Installation of Diagnostics Agent on IBM i
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<th>Description</th>
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<td>Release covering the Software Provisioning Manager 1.0 SP17 Installer.</td>
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<td>18.0</td>
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<td>Release covering the Software Provisioning Manager 1.0 SP18 Installer.</td>
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<td>19.0</td>
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<td>Documentation [page 9]</td>
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<td></td>
<td></td>
<td>• Information on the 7OSWPM installers which are no longer supported</td>
</tr>
<tr>
<td></td>
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<td>for Diagnostics Agent installations has been removed</td>
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<td>20.0</td>
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<td>• Updated section JVM for the Diagnostics Agent [page 15] to cover</td>
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<td>23.0</td>
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<td>24.0</td>
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<td>Documentation [page 9]</td>
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1 Introduction

This guide explains how to install a Diagnostics Agent for SAP Solution Manager 7.10 and follow-up releases.

This guide is part of a global installation and configuration procedure which is described in the document How to Use SAP Solution Manager Configuration (SOLMAN_SETUP) (reference is provided at Online Information from SAP [page 86]).

⚠️ Caution

Before you start the implementation:

- Make sure you have the latest version of this document, which can be downloaded from: http://support.sap.com/slitoolset >> Installation Option of Software Provisioning Manager >> Installation Guides - Standalone Engines and Clients >> Diagnostics Agent >> <Select your operating system>

- Check SAP Note 1858920: Diagnostics Agent installation with SWPM, for issues that may exist with this version of the installer, and for corresponding solutions.

Naming Conventions

- **Diagnostics Agent**
  SAP Solution Manager Diagnostics Agent is the remote component of End-to-End Root Cause Analysis. It allows having a connection between SAP Solution Manager and the Managed System(s), and then to collect information from the Managed Systems for reporting purposes.

- **FQN**
  Abbreviation for Fully Qualified Name (e.g. sldhost.domain.corp and not the short host name sldhost).

- **Installer**
  Refers to software provisioning manager 1.0.

- **Managed System**
  Term for a satellite system (for example, an AS ABAP or SAP NetWeaver AS for Java system) managed by SAP Solution Manager.

- **Operating System Names**
  As of operating system version “IBM i 5.4”, the operating system has been renamed from “IBM i5/OS” to “IBM i”. The names of previous operating system versions remain unchanged.

  In this document “IBM i” is used if we do not refer to a specific operating system version. If we refer to a specific version, we use the relevant operating system name.
Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;DASID&gt;</td>
<td>Diagnostics Agent system ID in uppercase letters.</td>
</tr>
<tr>
<td>&lt;dasid&gt;</td>
<td>Diagnostics Agent system ID in lowercase letters.</td>
</tr>
<tr>
<td>&lt;fqn&gt;</td>
<td>Fully Qualified Name (sldhost.domain.corp and not the short host name sldhost).</td>
</tr>
<tr>
<td>&lt;Instance_Number&gt;</td>
<td>Instance Number of a Diagnostics Agent.</td>
</tr>
<tr>
<td>&lt;OS&gt;</td>
<td>Operating System name.</td>
</tr>
<tr>
<td>&lt;SAPSID&gt;</td>
<td>The system ID of an arbitrary SAP system in uppercase letters, possibly, but not necessarily a Diagnostics Agent system ID. In this guide &lt;SAPSID&gt; is only used in situations where also non Diagnostics Agent system IDs are meant, for example in section Diagnostics Agent System ID and Instance Number [page 18].</td>
</tr>
<tr>
<td>&lt;sapsid&gt;</td>
<td>The system ID of an arbitrary SAP system in lowercase letters, possibly, but not necessarily a Diagnostics Agent system ID. In this guide &lt;sapsid&gt; is only used in situations where also non Diagnostics Agent system IDs are meant.</td>
</tr>
</tbody>
</table>

1.1 New Features

This section provides an overview of the new features in Software Provisioning Manager 1.0 (the “installer” for short).


