



# Sun Cluster Data Service for Samba Guide for Solaris OS

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Part No: 819-1081-10  
August 2005, Revision A

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# Preface

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*Sun Cluster Data Service for Samba Guide for Solaris OS* explains how to install and configure Sun™ Cluster HA for Samba on both SPARC® and x86 based systems.

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**Note** – In this document, the term “x86” refers to the Intel 32-bit family of microprocessor chips and compatible microprocessor chips made by AMD.

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This document is intended for system administrators with extensive knowledge of Sun software and hardware. Do not use this document as a planning or presales guide. Before reading this document, you should have already determined your system requirements and purchased the appropriate equipment and software.

The instructions in this document assume knowledge of the Solaris™ Operating System and expertise with the volume manager software that is used with Sun Cluster.

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**Note** – Sun Cluster software runs on two platforms, SPARC and x86. The information in this document pertains to both platforms unless otherwise specified in a special chapter, section, note, bulleted item, figure, table, or example.

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## UNIX Commands

This document contains information about commands that are specific to installing and configuring Sun Cluster data services. The document does *not* contain comprehensive information about basic UNIX® commands and procedures, such as shutting down the system, booting the system, and configuring devices. Information about basic UNIX commands and procedures is available from the following sources:

- Online documentation for the Solaris Operating System
- Solaris Operating System man pages
- Other software documentation that you received with your system

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## Typographic Conventions

The following table describes the typographic changes that are used in this book.

**TABLE P-1** Typographic Conventions

| Typeface or Symbol | Meaning   | Example   |
|--------------------|---|---|
| AaBbCc123          | The names of commands, files, and directories, and onscreen computer output | Edit your <code>.login</code> file.<br>Use <code>ls -a</code> to list all files.<br><code>machine_name%</code> you have mail.   |
| <b>AaBbCc123</b>   | What you type, contrasted with onscreen computer output                     | <code>machine_name%</code> <b>su</b><br>Password:   |
| <i>AaBbCc123</i>   | Command-line placeholder: replace with a real name or value                 | The command to remove a file is <code>rm filename</code> .  |
| <i>AaBbCc123</i>   | Book titles, new terms, and terms to be emphasized                          | Read Chapter 6 in the <i>User's Guide</i> .<br>Perform a <i>patch analysis</i> .<br>Do <i>not</i> save the file.<br>[Note that some emphasized items appear bold online.] |

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## Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

**TABLE P-2** Shell Prompts

| Shell  | Prompt        |
|--|---------------|
| C shell prompt                               | machine_name% |
| C shell superuser prompt                     | machine_name# |
| Bourne shell and Korn shell prompt           | \$            |
| Bourne shell and Korn shell superuser prompt | #             |

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## Related Documentation

Information about related Sun Cluster topics is available in the documentation that is listed in the following table. All Sun Cluster documentation is available at <http://docs.sun.com>.

| Topic                          | Documentation   |
|--------------------------------|---|
| Data service administration    | <i>Sun Cluster Data Services Planning and Administration Guide for Solaris OS</i><br>Individual data service guides   |
| Concepts                       | <i>Sun Cluster Concepts Guide for Solaris OS</i>  |
| Overview                       | <i>Sun Cluster Overview for Solaris OS</i>  |
| Software installation          | <i>Sun Cluster Software Installation Guide for Solaris OS</i>   |
| System administration          | <i>Sun Cluster System Administration Guide for Solaris OS</i>   |
| Hardware administration        | <i>Sun Cluster 3.0-3.1 Hardware Administration Manual for Solaris OS</i><br>Individual hardware administration guides |
| Data service development       | <i>Sun Cluster Data Services Developer's Guide for Solaris OS</i>   |
| Error messages                 | <i>Sun Cluster Error Messages Guide for Solaris OS</i>  |
| Command and function reference | <i>Sun Cluster Reference Manual for Solaris OS</i>  |

For a complete list of Sun Cluster documentation, see the release notes for your release of Sun Cluster at <http://docs.sun.com>.

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## Related Third-Party Web Site References

Third-party URLs that are referenced in this document provide additional related information.

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## Documentation, Support, and Training

| Sun Function         | URL   | Description   |
|----------------------|---|---|
| Documentation        | <a href="http://www.sun.com/documentation/">http://www.sun.com/documentation/</a>     | Download PDF and HTML documents, and order printed documents            |
| Support and Training | <a href="http://www.sun.com/supporttraining/">http://www.sun.com/supporttraining/</a> | Obtain technical support, download patches, and learn about Sun courses |

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## Product Training

Sun Microsystems offers training in many Sun technologies through a variety of instructor-led courses and self-paced courses. For information about the training courses that Sun offers and to enroll in a class, visit Sun Microsystems Training at <http://training.sun.com/>.



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## Getting Help

If you have problems installing or using Sun Cluster, contact your service provider and provide the following information:

- Your name and email address (if available)
- Your company name, address, and phone number
- The model and serial numbers of your systems
- The release number of the Solaris Operating System (for example, Solaris 8)
- The release number of Sun Cluster (for example, Sun Cluster 3.0)

Use the following commands to gather information about each node on your system for your service provider.

| Command                        | Function  |
|--------------------------------|---|
| <code>prtconf -v</code>        | Displays the size of the system memory and reports information about peripheral devices |
| <code>psrinfo -v</code>        | Displays information about processors   |
| <code>showrev -p</code>        | Reports which patches are installed   |
| SPARC: <code>prtdiag -v</code> | Displays system diagnostic information  |
| <code>scinstall -pv</code>     | Displays Sun Cluster release and package version information                            |

Also have available the contents of the `/var/adm/messages` file.



# Installing and Configuring Sun Cluster HA for Samba

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This chapter explains how to install and configure Sun Cluster HA for Samba.

This chapter contains the following sections.

- “Installing and Configuring Sun Cluster HA for Samba” on page 11
- “Sun Cluster HA for Samba Overview” on page 12
- “Planning the Sun Cluster HA for Samba Installation and Configuration” on page 13
- “Installing and Configuring Samba” on page 21
- “Verifying the Installation and Configuration of Samba” on page 28
- “Installing the Sun Cluster HA for Samba Packages” on page 30
- “Registering and Configuring Sun Cluster HA for Samba” on page 32
- “Verifying the Sun Cluster HA for Samba Installation and Configuration” on page 37
- “Upgrading Sun Cluster HA for Samba” on page 38
- “Understanding the Sun Cluster HA for Samba Fault Monitor” on page 39
- “Debug Sun Cluster HA for Samba” on page 40

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## Installing and Configuring Sun Cluster HA for Samba

Table 1 lists the tasks for installing and configuring Sun Cluster HA for Samba. Perform these tasks in the order that they are listed.

