



Installation Guide | PUBLIC

Software Provisioning Manager 1.0 SP41

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Installation of SAP Content Server 7.5 and Higher on UNIX

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1 Document History

The following table provides an overview on the most important document changes.

Note

Before you start reading, make sure you have the latest version of this installation guide, which is available at <https://support.sap.com/sltoolset> >>> [System Provisioning](#) > [Install a System using Software Provisioning Manager](#) > [Installation Option of Software Provisioning Manager 1.0](#) >.

Version	Date	Description
2.3	2024-05-27	Updated version for software provisioning manager 1.0 SP41 (SL Toolset 1.0 SP41)
2.2	2024-02-12	Updated version for software provisioning manager 1.0 SP40 (SL Toolset 1.0 SP40)
2.1	2023-10-09	Updated version for software provisioning manager 1.0 SP39 (SL Toolset 1.0 SP39) Windows operating systems no longer supported for software provisioning manager 1.0 SP39 and higher, according to SAP Note 2998013 , have been removed.
2.0.1	2023-10-09	Updated version for software provisioning manager 1.0 SP38 (SL Toolset 1.0 SP38): Last version containing information about no longer supported Windows operating systems according to SAP Note 3346502 .
2.0	2023-05-26	Updated version for software provisioning manager 1.0 SP38 (SL Toolset 1.0 SP38)
1.9	2023-02-13	Updated version for software provisioning manager 1.0 SP37 (SL Toolset 1.0 SP37) Operating systems and CPU architectures no longer supported according to SAP Note 2998013 have been removed.
1.8.1	2022-10-10	Updated version for software provisioning manager 1.0 SP35 (SL Toolset 1.0 SP35): Last version containing information about no longer supported operating systems and CPU architectures according to SAP Note 2998013 .
1.8	2022-05-24	Updated version for software provisioning manager 1.0 SP35 (SL Toolset 1.0 SP35)
1.7	2022-02-14	Updated version for software provisioning manager 1.0 SP34 (SL Toolset 1.0 SP34)
1.6	2021-10-11	Updated version for software provisioning manager 1.0 SP33 (SL Toolset 1.0 SP33)
1.5	2021-06-21	Updated version for software provisioning manager 1.0 SP32 (SL Toolset 1.0 SP32)
1.4	2021-02-15	Updated version for software provisioning manager 1.0 SP31 (SL Toolset 1.0 SP31)
1.3	2020-10-05	Updated version for software provisioning manager 1.0 SP30 (SL Toolset 1.0 SP30)
1.2	2020-06-08	Updated version for software provisioning manager 1.0 SP29 (SL Toolset 1.0 SP29)

Version	Date	Description
1.1	2020-01-20	Updated version for software provisioning manager 1.0 SP28 (SL Toolset 1.0 SP28)
1.0	2019-09-16	Initial version software provisioning manager 1.0 SP27 (SL Toolset 1.0 SP27)

2 About this Document

This documentation describes how to install an SAP Content Server or SAP Cache Server 7.5 **or higher** on UNIX, using the [software provisioning manager 1.0 SP41 \[page 6\]](#), which is part of SL Toolset 1.0 SP41.

Note

If you want to install an SAP Content Server or SAP Cache Server release **lower than 7.5**, use the documentation *Installation of SAP Content Server (lower than) 7.5 on UNIX*, which is available at <https://support.sap.com/sltoolset> >> [System Provisioning](#) > [System Provisioning Scenarios](#) > [Install a System using software provisioning manager](#) > [Installation Option of software provisioning manager 1.0 <Current SP>](#) > [Installation Guides - Standalone Engines and Clients](#) > [SAP Content Server](#) >

You can find a complete list of the SAP system products that are supported by software provisioning manager 1.0 attached to SAP Note [1680045](#).

Starting with release 7.5, Content Server is integrated into the SAP Web Dispatcher instead of the Apache (Unix) or Microsoft IIS (Windows) web servers.

SAP Content Server will be installed typically under its own system ID (SAPSID) and with an instance number that is unique within the system. As a result, SAP Content Server instances will now be better integrated in your SAP system landscape (for example, regarding its integration with SAP MC, SAP Solution Manager). For more information, see SAP Note [2786364](#).

If SAP Cache Server is not explicitly mentioned, "SAP Content Server" always refers to both SAP Content Server and SAP Cache Server.

Note

If you want to install an SAP Content Server or Cache Server **lower** than 7.5, use the documentation *Installation of SAP Content Server on UNIX 7.4 and Lower* at: <https://support.sap.com/sltoolset> >> > [System Provisioning](#) > [Install a System using software provisioning manager](#) > [Installation Option of software provisioning manager 1.0 SP<Current Number>](#) > [Installation Guides - Standalone Engines and Clients](#) > [SAP Content Server](#) >

2.1 About Software Provisioning Manager 1.0

The software provisioning manager 1.0 is the successor of the product- and release-specific delivery of provisioning tools, such as "SAPinst". We strongly recommend that you always download the latest version of the software provisioning manager 1.0. The software provisioning manager 1.0 is part of the Software Logistics Toolset 1.0 ("SL Toolset" for short). This way, you automatically get the latest fixes and supported processes. For more information about the software provisioning manager as well as products and releases supported by it, see SAP Note [1680045](#) and <http://scn.sap.com/docs/DOC-30236>.

“SAPinst” has been renamed to “software provisioning manager” in this documentation, but the terms “SAPinst” and “sapinst” are still used in:

- The name of the technical framework of the software provisioning manager. For more information about the SAPinst Framework, see SAP Note [2393060](#).
- Texts and screen elements in the the software provisioning manager GUI (SL Common GUI)
- Names of executables, for example `sapinst`
- Names of command line parameters, for example `SAPINST_HTTPS_PORT`
- Names of operating system user groups, such as the additional group `sapinst`

In the following, we generally refer to the software provisioning manager 1.0 as the “software provisioning manager”. We only use the term “software provisioning manager 1.0” if this is required for technical reasons.

Related Information

[Preparing the Installation Media \[page 35\]](#)

2.2 Description of SAP Content Server

This section contains sub-sections giving a general description of the SAP Content Server, and a specific description of SAP Content Server for UNIX.

[SAP Content Server General Description \[page 7\]](#)

[Description of SAP Content Server for UNIX \[page 9\]](#)

2.2.1 SAP Content Server General Description

SAP Content Server

The SAP Content Server is the server at the core of SAP's document storage and management concept. It provides the technical infrastructure for all document-centric applications and business scenarios that do not require a long-term document archiving solution. Because the SAP Content Server is included in every SAP solution, a self-contained content server is always available to SAP customers.

Cache Server

The content server infrastructure also includes the cache server. Like the content server, the cache server stores documents and allows them to be accessed via HTTP. The difference is that the cache server is an interim storage facility located close to the client whose main task is to make access to document content quicker and more efficient. It does this by temporarily storing ('caching') requested document content, so that the next time that content is requested by a nearby client; the content can be retrieved from the nearest cache server rather than the content server.

This is most advantageous on very large, dispersed networks, where the client and the content server may be located on different continents. It is also particularly useful if the content is required for fast display, such as in a Web browser. Cache servers also reduce the network load and thus enhance network performance.

Client Applications

SAP applications that use the technical infrastructure of the SAP Content Server include the SAP Business Workplace, ArchiveLink, the Document Management System (DMS), and the SAP Knowledge Warehouse.

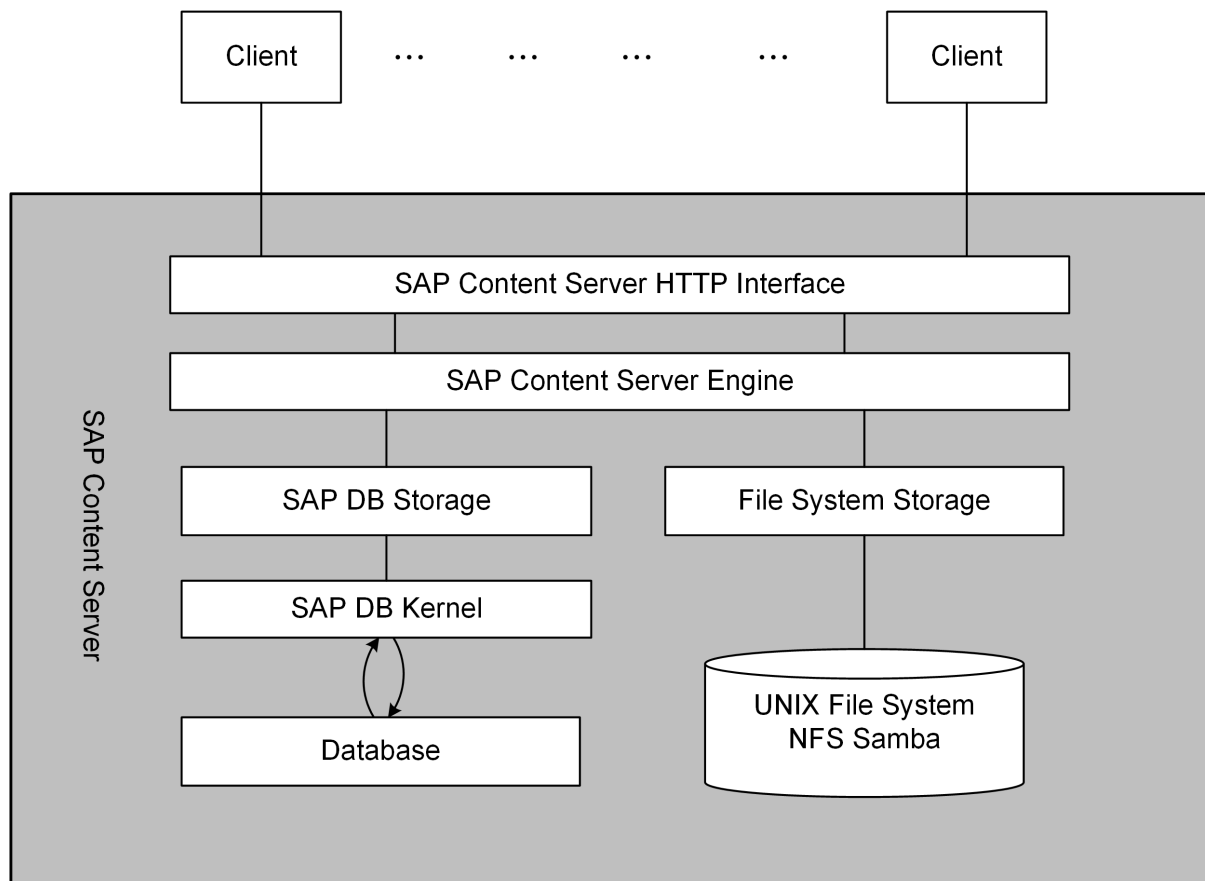
More Information

For further information on Knowledge Provider, the SAP Content Server, and the SAP Cache Server, see the SAP Library at <https://help.sap.com/nw> |>> <Choose the SAP NetWeaver Release your SAP product is based on> > SAP NetWeaver Library: Function-Oriented View > Application Server > Application Server ABAP > Other Services > Services for Business Users > Knowledge Provider (BC-SRV-KPR) > Content Management Service (BC-SRV-KPR) > SAP Content Server >

2.2.2 Description of SAP Content Server for UNIX

Architecture

The graphic below shows the architecture of SAP Content Server for UNIX:



Architecture of the SAP Content Server for UNIX

The basis of the SAP Content Server is the content server engine. The engine receives all URLs, checks their validity, and triggers the processing of requests.

The SAP Content Server saves data to the SAP database (SAP DB) or to the file system. However, the Content Server engine does not communicate directly with the storage medium. Instead, it uses an adapter known as the content storage layer, which is implemented either as the SAP DB storage layer or the file system storage layer, depending on the storage medium. The storage layer “hides” the specific access mechanisms of the storage medium behind a consistent, byte stream-oriented interface. This means that one server engine can support several storage media.

Advantages

The new Content Server for UNIX has a number of advantages. The most important of these are:

- Greatly improved resource utilization (RAM, CPU)
Optimized stream-based design allows the minimum memory footprint.
- Platform-independence
- Highly stable software, virtually maintenance-free – “set up once, run forever”
The only significant maintenance task is making regular backups.
- Fully compatible with the Windows versions of the content server and cache server
- High flexibility:
 - Documents can be stored either compressed or uncompressed.
 - Both the SAP DB and file system storage are supported.

Constraints

The SAP Content Server (both platform versions) is **not** intended to replace optical storage systems and other storage media for long-term document archiving.

File System

The file system storage layer uses the POSIX (portable operating system interface on UNIX) file system API of the underlying UNIX operating system. The file system repositories take the form of a directory hierarchy in which the documents are stored. The system is designed in such a way that the number of documents in the file system is limited only by the number of available inodes (note that some inodes are needed for the directory structure).

Non-standard file systems (that is, file systems other than the UNIX file system (UFS)), such as SAMBA or a virtual FS, can be used, but they must support the UNIX access rights and be accessible via a valid access path beginning with the root file system. You should also expect substantial performance losses if you use a non-standard file system.

The directory structure of the file system repositories has been designed in such a way as to make efficient, fast, and flexible use of your disks. The main features of file system storage are as follows:

- Flat hierarchy
The aim of a flat hierarchy is to keep the number of disk accesses required during document retrieval low and consistent (the flatter the hierarchy, the fewer accesses required). A flat hierarchy also increases the potential number of documents that can be stored.
- Efficient usage ratio of the inodes used for structural objects and content objects
The ratio between inodes used for structural objects and content object does not substantially limit the overall capacity of the repository.
- Portable layout
File system repositories are accessible from different server hosts and can be transported as backed-up archives. No file system-specific features are utilized, in order to keep the repositories platform-

independent. Therefore, repositories can be mounted onto different computers, and even different operating systems. Also see the next point.

