

Configuration Guide

BEA WebLogic 9.2 Post-Installation Steps

A Java 2 Platform, Enterprise Edition (J2EE) application server is prerequisite software for deploying SAS Web applications. If you specified BEA WebLogic as your J2EE application server in your SAS installation plan, SAS Deployment Wizard requires that you have successfully installed WebLogic before installing SAS software. SAS Deployment Wizard prompts you for the location of your installed Java Development Kit (JDK) and the location of your WebLogic software before installing any SAS software.

You can opt to let SAS Deployment Wizard configure a WebLogic domain for you. As an alternative to permitting the automated configuration, SAS Deployment Wizard can provide custom instructions that you can follow to configure your own domain to use with SAS Web applications. If you choose automated configuration, you can also choose to have SAS Deployment Wizard deploy the generated SAS Web applications into that domain. Otherwise, SAS Deployment Wizard will provide instructions so that you can deploy them yourself.

On some platforms you must complete post-installation steps manually after you have installed WebLogic but before you configure a domain for SAS Web applications. If you choose automated configuration with SAS Deployment Wizard, any steps that you must complete before you start SAS Deployment Wizard are provided in the following sections. If you choose manual configuration, you must follow these same steps and any additional steps that are generated in the custom instructions file, `Instructions.html`. An example of an `Instructions.html` file that is generated with manual configuration is available in the [WebLogic documents location](#).

Note: In some situations the configuration instructions from WebLogic recommend modifying such files as `commEnv.cmd` (Windows) or `commEnv.sh` (UNIX) in the WebLogic installation. SAS Deployment Wizard generates a wrapper script for `commEnv.sh` and custom scripts to launch servers and tools. SAS Deployment Wizard never modifies your WebLogic installation. You can find a description of SAS customized scripts in the generated `Instructions.html`.

Source information for the following post-installation steps is the [Supported Configurations for BEA WebLogic Platform 9.2](#) Web page. From this Web page, you can drill down for details based on your platform.

General Configuration Recommendations

See the following URL for information about setting `ulimit` on all UNIX platforms:

<http://support.sas.com/resources/thirdpartysupport/v92/appservers/preinstall.html>

If you have a machine with multiple network connections, also see “Configuring JGroups on Multihomed Machines” at the following URL:

<http://support.sas.com/resources/thirdpartysupport/v92/appservers/postinstall.html>

Remove HTTP Proxy Settings

WebLogic offers a feature for performing schema validation of XML configuration files. One way that you can perform this validation and entity resolution is to access the Internet and validate against published schemas. SAS Deployment Wizard provides the **Web Application Server: Proxy Information** page to prompt for an HTTP proxy host and port. SAS 9.2 currently supports the Axis 2.0 Web Services stack and no longer requires HTTP proxy configuration options. To remove the HTTP proxy settings, follow these steps.

1. Remove the `-Dhttp.proxyHost` and `-Dhttp.proxyPort` Java Virtual Machine (JVM) options from `SAS-config-dir/Lev1/Web/SASDomain/bin/setDomainEnv.sh` (or `setDomainEnv.bat`) file.
2. Using the WebLogic Administration Console, select **Environment > Servers > SASServer1 > Server Start**.
3. Click **Lock & Edit** to enable editing. Then remove the `-Dhttp.proxyHost` and `-Dhttp.proxyPort` JVM options from the **Arguments** text field.
4. Click **Save** and then **Activate Changes**.

Restart the WebLogic Server and SASServer1 application server.

IPv6 Configuration

The SAS Deployment Wizard supports configuring your WebLogic Servers to prefer IPv6 addressing. The managed servers are configured to prefer IPv6 addressing by the inclusion of these JVM options:

```
-Djava.net.preferIPv4Stack=false  
-Djava.net.preferIPv6Addresses=true
```

When the SAS Deployment Wizard is used to perform an automated WebLogic Server configuration, these JVM options are not set for the administration server. When the SAS Deployment Wizard is not requested to perform an automatic configuration, the generated sample domain does not include these options for the administration server and the generated instructions do not advise you to include these options. These options can be added after configuration. Be sure to enter them through the administration console and in the domain environment script for your domain.

For Windows operating environments, add the options to the following line in `setDomainEnv.cmd`:

```
set ADMIN_SERVER_MEM_ARGS=-Xms256m -Xmx512m -XX:CompileThreshold=8000  
-XX:PermSize=48m -XX:MaxPermSize=128m -Djava.net.preferIPv4Stack=false  
-Djava.net.preferIPv6Addresses=true
```

For UNIX operating environments, add the options to the following line in `setDomainEnv.sh`:

```
ADMIN_SERVER_MEM_ARGS="-Xms256m -Xmx512m -XX:MaxPermSize=128m  
-Djava.net.preferIPv4Stack=false -Djava.net.preferIPv6Addresses=true"
```

Note: Enter these JVM options all on one line.