**TABLE 1** Task Map: Installing and Configuring Sun Cluster HA for Samba

| <b>Task</b>  | <b>For Instructions, Go To</b>  |
|--|---|
| 1. Plan the installation.  | "Sun Cluster HA for Samba Overview" on page 12<br>"Planning the Sun Cluster HA for Samba Installation and Configuration" on page 13 |
| 2. Install and configure Samba.                                    | "How to Install and Configure Samba" on page 21   |
| 3. Verify installation and configuration.                          | "How to Verify the Installation and Configuration of Samba" on page 28  |
| 4. Install Sun Cluster HA for Samba Packages.                      | "How to Install the Sun Cluster HA for Samba Packages using the <code>scinstall</code> Utility" on page 31                          |
| 5. Register and Configure Sun Cluster HA for Samba.                | "How to Register and Configure Sun Cluster HA for Samba as a Failover Service" on page 32   |
| 6. Verify Sun Cluster HA for Samba Installation and Configuration. | "How to Verify the Sun Cluster HA for Samba Installation and Configuration" on page 37  |
| 6. Upgrading Sun Cluster HA for Samba.                             | "Upgrading Sun Cluster HA for Samba" on page 38   |
| 7. Understand Sun Cluster HA for Samba fault monitor.              | "Understanding the Sun Cluster HA for Samba Fault Monitor" on page 39   |
| 8. Debug Sun Cluster HA for Samba.                                 | "How to Register and Configure Sun Cluster HA for Samba as a Failover Service with Winbind as a Scalable Service" on page 35        |

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## Sun Cluster HA for Samba Overview

Samba is an Open Source/Freeware suite that provides seamless file and print services to SMB/CIFS clients. Samba is freely available under the GNU General Public License and can be downloaded from <http://www.samba.org>. Samba is packaged with Solaris 9 as the `SUNWsmbac`, `SUNWsmbar`, `SUNWsmbau`, and `SUNWsfman` packages.

The Sun Cluster HA for Samba data service provides a mechanism for orderly startup and shutdown, fault monitoring and automatic failover of the Samba service. The following Samba components are protected by the Sun Cluster HA for Samba data service.

**TABLE 2** Protection of Components

| Component           | Protected by   |
|---------------------|--|
| SMB/CIFS            | Sun Cluster HA for Samba(Samba component)  |
| NetBIOS Name Server | Sun Cluster HA for Samba(Samba component)  |
| Winbind             | SPARC: Sun Cluster HA for Samba (Winbind component — Solaris 8 or Solaris 9 with patch 113476-05 or later).<br><br>x86: Sun Cluster HA for Samba(Winbind component — Solaris 8 or Solaris 9 with patch 114242. |

---

## Planning the Sun Cluster HA for Samba Installation and Configuration

This section contains the information you need to plan your Sun Cluster HA for Samba installation and configuration.

### Configuration Restrictions

This section provides a list of software and hardware configuration restrictions that apply to Sun Cluster HA for Samba only.

For restrictions that apply to all data services, see the *Sun Cluster Release Notes*.



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**Caution** – Your data service configuration might not be supported if you do not observe these restrictions.

---

- **The Sun Cluster HA for Samba data service deployment** – The Sun Cluster HA for Samba data service consists of two components, Samba and Winbind. These components have the following deployment restrictions.
  - **Samba component** — The Samba component, that is. SMB/CIFS and NetBIOS Name Server, cannot operate as a scalable service. Therefore, you can configure the Sun Cluster HA for Samba data service for the Samba component only be run as a failover service.
  - **Winbind component** — The Winbind component can operate as either a failover or scalable service. Therefore, you can configure the Sun Cluster HA for Samba data service for the Winbind component to run as a failover or scalable service.

- **Windows 200x with ADS (Active Directory Support)** — Only Samba version 3.0.x can be used. Samba version 2.2.x does not have ADS capabilities.
- **Winbind deployment** – The following restrictions apply when deploying winbind.
  - **Samba Version** — If the winbind feature is used, then you must install Samba v2.2.4 or later.
  - **Solaris Version** — Solaris 9 with patch 113476–05 or later.
  - **Multiple instances** — Only one instance of winbind can be deployed, whether that instance is a failover or scalable service.
- **Supported configurations** – Currently, only the following configurations are supported with the Sun Cluster HA for Samba data service.
  - Samba in a Primary Domain Controller (PDC) configuration.
  - Samba in a Backup Domain Controller (BDC) configuration to a Samba PDC.
  - Samba as an NT 4 Domain member without winbind.
  - Samba as an NT 4 Domain Member with winbind (Refer to the restriction above with Solaris 9.)
  - Samba as an Windows 200x with ADS (Active Directory Support) member without winbind.
  - Samba as an Windows 200x with ADS (Active Directory Support) member with winbind (Refer to the restriction above with Solaris 9.)
  - Samba in a Standalone configuration
- **Installing Samba onto Cluster File Systems** — The following restrictions apply for all Samba delivery methods.
  - **Samba component** — Each Samba instance must have a unique *configuration directory* that reflects the *Samba NetBIOS* instance name. You can mount this *configuration directory* as either a Failover File System or Global File System.
  - **Winbind component** — The winbind component only as a single instance. However, Winbind still requires a *configuration directory*. This configuration directory is the same directory as for the Samba component in failover service and in a separated directory for a scalable service.

---

**Note** – It is best practice to mount Global File Systems with the */global* prefix and to mount Failover File Systems with the */local* prefix.

---

shows Samba installed from <http://www.samba.org> onto a Global File System with two Samba instances (SAMBA1 and SAMBA2) and Winbind within that Global File System. The final output shows a subset of the `/etc/vfstab` entries for Samba deployed using Solaris Volume Manager.

**EXAMPLE 1** Samba instances and Winbind with Global File Systems

```
# ls -l /usr/local
total 4
```

**EXAMPLE 1** Samba instances and Winbind with Global File Systems (Continued)

```
drwxrwxrwx  2 root    other    512 Oct  1 16:44 bin
lrwxrwxrwx  1 root    other    13 Oct 11 11:20 samba -> /global/samba
#
# ls -l /global/samba
total 18
drwxr-xr-x  2 root    other    512 Oct 11 15:00 bin
drwxr-xr-x  3 root    other    512 Oct 14 13:49 lib
drwxr-xr-x  6 root    other    512 Oct 11 15:00 man
drwxr-xr-x  2 root    other    512 Oct 14 10:05 private
drwxr-xr-x  7 root    other    512 Oct 14 13:39 SAMBA1
drwxr-xr-x  7 root    other    512 Oct 14 13:40 SAMBA2
drwxr-xr-x  6 root    other    512 Oct 11 15:01 swat
drwxr-xr-x  3 root    other    512 Oct 14 10:45 var
drwxr-xr-x  2 root    other    512 Jan 17 09:28 winbind
#
# more /etc/vfstab (Subset of the output)
/dev/md/dg_d6/dsk/d63  /dev/md/dg_d6/rdisk/d63  /global/samba
                ufs      4          yes    logging,global
#
```

In Example 1–1 the *configuration directory* for the Samba NetBIOS instance SAMBA1 is /global/samba/SAMBA1, whereas the *configuration directory* for the Samba NetBIOS instance SAMBA2 is /global/samba/SAMBA2. The Winbind *configuration directory* is /global/samba/winbind.

Example 1–2 shows Samba installed from Solaris 9 on Local File Systems and two Samba instances (SMB1 and SMB2) on Failover File Systems. The final output shows a subset of the /etc/vfstab entries for Samba deployed using Solaris Volume Manager.

**EXAMPLE 2** Samba instances with Failover File Systems

```
# ls -l /local/samba
total 4
drwxr-xr-x  2 root    other    512 Dec 19 15:51 SMB1
drwxr-xr-x  2 root    other    512 Dec 19 15:51 SMB2
#
# more /etc/vfstab (Subset of the output)
/dev/md/dg_d7/dsk/d70  /dev/md/dg_d7/rdisk/d70  /local/samba/SMB1
                ufs      3          no     logging
/dev/md/dg_d8/dsk/d80  /dev/md/dg_d8/rdisk/d80  /local/samba/SMB2
                ufs      3          no     logging
#
```

In example 1–2 the *configuration directory* for the Samba NetBIOS instance SMB1 is /local/samba/SMB1, whereas the *configuration directory* for the Samba NetBIOS instance SMB2 is /local/samba/SMB2.

## Configuration Requirements

These requirements apply to Sun Cluster HA for Samba only. You must meet these requirements before you proceed with your Sun Cluster HA for Samba installation and configuration.



