

Symantec™ ApplicationHA Agent for SAP NetWeaver Configuration Guide

Windows Server 2003 (x64), Windows
Server 2008 and Windows Server 2008
R2 (x64)

6.0

Symantec™ ApplicationHA Agent for SAP NetWeaver Configuration Guide

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Introducing the Symantec ApplicationHA agent for SAP NetWeaver

This chapter includes the following topics:

- [About the Symantec ApplicationHA agents](#)
- [About the Symantec ApplicationHA agent for SAP NetWeaver](#)
- [Supported software](#)
- [How the ApplicationHA agent makes SAP NetWeaver highly available](#)
- [How the ApplicationHA agent monitors SAP NetWeaver](#)
- [Typical SAP server configuration in a VMware virtualization scenario](#)

About the Symantec ApplicationHA agents

Agents are the processes that manage applications and resources of the predefined resource types which are configured for applications and components on a system. The agents are installed when you install Symantec ApplicationHA. These agents start, stop, and monitor the corresponding resources that are configured for the applications and report state changes.

Symantec ApplicationHA agents are classified as follows:

- **Infrastructure agents**
Infrastructure agents are packaged (bundled) with the base software and include agents for mount points, generic services, and processes. These agents are immediately available for use after you install Symantec ApplicationHA.

For more details about the infrastructure agents, refer to the *Symantec™ ApplicationHA Generic Agents Guide*.

■ Application agents

Application agents are used to monitor third party applications such as Oracle, Microsoft SQL Server, and Microsoft Exchange. These agents are packaged separately and are available in the form of an agent pack that gets installed when you install Symantec ApplicationHA.

An agent pack is released on a quarterly basis. The agent pack includes support for new applications as well as fixes and enhancements to existing agents. You can install the agent pack on an existing ApplicationHA guest components installation.

Refer to the Symantec Operations Readiness Tools (SORT) Web site for information on the latest agent pack availability.

<https://sort.symantec.com>

The following sections provide details about the agent for SAP NetWeaver.

For more details about other application agents, refer to the application-specific configuration guide.

About the Symantec ApplicationHA agent for SAP NetWeaver

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

The ApplicationHA agent for SAP NetWeaver provides monitoring and control for SAP R/3 and SAP NetWeaver in a virtual machine. The agent is designed to support a wide range of SAP environments, including the traditional Basis architecture and the SAP J2EE Web Application server architecture (NetWeaver). The agent also supports Standalone Enqueue servers in a distributed SAP installation

The agent for SAP NetWeaver brings SAP instances online, monitors the instances, and takes the instances offline. The agent monitors the system processes and server states, and can shut down the instance in case of a fault.

The supported SAP instance types are as follows:

- Central instance
- Dialog instance
- Standalone Enqueue server

Agent functions

The functions of the ApplicationHA agent for SAP NetWeaver include the following:

- | | |
|---------|--|
| Online | <ul style="list-style-type: none"> ■ Validates the values of the agent attributes required to bring the SAP instance online. ■ Performs a preliminary check to ensure that the SAP instance is not running. ■ Starts the SAP Windows service <i>SAPSAPSID_InstID</i>, where <i>InstID</i> is the last two characters of the <i>InstName</i> attribute. ■ Starts the SAP instance using the <i>startsap.exe</i> utility. ■ Ensures that the instance is initialized successfully. |
| Offline | <ul style="list-style-type: none"> ■ Validates the values of the agent attributes required to bring the SAP instance offline. ■ Performs a preliminary check to ensure that the SAP instance is not already offline. ■ Stops the SAP instance using the <i>stopsap.exe</i> utility. ■ Stops the SAP Windows service. <i>SAPSAPSID_InstID</i>, where <i>InstID</i> is the last two characters of the <i>InstName</i> attribute. ■ Kills any remaining SAP instance processes to ensure that the instance processes are removed completely. |
| Monitor | <ul style="list-style-type: none"> ■ Validates the values of the agent attributes required to monitor the SAP instance. ■ Performs a first-level monitor check as follows: <ul style="list-style-type: none"> ■ The function verifies that the SAP Windows service <i>SAPSAPSID_InstID</i> is running, where <i>InstID</i> is the last two characters of the <i>InstName</i> attribute. ■ Verifies that all processes that the <i>ProcMon</i> attribute lists are running. ■ If the <i>MonitorProgram</i> attribute specifies a custom monitor program, the monitor function executes the specified program. |

