

## ***Troubleshooting JRun Installations***

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### **Introduction**

The first step in creating a robust JRun-powered Web site is to properly install and configure the JRun application server. In this paper, some of the common problems associated with installation and configuration of JRun 3.0 will be discussed. In addition to providing guidance to resolve some of these common issues, some common sense steps that you can take to try to avoid installation and configuration issues will be covered.

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### **Before the Installation**

There are a number of pre-installation steps that can be taken to help avoid or minimize installation problems. Read the JRun Setup Guide prior to starting the installation; do not just read the steps as you go along. Remember, software documentation editors have been known on occasion to include important notes after the step is complete.

After you have read the JRun Setup Guide (hint, hint), take the following actions prior to running the installation.

1. Verify that you have installed a JRE that meets the minimum JRun requirements. Remember that it does not hurt to try compiling and running a simple servlet to verify that everything is in working order.
2. If this is a Unix install, pay particular attention to recommended/required patches.
3. Check the Allaire site for service packs.

### **Common Problems**

#### **Login Page Does Not Open Correctly**

After you have completed the installation, the next step is to open the JRun Management Console (JMC). The JMC is the browser-based utility that allows you to configure various settings in your JRun servers. You can access the JMC by using your Web browser and entering `http://localhost:8000` or in a Windows environment by selecting Start > Programs > JRun 3.0 >

JRun Management Console. When you attempt to launch the JMC, the JMC login window should appear. If it does not, here are the initial troubleshooting steps.

- Make sure that the JRun admin server is running. In Windows, check the Service Control Manager if JRun was installed as a service. If installed as an application, check for the JRun Admin Server icon in the systems tray. On Unix, use the command line tool *"jrun -status admin"*. This tool is normally installed in `/opt/jrun/bin`.
- If you have made changes to the properties files, restart the JRun servers. If this does not resolve the issue and the JRun Admin Server is functioning properly, replace the modified properties file with the `properties.bak` file. If you manually make changes to any JRun properties file, always make a backup copy first.
- Check the port number in the URL. If you accept the default port value, this should be 8000. If you overrode this value, it should be entered in the URL. This value can be verified by examining the value for `web.endpoint.main.port` in the `<JRun_home>/servers/admin/local.properties` file.
- Ensure you have read access for `/JRun/servers/admin` directory and sub-directories.

### **Demo Application Does Not Open**

After you have successfully opened the JMC, try the JRun Demo Application. The JRun Demo Application contains sample Java servlets and JavaServer Pages (JSPs) that, in addition to providing basic examples, can help you verify your installation. Open the JRun Demo Application by entering the URL `http://localhost:8100/demo/index.html` in your Web browser or in a Windows environment by selecting `Start > Programs > JRun 3.0 > JRun Demo`. Here are a few of the common errors experienced and the initial troubleshooting steps to take if you cannot access the JRun Demo Page:

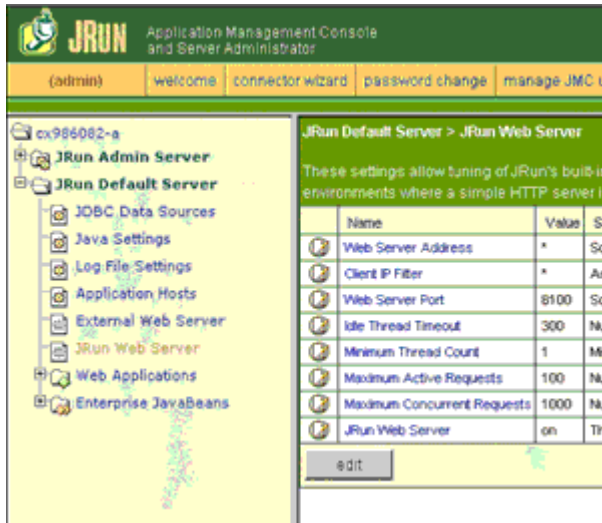
404 File Not Found

The page cannot be found

500 Internal Server Error

Could not connect to JRun server

- Ensure that you specify the default JRun server port. By default, admin listens to port 8000 and default listens to 8100 (see Figure 1). Therefore, the URL should be `http://localhost:8100/demo/index.html`. If the JRun installation detected that this port number was already in use, it will increment the value until a free port is found. The default server port value can be checked in the JMC.



**Figure 1: JMC Web Server Settings**

- Confirm that the default JRun server is running in Windows. Also, check for the JRun Default Server icon in the systems tray if it was installed as an application. If JRun was installed as a service, check the service status in the Service Control Manager. On a Unix system, use the command *"jrun -status default"*.
- Attempt to launch the demo application from the JMC by clicking the Example Applications link on the Welcome page.

