labs.jboss.com/jbossas/downloads/*.

2. Installation

In this form of installation, simply unzip the downloaded zip file to the directory of your choice on any operating system that supports the zip format.

- Unzip `jboss-4.2.2.GA.zip` to extract the archive contents into the location of your choice. You can do this using the JDK `jar` tool (or any other ZIP extraction tool).

```
[vsr]$ mkdir jbossinstallationdir
[vsr]$ cd jbossinstallationdir
[vsr]$ jar -xvf jboss-4.2.2.GA.zip
```

- You are done with the installation! You should now have a directory called `jboss-4.2.2`. Refer to the Getting Started Guide to understand and explore the Application Server Directory Structure.

Uninstall JBoss

If you used the GUI installer to install JBoss Application Server, then an automatic uninstaller is also installed. From the GUI the uninstaller can be selected from the JBoss program group, if one was created at installation time.

> **Note**
>
> If you installed on a linux system and did
> not set *JAVA_HOME* in environment,
> this method will not work as it invokes:
> ```
> /bin/sh -c '$JAVA_HOME/bin/java
> -jar
> /home/cdan/EnterprisePlatform-4.2.0.GA_CP01_Release/
> Uninstaller/uninstaller.jar'
> ```

A second option is to run the uninstaller from the command line. Within the JBoss Application Server Installation directory you will find a directory called `Uninstaller`. Inside the `Uninstaller` directory you will find a jar file named `uninstaller.jar`. Run the uninstaller from the command line using the `jar` utility.

```
[vsr]$ java -jar uninstaller.jar
```

This command will launch the uninstaller program. If you wish to delete the installation directory and all its contents select the check box "Force the deletion of <installation_directory>" and hit the Uninstall button.
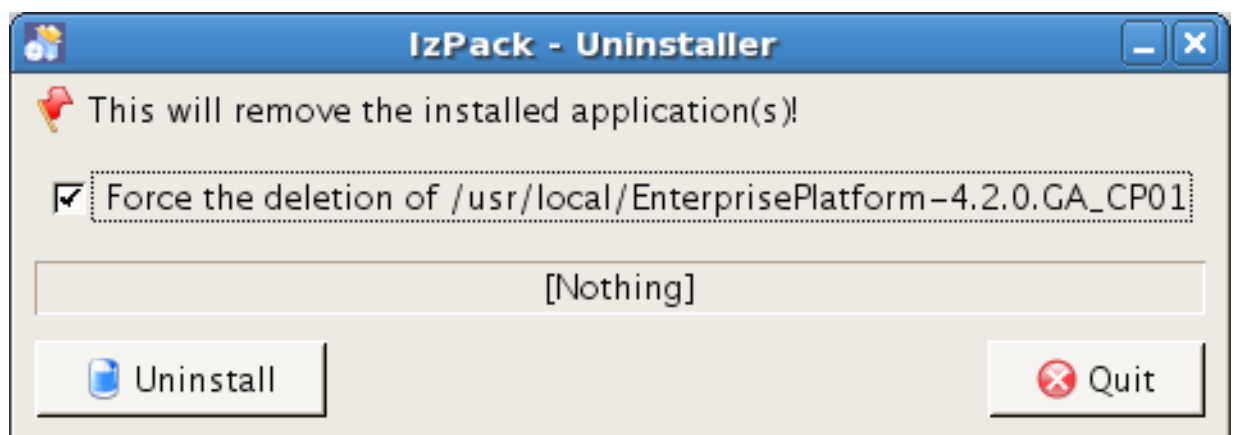

Figure 5.1. Uninstaller

If no uninstaller is available, and JBoss Application Server was installed using the zip file, it may be uninstalled by simply deleting the JBoss Application Server's installation directory.