- Self-contained data organization

No management tables or metadata are required for the following purposes:

- To ensure that the same repositories are accessible from different storage locations (even concurrently, provided that the NFS locking mechanism works correctly)
- To ensure that the repositories are robust; that is, that they are not prone to crashing

2.3 Purpose

This section describes the purpose of SAP Content Server.

SAP Content Server for UNIX allows users to run SAP's proven content server technology with the added advantages inherent in UNIX systems: enhanced flexibility, improved resource utilization, platform-independence, and high stability.

The SAP Content Server for UNIX has the following sub-components:

- The SAP Content Server and SAP Cache Server
- The SAP database (SAP MAX DB)

2.4 Constraints

This section lists the constraints valid for SAP Content Server.

SAP Content Server is not an alternative to optical storage systems and other storage media for long-term document archiving.

- Effective immediately, the software provisioning manager no longer supports the deprecated CPU architectures and/or operating system versions listed in SAP Note [2998013](#).

Note

- If your current operating system is listed as deprecated in SAP Note [2998013](#), we strongly recommend that you migrate to a supported platform.
- If you continue to run Software Provisioning Manager on the deprecated CPU architectures and/or operating system versions listed in SAP Note [2998013](#), you do so at your own risk and without support from SAP. The software provisioning manager 1.0 SP36 and higher will still run on the deprecated CPU architectures and/or operating system versions listed in SAP Note [2998013](#) but it may run into an error. When you start the software provisioning manager, you will see a warning like the following: *"Platform Support : Support for SAP JVM on PPC64 big endian for Linux ends June 30 th, 2022. See SAP note 2998013."* If you run into an issue, you must use the "frozen" software provisioning manager **1.0 SP35** software and the related installation guide. For more information, see SAP Note [3220901](#).

2.5 Prerequisites

This section describes the prerequisites required for using this guide.

This installation guide assumes that you have a thorough knowledge of the following:

- UNIX administration commands
- Backup tools and procedures o IP network security
- The HTTP protocol
- The general principles of client/server communication
- Documentation

SAP Content Server

- SAP Content Server documentation on the SAP Help Portal at <https://help.sap.com/nw>▶▶
▶ <Choose the SAP NetWeaver Release your SAP product is based on> ▶ SAP NetWeaver Library: Function-Oriented View ▶ Application Server ▶ Application Server ABAP ▶ Other Services ▶ Services for Business Users ▶ Knowledge Provider (BC-SRV-KPR) ▶ Content Management Service (BC-SRV-KPR) ▶ SAP Content Server ▶ SAP Content Server HTTP 4.5 Interface ▶
- For a list of SAP Notes that deal with various aspects of the SAP Content Server, see [SAP Notes Relevant for SAP Content Server \[page 65\]](#).

2.6 SAP Notes for the Installation

You **must** read the following SAP Notes **before** you start the installation. These SAP Notes contain the most recent information on the installation, as well as corrections to the installation documentation.

Make sure that you have the up-to-date version of each SAP Note which you can find at <https://support.sap.com/notes>▶.

SAP Notes for the Installation

SAP Note Number	Title	Description
1680045 ▶	Release Note for Software Provisioning Manager 1.0	Remarks, annotations, and corrections discovered after publication of the documentation Software Provisioning Manager

SAP Note Number	Title	Description
2378874	Install SAP Solutions on Linux on IBM Power Systems (little endian)	Information about how to install SAP solutions on Linux on IBM Power Systems (little endian)

2.7 Naming Conventions

In this documentation, the following naming conventions apply:

Note

From a technical point of view, the SAP Content Server 7.5 or higher is set up like an SAP system with its own SAP system ID (SAPSID), its own operating system users, and its own directory structure.

- “SAP system” refers to the “SAP Content Server” as such.
- “instance” refers to the “SAP Content Server instance”.
- If SAP Cache Server is not explicitly mentioned, “SAP Content Server” always refers to both SAP Content Server and SAP Cache Server.

3 Planning

[Installation Prerequisites \[page 14\]](#)

Before you start installing SAP Content Server, note the following prerequisites.

[Basic Installation Parameters \[page 23\]](#)

The table below lists the basic input parameters that are prompted by the software provisioning manager. For all remaining input parameters, use the tool help or the descriptions on the software provisioning manager screens.

3.1 Installation Prerequisites

Before you start installing SAP Content Server, note the following prerequisites.

[General Prerequisites \[page 14\]](#)

[Technical Prerequisites \[page 14\]](#)

3.1.1 General Prerequisites

SAP Content Server can store documents in SAP MaxDB (separate installation required, see [Installing the SAP MAX DB \(Optional\) \[page 41\]](#)) or directly on a file system.

You should save the following SAP Content Server sub-components to different hard disks, to ensure maximum performance and data security in the productive system:

- Data (data files of MaxDB or root folder of file system based repositories)
- Log file (MaxDB only)
- Mirrored log file (MaxDB only)

A RAID 5 system with at least 2.5 GB of free hard disk capacity is recommended for storing the data. The hard disks must be set up in NTFS format.

All users, in particular application servers and workstation PCs, must be able to access the Content Server or Cache Server system via HTTP. A workstation PC without direct HTTP access will not be able to execute individual scenarios, or will only have very limited access to individual scenarios.

3.1.2 Technical Prerequisites

3.1.2.1 Hardware and Software Requirements

⚠ Caution

If your hosts do not fully meet the requirements, you might experience problems when working with the SAP system.

Procedure

1. Check the *Product Availability Matrix* at <https://apps.support.sap.com/sap/support/pam> for supported operating system releases.
2. If you want to use the SAP Content Server for a **production** system, the values provided by the Prerequisite Checker and the hardware and software requirements checklists are not sufficient. In addition, do the following:
 - You use the hardware sizing information available at <https://sap.com/sizing>.
 - You contact your hardware vendor, who can analyze the load and calculate suitable hardware sizing depending on:
 - The set of applications to be deployed
 - How intensively the applications are to be used
 - The number of users

3.1.2.1.1 Hardware and Software Requirements Tables

📌 Note

The information here is **not** intended to replace the operating system documentation. For more information, see your operating system documentation.

General Installation Information for Your Operating System

Operating System	Information
------------------	-------------

AIX	Before you start the installation, make sure that you have read SAP Note 1972803 . In addition, we also recommend that you check the information available in the <i>SAP on AIX</i> space on the SAP Community Network at https://www.sap.com/community/topic/aix.html .
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Operating System Information

HP-UX	<p>Before you start the installation, make sure that you have read SAP Note 1075118.</p> <p>In addition, we also recommend that you check the information available in the <i>SAP on HP-UX Best Practices</i> space on the SAP Community Network at https://www.sap.com/community/topic/hp-ux.html.</p>
Linux	<p>Before you start the installation, make sure that you have read the SAP Notes for your Linux distribution listed in the central SAP Note 171356.</p> <p>In addition, we also recommend that you check the information available in the <i>SAP on Linux</i> space on the SAP Community Network at https://www.sap.com/community/topic/linux.html.</p>
Solaris	<p>Before you start the installation, make sure that you have read SAP Note 1669684.</p> <p>In addition, we also recommend that you check the information available in the <i>SAP on Oracle Solaris</i> space on the SAP Community Network at https://www.sap.com/community/topic/oracle-solaris.html.</p>

Hardware Requirements

Requirement	Values and Activities
Hardware requirements	Your hardware must be 64-bit capable.
Processing units	<p>For application server instances and database instances: The number of physical or virtual processing units usable by the operating system image must be equal to or greater than 2.</p> <p>Examples of processing units are processor cores or hardware threads (multithreading).</p> <p>In a virtualized environment, ensure that adequate processor resources are available to support the workloads of the running SAP systems.</p>
Optical media drive	ISO 9660 compatible
Hard disk space	<ul style="list-style-type: none">• General Requirements:<ul style="list-style-type: none">• 2 GB of temporary disk space for each required physical installation media - or alternatively the downloaded SAP kernel archives - that you have to copy to a local hard disk. For more information, see Preparing the Installation Media [page 35].• 2 GB of temporary disk space for the installation.• If an advanced disk array is available (for example, RAID), contact your hardware vendor to make sure that the data security requirements are covered by this technology.

Requirement	Values and Activities
RAM	<p data-bbox="488 360 730 383">Only valid for 'Platform': AIX</p> <div data-bbox="488 405 1402 555" style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px;"> <p data-bbox="512 416 611 439">📌 Note</p> <p data-bbox="512 468 1347 528">AIX: Keep in mind that the operating system itself requires about 10% of the available RAM.</p> </div> <p data-bbox="488 573 671 595">End of 'Platform': AIX</p> <p data-bbox="488 607 756 629">Only valid for 'Platform': HP-UX</p> <p data-bbox="488 658 1378 680">HP-UX: Refer to SAP Note 1112627 for the commands to display the RAM size on HP-UX.</p> <p data-bbox="488 696 699 719">End of 'Platform': HP-UX</p> <p data-bbox="488 734 746 757">Only valid for 'Platform': Linux</p> <p data-bbox="488 786 1390 846">Linux: For more information about how to evaluate main memory consumption on Linux, see SAP Note 1382721.</p> <p data-bbox="488 864 687 887">End of 'Platform': Linux</p>
AIX: Paging space	<p data-bbox="488 920 1385 981">You need hard disk drives with sufficient paging space. You can calculate the required paging space as follows:</p> <ul data-bbox="499 1003 762 1099" style="list-style-type: none"> • Optimistic strategy: • Defensive strategy: 3 * RAM, at least 20 GB <p data-bbox="488 1128 959 1151">In addition, for the database instance you need:</p> <ul data-bbox="499 1173 919 1240" style="list-style-type: none"> • 0.75 * RAM, if RAM is greater than 8 GB • 1 * RAM, if RAM is less than 8 GB <p data-bbox="488 1270 1347 1292">For the latest information about recommended paging space, see SAP Note 1121904.</p>
HP-UX: Swap space	<p data-bbox="488 1330 1385 1391">You need hard disk drives with sufficient space for swap. You can calculate the required swap space as follows:</p> <p data-bbox="488 1420 1369 1480">For more information about HP-UX swap space recommendations and about how to set up swap space, see SAP Note 1112627.</p> <p data-bbox="488 1509 959 1532">In addition, for the database instance you need:</p> <ul data-bbox="499 1554 855 1615" style="list-style-type: none"> • Recommended: 3*RAM + 4.5 GB • Minimum: 2*RAM + 4 GB
Linux: Swap space	<p data-bbox="488 1653 1378 1787">You need hard disk drives with sufficient space for swap. We recommend that you use the amount of swap space as described in SAP Note 1597355. You might decide to use more or less swap space based on your individual system configuration and your own experience during daily usage of the SAP system.</p> <p data-bbox="488 1816 959 1839">In addition, for the database instance you need:</p> <ul data-bbox="499 1861 855 1921" style="list-style-type: none"> • Recommended: 3*RAM + 4.5 GB • Minimum: 2*RAM + 4 GB

Requirement	Values and Activities
Oracle Solaris: Swap space	<p>You need hard disk drives with sufficient space for swap.</p> <p>At least 20 GB are required. For more information, see SAP Note 570375.</p> <p>In addition, for the database instance you need:</p> <ul style="list-style-type: none"> Recommended: 3*RAM + 4.5 GB Minimum: 2*RAM + 4 GB

Software Requirements

Requirement	Values and Activities
Database software	<p>Check the Product Availability Matrix (PAM) at http://support.sap.com/pam for supported database platforms.</p>
AIX: Operating system version	<p>Your operating system platform must be 64-bit.</p> <p>Check the Product Availability Matrix (PAM) at http://support.sap.com/pam for supported operating system versions.</p> <p>Contact your OS vendor for the latest OS patches.</p> <p>Minimal OS requirements for the specific SAP Kernel releases are listed in SAP Note 1780629.</p> <p>You require at least AIX 7.1 TL1 SP1 to be able to run the software provisioning manager.</p>
HP-UX: Operating system version	<p>Your operating system platform must be 64-bit.</p> <p>Check the Product Availability Matrix (PAM) at http://support.sap.com/pam for supported operating system versions.</p> <p>To check the operating system version on your installation hosts, use the following command:</p> <pre>uname -r</pre> <p>See SAP Note 939891 for information about support time frames of HP-UX.</p>

Requirement	Values and Activities
Linux: Operating system version	<p>Your operating system platform must be 64-bit.</p> <p>Check the Product Availability Matrix (PAM) at http://support.sap.com/pam for supported operating system versions.</p> <p>Contact your OS vendor for the latest OS patches.</p> <p>To check the operating system version on your installation hosts, use the following command:</p> <pre>cat /etc/*-release</pre> <div style="border: 1px solid green; padding: 2px;"> <p>Only valid for 'Platform': Linux</p> <p>If you are installing on SUSE Linux Enterprise Server (SLES), see SAP Note 1275776 to prepare SLES for SAP environments.</p> <p>End of 'Platform': Linux</p> </div>
Linux Secure Enabled Linux (SELinux) Mode	<p>Set Linux Secure Enabled Linux (SELinux) SELinux mode to <i>Permissive</i> or <i>Disabled</i> on all SAP System hosts for the installation procedure. For more information, see SAP Note 3247790.</p>
Oracle Solaris: Operating system version	<p>Your operating system platform must be 64-bit.</p> <p>Check the Product Availability Matrix (PAM) at http://support.sap.com/pam for supported operating system versions.</p> <p>To check the operating system version on your installation hosts, use the following command:</p> <pre>/bin/uname -r</pre>
SAP Kernel Releases and Versions	<p>To use regular software provisioning manager (SWPM10<Version>.SAR) with SAP kernel up to 7.53 on RHEL 6 or SLES 11 or Oracle Linux 6, you must install the required <code>libstdc++</code> RPM packages. For more information, see SAP Note 2195019.</p>
AIX: Kernel parameters	<p>To adjust AIX kernel parameters, see SAP Note 628131.</p>