---

**Caution** – Your data service configuration might not be supported if you do not adhere to these requirements.

---

If you want to set up Samba as member of a Windows 200x server with ADS support, you must configure kerberos on the cluster nodes and compile Samba with both Ldap and kerberos support. Read the Samba documentation for those tasks.

**Samba components and their dependencies** —You can configure the Sun Cluster HA for Samba data service to protect a Samba instance and its respective components. These components, and their dependencies are described in Table 1–3.

**TABLE 3** Samba components and their dependencies (via → symbol)

| Componet           | Description  |
|--------------------|--|
| Samba (Mandatory)  | → <i>Winbind</i> resource, if winbind and a single Samba instance is deployed. See below for more information.<br>→ <i>Winbind</i> resource group, if winbind and multiple Samba instances are deployed. See below for more information.<br>→ <i>SUNW.HAStoragePlus</i> resource<br>The <i>SUNW.HAStoragePlus</i> resource manages the Samba File System Mount points and ensures that Samba is not started until these are mounted. |
| Winbind (Optional) | → <i>SUNW.HAStoragePlus</i> resource<br>The <i>SUNW.HAStoragePlus</i> resource manages the Winbind File System Mount points and ensures that Winbind is not started until these are mounted.   |

---

**Note** – For more detailed information about these Samba components, refer to the *smbd(8)*, *nmbd(8)*, *winbindd(8)*, and *smb.conf(5)* man pages.

---

If your configuration has only a single instance of Samba with winbind, the winbind resource must be registered within the same resource group as the Samba resource and the winbind resource will use the same configuration directory as the Samba resource. The Samba resource must be start-dependent on the winbind resource. Refer to the *r\_properties(5)* man page for information on *Resource\_dependencies*.



If your configuration has multiple instances of Samba with winbind, the winbind resource must be a scalable resource and have a separate configuration directory, and all Samba resources must be start-dependent on the winbind scalable resource group. Refer to the `rg_properties(5)` man page for information on `RG_dependencies`. You must mount the winbind *configuration directory* as a Global File System.

Each Samba component has a configuration and registration file in `/opt/SUNWscsmb/xxx/util`, where `xxx` is a three-character abbreviation for the respective Samba component. These files allow you to register the Samba components with Sun Cluster.

Within these files, the appropriate dependencies have been applied.

**EXAMPLE 3** Samba configuration and registration file for Sun Cluster

```
# cd /opt/SUNWscsmb
#
# ls -l samba/util
total 6
-rwxr-xr-x  1 root    sys      1526 Dec 20 14:44 samba_config
-rwxr-xr-x  1 root    sys       736 Dec 20 14:44 samba_register
#
# ls -l winbind/util
total 4
-rwxr-xr-x  1 root    sys     1006 Dec 20 14:44 winbind_config
-rwxr-xr-x  1 root    sys      613 Dec 20 14:44 winbind_register
#
# more samba/util/samba_config
:::::::::::::
samba/util/samba_config
:::::::::::::
#
# Copyright 2003 Sun Microsystems, Inc.  All rights reserved.
# Use is subject to license terms.
#
# This file will be sourced in by samba_register and the parameters
# listed below will be used.
#
# These parameters can be customized in (key=value) form
#
#         RS - name of the resource for the application
#         RG - name of the resource group containing RS
#     SMB_BIN - name of the Samba bin directory
#     SMB_SBIN - name of the Samba sbin directory
#                (If no sbin then specify the bin directory)
#     SMB_INST - name of the Samba configuration directory
#     SMB_LOG - name of the Samba log directory
#                for log.smbd and log.nmbd
#                (If not specified will default
#                to $SMB_INST/logs)
#SMB_LIB_PATH - name of library paths to LD_LIBRARY_PATH
#     FMUSER - name of the Samba fault monitor user
#     FMPASS - name of the Samba fault monitor user password
#     FMDOMAIN - name of the NT-domain faultmonitor user is configured on.
```

**EXAMPLE 3** Samba configuration and registration file for Sun Cluster (Continued)

```
#           ( This should be used if faultmonitor user is not configured
#           on the same NT-domain Samba is member to )
#           LH - name of the LogicalHostname SC resource
#           HAS_RS - name of the Samba HASStoragePlus SC resource
#
#           The following two examples illustrate sample parameters
#           for Samba packaged with Solaris 9 and Samba downloaded
#           from http://www.samba.org.
#
#           Please be aware that /global/samba, /global/samba/SAMBA1 and
#           uid/pwd of samba are used just as examples. You will need
#           change this if your values are different.
#
#           SUNWsm* packaged with Solaris 9
#
#           SMB_BIN=/usr/sfw/bin
#           SMB_SBIN=/usr/sfw/sbin
#           SMB_INST=/local/samba/SMB1
#           SMB_LOG=/local/samba/SMB1/logs
#           FMUSER=samba
#           FMPASS=samba
#           FMDOMAIN=
#
#           Latest production release from http://www.samba.org
#
#           SMB_BIN=/global/samba/bin
#           SMB_SBIN=/global/samba/sbin or /global/samba/bin
#           SMB_INST=/global/samba/SAMBA1
#           SMB_LOG=/global/samba/SAMBA1/logs
#           FMUSER=samba
#           FMPASS=samba
#           FMDOMAIN=
#
RS=
RG=
SMB_BIN=
SMB_SBIN=
SMB_INST=
SMB_LOG=
SMB_LIB_PATH=/usr/lib:/usr/local/lib
FMUSER=
FMPASS=
FMDOMAIN=
LH=
HAS_RS=
:::::::::::::
# more winbind/util/winbind_config
:::::::::::::
winbind/util/winbind_config
:::::::::::::
#
#
```

**EXAMPLE 3** Samba configuration and registration file for Sun Cluster (Continued)

```
# Copyright 2003 Sun Microsystems, Inc. All rights reserved.
# Use is subject to license terms.
#
# This file will be sourced in by samba_register and the parameters
# listed below will be used.
#
# These parameters can be customized in (key=value) form
#
#     RS - name of the resource for the application
#     RG - name of the resource group containing RS
#     WB_BIN - name of the Winbind bin directory
#     WB_SBIN - name of the Winbind sbin directory. Used in Samba 3.
#     WB_INST - name of the Winbind configuration directory
#     NTUSER - name of the NT fault monitor user
#WB_LIB_PATH- name of library paths to LD_LIBRARY_PATH
#WB_DISCACHE - Should winbind cache be disabled. Used in Samba 3.
#WB_SINGLEMODE - Should winbind run in single mode. Used in Samba 3.
#     LH - name of the LogicalHostname SC resource
#     HAS_RS - name of the Winbind HASStoragePlus SC resource
#
#     The following example illustrates sample parameters
#     for the latest production release of Samba downloaded
#     from http://www.samba.org.
#
#
#     Latest production release from http://www.samba.org
#
#     WB_BIN=/global/samba/bin
#     WB_SBIN=/global/samba/sbin
#     WB_INST=/global/samba/winbind
#     NTUSER=samba
#
RS=
RG=
WB_BIN=
WB_SBIN=
WB_INST=
NTUSER=
WB_LIB_PATH=/usr/lib:/usr/local/lib
WB_DISCACHE=FALSE
WB_SINGLEMODE=FALSE
LH=
HAS_RS=
```

If you want to set up Samba as member of a Windows 200x server with ADS support and the Samba binaries is not static linked with the Ldap and kerberos libraries, you must configure SMB\_LIB\_PATH parameter in /opt/SUNWscsmb/samba/utils/samba\_config and WB\_LIB\_PATH in /opt/SUNWscsmb/winbind/utils/winbind\_config to point to the directories where those libraries resides.

