Installation Guide

SAP Control Center 3.3

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About SAP Control Center

SAP® Control Center is a server application that uses a Web-browser-based client to deliver an integrated solution for monitoring and managing SAP database products.

SAP Control Center provides a single comprehensive Web administration console for real-time performance, status, and availability monitoring of large-scale SAP database servers for the enterprise. SCC combines a modular architecture, a rich client administrative console, agents, common services, and tools for managing and controlling SAP database products. It includes historical monitoring, threshold-based alerts and notifications, alert-based script execution, and intelligent tools for identifying performance and usage trends.

An SCC server can support:

- Up to 10 users logged in simultaneously
- Up to 250 monitored resources (servers)

  Many factors contribute to the practical limit on how many resources you can monitor from one SCC server: availability of system resources such as CPU, memory, and disk space; how many data collections are scheduled; the interval between data collections; and the type of work that SCC is doing (administration versus monitoring).

Note: There is no dedicated installer for SCC 3.3; install SCC using the installer for your managed product, along with its installation guides and release bulletins. However, the information in this guide is also required for SCC installations from managed product installers.

Installation Task Flows for SAP Control Center

Task flows are complete paths for planning, installing, and upgrading. Choose the task flow that best describes your scenario.

Tip: Print this topic and use it as a checklist.

Installing SCC for the First Time	Upgrading to a New Version
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Configure the SSL certificate on page 40.	*Configure the SSL certificate* on page 40.
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Set passwords or disable the default login accounts on page 41.	*Set passwords or disable the default login accounts* on page 41.
	Uninstall the previous version of SAP Control Center on page 21.

Planning Your Installation

Before you install, prepare your environment.

- Identify the computer on which you will install the SAP® Control Center server (which includes the product module plug-ins needed for your enterprise). One server can frequently cover an entire enterprise. Review the *Installation Considerations* on page 8.
- Review *System Requirements* on page 5 to verify the computer is suitable for your planned use.
- Read *Preinstallation Tasks* on page 11 and *Installing with the SAP Installer* on page 15 to review the decisions you must make.

Obtaining a License

SAP Control Center is licensed free of charge to customers who have a paid license for a product managed by SAP Control Center (including Adaptive Server®, SAP® Sybase® IQ, SAP Sybase Event Stream Processor, Replication Server®, Replication Agent™, Mirror Replication Agent, or Replication Server Data Assurance option). Evaluation licenses are also available.

You need not obtain a license. The installer offers these licensing options:

- Install licensed copy of SAP Control Center – choose this option if you have a paid license for a product managed by SAP Control Center. It installs SAP Control Center under a permanent (nonexpiring) license.
- Evaluate SAP Control Center – choose this option if you do not have a paid license for a product managed by SAP Control Center, or if you do not want to install a permanent copy of SAP Control Center. The evaluation license expires after 30 days.

System Requirements

Make sure your system meets all requirements before you install SAP Control Center (SCC). If you install SCC on the same host as a managed server, the host must meet the requirements outlined here in addition to the requirements for the managed server.

SAP recommends the following minimum specifications for the SAP Control Center server machine:

- Two 2.4GHz processors
- 4GB of RAM

Table 1. SAP Control Center Server Requirements

SCC Server Platform	Operating System
x86/32-bit	Windows 7 Windows 8 Windows Server 2008 R2 Red Hat Enterprise Linux 5, 6 SUSE Linux Enterprise 10, 11 SP1
x86/64-bit	Windows 7 Windows 8 Windows Server 2008 R2 Windows Server 2012 Red Hat Enterprise Linux 5, 6 SUSE Linux Enterprise 10, 11 SP1
Solaris SPARC 64-bit	Solaris 10, 11
Solaris-64 (x64)	Solaris 10, 11

OS Patch Requirements for Java

Before you run the installer, install any patches for your operating system that are required for SAP Java Runtime Environment (JRE) 7.1. (You need not install or upgrade the JRE; it is included in the installer.)

For SAP JRE requirements, see *SAP Note 1367498: SAP JVM Installation Prerequisites*.

Note: For Windows, SAP Note 1367498 lists the wrong Microsoft Visual C++ patch. The required patch is the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package ATL Security Update, available at *http://www.microsoft.com/en-us/download/details.aspx?id=14431*.

Browser Requirements

SCC 3.3 supports these browsers with Flash Player 10.1 or greater:

- Internet Explorer 8 or greater
- Firefox 3.6 or greater
- Chrome 20.x or greater

Disk Space Requirements

Disk space requirements after installation vary considerably, depending on the number of servers you monitor with SCC and how much performance data you collect. As your repository of historical performance data grows, expect SCC to use more disk space. SAP

recommends that you closely monitor disk usage and growth trends so you can add more storage in a timely manner.

SAP Control Center Network Ports

Check the ports used on the installation machine for conflicts with the ports SAP Control Center uses.

SCC uses TCP ports for a variety of services. If another application is using one of the ports listed here, SCC may fail to start, or its services might not work properly.

Note: If SAP Control Center is installed, you can use **scc --info ports** to list SCC ports currently in use (by any application or server). Use the **scc** command's **--ports** option to reassign SCC ports. See the SAP Control Center online help for details.

Port Name	Default Port Number	Required?	Description
RMI	9999	Yes	SCC server port used for RMI protocol access.
HTTP	8282	Yes	SCC server port used for HTTP Web access to the server. All HTTP traffic is redirected to the secure HTTPS channel.
HTTPS	8283	Yes	SCC server port used for secure HTTPS Web access to the server. All HTTP traffic is redirected to the secure HTTPS channel.
Database	3638	Yes	SCC server repository database port; used by several services.
Messaging Service	2000	Yes	SCC server messaging port.
Tds	9998	No	SCC server port used for Tabular Data Stream™ (TDS) protocol access.
Jini Http	9092	No	Jini HTTP port for Jini discovery services.
Jini Rmid	9095	No	Jini RMID server port for Jini discovery services.
Ldap	389	No	LDAP discovery service adaptor port.

Installation Considerations

To avoid problems, consider hardware requirements, limits on monitoring, and the security of your network when you plan your SAP Control Center deployment.

Performance

Before you deploy SAP Control Center, consider the number of servers that SCC will monitor. An SCC server can monitor up to 250 resources. (The number of resources one SCC server can effectively monitor depends on the complexity of the monitored resources, the frequency of data collection, the number of concurrent SCC users, and the hardware configuration of the host on which SCC is running.) To monitor more than 250 resources, install additional SCC servers and distribute the resources among them. The monitoring limit applies whether you install SCC on the same machine as a managed server or on a dedicated machine.

Also consider where to install SAP Control Center. SCC may collect and store performance data for every server it monitors. Because data collection can use significant quantities of CPU cycles, disk space, and network resources, SCC can affect the performance of other servers sharing the same host machine. Consequently, Sybase recommends that you plan carefully before installing an SCC server on the same host as a managed server in a production environment.

In these situations, however, combined installations of SCC and a managed server can provide adequate performance:

- Testing, evaluation, and proof of concept projects
- Scenarios where use of SCC is very light
- When the host machine's resources meet or exceed the combined requirements of SCC and the managed server

If you install SCC on the same machine as a managed server, consult the system requirements for both SCC and the managed server and make sure that the host machine provides ample CPU, RAM, disk, and network resources for both products. The resources required by a single managed server vary a great deal based on the server's configuration, as do the resources required by SCC. In general, SCC uses more resources to manage more complex servers. SCC also uses more resources when it is configured to run more frequent data collections.

If you install SAP Control Center and a managed server on the same machine and later need help to separate them, contact Sybase technical support for assistance.

Security

SAP Control Center uses encryption when it communicates with managed servers. However, SAP recommends that you run SCC in a secure network environment.

Preparing to Roll Back from an Upgrade

SAP Control Center does not support downgrade. Back up your SCC installation directory so you can manually restore the previous release if necessary.

This procedure applies only to upgrades from SAP Control Center 3.3.x to later versions in the 3.3 series because these versions are installed into the same `SCC-3_3` directory. If you are upgrading from SCC 3.2 or SCC 3.1, you do not need to prepare to roll back—just keep your old installation directory and continue to run SCC from it. Avoid running the new and old versions of SCC simultaneously unless you have assigned them different ports.

1. Copy the SCC installation directory for the older version (SCC-3_3, SCC-3_2, or SCC-3_1) to a location outside the parent `Sybase` or `sap` directory.
2. Install the new version of SCC and perform the upgrade procedure as described elsewhere in this guide.
3. Follow these steps if, after performing the upgrade, you need to roll back:
   a) Uninstall the new version of SCC—see *Uninstalling* on page 21.
   b) To reset environment variables, run the SCC installer for the version you are rolling back to. Any configuration you enter in the installer will be overwritten when you restore your old installation directory. Do not start SCC from the installer.
   c) Copy the backed-up installation directory to its original location in the file system.