Requirement	Values and Activities
HP-UX: Kernel parameters	<p>To run an SAP system, make sure that you check and, if necessary, modify the HP-UX kernel.</p>
	<div style="border-left: 2px solid orange; padding-left: 10px;"> <p>⚠ Caution</p> <p>We recommend that a UNIX system administrator performs all kernel modifications.</p> </div>
	<p>Proceed as follows:</p>
	<ol style="list-style-type: none"> 1. Check SAP Note 172747 for recommendations on current HP-UX kernel parameters.
	<div style="border-left: 2px solid orange; padding-left: 10px;"> <p>⚠ Caution</p> <p>If a kernel value is already larger than the one suggested in the SAP Note, do not automatically reduce it to match the SAP requirement.</p> <p>You have to analyze the exact meaning of such a parameter and, if required, to reduce the parameter value. In some cases this might improve the performance of your SAP applications.</p> </div>
	<ol style="list-style-type: none"> 2. If necessary, modify the kernel parameters in one of the following ways: <ul style="list-style-type: none"> • Manually, as described in SAP Note 172747. • Interactively, using the HP-UX System Administrator Manager (SAM) or System Management Homepage (SMH).
Linux: Kernel parameters	<p>Check SAP Note 2369910 for Linux kernel versions certified by SAP.</p>
	<p>To check the Linux kernel parameters for your Linux distribution, see one of the following SAP Notes:</p>
	<ul style="list-style-type: none"> • SLES 15: SAP Note 2578899 • SLES 12: SAP Note 1984787 • RHEL9x: SAP Note 3108316 • RHEL8x: SAP Note 2772999 • RHEL7x: SAP Note 2002167 • RHEL6x: SAP Note 1496410
Oracle Solaris: Kernel parameters	<p>To run an SAP system, you must check and, if necessary, modify the Oracle Solaris kernel parameters or resource controls.</p>
	<ul style="list-style-type: none"> • Oracle Solaris 10: SAP Note 724713 • Oracle Solaris 11: SAP Note 1797712
HP-UX: OS patches	<p>To check the minimum required OS patches, see SAP Note 837670.</p>

Requirement	Values and Activities
Oracle Solaris: OS patches	<p>Check the relevant SAP Note for required Oracle Solaris patches:</p> <ul style="list-style-type: none"> • Oracle Solaris 10 on SPARC: SAP Note 832871 • Oracle Solaris 10 on x64: SAP Note 908334 • Oracle Solaris 11: SAP Note 1797712
AIX: National Language Support (NLS)	<p>Make sure that National Language Support (NLS) and corresponding locales are installed.</p>
HP-UX: National Language Support (NLS)	<p>Make sure that National Language Support (NLS) and corresponding locales are installed.</p> <p>You can check this as follows:</p> <ul style="list-style-type: none"> • Enter the following commands to check whether National Language Support (NLS) is installed: <code>swlist -v grep -i nls</code> The output should contain the string NLS-AUX . . . • Enter the following commands to check which locales are available: <code>locale -a</code> The following files must be available: de_DE.iso88591, en_US.iso88591.
Linux: National Language Support (NLS)	<p>Make sure that National Language Support (NLS) and corresponding locales are installed.</p> <p>You can check this as follows:</p> <ul style="list-style-type: none"> • Ensure that the required locales such as the following are available: de_DE, en_US • Check SAP Note 187864 for information about corrected operating system locales and SAP blended Code Pages.
Oracle Solaris: National Language Support (NLS)	<p>Make sure that National Language Support (NLS) and corresponding locales are installed.</p> <p>Enter the following command to check which locales are available:</p> <code>locale -a</code> <p>The following locale must be available: en_US.ISO8859-1</p>
System language	<p>For the installation, you must choose English as the operating system language on all hosts that run SAP software.</p>

Other Requirements

Requirement	Values and Activities
Minimum Web Browser	<p>Make sure that you have at least one of the following web browsers installed on the host where you run the software provisioning manager's SL-UI:</p> <ul style="list-style-type: none"> • Microsoft Internet Explorer 11 or higher • Microsoft Edge • Mozilla Firefox • Google Chrome <p>Always use the latest version of these web browsers.</p> <p>You need a web browser to be able to run the SL-UI, and to display the Evaluation Form and send it to SAP.</p>
AIX: Additional software	<p>Make sure that the following additional file sets are installed:</p> <ul style="list-style-type: none"> • <code>bos.adt.*</code> – Base Application Development • <code>bos.perf.*</code> – performance and diagnostics tools • <code>perfagent.tools</code> – performance monitoring tools
Host name	<p>To find out physical host names, open a command prompt and enter <code>hostname</code>.</p> <p>For more information about the allowed host name length and characters allowed for SAP system instance hosts, see SAP Note 611361.</p> <p>Only valid for 'Platform': HP-UX</p> <p>For HP-UX, see SAP Note 1503149 in addition.</p> <p>End of 'Platform': HP-UX</p> <p>If you want to use virtual host names, see SAP Note 962955.</p>
Login shell	<p>The software provisioning manager only prompts you for this parameter if you use a login shell other than C shell (csh).</p> <p>For more information, see SAP Note 202227.</p> <p>Only valid for 'Platform': HP-UX</p> <p>For HP-UX, see SAP Note 1038842 in addition.</p> <p>End of 'Platform': HP-UX</p> <p>SAP Host Agent installation:</p> <ul style="list-style-type: none"> • Make sure that <code>/bin/false</code> can be used as a login shell. • Only valid for 'Platform': AIX <ul style="list-style-type: none"> AIX only: Add <code>/bin/false</code> to the list of valid login shells (attribute <code>shells</code>) in <code>/etc/security/login.cfg</code>. <p>End of 'Platform': AIX</p>
HP-UX: Mount and file system configuration	<p>For recommendations about block size and mount option configuration, see SAP Note 1077887.</p>

Requirement	Values and Activities
Shared file systems for decentralized systems	If application servers are installed decentralized, a "shared" file system must be installed, for example Network File System (NFS).
AIX: C++ Runtime environment	Minimal C++ runtime requirements for the specific SAP Kernel releases are listed in SAP Note 1780629 .

3.2 Basic Installation Parameters

The table below lists the basic input parameters that are prompted by the software provisioning manager. For all remaining input parameters, use the tool help or the descriptions on the software provisioning manager screens.











Parameters	Description
SAP System ID <SAPSID>	<p>The SAP System ID <SAPSID> is the technical identifier for your SAP Content Server and SAP Cache Server. You can install SAP Content Server and SAP Cache Server with the same <SAPSID>, but with different instance numbers.</p> <div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px; margin-top: 10px;"> <p>⚠ Caution</p> <p>Choose your SAP system ID carefully. You cannot change the SAP system ID after the installation.</p> </div> <p>Make sure that your SAP system ID:</p> <ul style="list-style-type: none"> • Is unique throughout your organization • Consists of exactly three alphanumeric characters • Contains only uppercase letters • Has a letter for the first character • Does not include any of the reserved IDs listed in SAP Note 1979280.

Parameters	Description
Instance Number for the SAP Content Server	<p>Instance Number:</p> <p>Technical identifier for internal processes. Consists of a two-digit number from 00 to 97. The instance number must be unique on a host. That is, if more than one SAP instance is running on the same host, these instances must be assigned different numbers.</p> <p>Only valid for 'Platform': HP-UX</p> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f0f0f0;"> <p>⚠ Caution</p> <p>Do not use 75 for the instance number of the SAP Content Server because this number is already used by the operating system. For more information, see SAP Note 29972.</p> </div> <p>End of 'Platform': HP-UX</p>
Virtual Host Name	<p>Virtual host name (network name) of the SAP<SAPSID> cluster group</p> <p>You can assign a virtual host name for the instance to be installed, by specifying it in the <i>Host Name</i> field of the screen. Then this instance is installed with this virtual host name.</p> <p>After the installation has completed, all application servers can use this virtual host name to connect to the instance. The virtual host name is also a global host name. If you do not provide the virtual host name, the instance is installed automatically using its physical host name.</p> <p>You must have already reserved the virtual host name (network name) and its IP address on a DNS server before you run the software provisioning manager. For more information, see Using Virtual Host Names [page 35].</p> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f0f0f0;"> <p>📌 Note</p> <p>Fully qualified host names, IPv4, IPv6 are not accepted as virtual host names.</p> </div> <p>Alternatively you can assign virtual host names also by starting the software provisioning manager with the <code>SAPINST_USE_HOSTNAME</code> command line parameter. For more information, see Running Software Provisioning Manager [page 46].</p>

Parameters	Description
Master Password	<p data-bbox="545 371 1241 398">Common password for all users that are created during the installation:</p> <ul data-bbox="560 421 1110 448" style="list-style-type: none"> <li data-bbox="560 421 1110 448">• Operating system users (for example <code><sapsid>adm</code>) <div data-bbox="596 465 1394 667" style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p data-bbox="619 479 759 506">⚠ Caution</p> <p data-bbox="619 528 1366 645">If you did not create the operating system users manually before the installation, the software provisioning manager creates them with the common master password (see <i>Operating System Users</i>). In this case, make sure that the master password meets the requirements of your operating system.</p> </div> <ul data-bbox="560 676 833 703" style="list-style-type: none"> <li data-bbox="560 676 833 703">• Secure Store key phrase <p data-bbox="545 725 775 752">Basic Password policy</p> <p data-bbox="545 775 1142 801">The master password must meet the following requirements:</p> <ul data-bbox="560 824 1126 963" style="list-style-type: none"> <li data-bbox="560 824 912 851">• It can be 8 to 30 characters long <li data-bbox="560 860 1015 887">• It must contain at least one letter (a-z, A-Z) <li data-bbox="560 896 967 922">• It must contain at least one digit (0-9) <li data-bbox="560 931 1126 958">• It must not contain <code>\</code> (backslash) or <code>"</code> (double quote). <p data-bbox="545 981 1056 1008">Additional restrictions depending on SAP MaxDB:</p> <ul data-bbox="560 1030 1366 1249" style="list-style-type: none"> <li data-bbox="560 1030 1366 1169">• It can be 8 to 18 characters long Windows only: When installing MaxDB in an MSCS environment, do not use a password more than 9 characters long for the MaxDB <code>control</code> user. Otherwise the database installation on an additional node will fail. <li data-bbox="560 1178 1046 1205">• It must not begin with a digit or an underscore <li data-bbox="560 1214 1254 1240">• It can only contain the following characters: <code>@, _, #, \$, a-z, A-Z, 0-9</code> <div data-bbox="552 1267 1394 1541" style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p data-bbox="574 1281 845 1308">→ Recommendation</p> <p data-bbox="574 1330 1382 1469">The Master Password feature can be used as a simple method to obtain customer-specific passwords for all newly created users. A basic security rule is not to have identical passwords for different users. Following this rule, we strongly recommend individualizing the values of these passwords after the installation is complete.</p> <p data-bbox="574 1491 1165 1518">For more information, see Ensuring User Security [page 60].</p> </div>

Parameters	Description
Operating System Users and Groups	<p>The software provisioning manager processes the operating system users as follows:</p> <ul style="list-style-type: none"> • If the operating system users do not exist, the software provisioning manager creates the following users: <ul style="list-style-type: none"> • The SAP system administrator user <code><sapsid>adm</code> • Database administrator users <p>The software provisioning manager sets the master password for these users by default. You can overwrite and change the passwords either by using the parameter mode Custom or by changing them on the parameter summary screen.</p> • If the operating system users already exist, the software provisioning manager prompts you for the existing password, except if the password of these users is the same as the master password. • Make sure that the user ID and group ID of these operating system users are unique and the same on each relevant application server instance host. <p>During the <i>Define Parameters</i> phase of the software provisioning manager you can specify that the <code>sapinst</code> group is to be removed from the group set of the operating system users after the execution of the software provisioning manager has completed.</p> <p>The <code>sapinst_instdir</code> directory belongs to a group named <code>sapinst</code>. If this group is not available, it is created automatically as a local group. For security reasons, SAP recommends removing the <code>sapinst</code> group from the operating system user groups after the execution of the software provisioning manager has completed.</p> <p>For more information about the <code>sapinst</code> group, see Creating Operating System Users and Groups [page 29].</p> <p>For more information about the <code>sapinst_instdir</code> directory, see Useful Information about Software Provisioning Manager [page 50].</p>