**smb.conf file** — The Sun Cluster HA for Samba data service provides a sample `smb.conf` file. Ensure that the following parameters are set.

---

**Note** – The `smb.conf` file is probably the most important file within Samba. Refer to the `smb.conf(5)` man page for complete configuration information on the parameters that follow. The Samba man pages with Solaris 9 are installed only if you have installed the `SUNWSfman` package.

---

- Samba parameters in the `smb.conf` file for 2.2.x and for Samba 3.0.x.
  - **bind interfaces only** must be set to True.
  - **interface** must be defined to the Logical Hostname.
  - **netbios name** must be set to the NetBIOS name by which the Samba server is known.
  - **security** specifies the security mode under which the Samba instance will run.
- Winbind parameters in the `smb.conf` file for 2.2.x.
  - **workgroup** must be set to the same value as the Samba `smb.conf` entry.
  - **password server** must be set to the same value as the Samba `smb.conf` entry.
  - **template homedir** must be set to the same value as the Samba `smb.conf` entry.
  - **template shell** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind uid** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind gid** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind enum users** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind use default domain** must be set to the same value as the Samba `smb.conf` entry.
- Winbind parameters in the `smb.conf` file for 3.0.x.
  - **workgroup** must be set to the same value as the Samba `smb.conf` entry.
  - **password server** must be set to the same value as the Samba `smb.conf` entry.
  - **template homedir** must be set to the same value as the Samba `smb.conf` entry.
  - **template shell** must be set to the same value as the Samba `smb.conf` entry.
  - **idmap uid** must be set to the same value as the Samba `smb.conf` entry.
  - **idmap gid** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind enum users** must be set to the same value as the Samba `smb.conf` entry.
  - **winbind use default domain** must be set to TRUE.

---

**Note** – If you make additional `smb.conf` entries and those entries require a path variable, then you must ensure that any subsequent pathname is created within the relevant Samba or Winbind instance *configuration directory*.

---

---

# Installing and Configuring Samba

This section contains the procedures you need to install and configure Samba.

Throughout the next sections, references will be made to certain directories for Samba or Winbind. The following list shows common pathnames for these references as shown in previous examples. Refer to “[Configuration Restrictions](#)” on page 13 where these examples appear.

- Samba installed from <http://www.samba.org> on a Global File System, with Samba instances and Winbind on a Global File System ([Example 1](#))
  - *Samba-bin-directory* — /global/samba/bin
  - *Samba-sbin-directory* — /global/samba/sbin or /global/samba/bin if Samba was installed with default settings.
  - *Samba-configuration-directory* — /global/samba/SAMBA1
  - *Winbind-configuration-directory* — /global/samba/winbind
- Samba installed from Solaris 9 on a Local File System, with Samba instances on a Failover File System ([Example 2](#))
  - *Samba-bin-directory* — /usr/sfw/bin
  - *Samba-sbin-directory* — /usr/sfw/sbin
  - *Samba-configuration-directory* — /local/samba/SMB1

## How to Install and Configure Samba

1. **Determine how Samba will be deployed in Sun Cluster.**
  - Determine how many Samba instances will be deployed.
  - Determine whether Winbind will be deployed.
  - Determine which Cluster File System will be used by each Samba instance and Winbind Instance, if deployed.
2. **Mount the Samba Cluster File Systems .**

---

**Note** – If Failover File Systems will be used by the Samba instance, you must mount these manually.

---

3. **Install Samba onto all nodes within Sun Cluster.**

It is recommended that you install Samba onto a Global File System. For a discussion of the advantages and disadvantages of installing the software on local versus cluster files systems, see “[Determining the Location of the Application](#)”

Binaries” of the *Sun Cluster Data Services Installation and Configuration Guide*.

- **Download Samba from <http://www.samba.org>.**

Ensure that `/usr/local/samba` is a Cluster File System or has a symbolic link to a Cluster File System. If you intend to use local disks for the Samba software, repeat this step on all nodes within Sun Cluster.

Example 1–4 shows the Samba installation with winbind for 2.2.8a after it has been download, unzipped, and extracted. Read the Samba documents for building Samba 3 with ADS (Active Directory Support) support.

```
# cd <samba_install_directory>/source
#
# ./configure --with-winbind --with-pam
#
# make
#
# make install
```

- **Alternatively, install Samba from the Solaris 9 CD.**

You must install the following packages onto all nodes within Sun Cluster that will run the Samba service.

- SUNWsmbac
- SUNWsmbar
- SUNWsmbau
- SUNWsfman

4. **Create an entry for the fault monitor user.**

- **If winbind is not being used:**

Create an entry in `/etc/group` on all nodes with Sun Cluster.

```
# groupadd -g 1000 <fmgroup>
```

Create an entry in `/etc/passwd` on all nodes within Sun Cluster. This user should have a locked password, no shell and no home directory.

```
# useradd -u 1000 -g 1000 -s /bin/false <fmuser>
```

- **If winbind is being used:**

Create the fault monitor user on the NT PDC/ Windows 200x server with no home directory, no user profiles and no logon script. Set the Password never expire parameter to `true` and User cannot change password parameter to `true`.

5. **Create required directories for your Samba Instance(s):**

If you are deploying multiple instances of Samba, repeat this step for each Samba instance, that is each *samba-configuration-directory*. Create a directory for any shares, although this directory name can be a name of your choice.

```
# cd <samba-configuration-directory>
#
# mkdir -p lib logs private shares var/locks
```

---

**Note** – Refer back to “[Configuration Restrictions](#)” on page 13 for a description of the `<samba-configuration-directory>` and to “[Installing and Configuring Samba](#)” on page 21 for a list of common pathnames used from the examples.

---

Example 1–5 shows two Samba instances named SAMBA1 and SAMBA2. Samba has been installed from <http://www.samba.org> and `/usr/local/samba` has been symbolically linked to `/global/samba` which is mounted as a Global File System. The *samba-configuration-directory* for SAMBA 1 is `/global/samba/SAMBA1` and the *samba-configuration-directory* for SAMBA2 is `/global/samba/SAMBA2`.

```
# ls -l /usr/local/samba
lrwxrwxrwx  1 root    other           13 Oct 11 11:20 /usr/local/samba ->
/global/samba
#
# cd /global/samba
#
# ls -l
total 18
drwxr-xr-x  2 root    other           512 Oct 11 15:00 bin
drwxr-xr-x  3 root    other           512 Oct 14 13:49 lib
drwxr-xr-x  6 root    other           512 Oct 11 15:00 man
drwxr-xr-x  2 root    other           512 Oct 14 10:05 private
drwxr-xr-x  7 root    other           512 Oct 14 13:39 SAMBA1
drwxr-xr-x  7 root    other           512 Oct 14 13:40 SAMBA2
drwxr-xr-x  6 root    other           512 Oct 11 15:01 swat
drwxr-xr-x  3 root    other           512 Oct 14 10:45 var
drwxr-xr-x  2 root    other           512 Jan 17 09:28 winbind
#
# cd SAMBA1
#
# mkdir -p lib logs private shares var/locks
#
# cd ../SAMBA2
#
# mkdir -p lib logs private shares var/locks
```

6. **Create the Samba `smb.conf` file according to your requirements.**

The Sun Cluster HA for Samba data service provides a sample `smb.conf` file for Samba.

---

**Note** – If the Sun Cluster HA for Samba package (`SUNWscsmb`) was not installed during Sun Cluster installation, proceed to “[Installing the Sun Cluster HA for Samba Packages](#)” on page 30. Return back here to continue the installation and configuration of Samba.