- Clean
- In case of a fault event or an unsuccessful attempt to bring a resource online or offline, the clean function removes any remaining SAP instance processes. The clean function performs the following tasks:
- Uses SAP's `sapsrvkill.exe` utility to stop all processes of the particular SAP instance.
 - Stops `SAPSAPSID_InstID`, the SAP Windows service for the instance.
 - The clean function identifies and kills any remaining SAP instance processes using the unique combination of the SAPSID attribute and InstID, that is the last two characters of the InstName attribute. All these processes must also belong to the `SAPServiceSAPSID` or `sapsidadm` user.

Executing a custom monitor program

The monitor function can execute a customized monitoring utility to perform an additional SAP server state check.

The monitor function executes the utility specified in the `MonitorProgram` attribute if the following conditions are satisfied:

- The specified utility is a valid executable file.
- The first level process check indicates that the SAP server instance is online.

The monitor function interprets the utility exit code as follows:

110 or 0	SAP server instance is online
100 or 1	SAP server instance is offline
99	SAP server instance is unknown
Any other value	SAP server instance is unknown

Resource type definition

The resource type definition for the ApplicationHA agent for SAP NetWeaver is as follows:

```
type SAPNW04 (  
    static i18nstr ArgList[] = { SAPSID, SecondLevelMonitor,  
    EPPProgramTimeout, SAPHome, SAPMonHome, SAPHost, ProcMon,  
    SAPServiceUser, SAPAdminDomain, SAPAdmin, SAPAdminPassword,  
    ResLogLevel, InstType, InstName, InstProfile, EngSrvResName,  
    MonitorProgram }  
    str SAPSID
```

```
int SecondLevelMonitor
int EPPProgramTimeout = 10
str SAPHome
str SAPMonHome
str SAPHost
str ProcMon[]
str SAPServiceUser
str SAPAdminDomain
str SAPAdmin
str SAPAdminPassword
str ResLogLevel = INFO
str InstType = CENTRAL
str InstName
str InstProfile
str EnqSrvResName
str MonitorProgram
)
```

Agent attribute definitions

Review the following information to familiarize yourself with the agent attributes for an SAP NetWeaver instance. This information will assist you during the agent configuration.

Table 1-1 lists the attributes that are required for configuring an SAP NetWeaver instance.

Table 1-1 Required Attributes

Required attributes	Description
InstName	<p>Uniquely identifies an SAP server instance, along with the SAPSID attribute. The last two characters of this attribute specify the value of the InstID attribute. The InstID and SAPSID attributes together uniquely identify an SAP instance.</p> <p>Some examples include the following:</p> <ul style="list-style-type: none"> ■ DVEBMGS00: SAP BASIS Central instance ■ DVBGS02 : SAP BASIS Central instance minus Enqueue and Message servers ■ ASCS03: SAP ABAP Standalone Enqueue server ■ D05: SAP ABAP Dialog instance ■ JC06: SAP Java Central instance ■ SCS07: SAP Java Central Services instance ■ J08: SAP Java Dialog instance <p>Type and dimension: string-scalar</p> <p>Example: DVEBMGS00</p> <p>Default: ""</p>
InstProfile	<p>Full path to the instance profile of the SAP server instance.</p> <p>Typically, the instance profile is located in the <drive>:\usr\sap\SAPSID\SYS\profile directory. The format of the profile name is <i>SAPSID_InstName_HOSTNAME</i>. Path names following the Unified Naming Convention (UNC) are also valid for this attribute.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: c:\usr\sap\EP1\SYS\profile\EP1_SCS02_SAPEP1SCS</p>