<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installer Log Files Improvements</td>
<td>Installer log files are now available immediately after the installer has been started, that is before a product has been selected on the Welcome screen. For more information, see Useful Information about the Installer [page 45] and Troubleshooting with the Installer [page 50].</td>
<td>Software Provisioning Manager 1.0 SP22 (SL Toolset 1.0 SP22)</td>
</tr>
<tr>
<td>Signature Check of Installation Archives</td>
<td>The signature of installation archives is checked automatically by the installer during the Define Parameters phase while processing the Software Package Browser screens. As of now the installer only accepts archives whose signature has been checked. For more information, see Archive-Based Diagnostics Agent Installation [page 31].</td>
<td>Software Provisioning Manager 1.0 SP22 (SL Toolset 1.0 SP22)</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Availability</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Enabling IPv6</td>
<td>You can now set up a new SAP system or SAP system instance using Internet Protocol Version 6 (IPv6). For more information, see Prerequisites for Running the Installer [page 39].</td>
<td>Software Provisioning Manager 1.0 SP22 (SL Toolset 1.0 SP22)</td>
</tr>
<tr>
<td>Media Signature Check</td>
<td>The signature of media is checked automatically by the installer during the Define Parameters phase while processing the Media Browser screens. As of now the installer only accepts media whose signature has been checked. See also the description of this new security feature in SAP Note 2393060. For more information, see Preparing the Installation Media [page 28] and Running the Installer [page 41].</td>
<td>Software Provisioning Manager 1.0 SP21 (SL Toolset 1.0 SP21)</td>
</tr>
<tr>
<td>SAP Host Agent Upgrade During the Installation (Optional)</td>
<td>During the Define Parameters phase of the installation, the installer prompts you whether you want to upgrade an existing version of the SAP Host Agent on the installation host. If there is no SAP Host Agent on the installation host, it is installed automatically without prompt. For more information, see General Installation Parameters [page 17].</td>
<td>Software Provisioning Manager 1.0 SP21 (SL Toolset 1.0 SP21)</td>
</tr>
<tr>
<td>SL Common GUI with SAPINST 7.49</td>
<td>With the new installer framework version SAPINST 7.49, you can now use the new SAPUI5-based graphical user interface (GUI) “SL Common GUI”. For more information, see Useful Information about the Installer [page 45], Running the Installer [page 41].</td>
<td>Software Provisioning Manager 1.0 SP20 (SL Toolset 1.0 SP20)</td>
</tr>
<tr>
<td>Cleanup of Operating System Users</td>
<td>You can now specify during the Define Parameters phase that the group SAPINST is to be removed from the operating system users after the execution of the installer has completed. For more information, see Operating System Users in...</td>
<td>Software Provisioning Manager 1.0 SP20 (SL Toolset 1.0 SP20)</td>
</tr>
<tr>
<td>Verification of Integrity of Data Units in Software Provisioning Manager</td>
<td>The integrity of data units extracted from the Software Provisioning Manager archive is verified. For more information, see Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 28]. In addition, check SAP Note 1680045 whether additional information is available.</td>
<td>Software Provisioning Manager 1.0 SP19 (SL Toolset 1.0 SP19)</td>
</tr>
<tr>
<td>System Provisioning for SAP NetWeaver 7.5 and SAP NetWeaver 7.5-based Products</td>
<td>All system provisioning tasks (installation, system copy, system rename) are available for the new SAP NetWeaver 7.5 release. The Dual Stack option, which integrates an AS ABAP and AS Java in a single system (common System ID &lt;SAPSID&gt;, common startup framework, common database), is no longer supported in SAP systems based on SAP NetWeaver 7.5.</td>
<td>Software Provisioning Manager 1.0 SP09 (SL Toolset 1.0 SP15)</td>
</tr>
</tbody>
</table>
Feature | Description | Availability
--- | --- | ---
Feedback Evaluation Form | SAP SE’s aim is to provide fast and efficient procedures. To evaluate the procedure you just carried out, we need information generated by the tool during process execution and your experience with the tool itself. A new evaluation form contains a simple questionnaire and XML data generated during the procedure. Port 4239 is used for displaying the feedback evaluation form. | Software Provisioning Manager 1.0 SP07 (SL Toolset 1.0 SP12)

| Option Verify Signed Media | The digital signature ensures that the signatory of a digital document can be identified unambiguously and signatory’s name is documented together with the signed document, the date, and the time. For more information, see SAP Note 1979965. | Software Provisioning Manager 1.0 SP06 (SL Toolset 1.0 SP11)

1.2 Service Pack Specific Documentation

This guide is updated with each software provisioning manager 1.0 service pack (SP). The following sections hold Diagnostics Agent related, SP specific details, and should be read carefully.

- Kernel for the Diagnostics Agent [page 15]
- JVM for the Diagnostics Agent [page 15]
- Patching the Installation Media [page 36]
- Diagnostics Agent Download Paths [page 37]
- Installing the Diagnostics Agent Optionally with the SAP System [page 67]
- Installer and Diagnostics Agent Version Information [page 82]
- Unsupported Features [page 84]

1.3 SAP Notes for the Installation

This section lists the most important SAP Notes relevant for an installation using Software Provisioning Manager.

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.
1.4 Components for Reporting an Incident

In case of problems, contact SAP Support by reporting an incident on one of the following components:

<table>
<thead>
<tr>
<th>Components</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-SMG-INS</td>
<td>Issues related to Installation, Configuration and Upgrade of SAP Solution Manager</td>
</tr>
<tr>
<td>SV-SMG-INS-AGT</td>
<td>Issues related to Diagnostics Agent Installation</td>
</tr>
<tr>
<td>BC-INS-SWPM</td>
<td>Issues related to the installation with Software Provisioning Manager</td>
</tr>
<tr>
<td>BC-INS-*</td>
<td>Other issues related to the installation tooling. For more information about using subcomponents of BC-INS, see SAP Note 1669327</td>
</tr>
<tr>
<td>BC-OP-AIX</td>
<td>OS specific issues related to Diagnostics Agent Installations on IBM AIX</td>
</tr>
<tr>
<td>BC-OP-AS4</td>
<td>OS specific issues related to Diagnostics Agent Installations on IBM i</td>
</tr>
<tr>
<td>BC-OP-LNX</td>
<td>OS specific issues related to Diagnostics Agent Installations on Linux</td>
</tr>
<tr>
<td>Components</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BC-OP-NT</td>
<td>OS specific issues related to Diagnostics Agent Installations on Windows</td>
</tr>
<tr>
<td>BC-OP-SUN</td>
<td>OS specific issues related to Diagnostics Agent Installations on Solaris</td>
</tr>
<tr>
<td>BC-OP-S390</td>
<td>OS specific issues related to Diagnostics Agent Installations on z/OS</td>
</tr>
<tr>
<td>SV-SMG-DIA</td>
<td>Issues related to SAP Solution Manager Diagnostics</td>
</tr>
<tr>
<td>SV-SMG-DIA-SRV-AGT</td>
<td>Issues related to Diagnostics Agent</td>
</tr>
<tr>
<td>BC-CCM-HAG</td>
<td>Issues related to SAP Host Agent</td>
</tr>
<tr>
<td>BC-JVM</td>
<td>Issues related to SAP Java Virtual Machine</td>
</tr>
<tr>
<td>XX-PART-WILY</td>
<td>Issues related to Introscope</td>
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### 1.5 Accessing the SAP Library

The references to SAP NetWeaver Library documentation in this installation guide always refer to the following on SAP Help Portal:

<table>
<thead>
<tr>
<th>Product and Release</th>
<th>SAP Library Path</th>
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</thead>
</table>
| SAP systems based on SAP NetWeaver 7.0x | [http://help.sap.com/nw](http://help.sap.com/nw)  
  SAP NetWeaver Platform  
  SAP NetWeaver 7.0 (Including Enhancement Packages)  
  Application Help  
  SAP NetWeaver by Key Capability |
| SAP systems based on SAP NetWeaver 7.1x |  
  Application Help  
  Application Help  
  Application Help  
  SAP Library  
  SAP NetWeaver Process Integration Library  
  Application Help  
  SAP Library  
  SAP NetWeaver Process Integration Library |
<table>
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<th>Product and Release</th>
<th>SAP Library Path</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAP systems based on SAP NetWeaver 7.3x</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application Help</td>
</tr>
<tr>
<td></td>
<td>SAP NetWeaver Library: Function-Oriented View</td>
</tr>
<tr>
<td>SAP systems based on SAP NetWeaver 7.4</td>
<td><a href="http://help.sap.com/nw74">http://help.sap.com/nw74</a></td>
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<tr>
<td>SAP systems based on SAP NetWeaver 7.5x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● SAP NetWeaver 7.5: <a href="http://help.sap.com/nw75">http://help.sap.com/nw75</a></td>
</tr>
<tr>
<td></td>
<td>Application Help</td>
</tr>
<tr>
<td></td>
<td>SAP NetWeaver Library: Function-Oriented View</td>
</tr>
<tr>
<td></td>
<td>● SAP NetWeaver AS for ABAP 7.52: <a href="https://help.sap.com/nw752abap">https://help.sap.com/nw752abap</a></td>
</tr>
<tr>
<td></td>
<td>Application Help</td>
</tr>
<tr>
<td></td>
<td>SAP NetWeaver Library: Function-Oriented View</td>
</tr>
</tbody>
</table>

*Introduction*

Installation of Diagnostics Agent on IBM i
2 Planning

2.1 Planning Checklist

Before starting the installation you must perform the following planning steps:

1. Follow the Pre-Installation Guidance in section Complying with SAP Solution Manager Security Guidelines [page 64].
2. Make sure you have understood the terminology with regard to Logical Host Names [page 25] and Virtual Host Names [page 25].
3. Select your Installation Strategy [page 13].
4. Check the Product Availability Matrix [page 14] and ensure that your operating system release is supported.
5. Make sure the Hardware Requirements [page 14] for the Diagnostics Agent are met.
6. Make sure you have read the sections listed in Service Pack Specific Documentation [page 9].
7. Select a Kernel for the Diagnostics Agent [page 15].
8. Understand the situation with regard to the JVM for the Diagnostics Agent [page 15].
10. Collect the Basic Installation Parameters [page 17].
11. Continue with the Preparation [page 23] section.

2.2 Installation Strategy

Follow the Diagnostics Agent installation guidance in the documentation attached to SAP Note 1365123. It is important that you decide if you want to install one or more Diagnostics Agents on your system, or if you want to use the Agents On-the-fly feature.

→ Recommendation

For installations on IBM i the Agents On-the-fly feature is strongly recommended.

In general, you will need one Diagnostics Agent on each host to be managed. In case the SAP or third party systems to be managed have been set up using logical host names, it is essential to have one Diagnostics Agent instance per logical host. For further details refer to section Using Logical Host Names [page 25].