Test your Installation

After you have installed the JBoss Application Server, it is wise to perform a simple startup test to validate that there are no major problems with your Java VM/operating system combination. To test your installation, move to `JBOSS_DIST/jboss-as/bin` directory and execute the `run.bat` (for Windows) or `run.sh` (for Linux) script, as appropriate for your operating system.
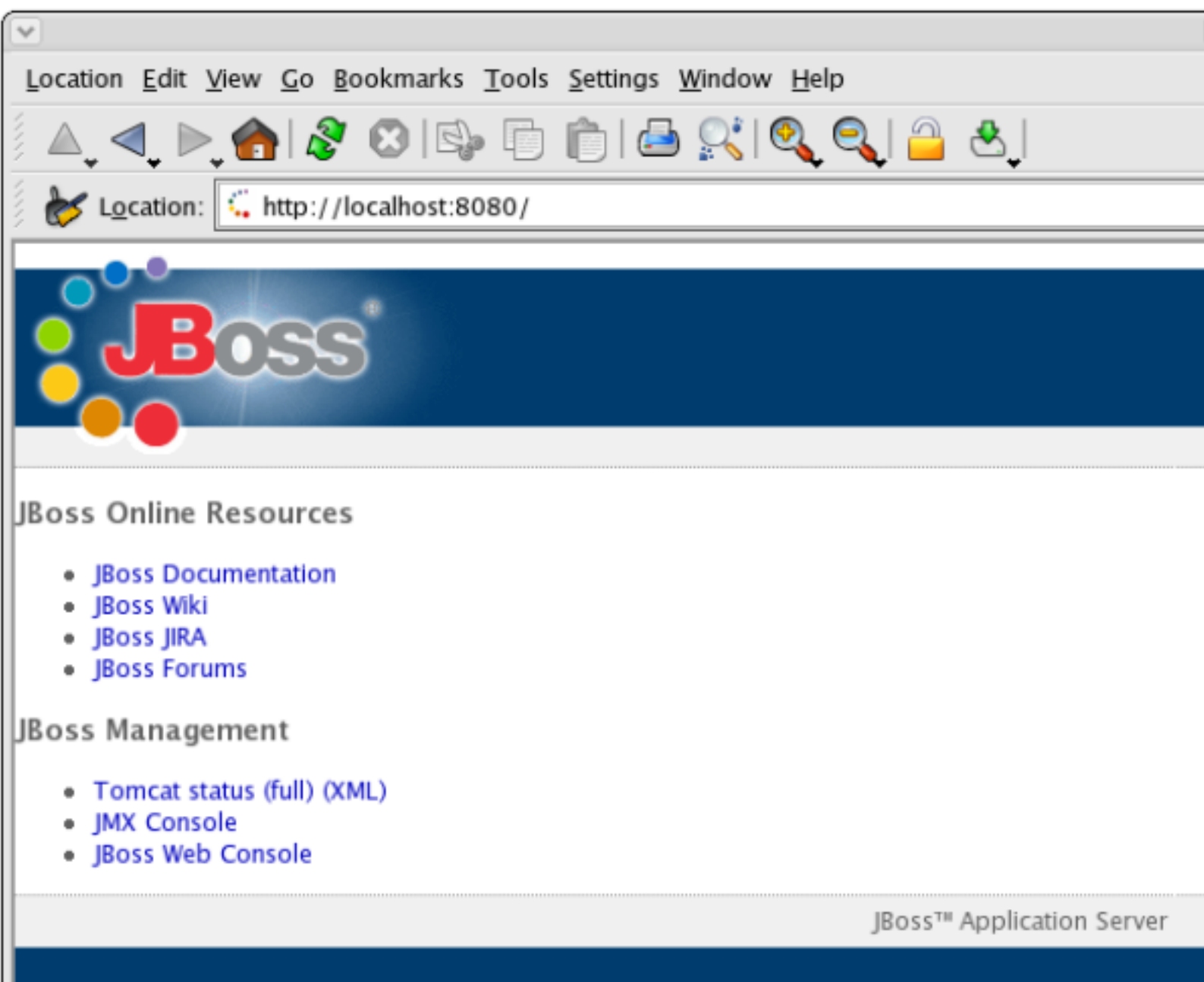
```
[vrenish@vinux bin]$ ./run.sh
=========================================================
```

> **Note**
>
> Note that there is no "Server Started" message shown at the console when the server is started using the `default` profile, which is the default profile used when no other is specified. You may run the production This message may be observed in the `server.log` file located in the `server/defaut/log` subdirectory.

Now open `http://localhost:8080` in your web browser. (Make sure you dont have anything else already on your machine using that port).[1] The contents of your page should look similar to this: *Figure 6.1, "Test your Installation"*.

---

[1] Note that on some machines, the name localhost won't resolve properly and you should use the local loopback address 127.0.0.1 instead.

Figure 6.1. Test your Installation

You are now ready to use the JBoss Application Server. Refer to the Getting Started Guide for more information about the Server layout and example applications showcasing JBoss in action.

Appendix A. Revision History

Revision History

Revision 4.2.2-1   Oct 15 2007   Michael Hideo

Migrated Content from 4.0.4