Parameters	Description
SAP Content Server Configuration	<ul style="list-style-type: none"> <li data-bbox="560 371 1394 725"> <p data-bbox="595 371 1136 394">• Maximum Number of Incoming Concurrent Connections</p> <p data-bbox="595 405 1230 427">You can specify a maximum of incoming concurrent connections. Standard configurations are available for:</p> <ul style="list-style-type: none"> <li data-bbox="595 479 1358 501">• 500 connections: Test configuration, suitable for few concurrent requests <li data-bbox="595 517 1382 577">• 2000 connections: Configuration for small or medium-sized production systems <li data-bbox="595 593 1353 654">• 32000 connections: Configuration for large production systems and load tests <p data-bbox="595 665 1362 725">The configurations differ in the number of possible parallel connections and resource consumption, such as memory, sockets, and threads.</p> <li data-bbox="560 741 1394 981"> <p data-bbox="595 741 715 763">• HTTP Script</p> <p data-bbox="595 775 1299 797">This is the SAP Content Server's or the SAP Cache Server's script name. For SAP Content Server, the default script name is <code>/sapcs</code>. For SAP Cache Server, the default script name is <code>/sapscs</code>. When migrating an existing SAP Content Server, make sure that you use the same HTTP Script as specified in OAC0. You can also adjust OAC0 to use the same HTTP Script as specified here.</p> <li data-bbox="560 996 1394 1375"> <p data-bbox="595 996 794 1019">• HTTP/HTTPS Ports:</p> <ul style="list-style-type: none"> <li data-bbox="595 1030 1394 1128"> <p data-bbox="630 1030 756 1052">• HTTPS Port</p> <p data-bbox="630 1064 1331 1124">The HTTPS port of the SAP Content Server is an entry point to the SAP system. The default is 1091.</p> <li data-bbox="595 1144 1394 1375"> <p data-bbox="630 1144 743 1167">• HTTP Port</p> <p data-bbox="630 1178 1342 1238">Optionally you can change the HTTP port number if the port number assigned by default does not suit your needs. The HTTP port of the SAP Content Server is an entry point to the SAP system. The default is 1090. You can either accept a default value for the HTTP port number or configure the port number as required.</p> <div data-bbox="595 1397 1394 1630" style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p data-bbox="619 1406 890 1429">→ Recommendation</p> <p data-bbox="619 1462 1315 1523">For the SAP Content Server, we recommend using HTTP port 1090 and HTTPS port 1091.</p> <p data-bbox="619 1547 1369 1608">For the SAP Cache server, we recommend using HTTP port 1095 and HTTPS port 1096.</p> </div> <ul style="list-style-type: none"> <li data-bbox="560 1641 1394 1697"> <p data-bbox="595 1641 810 1664">• Enable AdminSecurity</p> <p data-bbox="595 1675 1310 1697">If you want to enable <code>AdminSecurity</code>, provide the <code>AdminSecurity Group</code>.</p>

Parameters	Description
SAP Host Agent Upgrade (Optional)	<p>If there already exists an SAP Host Agent on the installation host, the software provisioning manager asks you if you want to upgrade it to a newer patch level version. If you want the existing version to be upgraded, you must provide the new target version of the SAPHOSTAGENT<Version>.SAR archive.</p> <p>To download this archive, go to https://me.sap.com/softwarecenter   </p> <p>SUPPORT PACKAGES & PATCHES  By Category   SAP Technology Components</p> <p> SAP HOST AGENT  SAP HOST AGENT 7.21  <Operating System> </p>

4 Preparation

This section describes in detail the steps you need to take before installing your SAP Content Server.

[Creating Operating System Users and Groups \[page 29\]](#)

During the installation, the software provisioning manager checks all required accounts (users, groups) and services on the local machine. The software provisioning manager checks whether the required users and groups already exist. If not, it creates new users and groups as necessary.

[SAP Directories \[page 32\]](#)

[Using Virtual Host Names \[page 35\]](#)

You can use one or more virtual TCP/IP host names for SAP servers within an SAP server landscape to hide their physical network identities from each other. This can be useful when quickly moving SAP servers or complete server landscapes to alternative hardware since you do not need to reinstall or reconfigure.

[Preparing the Installation Media \[page 35\]](#)

This section describes how to prepare the installation media.

[Install the SAP MaxDB and/or the File System Storage \[page 40\]](#)

4.1 Creating Operating System Users and Groups

During the installation, the software provisioning manager checks all required accounts (users, groups) and services on the local machine. The software provisioning manager checks whether the required users and groups already exist. If not, it creates new users and groups as necessary.

The `sapinst_instdir` directory belongs to a group named `sapinst`. If this group is not available, it is created automatically as a local group.

If you do not want the software provisioning manager to create operating system users, groups, and services automatically, you can optionally create them **before** the installation is started. This might be the case if you use central user management such as Network Information System (NIS).

For distributed installations, unless you are using global accounts or NIS, you must create the target users automatically using the software provisioning manager or manually on the operating system, before starting the installation :

⚠ Caution

The user ID (UID) and group ID (GID) of SAP users and groups must be identical for all servers belonging to an SAP system.

This does not mean that all users and groups have to be installed on all SAP servers.

The software provisioning manager checks if the required services are available on the host and creates them if necessary. See the log messages about the service entries and adapt the network-wide (NIS) entries accordingly.

The software provisioning manager checks the NIS users, groups, and services using NIS commands. However, the software provisioning manager does **not** change NIS configurations.

→ Recommendation

For a distributed or a high-availability system, we recommend that you distribute account information (operating system users and groups) over the network, for example by using Network Information Service (NIS)..

If you want to use global accounts that are configured on a separate host, you can do this in one of the following ways:

- You start the software provisioning manager and choose **► Generic Installation Options ► <Database> ► Preparation ► Operating System Users and Groups ►**.
For more information, see [Running Software Provisioning Manager \[page 46\]](#).
- You create operating system users and groups manually. Check the settings for these operating system users.

User Settings

- Only valid for 'Platform': Oracle Solaris
Oracle Solaris: If your operating system is Oracle Solaris 10 or higher, follow the parameter recommendations for SAP applications in SAP Note [724713](#).
End of 'Platform': Oracle Solaris
- Only valid for 'Platform': AIX
AIX: Make sure that you have set the limits for operating system users as described in SAP Note [323816](#).
End of 'Platform': AIX
- Only valid for 'Platform': HP-UX, Linux, Oracle Solaris
HP-UX, Oracle Solaris: Make sure that you have set the limits listed below for operating system users root, `<sapsid>adm`, and your database-specific operating system users .
Linux: Starting with SUSE Linux Enterprise Server 15, Red Hat Enterprise Linux 8, and Oracle Linux 8, and the respective SAP kernel patch levels, native support for the software suite systemd for Linux is available for SAP systems. If you use Linux with systemd, ignore the following procedures for setting limits because there's no need to change the limits. Make sure that polkit is installed. systemd requires polkit for authorization checks for the `<sapsid>adm` user. For more information about Linux with systemd, see SAP Note [3139184](#).
If you are still using a Linux version or an SAP kernel patch that is not released for native systemd support with SAP systems (see [3139184](#)), proceed as follows: Make sure that you have set the limits as outlined below for operating system users root, `<sapsid>adm`, and your database-specific operating system users .

⚠ Caution

Caution: the `limit` mechanism supports hard and soft limits. The soft limit cannot be bigger than the hard limit. The hard limit can be set/increased by the root user like: `limit -h <limit> <new_value>`, for example `limit -h datasize unlimited`.

- Using `cs` shell, the output of command `limit` needs to be at least as follows:

❖ Example

The following table lists example output taken from SUSE Linux Enterprise Server 11 (x86_64).

Output	Properties
<code>cputime</code>	unlimited
<code>filesize</code>	unlimited
<code>datasize</code>	unlimited
<code>stacksize</code>	8192 KB
<code>coredumpsize</code>	unlimited
<code>descriptors</code>	8192
<code>memoryuse</code>	unlimited

- Using `sh` or `ksh` shell, the output of command `ulimit -a` needs to be at least as follows:

❖ Example

The following table lists example output taken from SUSE Linux Enterprise Server 11 (x86_64).

Output sh	Output ksh	Properties
<code>cpu time (seconds)</code>	<code>cpu time (seconds)</code>	unlimited
<code>file size (blocks)</code>	<code>file size (blocks)</code>	unlimited
<code>data seg size (kbytes)</code>	<code>data size (Kibytes)</code>	unlimited
<code>stack size (kbytes)</code>	<code>stack size (Kibytes)</code>	8192 KB
<code>core file size (blocks)</code>	<code>core file size (blocks)</code>	unlimited
<code>open files</code>	<code>nofile</code>	8192
<code>max memory size (kbytes)</code>	<code>max memory size (Kibytes)</code>	unlimited

End of 'Platform': HP-UX, Linux, Oracle Solaris

- All users **must** have identical environment settings. Any change to the environment – such as variables, or paths – is at your own responsibility.
- If you have multiple operating system users with user ID (UID) 0, you must assign the `sapinst` group to all of them.

- Do **not** delete any shell initialization scripts in the home directory of the operating system users. This applies even if you do not intend to use the shells that these scripts are for.
- If you create operating system users manually or use already existing operating system users, make sure that the home directory for each of these users is **not** the root directory (/).
- Make sure that the home directory of user `adm` is not critical for recursive changes on permissions. When operating system users are created by the software provisioning manager, the permissions on the home directories of these users are changed recursively. This can cause unpredictable errors if you define a critical home directory. For example, the home directory must **not** be / or `/usr/sap`.

Only valid for 'Platform': HP-UX

HP-UX: To prevent terminal query errors in the `adm` environment, comment out the line `eval `tset -s -Q -m '?:?hp'`` in the `/etc/skel/.login` script. For more information, see SAP Note [1038842](#).

End of 'Platform': HP-UX

Operating System Users and Groups

If you have multiple operating system users with user ID (UID) 0, you must assign the `sapinst` group to all of them.

→ Recommendation

For security reasons, we recommend that you remove the operating system users from the group `sapinst` **after** the software provisioning manager has completed.

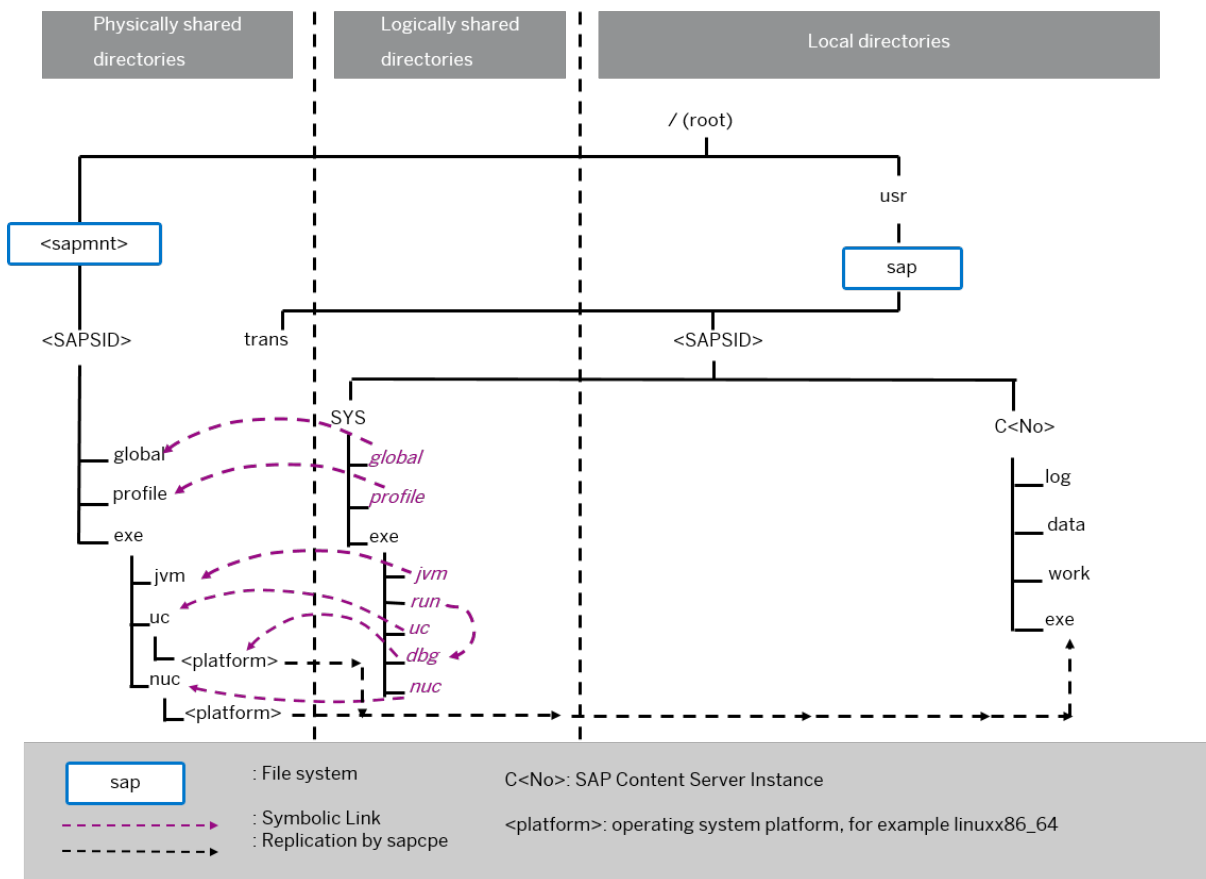
We recommend that you specify this “cleanup” already during the *Define Parameters* phase on the *Cleanup Operating System Users* screen. Then, the removal of the operating system users from the group `sapinst` is done automatically.

Groups and Members

Groups	Members
<code>sapsys</code>	<code><sapsid>adm</code>
<code>sapinst</code>	<code>root, <sapsid>adm</code>

4.2 SAP Directories

The software provisioning manager automatically creates the directories listed in the following figures and tables. Before running the installation, you have to set up the required file systems manually. In addition, you have to make sure that the required disk space for the directories to be installed is available on the relevant hard disks. The figure below assumes that you have set up one file system for the SAP system mount directory `<sapmnt>` and one file system for the `/usr/sap` directory. However, you have to decide for which directories you want to set up separate file systems. If you do not set up any file system on your installation host, the software provisioning manager creates all directories in the `root` directory `/`. The software provisioning manager prompts you only for the `<sapmnt>` directory during the installation.