---

The contents of `/opt/SUNWscsmb/samba/etc/smb.conf_sample` provide a sample Samba configuration file that you can use to create your Samba instance `<samba-configuration-directory>/lib/smb.conf`. You must still edit that file to reflect your configuration values.

```
# cp /opt/SUNWscsmb/samba/etc/smb.conf_sample \
<samba-configuration-directory>/lib/smb.conf
```

If you are installing the Winbind component, then after `smb.conf_sample` has been copied, add the following entries into the `global` section of `<samba-configuration-directory>/lib/smb.conf`. The values shown below are the default values taken from the `smb.conf [5]` man page.

```
winbind uid = 10000-20000
winbind gid = 10000-20000
winbind enum users = yes
winbind enum groups = yes
```

---

**Note** – `pid` directory must point to `<samba-configuration-directory>/var/locks`, as specified within `smb.conf_sample`.

---

#### 7. Test the Samba `smb.conf` file.

```
# <samba-bin-directory>/testparm \
<samba-configuration-directory>/lib/smb.conf
```

#### 8. If configured as an NT Domain Member and using Samba 2.2.x, join the domain

```
# <samba-bin-directory>/smbpasswd \
-c <samba-configuration-directory>/lib/smb.conf \
-j <DOMAIN> -r <PDC> \
-U <Administrator on the PDC>
```

If successful, you will receive the following message.

```
# smbpasswd: Joined domain <DOMAIN>
```

#### 9. If configured as an NT Domain Member and using Samba 3.0.x, join the domain

```
# <samba-bin-directory>/net \
-s <samba-configuration-directory>/lib/smb.conf \
RPC JOIN
-U <Administrator on the PDC>
```

If successful, you will receive the following message.

```
# Joined domain <DOMAIN>
```

#### 10. If configured as an Windows 200x Domain Member with ADS support, join the domain

```
# <samba-bin-directory>/net \
-s <samba-configuration-directory>/lib/smb.conf \
ADS JOIN \
```



```
-U <Administrator on the Windows 200x Domain>
```

If successful, you will receive the following message.

```
# Joined <NETBIOS> to realm <REALM>
```

#### 11. If configured as an PDC or with security = user, add the fault monitor user

```
# <samba-bin-directory>/smbpasswd \
-c <samba-configuration-directory>/lib/smb.conf \
-a <fmuser>
```

---

**Note** – With Samba v2.2.2, packaged with Solaris 9, the smbpasswd program will not recognize the -c parameter and will look for the smb.conf file in /etc/sfw. To workaroud this, create a symbolic link from /etc/sfw/smb.conf to <samba-configuration-directory>/lib/smb.conf. If multiple Samba instances are being deployed, you will need to delete the symbolic link and repeat the process for each Samba instance.

If patch 114684-01 or later is installed then smbpasswd will reconize the -c parameter.

If Samba 3.0.x is being used, you can use pdbedit to add users to other password backends. Read the Samba documents for the usage of pdbedit and other password backends

---

#### 12. Create required directories for your Winbind Instance.

The remaining steps are required only if the Winbind component. Otherwise, you can skip the remaining steps and proceed to [“Verifying the Installation and Configuration of Samba”](#) on page 28.

If you are deploying Winbind, create the following directories and symbolic link within the *winbind-configuration-directory*.

```
# cd <winbind-configuration-directory>
#
# mkdir -p lib locks private var
# mkdir -p /var/winbind/pid
# ln -s /var/winbind/pid var/locks
```

---

**Note** – Refer to [“Configuration Restrictions”](#) on page 13 for a description of the <winbind-configuration-directory> and to [“Installing and Configuring Samba”](#) on page 21 for a list of common pathnames used from the examples.

---

Example 1-6 shows the Winbind instance. Samba has been installed from <http://www.samba.org>, and /usr/local/samba has been symbolically linked to /global/samba, which is mounted as a Global File System. The *winbind-configuration-directory* for Winbind is /global/samba/winbind.

```

# ls -l /usr/local/samba
lrwxrwxrwx 1 root other 13 Oct 11 11:20 /usr/local/samba ->
/global/samba
#
# cd /global/samba
#
# ls -l
total 18
drwxr-xr-x 2 root other 512 Oct 11 15:00 bin
drwxr-xr-x 3 root other 512 Oct 14 13:49 lib
drwxr-xr-x 6 root other 512 Oct 11 15:00 man
drwxr-xr-x 2 root other 512 Oct 14 10:05 private
drwxr-xr-x 7 root other 512 Oct 14 13:39 SAMBA1
drwxr-xr-x 7 root other 512 Oct 14 13:40 SAMBA2
drwxr-xr-x 6 root other 512 Oct 11 15:01 swat
drwxr-xr-x 3 root other 512 Oct 14 10:45 var
drwxr-xr-x 2 root other 512 Jan 17 09:28 winbind
#
# cd winbind
#
# mkdir -p lib locks private var
# mkdir -p /var/winbind/pid
# ln -s /var/winbind/pid var/locks

```

### 13. Create the Winbind smb.conf file according to your requirements.

The Sun Cluster HA for Samba data service provides a sample `smb.conf` file for Winbind.

---

**Note** – If the Sun Cluster HA for Samba package (`SUNWscsmb`) was not installed during your Sun Cluster installation, proceed to [“Installing the Sun Cluster HA for Samba Packages” on page 30](#). Return here to continue the Installation and Configuration of Samba.

If the winbind resource will not run as a scalable resource, you can use the same configuration directory as Samba and update the `smb.conf` file with winbind parameters.

---

The contents of `/opt/SUNWscsmb/winbind/etc/smb.conf_sample` provide a sample Winbind configuration file that you can use to create your Winbind instance `<winbind-configuration-directory>/lib/smb.conf`. You must edit that file to reflect your configuration values. In addition, you need to add the following entry to the `[global]` section within the `smb.conf` file.

```

# cp /opt/SUNWscsmb/winbind/etc/smb.conf_sample \
<winbind-configuration-directory>/lib/smb.conf

```

After `smb.conf_sample` has been copied, add the following entries into the `[global]` section of `<winbind-configuration-directory>/lib/smb.conf`.

```

smb passwd file = <winbind-configuration-directory>/private
lock directory = <winbind-configuration-directory>/locks

```

```
pid directory = <winbind-configuration-directory>/var/locks
```

---

**Note** – If the Winbind component will operate as a scalable service, then you must mount the Winbind *configuration directory* as a Global File System. See the winbindd(8) man page for a discussion on Name and ID Resolution being stored in a database under the lock directory.

pid directory must point to *configuration directory* /var/locks. In addition, ensure that *configuration directory* /var/locks is a symbolic link to a local file system ie /var/winbind/pid.

---

14. **Add winbind as a name service** to /etc/nsswitch.conf for passwd and group on all nodes that will run the Sun Cluster HA for Samba data service.

```
# grep winbind /etc/nsswitch.conf
passwd:      files winbind
group:       files winbind
```

15. **Copy and create some symbolic links.**

You must setup some files and symbolic links for winbind on all nodes that will run the Sun Cluster HA for Samba data service.

```
# cd <samba-install-directory>
#
# cp source/nsswitch/libnss_winbind.so /usr/lib
#
# ln -s /usr/lib/libnss_winbind.so /usr/lib/libnss_winbind.so.1
#
# ln -s /usr/lib/libnss_winbind.so /usr/lib/nss_winbind.so.1
```

16. **On one node start winbind.**

---

**Note** – Depending on how Samba was installed, the winbind program may be located within the <samba-bin-directory> or <samba-sbin-directory>.