Table 1-1 Required Attributes (*continued*)

Required attributes	Description
InstType	<p>SAP server instance type. Valid values include the following:</p> <ul style="list-style-type: none"> ■ CENTRAL: SAP Central instance ■ DIALOG: SAP Dialog instance ■ ENQUEUE: SAP Standalone Enqueue server instance ■ AENQUEUE: SAP Standalone Enqueue server instance Add-In (ABAP) ■ JENQUEUE: SAP Central Services instance Add-In (Java) <p>Type and dimension: string-scalar</p> <p>Default: CENTRAL</p> <p>Example: DIALOG</p>
ProcMon	<p>The list of SAP processes that the monitor function must monitor during a first-level check of an SAP instance.</p> <p>See "Monitoring an SAP instance" on page 22.</p> <p>Type and dimension: vector</p> <p>Default: ""</p> <p>Example: disp+work.exe msg_server.exe</p>
ResLogLevel	<p>The logging detail performed by the agent for SAP NetWeaver for the resource. Valid values include the following:</p> <p>INFO: Logs error messages.</p> <p>TRACE: Logs error and trace messages. TRACE is very verbose and should only be used during initial configuration or for troubleshooting and diagnostic operations.</p> <p>Type and dimension: string-scalar</p> <p>Default: INFO</p> <p>Example: TRACE</p>
SAPAdmin	<p>Windows user name used to start the SAP instance. This user must be dedicated to all the SAP instances within an SAP system. The format is <i>sapsidadm</i>.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: ec4adm</p>

Table 1-1 Required Attributes (*continued*)

Required attributes	Description
SAPAdminDomain	<p>Windows domain name to which the SAPAdmin user belongs.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: VRTSGPS</p>
SAPAdminPassword	<p>Password for the SAPAdmin user.</p> <p>Use the <code>vcsencrypt -agent</code> command to encrypt the password.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: vxfgh28skbsj</p>
SAPHost	<p>Hostname under which the SAP instance is to run.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: sap04smcsaw</p>
SAPHome	<p>The absolute path to the SAP base directory. This attribute is used to locate programs that the agent for SAP NetWeaver uses for start, stop, and clean functions.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example 1: c:\usr\sap\EC4\SYS\exe\run</p> <p>Example 2: c:\usr\sap\EC4\ASCS01\exe</p>

Table 1-1 Required Attributes (*continued*)

Required attributes	Description
SAPServiceUser	<p>Windows user name used to start the SAP Windows service for an SAPSID. This user must be dedicated to all the SAP services under one SAP system, and must not be used by any other SAP service or instance under a different SAP system.</p> <p>Note: Do not include the domain name in the value for this attribute. Use the SAPAdminDomain attribute to specify domain information.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: SAPServiceEC4</p>
SAPSID	<p>SAP system name. This attribute starts with an alphabetic character and is exactly 3 characters in length. Ensure that the alphabetic characters used in this attribute are in uppercase only. SAPSID is defined during the SAP installation.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example: EC4</p>

Table 1-2 shows the optional attributes for configuring an SAP NetWeaver instance.

Table 1-2 Optional attributes

Optional attributes	Description
MonitorProgram	<p>The full pathname and command-line arguments for an externally provided monitor program.</p> <p>Type and dimension: string-scalar</p> <p>Default: ""</p> <p>Example 1: <drive>:\usr\sap\EC4\ASCS00\work\myMonitor.exe</p> <p>Example 2: <drive>:\usr\sap\EC4\ASCS00\work\myMonitor.exe arg1 arg2</p>

Table 1-2 Optional attributes (*continued*)

