# Veritas™ High Availability Agent for WebLogic Server Installation and Configuration Guide

Windows Server 2003, Windows Server 2008

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Symantec

# Veritas High Availability Agent for WebLogic Server Installation and Configuration Guide



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# Contents

Chapter 1

# Introducing the Veritas High Availability Agent for WebLogic Server

This chapter includes the following topics:



## About the High Availability agent for WebLogic Server

The Veritas High Availability agents monitor specific resources within an enterprise application, determine the status of these resources, and start or stop them according to external events.

The Veritas agent for WebLogic Server is named weblogic. It consists of a resource type declaration and the agent DLL. The agent is responsible for starting, stopping, monitoring, and detecting failures of WebLogic Server (WLS) components.

See the following Technical Support TechNote for the latest updates or software issues for this agent:

http://seer.entsupport.symantec.com/docs/282004.htm

# Supported software

The Veritas agent for WebLogic Server is supported in the following environments:

| | |
|---|---|
| Veritas Cluster Server | VCS 5.1 |
| Operating Systems | Windows Server 2003 (x86, x64 and IA64)<br>Windows Server 2008 (x64) |
| WebLogic Server | 9.0, 9.1, 9.2, 10.3(10gR3), 10.3.x<br>and all intermediate minor versions of these releases. |

# About WebLogic Server

A WebLogic Server (WLS) domain is a logical organization of WebLogic servers. The WLS domain consists of an Administrative server and one or more Managed servers.

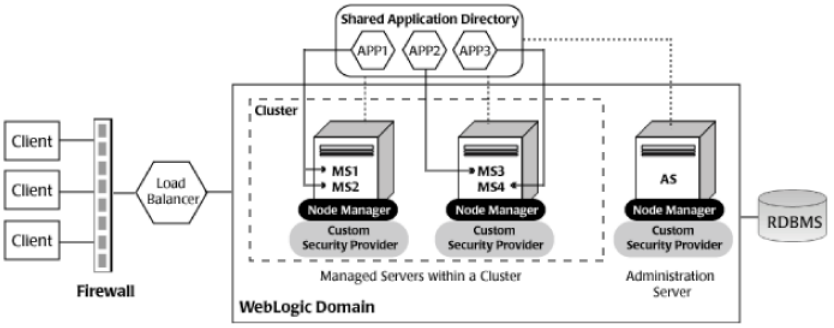
These components are described as follows:

- Administrative server
  An Administrative server is a J2EE application server that provides centralized administration for a WLS domain.
- Managed server
  A Managed server is a J2EE application server that hosts J2EE applications, components, and resources.

A Node Manager is a process that controls all WebLogic Server instances running on a single system or a virtual machine. The Node Manager can detect server failure and can restart the server almost instantaneously.

Figure 1-1 shows a typical WLS domain setup.

**Figure 1-1** Typical WLS domain setup




The agent is WebLogic cluster agnostic. In other words, this agent can provide high availability for stand-alone WebLogic Servers and can support Managed servers that participate in a WebLogic cluster.

# Agent functions

The agent consists of resource type declarations and agent executables. The agent executables are organized into online, offline, monitor, and clean functions.

## Online

The online function performs the following tasks:

- Performs a preliminary check to ensure that the WebLogic Server component is not already running.
- Checks the value of the ServerRole attribute set for the resource. If the value of the attribute is Managed, the online operation may delay the Managed server startup process till the Administrative server is initialized. For details, refer to description of attributes AdminServerMaxWait and RequireAdminServer.
- Starts the WebLogic Server component.
- Ensures that the component is up and running successfully. The operation uses the wait period that the OnlineTimeout attribute specifies, to enable the component to initialize fully before allowing the monitor operation to probe the newly running server instance.

  The online function starts the WebLogic Server component using the following mechanisms:

| | |
|---|---|
| Node Manager | Uses the wlst command `startNodeManager`. |

| | |
|---|---|
| Administrative server (NM) | Uses the wlst commands `nmConnect` and `nmStart`. |
| Managed server (NM) | Uses the wlst commands `nmConnect` and `nmStart`. |
| Administrative server (NNM) | Uses the script configured in ServerStartProgram attribute. |
| Managed server (NNM) | Uses the script configured in ServerStartProgram attribute. |

## Offline

The offline function performs the following tasks:

- Performs a preliminary check to ensure that the WebLogic Server component is not already offline.
- Stops the WebLogic Server component gracefully.
- Ensures that the resource is given enough time to go offline successfully. The operation uses a wait period that the OfflineTimeout attribute specifies, to allow the WebLogic Server component to complete the offline sequence before allowing further probing of the resource.
  The offline function stops the WebLogic Server component using the following mechanisms:

| | |
|---|---|
| Node Manager | Terminates the Node Manager process. |
| Administrative server (NM) | Uses the wlst commands `connect` and `shutdown`. |
| Managed server (NM) | Uses the wlst commands `connect` and `shutdown`. |
| Administrative server (NNM) | Uses the script configured in ServerStopProgram attribute. |
| Managed server (NNM) | Uses the script configured in ServerStopProgram attribute. |

## Monitor

The monitor function performs the following tasks:

- Conducts a first level check on the WLS component to ensure that the WLS component's process is running. The agent identifies the process for the WLS component by applying the pattern matching on command lines of processes running in the system. Review the pattern matching information.
- Depending on the settings that you make, the monitor function can conduct a second level check on the WebLogic Server component.
  The second level check uses the wlst.cmd scripting utility to attempt to connect to the WebLogic Server component.
- Depending upon the value of the MonitorProgram attribute, the monitor function can perform a customized check using a user-supplied monitoring utility.
  The following wlst commands can be used to connect to the WebLogic Server component:

| | |
|---|---|
| Node Manager | Uses the wlst command `nmConnect`. |
| Administrative server (NM) | Uses the wlst command `connect`. |
| Managed server (NM) | Uses the wlst command `connect`. |
| Administrative server (NNM) | Uses the wlst command `connect`. |
| Managed server (NNM) | Uses the wlst command `connect`. |

### Clean

The clean function performs the following tasks:

- Attempts to gracefully shut down the WebLogic Server component.
- For Administrative and Managed server Node Manager based configurations, the clean function attempts the wlst `nmKill` command.
- Identifies the process for the WLS component and kills it.

The default value of the CleanTimeout attribute is 60 seconds. As the clean function may execute two wlst.cmd operations, 60 seconds may be insufficient. You can set this attribute to 120 seconds or more.

## Resource configurations supported by the agent

The agent for WebLogic Server supports the following kinds of resource configurations:

| Node Manager | |
|---|---|
| Administrative server Node Manager based configuration (NM) | In this configuration, the agent directs the Node Manager to start the Administrative server. |
| Managed server Node Manager based configuration (NM) | In this configuration, the agent directs the Node Manager to start the Managed server.<br>The advantage of Node Manager based configurations for WebLogic servers is that the Node Manager is capable of detecting server failure using internal protocol and restarting it almost instantaneously. |
| Administrative server non-Node Manager based Configuration (NNM) | In this configuration, the agent uses custom or WebLogic provided scripts configured by the user in the ServerStartProgram and ServerStopProgram attributes to start and stop the Administrative server. |
| Managed server non-Node Manager Configuration (NNM) | In this configuration, the agent uses custom or WebLogic provided scripts configured by the user in the ServerStartProgram and ServerStopProgram attributes to start and stop the Managed server. |

The agent distinguishes between Node Manager and non-Node Manager based configurations based on whether the ServerStartProgram attribute is null or non-null. If the value is null, the agent assumes a Node Manager based configuration, otherwise it assumes a non-Node Manager based configuration.

Chapter 2

# Installing, upgrading, and removing the agent for WebLogic Server

This chapter includes the following topics:



## Before you install the agent for WebLogic Server

Ensure that you meet the following prerequisites before installing the agent for WebLogic Server:

- Install and configure Veritas Cluster Server.
- Remove any previous version of this agent.
  See "Removing the VCS agent for WebLogic Server" on page 18.

## Installing the VCS agent for WebLogic Server

Use the Product Installer to install the agent for WebLogic Server.

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**Note:** Ensure that you have uninstalled the previous version of this agent, if installed.

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**To install the VCS agent for WebLogic Server**

1. Log on to any node in the cluster.

   Ensure that the logged on user has the domain administrative privileges.