If a Diagnostics Agent is already installed on your system, the folder /usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent should exist. For further details refer to sections Diagnostics Agent System ID and Instance Number [page 18] and SAP Directories [page 23].
2.3 Product Availability Matrix

Product Availability Matrix (PAM) information for installing a Diagnostics Agent with software provisioning manager 1.0 based installers can be found at:

http://support.sap.com/sltoolset\Product Availability Matrix\Follow the instructions

Then open the provided PDF file and search for “Diagnostics Agent”.

General PAM Information

The central PAM entry page for all SAP products can be found at: http://support.sap.com/pam

Platform Compatibility Matrix for EEM Robots

For a Platform Compatibility Matrix for EEM Robots (that require a Diagnostics Agent installation) refer to following SCN Wiki page: http://wiki.scn.sap.com/wiki/x/goCKEw

2.4 Hardware Requirements

Diagnostics Agent Hardware Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum disk space</td>
<td>Depending on your platform:</td>
</tr>
<tr>
<td></td>
<td>- Up to 6 GB for installation media (packed and unpacked versions of SWPM SAR-file and kernel ZIP-file)</td>
</tr>
<tr>
<td></td>
<td>- Up to 1.5 GB for the installed Diagnostics Agent</td>
</tr>
<tr>
<td></td>
<td>- Up to 1 GB of free space in the installation directory</td>
</tr>
<tr>
<td>Minimum RAM</td>
<td>256 MB</td>
</tr>
<tr>
<td>Space requirements</td>
<td>The amount of space required for an SAP system on IBM i is dependent on many variables, such as:</td>
</tr>
<tr>
<td></td>
<td>- Size of the database</td>
</tr>
<tr>
<td></td>
<td>- Number of work processes</td>
</tr>
<tr>
<td></td>
<td>- Number of users</td>
</tr>
<tr>
<td></td>
<td>Sizing recommendations are made by the IBM Competency Center. We recommend that auxiliary storage pool (ASP) usage in SAP production systems is 70% or less.</td>
</tr>
</tbody>
</table>
2.5 Kernel for the Diagnostics Agent

Dependency to Kernel of Managed System

The Diagnostics Agent is an SAP System just like any other SAP System (AS ABAP, SAP NetWeaver AS for Java, etc.). The Diagnostics Agent has its own kernel, that is completely independent of the kernel of the Managed System(s) available on the host where the Diagnostics Agent is installed.

A Diagnostics Agent must be installed with at least a 7.21 or 7.21 EXT kernel, while the Managed System can (e.g.) have a 7.49 kernel. It is also possible and supported, that a Diagnostics Agent and a Managed System have the same kernel version, but have different patch levels.

General Information

Diagnostics Agent installations are supported with one of the below listed kernels. The Product Availability Matrix (PAM) [page 14] provides information on which kernel versions are supported on which platform versions.

For download instructions refer to Diagnostics Agent Download Paths [page 37].

Install – Diagnostics Agent

The installation option Install - Diagnostics Agent can be used to perform installations using a Unicode Kernel with one of the following versions:

- 7.53
- 7.49
- 7.22
- 7.21

2.6 JVM for the Diagnostics Agent

Diagnostics Agent installations are supported with SAP JVM 6 and with SAP JVM 8. If the Diagnostics Agent is used with a SAP Solution Manager 7.10 system, only SAP JVM 6 is supported. If the Diagnostics Agent is used with a SAP Solution Manager 7.20 system, both SAP JVM 6 and SAP JVM 8 are supported. See also Kernel for the Diagnostics Agent [page 15].
2.7  Connection Selection

Before starting the installation make sure that you have identified which installation strategy you want to use. The below two scenarios are compatible, you can configure both connections, or only one of them, or none of them.

→ Recommendation

We recommend that you choose Direct SAP Solution Manager Connection.

- **Direct SAP Solution Manager Connection**: In this scenario, the Diagnostics Agent establishes a direct connection to the SAP Solution Manager system. If you select *Do not configure connection* the Diagnostics Agent is not connected to the SAP Solution Manager system. For details see section Direct SAP Solution Manager Connection [page 16].

- **System Landscape Directory Registration**: In this scenario the Diagnostics Agent is registered into the specified System Landscape Directory (SLD). This scenario should be used if SAP Solution Manager is not yet installed. For details see section System Landscape Directory Registration [page 16].

⚠️ Caution

If you select neither Direct SAP Solution Manager Connection nor System Landscape Directory Registration you will have to configure the Diagnostics Agent connectivity via the smdsetup script after the installation is finished.

For more information, see Using the SMD Setup Script [page 67].

2.8  Direct SAP Solution Manager Connection

Connect the Diagnostics Agent directly to the SAP Solution Manager system. The below connection types are available.

See also SAP Solution Manager Connectivity Parameters [page 21].

- **P4 connection via Java SCS Message Server**: the Diagnostics Agent connects to the Java SCS Message Server and is redirected to one of the dispatcher nodes of the J2EE engine.