SSL Port Configuration

When you run the SAS Deployment Wizard and choose to perform an automatic configuration of WebLogic Server, or not, the value for the SSL Listen port within the WebLogic Managed Server is not the value that you specified in the SAS Deployment Wizard. The SSL Listen port displays a value of 7002, which is the default value. If you plan to configure SSL on a different port, then you need to update this value manually to your SSL Listen port. If you do not plan to configure SSL, no action is required.

Platform-Specific Configuration Recommendations

AIX 5.3 and 6.1 (64-bit)

SAS supports WebLogic 9.2 MP2 as a minimal requirement. However, SAS recommends WebLogic 9.2 MP3. If you are installing WebLogic on an AIX 6.1 host, MP3 is required. If you choose to install WebLogic 9.2 MP2, you must apply the patches in step 2 of the following procedure.

Follow these steps after you install WebLogic.

1. Update the JDK.
 - a. WLS 9.2 MP2 supports IBM SDK Java 5 SR5a. An APAR is required for this IBM SDK. For SR5a (64-bit), use IZ02875. This information is from [Downloading and Installing IBM SDK Java 5 with Service Refresh](#).
 - b. WLS 9.2 MP3 supports IBM SDK Java 5 SR6b. An APAR is required for this IBM SDK. For SR5a (64-bit), use IZ08455. This information is from [Download and Install IBM SDK Java 5 with Service Refresh 6B + IZ08455](#).
2. Apply patches for WLS 9.2 MP2 (64-bit). This information is from [Download and Apply BEA Patches](#). No patches are required for WLS 9.2 MP3 (64-bit).

Windows (32-bit)

No platform-specific post-installation steps are required.

HP-UX 11i v2 and v3 on Itanium

You must update the execution mode as described below.

1. Set the WL_HOME variable to the directory in which you installed your BEA product and export WL_HOME; for example:

```
export WL_HOME=<your_installation_directory>/weblogic92
cd $WL_HOME/server/native/hpux11/IPF32/
```

2. Set these execution modes on the contents of the \$WL_HOME/server/native directory:

```
chmod -R +x $WL_HOME/server/native/hpux11/*
```

Solaris 10 (x86-64)

No platform-specific post-installation steps are required.

Solaris 9, 10 (64-bit SPARC)

SAS Deployment Wizard configures the managed application servers that run SAS Web applications with a 64-bit JVM. However, it does not configure the same option for the WebLogic Server to run in 64-bit mode. Although this is not a problem, the Administration Server will not find the appropriate performance pack native library. If this is the case, these messages might display in the Administration Server output file:

```
<BEA-300043> <Node manager native library not found - server process id
not saved.>
```

```
<BEA-000438> <Unable to load performance pack. Using Java I/O instead.
Please ensure that a native performance library is in: '...'>
```

To avoid these messages, you can configure the Administration Server to use a 64-bit JVM. To do this, specify the `-d64` option as an additional JVM option in the designated text field in the SAS Deployment Wizard panel that is called titled "Web Application Server: Administration Server." If you perform configuration manually, you still see this panel, and when you fill in this value, it is included in the generated instructions.

Notes Regarding the Generated Manual Configuration Instructions

Configuring the Listen Address for Administration Server and Managed Servers

By default, when a new WebLogic server is created, the Default Listen Address is set as an empty string. As a result, WebLogic listens on all host names that are associated with the hosting machine—namely, both the machine host name and localhost. With this configuration you might see warnings in the server log that are similar to this example:

```
<Nov 24, 2008 10:49:02 AM EST> <Warning> <Server> <BEA-002611>
<Hostname "mymachine.mycompany.com", maps to multiple IP addresses:
192.168.1.39, 127.0.0.1>
```

If WebLogic is running on a *multihomed* machine (one with multiple network interfaces), you probably do not want WebLogic to be configured to listen on all available addresses.

When SAS Deployment Wizard configures a WebLogic domain for SAS Web applications, it always sets the Listen Address to the host name that is specified in the WebLogic demonstration certificate. If you choose manual deployment, you can configure this address in `config.xml` before you start any servers, or you can configure this in the Administration Console after the Administration Server is started. If the Administration Server is running, you must reboot before your changes take effect.