2. Download the complete agent pack tarball from FileConnect site:

   https://fileconnect.symantec.com/

   Alternatively,

   Download the individual agent tarball from the Symantec Veritas Operations Services (VOS) site:

   https://vos.symantec.com/home

3. Uncompress the file to a temporary location.

4. If you downloaded the complete Agent Pack tarball, navigate to the directory containing the package for the platform running in your environment.

| | |
|---|---|
| Windows 2003 | *cd1*\windows\w2k3\vcs\ application\weblogic_agent\ *vcs_version**version*_agent\pkgs |
| Windows 2003 (x64) | *cd1*\windows\w2k3x64\vcs\application\ weblogic_agent*vcs_version**version*_agent\ Pkgs |
| Windows 2003 (IA64) | *cd1*\windows\w2k3IA64\vcs\application\ weblogic_agent*vcs_version**version*_agent\Pkgs |
| Windows 2008 | *cd1*\windows\w2k8\application\ weblogic_agent*vcs_version**version*_agent\ Pkgs |
| Windows 2008 (x64) | *cd1*\windows\w2k8X64\application\ weblogic_agent*vcs_version**version*_agent\ Pkgs |

5. Double-click **vrtsvcsweblogic.msi.**

   Follow the instructions that the install program provides, to complete the installation of Veritas Cluster Server agent for WebLogic Server.

# Removing the VCS agent for WebLogic Server

Perform the following procedure to uninstall the agent for WebLogic Server from a cluster. Perform these steps while the cluster is active.

**To uninstall the VCS agent for WebLogic Server**

1. Ensure that all clustered VCS resources are offline.
2. From the cluster, remove all the resources that use the agent for WebLogic Server.
3. Perform the following steps on each node from which you want to uninstall the agent. Ensure that you have a user with administrative privileges.
   - Click **Start > Settings > Control Panel**.
   - - On Windows 2003: Navigate to **Add/Remove Programs**
     - On Windows 2008 : Navigate to **Programs and Features**
     - On Windows 2008R2 : Navigate to **Programs<Programs and Features**
   - From the list of programs, select **Veritas Cluster Server 5.1 Agent for WebLogic Server**.
4. Click **Change/Remove**.
5. Follow the instructions that the uninstall program provides, to complete the uninstallation of the agents for WebLogic Server.

# Upgrading the agent for WebLogic Server

Perform the following steps to upgrade the agent with minimal disruption, in a VCS environment.

**To upgrade the agent in a VCS environment**

1. Login as domain administrator.
2. Verify that your path is *drive*:\Program Files\Veritas\Cluster Server\bin
3. Persistently freeze all the service groups that host the application.

   C:\> hagrp –freeze *GroupName* -persistent
4. Stop the cluster services forcibly.

   C:\> hastop -all –force
5. Ensure that the agent operations are stopped on all the nodes.
6. Take a back up of the main.cf and types.cf

   ```
   C:\> copy drive:\> Program Files\Veritas\Cluster
   Server\conf\config\main.cf drive:\>backup\main.cf
   ```

   ```
   C:\> copy drive:\> Program Files\Veritas\Cluster
   Server\conf\config\types.cf drive:\>backup\types.cf
   ```

7 Uninstall the agent package from all the nodes.

See "Removing the VCS agent for WebLogic Server" on page 18.

8 Install the new agent on all the nodes.

See "Installing the VCS agent for WebLogic Server" on page 17.

9 Navigate to *drive*:\> Program Files\Veritas\Cluster Server\conf\config\types.cf file and verify if any duplicate type definitions exists for Weblogic on all the nodes.

If duplicate type definitions exist, remove old type definition from types.cf file and save the file.

---

**Note:** To identify the old type definition, compare the new type definition file with the old (backed up) types.cf file.

---

10 Check for the changes in the resource values required, if any, due to the new agent types definition.

---

**Note:** To note the list of changed attributes, compare the new type definition file with the old type definition file.

---

11 Start VCS on all nodes in the cluster.

```
C:\> hastart
```

12 Start the agent on all nodes, if not started.

```
C:\> haagent -start WebLogic -sys SystemName
```

13 Unfreeze the service groups once all the resources come to an online steady state.

```
C:\> hagrp -unfreeze GroupName -persistent
```

Chapter 3

# Configuring the agent for WebLogic Server

This chapter includes the following topics:



## About configuring the agent for WebLogic Server

After installing the agent for WebLogic Server, you can create and configure a WebLogic Server resource. Before you configure a resource, review the attributes table that describes the WebLogic Server resource type and its attributes.

To review the sample agent type definition file and service group, refer to the Sample Configurations chapter.

The logging information generated by the agent can be seen in the agent log file, in the Cluster Manager Java console and in the temporary log files generated by the agent when it invokes external scripts. For more details, refer to the following sections:


See "Inspecting agent logs" on page 39.

See "Inspecting temporary log files generated by agent" on page 40.


For

To provide high availability for WebLogic components in a WLS domain in a environment, you must first configure the resources.

# Agent attributes for WebLogic Server

Table 3-1 describes the WebLogic Server agent attributes.