SAP Directories of an SAP Content Server Instance

The directory of the SAP Content Server instance is C<Instance_Number>, for example C00.

SAP Directories in Detail

Note

The listed file system sizes are initial SAP requirements.

Depending on your operating system, you might also have to add space for administrative purposes.

File System Name	Description	Space Required
<code>/<sapmnt>/<SAPSID></code>	<p>The default name for the SAP system mount directory is <code>sapmnt</code>.</p> <ul style="list-style-type: none"> <code>exe</code> Contains executable kernel programs <code>global</code> Contains log files <code>profile</code> Contains the start and operations profiles of the SAP Content Server instance 	500 MB
<code>/usr/sap/<SAPSID></code>	<p>This directory contains the following subdirectories:</p> <ul style="list-style-type: none"> <code>SYS</code> <div data-bbox="518 824 1099 1010" style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>The subdirectories of <code>/usr/sap/<SAPSID>/SYS</code> have symbolic links to the corresponding subdirectories of <code>/<sapmnt>/<SAPSID></code>, as shown in the figure above.</p> </div> <ul style="list-style-type: none"> <code><INSTANCE></code> The instance name (instance ID) of the SAP Content Server instance is <code>C<Instance_Number></code>, for example <code>C00</code>. <p>There are subdirectories of <code>/usr/sap/<SAPSID>/SYS</code> with symbolic links to subdirectories of <code>/<sapmnt>/<SAPSID></code>:</p>	500 MB
<code>/usr/sap/trans</code>	<p>This directory contains SAP software for the transport of objects between SAP systems .</p>	<p>This value heavily depends on the use of your SAP system.</p> <p>For the installation, it is sufficient to use 200 MB. You can enlarge the file system afterwards if required.</p>

4.3 Using Virtual Host Names

You can use one or more virtual `TCP/IP` host names for SAP servers within an SAP server landscape to hide their physical network identities from each other. This can be useful when quickly moving SAP servers or complete server landscapes to alternative hardware since you do not need to reinstall or reconfigure.

Prerequisites

Make sure that the virtual host name can be correctly resolved in your Domain Name System (DNS) setup.

Context













Procedure





4.4 Preparing the Installation Media

This section describes how to prepare the installation media.

Installation media are available as follows:

Installation Archive	Description
<code>SWPM10SP<Support_Package_Number>_<Version_Number>.SAR</code>	<p>The software provisioning manager 1.0 archive containing the software provisioning manager</p> <p>You always have to download the latest version of the software provisioning manager 1.0 archive.</p> <p>You must extract this archive to be able to run the software provisioning manager. For more information, see Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 37].</p>

Installation Archive	Description
SAPCS<Release> .SAR	<p>Contains the installation packages for the SAP Content Server and the Cache Server</p> <p>You can download it from https://me.sap.com/softwarecenter   DATABASES  SAP MaxDB </p>
SAPHOSTAGENT<Release>_<Version>.SAR	<p>Contains the installation packages for the SAP Host Agent</p> <p>You can download it from https://me.sap.com/softwarecenter   SUPPORT PACKAGES & PATCHES  By Category  SAP TECHNOLOGY COMPONENTS  SAP HOST AGENT  SAP HOST AGENT 7.22  <Latest Version> </p>

Installation Media	Description
SAP MaxDB <Release> - SP<Version> Build <Version> <OS>	<p>Contains the SAP MaxDB database software, only required if you install a database instance for the Content Server and / or the Cache Server</p> <p>Download the SAP MaxDB database software media from the SAP Software Download Center (SWDC) at: https://me.sap.com/softwarecenter   DATABASES  SAP MaxDB </p> <p>For more information, about how to download installation media, see Downloading Complete Installation Media [page 38].</p>

Note

The digital signature of **installation media** is checked **automatically** by the software provisioning manager during the *Define Parameters* phase while the *Media Browser* screens are processed (see also [Running Software Provisioning Manager \[page 46\]](#)). The software provisioning manager only accepts media whose digital signature has been checked.

4.4.1 Downloading and Extracting the Software Provisioning Manager 1.0 Archive

You must always download and extract the software provisioning manager 1.0 archive from the SAP Software Download Center because you must use the latest version.

Prerequisites

- Make sure that you are logged on as a user with `root` authorizations, and that the download directory has at least the permissions `755`.
- Make sure that you use the **latest** version of the `SAPCAR` tool when manually extracting the software provisioning manager archive. You need the `SAPCAR` tool to be able to unpack and verify software component archives (*.SAR files). *.SAR is the format of software lifecycle media and tools that you can download from the SAP Software Download Center.

Note

An older `SAPCAR` version might extract archive files in a wrong way and this could prevent the software provisioning manager from working consistently.



Proceed as follows to get the latest version of the `SAPCAR` tool:


1. Go to <https://me.sap.com/softwarecenter> > *SUPPORT PACKAGES & PATCHES* > *By Category* > *SAP TECHNOLOGY COMPONENTS* > *SAPCAR*.
2. Select the `SAPCAR` for your operating system and download it to an empty directory.
3. Even if you have the latest `SAPCAR` already available, we strongly recommend that you verify its digital signature anyway, unless you downloaded it directly from <https://me.sap.com/softwarecenter/> yourself. You can do this by verifying the checksum of the downloaded `SAPCAR` tool:
 1. Depending on what operating system you are using, compute a hash of the downloaded `SAPCAR` tool, using the SHA-256 algorithm used by SAP.
 2. Now verify the digital signature of the downloaded `SAPCAR` tool by comparing the hash with the checksum (generated by SAP using the SHA-256 algorithm) from the *Content Info* button in the *Related Info* column on the right-hand side of the place where you downloaded the `SAPCAR` tool.
4. To improve usability, we recommend that you rename the executable to `sapcar`.

For more information about `SAPCAR`, see SAP Note [212876](#).

Procedure

1. Download the latest version of the Software Provisioning Manager 1.0 archive `SWPM10SP<Support_Package_Number>_<Version_Number>.SAR` from:
<https://support.sap.com/sltoolset> > *System Provisioning* > *Download Software Provisioning Manager*
2. Using the latest version of `SAPCAR`, you can verify the digital signature of the downloaded `SWPM10SP<Support_Package_Number>_<Version_Number>.SAR` archive as follows:

- a. Get the latest version of the SAPCRYPTOLIB archive to your installation host as follows:
 1. Go to <https://me.sap.com/softwarecenter>  **SUPPORT PACKAGES & PATCHES**  and search for “**sapcryptolib**”.
 2. Select the archive file for your operating system and download it to the same directory where you have put the SAPCAR executable.
 3. Use the following command to extract the SAPCRYPTOLIB archive to the same directory where you have put the SAPCAR executable:


```
SAPCAR -xvf sapcryptolib_84...sar -R <target directory>
```
 4. Download the Certificate Revocation List from <https://tcs.mysap.com/crl/crlbag.p7s>  and move it to the same directory.
- b. Verify the digital signature of the downloaded SWPM10SP<Support_Package_Number>_<Version_Number>.SAR archive by executing the following command:

Note

Check SAP Notes [2178665](#)  and [1680045](#)  whether additional information is available.

```
/<Path to SAPCAR>/SAPCAR -tvvf <Path to Download Directory>/
SWPM10SP<Support_Package_Number>_<Version_Number>.SAR -crl<file name of
revocation list>
```

3. Unpack the Software Provisioning Manager archive to a local directory using the following command:

```
/<Path to SAPCAR>/sapcar -xvf <Path to Download Directory>/
SWPM10SP<Support_Package_Number>_<Version_Number>.SAR -R <Path to Unpack
Directory>
```

Note

Make sure that all users have at least read permissions for the directory to which you unpack the Software Provisioning Manager archive.

Caution

Make sure that you unpack the Software Provisioning Manager archive to a dedicated folder. Do not unpack it to the same folder as other installation media.

4.4.2 Downloading Complete Installation Media

This section describes how you can download media from the SAP Software Download Center.

Procedure

1. Download and unpack the latest version of Software Provisioning Manager as described in [Downloading and Extracting the Software Provisioning Manager 1.0 Archive \[page 37\]](#).

2. Create a download directory on the host where you want to run the software provisioning manager.
3. You identify the required media as listed in [Preparing the Installation Media \[page 35\]](#).
4. Identify **all** download objects that belong to one medium according to one of the following:

Note

Installation media might be split into several files. In this case, you have to reassemble the required files after the download.

- Download path or location:
 - To download the complete kernel media, go to <https://me.sap.com/softwarecenter/>
 - › *SUPPORT PACKAGES & PATCHES* › *By Category* › *ADDITIONAL COMPONENTS* › *SAP KERNEL*
 - › *SAP KERNEL 64-BIT UNICODE* › *SAP KERNEL <Version> 64-BIT UNICODE* › *<Select your OS>*
 - Select *#DATABASE INDEPENDENT* to download the database-independent parts of the kernel.

Example

```
SAPEXE_1110-80002623.SAR
Kernel Part I (753) (*)
```

```
SAPEXE_1118-80002612.SAR
```

- Select *<Your DB>* to download the database-independent parts of the kernel.

Example

```
SAPEXEDB_1110-80002623.SAR
Kernel Part II (753) (*)
```

- To download the remaining media required for your SAP product, you can use one of the following navigation paths:
 - <https://me.sap.com/softwarecenter/>
 - › *INSTALLATIONS & UPGRADES* › *By Category* › *SAP NETWEAVER AND COMPLEMENTARY PRODUCTS* › *<Product>* › *<Product Release>*
 - <https://me.sap.com/softwarecenter/>
 - › *INSTALLATIONS & UPGRADES* › *By Alphabetical Index (A-Z)* › *<First Letter of Product>* › *<Product>* › *<Product Release>*
- Material number
All download objects that are part of an installation medium have the same material number and an individual sequence number:
<Kernel part>_<Sequence Number>-<Material Number>

Example

```
SAPEXE_1110-80002623.SAR
Kernel Part I (753) (*)
SAPEXE_1111-80002623.SAR
Kernel Part I (753) (*)
SAPEXE_1112-80002623.SAR
Kernel Part I (753) (*)
```

❁ Example

```
SAPXEDB_1110-80002623.SAR
Kernel Part II (753) (*)
SAPXEDB_1111-80002623.SAR
Kernel Part II (753) (*)
SAPXEDB_1112-80002623.SAR
Kernel Part II (753) (*)
```

- Title

All objects that are part of an installation medium have the same title, such as
<Solution><Media_Name><OS> or <Database>RDBMS<OS> for database media.

5. Download the objects to the download directory.

6. To correctly re-combine the media that are split into small parts, unpack all parts into the same directory.

In the unpacking directory, the system creates a subdirectory with a short text describing the medium and copies the data into it. The data is now all in the correct directory, the same as on the medium that was physically produced. For more information, see SAP Note [1258173](#).

⚠ Caution

Make sure that you unpack each installation media to a separate folder. Do not unpack installation media to the same folder where you unpack the Software Provisioning Manager archive.

Do not unpack installation media to the same folder where you unpack the SAP kernel archives for archive-based installation.

4.5 Install the SAP MaxDB and/or the File System Storage

The content server supports both storage types simultaneously. That is, you can put one or more repositories into the file system and other repositories into one or more database instances.

Disk space requirements for the database software

Reserve at least 700 MB for the initial software installation and the first database instance. Add 200 MB for each subsequent database instance. Database root directory

Create an SAP MaxDB root directory `/sapdb`. This can be a real directory on your root partition, a mount point, or a soft link.

Make sure that all users that are members of the group `sapsys` have full permissions for this directory.

Data and log volumes

Set up the data volumes and the log volumes. SAP MaxDB provides two options for doing this: you can either create them as files inside the file system, or in raw devices.

File system

You can create data and log volumes as large files in the file system. This option is generally regarded as more flexible than the raw device option, but you have to expect a loss of I/O performance. This is because every disk access has to pass the kernel's file system layer.

Raw devices

Directing disk I/O into raw disk devices – that is, addressing partitions directly and not via the kernel's file system layer – yields the best performance. If you decide on this option, make sure that you set up enough raw devices (partitions plus the corresponding entries in `/dev`). Whichever method you choose, do not simply create one large file or raw device. Instead, spread your total volume across several files or raw devices. This will increase the overall I/O throughput of your MAX DB installation. A good divider value is 5. So, if you intend to create a database with a total size of 10 GB, create 5 partitions of 2 GB each.

For information on dimensioning the database instance, see the section Planning and Sizing above, and read the SAP Content Server sizing guide at <https://sap.com/sizing> ► *Sizing Guidelines* ► *Database & Technology* ► *SAP NetWeaver* ►.

[Installing the SAP MAX DB \(Optional\) \[page 41\]](#)

[Set Up the File System \[page 42\]](#)

4.5.1 Installing the SAP MAX DB (Optional)

SAP Content Server can store documents in SAP MaxDB (separate installation required) or directly on a file system. If you want to use SAP MaxDB, you have to install it separately. Proceed as follows:

1. [Set Up the File System \[page 42\]](#).
2. Check the [Prerequisites for Running Software Provisioning Manager \[page 43\]](#).
3. [Running Software Provisioning Manager \[page 46\]](#) and choose ► *Generic Options* ► *SAP Content Server* ► *SAP MaxDB Database Instances* ►.