- **P4 SSL connection via Java SCS Message Server**: the same as P4 connection via Java SCS Message Server, but with SSL support.

2.9  System Landscape Directory Registration

The System Landscape Directory (SLD) is designed for registering the systems and installed software of your landscape. It is recommended to register the Diagnostics Agent in an SLD. After registration the Diagnostics Agent must be assigned to the SAP Solution Manager system (Transaction: SOLMAN_SETUP  Scenario: ...
System Preparation → Step: Connect Diagnostics Agents to Solution Manager. This allows installing a Diagnostics Agent even if the SAP Solution Manager system is not available.

See also Diagnostics Agent SLD Parameters [page 19].

2.10 Basic Installation Parameters

2.10.1 General Installation Parameters

The parameters in the below table must be provided when installing a Diagnostics Agent via Generic Installation Options.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host Name</strong></td>
<td>Change Host Name if you plan to manage systems running on a logical host. This scenario lets the Diagnostics Agent take part in a switchover environment.</td>
</tr>
<tr>
<td></td>
<td>(\Delta) Caution&lt;br&gt;The Host Name is the short host name and not the FQN.(\Delta)</td>
</tr>
<tr>
<td>Package Location of the kernel medium</td>
<td>Refer to Preparing the Installation Media [page 28] and Kernel for the Diagnostics Agent [page 15] for guidance.</td>
</tr>
<tr>
<td>Destination ASP</td>
<td>Number of the auxiliary storage pool (ASP) on which the Diagnostics Agent should be installed.</td>
</tr>
<tr>
<td>SAP Host Agent Upgrade (Optional)</td>
<td>If there already exists an SAP Host Agent on the installation host, the installer 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&lt;Version&gt;.SAR archive. For more information, see Archive-Based Diagnostics Agent Installation [page 31]</td>
</tr>
</tbody>
</table>
## 2.10.2 Diagnostics Agent System ID and Instance Number

### Parameters | Description
--- | ---
**Diagnostics Agent System ID (DASID)** | By default the installer sets the *Diagnostics Agent System ID (DASID)* to DAA. If a Diagnostics Agent with the same kernel version as the one you are currently installing is already present on the local installation host, the installer sets `<DASID>` to the system ID of this already installed agent.

If the kernel version you have selected for your installation is different from the kernel versions of already installed Diagnostics Agents, the installer assigns another default system ID, starting from DA1 to DA9.

You can overwrite the proposed system ID as required.

Diagnostics Agents installed on different logical hosts (but on the same physical or virtual host) can use the same `<DASID>`.

⚠️ **Caution**

Choose the `<DASID>` carefully. Renaming is difficult and requires you to reinstall the Diagnostics Agent.

Make sure that the `<DASID>`:

- Either does not yet exist on the local installation host, or does already exist but was only used for a Diagnostics Agent installation in the exact same version
- Consists of exactly three alphanumeric characters
- Contains only uppercase letters
- Has a letter for the first character
- Is allowed according to [SAP Note 1979280](https://support.sap.com/knowledgeco...)

**Instance Number** of the Diagnostics Agent | Technical identifier for internal processes for the Diagnostics Agent. It consists of a two-digit number from 98 to 00. Default is 98.

If instance number 98 is already used, the Diagnostics Agent instance number is automatically set to the next free, lower, valid instance number.

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.

The instance number is used to specify the name of the Diagnostics Agent instance directory that the installer automatically creates during the installation. The directory of the Diagnostics Agent instance is called `SMDA<Instance_Number>`.

For more information, see [SAP Directories](#) [page 23].

To find out the instance numbers of SAP systems that already exist on the installation host, look for subdirectories ending with `<nn>` of local (not mounted) `/usr/sap/<SAPSID>` directories.

The value `<nn>` is the number assigned to the instance.
2.10.3 Operating System Users

Operating System Users

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAP System Administrator:</strong></td>
<td>Administrator for the Diagnostics Agent.</td>
</tr>
<tr>
<td>&lt;dasid&gt;adm</td>
<td>This user is dedicated to the Diagnostics Agent installation and has the authorization to manage the Diagnostics Agent. If you did not create user &lt;dasid&gt;adm manually before the installation, the installer creates it automatically on every application server instance host during the installation. Make sure that the user ID and group ID of &lt;dasid&gt;adm are unique and the same on each application server instance host. Make sure to respect the password guidance at the end of this table.</td>
</tr>
<tr>
<td><strong>SAP System Administrator:</strong></td>
<td>SAP Host Agent administrator is the user for central monitoring services.</td>
</tr>
<tr>
<td>sapadm</td>
<td>This user is created only if the SAP Host Agent is automatically installed during the installation of the Diagnostics Agent. Make sure to respect the password guidance at the end of this table.</td>
</tr>
</tbody>
</table>

Password guidance

Make sure that the password that you choose for a user meets the requirements of your operating system. In addition the password must meet the following requirements:

- It must be 8 to 14 characters long
- It must not contain \ (backslash) and " (double quote)
- It must contain at least one digit (0-9)
- It must contain at least one letter (a-z, A-Z)

Related Sections

This guide holds several sections that are closely related to the above described operating system users. You may want to read these sections before performing the installation:

- Preparing an IBM i User Profile [page 26]
- Ensuring User Security [page 63]

2.10.4 Diagnostics Agent SLD Parameters

→ Recommendation

It is recommended to register the Diagnostics Agent with the System Landscape Directory (SLD) related to the SAP Solution Manager system, to ensure landscape management compliance. See also Connection Selection [page 16] and System Landscape Directory Registration [page 16].
After the Diagnostics Agent SLD parameters have been entered and Next is pressed, the credentials and the connection are tested. In case of an error a message pops up.

→ Recommendation
It is recommended to use the credentials and connection test facilities integrated in the installer, and to not continue the installation as long as the check fails.

Diagnostics Agent SLD Parameters

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLD Destination for the Diagnostics Agent</strong></td>
<td>You can choose between the following options:</td>
</tr>
<tr>
<td>• <em>Register in existing central SLD</em></td>
<td>The Diagnostics Agent will be registered in an existing central SLD. If you choose this option you will be able to select Use HTTPS. The installer will prompt you for the SLD connection parameters listed below.</td>
</tr>
<tr>
<td>• <em>No SLD destination</em></td>
<td>If you choose this option, the installer does not prompt you for any SLD connection parameters. You may configure the SLD destination for the Diagnostics Agent via the <code>smdsetup</code> script after the installation has finished. For more information, see <em>Using the SMD Setup Script [page 67]</em>.</td>
</tr>
<tr>
<td><strong>SLD HTTP Host (SLD HTTPS Host if Use HTTPS was selected)</strong></td>
<td>The fully qualified host name of the SAP NetWeaver AS for Java system with the SLD, e.g. <code>sldhost.domain.corp</code>.</td>
</tr>
<tr>
<td>→ Recommendation</td>
<td>The host name will be checked. It is recommended to input the fully qualified host name.</td>
</tr>
<tr>
<td><strong>SLD HTTP Port (SLD HTTPS Port if Use HTTPS was selected)</strong></td>
<td>The HTTP or HTTPS port of the SAP NetWeaver AS for Java system with the SLD. For HTTP the following naming convention applies: <code>5&lt;Instance_Number&gt;00</code>. For HTTPS the following naming convention applies: <code>5&lt;Instance_Number&gt;01</code>.</td>
</tr>
<tr>
<td>🌐 Example</td>
<td>If the instance number of your SAP NetWeaver AS for Java system is <strong>01</strong>, the SLD HTTP Port is <strong>50100</strong> and the SLD HTTPS Port is <strong>50101</strong>.</td>
</tr>
</tbody>
</table>
### 2.10.5 SAP Solution Manager Connectivity Parameters

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLD Data Supplier User</td>
<td>The SLD Data Supplier user (e.g. SLDSSUSER) for the specified SLD.</td>
</tr>
<tr>
<td>Password of SLD Data Supplier User</td>
<td>The password of the specified SLD Data Supplier user.</td>
</tr>
</tbody>
</table>

#### Recommendation

Specifying a direct SAP Solution Manager connection is recommended, see [Connection Selection](#) [page 16] and [Direct SAP Solution Manager Connection](#) [page 16].

After the SAP Solution Manager connection parameters have been entered and **Next** is pressed, the credentials and the connection are tested. In case of an error a message pops up.

#### Recommendation

It is recommended to use the credentials and connection test facilities integrated in the installer, and to not **continue** the installation as long as the check fails.

### SAP Solution Manager Connectivity Parameters

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection of the Diagnostics Agent to SAP Solution Manager</td>
<td>You can choose between the following options:</td>
</tr>
</tbody>
</table>
| | - **Configure connection via Java SCS Message Server**  
  The Diagnostics Agent will be connected to the SAP Solution Manager system.  
  If you choose this option you will be able to select **Use SSL connectivity**.  
  The installer will prompt you for the SAP Solution Manager connection parameters listed below.  
| | - **Do not configure connection**  
  If you choose this option, the installer does not prompt you for any SAP Solution Manager connection parameters.  
  You may configure the SAP Solution Manager connection for the Diagnostics Agent via the **smdsetup** script after the installation has finished.  
  For more information, see [Using the SMD Setup Script](#) [page 67]. |
| Host (FQN) | The fully qualified host name of the SAP Solution Manager system, e.g. **host.domain.corp** |

#### Recommendation

The host name will be checked. It is recommended to input the fully qualified host name.
### Parameters

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depending on the Connection Type</td>
<td>You have to specify one of the following ports of the Java Stack of your SAP Solution Manager system:</td>
</tr>
<tr>
<td></td>
<td>- <strong>Java SCS Message Server HTTP Port</strong> is 81&lt;xx&gt;, where &lt;xx&gt; is the instance number of the SAP Solution Manager Java Central Services (SCS).</td>
</tr>
<tr>
<td></td>
<td>- <strong>Java SCS Message Server HTTPS Port</strong> is 444&lt;xx&gt;, where &lt;xx&gt; is the instance number of the SAP Solution Manager Java Central Services (SCS).</td>
</tr>
</tbody>
</table>

### User (Administrator role) and Password

As of SAP Solution Manager 7.10 SP10 we recommend to use the SMD_AGT user of your SAP Solution Manager system. For earlier releases the SMD_ADMIN user is still recommended.