**Table 3-1** Attributes

| Attribute | Description |
|---|---|
| BEA_HOME | The absolute path to the BEA Home directory of WebLogic installation. The value is used to uniquely identify the ServerRole processes.<br>Type and dimension: string-scalar<br>Default: No default value.<br>Example: c:\bea |
| AdminURL | The URL of the WebLogic Administrative server. The value of this attribute is used to determine if the Administrative server for the domain is fully online when the ServerRole attribute is Managed and the value of RequireAdminServer and AdminServerMaxWait attributes are set appropriately. Managed WebLogic servers use this URL to establish a connection to the Administrative server to download their configuration. This attribute is only required for a resource whose ServerRole attribute is Managed. If the ServerRole attribute is NodeManager or Administrative, no value should be specified.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: http://wls90host:7001 |
| DomainName | The name of the WebLogic domain to which the WebLogic server belongs. The attribute is required to connect to the Node Manager using WebLogic utility wlst.cmd, which requires the DomainName and DomainDir attributes to start the Administrative and Managed servers.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: `WLS90Domain` |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| DomainDir | The domain directory for the WebLogic domain to which the WebLogic server belongs. The attribute is required to connect to the Node Manager using WebLogic utility wlst.cmd, which requires the DomainName and DomainDir attributes to start the Administrative and Managed servers. For Non Node Managed based configuration, this attribute is only required to distinguish the Multiple Servers with same Server Name (Refer to "Managing weblogic server with identical names").<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: c:/bea/user_projects/domains/WLS90Domain |
| ListenAddressPort | The hostname and port of the WebLogic server. The format is hostname:port.<br>Ensure that the ListenAddress string resolves to the proper IP Address, using the network name service that you used on the host. The WebLogic Server connects to the ListenAddress on the specified port through the wlst.sh API. Specify this attribute for Administrative and Managed Servers only.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: `wls90host:7001` |
| nmListenAddressPort | The hostname and port of the WebLogic Node Manager. The format is hostname:port.<br>The agent for WebLogic Server uses the ListenAddress on the specified port to connect through the wlst.sh API.<br>Type and dimension: string-scalar<br>Example: `wls90host:5556`<br>Default: No default value |
| nmType | The WebLogic Node Manager type. This type is used while connecting to the Node Manager through the wlst.cmd script.<br>Valid values include the following:<br>■ plain: plain socket Java-based implementation<br>■ rsh: RSH implementation<br>■ ssh: script-based SSH implementation<br>■ ssl: Java-based SSL implementation<br>Type and dimension: string-scalar<br>Default: ssl<br>Example: `ssl` |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| ResLogLevel | Specifies the logging detail performed by the agent for the resource. Valid values include the following:<br>INFO - Logs error/informational messages and trace messages when error occurs.<br>TRACE - Logs trace messages. The Trace messages are stored in the agent log when the agent monitor function completes.<br>To see trace messages while the agent monitor function is executing, add value DBG_20 to LogDbg attribute of WebLogic resource type.<br>Type and dimension: string-scalar<br>Example: `TRACE`<br>Default: INFO |
| ServerName | The name of the WebLogic Server.<br>You must specify this attribute for Administrative and Managed Servers only.<br>See "Managing WebLogic servers with identical names" on page 33.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: AdminServer |
| WLSUser | The username used for connecting WLST to the Application Server or Node Manager.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: `weblogic` |
| WL_HOME | Absolute path to the Product Installation Directory of WebLogic installation. The value is used to locate wlst.cmd utility and Node Manager Home directory.<br>Type and dimension: string-scalar<br>Default: No default value.<br>Example: c:\bea\weblogic |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| ServerRole | Type of WLS component. Must be either Administrative, Managed, or NodeManager.<br>Type of WebLogic Server valid values are:<br>■ NodeManager: Online operation executes wlst.sh script with startNodeManager() API.<br>Example: startNodeManager(verbose='true',NodeManagerHome='C:\Oracle\Middleware\wlserver_10.3\common\nodemanager',ListenPort='5556',ListenAddress='wls90adminsol')<br>■ Administrative: Online operation executes wlst.sh script with nmConnect() and nmStart() API.<br>Example: nmStart (‘AdminServer1’)<br>■ Managed: Online operation executes wlst.sh script with nmConnect() and nmStart() API.<br>Example: nmStart (‘ManagedServer1’)<br>Type and dimension: string-scalar<br>Default: Administrative<br>Example: Managed |
| WLSPassword | Password used for connecting WLST to Application Server or Node Manager.Use the vcsencrypt -agent command to encrypt the password. If you are using the VCS GUI, the GUI automatically encrypts the password.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example: HTIvKTlTNnINjNKnL |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| AdminServerMaxWait | Specifies the maximum number of seconds that a Managed server's online entry point waits for the domain's Administrative server to respond to a test probe.<br><br>While this attribute is not required to successfully start, WebLogic Managed servers typically initiate a connection to the Administrative server for downloading updated configuration information. In cases in which the administrator is starting all the WebLogic servers within the cluster at the same time, it would be advantageous for each Managed server to delay the start until the Administrative server has fully initialized. The AdminServerMaxWait attribute provides a way for the administrator to orchestrate such a delay. The online agent function uses the AdminServerMaxWait value to control a repeating cycle of probe, wait, probe, and wait until it successfully detects the presence of the Administrative server. After it detects the server, it then proceeds with the Managed server startup. If the online agent function finds that the Administrative server is not available before the wait time expires, it generates a log warning message and proceeds with server startup. Set the RequireAdminServer attribute to 1 (True) to force the online agent function to wait for a successful Administrative server response until entire duration of online agent function. If this attribute is set to True, the online agent function ignores the value of the AdminServerMaxWait time limit.<br><br>Type and dimension: integer-scalar<br><br>Default: 60<br><br>Example: 90 |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| MonitorProgram | Contains the full path name and command-line arguments for an externally provided monitor program. The monitor entry point will execute this program to perform a user defined WebLogic resource state check.<br>The monitor entry point executes the MonitorProgram under the following conditions:<br>■ The monitor entry point's first-level process check indicates the WebLogic resource is online<br>■ The SecondLevelMonitor is set to 0 (False) or SecondLevelMonitor is set to 1 (True) and the second-level check indicates that the WebLogic resource is online.<br>This program is not supplied with the Veritas agent for WebLogic and is externally developed by the end user to satisfy unique requirements.<br>The exit code of the program is interpreted by the monitor entry point as follows:<br>■ 110 or 0:The WebLogic resource state is ONLINE.<br>■ 100 or 1: The WebLogic resource state is OFFLINE.<br>■ 99: The WebLogic resource state is UNKNOWN.<br>■ Other: The WebLogic resource state is UNKNOWN.<br>Symantec recommends storing the external monitor program on the shared storage device, in the directory specified by the BEA_HOME attribute, to ensure that the file is always available on the ONLINE system.<br>Type and dimension: string-scalar<br>Default No default value<br>Example: c:\bea\monitor.cmd |
| RequireAdminServer | Set the RequireAdminServer attribute to 1 (True) to force the online entry point to wait for a successful Administrative server response until entire duration of Online entry point. If this attribute is set to True, the online entry point ignores the value of the AdminServerMaxWait time limit.<br>Type and dimension: boolean-scalar<br>Default: 0 (False)<br>Example: 1 (True) |

**Table 3-1** Attributes *(continued)*

| Attribute | Description |
|---|---|
| SecondLevelMonitor | Used to enable second-level monitoring and specify how often it is run. Second-level monitoring is a deeper, more thorough state check of the configured WebLogic resource. The numeric value specifies how often the second-level monitoring routines are run.<br>Examples are as follows:<br>■ Zero (0) means never run the second-level monitoring routines.<br>■ One (1) would mean to run it every monitor interval.<br>■ Two (2) means to run the second-level monitoring routines every second monitor interval, and so on.<br>The agent uses the BEA supplied WebLogic Scripting Tool wlst.cmd command to perform second-level monitoring using its commands `connect()`, `nmConnect()` depending upon the ServerRole. Care should be taken when setting this attribute to large numbers.<br>For example, if the MonitorInterval is set to 60 seconds, and the SecondLevelMonitor is set to 100, then the wlst.cmd command would only get executed every 100 minutes, which may not be as often as intended. To provide maximum flexibility, the value set is not checked for an upper limit. Thus, you could cause the wlst.cmd command to run once a month, if that is what is desired.<br>Type and dimension: integer-scalar<br>Default: 0<br>Example: 1 |
| ServerStartProgram | The full command line for the script used to start the WebLogic server.<br>Type and dimension: string-scalar<br>Default: No default value<br>Example:<br>c:/bea/user_projects/domains/WLS90Domain/bin/startManagedWebLogic.cmd ManagedServer01 t3://wls90host:7001 |
| ServerStopProgram | The full command line for the script used to stop the WebLogic server.<br>Type and dimension: string-scalar<br>Default Value: No default value<br>Example:<br>c:/bea/user_projects/domains/WLS90Domain/bin/stopManagedWebLogic.cmd ManagedServer01 t3://wls90host:7002 |

# Attributes used in different resource configurations

For each resource configuration, some attributes may be used by the agent and others may not be used. Use the following tables to figure out which attributes must be configured for your resource depending on the required configuration for your resource. In these tables, the following conventions hold true:

- SLM stands for SecondLevelMonitor attribute.
- "Yes" implies that attribute is mandatory for the given configuration.
- "Opt" implies that configuring the attribute is optional for the given configuration.
- "-" implies that the attribute is not used by the agent for the given configuration.

Table 3-2 shows the attributes used by Node Manager based configurations.

**Table 3-2** Attributes used by Node Manager based configurations

| Resource Configuration/Attributes | Node Manager (SLM=0) | Node Manager (SLM>0) | Administrative Server (NM) | Managed Server (NM) |
|---|---|---|---|---|
| ResLogLevel | Yes | Yes | Yes | Yes |
| AdminURL | - | - | - | Yes |
| BEA_HOME | Yes | Yes | Yes | Yes |
| WL_HOME | Yes | Yes | Yes | Yes |
| DomainName | - | Yes | Yes | Yes |
| DomainDir | - | Yes | Yes | Yes |
| ListenAddressPort | - | - | Yes | Yes |
| MonitorProgram | Opt | Opt | Opt | Opt |
| nmListenAddressPort | Yes | Yes | Yes | Yes |
| nmType | Yes | Yes | Yes | Yes |
| ServerName | | - | Yes | Yes |
| ServerRole | Yes | Yes | Yes | Yes |
| WLSUser | - | Yes | Yes | Yes |

**Table 3-2** Attributes used by Node Manager based configurations *(continued)*

| Resource Configuration/Attributes | Node Manager (SLM=0) | Node Manager (SLM>0) | Administrative Server (NM) | Managed Server (NM) |
|---|---|---|---|---|
| WLSPassword | - | Yes | Yes | Yes |
| RequireAdminServer | - | - | - | Yes |
| AdminServerMaxWait | - | - | - | Yes |
| SecondLevelMonitor | Yes | Yes | Yes | Yes |
| ServerStartProgram | - | - | - | - |
| ServerStopProgram | - | - | - | - |

Table 3-3 shows the attributes used by non-Node Manager based configurations.