Preinstallation Tasks

Prepare for the installation.

SAP Control Center employs a Web-based multitier architecture that allows multiple SCC clients to monitor and manage all supported SAP database servers in an enterprise using a small number of SCC servers—often, you need only one. An SCC remote command and control agent is installed with each managed server that requires it. The SCC client is a rich Internet application that runs in a Web browser. It requires the Adobe Flash Player plug-in version 10.x or later.

1. Identify a host on which to run each SCC server you need to deploy.

   These are typical SCC environments.

   Figure 1: In this scenario the SAP Control Center server, which provides the management UI, is installed on a dedicated host. An SCC remote command and control agent is installed with each managed server. The Web clients require no SCC software.

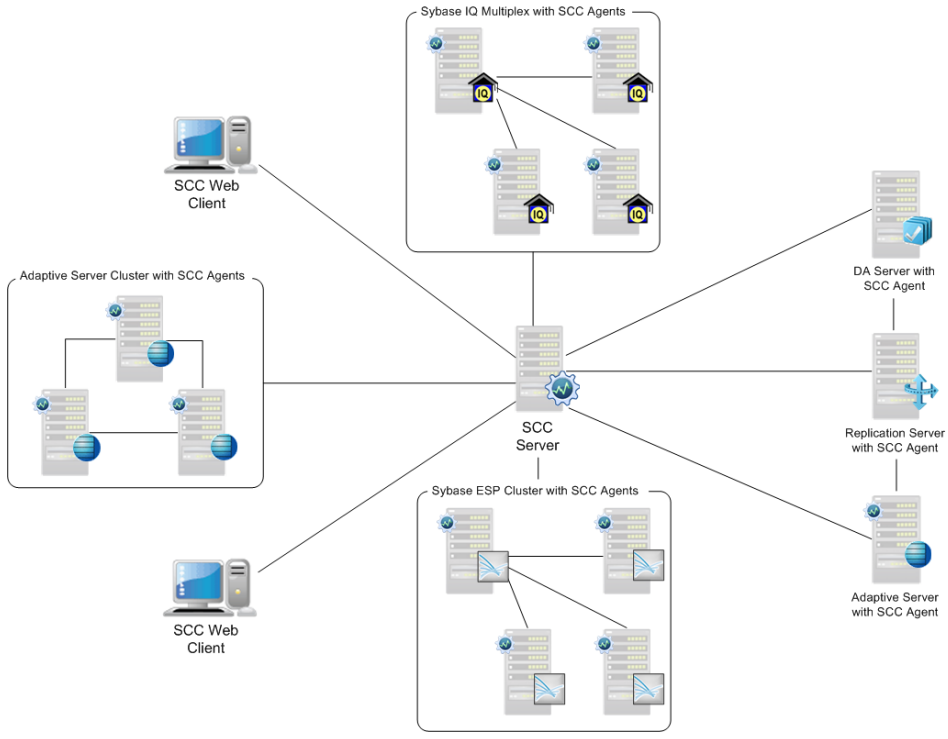
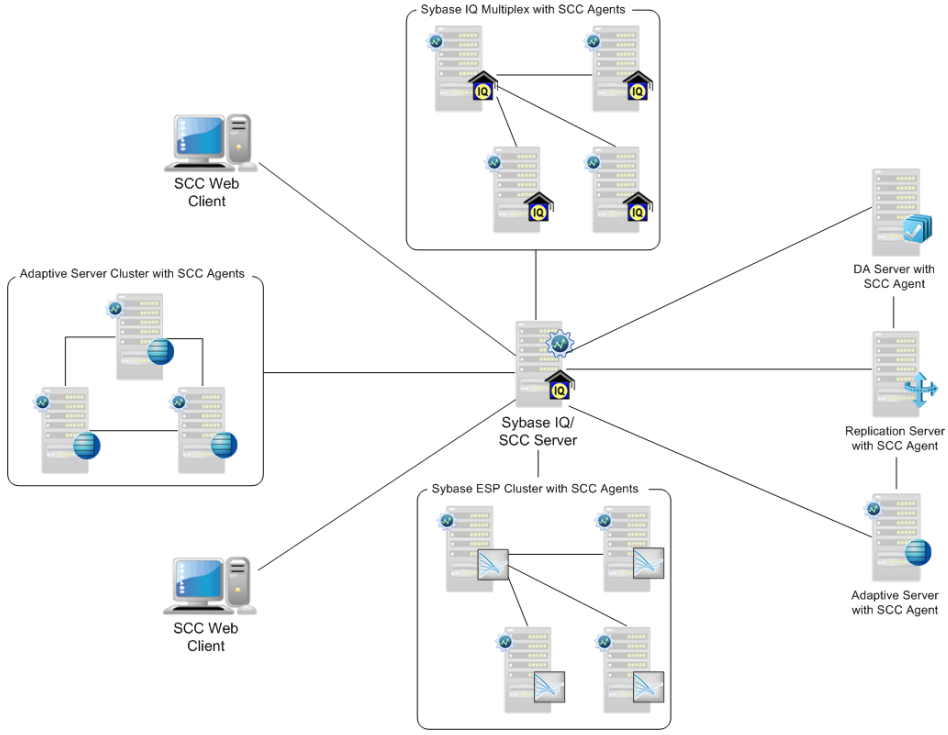


Figure 2: In this scenario the SAP Control Center server, which provides the management UI, shares a host with a managed server. (Here, the managed server sharing the SCC host is SAP Sybase IQ, but it could be of any type.) Other managed servers are installed with SCC remote command and control agents. The Web clients require no SCC software.



2. Make sure the computers on which you plan to run SCC meet the *System Requirements* on page 5.
3. Make sure each computer on which you plan to run SCC has good network connectivity to the servers it will manage and to the client workstations.
4. Consider these deployment issues:
   - Minimizing network latency – you see better performance if you install SCC near the monitored servers and near the workstations on which SCC Web clients are running.
   - Unified SCC environment – consider installing the SCC server in a central location. Add all the SCC product module plug-ins you need (SCC for Adaptive Server, SCC for Data Assurance, SCC for ESP, SCC for Replication, or SCC for Sybase IQ) to the central installation. This lets you manage and monitor your servers from one SCC installation, which is especially useful in a replication environment.

- Administration and security – you can exercise differing levels of control in different parts of your enterprise, for example, by protecting the data in some servers more strictly than in others.

5. Involve others in the preparations, particularly if you are planning a UNIX deployment. Configuring SCC security on a UNIX server requires root privileges.
6. Read the *SAP Control Center Release Bulletin* to learn about known issues and changes that came up too late to be included in the SAP Control Center help.
7. Install patches for your operating system that are required for SAP Java Runtime Environment (JRE) 7.1, if any.

   See *System Requirements* on page 5 for more information..

   Note: You need not install or upgrade the JRE; it is included in the installer.
8. Decide where in the file system to install SCC. Do not install into a directory that is named using non-ASCII characters, spaces, or single or double quotes. If the file system already includes a `Sybase` or `sap` directory, consider installing SCC there.

   If you are installing SCC in an Adaptive Server cluster, SAP Sybase Event Stream Processor cluster, or SAP Sybase IQ multiplex environment, consider using shared-disk mode. Shared-disk mode lets you run multiple SCC instances (any combination of SCC servers and SCC agents) from a single SCC installation. For more information, see the SCC online help on the Web at *http://help.sap.com/database*.

Installing SAP Control Center

Install SCC using your chosen method.

Prerequisites

Complete server installation planning and preinstallation tasks, including *Preparing to Roll Back from an Upgrade* on page 9.

Task

You can install SAP Control Center in two ways:

- Using the interactive SAP installer in GUI or text-based console mode. See *Installing with the SAP Installer* on page 15.
- Using unattended or silent mode, in which you create a response file that supplies your answers to installer prompts. See *Installing with a Response File* on page 18.

Installing with the SAP Installer

Download the installer and install an SAP Control Center server in GUI or console mode. The installer creates an SCC directory and installs the selected components into that directory.

Prerequisites

- Perform the preinstallation tasks.
- If you are upgrading, SAP recommends that you shut down the earlier version of SAP Control Center before installing the new version. When the installer configures HTTP, HTTPS, and RMI ports, it checks to see if the port numbers provided are in use. If the earlier version of SCC is running when you install the new version, you cannot use the same ports in both versions. Configure different ports only if you plan to run the two versions of SCC simultaneously, which is not recommended.

Task

The SAP Control Center installer runs in GUI mode (as graphic dialogs) or in text-based console mode in both Windows and UNIX (Linux and Solaris) operating systems.

1. If you received SAP Control Center along with a product managed by SCC (Adaptive Server, Data Assurance, replication products, SAP Sybase Event Stream Processor, or SAP Sybase IQ), copy the installer from the media to the machine on which you plan to install it.