Optional attributes	Description
EnqSrvResName	<p>Specifies the SAP Central Services instance resource name. This attribute is set for only Enqueue Replication Server (ERS) and will be used by both Enqueue and Enqueue Replication Servers to query others status during startup and failover.</p> <p>Type and dimension: string-scalar</p> <p>Default: No default</p> <p>Example: SAPPI1SCS_scs</p>

Supported software

The Symantec ApplicationHA agent for SAP NetWeaver is supported in the following environments:

Symantec ApplicationHA	6.0
SAP NetWeaver	2004, 2004s

SAP NetWeaver components compatibility matrix

[Table 1-3](#) lists the compatibility matrix for SAP NetWeaver technology components.

Table 1-3 Compatibility matrix for SAP NetWeaver technology components

EP	BW BI	XI PI	MDM MDS	SAP Kernel/SAP Web AS
7.0	7.0	7.0	5.5, 7.1	7.00
-	-	-	2.0	6.40
6.0	3.5	3.0	-	6.40 6.20
-	3.1	-	-	6.20

Table 1-4 lists the compatibility matrix for SAP NetWeaver application components.

Table 1-4 Compatibility matrix for SAP NetWeaver application components

R/3 and R/3 Enterprise ECC	SCM APO	SRM	CRM EBP	KW	Solution Manger	SAP Keme/SAP Web AS
6.0 (ERP 2005) 6.0 EhPx	5.0 5.1 (SCM 2007) 7.0	5.0 6.0 (SRM 2007) 7.0	5.0 (CRM 2005) CRM 2007 7.0	-	7.0 (formerly 4.0) 7.0 EhPx	7.00
5.0 (ERP 2004) 4.7x200	4.1	4.0 SR1	4.0	7.0	3.20	6.40 6.20
4.7x110	4.0	4.0 3.1	3.0	-	3.10	6.20
4.6C	3.1	-	-	-	-	4.6D

How the ApplicationHA agent makes SAP NetWeaver highly available

The Symantec ApplicationHA agent for SAP NetWeaver continuously monitors the SAP instance processes to verify that they function properly. The agent provides the following level of application monitoring:

- **Primary or Basic monitoring**

This mode has Process check and Health check monitoring options. With the default Process check option, the agent verifies that the SAP instance processes makes SAP NetWeaver highly available are present in the process table. Process check cannot detect whether processes are in hung or stopped states.

How the ApplicationHA agent monitors SAP NetWeaver

The SAP NetWeaver agent monitors the configured resources, determines the status of these resources, brings them online, and takes them offline. The agent

detects an application failure if the configured service becomes unavailable. The agent attempts to start the service for a configurable number of attempts. If the services do not start, the agent considers this as an application failure and reports the status to VMware HA.

Depending on the configuration, VMware HA can then restart the virtual machine. After the machine restarts, the agent starts the application services and brings the configured resources online on the system.

Typical SAP server configuration in a VMware virtualization scenario

A typical SAP server configuration in a VMware virtualization scenario has the following characteristics:

- The `<Drive:> \usr\sap` directory is shared by default on SAP Global host with name `sapmnt`; this directory is accessed from the Application Server node (VM).
- The SAP NetWeaver application server instance binaries are installed locally.

Installing and configuring SAP NetWeaver for ApplicationHA

This chapter includes the following topics:

- [About SAP NetWeaver](#)
- [Monitoring an SAP instance](#)
- [About installing SAP NetWeaver for ApplicationHA](#)

About SAP NetWeaver

All SAP NetWeaver components (example, BI, XI, EP) run on top of the SAP NetWeaver Application Server.

The following SAP system installations are possible with SAP NetWeaver Application Server (AS):

- SAP NetWeaver Application Server ABAP (ABAP only)
- SAP NetWeaver AS Java (Java only)
- SAP NetWeaver Application Server Add-In (ABAP and Java)

Depending on the SAP NetWeaver component to be installed, the Web Application Server type is determined. For example, SAP NetWeaver EP 6.0 requires a Java stack, hence SAP NetWeaver AS Java (or Add-In) needs to be installed. SAP NetWeaver XI 3.0 requires SAP NetWeaver AS Add-In.