**Table 3-3** Attributes used by non-Node Manager based configurations

| Resource Configuration/Attributes | Managed Server (NNM) (SLM=0) | Managed Server (NNM) (SLM>0) | Administrative Server (NNM) (SLM=0) | Administrative Server (NNM) (SLM>0) |
|---|---|---|---|---|
| ResLogLevel | Yes | Yes | Yes | Yes |
| AdminURL | Yes | Yes | - | - |
| BEA_HOME | Yes | Yes | Yes | Yes |
| WL_HOME | - | Yes | - | Yes |
| DomainName | - | - | - | - |
| DomainDir | Opt | Opt | Opt | Opt |
| ListenAddressPort | - | Yes | - | Yes |
| MonitorProgram | Opt | Opt | Opt | Opt |
| nmListenAddressPort | - | - | - | - |
| nmType | - | - | - | - |
| ServerName | Yes | Yes | Yes | Yes |
| ServerRole | Yes | Yes | Yes | Yes |

**Table 3-3** Attributes used by non-Node Manager based configurations *(continued)*

| Resource Configuration/Attributes | Managed Server (NNM) (SLM=0) | Managed Server (NNM) (SLM>0) | Administrative Server (NNM) (SLM=0) | Administrative Server (NNM) (SLM>0) |
|---|---|---|---|---|
| WLSUser | - | Yes | - | Yes |
| WLSPassword | - | Yes | - | Yes |
| RequireAdminServer | Yes | Yes | - | - |
| AdminServerMaxWait | Yes | Yes | - | - |
| SecondLevelMonitor | Yes | Yes | Yes | Yes |
| ServerStartProgram | Yes | Yes | Yes | Yes |
| ServerStopProgram | Yes | Yes | Yes | Yes |

The following list shows the kind of resource configuration and the corresponding sample configuration:

- Node Manager with SLM enabled.
- Administrative server (NM) without SLM enabled.
- Administrative server (NM) with SLM enabled.
- Managed server (NM) without SLM enabled.
- Managed server (NM) with SLM enabled.
- Managed server (NNM) without SLM enabled.
- Managed server (NNM) with SLM enabled.
- Administrative server (NNM) without SLM enabled.
- Administrative server (NNM) with SLM enabled.

You can use these sample configurations as reference while configuring your resource.

# Using WebLogic provided scripts

WebLogic built-in scripts can be used in non-Node Manager based configurations as values of ServerStartProgram and ServerStopProgram attributes. When you create a domain using the config.cmd utility, WebLogic generates some scripts.

You can use the following scripts to start or stop WebLogic Server instances present in the WebLogic domain:

- To start an Administrative server instance

  *DomainDir*\bin\startWebLogic.cmd

- To stop an Administrative server instance

  *DomainDir*\bin\stopManagedWebLogic.cmd

Using `stopWebLogic.cmd` to stop a Administrative server forces you to specify the user name and password in plain-text as command line parameters or as environment variables. Hence, the user can use stopManagedWebLogic.cmd to stop an Administrative server instance.

You can use the following scripts to start or stop a Managed server instance:

- To start a Managed server instance

  *DomainDir*\bin\startManagedWebLogic.cmd

- To stop a Managed server instance

  *DomainDir*\bin\stopManagedWebLogic.cmd

Using the script `stopManagedWebLogic.cmd` to stop a Managed server with the admin_url argument causes the shutdown operation to fail when the Administrative server is unavailable. To overcome this, the user can use the `stopManagedWebLogic.cmd` with the Managed server's url as argument in place of the admin_url. Passing the Managed server's url as argument causes the script to execute WLST command `connect()` to the Managed server's URL and execute the WLST `shutdown()` command subsequently. Hence the script succeeds in shutting down the Managed server even when the Administrative server is unavailable.

## Editing the WebLogic stop script

A configured resource for a WebLogic Server can use a WebLogic supplied stop script to go offline by specifying it in the ServerStopProgram attribute.

You may encounter an issue with the WebLogic supplied stop scripts, *DomainDir*/bin/stopWebLogic.cmd and *DomainDir*/bin/stopManagedWebLogic.cmd.

These stop scripts send commands to the `wlst.cmd` utility. These commands are written into a temporary file, shutdown.py.

An issue may occur if you have configured two or more resources for servers belonging to the same WebLogic domain. When you attempt to bring these resources offline at the same time, all the stop scripts attempt to write the wlst commands into the same shutdown.py file. This attempt may create race conditions and some of the stop scripts may fail to complete execution.

**To resolve the race condition issue**

1. Create a copy of the *DomainDir*`/bin/stopWebLogic.cmd` file.
2. Rename the copy as *DomainDir*`/bin/stopWebLogic_old.cmd`.
3. In the `stopWebLogic.cmd` file, ensure that the wlst commands are sent directly to the stdin of the wlst.cmd utility, instead of being written into a temporary file.

   For example, replace these lines:

```
echo connect^(%userID% %password%
url='%ADMIN_URL%',adminServerName='%SERVER_NAME%'^)
>"shutdown.py" echo
shutdown^('%SERVER_NAME%','Server'^) >>"shutdown.py"
echo exit^(^) >>"shutdown.py" echo Stopping Weblogic
Server...%JAVA_HOME%\bin\java %JAVA_OPTIONS%
weblogic.WLST shutdown.py 2>&1
```

   with the following lines:

```
echo Stopping Weblogic Server...echo connect^(%userID%
%password%
url='%ADMIN_URL%',adminServerName='%SERVER_NAME%'^);s
hutdown^(' %SERVER_NAME%','Server'^) ;exit^(^) |
%JAVA_HOME%\bin\java %JAVA_OPTIONS% weblogic.WLST
```

# Managing WebLogic servers with identical names

In a non-Node Manager based configuration, if two Administrative servers having identical names and belonging to different domains, are running on the same system, the agent monitor may yield multiple results while matching the pattern on process command lines.

To avoid any discrepancy, follow these steps for the WebLogic servers.

**To manage WebLogic servers with identical names**

1. For an Administrative server instance, make a copy of the startWebLogic.cmd file. Rename the copy as startWebLogic_new.cmd.
2. In the startWebLogic_new.cmd file, add this line:

```
set JAVA_OPTIONS=
-Dweblogic.system.BootIdentityFile=%LONG_DOMAIN_HOME%\servers\
%SERVER_NAME%\security\boot.properties %JAVA_OPTIONS%
```

3. Specify the startWebLogic_new.cmd file in the ServerStartProgram attribute for the weblogic resource.
4. Set the value for DomainDir attribute for the weblogic resource. These steps ensure that *DomainDir* appears in the command line for the Administrative server process. Hence, the Administrative server process is uniquely identified, even if another WebLogic Server instance with the same name is running in the system.

# Avoiding storing unencrypted credentials in startup/shutdown scripts

Whenever you configure a weblogic resource that uses WebLogic provided scripts to start and stop the WebLogic server it is recommended to have the boot identity files to avoid storing unencrypted credentials in startup/shutdown scripts. The boot identity file boot.properties should be created for the WebLogic server and placed in the security directory of the server.

For example,

```
c:\bea\wls90\admin\user_projects\domains\WLS90Domain\servers\
ManagedServer01\security
```

For details, refer to

http://edocs.bea.com/wls/docs90/server_start/overview.html#1068976

---

**Note:** If you do not have the boot.properties file, and have not provided the username/password to start/stop scripts, the start and stop scripts will prompt you for a username and password. If the cluster invokes the start or stop operation, this prompt causes the operation to fail.

---

Chapter 4

# Configuring the service groups for WebLogic Server

This chapter includes the following topics:



## About configuring a service group for the agent for WebLogic Server

To provide high availability for WebLogic Server components in the environment, you must first configure the resources of type Process.

## Configuring WebLogic Server for high availability using VCS

Do the following steps to make WebLogic Server components, which are part of a domain, highly available using VCS.

**To configure a WebLogic Server for high availability using VCS**

1. Create and configure a VCS Service Group that consists of a Lanman, an IP address, a mount point directory, and disk group resources. Refer to the cluster documentation for details about a Service Group.
2. Bring the Service Group online.

3 Install WebLogic Server software. Ensure that you select the mount directory that you created in step 1 as the BEA home directory. While creating the domain using the config.cmd utility, ensure that you configure the WebLogic servers to listen on the virtual address of the Lanman resource.

4 Configure individual weblogic resources for each of the components you want VCS to manage in the service group.

5 Attempt to do the following:

- Online the Service Group.
- Offline the Service Group.
- Switchover the Service Group to remaining systems that are part of the Service groups SystemList attribute.

Chapter 5

# Troubleshooting the agent for WebLogic Server

This chapter includes the following topics:



## Using correct software and operating system versions

Ensure that no issues arise due to incorrect software and operating system versions. For the correct versions of operating system and software to be installed on the resource systems:

See "Supported software" on page 12.

## Problems starting a Managed server through the Administrative console

You may encounter problems while starting a Managed server through the Administrative console. When you start a Managed server through the console, the Administrative server sends a request to the Node Manager to start the Managed server. The Administrative server sends this request using SSL communication.

If the Node Manager is running on a virtual host, this communication may fail. This failure may occur because the Node Manager uses default SSL certificates that contain the real host name of the physical node on which the Node Manager is running. The URL used for connecting to the Node Manager contains the virtual host name of the Node Manager, which is different from the physical host name of the node. The Administrative server rejects the communication because of this mismatch.