You can download SAP Control Center from the Web. If you still have a support contract with Sybase, go to *http://downloads.sybase.com* and download the installer for a product you manage with SCC. (SCC is included in managed product installers).

If you have a support contract with SAP:

a) Go to the SAP Software Download Center at *http://service.sap.com/swdc*.
b) Download the SAP Download Manager.
c) Return to the Download Center and select **Installations and Upgrades**.
d) In the A-Z index, select a product you manage with SCC. (SCC is included in managed product installers.).
e) Download the installer for the managed product and use it to install SCC.

2. If necessary, unzip or untar the installer package.
3. (Windows) If you are installing in any version of Windows, log in using an account with administrative privileges.
4. (Windows)If you are installing 32-bit SCC on 64-bit Windows 7, Windows 8, Windows 2008, or Windows Server 2012, set compatibility mode for the installer to Windows XP.

Tip: To avoid these extra steps, use the 64-bit Windows installer.

a) Right-click `setup.exe` or `setupConsole.exe`.
b) Select **Properties**.
c) On the Compatibility tab, select **Windows XP** compatibility mode.
d) Click **OK**.

5. (Windows) If you are installing in Windows 7, Windows 8, Windows 2008, or Windows Server 2012, set the **Run as Administrator** option on the installer. You must do this even if you already have administrative privileges.

a) Right-click `setup.exe` or `setupConsole.exe`.
b) Select **Run as Administrator**.

6. (UNIX) If you are installing SCC in GUI mode on a UNIX operating system, make sure the $DISPLAY environment variable is set to the machine where you want to view the installer.

If you do not set this variable correctly, you see the installer in text-based console mode.

7. Launch the installer:

Operating System	GUI Mode	Console Mode
Windows	Open `setup.exe`	Execute `setupConsole.exe -i console`
UNIX	Execute `setup.bin`	Execute `setup.bin -i console`

Note: If you have trouble starting the installer, make sure you have the required operating system patches for the SAP Java Runtime Environment (JRE) version 7.1.

8. Select the type of software license for SAP Control Center. You need not obtain a license if you choose to install a licensed copy.
9. Select the appropriate region, read the license terms, and select **I agree to the terms of the Sybase license for the install location specified**.
10. Select the directory in which to install SCC.

    If you have an existing `sybase` directory, the installation location defaults to that. If you do not, the default directory is:

    - Windows – `C:\sap`
    - UNIX – `/opt/sap`
11. If the warning message about installing into an existing directory appears, click **Next**.
12. Select the type of installation:
    - **Full** – installs the SCC server core functionality and all available product modules.
    - **Custom** – allows you to select the SCC product modules to install. SCC core functionality is always installed.

    Note: For upgrades: If you used the earlier version of SAP Control Center to manage and monitor more than one type of resource (Adaptive Server, Data Assurance, SAP Sybase Event Stream Processor, SAP Sybase IQ, Replication Server, Replication Agent, Mirror Replication Agent), install the same set of product module plug-ins with the new version of SCC. Download installers for the other managed products, which include SCC product module plug-ins, as directed in step *1*.
13. On the Preinstallation Summary screen, verify the selected installation features and confirm there is enough disk space available to complete the installation. To start the installation, click **Install**.
14. On the Configure HTTP Ports screen, make sure the HTTP and HTTPS ports specified do not conflict with any ports used by other applications and services on this machine. If you enter your own port numbers rather than accepting the defaults, make a note of them—you will need the port numbers to connect a browser to SCC.

    If you are installing an upgrade, the HTTP and HTTPS port numbers cannot be the same as the port numbers used for the older version of SCC unless you will never run the older and newer versions at the same time.
15. Make sure the RMI port specified on the Configure RMI Port screen does not conflict with any ports used by other applications and services on this machine.
16. On the Configure Administration Logins screen, set the password for the SCC administration login account, sccadmin. You can change the name of the account as well.

    Your password must be at least six characters long.
17. On the Configure Repository Password screen, enter a password for the dba account in the SCC repository's SQL Anywhere database.

Your password must be at least six characters long.

18. On the Review Configuration Summary screen, verify that the configuration is correct.

    To change the configuration settings, click **Previous**.

19. On the Enable SCC Shared Disk screen, click **Yes** to enable shared-disk mode if you plan to run multiple SCC servers or agents from this installation. If you select Yes, specify a name for the first SCC instance (an SCC agent) on the next screen.
    The installer may take a few minutes to create and set up the instance.

20. (Windows) On the Configure a Windows Service screen, select **Yes** to configure SCC as a Windows service.

    SAP recommends that you configure a service in a production environment. If you select **No**, you must start SCC manually.

21. To start SCC when the installation is completed, select **Yes** on the Start SAP Control Center screen.
    SCC may take a few minutes to start.

22. Review the results on the Installation Completed screen and click **Done**.

Next

If you are using shared-disk mode, see the SAP Control Center documentation for:

- Instructions on deploying and managing instances of SCC agents and servers
- Information on how deploying instances changes the directory structure of your SCC installation

Installing with a Response File

Create and use an installation response file to install SAP Control Center in silent mode, with minimal user input. Silent mode is a convenient way to install SCC on multiple machines, or to set up an installation that can be repeated in case of hardware failure.

Creating a Response File

Record installation responses into a response file or copy the sample response file. In either case, edit the file to customize the responses.

Prerequisites

If you are upgrading, SAP recommends that you shut down the earlier version of SAP Control Center before installing the new version. When the installer configures HTTP, HTTPS, and RMI ports, it checks to see if the port numbers provided are in use. If the earlier version of SCC is running when you install the new version, you cannot use the same ports in both versions. Configure different ports only if you plan to run the two versions of SCC simultaneously, which is not recommended.

Task

To create a response file when installing in GUI or console mode, use the **-r** command line argument. The **-r** argument records your responses to the installation wizard's prompts and creates a response file when the installation wizard exits. The response file is a text file that you can edit to change any responses.

Alternatively, SAP provides a sample reponse file called `sample_response.txt` in the directory where your SAP Control Center installer images were downloaded. Rather than creating a reponse file as described below, you might prefer to copy and edit the sample response file. The options are documented in the file. You must provide values for these password properties:

- CONFIG_SCC_CSI_SCCADMIN_PWD
- CONFIG_SCC_REPOSITORY_PWD
- CONFIG_SCC_CSI_UAFADMIN_PWD (if it is present)

1. (Windows)If you are installing 32-bit SCC on 64-bit Windows 7, Windows 8, Windows 2008, or Windows Server 2012, set compatibility mode for the installer to Windows XP.

   Tip: To avoid these extra steps, use the 64-bit Windows installer.

   a) Right-click `setup.exe` or `setupConsole.exe`.
   b) Select **Properties**.
   c) On the Compatibility tab, select **Windows XP** compatibility mode.
   d) Click **OK**.
2. (Windows) If you are installing in Windows 7, Windows 8, Windows 2008, or Windows Server 2012, set the **Run as Administrator** option on the installer. You must do this even if you already have administrative privileges.
   a) Right-click `setupConsole.exe`.
   b) Select **Run as Administrator**.
3. To generate the response file during installation, run:
   - Windows console mode:
     ```
     setupConsole.exe -r <full-path-to-response-file>
     ```
     For example:
     ```
     setupConsole.exe -r C:\work\responsefile.txt
     ```
   - Windows GUI mode:
     ```
     setupConsole.exe -r <full-path-to-response-file>
     ```
     For example:
     ```
     setupConsole.exe -r C:\work\responsefile.txt
     ```
   - UNIX:
     ```
     setup.bin -r <full-path-to-response-file>
     ```

For example:

```
setup.bin -r /work/responsefile.txt
```

Note: The directory path you specify for the response file must already exist.

4. See *Installing with the SAP Installer* on page 15 for instructions on responding to the installer.
5. Before using the response file, open it and add values for the password properties CONFIG_SCC_CSI_SCCADMIN_PWD, CONFIG_SCC_REPOSITORY_PWD, and CONFIG_SCC_CSI_UAFADMIN_PWD (if it is present).

   For security reasons, the password values you enter are not recorded when you generate a response file during an installation, but setting these passwords to non-null values during installation is required. If you prefer not to store passwords in the response file, you can set them through the CONFIG_SCC_CSI_SCCADMIN_PWD, CONFIG_SCC_REPOSITORY_PWD, and CONFIG_SCC_CSI_UAFADMIN_PWD environment variables.

Next

The response file might contain passwords in clear text. After you use the file, destroy it or remove the passwords.

Installing in Unattended (Silent) Mode

To perform a silent or unattended installation, run the installer and provide a response file that contains your preferred installation configuration.