---

```
# <samba-[s]bin-directory>/winbindd -s <winbind-configuration-directory>/lib/smb.conf
```

17. **Populate the winbind database.**

```
# getent passwd
# getent group
```

18. **Shutdown winbindd.**

```
# pkill -TERM winbindd
```

---

# Verifying the Installation and Configuration of Samba

This section contains the procedure you need to verify the installation and configuration.

## ▼ How to Verify the Installation and Configuration of Samba

This procedure does not verify that your application is highly available because you have not yet installed your data service.

---

**Note** – Before verifying the Installation and Configuration of Samba, ensure that the Logical Hostname for the Samba is available. To do this, complete steps 4, 6, and 7 in [“How to Register and Configure Sun Cluster HA for Samba as a Failover Service”](#) on page 32.

---

### Steps 1. Test the smb.conf file.

#### a. Test the Samba smb.conf file.

```
# <samba-bin-directory>/testparm \
<samba-configuration-directory>/lib/smb.conf
```

#### b. Test the Winbind smb.conf file (if required).

```
# <samba-bin-directory>/testparm \
<winbind-configuration-directory>/lib/smb.conf
```

### 2. If configured as an NT Domain Member, join the domain.

```
# <samba-bin-directory>/smbpasswd \
-c <samba-config-directory>/lib/smb.conf \
-j <DOMAIN> -r <PDC> \
-U <Administrator on the PDC>
```

If successful, you will receive the following message.

```
# smbpasswd: Joined domain <DOMAIN>
# <samba-bin-directory>/net \
-s <samba-config-directory>/lib/smb.conf \
-U <Administrator on the PDC>
```

If successful, you will receive the following message.

```
# Joined domain <DOMAIN>
```

### 3. If configured as a member of a Windows 200x with ADS , join the realm.

```
# <samba-bin-directory>/net \
-s <samba-config-directory>/lib/smb.conf \
\
-U <Administrator on the PDC>
```

If successful, you will receive the following message.

```
# Joined <NETBIOS> to realm <REALM>
```

### 4. Start the Samba daemons.

---

**Note** – Depending on how Samba was installed, the `smbd` and `nmbd` programs may be located within the `<samba-bin-directory>` or `<samba-sbin-directory>`.

---

```
# <samba-[s]bin-directory>/smbd -s <samba-config-directory>/lib/smb.conf -D
# <samba-[s]bin-directory>/nmbd -s <samba-config-directory>/lib/smb.conf -D
```

### 5. Connect to Samba.

```
# <samba-bin-directory>/smbclient -N -L <NetBIOS-name>
# <samba-bin-directory>/smbclient '\\<NetBIOS-name>\scomondir' \
-U <fmuser> -c 'pwd;exit'
```

---

**Note** – Single quotes are required on the last command.

---

### 6. Start the Winbind daemon (if required).

---

**Note** – Depending on how Samba was installed, the `winbind` program may be located within the `<samba-bin-directory>` or `<samba-sbin-directory>`.

---

```
# <samba-[s]bin-directory>/winbindd -s <winbind-configuration-directory>/lib/smb.conf &
```

### 7. Connect to Winbind (if required).

```
# getent passwd
# getent group
```

### 8. Stop the Samba daemons and winbindd (if required).

```
# pkill -TERM smbd
# pkill -TERM nmbd
# pkill -TERM winbindd
```

---

# Installing the Sun Cluster HA for Samba Packages

If you did not install the Sun Cluster HA for Samba packages during your Sun Cluster installation, perform this procedure to install the packages. Perform this procedure on each cluster node where you are installing the Sun Cluster HA for Samba packages. To complete this procedure, you need the Sun Cluster Agents CD-ROM.

If you are installing more than one data service simultaneously, perform the procedure in “Installing the Software” in *Sun Cluster Software Installation Guide for Solaris OS*.

Install the Sun Cluster HA for Samba packages by using one of the following installation tools:

- Web Start program
- `scinstall` utility

---

**Note** – If you are using Solaris 10, install these packages *only* in the global zone. To ensure that these packages are not propagated to any local zones that are created after you install the packages, use the `scinstall` utility to install these packages. Do *not* use the Web Start program.

---

## ▼ How to Install the Sun Cluster HA for Samba Packages Using the Web Start Program

You can run the Web Start program with a command-line interface (CLI) or with a graphical user interface (GUI). The content and sequence of instructions in the CLI and the GUI are similar. For more information about the Web Start program, see the `installer(1M)` man page.

- Steps**
1. **On the cluster node where you are installing the Sun Cluster HA for Samba packages, become superuser.**
  2. **(Optional) If you intend to run the Web Start program with a GUI, ensure that your `DISPLAY` environment variable is set.**
  3. **Insert the Sun Cluster Agents CD-ROM into the CD-ROM drive.**  
If the Volume Management daemon `vold(1M)` is running and configured to manage CD-ROM devices, it automatically mounts the CD-ROM on the `/cdrom/cdrom0` directory.
  4. **Change to the Sun Cluster HA for Samba component directory of the CD-ROM.**

The Web Start program for the Sun Cluster HA for Samba data service resides in this directory.

```
# cd /cdrom/cdrom0/components/SunCluster_HA_Samba_3.1
```

**5. Start the Web Start program.**

```
# ./installer
```

**6. When you are prompted, select the type of installation.**

- To install only the C locale, select Typical.
- To install other locales, select Custom.

**7. Follow the instructions on the screen to install the Sun Cluster HA for Samba packages on the node.**

After the installation is finished, the Web Start program provides an installation summary. This summary enables you to view logs that the Web Start program created during the installation. These logs are located in the `/var/sadm/install/logs` directory.

**8. Exit the Web Start program.**

**9. Remove the Sun Cluster Agents CD-ROM from the CD-ROM drive.**

- a. To ensure that the CD-ROM is not being used, change to a directory that does *not* reside on the CD-ROM.
- b. Eject the CD-ROM.

```
# eject cdrom
```

## ▼ How to Install the Sun Cluster HA for Samba Packages using the `scinstall` Utility

Use this procedure to install the Sun Cluster HA for Samba packages by using the `scinstall` utility. You need the Sun Cluster Agents CD-ROM to perform this procedure. This procedure assumes that you did not install the data service packages during your initial Sun Cluster installation.

If you installed the Sun Cluster HA for Samba packages as part of your initial Sun Cluster installation, proceed to [“Registering and Configuring Sun Cluster HA for Samba”](#) on page 32.

Otherwise, use this procedure to install the Sun Cluster HA for Samba packages. Perform this procedure on all nodes that can run Sun Cluster HA for Samba data service.

**Steps** 1. Load the Sun Cluster Agents CD-ROM into the CD-ROM drive.

2. **Run the `scinstall` utility with no options.**  
This step starts the `scinstall` utility in interactive mode.
3. **Choose the menu option, Add Support for New Data Service to This Cluster Node.**  
The `scinstall` utility prompts you for additional information.
4. **Provide the path to the Sun Cluster Agents CD-ROM.**  
The utility refers to the CD as the “data services cd.”
5. **Specify the data service to install.**  
The `scinstall` utility lists the data service that you selected and asks you to confirm your choice.
6. **Exit the `scinstall` utility.**
7. **Unload the CD from the drive.**

---

## Registering and Configuring Sun Cluster HA for Samba

This section contains the procedures you need to configure Sun Cluster HA for Samba.

### ▼ How to Register and Configure Sun Cluster HA for Samba as a Failover Service

This procedure assumes that you installed the data service packages during your initial Sun Cluster installation.

If you did not install the Sun Cluster HA for Samba packages as part of your initial Sun Cluster installation, go to [“How to Install the Sun Cluster HA for Samba Packages using the `scinstall` Utility”](#) on page 31.