To overcome this mismatch, you can perform one of the following tasks:

- Generate new SSL certificates
  You can generate new SSL certificates that contain the virtual host name of the Node Manager. Then, configure the Node Manager to use the new SSL certificates.

  For more details about creating SSL certificates, refer to the following links:

  - http://e-docs.bea.com/wls/docs90/secmanage/ssl.html
  - http://edocs.bea.com/wls/docs90/server_start/nodemgr.html
  - http://e-docs.bea.com/wls/docs90/secmanage/identity_trust.html

  BEA Systems recommends generating new SSL certificates using reliable certification authorities as best security practice. Otherwise, you can generate certificates and keystores which use virtual hostname, using the tools, CertGen and ImportPrivateKey that WebLogic provides.
- Disable the host name verification function
  You can disable the host name verification function in the Administrative server properties. For details about disabling the function, refer to the following link:
  http://e-docs.bea.com/wls/docs90/ConsoleHelp/taskhelp/security/DisableHostNameVerification.html.

# Unable to bring two or more VCS resources offline simultaneously

This error may occur if you have configured two or more VCS resources for servers belonging to the same WebLogic domain and VCS attempts to bring these resources offline simultaneously.

See “Editing the WebLogic stop script” on page 32.

# Unable to bring two or more resources offline simultaneously

This error may occur if you have configured two or more resources for servers belonging to the same WebLogic domain and attempts to bring these resources offline simultaneously.

See "Editing the WebLogic stop script" on page 32.

# Reviewing log files

If the configured VCS or resource is not working properly, you can review the log files to diagnose the problem.

## Using VCS log files

In case of problems while using the agent for WebLogic Server, you can access the VCS engine log file for more information about the particular resource.

The VCS engine log file is in the following location:

`c:\program files\veritas\cluster server\log\engine_A.txt`.

For a VCS Process resource, you can view the following Process agent log file:
`c:\program files\veritas\cluster server\log\Process_A.txt`.

## Using log files

In case of problems while using the agent for WebLogic Server, you can access the client log file for more information about the particular resource.

The client log file is present in c:\program files\veritas\cluster server\log\haclient_A.txt.

## Inspecting agent logs

The agent log file is present in c:\program files\veritas\cluster server\log\weblogic_A.txt file.

Error and informational messages logged by the agent can be seen in the cluster manager java console Agent logs under weblogic resource type.

## Inspecting temporary log files generated by agent

The agent logs output of scripts run by it in %Windir%/temp/VRTSweblogic in files of the form *resourcename.entrypointname*.out.

Example

```
c:\windows\temp\VRTSweblogic\wls90sg_adminserver_weblogic.online.
out
```

## Using WebLogic Server components' log files

If a WebLogic Server is facing problems, you can view the server log files to further diagnose the problem.

The logs for WebLogic Server are located in the following directories:

| | |
|---|---|
| Administrative and Managed servers | Path<br><DomainDir>\servers\<ServerName>\logs<br>Example<br>`c:\bea\wls90\admin\user_projects\domains\WLS90Domain\servers\managedserver01\logs` |
| Node Manager | Path<br><WL_HOME>\common\nodemanager<br>Directory<br>`c:\bea\wls90\admin\weblogic0\common\nodemanager` |

Appendix A

# Sample Configurations

This appendix includes the following topics:



## About the sample configuration for the agent for WebLogic Server

The sample configuration depicts the resource types, resources, and resource dependencies within the Service Group. Review these dependencies carefully before configuring the agent for WebLogic Server. For more information about these resource types, see the *Veritas Cluster Server Bundled Agents Reference Guide*.

## Sample agent type definition for WebLogic server

Examples of agent type definition files are:

```
type WebLogic (
static keylist LogDbg = { DBG_21 }
static i18nstr ArgList[] = { ResLogLevel, State, IState,
AdminURL, BEA_HOME, WL_HOME, DomainName, DomainDir,
ListenAddressPort, MonitorProgram, nmListenAddressPort, nmType,
```

```
ServerName, ServerRole, WLSUser, WLSPassword, RequireAdminServer,
AdminServerMaxWait, SecondLevelMonitor, ServerStartProgram,
ServerStopProgram }
str ResLogLevel = INFO
str AdminURL
str BEA_HOME
str WL_HOME
str DomainName
str DomainDir
str ListenAddressPort
str MonitorProgram
str nmListenAddressPort
str nmType = ssl
str ServerName
str ServerRole
str WLSUser
str WLSPassword
boolean RequireAdminServer = 0
int AdminServerMaxWait = 60
int SecondLevelMonitor
str ServerStartProgram
str ServerStopProgram
)
```

# Sample service group configuration for WebLogic Server

A WebLogic Server resource consists of the following:

Disk Group: Veritas Volume Manager disk group contains information required by the DiskGroup agent to import and export the shared disk object used in support of a clustered WebLogic Server instance. While the use of shared disk is not required to cluster an instance of WebLogic Server, Symantec recommends the use of a shared volume to eliminate the requirement to synchronize local copies of the WebLogic Server binaries and configuration files on each node in a multi-node cluster.

Mount: This resource mounts, monitors, and unmounts the file system that is dedicated to the WebLogic Server installation and configuration files. Use the resource type Mount to create this resource.

Network Interface: This resource monitors the network interface card through which the WebLogic Server communicates with other services.

Virtual IP: This resource configures the virtual IP address dedicated to the WebLogic Server. External services, programs, and clients use this address to communicate with this WebLogic Server instance.

WebLogic Server: This resource starts, stops, and monitors the WebLogic Server instance. Use the WebLogic Server resource type to create this resource.

Figure A-1 shows an example of a single service group with an Administrative Server.

**Figure A-1** Service group configuration with Administrative server

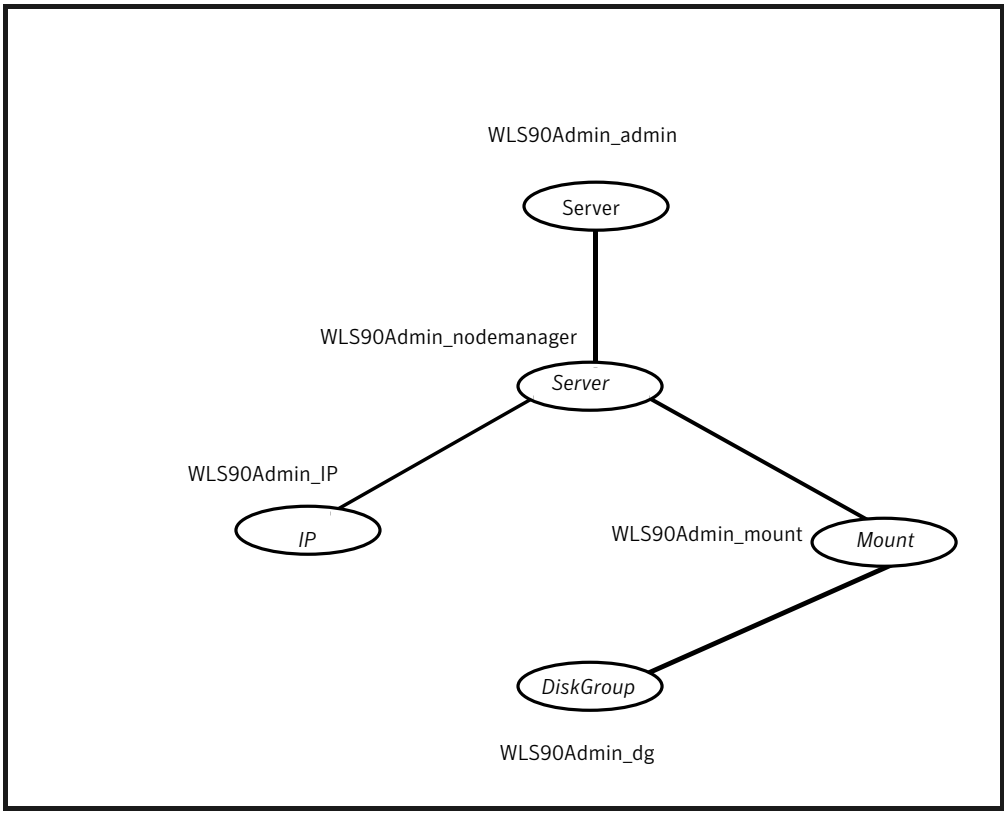
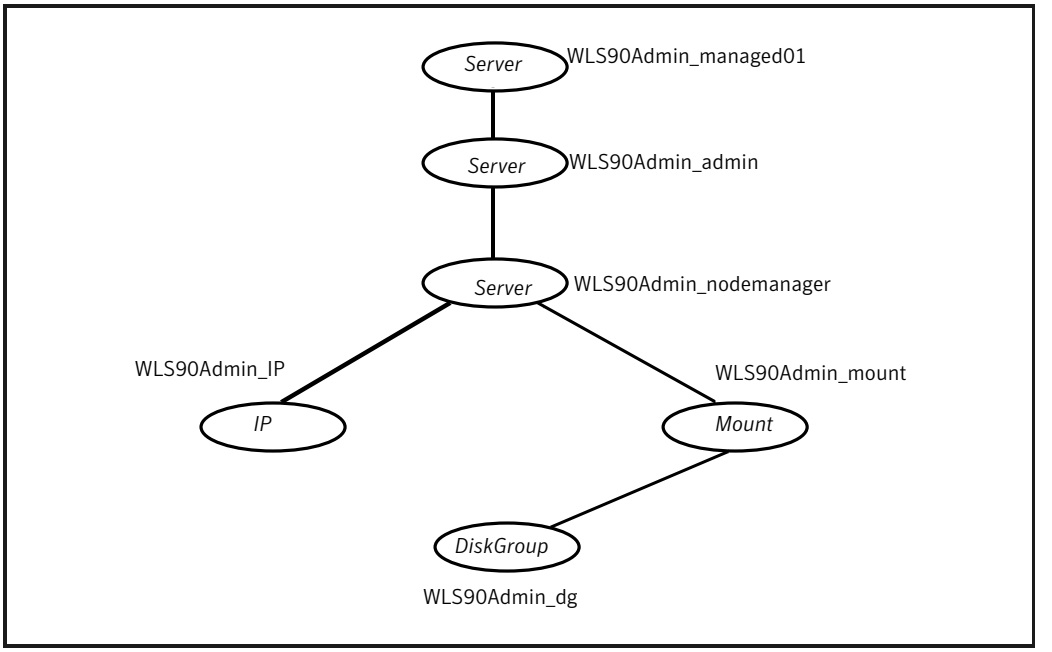