Prerequisites

- Create an installation response file.
- If you are upgrading, SAP recommends that you shut down the earlier version of SAP Control Center before installing the new version. When the installer configures HTTP, HTTPS, and RMI ports, it checks to see if the port numbers provided are in use. If the earlier version of SCC is running when you install the new version, you cannot use the same ports in both versions. Configure different ports only if you plan to run the two versions of SCC simultaneously, which is not recommended.

Task

1. (Windows) If you are installing in any version of Windows, log in using an account with administrative privileges.
2. (Windows) If you are installing in Windows 7, Windows 8, Windows 2008, or Windows Server 2012, set the **Run as Administrator** option on the installer. You must do this even if you already have administrative privileges.
   a) Right-click `setupConsole.exe` (recommended) or `setup.exe`.

   Warning! In Windows, SAP recommends that you use `setupConsole.exe`, which runs in the foreground when you perform a silent installation. `setup.exe` runs

in the background, giving you the impression that the installation has terminated, and results in additional installation attempts using the silent installation. Multiple installations at the same time may corrupt the Windows Registry and lead to a failure to restart the operating system.

b) Select **Run as Administrator**.

3. To install in silent mode:

   Windows:

   ```
   setupConsole.exe -f <responseFileName> -i silent
   -DAGREE_TO_SYBASE_LICENSE=true -DRUN_SILENT=true
   ```

   UNIX:

   ```
   setup.bin -f <responseFileName> -i silent
   -DAGREE_TO_SYBASE_LICENSE=true -DRUN_SILENT=true
   ```

   where *responseFileName* is the full path and name of the file containing your installation options.

   Note: You must accept the Sybase software license when you install in silent mode. You can either:

   - Include this option in the command line argument:

     ```
     -DAGREE_TO_SYBASE_LICENSE=true
     ```

     or:

   - Edit the response file to include:

     ```
     AGREE_TO_SYBASE_LICENSE=true
     ```

   Except for the absence of the GUI or console screens, all actions of a silent installation are the same as the actions of GUI and console-mode installations. The results of a silent-mode installation are thus exactly the same as one done in GUI or console mode with the same responses.

Uninstalling

Remove SAP Control Center from your system.

Uninstalling removes all components, including the SCC basic functionality and the product modules. You cannot uninstall individual components.

Uninstalling does not remove:

- Files in the `Sybase` or `sap` directory that may be shared with other SAP products, including the JRE
- Files that were created after installation, such as logs and backup files

You need not uninstall to disable or remove instances of SCC agents and servers running from a shared disk installation. See the SCC online help for details on managing instances.

1. (Windows) If you are uninstalling in any version of Windows, log in as an administrator.
2. Launch the uninstaller.

   In Windows:
   - Open or double-click:
     `%SYBASE%\sybuninstall\SCCSuite-X_X\uninstall.exe`
     or
     `C:\sap\sybuninstall\SCCSuite-X_X\uninstall.exe`
     where *X_X* is the release number.
   - Alternatively, select **Control Panel** > **Programs** > **Uninstall a program** > **SAP Control Center** > **Uninstall/Change**.

   In UNIX:

   Execute:

   `$SYBASE/sybuninstall/SCCSuite-X_X/uninstall`

   or

   `/opt/sap/sybuninstall/SCCSuite-X_X/uninstall`

   where *X_X* is the SCC release number.
3. Follow the instructions in the uninstaller.
4. To delete files created after installation, remove the SCC installation directory when the uninstaller is finished. By default, the SCC installation directory is located in the `Sybase` or `sap` directory and includes the release number in its name—for example, `Sybase/SCC-3_3`.

   If no other SAP products are installed on this machine, you might also want to remove the `Sybase` or `sap` directory (the parent of the SCC installation directory).

Upgrading SAP Control Center

Upgrade to the new version of SAP Control Center.

You can upgrade SCC from version 3.2.x or 3.1.x to 3.3.0.

You can upgrade:

- Singleton SCC servers – those that are not using the shared-disk feature.
- SCC server instances where multiple SCC servers and SCC agents run from a single installation on a shared disk.

SCC agents do not require upgrade steps after you install the new version.

Upgrading a Singleton SAP Control Center

Upgrade a singleton SAP Control Center server (one that is not using the shared-disk feature to share installed files with other instances of SCC) by copying key files in the repository.

Prerequisites

Install the latest version of SCC before upgrading. If you used the earlier version of SAP Control Center to manage and monitor more than one type of resource (Adaptive Server, Data Assurance, SAP Sybase Event Stream Processor, SAP Sybase IQ, Replication Server, Replication Agent, Mirror Replication Agent), install the same set of product module plug-ins with the new version of SCC.

Task

1. Shut down both the old and the new versions of SCC.
2. Navigate to the installation location of the earlier version of SCC.
3. Copy these files:

   Windows –
   - `%SYBASE%\SCC-3_2\services\Repository\scc_repository.db`
   - `%SYBASE%\SCC-3_2\services\Repository\scc_repository.log`
   - `%SYBASE%\SCC-3_2\services\Repository\service-config.xml`

   or:
   - `%SYBASE%\SCC-3_1\services\Repository\scc_repository.db`
   - `%SYBASE%\SCC-3_1\services\Repository\scc_repository.log`
   - `%SYBASE%\SCC-3_1\services\Repository\service-config.xml`

   UNIX –

- `$SYBASE/SCC-3_2/services/Repository/scc_repository.db`
- `$SYBASE/SCC-3_2/services/Repository/scc_repository.log`
- `$SYBASE/SCC-3_2/services/Repository/service-config.xml`

or:

- `$SYBASE/SCC-3_1/services/Repository/scc_repository.db`
- `$SYBASE/SCC-3_1/services/Repository/scc_repository.log`
- `$SYBASE/SCC-3_1/services/Repository/service-config.xml`

4. Paste the copied files into the corresponding directory of the latest installed version.

   For example, paste the files into `C:\Sybase\SCC-3_3\services\Repository` or `C:\sap\SCC-3_3\services\Repository`.

5. Copy this file:

   Windows – `%SYBASE%\SCC-3_2\services\SccSADataserver\service-config.xml`

   or: `%SYBASE%\SCC-3_1\services\SccSADataserver\service-config.xml`

   UNIX – `$SYBASE/SCC-3_2/services/SccSADataserver/service-config.xml`

   or: `$SYBASE/SCC-3_1/services/SccSADataserver/service-config.xml`

6. Paste the copied file into the corresponding directory of the latest installed version.

   For example, paste the file into `C:\Sybase\SCC-3_3\services\SccSADataserver` or `C:\sap\SCC-3_3\services\SccSADataserver`.

7. Determine whether, in the earlier version of SCC, you changed the truststore or keystore password in this file:

   Windows – `%SYBASE%\SCC-3_2\services\EmbeddedWebContainer\service-config.xml`

   or: `%SYBASE%\SCC-3_1\services\EmbeddedWebContainer\service-config.xml`

   UNIX – `$SYBASE/SCC-3_2/services/EmbeddedWebContainer/service-config.xml`

   or: `$SYBASE/SCC-3_1/services/EmbeddedWebContainer/service-config.xml`

   If so, copy the file into the corresponding directory of the latest installed version.

8. Determine whether, in the earlier version of SCC, you modified this file (to add a password for the sccadmin account, for example):

   In SCC 3.2.5 or earlier: `SCC-3_2/conf/csi.properties`

In SCC 3.2.6 or later: `SCC-3_2/conf/csi_config.xml` or `SCC-3_3/conf/csi_config.xml`

If so, make the same changes to `SCC-3_3/conf/csi_config.xml` in the latest version. Note that in SCC 3.2.6, the name and format of the CSI file changed and the sccuser account was removed.

Note: SAP recommends that you do not use login accounts defined in `csi_config.xml` in a production environment. See the *Get Started > Setting up Security* section of the SAP Control Center online help for instructions on configuring authentication through LDAP or the operating system.

9. Start the new version of SCC.
   When you start the latest-version server with the earlier-version repository, the repository automatically migrates to the most current version.

Upgrading Shared-Disk Instances

Upgrade an SAP Control Center server instance (one of several SCC servers and SCC agents running from a single installation on a shared disk) by copying key files in the repository.

Prerequisites

Install the latest version of SCC before upgrading.

If you are running multiple SCC server instances, install the latest version of SCC into a different directory from the earlier version. When you upgrade from SCC 3.2.x (that is, any 3.2 version) to SCC 3.3, the installer creates a new directory for SCC 3.3 by default.

If you used the earlier version of SAP Control Center to manage and monitor more than one type of resource (Adaptive Server, Data Assurance, SAP Sybase Event Stream Processor, SAP Sybase IQ, Replication Server, Replication Agent, Mirror Replication Agent), install the same set of product module plug-ins with the new version of SCC.