SAP system components

An SAP application instance has multiple services or components which are typically deployed across multiple servers. SAP identifies the following services as critical to the application environment, representing potential single points of failure:

- Database Instance
- Central Instance (DVEBMGSxx or JCxx)
- Central Services Instance (SCSxx or ASCSxx)
- Enqueue Replication Server (ERSxx)
- Dialog Instance (Dxx or Jxx)

Where xx takes the value of an SAP Instance number ranging from 00 to 99.

Note: ApplicationHA SAP agent supports only High Availability SAP systems.

The ApplicationHA SAP agent supports only application servers (Central and Dialog) and standalone Enqueue servers.

The ApplicationHA SAP agent does not support Enqueue Replication Servers.

Monitoring an SAP instance

The monitor function performs process level check to ensure the proper functioning of an SAP instance.

The ProcMon attribute specifies the processes that must be running successfully for a particular SAP instance type. The monitor function uses this list of processes to scan the process table, and verify that the processes are running successfully.

[Table 2-1](#) contains valid values for the ProcMon attribute.

Table 2-1 Valid values for the ProcMon attribute

SAP usage type	SAP instance type	Value for ProcMon attribute
ABAP	<ul style="list-style-type: none"> ■ CENTRAL ■ DIALOG ■ ENQUEUE 	<p>For CENTRAL:</p> <ul style="list-style-type: none"> ■ Mandatory: disp+work.exe ■ Optional: igswd.exe, icman.exe, gwrdd.exe, and msg_server.exe <p>Note: msg_server.exe is not applicable for a Central instance, if a Standalone Enqueue server instance is configured.</p> <p>For DIALOG:</p> <ul style="list-style-type: none"> ■ Mandatory: disp+work.exe ■ Optional: igswd.exe, icman.exe and gwrdd.exe <p>For ENQUEUE:</p> <ul style="list-style-type: none"> ■ Mandatory: ensrver.exe ■ Optional: msg_server.exe
Java	<ul style="list-style-type: none"> ■ CENTRAL ■ DIALOG ■ ENQUEUE 	<p>For CENTRAL:</p> <ul style="list-style-type: none"> ■ Mandatory: jcontrol.exe ■ Optional: icman.exe <p>For DIALOG:</p> <ul style="list-style-type: none"> ■ Mandatory: jcontrol.exe ■ Optional: icman.exe <p>For ENQUEUE</p> <ul style="list-style-type: none"> ■ Mandatory: ensrver.exe ■ Optional: igswd

Table 2-1 Valid values for the ProcMon attribute (*continued*)

SAP usage type	SAP instance type	Value for ProcMon attribute
Add-In (ABAP + Java)	<ul style="list-style-type: none"> ■ CENTRAL ■ DIALOG ■ AENQUEUE (ABAP) ■ JENQUEUE (Java) 	<p>For CENTRAL</p> <ul style="list-style-type: none"> ■ Mandatory: disp+work.exe, jcontrol.exe ■ Optional: igswd.exe, msg_server.exe, icman.exe and gwrld.exe <p>DIALOG</p> <ul style="list-style-type: none"> ■ Mandatory: disp+work.exe, jcontrol.exe ■ Optional: igswd.exe, icman.exe and gwrld.exe <p>For AENQUEUE (ABAP)</p> <ul style="list-style-type: none"> ■ Mandatory: ensrver.exe ■ Optional: msg_server.exe <p>For JENQUEUE (Java)</p> <ul style="list-style-type: none"> ■ Mandatory: ensrver.exe ■ Optional: msg_server.exe

The monitor function takes a snapshot of the running process table. The function compares the processes that the ProcMon attribute specifies, to the set of running SAP processes. If any process is missing, the function declares the SAP instance as offline, and bypasses further monitor operations.