Figure A-2 shows a service group with Administrative and Managed Servers.

**Figure A-2** Service group configuration with Administrative and Managed servers




# Sample resource configurations for WebLogic Server

The sample resource configurations for WebLogic Server are shown in the following sections.

## Node Manager without SLM enabled

Table A-1 depicts a typical configuration for Node Manager with second level monitoring (SLM) not enabled.

**Table A-1** Node Manager without SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | |
| BEA_HOME | C:\Oracle\Middleware |

**Table A-1** Node Manager without SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |
| DomainName | |
| ListenAddressPort | |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin1:5556 |
| nmType | ssl |
| ServerName | |
| ServerRole | NodeManager |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 0 |

## Node Manager with SLM enabled

Table A-2 depicts a typical configuration for Node Manager with second level monitoring (SLM) enabled.

**Table A-2** Node Manager with SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |

**Table A-2** Node Manager with SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain1 |
| DomainDir | C:\Oracle\Middleware\user_projects\domains\wls_domain1 |
| ListenAddressPort | |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin1:5556 |
| nmType | ssl |
| ServerName | |
| ServerRole | NodeManager |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 1 |

## Administrative Server (NM) without SLM enabled

Table A-3 depicts a typical configuration for Administrative server (NM) with second level monitoring (SLM) not enabled.

**Table A-3** Administrative Server (NM) without SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |

**Table A-3** Administrative Server (NM) without SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain |
| DomainDir | C:\Oracle\Middleware\user_projects\domains\wls_domain |
| ListenAddressPort | wlsadmin:7011 |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin:5556 |
| nmType | ssl |
| ServerName | AdminServer |
| ServerRole | Administrative |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 0 |

## Administrative Server (NM) with SLM enabled

Table A-4 depicts a typical configuration for Administrative Server (NM) with the second level monitoring (SLM) enabled.

**Table A-4** Administrative Server (NM) with SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |

**Table A-4** Administrative Server (NM) with SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain |
| DomainDir | C:\Oracle\Middleware\user_projects\domains\wls_domain |
| ListenAddressPort | wlsadmin:7011 |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin:5556 |
| nmType | ssl |
| ServerName | AdminServer |
| ServerRole | Administrative |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 3 |

## Managed Server (NM) without SLM enabled

Table A-5 depicts a typical configuration for Managed Server (NM) with second level monitoring (SLM) not enabled.

**Table A-5** Managed Server (NM) without SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | http://wlsadmin:7011 |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |

**Table A-5** Managed Server (NM) without SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain |
| DomainDir | C:\Oracle\Middleware\user_projects\domains\wls_domain |
| ListenAddressPort | wlsadmin:7012 |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin:5556 |
| nmType | ssl |
| ServerName | ManagedServer01 |
| ServerRole | Managed |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 15 |
| SecondLevelMonitor | 0 |

## Managed Server (NM) with SLM enabled

Table A-6 depicts a typical configuration for Managed Server (NM) with second level monitoring (SLM) enabled.

**Table A-6** Managed Server (NM) with SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | http://wlsadmin:7011 |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |

**Table A-6** Managed Server (NM) with SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain |
| DomainDir | C:\Oracle\Middleware\user_projects\domains\wls_domain |
| ListenAddressPort | wlsadmin:7012 |
| MonitorProgram | |
| nmListenAddressPort | wlsadmin:5556 |
| nmType | ssl |
| ServerName | ManagedServer01 |
| ServerRole | Managed |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | |
| ServerStopProgram | |
| RequireAdminServer | false |
| AdminServerMaxWait | 15 |
| SecondLevelMonitor | 1 |

## Managed Server (NNM) without SLM enabled

Table A-7 depicts a typical configuration for Managed Server (NNM) with the second level monitoring (SLM) not enabled.

**Table A-7** Managed Server (NNM) without SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | t3://wlsadmin:7001 |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | |

**Table A-7** Managed Server (NNM) without SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| DomainName | wls_domain |
| DomainDir | |
| ListenAddressPort | |
| MonitorProgram | |
| nmListenAddressPort | |
| nmType | ssl |
| ServerName | ManagedServer01 |
| ServerRole | Managed |
| WLSUser | |
| WLSPassword | |
| ServerStartProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\ startManagedWebLogic.cmd ManagedServer01 t3://wlsadmin:7001 |
| ServerStopProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\ stopManagedWebLogic.cmd ManagedServer01 t3://wlsadmin:7001 |
| RequireAdminServer | false |
| AdminServerMaxWait | 15 |
| SecondLevelMonitor | 0 |

## Managed Server (NNM) with SLM enabled

Table A-8 depicts a typical configuration for Managed server (NNM) with second level monitoring (SLM) enabled.

**Table A-8** Managed Server (NNM) with SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | t3://wlsadmin:7001 |
| BEA_HOME | C:\Oracle\Middleware |

**Table A-8** Managed Server (NNM) with SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| WL_HOME | |
| DomainName | wls_domain |
| DomainDir | |
| ListenAddressPort | wlsadmin:7011 |
| MonitorProgram | |
| nmListenAddressPort | |
| nmType | ssl |
| ServerName | ManagedServer01 |
| ServerRole | Managed |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\ startManagedWebLogic.cmd ManagedServer01 t3://wlsadmin:7001 |
| ServerStopProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\ stopManagedWebLogic.cmd ManagedServer01 t3://wlsadmin:7001 |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 1 |

## Administrative Server (NNM) without SLM enabled

Table A-9 depicts a typical configuration for Administrative server (NNM) with second level monitoring (SLM) not enabled.

**Table A-9** Administrative Server (NNM) without SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |
| AdminURL | |

**Table A-9** Administrative Server (NNM) without SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | |
| DomainName | wls_domain |
| DomainDir | |
| ListenAddressPort | wls90admsol:7011 |
| MonitorProgram | |
| nmListenAddressPort | |
| nmType | ssl |
| ServerName | AdminServer |
| ServerRole | Administrative |
| WLSUser | |
| WLSPassword | |
| ServerStartProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\startWebLogic.cmd |
| ServerStopProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\startWebLogic.cmd |
| RequireAdminServer | false |
| AdminServerMaxWait | 60 |
| SecondLevelMonitor | 0 |

## Administrative Server (NNM) with SLM enabled

Table A-10 depicts a typical configuration for Administrative Server (NNM) with the second level monitoring (SLM) enabled.