Task

1. Enable shared-disk mode in the new installation directory. In `SCC-3_3\bin`, enter:
   ```
   sccinstance -enable
   ```
2. In the new installation directory, deploy instances corresponding to those deployed in the earlier version. For example, enter this in `SCC-3_3\bin` to deploy a server instance called Boston:
   - Windows –
     ```
     sccinstance -create -server -instance Boston -service
     ```
   - UNIX –
     ```
     sccinstance -create -server -instance Boston
     ```

For more information on deploying instances, see *Get Started > Deploying an Instance from a Shared Disk Installation* in the online help.

3. Shut down all instances of SCC—both old and new versions.
4. Navigate to the installation location of the earlier version of SCC on the shared disk.
5. Copy the earlier-version `scc_repository.db`, `scc_repository.log`, and `service-config.xml` files from the `Repository` directory. For example:

   Windows –
   - `%SYBASE%\SCC-3_2\instances\<instance-name>\services\Repository\scc_repository.db`
   - `%SYBASE%\SCC-3_2\instances\<instance-name>\services\Repository\scc_repository.log`
   - `%SYBASE%\SCC-3_2\instances\<instance-name>\services\Repository\service-config.xml`

   UNIX –
   - `$SYBASE/SCC-3_2/instances/<instance-name>/services/Repository/scc_repository.db`
   - `$SYBASE/SCC-3_2/instances/<instance-name>/services/Repository/scc_repository.log`
   - `$SYBASE/SCC-3_2/instances/<instance-name>/services/Repository/service-config.xml`
6. Paste the copied files into the corresponding instance directory of the latest installed version. For example:

   `C:\Sybase\SCC-3_3\instances\<instance-name>\services\Repository`.
7. Copy the earlier-version `service-config.xml` file from the `SccSADataserver` directory. For example:

   Windows – `%SYBASE%\SCC-3_2\instances\<instance-name>\services\SccSADataserver\service-config.xml`

   UNIX – `$SYBASE/SCC-3_2/instances/<instance-name>/services/SccSADataserver/service-config.xml`
8. Paste the copied files into the corresponding instance directory of the latest installed version. For example:

   `C:\Sybase\SCC-3_3\instances\<instance-name>\services\SccSADataserver`.
9. Determine whether, in the earlier version of SCC, you changed the truststore or keystore password in this file:

   Windows – `%SYBASE%\SCC-3_2\instances\<instance-name>\services\EmbeddedWebContainer\service-config.xml`

UNIX – `$SYBASE/SCC-3_2/instances/<instance-name>/services/EmbeddedWebContainer/service-config.xml`

If so, copy the file into the corresponding directory of the latest installed version.

10. Determine whether, in the earlier version of SCC, you modified this file (to add a password for the sccadmin account, for example):

    In SCC 3.2.5 or earlier: `SCC-3_2/conf/csi.properties`

    In SCC 3.2.6 or later: `SCC-3_2/conf/csi_config.xml`

    If you did, make the same changes to `SCC-3_3/conf/csi_config.xml` in the latest version. Note that in SCC 3.2.6, the name and format of the CSI file changed and the sccuser account was removed.

    Note: SAP recommends that you not use login accounts defined in `csi_config.xml` in a production environment. See the *Get Started* > *Setting up Security* section of the SAP Control Center online help for instructions on configuring authentication through LDAP or the operating system.

11. Start each instance of the new version of SCC.
    When you start the latest-version server with the earlier-version repository, the repository automatically migrates to the most current version.

Installing JDBC Drivers for Third-Party Replicate Databases

(Optional, replication only) To use latency monitoring (**rs_ticket**) in a replication environment to measure latency to third-party replicate databases, you must install JDBC™ drivers to enable SAP Control Center for Replication to connect to those replicate databases.

You can install JDBC drivers at any time after installing SAP Control Center, even if the SCC server is already running.

1. Download the JDBC drivers for your databases. Drivers are typically available with the database server or on the database vendor's Web site.
   - Oracle 9i, 10g, 11g
     Driver – Oracle JDBC Thin Driver 11.1 for use with JDK 1.5 (`ojdbc5.jar`)
   - Microsoft SQL Server 2005 and 2008
     Driver – Microsoft SQL Server JDBC Driver 2.0 (`sqljdbc.jar`)
   - IBM DB2 UDB 8.22, 9.1, 9.5
     Driver – IBM DB2 for Unix, Linux, and Windows JDBC Driver 9 (`db2jcc.jar` and `db2jcc_license_cu.jar`)
2. Place the drivers in:
   - Windows – `%SYBASE%\SCC-3_3\plugins\RMAP\lib`
   - UNIX – `$SYBASE/SCC-3_3/plugins/RMAP/lib`
3. If SCC is running, stop it and start it again.

Starting and Stopping SAP Control Center

Launch SAP Control Center or shut it down. You can run SCC as a service in Windows and UNIX.

Registering the ODBC Driver in Windows

In Windows, run **scc.bat** with administrative privileges to register the ODBC driver.

When SAP Control Center starts for the first time on a Windows machine, it registers its ODBC driver. Because the automatic registration of the ODBC driver edits the registry settings, you must execute **scc.bat** using elevated administrative privileges. If you launch for the first time without adequate privileges, SCC generates an error and fails to start.

In Windows 2008, Windows 7, and Windows 8, you must use the **Run as administrator** setting to launch SCC even if you already have administrative privileges. This process is described below.

In other versions of Windows, you must be logged in as an administrator to start SCC for the first time. You need not follow the steps below.

1. In Windows 2008, Windows 7, or Windows 8, open the Command Prompt window with administrative privileges:
   - Select **Start > All Programs > Accessories.** Right-click **Command Prompt** and select **Run as administrator**.
   - Alternatively, enter **cmd** in the Start Menu search box and press **Shift+Ctrl+Enter**.
2. Run **scc.bat**.

Starting and Stopping SAP Control Center in Windows

There are several ways to start and stop SAP Control Center or the SCC agent. You can start manually, which is useful for testing and troubleshooting, or set the service to start automatically and to restart in case of failure.

This topic applies to both SAP Control Center (the server, which includes the management UI) and the SCC agent that runs on each product server managed by SCC. When you install SCC and the SCC agent in the same directory by selecting both options in the installer, you always start and stop them together—by executing a single command or controlling a single service. This topic applies both to singleton installations (which do not use a shared disk) and to instances of SCC agents and servers running from a shared disk.

If you run SAP Control Center or the SCC agent manually, you must issue a command every time you start or shut down. If you run as a service (which is recommended), you can configure the service to start and restart automatically. These are the options:

- Use the **scc.bat** command to start SCC or the SCC agent manually. The command gives you access to the SCC console, which you can use to shut down and to display information about services, ports, system properties, and environment variables. You can also use **scc.bat** to change the logging level for troubleshooting purposes. Using **scc.bat** prevents you from taking advantage of the automatic start and restart features available to services.
- Use the Services list under the Windows Control Panel to start, stop, and configure the SAP Control Center service for an SCC server or agent.
- Use the **net start** and **net stop** commands. This is another way to run SAP Control Center or the SCC agent as a service.

Note: To start an SCC agent or server as a service:

- In a singleton installation, you must have selected **Yes** in the installer to install the agent or server as a service.
- In a shared disk installation, the agent or server must have been deployed using the **-service** option of the **sccinstance** command.

In a singleton installation, the installer lets you start SCC or the SCC agent as a service and configures the service to restart automatically. Before starting, check the Windows Services list for an SAP Control Center service.

Here are the steps for each starting and stopping option:

- **Start SAP Control Center, the SCC agent, or both when they are installed together:**
  a) (Skip this step for the SCC agent.) If you are starting SAP Control Center for the first time in Windows 2008, Windows 7, or Windows 8, set the **Run as Administrator** option on the command prompt so that SAP Control Center can register its ODBC driver. (This is necessary even if you are logged in as an administrator.)
  b) Enter the **scc** command.

     For a singleton installation:

     ```
     %SYBASE%\SCC-3_3\bin\scc.bat
     ```

     For an instance:

     ```
     %SYBASE%\SCC-3_3\bin\scc.bat -instance <instance-name>
     ```

     You can omit the **-instance** option if the instance's name is the same as its host name (the default).
- **Stop SAP Control Center, the SCC agent, or both when they are installed together:**
  a) Enter the **scc --stop** command.

     For a singleton installation:

```
%SYBASE%\SCC-3_3\bin\scc.bat --stop
```

For an instance:

```
%SYBASE%\SCC-3_3\bin\scc.bat --stop -instance <instance-
name>
```

You can omit the **-instance** option if the instance's name is the same as its host name (the default).

Note: You can also enter **shutdown** at the `scc-console>` prompt.