About installing SAP NetWeaver for ApplicationHA

To install SAP NetWeaver for ApplicationHA on a virtual machine, you can install the SAP instance binaries on local disk or shared disk.

Note: If SAP binaries are installed on a shared disk, ensure that the shared disks get auto mounted during the operating system boot. By default, ApplicationHA does not monitor mount resources. To add mount resources for monitoring, use CLI / Veritas Operation Manager. For more information about mount resource attributes, refer to the Veritas Cluster Server documentation.

Note: If you specify the virtual hostname and IP address while configuring a SAP Application Server instance for monitoring, then ensure the following:

- The IP address is correctly plumbed when the system boots up
 - The virtual hostname can be pinged from the virtual machine.
-

For more details refer to the product documentation.

Configuring application monitoring with Symantec ApplicationHA

This chapter includes the following topics:

- [About configuring application monitoring with Symantec ApplicationHA](#)
- [Before configuring application monitoring for SAP](#)
- [Configuring application monitoring for SAP](#)
- [Administering application monitoring](#)

About configuring application monitoring with Symantec ApplicationHA

This chapter describes the steps to configure application monitoring for SAP NetWeaver with ApplicationHA in a VMware virtualization environment.

Consider the following points before you proceed:

- You can configure application monitoring on a virtual machine using the Symantec ApplicationHA Configuration Wizard. To launch this wizard, click **Configure Application Monitoring** on the ApplicationHA tab in VMware vSphere Client.
- You can also configure application monitoring using Veritas Cluster Server (VCS) commands. Refer to the following technote for additional information: <http://www.symantec.com/docs/TECH159846>.

- Symantec recommends that you first configure application monitoring using the configuration wizard before using VCS commands to add additional components or modify the existing configuration. Apart from the application monitoring configuration, the wizard also sets up the other components required for Symantec ApplicationHA to successfully monitor the applications.
- You can use the wizard to configure monitoring for only one application per virtual machine. For example, if you have configured monitoring for SAP NetWeaver, you cannot run the wizard again to configure another application on that virtual machine. To configure another application using the wizard, you must first unconfigure the existing application monitoring configuration.
- If a configured application fails, Symantec ApplicationHA attempts to start the application on the computer. If the application does not start, Symantec ApplicationHA communicates with VMware HA to take corrective action. Symantec ApplicationHA then stops the other configured applications in a predefined order. This avoids the other applications from getting corrupted due to a computer restart.
A single failed application can bring down other healthy applications running on the virtual machine. You must take this behavior into consideration while configuring application monitoring on a virtual machine.

Before configuring application monitoring for SAP

Note the following prerequisites for configuring application monitoring for SAP NetWeaver on a virtual machine:

- Ensure that you have installed Symantec ApplicationHA (Console and guest components) in your VMware environment.
- Ensure that VMware Tools is installed on the virtual machine. Install the version that is the similar to or later than that available with VMware ESX 4.1.
- Ensure that you have installed VMware vSphere Client. The vSphere Client is used to configure and control application monitoring. You can also perform the application monitoring operations directly from a browser window using the following URL:
`https://virtualmachineNameorIPAddress:5634/vcs/admin/application_health.html?priv=ADMIN`
- Verify that the logged-on user has administrative privileges on the virtual machine where you want to configure application monitoring.
- If you have configured a firewall, ensure that your firewall settings allow access to ports used by Symantec ApplicationHA installer, wizards, and services.

- Ensure that you have installed SAP NetWeaver and that SAP services are configured on the Windows systems hosting SAP Central or Dialog instance.

Configuring application monitoring for SAP

Perform the following steps to configure monitoring for SAP on a virtual machine. After you finish configuring application monitoring, you can view the status of the configured SAP application and component dependency for the configured application.

Note: You can configure monitoring for only one application in a single wizard workflow.