#### Use the JRun Log Files

This is a good time to discuss the importance of using the JRun log files as a troubleshooting tool. The JRun log files can provide you with a wealth of information. There are even scenarios where the OS will give a false indication and the log files will tell the true story. For example, in both situations discussed above, you will notice that one of the troubleshooting steps involves confirming that the appropriate JRun server is running.

Try the following exercise on a Windows NT. Start the JRun Admin Server and JRun Default Server services. Open a shell (DOS shell) and run Sample1a from the JRun Samples Guide. When you attempt to start the EJB engine, you will receive an error message saying "java.net.BindException: Address in use:JVM-Bind". This occurs because the EJB engine uses the port settings of the JRun Default Server. Stop the JRun Default Server and run the command "makew standalone" again. This time the EJB engine starts without problem.

Next, start the JRun Default Server service. The NT Control Panel Services window will show a status of "Started". Attempt to go to the JRun Demo Page by clicking Start > JRun 3.0 > JRun Demo or enter <http://localhost:8100/demo/index.html> in your Web browser. Your Web browser will return, "The page cannot be displayed". Now take a look at the default-err.log and you will see that in fact that the Jrun Default Server did not actually start. The point of this exercise was to emphasize the importance of the log files when troubleshooting.

## External Web Server Connections

JRun 3.0 provides its own Java Web server (JWS), which is configured for you during installation. The JWS was not intended to act a production Web server for a site with high volume of traffic. In addition, it does not support Secure Socket Layers (SSL) transactions.

The JRun Management Console provides a Connector Wizard, which is used to configure the connection between JRun and an external Web server. After you run the Connector Wizard, verify the connection by running an application associated with the JRun server. After creating an external Web server connection for the JRun Default Server, verify the connector by accessing the JRun Demo with the URL <http://localhost:80/demo/index.html>.

The common HTTP errors were discussed earlier in the section "Demo application does not open". While running the JRun Connector Wizard, you may see one of the following errors:

```
httpd.conf not accessible
Could not load obj.conf file
Error copying JRun ISAPI filter
```

Try the following:

- Confirm the path to the Web server's configuration files (step 3)
- Stop the Web server and rerun Connector Wizard

While this section discusses the Connection Wizard, the port numbers that users assign during the JRun installation and when running the Connector Wizard should be mentioned. During the initial installation, the user is asked to provide a unique port number to be used by the JRun Admin Server. The default value for this port number is 8000.

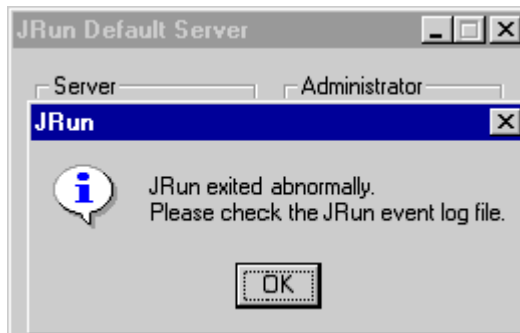
The JRun Web Server (JWS) listens on this port to provide access to the JCM. Step 2 of the Connector Wizard asks the user to enter a JRun Server Connector Port. This is the port that the JRun Server will use to communicate with the external Web server.

There are several problems that are associated with this port number. Some users do not really understand the purpose of this port and enter either the Web server port number or the port number they assigned the JRun Admin Server during installation. The second problem occurs when users fail to enter a value since there is no default value entered by the Connector Wizard. This is a required value. While the JRun Setup Guide uses 51000, you may enter any open port.

## More Common Problems

Here are three more common problems that JRun users report to Allaire Technical Support:

- Sometimes, users receive the message shown in Figure 2 when they attempt to start JRun as an application in Windows NT.



**Figure 2: Error Message Received When Starting JRun**

This is a good indication that the JRun server is already running as a service. If JRun was installed as an application, check for the appropriate JRun Server icon in the systems tray. If JRun was installed as a service, check the service status in the Service Control Manager.

- `java.net.BindException: Address in use:JVM-Bind`

This indicates that you have attempted to start a JRun server that is using a port already in use. You can use the Key Search feature to check for ports already in use by JRun (see Figure 3).



**Figure 3: Key Search Window in the JMC**

- When creating an external Web server connection to an IIS virtual Web site, the connection fails.

This occurs when the virtual Web site does not have a virtual folder called "SCRIPTS" that maps to the physical/scripts directory.

## Conclusion

This article has described some of the problems routinely encountered by users during installation and configuration of JRun 3.0. It is important to keep in mind that the occurrence of these errors are not limited to the installation process. While a better understanding of the JRun installation and configuration procedures will not prevent all errors, it can clearly help reduce the occurrence of some of errors discussed in this paper.