**Table A-10** Administrative Server (NNM) with SLM enabled

| Attribute | Value |
|---|---|
| ResLogLevel | INFO |

**Table A-10** Administrative Server (NNM) with SLM enabled *(continued)*

| Attribute | Value |
|---|---|
| AdminURL | |
| BEA_HOME | C:\Oracle\Middleware |
| WL_HOME | C:\Oracle\Middleware\wlserver_10.3 |
| DomainName | wls_domain |
| DomainDir | |
| ListenAddressPort | wlsadmin:7001 |
| MonitorProgram | |
| nmListenAddressPort | |
| nmType | ssl |
| ServerName | AdminServer |
| ServerRole | Administrative |
| WLSUser | weblogic |
| WLSPassword | EQFsHqkkMNRkL |
| ServerStartProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\startWebLogic.cmd |
| ServerStopProgram | C:\Oracle\Middleware\user_projects\domains\wls_domain\bin\stopWebLogic.cmd |
| RequireAdminServer | false |
| AdminServerMaxWait | 15 |
| SecondLevelMonitor | 1 |

# Service group dependencies for WebLogic Server

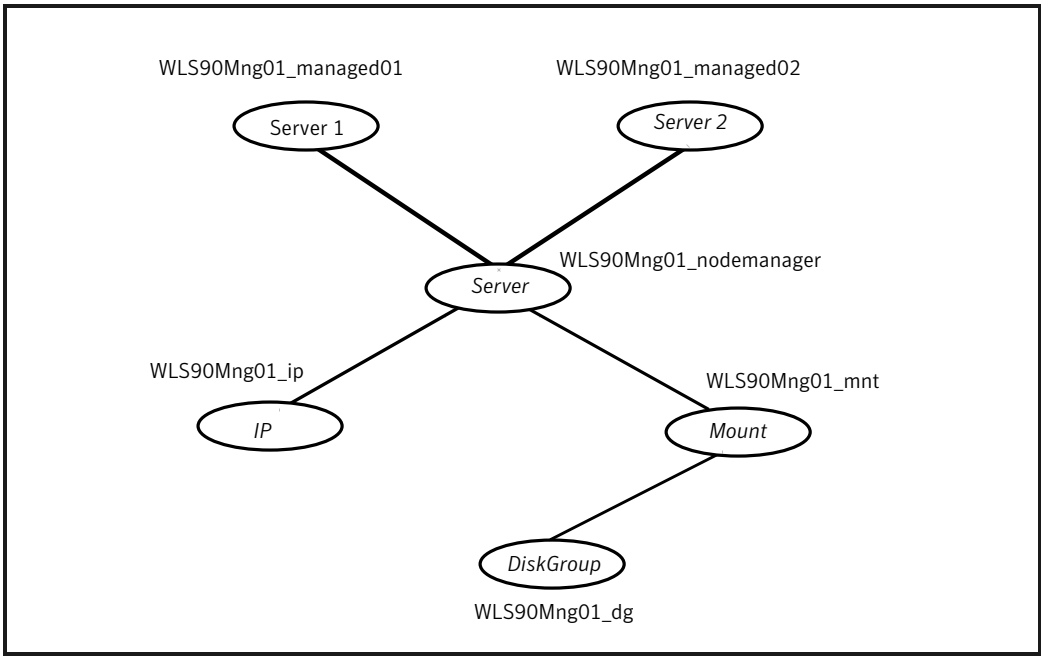
Cluster administrators use Service Group dependencies to create links between unrelated Service Group objects within a cluster. In this version of WebLogic Server, you no longer require Service Group dependencies.

The Managed Server online operation can automatically perform an Administrative Server probe. So even though Managed Server instances depend on the domain

Administrative Server instance, you can have a Service Group with Managed Servers only.

Figure A-3 shows a single Service Group looks with Managed Servers only.

**Figure A-3** Single Service group with Managed Servers only




# Sample configuration in a VCS environment

To provide a complete example, the following main.cf excerpt from a Solaris cluster defines a Service Group to support one WebLogic Server instance.

```
group wlsadmin
(
SystemList = { systemA = 1, systemB = 2 }
)

DiskGroup wlsadmin_dg
(
    DiskGroup = wlsadmin
)
```

```
Mount wlsadminmnt
(
    MountPoint = "/wls90/admin"
    BlockDevice = "/dev/vx/dsk/wls90admin/wlsadmin"
    FSType = vxfs
    FsckOpt = "-y"
)

NIC wlsadminnic
(
    Device = hme0
    NetworkType = ether
)

IP wlsadminip
(
     Device = hme0
     Address = "192.126.5.166"
     NetMask = "255.255.255.0"
)

WebLogic wls_domain (
  Critical = 0
  BEA_HOME = "C:\Oracle\Middleware"
  WL_HOME = "C:\Oracle\Middleware\wlserver_10.3"
  DomainName = wls_domain
  ListenAddressPort = "wlsadmin:7001"
  ServerName = AdminServer
  ServerRole = Administrative
  WLSUser = weblogic
  WLSPassword = gunSlsIssSvsNspSjmHmiMj
  SecondLevelMonitor = 5
  ServerStartProgram = "C:\Oracle\Middleware\user_projects\domains\
                        wls_domain\bin\startWebLogic.cmd"
  ServerStopProgram = "C:\Oracle\Middleware\user_projects\domains\
                        wls_domain\bin\stopWebLogic.cmd"
  )
 WebLogic wls_managedserver1 (
  Critical = 0
  AdminURL = "t3://wlsadmin:7001"
  BEA_HOME = "C:\Oracle\Middleware"
  WL_HOME = "C:\Oracle\Middleware\wlserver_10.3"
  ListenAddressPort = "10.209.73.90:7003"
```

```
  ServerName = ManagedServer1
  ServerRole = Managed
  WLSUser = weblogic
  WLSPassword = gunSlsIssSvsNspSjmHmiMj
  SecondLevelMonitor = 5
  ServerStartProgram = "C:\Oracle\Middleware\user_projects\domains\
  wldomain\bin\startManagedWebLogic.cmd ManagedServer1 t3://wlsadmin:7001"
  ServerStopProgram = "C:\Oracle\Middleware\user_projects\domains\
  wldomain\bin\stopManagedWebLogic.cmd ManagedServer1 t3://wlsadmin:7001"
  )


wls_domain_res requires wls_ip
 wls_managedserver1 requires wls_domain_res
wls_domain_res requires wlsadmin_mnt
wlsadmin_mnt requires wlsadmin_dg
wlsadmin_ip requires wlsadmin_nic
```

Appendix B

# Command line pattern matching for Node Manager based configurations

This appendix includes the following topics:



## ServerRole is NodeManager

The following pattern matching applies:

- The command line begins with <BEA_HOME>, followed by 0 or more characters, followed by the string java.
- The command line contains the string weblogic.NodeManager.
- The command line contains the string `ListenAddress=<nmListenAddress>` followed by a space.
- The command line contains the string `ListenPort=<nmListenPort>` followed by a space.

Example command line

```
C:\bea\JROCKI~1\jre\bin\javaw.exe -classpath
"C:\bea\JROCKI~1\jre\lib\rt.
jar;C:\bea\JROCKI~1\jre\lib\i18n.jar;C:\bea\patch_weblogic901\profi
```

```
les\default\sys_manifest_classpath\weblogic_patch.jar;C:\bea\JROCKI
~1\lib\tools.jar;C:\bea\WEBLOG~1\server\lib\weblogic_sp.jar;C:\bea\
WEBLOG~1\server\lib\weblogic.jar;C:\bea
\WEBLOG~1\server\lib\webservices.jar;C:\Program
Files\VERITAS\Security\Authentication\bin\AtWrapper.jar;C:\Program
Files\VERITAS\Security\Authentication\bin\vssatgui.jar;C:\Program
Files\VERITAS\Security\Authentication\bin\VxHelpViewer.jar;
C:\Program
Files\VERITAS\Security\Authentication\bin\VxHelpViewerl10n.jar"
-DListenAddress=localhost
-DNodeManagerHome=c:/bea/weblogic90/common/nodemanager
-DQuitEnabled=true -DListenPort=5556 weblogic.NodeManager "-v"
```

# ServerRole is Administrative and ServerStartProgram is null

The following pattern matching applies:

- The command line begins with *<BEA_HOME>*, followed by 0 or more characters, followed by the string java followed by 0 or more characters, followed by `weblogic.Name=<AdminServerName>`, followed by space.
- The command line ends with weblogic.Server.
- The command line contains *<DomainDir>* followed by front slash or back slash.