To set the Listen Address before launching any servers, edit `config.xml` for your domain. For each server definition that is enclosed in `<server></server>` tags, add these tags:

```
<listen-address>MyHostName</listen-address>
```

MyHostName should match the host name that is in the demonstration certificate or your production certificate, if you have configured one. Here is where you can find your demonstration certificate in your WebLogic installation:

```
$WL_HOME/weblogic92/server/lib/DemoIdentity.jks
```

To read the certificate, use this command (all one line):

```
keytool -list -v -alias demoidentity -keystore keystore_location  
-storepass DemoIdentityKeyStorePassPhrase
```

You can set the host name in the Administration Console from the Server **General Configuration** panel.

(In future revisions, this information will be added to the generated instructions.)

Command Line for startNodeManager.sh

Instructions for starting the Node Manager on UNIX platforms do not mention any command-line options. By default, the `startNodeManager.sh` command starts the Node Manager on localhost and sets it to listen on port 5556. SAS Deployment Wizard provides prompts for the Node Manager address and listen port. Pass these values as command-line options to `startNodeManager.sh`.

For example, if the fully qualified domain name is `mymachine.mycompany.com` and you want Node Manager to listen on port 5558, specify this command line:

```
startNodeManager.sh mymachine.mycompany.com 5558
```

Location of Sample startNodeManager Start Script

In the `Instructions.html` file that SAS Deployment Wizard generates is the section, "Start Node Manager." It identifies the location of the Node Manager start script that is in the installed WebLogic image. However, if you plan to use customized scripts for starting the Administration Server and Managed Server that are provided in the sample domain, you should also use the customized version of the Node Manager start script that is in the `bin` directory for the sample domain. See these examples for UNIX deployment:

```
SAS-config-dir/Levn/Web/SASDomain/bin/startNodeManager.sh
```

Error in Path to Administration Server Start Command

The Instructions.html file provides instructions to start the Administration Server for the sample domain. The path that is provided for the script is incorrect. It includes an extra bin directory. The error occurs for both Windows and UNIX platforms. See this example for a UNIX platform:

```
SAS-config-dir/Levn/Web/SASDomain/bin/bin/startWebLogic.sh
```

The path should resemble this example:

```
SAS-config-dir/Levn/Web/SASDomain/bin/startWebLogic.sh
```

Undefined Variable in installNodeMgrSvc.cmd

The definition of the NODEMGR_HOST variable is not properly set in the installNodeMgrSvc.cmd script. This script is in the sample domain bin directory. The default location for this directory is *SAS-config-dir*/Levn/Web/SASDomain/bin.

To fix this issue, change this line in the script:

```
set NODEMGR_HOST=@webappsrv.weblogic.nodemanager.host@
```

Replace the value assigned to NODEMGR_HOST with the name that is specified in Instructions.html for "Host machine" in the table in the "Web Application Server" section. For example, if the name is mymachine.mycompany.com, you must change the assignment as shown in this example:

```
set NODEMGR_HOST=mymachine.mycompany.com
```

This issue affects deployments only on Windows operating systems.

Configuring the JDBC Connection Properties

The generated manual configuration instructions, Instructions.html, identify three JDBC connection properties to provide for the SharedServices Data Source. The stmtpooling and constring properties display on a single line, as shown in this example:

```
user=sastrust@saspw  
stmtpooling=0 constring=(DSN=SharedServices)
```

WebLogic requires that you enter each property-value pair on a separate line. If you cut and paste this information directly from the instructions, be sure to either add a new line or cut and paste from this example:

```
user=sastrust@saspw  
stmtpooling=0  
constring=(DSN=SharedServices)
```

Recommended Reading

These URLs are current as of November 2008.

Oracle Corporation, 2008: Download and Apply BEA Patches. Available at [http:// download-llnw.oracle.com/docs/cd/E13196_01/platform/suppconfigs/configs/ibm_aix/ibm_aix53_92.html#97345](http://download-llnw.oracle.com/docs/cd/E13196_01/platform/suppconfigs/configs/ibm_aix/ibm_aix53_92.html#97345).

Oracle Corporation, 2008: Download and Install IBM SDK Java 5 with Service Refresh 6B + IZ08455. Available at http://download-llnw.oracle.com/docs/cd/E13196_01/platform/suppconfigs/configs/ibm_aix/ibm_aix53_92.html#100117.

Oracle Corporation, 2008: Downloading and Installing IBM SDK Java 5 with Service Refresh. Available at http://download-llnw.oracle.com/docs/cd/E13196_01/platform/suppconfigs/configs/ibm_aix/ibm_aix53_92.html#98216.

Oracle Corporation, 2008: Supported Configurations for WebLogic Platform 9.2. Available at http://download-llnw.oracle.com/docs/cd/E13196_01/platform/suppconfigs/configs92/92_over/overview.html.

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