### SAP Router (optional) Route and Password

The route string describes the stations of a connection required between the Diagnostics Agent and SAP Solution Manager.

The route string contains a substring for each SAP router without the target server such as: `/H/host/S/service/W/pass`

- `/H/` indicates the host name
- `/S/` is used for specifying the service (port); it is an optional entry, the default value is 3299
- `/W/` indicates the password for the connection between the predecessor and successor on the route and is also optional (default is "", no password)

#### Example

The route between the Diagnostics Agent and SAP Solution Manager can look like: `/H/host.domain.corp/S/3299`

#### Caution

You cannot specify a route string if you registered the Diagnostics Agent into SLD during the previous step.
3 Preparation

3.1 Preparation Checklist

Before starting the installation you must perform the following preparation steps:

1. Prepare an IBM i User Profile [page 26].
2. Enable the User QSECOFR [page 27].
3. Prepare the Installation Media [page 28].
4. Copy the Installation Media Manually to Your IBM i [page 34]
5. Continue with the Installation [page 39] or the Unattended Installation [page 53] section.

3.2 SAP Directories

Directories of the Diagnostics Agent

For the Diagnostics Agent the installer creates the following types of directories:

- Logically shared directories
- Local directories

Details are shown in the following figure.
The Diagnostics Agent directory `/usr/sap/<DASID>` contains the following subdirectories:

- **SYS**, which is a logically shared directory
- **SMDA<Instance_Number>**, which is a local directory

⚠️ Caution

Since traces for the instance are created in this directory, sufficient space must be available in this directory.

### Logically Shared Directories

The logically shared directory **SYS** contains the following subdirectories:

- **exe**
  - Contains executable kernel programs
- **global**
  - Contains globally shared data
- **profile**
  - Contains the profiles of the Diagnostics Agent instance

### Local Directories
The (local) instance directory of the Diagnostics Agent instance is called `SMDA<Instance_Number>`. It contains the instance-specific data of the Diagnostics Agent and has the following subdirectories:

- **script**
  - Contains the `smdsetup` script
- **SMDAgent**
  - Contains the Diagnostics Agent software and properties files
- **exe**
  - Contains executable kernel programs
- **work**
  - Contains log files

### 3.3 Using Logical Host Names

SAP Solution Manager has introduced the term logical host name, as an alternative to the term virtual host name which is generally used in the context of software provisioning manager and SAP NetWeaver based installations. Refer to section Using Virtual Host Names [page 25] from the standard software provisioning manager and SAP NetWeaver based installation guides (section is included below) for details.

For a detailed description on logical hosts, logical host names, virtual hosts, virtual host names, physical hosts and physical host names, and how they are defined in the context of SAP Solution Manager and Diagnostics Agent installations, refer to the Terminology section in the SCN Wiki page [http://wiki.scn.sap.com/wiki/x/DgRgE](http://wiki.scn.sap.com/wiki/x/DgRgE), or to SAP Note [1365123](http://wiki.scn.sap.com/wiki/x/DgRgE) - Installation of Diagnostics Agents.

#### 3.3.1 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**

⚠️ Caution

Make sure that you first read the section on Using Logical Host Names [page 25].
3.4 Preparing an IBM i User Profile

For running the installer you must create a user account on the IBM i host.

The following requirement applies:

- The IBM i installation user profile must have user class *SECOFR and all special authorities that belong to user QSECOFR.

Enter the following command:

```
CRTUSRPRF USRPRF(SAPIUSR) PASSWORD(SAP) USRCLS(*SECOFR) TEXT('SAP installation user') SPCAUT(*USRCLS) OWNER(*USRPRF) LANGID(ENU) CNTRYID(US) CCSID(500) LOCALE(*NONE)
```

SCM Only:

⚠️ Caution

You should not set the system variable QIBM_PASE_CCSID. Do not leave this variable empty. Make sure that QIBM_PASE_CCSID is deleted at least for the time while you are installing your SAP system using the following command:

```
RMVENVVAR ENVVAR(QIBM_PASE_CCSID) LEVEL(*SYS)
```

In previous releases, we recommended that you create the user SAPINST on IBM i to install the SAP system. In the current release, a group SAPINST is created generically on all platforms and is used for the installation of the SAP system. If the user SAPINST already exists on your system, you must delete this user. If you do not want to delete this user for any reason, you must add to the user profile SAPINST the feature of a group by adding SAPINST to the group of a different user profile such as SAPIUSR. To do this, use the following command:

```
CHGUSRPRF USRPRF(SAPIUSR) GRPPRF(SAPINST)
```