- Steps**
1. **Become superuser on one of the nodes in the cluster that will host Samba.**
  2. **Register the `SUNW.gds` resource type.**  

```
# scrgadm -a -t SUNW.gds
```
  3. **Register the `SUNW.HAStoragePlus` resource type.**  

```
# scrgadm -a -t SUNW.HAStoragePlus
```



#### 4. Create a failover resource group.

```
# scrgadm -a -g Samba-failover-resource-group
```

#### 5. Create a resource for the Samba Disk Storage.

```
# scrgadm -a -j Samba-has-resource \
-g Samba-failover-resource-group \
-t SUNW.HASStoragePlus \
-x FilesystemMountPoints=Samba-instance-mount-points
```

#### 6. Create a resource for the Samba Logical Hostname.

```
# scrgadm -a -L -j Samba-lh-resource \
-g Samba-failover-resource-group \
-l Samba-logical-hostname
```

#### 7. Enable the failover resource group that now includes the Samba Disk Storage and Logical Hostname resources.

```
# scswitch -Z -g Samba-failover-resource-group
```

#### 8. Create and register Winbind as a failover data service (if required).

```
# cd /opt/SUNWscsmb/winbind/util
```

Edit the winbind\_config file and follow the comments within that file:

```
# These parameters can be customized in (key=value) form
#
# RS - name of the resource for the application
# RG - name of the resource group containing RS
# WB_BIN - name of the Winbind bin directory
# WB_SBIN - name of the Winbind sbin directory. Used in Samba 3.
# WB_INST - name of the Winbind configuration directory
# NTUSER - name of the NT fault monitor user
#WB_LIB_PATH- name of library paths to LD_LIBRARY_PATH
#WB_DISCACHE - Should winbind cache be disabled. Used in Samba 3.
#WB_SINGLEMODE - Should winbind run in single mode. Used in Samba 3.
# LH - name of the LogicalHostname SC resource
# HAS_RS - name of the Winbind HASStoragePlus SC resource
```

The following is an example for a Winbind instance with Samba installed from <http://www.samba.org>.

```
RS=wb-res
RG=smb-failover-rg
WB_BIN=/global/samba/bin
WB_INST=/global/samba/SAMBA1
NTUSER=samba
WB_LIB_PATH=/usr/lib:/usr/local/lib
WB_DISCACHE=FALSE
WB_SINGLEMODE=FALSE
LH=smb-lh-res
HAS_RS=wb-has-res
```

After editing winbind\_config, you must register the resource.

```
# ./winbind_register
```

## 9. Enable the Winbind resource (if the previous step was done).

```
# scstat
# scswitch -e -j Winbind-resource
```

## 10. Create and register Samba as a failover data service.

```
# cd /opt/SUNWscsmb/samba/util
```

Edit the `samba_config` file and follow the comments within that file:

```
# These parameters can be customized in (key=value) form
#
#       RS - name of the resource for the application
#       RG - name of the resource group containing RS
#   SMB_BIN - name of the Samba bin directory
#   SMB_SBIN - name of the Samba sbin directory
#               (If no sbin then specify the bin directory)
#   SMB_INST - name of the Samba configuration directory
#   SMB_LOG - name of the Samba log directory
#               for log.smbd and log.nmbd
#               (If not specified will default
#               to $SMB_INST/logs)
#SMB_LIB_PATH - name of library paths to LD_LIBRARY_PATH
#   FMUSER - name of the Samba fault monitor user
#   FMPASS - name of the Samba fault monitor user password
#   FMDOMAIN - name of the NT-domain faultmonitor user is configured on.
#               ( This should be used if faultmonitor user is not configured
#               on the same NT-domain Samba is member to )
#   LH - name of the LogicalHostname SC resource
#   HAS_RS - name of the Samba HAStoragePlus SC resource
```

The following is an example for Samba instance SAMBA1 with Samba installed from <http://www.samba.org>.

```
RS=smb-res
RG=smb-failover-rg
SMB_BIN=/global/samba/bin
SMB_SBIN=/global/samba/sbin or /global/samba/bin
SMB_INST=/global/samba/SAMBA1
SMB_LOG=/global/samba/SAMBA1/logs
SMB_LIB_PATH=/usr/lib:/usr/local/lib
FMUSER=samba
FMPASS=samba
FMDOMAIN=
LH=smb-lh-res
HAS_RS=smb-has-res or
HAS_RS=smb-has-res,wb-res if failover winbind is being used
```

The following is an example for Samba instance SMB1 with Samba installed from Solaris 9.

```
RS=smb-res
RG=smb-failover-rg
SMB_BIN=/usr/sfw/bin
SMB_SBIN=/usr/sfw/sbin
SMB_INST=/local/samba/SMB1
SMB_LOG=/local/samba/SMB1/logs
```

```
FMUSER=samba
FMPASS=samba
LH=smb-lh-res
HAS_RS=smb-has-res
```

After editing `samba_config`, you must register the resource.

```
# ./samba_register
```

#### 11. Enable each Samba resource.

Repeat this step for each Samba instance, if multiple instances were created.

```
# scstat
# scswitch -e -j Samba-resource
```

## ▼ How to Register and Configure Sun Cluster HA for Samba as a Failover Service with Winbind as a Scalable Service

This procedure assumes that you installed the data service packages during your initial Sun Cluster installation.

If you did not install the Sun Cluster HA for Samba packages as part of your initial Sun Cluster installation, go to [“How to Install the Sun Cluster HA for Samba Packages using the `scinstall` Utility”](#) on page 31.

### Steps 1. Become superuser on one of the nodes in the cluster that will host Samba.

#### 2. Register the `SUNW.gds` resource type.

```
# scrgadm -a -t SUNW.gds
```

#### 3. Register the `SUNW.HAStoragePlus` resource type.

```
# scrgadm -a -t SUNW.HAStoragePlus
```

#### 4. Create a failover resource group for the shared network address.

```
# scrgadm -a -g Winbind-failover-resource-group
```

#### 5. Create a resource for the Winbind Logical Hostname.

```
# scrgadm -a -s -j Winbind-lh-resource \
-g Winbind-failover-resource-group \
-l Winbind-logical-hostname
```

#### 6. Create a scalable resource group for the scalable winbind resource.

```
# scrgadm -a -g Winbind-scalable-resource-group \
-y Maximum primaries=<number of nodes with Sun Cluster> \
-y Desired primaries=<number of nodes with Sun Cluster> \
```

```
-y RG_dependencies=Winbind-failover-resource-group
```

## 7. Create a resource for the Winbind Disk Storage.

```
# scrgadm -a -j Winbind-has-resource \  
-g Winbind-scalable-resource-group \  
-t SUNW.HAStoragePlus \  
-x FilesystemMountPoints=Winbind-instance-mount-point \  
-x AffinityOn=FALSE
```

## 8. Enable the failover and scalable resource group that now includes the Winbind Disk Storage and Logical Hostname resources.

```
# scswitch -Z -g Winbind-failover-resource-group  
# scswitch -Z -g Winbind-scalable-resource-group
```

## 9. Create and register Samba as a failover data service.

Follow Steps 4, 5, 6, 7, 10, and 11 in [“How to Register and Configure Sun Cluster HA for Samba as a Failover Service”](#) on page 32 to create a failover Samba service. You then complete this last step to ensure that the Failover Samba Resource Group is start-dependent on the Scalable Winbind Resource Group.

```
# scrgadm -c -g Samba-failover-resource-group \  
-y RG_dependencies=Winbind-scalable-resource-group
```