For detailed information about how to install a SAP MaxDB database instance, see the documentation Installation of SAP Systems Based on the Application Server ABAP of SAP NetWeaver 7.3 EHP1 to 7.52 on UNIX: SAP MaxDB at <https://help.sap.com/viewer/swpm10guides> ► ► *Installation Option of Software Provisioning Manager 1.0* ► *Installation Guides - Application Server Systems - Software Provisioning Manager 1.0* ► *Database: SAP MaxDB* ► *Product Release: SAP NetWeaver 7.X-based* ► *<Operating System Platform>* ► *<Technical Stack>* ►.

When installing the SAP MaxDB, you should also consult your operating system manual as necessary.

4.5.2 Set Up the File System

Set up your file system, taking into account the following points:

- A file system repository may be located on any mounted partition. However, SAP recommends that you set up a separate partition that is exclusively reserved for that purpose.
- To maintain a consistent setup across all content servers, we also recommend that you reserve a common mount point for these partitions within your enterprise (for example, /net/contreps).

Note

The initial path depth adds to performance. Therefore, you should keep the mount point depth low.

- Make sure that the content server and cache server users have full execution, creation, and read rights for this mount point.
- As mentioned above, the file system repositories are designed to yield a good usage ratio of inodes used for structural elements to those used for the documents. You can estimate the number of required inodes using the following formula:

$8193 + n \text{ Documents} * (1 + m \text{ components per document})$

Therefore, if you want to store 3 million documents with 1 component each, you should reserve at least 6,008,183 inodes for this repository.

5 Installation

[Prerequisites for Running Software Provisioning Manager \[page 43\]](#)

Make sure you fulfil the following prerequisites before running the software provisioning manager.

[Running Software Provisioning Manager \[page 46\]](#)

This section describes how to run the software provisioning manager.

[Additional Information about Software Provisioning Manager \[page 50\]](#)

The following sections provide additional information about the software provisioning manager.

5.1 Prerequisites for Running Software Provisioning Manager

Make sure you fulfil the following prerequisites before running the software provisioning manager.

- For the SL-UI, make sure that the following web browser requirements are met:
 - You have one of the following supported browsers on the device where you want to run the SL-UI:
 - Google Chrome (recommended)
 - Mozilla Firefox
 - Microsoft Edge
 - Microsoft Internet Explorer 11 or higher.Always use the latest version of these web browsers.
- If you copy the SL-UI URL manually in the browser window, make sure that you open a new Web browser window in private browsing mode (Internet Explorer), incognito mode (Chrome) or private browsing mode (Firefox). This is to prevent Web browser plugins and settings from interfering with the SL-UI.

⚠ Caution

The software provisioning manager uses a self-signed certificate, which is used temporarily only while the software provisioning manager is running. This certificate is not trusted by the browser unless it is imported manually by the user running the software provisioning manager. This behavior is intentionally designed in this way because - unlike ordinary public web servers - the software provisioning manager has different usage patterns. You must configure your browser to trust the self-issued certificate of the software provisioning manager after carefully performing the “thumbprint” verification described in [Running Software Provisioning Manager \[page 46\]](#). For more information about adding trusted certificates, see the documentation of your browser.

For more information about the SL-UI, see [Useful Information about Software Provisioning Manager \[page 50\]](#).

- If you want to enable Internet Protocol Version 6 (IPv6), make sure that you set `SAP_IPv6_ACTIVE=1` in the environment of the user with `root` authorization which you use to start the software provisioning

manager. While running the software provisioning manager, this setting is then also added to the environment of the `<sapsid>adm` user.

Note

By applying this setting the SAP system administrator is responsible for configuring the IP version on each host of the system landscape, before installing any additional instance to it.

- The software provisioning manager uses shell scripts to obtain the environment for user `adm`.
 - If user `adm` does not yet exist, a working `/bin/csh` must be available on the host where you run the software provisioning manager. For more information about recommended login shells, see SAP Note [202227](#).
 - If already exists and uses `csh`, before you start the software provisioning manager, execute the following command as user to make sure that the `csh` scripts are up-to-date, depending on your UNIX OS platform:

```
/bin/csh -c "source /home/adm/.cshrc;env" or /bin/csh -c "source /home/adm/.login;env"
```
- Make sure that your operating system does not delete the contents of the temporary directory `/tmp` or the contents of the directories to which the variables `TEMP`, `TMP`, or `TMPDIR` point, for example by using a `crontab` entry.
Make sure that the temporary directory has the permissions `755`.
- Make sure that you have at least 700 MB of free space in the installation directory for each installation option. In addition, you need 700 MB free space for the software provisioning manager executables. If you cannot provide 700 MB free space in the temporary directory, you can set one of the environment variables `TEMP`, `TMP`, or `TMPDIR` to another directory with 700 MB free space for the software provisioning manager executables.
You can set values for the `TEMP`, `TMP`, or `TMPDIR` environment variable to an alternative installation directory as described in section [Useful Information about Software Provisioning Manager \[page 50\]](#).
- Make sure that `umask` is set to `022` for the user with `root` permissions that you want to use for running the software provisioning manager.
As the user with `root` permissions that you want to use for running the software provisioning manager, enter the following command: `umask 022`
- Only valid for 'Platform': AIX
AIX: Make sure that you have set the limits for operating system users as described in SAP Note [323816](#).
End of 'Platform': AIX
- Only valid for 'Platform': HP-UX, Linux, Oracle Solaris
Linux: On Linux, starting with SLES 15, RHEL 8 and Oracle Linux 8, and respective recent SAP kernel patch levels, there is native integration into `systemd`. In this case, limits for operating system users `root`, `<sapsid>adm`, and your database-specific operating system users do not need to be set any longer. Make sure that `polkit` is installed. `systemd` requires `polkit` for authorization checks for the `<sapsid>adm` user. For older Linux versions and SAP kernel patch levels, however, you must still set these limits. For more information about how to proceed for older Linux versions, see the following instructions. For more information about Linux with `systemd` and the relevant SAP kernel patch levels, see SAP Note [3139184](#).

Caution

Caution: the `limit` mechanism supports hard- and soft-limits. The soft-limit cannot be bigger than the hard-limit. The hard-limit can be set/increased by the root user like: `limit -h <limit> <new_value>`, for example `limit -h datasize unlimited`.

- Using `cs` shell, the output of command `limit` needs to be at least as follows:

❁ Example

The following table lists example output taken from SUSE Linux Enterprise Server 15 (x86_64).

Output	Properties
<code>cputime</code>	unlimited
<code>filesize</code>	unlimited
<code>datasize</code>	unlimited
<code>stacksize</code>	8192 KB
<code>coredumpsize</code>	unlimited
<code>descriptors</code>	8192
<code>memoryuse</code>	unlimited

- Using `sh` or `ksh` shell, the output of command `ulimit -a` needs to be at least as follows:

❁ Example

The following table lists example output taken from SUSE Linux Enterprise Server 15 (x86_64).

Output sh	Output ksh	Properties
<code>cpu time (seconds)</code>	<code>cpu time (seconds)</code>	unlimited
<code>file size (blocks)</code>	<code>file size (blocks)</code>	unlimited
<code>data seg size (kbytes)</code>	<code>data size (Kibytes)</code>	unlimited
<code>stack size (kbytes)</code>	<code>stack size (Kibytes)</code>	8192 KB
<code>core file size (blocks)</code>	<code>core file size (blocks)</code>	unlimited
<code>open files</code>	<code>nofile</code>	8192
<code>max memory size (kbytes)</code>	<code>max memory size (Kibytes)</code>	unlimited

End of 'Platform': HP-UX, Linux, Oracle Solaris

- Make sure that you have defined the most important SAP system parameters as described in [Basic Installation Parameters \[page 23\]](#) **before** you start the installation.
- Make sure that the following ports are not used by other processes:
 - Port 4237 is used by default as HTTPS port for communication between the software provisioning manager and the SL-UI.

If this port cannot be used, you can assign a free port number by executing `sapinst` with the following command line parameter:

`SAPINST_HTTPS_PORT=<Free Port Number>`

- Port 4239 is used by default for displaying the feedback evaluation form at the end of the software provisioning manager processing.

The filled-out evaluation form is then sent to SAP using HTTPS.

If this port cannot be used, you can assign a free port number by executing `sapinst` with the following command line parameter:

`SAPINST_HTTP_PORT=<Free Port Number>`

5.2 Running Software Provisioning Manager

This section describes how to run the software provisioning manager.

Prerequisites

For more information, see [Prerequisites for Running Software Provisioning Manager \[page 43\]](#).

Context

The software provisioning manager has a web browser-based GUI named “SL-UI of the software provisioning manager” - “SL-UI” for short.

This procedure describes an installation where you run the software provisioning manager and use the SL-UI, that is you can control the processing of the software provisioning manager from a browser running on any device.

For more information about the SL-UI, see [Useful Information about Software Provisioning Manager \[page 50\]](#).

Procedure

1. Log on to the installation host as a user with `root` permissions.

⚠ Caution

Make sure that the user with `root` permissions that you want to use for running the software provisioning manager has not set any environment variables for a different SAP system or database.

If your security policy requires that the person running the software provisioning manager is not allowed to know the credentials of a user with `root` permissions on the installation host, you

can specify another operating system user for authentication purposes. You do this using the `SAPINST_REMOTE_ACCESS_USER` parameter when starting the `sapinst` executable from the command line. You must confirm that the user is a trusted one. For more information, see SAP Note [1745524](#).

2. Make the installation media available.

For more information, see [Preparing the Installation Media \[page 35\]](#).

→ Recommendation

Make the installation media available **locally**. For example: The software provisioning manager might require a certain PL. For example, if you use Network File System (NFS), reading from media mounted with NFS might fail.

Only valid for 'Platform': Oracle Solaris

ⓘ Note

Oracle Solaris: If you mount installation media, make sure that you do this with option `nomapcase`.

End of 'Platform': Oracle Solaris

3. Start the software provisioning manager from the directory to which you unpacked the Software Provisioning Manager archive by entering the following command:

```
<Path_To_Unpack_Directory>/sapinst
```

ⓘ Note

If you need to assign a virtual host name to the instance to be installed and you do not want to assign it by entering it as a parameter using the software provisioning manager screens (see [Basic Installation Parameters \[page 23\]](#)), you can alternatively assign it as follows:

```
<Path_To_Unpack_Directory>/sapinst SAPINST_USE_HOSTNAME=<Virtual_Host_Name>
```

4. The software provisioning manager now starts and waits for the connection with the SL-UI.

You can find the URL you require to access the SL-UI at the bottom of the shell from which you are running the software provisioning manager.

```
...
*****
Open your browser and paste the following URL address to access the GUI
https://[<hostname>]:4237/sapinst/docs/index.html
Logon users: [<users>]
*****
...
```

ⓘ Note

If the host specified by `<hostname>` cannot be reached due to a special network configuration, proceed as follows:

1. Terminate the software provisioning manager as described in [Useful Information about Software Provisioning Manager \[page 50\]](#).
2. Restart the software provisioning manager from the command line with the `SAPINST_GUI_HOSTNAME=<hostname>` property.
You can use a fully-qualified host name.

If you have a supported web browser (see [Prerequisites for Running Software Provisioning Manager \[page 43\]](#)) installed on the host where you run the software provisioning manager, you can open this URL directly in the shell. Otherwise, open the URL in a supported web browser that runs on another device.

⚠ Caution

After opening the browser URL, make sure that the URL in the browser starts with "https://" to avoid security risks such as SSL stripping .

Before you reach the *Welcome* screen, your browser warns you that the certificate of the `sapinst` process on this computer could not be verified.

Proceed as follows to avoid security risks such as a man-in-the-middle attack:

1. Click on the certificate area on the left hand side in the address bar of your browser, and view the certificate.
2. Open the certificate fingerprint or thumbprint, and compare all hexadecimal numbers to the ones displayed in the console output of the software provisioning manager.

Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the software provisioning manager console:

1. Go to the `sapinst_exe.xxxxxx.xxxx` directory in the temporary directory to which the software provisioning manager has extracted itself:

```
<User_Home>/sapinst/
```

2. In the `sapinst_exe.xxxxxx.xxxx` directory, execute the `sapgenpse` tool with the command line option `get_my_name -p`.

As a result, you get the server fingerprint or thumbprint from the server certificate.

3. Accept the warning to inform your browser that it can trust this site, even if the certificate could not be verified.

The SL-UI opens in the browser by displaying the *Welcome* screen.

5. On the *Welcome* screen, choose the required option:
 - To install an SAP MaxDB database instance as data storage for your content server or cache server installation, choose ► *Generic Options* ► *SAP Content Server* ► *SAP MaxDB Database Instances* ►. See also [Installing the SAP MAX DB \(Optional\) \[page 41\]](#).
 - To install SAP Content Server and Cache Server, choose ► *Generic Options* ► *SAP Content Server* ► *Content Server and SAP Cache Server (7.5 and Higher)* ►.
6. Choose *Next*.

ℹ Note

If there are errors during the self-extraction process of the software provisioning manager, you can find the log file `dev_selfex.out` in the temporary directory.

7. Follow the instructions on the software provisioning manager screens and enter the required parameters.

ℹ Note

To find more information on each parameter during the *Define Parameters* phase, position the cursor on the required parameter input field , and choose either `F1` or the *HELP* tab. Then the available help text is displayed in the *HELP* tab.

⚠ Caution

The digital signature of installation media and installation archives is checked **automatically** during the *Define Parameters* phase while processing the *Media Browser* and - if you perform an archive-based installation - the *Software Package Browser* screens.