- **Start or stop from the Windows Control Panel; configure automatic start and restart:**
  a) Open the Windows Control Panel.
  b) Select **Administrative Tools > Services.**
  c) Locate "SAP Control Center" in the Services list. It may be followed by a release number; if the service is for an instance, it is also followed by the instance name. Service names do not distinguish between agents and servers. If the service is running, the Status column displays "Started."
  d) To start or stop the service, right-click the **SAP Control Center** entry in the Services list and choose **Start** or **Stop**.
  e) To configure automatic starting, double-click the service.
  f) To set the service to automatically start when the machine starts, change the **Startup type** to Automatic.
  g) To restart the service in case of failure, choose the **Recovery** tab and change the First, Second, and Subsequent failures to Restart Service.
  h) Click **Apply** to save the modifications and close the dialog.
- **Start or stop the SAP Control Center service (controlling SAP Control Center, the SCC agent, or both) from the Windows command line:**
  a) To start the service, enter the **net start** command.

  For a singleton installation:

```
net start "SAP control center 3.3"

The SAP Control Center 3.3 service is starting......
The SAP Control Center 3.3 service was started
successfully.
```

  For an instance, include the instance name (Boston-1 in this example) in parentheses:

```
net start "SAP control center 3.3 (Boston-1)"

The SAP Control Center 3.3 (Boston-1) service is
starting......
The SAP Control Center 3.3 (Boston-1) service was started
```

```
successfully.
```

b) To stop the service, enter the **net stop** command.

For a singleton installation:

```
net stop "SAP control center 3.3"

The SAP Control Center 3.3 service is stopping.....
The SAP Control Center 3.3 service was stopped
successfully.
```

For an instance, include the instance name (Boston-1 in this example) in parentheses:

```
net stop "SAP control center 3.3 (Boston-1)"

The SAP Control Center 3.3 (Boston-1) service is
stopping.....
The SAP Control Center 3.3 (Boston-1) service was stopped
successfully.
```

Starting and Stopping SAP Control Center in UNIX

You can start SAP Control Center or the SCC agent manually, which is useful for testing and troubleshooting, or you can set up a service to start automatically and to restart in case of failure.

This topic applies to both SAP Control Center (the server, which includes the management UI) and the SAP Control Center agent that runs on each product server managed by SCC.. When you install SCC and the SCC agent in the same directory by selecting both options in the installer, you start and stop them together—by executing a single command or controlling a single service. This topic applies to both singleton installations (which do not use a shared disk) and instances of SCC agents and servers running from a shared disk.

If you start SAP Control Center or the SCC agent manually, you must issue a command every time you start or shut down. If you run as a service (which is recommended), you can configure the service to start and restart automatically. These are the options:

- Use the **scc.sh** script to start SAP Control Center or the SCC agent manually. You can either:
  - Run **scc.sh** in the foreground to get access to the SCC console, which you can use to shut down and to display information about services, ports, system properties, and environment variables.
  - Run **scc.sh** in the background to suppress the SCC console.

  You can use **scc.sh** to run SAP Control Center at a nondefault logging level for troubleshooting. When you start manually with **scc.sh**, you cannot take advantage of the automatic start and restart features available to services.
- Use the **sccd** script to configure a service that starts SCC or the SCC agent automatically.

Here are the steps for each starting and stopping option:

- **Before you start SAP Control Center or the SCC agent for the first time, set environment variables.** Do this only once.
  a) Change to the parent of the SAP Control Center installation directory. (The parent directory is typically `/opt/sap` or `opt/sybase`.)
  b) Execute one of the following to set environment variables.

     Bourne shell:

     ```
     . SYBASE.sh
     ```

     C shell:

     ```
     source SYBASE.csh
     ```
- **Run SAP Control Center or the SCC agent (or both, when they are installed together) in the foreground.**

  Running in the foreground is a method of manually starting; you must issue commands to stop and restart SCC or the SCC agent.
  a) To start SCC or the SCC agent and drop into the console when the start-up sequence is finished, enter the **scc** command.

     For a singleton installation:

     ```
     $SYBASE/SCC-3_3/bin/scc.sh
     ```

     For an instance:

     ```
     $SYBASE/SCC-3_3/bin/scc.sh -instance <instance-name>
     ```

     You can omit the **-instance** option if the instance's name is the same as its host name (the default).
- **Run SAP Control Center or the SCC agent (or both, when they are installed together) in the background.**

  You can use **nohup**, **&**, and **>** to run SAP Control Center or the SCC agent in the background, redirect output and system error to a file, and suppress the SCC console. Running in the background is a method of manually starting; you must issue commands to stop and restart SCC or the SCC agent.
  a) Execute a command similar to the sample below that matches your shell. Both sample commands direct output to the file `scc-console.out`. If the output file already exists, you might need to use additional shell operators to append to or truncate the file.
     Bourne shell (sh) or Bash

     For a singleton installation:

     ```
     nohup ./scc.sh 2>&1 > scc-console.out &
     ```

     For an instance:

     ```
     nohup ./scc.sh -instance <instance-name> 2>&1 > scc-console-
     your-instance.out &
     ```

You can omit the **-instance** option if the instance's name is the same as its host name (the default).

C shell

For a singleton installation:

```
nohup ./scc.sh >& scc-console.out &
```

For an instance:

```
nohup ./scc.sh -instance <instance-name> >& scc-console.out &
```

You can omit the **-instance** option if the instance's name is the same as its host name (the default).

- **Shut down SAP Control Center or the SCC agent (or both, when they are installed together) .**
  a) To shut down from the `scc-console>` prompt, enter:

  ```
  shutdown
  ```

  Warning! Do not enter **shutdown** at a UNIX prompt; it shuts down the operating system.

  To shut down from the UNIX command line, enter the **scc --stop** command.

  For a singleton installation:

  ```
  $SYBASE/SCC-3_3/bin/scc.sh --stop
  ```

  For an instance:

  ```
  $SYBASE/SCC-3_3/bin/scc.sh --stop -instance <instance-
  name>
  ```

  You can omit the **-instance** option if the instance's name is the same as its host name (the default).
- **Configure SAP Control Center or the SCC agent to run as a service.**

  A UNIX service is a daemon process that starts automatically after the machine is started and runs in the background. UNIX installations of SCC include a shell script, **sccd**, which you can use to configure the SCC service. (Some UNIX platforms supply tools that make service configuration easier; Linux **chkconfig** is an example.)

  Note: SAP recommends that if you are not familiar with setting up services in UNIX, you delegate this task to a system administrator or consult the system administration documentation for your UNIX platform.

  a) Copy `$SYBASE/SCC-3_3/bin/sccd` into this directory:
     - AIX (SCC agent only): `/etc/rc.d/init.d`
     - HP-UX (SCC agent only): `/sbin/init.d`
     - All other platforms: `/etc/init.d`
  b) Open `sccd` and make these changes:

- Change the line that sets the SYBASE variable to the location of your SAP Sybase installation (that is, the parent of `SCC-3_3`, the SAP Control Center installation directory). By default, this directory is called `/opt/sybase` if you installed SCC on a machine with an existing Sybase product or environment variable; otherwise the default parent directory is `/opt/sap`.
- If you are not using shared-disk mode, or you are using shared-disk mode to run a single instance whose name is the same as the host name, skip to step *5.c* on page 37 or step *5.d* on page 37.
- If you are using shared-disk mode to run a single instance whose name is not the host name, or to run multiple instances on the same host, add the instance name to the script name. Change:

  ```
  SCRIPT_NAME=scc.sh
  ```

  to:

  ```
  SCRIPT_NAME="scc.sh -instance <instance-name>"
  ```
- If you are using shared-disk mode to run multiple instances on the same host, append the instance name to the name of the ouput log file. Change:

  ```
  ./${SCRIPT_NAME} --start 2>&1 >> ${SCC_HOME}/log/scc-
  service.out &
  ```

  to:

  ```
  ./${SCRIPT_NAME} --start 2>&1 >> ${SCC_HOME}/log/scc-
  service_<instance-name>.out &
  ```
- If you are using shared-disk mode to run multiple instances on the same host, save a copy of the `sccd` script for each instance, giving each copy a unique name. In each copy, add the instance name to the script name and append the instance name to the output log file name as described above. Perform the remaining steps in this procedure for each copy of `sccd`.

c) In Linux, configure the service to run in run levels 2, 3, 4, and 5:

```
/usr/sbin/chkconfig --add sccd
/usr/sbin/chkconfig --level 2345 sccd
```

You can test the `sccd` script with `/usr/sbin/service sccd status`. (The **service** command accepts these options: **start** | **stop** | **status** | restart.)

d) On non-Linux platforms, locate this directory:

- AIX (SCC agent only): `/etc/rc.d/rc<X>.d`
- HP-UX (SCC agent only): `/sbin/rc<X>.d`
- Solaris: `/etc/rc<X>.d`

where <X> is the run level (for example, 3). Make two soft links in the directory for your platform and set the links to point to:

- AIX (SCC agent only):
  `/etc/rc.d/init.d/sccd: S90sccd` and

`/etc/rc.d/init.d/sccd: K10sccd`

- HP-UX (SCC agent only):
  `/sbin/init.d/sccd: S90sccd` and
  `/sbin/init.d/sccd: K10sccd`
- Solaris:
  `/etc/init.d/sccd: S90sccd` and
  `/etc/init.d/sccd: K10sccd`

The `S90sccd` link starts the service and the `K10sccd` link stops the service. The two-digit numbers in the links indicate the start and stop priorities of the service.

e) Use the `S90sccd` and `K10sccd` links to test starting and stopping the service. The links are called automatically when the machine is started or shut down.