## 10. Create and register winbind as a scalable data service.

```
# cd /opt/SUNWscsmb/winbind/util
```

Edit the winbind\_config file and follow the comments within that file:

```
# These parameters can be customized in (key=value) form  
#  
# RS - name of the resource for the application  
# RG - name of the resource group containing RS  
# WB_BIN - name of the Winbind bin directory  
# WB_SBIN - name of the Winbind sbin directory. Used in Samba 3.  
# WB_INST - name of the Winbind configuration directory  
# NTUSER - name of the NT fault monitor user  
#WB_LIB_PATH- name of library paths to LD_LIBRARY_PATH  
#WB_DISCACHE - Should winbind cache be disabled. Used in Samba 3.  
#WB_SINGLEMODE - Should winbind run in single mode. Used in Samba 3.  
# LH - name of the LogicalHostname SC resource  
# HAS_RS - name of the Winbind HAStoragePlus SC resource
```

The following is an example for a Winbind instance with Samba installed from <http://www.samba.org>.

```
RS=wb-res  
RG=wb-scalable-rg  
WB_BIN=/global/samba/bin  
WB_INST=/global/samba/winbind  
NTUSER=samba  
WB_LIB_PATH=/usr/lib:/usr/local/lib  
WB_DISCACHE=FALSE  
WB_SINGLEMODE=FALSE
```

```
LH=wmb-lh-res
HAS_RS=wb-has-res
```

After editing `winbind_config`, you must register the resource.

```
# ./winbind_register
```

#### 11. Enable the Winbind resource.

```
# scstat
# scswitch -e -j Winbind-resource
```

---

## Verifying the Sun Cluster HA for Samba Installation and Configuration

This section contains the procedure you need to verify that you installed and configured your data service correctly.

### ▼ How to Verify the Sun Cluster HA for Samba Installation and Configuration

**Steps** 1. Become superuser on one of the nodes in the cluster that will host Samba.

2. Ensure all the Samba resources are online with `scstat`.

```
# scstat
```

For each Samba resource that is not online, use the `scswitch` command as follows.

```
# scswitch -e -j Samba-resource
```

3. Run the `scswitch` command to switch the Samba resource group to another cluster node, such as `node2`.

```
# scswitch -z -g Samba-failover-resource-group -h node2
```

---

# Upgrading Sun Cluster HA for Samba

As a result of bug fixes, the configuration of Sun Cluster HA for Samba has changed. If you are running Sun Cluster HA for Samba, you must remove and reregister the resources for the following components of Sun Cluster HA for Samba.

- Samba component
- Winbind component

## ▼ How to Upgrade Sun Cluster HA for Samba

Perform this task for each Samba resource that you must remove and reregister.

**Steps** 1. **Save the resource definitions.**

```
# scrgadm -pvv -j resource > file1
```

2. **Disable the resource.**

```
# scswitch -n -j resource
```

3. **Remove the resource.**

```
# scrgadm -r -j resource
```

4. **Configure and register the resource.**

- a. **Go to the directory that contains the configuration file and the registration file for the resource.**

```
# cd /opt/SUNWscsmb/prefixutil
```

- b. **Edit the configuration file for the resource.**

```
vi prefix_config
```

- c. **Run the registration file for the resource.**

```
# ./prefix_register
```

*prefix* denotes the component to which the file applies, as follows:

- *samba* denotes the Samba component.
- *winbind* denotes the Winbind component.

5. **Save the resource definitions.**

```
# scrgadm -pvv -j resource > file2
```

6. **Compare the updated definitions to the definitions that you saved before you updated the resource.**

Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

```
# diff file1 file2
```

7. **Amend any resource properties that were reset.**

```
# scrgadm -c -j resource -x|y resource
```

8. **Bring online the resource.**

```
# scswitch -e -j resource
```

---

## Understanding the Sun Cluster HA for Samba Fault Monitor

This section describes the Sun Cluster HA for Samba fault monitor's probing algorithm or functionality, states the conditions, messages, and recovery actions associated with unsuccessful probing.

For conceptual information on fault monitors, see the *Sun Cluster Concepts Guide*.

### Resource Properties

The Sun Cluster HA for Samba fault monitor uses the same resource properties as resource type `SUNW.gds`. Refer to the `SUNW.gds(5)` man page for a complete list of resource properties used.

### Probing Algorithm and Functionality

- **Probing steps for Samba.**
  - Sleeps for `Thorough_probe_interval`.
  - Tries to connect to the Samba instance fault monitor share (`scmondir`), using `smclient`, as user `<fmuser>`. If this fails, then the probe will restart the Samba resource.
  - The `smclient` uses the NetBIOS name of the Samba server to verify that the NetBIOS name server works. If this fails, then the probe will restart the Samba resource.

- If all Samba processes have died, pmf will interrupt the probe to immediately restart the Samba resource.
- If the Samba resource is repeatedly restarted and exhausts the `Retry_count` within the `Retry_interval`, then a failover is initiated for the Resource Group onto another node.
- **Probing steps for Winbind.**
  - Sleeps for `Thorough_probe_interval`.
  - Retrieves the defined `<ntuser>` by using `getent passwd <ntuser>`. If this fails, then the probe will restart the Winbind resource.
  - If the Winbind resource is repeatedly restarted and exhausts the `Retry_count` within the `Retry_interval`, then a failover is initiated for the Resource Group onto another node.

---

**Note** – If `nscd` is on (default) and the defined `<ntuser>` is cached by the `nscd` daemon, then `getent` will return a success until the user has been removed from the cache, even if winbind itself isn't working.

---

## Debug Sun Cluster HA for Samba

### ▼ How to turn on debug for Sun Cluster HA for Samba

Sun Cluster HA for Samba can be used by multiple Samba instances. However, it is possible to turn debug on for all Samba instances or a particular Samba instance.

Each Samba component has a `DEBUG` file under `/opt/SUNWscsmb/xxx/etc`, where `xxx` is a three-character abbreviation for the respective Samba component.

These files allow you to turn on debug for all Samba instances or for a specific Samba instance on a particular node with Sun Cluster. If you require debug to be turned on for Sun Cluster HA for Samba across the whole Sun Cluster, repeat this step on all nodes within Sun Cluster.

**Steps** 1. Edit `/etc/syslog.conf` and change `daemon.notice` to `daemon.debug`.

```
# grep daemon /etc/syslog.conf
*.err;kern.debug;daemon.notice;mail.crit      /var/adm/messages
*.alert;kern.err;daemon.err                    operator
```



```
#  
Change the daemon.notice to daemon.debug and restart syslogd. Note that  
the output below, from grep daemon /etc/syslog.conf, shows that  
daemon.debug has been set.
```

```
# grep daemon /etc/syslog.conf  
*.err;kern.debug;daemon.debug;mail.crit          /var/adm/messages  
*.alert;kern.err;daemon.err                      operator  
#  
# pkill -1 syslogd  
#
```

## 2. Edit `/opt/SUNWscsmb/samba/etc/config`.

Perform this step for the Samba component (`smb`), and repeat for the optional Winbind components that requires debug output, on each node of Sun Cluster as required.

Edit `/opt/SUNWscsmb/samba/etc/config` and change `DEBUG=` to `DEBUG=ALL` or `DEBUG=resource`.

```
# cat /opt/SUNWscsmb/samba/etc/config  
#  
# Copyright 2003 Sun Microsystems, Inc. All rights reserved.  
# Use is subject to license terms.  
#  
# Usage:  
#     DEBUG=<RESOURCE_NAME> or ALL  
#  
DEBUG=ALL  
#
```

---

**Note** – To turn off debug, reverse the steps above.

---



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