Note that this automatic check is only committed once and **not** repeated if you modify artifacts such as SAR archives or files on the media **after** the initial check has been done. This means that - if you modify artefacts later on either during the remaining *Define Parameters* phase or later on during the *Execute Service* phase - the digital signature is not checked again.

For more information, see SAP Note [2393060](#).

After you have entered all requested input parameters, the software provisioning manager displays the *Parameter Summary* screen. This screen shows both the parameters that you entered and those that the software provisioning manager set by default. If required, you can revise the parameters before starting the installation.

8. To start the installation, choose *Next*.

The software provisioning manager starts the installation and displays the progress of the installation. When the installation has finished, the software provisioning manager shows the message: Execution of `<Option_Name>` has completed.

Only valid for 'Platform': HP-UX

⚠ Caution

HP-UX only: If you decided to use 02 as the instance number, the instance fails to start during the installation process. For more information about the cause, see [Basic Installation Parameters \[page 23\]](#). You must manually change the port number for report `RSLGCOLL` to continue with the installation.

Proceed as follows:

1. Go to directory `<sapmnt>/<SAPSID>/profile`.
2. Edit `DEFAULT.PFL`.
3. Set the parameter `rslg/collect_daemon/listen_port` to a free port number.

End of 'Platform': HP-UX

9. If required, delete directories with the name `sapinst_exe.xxxxxx.xxxx` after the software provisioning manager has finished. Sometimes these directories remain in the temporary directory.
10. If you want to store documents in SAP MaxDB, you can now install a SAP MaxDB Database Instance.
 - a. Restart the software provisioning manager as described above.
 - b. On the Welcome screen, choose **Generic Options** **SAP Content Server** **SAP MaxDB Database Instances**.
 - c. Follow the instructions on the software provisioning manager screens and enter the required parameters.
11. If you copied the software provisioning manager software to your hard disk, you can delete these files when the installation has successfully completed.
12. For security reasons, we recommend that you remove the operating system users from the group `sapinst` **after** you have completed the installation.

Note

This step is only required, if you did **not** specify during the *Define Parameters* phase that the operating system users are to be removed from the group `sapinst` **after** the execution of the software provisioning manager has completed.

13. For security reasons, we recommend that you delete the `.sapinst` directory within the home directory of the user with which you ran the software provisioning manager:

```
<User_Home>/ .sapinst/
```

14. The software provisioning manager log files contain IP addresses and User IDs such as the ID of your S-User. For security, data protection, and privacy-related reasons we strongly recommend that you delete these log files once you do not need them any longer.

You find the software provisioning manager log files in the `sapinst_instdir` directory. For more information, see [Useful Information about Software Provisioning Manager \[page 50\]](#).

5.3 Additional Information about Software Provisioning Manager

The following sections provide additional information about the software provisioning manager.

[Useful Information about Software Provisioning Manager \[page 50\]](#)

This section contains some useful technical background information about the software provisioning manager and the software provisioning manager's SL-UI.

[Restarting Interrupted Processing of Software Provisioning Manager \[page 53\]](#)

Here you find information about how to restart the software provisioning manager if its processing has been interrupted.

[Troubleshooting with Software Provisioning Manager \[page 56\]](#)

This section tells you how to proceed when errors occur while the software provisioning manager is running.

[Using the Step State Editor \(SAP Support Experts Only\) \[page 57\]](#)

This section describes how to use the `Step State Editor` available in the software provisioning manager.

5.3.1 Useful Information about Software Provisioning Manager

This section contains some useful technical background information about the software provisioning manager and the software provisioning manager's SL-UI.

- The software provisioning manager has a framework named "SAPinst". For more information about the current SAPinst Framework version and its features, see SAP Note [3207613](#) (SAPinst Framework 753 Central Note).

- The software provisioning manager has the web browser-based “SL-UI of the software provisioning manager” - “SL-UI” for short.
The SL-UI uses the SAP UI Development Toolkit for HTML5 - also known as SAPUI5 - a client-side HTML5 rendering library based on JavaScript. The benefits of this new user interface technology for the user are:
 - Zero foot print, since only a web browser is required on the client
 - New controls and functionality, for example, view logs in web browser.
 As of version 1.0 SP24 Patch Level (PL) 5, the software provisioning manager comes with a new look and feel of the SL-UI. For more information, see <https://blogs.sap.com/2018/11/10/new-look-for-software-provisioning-manager/>.
The SL-UI connects the web browser on a client with the `sapinst` executable - which is part of software provisioning manager - running on the installation host using the standard protocol HTTPS.
For the SL-UI the software provisioning manager provides a pre-generated URL at the bottom of the shell from which you are running the software provisioning manager . If you have a supported web browser installed on the host where you run the software provisioning manager, you can start the SL-UI directly from this URL. Otherwise, open a web browser supported by the SL-UI on any device and run the URL from there.
For more information about supported web browsers see [Prerequisites for Running Software Provisioning Manager \[page 43\]](#).
If you need to run the **SL-UI in accessibility mode**, apply the standard accessibility functions of your web browser.
- As soon as you have started the `sapinst` executable, the software provisioning manager creates a `.sapinst` directory underneath the `/home/<User>` directory where it keeps its log files. `<User>` is the user with which you have started the software provisioning manager.
After you have reached the [Welcome](#) screen and selected the relevant software provisioning manager option for the SAP system or instance to be installed , the software provisioning manager creates a directory `sapinst_instdir` where it keeps its log files, and which is located directly below the temporary directory. The software provisioning manager finds the temporary directory by checking the value of the `TEMP`, `TMP`, or `TMPDIR` environment variable. If no value is set for these variables, the software provisioning manager uses `/tmp` by **default**.
All log files which have been stored so far in the `.sapinst` folder are moved to the `sapinst_instdir` directory as soon as the latter has been created.
If you want the `sapinst_instdir` directory to be created in another directory than `/tmp`, set the environment variable `TEMP`, `TMP`, or `TMPDIR` to this directory before you start the software provisioning manager.

Shell Used	Command
Bourne shell (sh)	<code>TEMP=<Directory></code> <code>export TEMP</code>
C shell (csh)	<code>setenv TEMP <Directory></code>
Korn shell (ksh)	<code>export TEMP=<Directory></code>

⚠ Caution

Make sure that the installation directory is not mounted with NFS, or there might be problems when the Java Virtual Machine is started.

The software provisioning manager records its progress in the `keydb.xml` file located in the `sapinst_inst_dir` directory. Therefore, if required, you can continue with the software provisioning manager from any point of failure, without having to repeat the already completed steps and without having to reenter the already processed input parameters. For security reasons, a variable encryption key is generated as soon as the `sapinst_inst_dir` directory is created by the software provisioning manager. This key is used to encrypt the values written to the `keydb.xml` file.

→ Recommendation

We recommend that you keep all installation directories until the system is completely and correctly installed.

- The software provisioning manager extracts itself to the temporary directory. These executables are deleted again after the software provisioning manager has stopped running. Directories called `sapinst_exe.xxxxxx.xxxx` sometimes remain in the temporary directory after the software provisioning manager has finished. You can safely delete them. The temporary directory also contains the log file `dev_selfex.out` from the self-extraction process of the software provisioning manager, which might be useful if an error occurs.

⚠ Caution

If the software provisioning manager cannot find a temporary directory, the installation terminates with the error `FCO-00058`.

- To see a list of all available software provisioning manager properties (command line options) and related documentation, start the software provisioning manager as described above with command line parameter `-p`:
`./sapinst -p`
- If required, stop the software provisioning manager by choosing the *Cancel* button.

ⓘ Note

If you need to terminate the software provisioning manager, press `Ctrl` + `C`.

5.3.2 Restarting Interrupted Processing of Software Provisioning Manager

Here you find information about how to restart the software provisioning manager if its processing has been interrupted.

Context

The processing of the software provisioning manager might be interrupted for one of the following reasons:

- An error occurred during the *Define Parameters* or *Execute* phase:
The software provisioning manager does not abort the installation in error situations. If an error occurs, the installation pauses and a dialog box appears. The dialog box contains a short description of the choices listed in the table below as well as a path to a log file that contains detailed information about the error.
- You interrupted the processing of the software provisioning manager by choosing *Cancel* in the SL-UI.

⚠ Caution

If you stop an option in the *Execute* phase, any system or component **installed** by this option is incomplete and not ready to be used. Any system or component **uninstalled** by this option is not completely uninstalled.

The following table describes the options in the dialog box:

Option	Definition
<i>Retry</i>	<p>The software provisioning manager retries the installation from the point of failure without repeating any of the previous steps.</p> <p>This is possible because the software provisioning manager records its progress in the <code>keydb.xml</code> file.</p> <p>We recommend that you view the entries in the log files, try to solve the problem, and then choose <i>Retry</i>.</p> <p>If the same or a different error occurs, the software provisioning manager displays the same dialog box again.</p>
<i>Stop</i>	<p>The software provisioning manager stops the installation, closing the dialog box and the software provisioning manager's SL-UI.</p> <p>The software provisioning manager records its progress in the <code>keydb.xml</code> file. Therefore, you can continue with the software provisioning manager from the point of failure without repeating any of the previous steps. See the procedure below.</p>
<i>Continue</i>	<p>The software provisioning manager continues the installation from the current point.</p>
<i>View Log</i>	<p>Access installation log files.</p>

ⓘ Note

You can also terminate the software provisioning manager by choosing `Ctrl` + `C` but we do **not** recommend this because it kills the process immediately.

The following procedure describes the steps to restart an installation, which you stopped by choosing *Stop*, or to continue an interrupted installation after an error situation.

Procedure

1. Log on to the installation host as a user with the required permissions as described in [Running Software Provisioning Manager \[page 46\]](#).
2. Make sure that the installation media are still available.

For more information, see [Preparing the Installation Media \[page 35\]](#).

→ Recommendation

Make the installation media available **locally**. For example, if you use remote file shares on other Windows hosts, CIFS shares on third-party SMB-servers, or Network File System (NFS), reading from media mounted with NFS might fail.

Only valid for 'Platform': Oracle Solaris

ⓘ Note

Oracle Solaris: If you mount installation media, make sure that you do this with option `nomaplace`.

End of 'Platform': Oracle Solaris

3. Restart the software provisioning manager from the directory to which you unpacked the Software Provisioning Manager archive by executing the following command:

```
<Path_To_Unpack_Directory>/sapinst
```

4. The software provisioning manager is restarting.

You can find the URL you require to access the SL-UI at the bottom of the shell from which you are running the software provisioning manager.

```
...
*****
Open your browser and paste the following URL address to access the GUI
https://[<hostname>]:4237/sapinst/docs/index.html
Logon users: [<users>]
*****
...
```

ⓘ Note

If the host specified by `<hostname>` cannot be reached due to a special network configuration, proceed as follows:

1. Terminate the software provisioning manager as described in [Useful Information about Software Provisioning Manager \[page 50\]](#).

- Restart the software provisioning manager from the command line with the `SAPINST_GUI_HOSTNAME=<hostname>` property.
You can use a fully-qualified host name.

If you have a supported web browser (see [Prerequisites for Running Software Provisioning Manager \[page 43\]](#)) installed on the host where you run the software provisioning manager, you can open this URL directly in the shell. Otherwise, open the URL in a supported web browser that runs on another device.

⚠ Caution

After opening the browser URL, make sure that the URL in the browser starts with "https://" to avoid security risks such as SSL stripping .

Before you reach the *Welcome* screen, your browser warns you that the certificate of the `sapinst` process on this computer could not be verified.

Proceed as follows to avoid security risks such as a man-in-the-middle attack:

- Click on the certificate area on the left hand side in the address bar of your browser, and view the certificate.
- Open the certificate fingerprint or thumbprint, and compare all hexadecimal numbers to the ones displayed in the console output of the software provisioning manager.
Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the software provisioning manager console:
 - Go to the `sapinst_exe.xxxxxx.xxxx` directory in the temporary directory to which the software provisioning manager has extracted itself:
`<User_Home>/ .sapinst/`
 - In the `sapinst_exe.xxxxxx.xxxx` directory, execute the `sapgenpse` tool with the command line option `get_my_name -p`.
As a result, you get the server fingerprint or thumbprint from the server certificate.
- Accept the warning to inform your browser that it can trust this site, even if the certificate could not be verified.

The SL-UI opens in the browser by displaying the *Welcome* screen.

- From the tree structure on the *Welcome* screen, select the installation option that you want to continue and choose *Next*.

The *What do you want to do?* screen appears.

- On the *What do you want to do?* screen, decide between the following alternatives and continue with *Next*:

Alternative	Behavior
<p><i>Perform a new run</i></p>	<p>The software provisioning manager does not continue the interrupted installation option. Instead, it moves the content of the old software provisioning manager directory and all software provisioning manager-specific files to a backup directory. Afterwards, you can no longer continue the old option.</p> <p>The following naming convention is used for the backup directory:</p> <pre>log_<Day>_<Month>_<Year>_<Hours>_<Minutes>_<Seconds></pre> <div data-bbox="624 611 1401 730" style="border: 1px solid #ccc; padding: 5px;"> <p>❖ Example</p> <pre>log_01_Oct_2016_13_47_56</pre> </div> <div data-bbox="624 745 1401 898" style="border: 1px solid #ccc; padding: 5px;"> <p>ⓘ Note</p> <p>All actions taken by the installation before you stopped it (such as creating directories or users) are not revoked.</p> </div> <div data-bbox="624 913 1401 1133" style="border: 1px solid #ccc; padding: 5px;"> <p>⚠ Caution</p> <p>The software provisioning manager moves all the files and folders to a new log directory, even if these files and folders are owned by other users. If there are any processes currently running on these files and folders, they might no longer function properly.</p> </div>
<p><i>Continue with the existing one</i></p>	<p>The software provisioning manager continues the interrupted installation from the point of failure.</p>

5.3.3 Troubleshooting with Software Provisioning Manager

This section tells you how to proceed when errors occur while the software provisioning manager is running.