To configure application monitoring for SAP

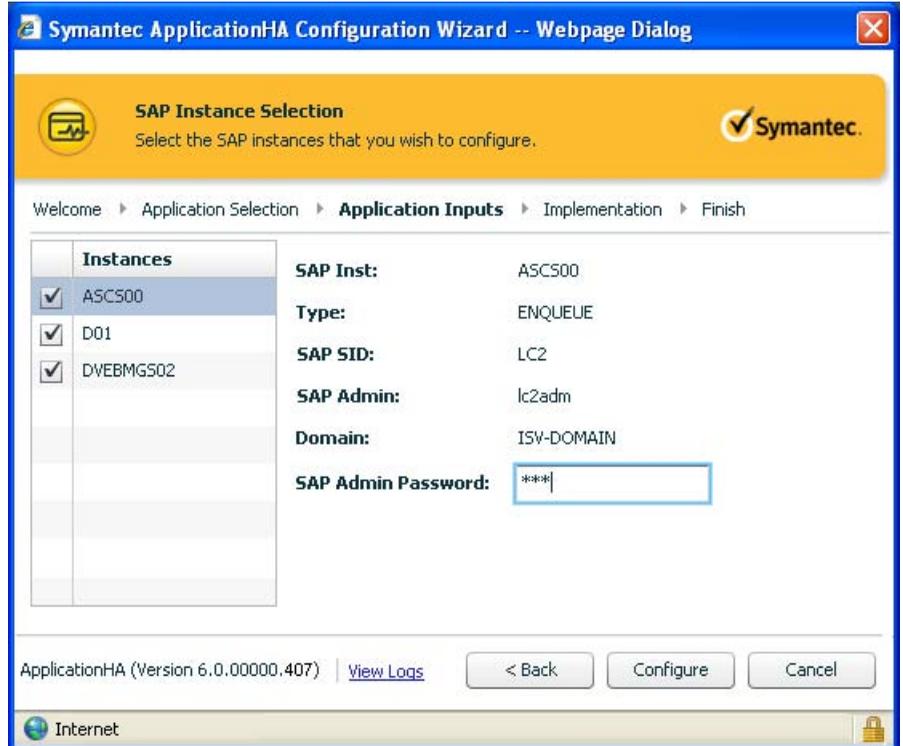
- 1 Launch the vSphere Client and connect to the vCenter Server that manages the virtual machine.
- 2 From the vSphere Client's Inventory view in the left pane, select the virtual machine where you want to configure application monitoring for SAP and then in the right pane, select the **ApplicationHA** tab.
- 3 Skip this step if you have already configured the single sign-on during the guest installation.

On the **ApplicationHA** tab, specify the credentials of a user account that has administrative privileges on the virtual machine and then click **Configure**.

The **ApplicationHA** Console sets up a permanent authentication for the user account. After the authentication is successful, the **ApplicationHA** tab refreshes and displays the application health view.

- 4 Click **Configure Application Monitoring** to launch the Symantec ApplicationHA Configuration Wizard.
- 5 Review the information on the Welcome panel and then click **Next**.
- 6 On the Application Selection page, click **SAP** in the Supported Applications list and then click **Next**.

- 7 On the SAP Instance Selection panel, select the SAP Instance you want to configure, enter the value of the SAPAdminPassword attribute, and then click **Configure**.



Note: Ensure that you enter a valid password. The wizard accepts incorrect or invalid passwords, but does not start the application

The wizard performs the application monitoring configuration tasks. The wizard creates the required resources and enables the application heartbeat that communicates with VMware HA. The panel displays the status of each task.

- 8 After all the tasks are complete, click **Next**.

If the configuration tasks fail, click **View Logs** to check the details of the failure. Rectify the cause of the failure and run the wizard again to configure the application monitoring.

- 9 On the Finish panel, click **Finish** to complete the application monitoring configuration.