Getting Started After Installing

Perform postinstallation testing and configuration.

Prerequisites

Start SAP Control Center.

Task

1. Install Adobe Flash Player 10.1 or later in the Web browser you will use to connect to SCC.

   Flash Player is a free plug-in. You can download the latest version from *http://get.adobe.com/flashplayer/*.

   If Flash Player is already installed but you are not sure which version you have, go to the Adobe test site at *http://adobe.com/shockwave/welcome*. Click the link that says **Test your Adobe Flash Player installation**. The version information box on the next page that appears displays your Flash Player version.

2. To connect to SCC, direct your browser to:

   ```
   https://<scc_server_hostname>:8283/scc
   ```

   Note: If you changed the default HTTPS port during installation, use the new port number instead of 8283.

3. (Optional) If you see an error about the security certificate, add SCC to your browser's trusted sites zone (Internet Explorer) or add a security exception (Firefox).

4. Log in.

   SCC provides a default login account, sccadmin, for initial configuration and setting up permanent authentication. The password is set during installation.

   Note: The sccadmin account and the preconfigured user login module on which it is based are not intended for use in a production environment. SAP recommends that you pass authentication responsibility to your operating system or to LDAP, as described in the *Get Started > Setting Up Security* section of the online help.

   SAP further recommends that you disable sccadmin as soon as you have set up and tested authentication, and that you change the password on the sccadmin account if you do not plan to set up and test authentication right away.

5. (Optional) Change the password or disable sccadmin—see *Changing the Password or Disabling the Default Login Account*.

6. Learn about SAP Control Center. To open the help system, click **?** in the upper-right corner of the screen, or select **Help > Online Documentation.**

Configuring the SSL Certificate

Ensure the security of encrypted SSL communication between SAP Control Center and browser clients by installing an X.509 certificate.

When you start SAP Control Center for the first time, it generates a self-signed X.509 Secure Sockets Layer (SSL) certificate for the host that it is running on. Because self-signed certificates are not issued by a trusted certificate authority, most browsers show an error when they try to connect to SCC using the self-signed certificate.

To eliminate certificate errors, install a permanent SSL certificate from a certificate authority. SAP recommends that you install a certificate signed by a certificate authority before using SCC in your production network. Obtain a certificate for each machine on which an SCC server is installed.

The following is an overview of purchasing and installing an SSL certificate from a certificate authority. For full details, see *http://docs.codehaus.org/display/JETTY/How+to+configure+SSL*.

1. To obtain an SSL certificate from a known certificate authority (such as VeriSign, Inc. or Thawte, Inc.), generate a certificate signing request (CSR) and send it to the certificate authority. Use one of these commands to generate the CSR:

   Windows:

   ```
   keytool -certreq -alias jetty -keystore
   %SYBASE%\SCC-3_3\services\EmbeddedWebContainer\keystore
   -file scc_jetty.csr
   ```

   or

   ```
   keytool -certreq -alias jetty -keystore
   C:\sap\SCC-3_3\services\EmbeddedWebContainer\keystore
   -file scc_jetty.csr
   ```

   UNIX:

   ```
   keytool -certreq -alias jetty -keystore
   $SYBASE/SCC-3_3/services/EmbeddedWebContainer/keystore
   -file scc_jetty.csr
   ```

   or

   ```
   keytool -certreq -alias jetty -keystore
   /opt/sap/SCC-3_3/services/EmbeddedWebContainer/keystore
   -file scc_jetty.csr
   ```

   Note: The **keytool** utility resides in the SAP JRE installation directory:

Windows: `%SAP_JRE7%\bin\keytool`

UNIX: `$SAP_JRE7/bin/keytool`

2. Follow the instructions provided by the certificate authority to import the signed certificate into the SCC keystore and, if necessary, to install the certificate authority's trusted certificate in the "truststore," cacerts. Typically, the command to import the signed certificate is:

   Windows:

   ```
   keytool -keystore %SYBASE%\SCC-3_3\services
   \EmbeddedWebContainer\keystore
   -import -alias jetty -file scc_jetty.crt -trustcacerts
   ```

   or

   ```
   keytool -keystore C:\sap\SCC-3_3\services
   \EmbeddedWebContainer\keystore
   -import -alias jetty -file scc_jetty.crt -trustcacerts
   ```

   UNIX:

   ```
   keytool -keystore $SYBASE/SCC-3_3/services/
   EmbeddedWebContainer/keystore
   -import -alias jetty -file scc_jetty.crt -trustcacerts
   ```

   or

   ```
   keytool -keystore /opt/sap/SCC-3_3/services/
   EmbeddedWebContainer/keystore
   -import -alias jetty -file scc_jetty.crt -trustcacerts
   ```

   The initial keystore password is `changeit`.

Setting Passwords or Disabling Default Login Accounts

Set new passwords for default user accounts if you plan to use them. If you do not plan to use the accounts, disable them. The default user accounts are sccadmin (SAP Control Center) and uafadmin (SCC agent).

Prerequisites

Before disabling the sccadmin or uafadmin accounts:

- Configure SAP Control Center (or the SCC agent, if you are disabling its uafadmin account) to authenticate users through LDAP or the operating system. See *Get Started > Setting Up Security* in the SCC online help.
- Grant SAP Control Center (or the SCC agent) administration privileges to at least one user account in LDAP or the operating system. See *Get Started > User Authorization* in the online help.

Task

1. In a text editor, open the `csi_config.xml` file:

   Windows:

   `%SYBASE%\SCC-3_3\conf\csi_config.xml` or
   `C:\sap\SCC-3_3\conf\csi_config.xml`

   UNIX:

   `$SYBASE/SCC-3_3/conf/csi_config.xml` or
   `/opt/sap/SCC-3_3/conf/csi_config.xml`
2. Search for the account name:
   - SAP Control Center: `sccadmin`
   - SCC agent: `uafadmin`

   The block containing the account name should look similar to this:

```
<!-- Default SCC admin account: sccadmin -->
<authenticationProvider controlFlag="sufficient"

name="com.sybase.security.core.PreConfiguredUserLoginModule">
    <options name="username" value="sccadmin"/>
    <options name="password"
value="{SHA-256:QZT6pRIx6l8=}sENxwVBfp65aaTjd/
vAZFQAQOmkrk4Zl7iXLOFyJqCM="/>
    <options name="roles" value="SCC Administrator"/>
</authenticationProvider>
```

   or

```
<!-- Default SCC agent admin account: uafadmin -->
<authenticationProvider controlFlag="sufficient"

name="com.sybase.security.core.PreConfiguredUserLoginModule">
    <options name="username" value="uafadmin"/>
    <options name="password"
value="{SHA-256:WNATpqw76zA=}GYeAKdTRiIh1VcqmWv1k/
A2pcXSHfLUBr9boP03ArKE=" />
    <options name="roles" value="SCC Agent Administrator"/>
</authenticationProvider>
```

3. (Optional) To disable an account, comment out the sccadmin or uafadmin block of the file by moving the `-->` characters from the end of the first line to the end of the last line, so the last line looks like this:

```
</authenticationProvider> -->
```

   Then skip to step *6*.
4. If you want to set passwords rather than disable the accounts, encrypt and copy a password for the sccadmin or uafadmin account. (See *Encrypting a Password* on page 43.)
5. Paste the encrypted password into the value field of the password line. It looks similar to this—be sure to paste inside the double quotes:

```
<options name="password"
value="{SHA-256:WNATpqw76zA=}GYeAKdTRiIh1VcqmWv1k/
A2pcXSHfLUBr9boP03ArKE=" />
```

6. Save the file and exit.
7. To make the new or disabled passwords take effect, restart the SCC server or agent on which the changes were made.

Encrypting a Password

Use the **passencrypt** utility to encrypt passwords and other values that must be kept secure while stored in text files.

You can safely store an encrypted password in a configuration file. Enter the password in clear text (unencrypted) when you execute **passencrypt** and when you use the password to log in.

passencrypt, which is located in the SAP Control Center `bin` directory, uses the SHA-256 hash algorithm for passwords used in the PreConfiguredLoginModule in `csi_config.xml`.

1. Open a command window and change to the `bin` directory:

   Windows: `cd <SCC-install-directory>\bin`
   UNIX: `cd <SCC-install-directory>/bin`
2. To encrypt a password, enter **passencrypt -csi**. Enter your new password at the resulting prompt.
   passencrypt encrypts the password you enter (which does not appear on the screen) and displays the password in encrypted form.
3. Copy the encrypted password.
4. Paste the encrypted password where needed.