Context

If an error occurs, the software provisioning manager:

- Stops processing
- Displays a dialog informing you about the error

Procedure

1. Check SAP Note [SAP Note 3207613](#) (SAPinst Framework 753 Central Note) for known software provisioning manager issues.
2. If an error occurs during the *Define Parameters* or the *Execute Service* phase, do one of the following:
 - Try to solve the problem:
 - To check the software provisioning manager log files (`sapinst.log` and `sapinst_dev.log`) for errors, choose the *LOG FILES* tab.

Note

The *LOG FILES* tab is only available if you have selected on the *Welcome* screen the relevant software provisioning manager option for the SAP product to be installed.

If you need to access the log files before you have done this selection, you can find them in the `.sapinst` directory underneath the `/home/<User>` directory, where `<User>` is the user that you used to start the software provisioning manager.

For more information, see [Useful Information about Software Provisioning Manager \[page 50\]](#).

- To check the log and trace files of the software provisioning manager's SL-UI for errors, go to the directory `<User_Home>/.sapinst/`
 - Then continue by choosing *Retry*.
 - If required, abort the software provisioning manager by choosing *Cancel* in the tool menu and restart the software provisioning manager. For more information, see [Restarting Interrupted Processing of Software Provisioning Manager \[page 53\]](#).
3. If you cannot resolve the problem, report an incident using the appropriate subcomponent of BC-INS*. For more information about using subcomponents of BC-INS*, see SAP Note [1669327](#).

5.3.4 Using the Step State Editor (SAP Support Experts Only)

This section describes how to use the `Step State Editor` available in the software provisioning manager.

Note

Only use the `Step State Editor` if the SAP Support requests you to do so, for example to resolve a customer incident.

Prerequisites

- SAP Support requests you to use the `Step State Editor`.
- Make sure that the host where you run the software provisioning manager meets the requirements listed in [Prerequisites for Running Software Provisioning Manager \[page 43\]](#).

Procedure

1. Start the software provisioning manager from the command line as described in [Running Software Provisioning Manager \[page 46\]](#) with the additional command line parameter `SAPINST_SET_STEPSTATE=true`
2. Follow the instructions on the software provisioning manager screens and fill in the parameters prompted during the *Define Parameters* phase until you reach the *Parameter Summary* screen.
3. Choose *Next*.

The `Step State Editor` opens as an additional dialog. Within this dialog you see a list of all steps to be executed by the software provisioning manager during the *Execute Service* phase. By default all steps are in an initial state. Underneath each step, you see the assigned software provisioning manager component. For each step you have a *Skip* and a *Break* option.

- Mark the checkbox in front of the *Break* option of the steps where you want the software provisioning manager to pause.
 - Mark the checkbox in front of the *Skip* option of the steps which you want the software provisioning manager to skip.
4. After you have marked all required steps with either the *Break* or the *Skip* option, choose *OK* on the *Step State Editor* dialog.

The software provisioning manager starts processing the *Execute Service* phase and pauses one after another when reaching each step whose *Break* option you have marked. You can now choose one of the following:

- Choose *OK* to continue with this step.
 - Choose *Step State Editor* to return to the `Step State Editor` and make changes, for example you can repeat the step by marking the checkbox in front of the *Repeat* option.
 - Choose *Cancel* to abort the software provisioning manager.
5. Continue until you have run through all the steps of the *Execute Service* phase of the software provisioning manager.

6 Post-Installation

6.1 Post-Installation Steps

After the software provisioning manager has completed successfully, there are a few more things you have to do before you can use your newly-installed SAP Content Server.

Procedure

1. Set up repositories.
2. Make the repositories known to your SAP system.
3. Issue certificates, if necessary.
4. Change the password for the database users.

You do steps 1 – 3 in transaction CSADMIN in your SAP system. For detailed information on CSADMIN and the tasks listed above, go to <https://help.sap.com/nw> >> <Choose the SAP NetWeaver Release your SAP product is based on> > SAP NetWeaver Library: Function-Oriented View > Application Server > Application Server ABAP > Other Services > Services for Business Users > Knowledge Provider (BC-SRV-KPR) > Content Management Service (BC-SRV-KPR) > SAP Content Server > and see the following documentation:

- Section *Content Server and Cache Server Administration*
See also SAP Note [329473](#) for a description of the Content Server and Cache Server configuration file.
 - Section > *Special Measures* > *Changing the Password for Database Access* describes clearly how to change the password for the database user SAPR3. However, you should also read SAP Note [212394](#) that lists all the administrative database users and describes an alternative method of changing passwords. If you change the password for the user SAPR3 in the database instance, you must run the report RSCMSPWS. This report asks for the user/ password combination that the content server should use to access the repositories. After you have entered a new combination, RSCMSPWS encrypts the password and sends the user/password combination to the content server. If you forget to change the password with RSCMSPWS all connection attempts from the content server to the database will fail. The composite SAP note for the SAP Content Server for UNIX contains the link to the appropriate SAP Notes that describe the report RSCMSPWS.
5. On a more general level, you should also consult the complete operating manual for SAP Content Server at <https://help.sap.com/nw> >> <Choose the SAP NetWeaver Release your SAP product is based on> > SAP NetWeaver Library: Function-Oriented View > Application Server > Application Server ABAP > Other Services > Services for Business Users > Knowledge Provider (BC-SRV-KPR) > Content

[Management Service \(BC-SRV-KPR\)](#) > [SAP Content Server](#) to learn how to prepare backups, observe and monitor the server, and relocate repositories, among other things. The sections [Content Server and Cache Server Administration](#), [Content Server and Cache Server Monitoring](#), and the [SAP Content Server Security Guide](#) are of particular relevance here.

6.2 Installation Check

This section describes how you can perform an installation check

Context

After you have created your repositories (see [Post-Installation \[page 59\]](#)), you might want to run report RSCMST to check that your repositories can be accessed from the SAP system.

6.3 Ensuring User Security

You need to ensure the security of the users that the software provisioning manager created during the installation.

→ Recommendation

The Master Password feature can be used as a simple method to obtain customer-specific passwords for all newly created users. A basic security rule is not to have identical passwords for different users. Following this rule, we strongly recommend individualizing the values of these passwords after the installation is complete.

→ Recommendation

In all cases, the user ID and password are encoded only when transported across the network. Therefore, we recommend using encryption at the network layer, either by using the Secure Sockets Layer (SSL) protocol for HTTP connections, or Secure Network Communications (SNC) for the SAP protocols dialog and RFC.

⚠ Caution

Make sure that you perform this procedure **before** the newly installed SAP system goes into production.

Operating System Users

→ Recommendation

For security reasons, we recommend that you remove the operating system users from the group `sapinst` **after** you have completed the installation of your SAP system.

You do not have to do this if you specified this “cleanup” already during the *Define Parameters* phase on the *Cleanup Operating System Users* screen. Then the removal had already been done automatically when the processing of the software provisioning manager had completed.

Operating System and Database Users

User Type	User	Comment
Operating system user	<code><sapsid>adm</code>	SAP system administrator
	<code>sqd<dbsid></code>	SAP MaxDB database administrator

Operating System Users

User Type	User	Comment
Operating system user	<code><sapsid>adm</code>	Administrator for the SAP Content Server.

SAP Host Agent User

User Type	User	Comment
Operating system user	<code>sapadm</code>	<p>SAP Host Agent administrator is the user for central monitoring services.</p> <p>You do not need to change the password of this user after the installation.</p> <p>This user is for administration purposes only.</p> <p>You are not able to log on as <code>sapadm</code> as this user is locked.</p>

6.4 System Configuration

Before you store data on SAP Content Server and start using the system productively, you have to make the system settings described in this section. You can make these settings directly in the SAP System.

Prerequisites

You have to fulfill the technical prerequisites described in [Installation Prerequisites \[page 14\]](#).

Overview

Make the system settings described in the following sections:

- [Content Server Settings \[page 62\]](#)
- [Cache Server Settings \[page 63\]](#)

The system settings are mainly Customizing settings.

You make the Customizing settings in the SAP System in the Implementation Guide (IMG). The individual Customizing activities are described in the SAP reference IMG under ► [Application Server](#) ► [Basis Services](#) ► [Knowledge Provider](#) ►. In the IMG, simply choose *Execute* to go to the transaction in question. For online help, choose Documentation. Also, for detailed documentation on SAP Content Server, see the SAP Library at <https://help.sap.com/nw> ►► <Choose the SAP NetWeaver Release your SAP product is based on> ► [Application Server](#) ► [Basis Services](#) ► [Knowledge Provider](#) ► [Content Management Service](#) ► and its sub-sections. As the settings are described in detail in the SAP Library, they are only mentioned briefly here.

6.4.1 Content Server Settings

Once you have installed your new Content Server, you need to create content repositories where you can store your content.

Procedure

- **Testing the Connection to the Content Server**
 - a. Open a Web browser on a host that is connected to your local network.
 - b. Navigate to the following URL:

`http://<hostname>:<port>/sapcs?serverInfo`

Note

Note that the URL is case-sensitive.

The information on the Content Server that is the result of the test is then displayed. In this information, the status should be `running`.

- **Creating Content Repositories**
 - a. In transaction CSADMIN, create at least one content repository for your Content Server.

Make sure that you change the pre-set ContentStorageName from SDB to the name of the database instance you set during the installation procedure.
 - b. Send a certificate to your repository and activate the certificate.
 - c. From the tab page *Detail*, call up transaction OACO, so that you can make the repository known in the SAP System.

You can use the Customizing icon (a blue arrow) in change mode to jump from transaction CSADMIN to transaction OACO. In OACO, you can simply accept the pre-set entries and save them.

For more information on administrating the Content Server, see the SAP Library at: <https://help.sap.com/nw> |>> <Choose the SAP NetWeaver Release your SAP product is based on> |> SAP NetWeaver Library: Function-Oriented View |> Application Server |> Application Server ABAP |> Other Services |> Services for Business Users |> Knowledge Provider (BC-SRV-KPR) |> Content Management Service (BC-SRV-KPR) |> SAP Content Server |> Content Server and Cache Server Administration |>

- **Switching Off Access Control for Content Server Administration**

AdminSecurity is activated by default.

This means that only members of specified groups (and local administrators) can execute administrative commands. To do this, they have to enter their user name and password.

6.4.2 Cache Server Settings

Context

Procedure

- **Testing the Connection to the Cache Server**

- a. Open a Web browser on a host that is connected to your local network.
- b. Enter the following URL in the address field and choose Return:

`http://<hostname>:<port>/sapcsc?serverInfo`

ⓘ Note

Note that the URL is case-sensitive.

The information on the Cache Server that is the result of the test is then displayed. In this information, the status should be `running(serverStatus="running")`.

- **Making the Cache Known to the SAP System**











- a. In transaction SCMSCA, maintain the entries for your Cache Server.
- b. If you are using distributed cache servers, you need to make additional entries.

For information on this, see both the installation guide (IMG) at |> Application Server |> Basis Services |> Knowledge Provider |> Distribution |> and the SAP Library at <https://help.sap.com/nw> |>> <Choose the SAP NetWeaver Release your SAP product is based on> |> SAP NetWeaver Library: Function-Oriented View |> Application Server |> Application Server ABAP |> Other Services |> Services for Business

Users > *Knowledge Provider (BC-SRV-KPR)* > *Content Management Service (BC-SRV-KPR)* > *SAP Content Server* > *Distribution* >

7 Additional Information

7.1 SAP Notes Relevant for SAP Content Server

Number	Content
2786364 	SAP Content Server and Cache Server 7.5 (and higher)
0586895 	SAP Content Server for UNIX (Composite SAP Note)
0093042 	Problems with SAPFTP
0119863 	SAP DB: Backup Tools
0164203 	Problems with SAPHTTP
0181696 	Caching
0212394 	Initial Password for DBM, DBA, and Domain User
0216419 	Multilevel caching and content server proxies
0315604 	Customizing the Content Repositories
0319332 	Content Server Backup Strategies
0203721 	Content Server: Backup Tools
0350067 	Administration Content Server/SAP DB
0351647 	Cache Server Administration
0352518 	Using the SAP Content Server Cache
0361123 	SAP Content Server and Security
0376033 	Cache Server Knowledge Warehouse 5.1
0389366 	Relocating Documents
0308977 	Repositories BIE_QMM, BIE_NET and HME_CONTENT
0392242 	Multiple Entries in Application Log

Number	Content
0407520	Information on the Cache Server
329473	Description of Content Server and Cache Server configuration file

7.2 Using Virtual Host Names

You can use one or more virtual `TCP/IP` host names for SAP servers within an SAP server landscape to hide their physical network identities from each other. This can be useful when quickly moving SAP servers or complete server landscapes to alternative hardware since you do not need to reinstall or reconfigure.

Prerequisites

Make sure that the virtual host name can be correctly resolved in your Domain Name System (DNS) setup.

Context

Procedure

7.3 Uninstalling the SAP Content Server

Procedure

1. [Start the software provisioning manager \[page 46\]](#).
2. On the Welcome screen, choose **► Generic Options ► <Database> ► Uninstall ► Uninstall SAP Systems or Single Instances**.



3. Follow the instructions in the software provisioning manager screens.

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