- 10** To view the status of the configured application, in the inventory view of the vSphere Client, click the appropriate virtual machine, and then click the ApplicationHA tab.

In the ApplicationHA view, the Status field displays the status of the configured SAP application. The following states are displayed:

online	Indicates that the configured SAP instances are running on the virtual machine.
offline	Indicates that the configured SAP instances are not running on the virtual machine.
partial	Indicates that either the configured SAP instances are being started on the virtual machine or Symantec ApplicationHA was unable to start one or more of the configured SAP instances.
faulted	Indicates that the configured SAP instances have unexpectedly stopped running.

- 11 On the Component List tab, the Description box lists the following information for the configured SAP instances.

SAP Application Server [*Instance Name*] is running
for SAP System [*SAP SID*]

Applications : SAP

Status: **Online** [Settings](#) [Refresh](#)
(Status refreshes every 60 seconds)

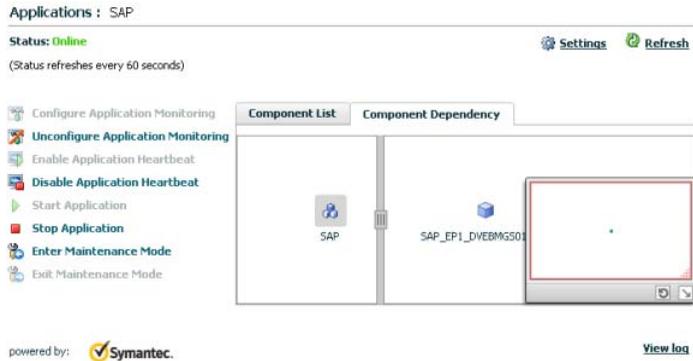
- Configure Application Monitoring
- Unconfigure Application Monitoring**
- Enable Application Heartbeat
- Disable Application Heartbeat**
- Start Application
- Stop Application**
- Enter Maintenance Mode**
- Exit Maintenance Mode

Component List	Component Dependency
Description	
✔ SAP Application Server [DVEBMGS01] is running for SAP System [EP1].	

powered by:  [View log](#)

If the application status shows as not running, click **Start Application** to start the configured application on the machine.

12 Click the Component Dependency tab.



The component dependency graph that appears illustrates the dependencies between a selected component group (an application or a group of inter-related components) and its components for the configured application. The left pane displays component groups and/or configured applications. The right pane displays components of the selected component group or application

For more information on viewing the status of a configured application and viewing the component dependency for a configured application, see the *Symantec™ ApplicationHA User's Guide*.

Note: Use the Settings option to change the App.StartStopTimeout value to suit your environment. Increasing the App.StartStopTimeout value allows the SAP application to start or stop completely. For example, you can set App.StartStopTimeout to 300 seconds.

Administering application monitoring

To configure and control application monitoring, you can perform the following administrative tasks through the vSphere Client:

- configure and unconfigure application monitoring
- view the status of configured applications
- view the component dependency
- start and stop configured applications
- enable and disable application heartbeat
- enter an application into maintenance mode

- bring an application out of maintenance mode
- manage Symantec ApplicationHA licenses

For more information, refer to the *Symantec™ ApplicationHA User's Guide* and the *Symantec™ ApplicationHA Installation and Upgrade Guide*.

Troubleshooting the agent for SAP NetWeaver

This chapter includes the following topics:

- [Reviewing error log files](#)

Reviewing error log files

If you face problems while using SAP server or the agent for SAP, use the log files described in this section to investigate the problems.

Using SAP server log files

If a SAP server is facing problems, you can access the server log files to further diagnose the problem. The SAP log files are located in the `<Drive>:\usr\sap\SAPSID\InstanceName\work` directory.

Reviewing ApplicationHA log files

In case of problems while using the agent for SAP, you can access log files. The ApplicationHA log files are located in the following directory:

```
C:\ProgramData\Symantec\ApplicationHA\Logs\ApplicationHA.log.
```