Example command line

```
C:\bea\wls90\admin\JROCKI~1\jre\bin\java
-Dweblogic.Name=AdminServer
-Djava.security.policy=C:\bea\wls90\admin\WEBLOG~1\server\lib\weblo
gic.policy
"-Djava.library.path=C:\bea\wls90\admin\WEBLOG~1\server\bin;.;C:\WI
NDOWS\system32;C:\WINDOWS;C:\bea\wls90\admin\WEBLOG~1\server\native
\win\32;C:\bea\wls90\admin\WEBLOG~1\server\bin;C:\bea\wls90\admin\J
ROCKI~1\jre\bin;C:\bea\wls90\admin\JROCKI~1\bin;C:\bea\wls90\admin\
WEBLOG~1\server\native\win\32\oci920_8;c:\program
files\mks\mksnt;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\
Wbem;C:\Program Files\VERITAS\VERITAS Object Bus\bin;C:\Program
Files\VERITAS\VERITAS Volume Manager 4.3\;C:\Program
Files\VERITAS\VRTSjre\AccessBridge;C:\Program
Files\VERITAS\Security\Authentication\bin;C:\Program
```

```
Files\VERITAS\VRTSPerl\bin;C:\Program
Files\VERITAS\comms\llt;C:\Program
Files\VERITAS\comms\gab;C:\Program Files\VERITAS\Cluster
server\bin;C:\Program Files\VERITAS\Cluster
server\bin\VCW;C:\Program Files\Microsoft SQL Server\80\Tools\BINN"
-Djava.class.path=.;C:\bea\wls90\admin\patch_weblogic901\profiles\d
efault\sys_manifest_classpath\weblogic_patch.jar;C:\bea\wls90\admin
\JROCKI~1\lib\tools.jar;C:\bea\wls90\admin\WEBLOG~1\server\lib\webl
ogic_sp.jar;C:\bea\wls90\admin\WEBLOG~1\server\lib\weblogic.jar;C:\
bea\wls90\admin\WEBLOG~1\server\lib\webservices.jar
-Dweblogic.system.BootIdentityFile=C:\bea\wls90\admin\user_projects
\domains\WLS90Domain\servers\AdminServer\security\boot.properties
-Dweblogic.nodemanager.ServiceEnabled=true weblogic.Server
```

# ServerRole is Managed and ServerStartProgram is null

The following pattern matching applies:

- Command line begins with *<BEA_HOME>*, followed by 0 or more characters, followed by the string *java*, followed by 0 or more characters, followed by `weblogic.Name=<ManagedServerName>`, followed by space.
- Command line ends with `weblogic.Server`.
- Command line contains *<DomainDir>* followed by front slash or back slash.
- Command line contains `management.server=<AdminURL>` followed by space.

Example command line

```
C:\bea\wls90\admin\JROCKI~1\jre\bin\java
-Dweblogic.Name=ManagedServer01
-Djava.security.policy=C:\bea\wls90\admin\WEBLOG~1\server\lib\weblo
gic.policy -Dweblogic.management.server=http://wls90host:7001
"-Djava.library.path=C:\bea\wls90\admin\WEBLOG~1\server\bin;.;C:\WI
NDOWS\system32;C:\WINDOWS;C:\bea\wls90\admin\WEBLOG~1\server\native
\win\32;C:\bea\wls90\admin\WEBLOG~1\server\bin;C:\bea\wls90\admin\J
ROCKI~1\jre\bin;C:\bea\wls90\admin\JROCKI~1\bin;C:\bea\wls90\admin\
WEBLOG~1\server\native\win\32\oci920_8;c:\program
files\mks\mksnt;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\
Wbem;C:\Program Files\VERITAS\VERITAS Object Bus\bin;C:\Program
Files\VERITAS\VERITAS Volume Manager 4.3\;C:\Program
Files\VERITAS\VRTSjre\AccessBridge;C:\Program
```

```
Files\VERITAS\Security\Authentication\bin;C:\Program
Files\VERITAS\VRTSPerl\bin;C:\Program
Files\VERITAS\comms\llt;C:\Program
Files\VERITAS\comms\gab;C:\Program Files\VERITAS\Cluster
server\bin;C:\Program Files\VERITAS\Cluster
server\bin\VCW;C:\Program Files\Microsoft SQL Server\80\Tools\BINN"
-Djava.class.path=.;C:\bea\wls90\admin\patch_weblogic901\profiles\d
efault\sys_manifest_classpath\weblogic_patch.jar;C:\bea\wls90\admin
\JROCKI~1\lib\tools.jar;C:\bea\wls90\admin\WEBLOG~1\server\lib\webl
ogic_sp.jar;C:\bea\wls90\admin\WEBLOG~1\server\lib\weblogic.jar;C:\
bea\wls90\admin\WEBLOG~1\server\lib\webservices.jar
-Dweblogic.system.BootIdentityFile=C:\bea\wls90\admin\user_projects
\domains\WLS90Domain\servers\ManagedServer01\data\nodemanager\boot.
properties -Dweblogic.nodemanager.ServiceEnabled=true
-Dweblogic.security.SSL.ignoreHostnameVerification=true
-Dweblogic.ReverseDNSAllowed=false weblogic.Server
```

Appendix C

# Command line pattern matching for non Node Manager based configurations

This appendix includes the following topics:



## ServerRole is Administrative and ServerStartProgram is non-null

The following pattern matching applies:

- Command line begins with *<BEA_HOME>*, followed by 0 or more characters, followed by the string java, followed by 0 or more characters, followed by `weblogic.Name=<AdminServerName>`, followed by space.
- Command line ends with `weblogic.Server`.
- If *<DomainDir>* is non-null, command line contains *<DomainDir>* followed by front slash or back slash.

Example command line of Admin server started with startWebLogic.cmd

```
c:\bea\wls90\admin\jdk150~1\bin\java -client   -xms256m -xmx512m
```

```
-xx:compilethreshold=8000 -xx:permsize=32m  -xx:maxpermsize=128m
-xverify:none  -da -dplatform.home=c:\bea\wls90\admin\weblog~1
-dwls.home=c:\bea\wls90\admin\weblog~1\server
-dwli.home=c:\bea\wls90\admin\weblog~1\integration
-dweblogic.management.discover=true
-dweblogic.productionmodeenabled=  -dwlw.iterativedev=
-dwlw.testconsole= -dwlw.logerrorstoconsole=
-dweblogic.ext.dirs=c:\bea\wls90\admin\patch_weblogic901\profiles\d
efault\sysext_manifest_classpath -dweblogic.Name=AdminServer
-djava.security.policy=c:\bea\wls90\admin\weblog~1\server\lib\weblo
gic.policy  weblogic.Server
```

# ServerRole is Managed and ServerStartProgram is non-null

The following pattern matching applies:

- Command line begins with *<BEA_HOME>*, followed by 0 or more characters, followed by the string java, followed by 0 or more characters, followed by `weblogic.Name=<ManagedServerName>`, followed by space.
- Command line ends with `weblogic.Server`.
- If *<DomainDir>* is non-null, command line contains *<DomainDir>* followed by front slash or back slash.
- Command line contains `management.server=<AdminURL>` followed by space.

Example command line of server started using startManagedWebLogic.cmd

```
C:\bea\wls90\admin\JDK150~1\bin\java -server   -Xms256m -Xmx512m
-XX:MaxPermSize=128m
-Dweblogic.security.SSL.trustedCAKeyStore="C:\bea\wls90\admin\weblo
gic90\server\lib\cacerts"   -da
-Dplatform.home=C:\bea\wls90\admin\WEBLOG~1
-Dwls.home=C:\bea\wls90\admin\WEBLOG~1\server
-Dwli.home=C:\bea\wls90\admin\WEBLOG~1\integration
-Dweblogic.management.discover=false
-Dweblogic.management.server=t3://wls90host:7001
-Dwlw.iterativeDev=false -Dwlw.testConsole=false
-Dwlw.logErrorsToConsole=
-Dweblogic.ext.dirs=C:\bea\wls90\admin\patch_weblogic901\profiles\d
efault\sysext_manifest_classpath -Dweblogic.Name=ManagedServer01
```

```
Djava.security.policy=C:\bea\wls90\admin\WEBLOG~1\server\lib\weblog
ic.policy  weblogic.Server
```

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