Enabling Incremental Backups

(Optional) Enable the SAP Control Center repository to generate incremental backups.

You can perform these steps at any time. You may not be able to restore the repository from incremental backups taken before this change.

1. Shut down SCC.
2. Open this file in a text editor:
   `SCC-3_3/services/SccSADataserver/service-config.xml`
3. Delete this line:
   ```
   <set-property property="com.sybase.asa.database.options"
   value="-m" />
   ```
4. Save the changes and start SCC.

Next
To configure backups, see *Manage and Monitor > Manage Sybase Control Center > Repository > Scheduling Backups of the Repository* in the online help.

Configuring SAP Control Center

Before using SAP Control Center, perform configuration and setup tasks (including setting up security).

1. Access the online help by doing one of the following:
   - Click **?** in the upper-right corner of the SCC screen. Expand the Sybase Control Center and SAP Control Center books in the left pane of the help window.
   - Visit *http://sybooks.sybase.com* and select **Sybase Control Center** from the Select a Product list.
   - Visit *http://help.sap.com* and find SAP Control Center help in the documentation set for your managed product.

   The help in the product includes a module for each product component you have installed. The help on the Web includes all the help modules.
2. Complete these configuration procedures:

Task	Location in help
(Optional) Perform a quick start.	*Get Started > Quick Start for an Evaluation*
Perform setup tasks for a production environment.	*Get Started > Get Started in a Production Environment*
Configure SCC product modules. Includes registering servers, setting up statistics collection, and creating alerts. **Note:** Configuration tasks vary by component. If you have more than one SCC product module installed, follow the configuration steps for each one.	*Configure*

Troubleshooting Installation

Resolve problems with SAP Control Center.

Table 2. Windows Problems

Problem	Solution
Installer fails to start	To display error messages, run **setupConsole.exe** instead of **setup.exe**.
Installer or uninstaller fails in Windows 7 or Windows 2008 x86 64-bit	The installer or uninstaller fails because it cannot set environment variables. This is common if you use a 32-bit (nt386) SCC installer on a 64-bit machine. In Windows Explorer, right-click `setup.exe`, `setupConsole.exe`, or `uninstall.exe` and select **Properties**. On the Compatibility tab, select **Windows XP** compatibility mode.
Error on installing SCC	If you see the error below, install the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package ATL Security Update. For more information, see the patch requirements in *System Requirements* on page 5. `Windows error 140001 occurred while loading the Java VM`
SCC fails to start after installation	In Windows 7, Windows 8, Windows 2008, and Windows 2012 Server, you must start SCC as an administrator when you start it for the first time. To open a Windows command prompt in Run-as-Administrator mode and start SCC: 1. Select **Start** > **Run**. 2. Type `cmd` and press **Control+Shift+Enter**. 3. If a dialog asks you to allow the Windows Command Processor to make changes to your computer, click **Yes**. 4. To start SCC, enter `%SYBASE%\SCC-3_3\bin\scc.bat` or `C:\sap\SCC-3_3\bin\scc.bat`. **Note:** If you are starting an instance running from a shared disk, enter this instead: `%SYBASE%\SCC-3_3\bin\scc.bat -instance <instance-name>` or `C:\sap\SCC-3_3\bin\scc.bat -instance <instance-name>` .

Problem	Solution

SCC fails to start after installation because it does not have enough memory	You may see an error:
	`Could not create the Java virtual machine.`
	If the maximum heap size on the machine running SCC is smaller than SCC's initial heap size (128MB), SCC cannot start. To increase the memory available to SCC, set the *SCC_MEM_MAX* environment variable to a value appropriate to your machine. For example:
	`> set SCC_MEM_MAX=512`
	This enables you to start SCC with the **scc** command. See the SCC online help for information on changing memory options for the SCC Windows service: *Get Started > Launching Sybase Control Center > Configuring Memory Usage*.

Running scripts is not enabled	If you see `Running scripts is not enabled` or a similar message while you are connected to SAP Control Center, relax the security settings on your browser as described in the next item.

Problem	Solution
Cannot connect to SCC or install Adobe Flash Player	Browsers with strong security settings, including Internet Explorer (IE) Enhanced Security Configuration, fail to connect to SAP Control Center if they cannot load Flash Player. When you try to connect, you might see a message similar to: `This content requires the Adobe Flash Player. Get Flash.` In some cases, there is no indication of the need for Flash Player; you might see only a gray box in the browser window. To install Flash Player so that you can use SCC, relax the security settings on your browser, including ActiveX controls in IE. **1.** To download Flash Player, click the **Get Flash** link or go to *http://get.adobe.com/flashplayer/*. **2.** Review the license agreement and click **Agree and install now**. If your browser's security options are too strict, they prevent Flash Player from installing. **3.** Change the level of security so you can install Flash Player: • In Internet Explorer, go to **Tools > Internet Options > Security tab > Internet > Custom level**. Most options in the Security Settings dialog have Disable and Enable settings. Many also have a Prompt setting, which means that IE prompts you for approval before using the feature or performing the action described. Set all disabled options in the dialog to Enable or Prompt. Prompt is safer. • In Firefox, go to **Tools > Options > Content** and **Tools > Options > Security** and choose less restrictive settings. **4.** Return to the main window and reload the Flash Player installation page. Flash Player installs automatically and plays a small animation when it finishes. **5.** Connect to SCC and log in.

Table 3. UNIX Problems

Problem	Solution

Cannot run the installer in GUI mode	**1.** Verify that you have installed any operating system patches required for SAP Java Runtime Environment (JRE) 7.1. See the patch requirements in *System Requirements* on page 5.
	2. Enter this command at the UNIX prompt of the remote machine, where *host_name* is the name of the machine on which you want the installer to appear (that is, your local machine):
	For C shell:
	`setenv DISPLAY host_name:0.0`
	For Bourne shell:
	`DISPLAY=host_name:0.0; export DISPLAY`

Installation fails; you may see messages about insufficient memory	Set the datasize limit to **unlimited**. For example, enter this in a UNIX shell: `limit datasize unlimited`
Installation fails; you may see messages saying the file system is full	Clear enough space in `/tmp` to allow the installer to run.
SCC fails to start after installation	Execute **scc.sh**—see *Starting and Stopping SAP Control Center in UNIX* on page 34.

Problem	Solution

SCC fails to start after installation because it does not have enough memory	You may see an error:
	`Could not create the Java virtual machine.`
	If the maximum heap size on the machine running SCC is smaller than SCC's initial heap size (128MB), SCC cannot start. To increase the memory available to SCC, set the *SCC_MEM_MAX* environment variable to a value appropriate to your machine. For example:
	`bash$ export SCC_MEM_MAX=512`
	This enables you to start SCC with the **scc** command.
	You can also execute this command before starting SCC, or add it at the beginning of `SCC-3_3/bin/scc.sh`:
	`ulimit -v 59326240`
	The command increases the virtual memory available to SAP Control Center.
	See the SCC online help for information on changing memory options for an SCC UNIX service: *Get Started > Launching Sybase Control Center > Configuring Memory Usage*.

Client not authorized to connect to server	If you see this error message when you launch the installer, the remote machine does not have permission to display the user interface on the local machine where you are working:
	`Xlib: connection to "host_name" refused by server`
	`Xlib: Client is not authorized to connect to Server`
	`xhost: unable to open display "host_name"`
	To correct the problem:
	1. Enter the following command at the UNIX prompt of your local machine, where remote_machine is the machine on which you are running the installer:
	`xhost +remote_machine`
	2. Restart the installer.

Running scripts is not enabled	If you see `Running scripts is not enabled` or a similar message while you are connected to SAP Control Center, relax the security settings on your browser as described in the item on installing Flash Player, below.

Problem	Solution
Cannot connect to SCC or install Adobe Flash Player	Browsers with strong security settings fail to connect to SAP Control Center if they cannot load Flash Player. When you try to connect, you might see a message similar to this: `This content requires the Adobe Flash Player. Get Flash.` In some cases, there is no indication of the need for Flash Player; you might see only a gray box in the browser window. To install Flash Player so that you can use SCC, relax the security settings on your browser. **1.** To download Flash Player, click the **Get Flash** link or go to *http://get.adobe.com/flashplayer/*. **2.** Review the license agreement and click **Agree and install now**. If your browser's security options are too strict, they prevent Flash Player from installing. **3.** Change the level of security so you can install Flash Player. In Firefox, go to **Tools > Options > Content** and **Tools > Options > Security** and choose less restrictive settings. **4.** Return to the main window and reload the Flash Player installation page. Flash Player installs automatically and plays a small animation when it finishes. **5.** Connect to SCC and log in.

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