Now the user SAPINST can also be used as a group by the installer.
**Note**

If you have already an old installation user and you want to make sure this user is configured correctly for your next SAP system installation, call the following command:

```
CHGUSRPRF USRPRF(SAPIUSR) USRCLS(*SECOFR) TEXT('SAP installation user')
SPCAUT(*USRCLS) OWNER(*USRPRF) LANGID(ENU) CNTRYID(US) CCSID(500) LOCALE(*NONE)
```

**Note**

In a distributed environment, the installation user must have the same name and password on all hosts so that the required remote access permissions are available. For example, the profile directory on the global host should be accessible to the installation user of a remote additional application server instance.

### 3.5 Enable the User QSECOFR

The user **QSECOFR** is the standard administrator user on IBM i. This user has the most authority. For running the installer on IBM i, the user **QSECOFR** must be enabled. Although for running the installer you only require the installation user, the SAP kernel tools on IBM i need some adopted permissions from the user **QSECOFR**. If the user **QSECOFR** is disabled this will lead to errors when SAP kernel tools such as **CRTR3INST** are called.

#### Procedure

1. To check the status of the user profile **QSECOFR** use the following command using your installation user:
   
   ```
   DSPUSRPRF USRPRF(QSECOFR)
   ```

2. To enable the user **QSECOFR** use the following command using your installation user:
   
   ```
   CHGUSRPRF USRPRF(QSECOFR) STATUS(*ENABLED)
   ```

**Note**

In a distributed environment, the installation user must have the same name and password on all hosts so that the required remote access permissions are available. For example, the profile directory on the global host should be accessible to the installation user of a remote additional application server instance.

→ **Recommendation**

Check also if the password of the user **QSECOFR** is expired. To do this, login as **QSECOFR**. When the password is already expired you will be asked for a new password. Set a new password and the password of **QSECOFR** is then no longer expired.

Only when the password of the **QSECOFR** is not expired the installation procedure will finish successfully.
3.6 Preparing the Installation Media

This section describes how to prepare the installation media.

Installation media are available as follows:

- The Software Provisioning Manager 1.0 archive containing the installer
  You always have to download the latest version of the Software Provisioning Manager 1.0 archive.
  For more information, see Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 28].
- Required kernel media (see also Kernel for the Diagnostics Agent [page 15]) or dedicated installation archives (see Archive-Based Diagnostics Agent Installation [page 31]).

Related Information

- Media Required for the Installation [page 30]
- Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 28]
- Archive-Based Diagnostics Agent Installation [page 31]
- Downloading Complete Installation Media [page 33]
- Copying the Installation Media Manually to Your IBM i [page 34]

3.6.1 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.

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/sitoolset ➤ System Provisioning ➤ Download Software Provisioning Manager

2. If you did not do so already, make sure you have configured your TCP/IP as described in SAP Note 92589 ➔. Do not forget afterwards to perform an IPL to make the change effective. Otherwise, the file copying is very slow from your local Windows optical media drive or Windows file system to the IFS on your IBM i.

3. Make sure that you use the latest version of the SAPCAR tool when manually extracting the Software Provisioning Manager archive.
**i Note**

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

Proceed as follows to get the latest version of SAPCAR:

a. Go to https://launchpad.support.sap.com/#/softwarecenter SUPPORT PACKAGES & PATCHES and search for “sapcar”.

b. Select the archive file for your operating system and download it to an empty directory.

c. Rename the executable to sapcar.exe.

For more information about SAPCAR, see SAP Note [212876](https://launchpad.support.sap.com/#/softwarecenter).

4. Using the latest version of SAPCAR, you can verify the 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 Windows PC as follows:

      1. Go to https://launchpad.support.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 sapcryptolibp_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 signature of the downloaded SWPM10SP<Support_Package_Number>_Version_Number>.SAR archive by executing the following command:

      ```
      <Path to SAPCAR>\sapcar.exe -tvVf<Path to Download Directory> \SWPM10SP<Support_Package_Number>_Version_Number>.SAR -crl <file name of revocation list>
      ```

5. Unpack the Software Provisioning Manager archive to a local directory on your Windows PC using the following command:

   ```
   <Path to SAPCAR>\sapcar.exe -xvf <Path to Download Directory> \SWPM10SP<Support_Package_Number>_Version_Number>.SAR -R <Path to Unpack Directory>
   ```

**i Note**

Make sure that all users have read permissions for the directory where you want to unpack the installer.
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.

6. We recommend that you copy the Software Provisioning Manager 1.0 to the IFS of the IBM i host. For more information about how to do this, see the section copy the installation media manually to your IBM i [page 34].

3.6.2 Media Required for the Installation

This section provides a list of the media required for the installation.

The signature of installation media is checked automatically by the installer during the Define Parameters phase while the Media Browser screens are processed (see also Running the Installer [page 41]). The installer only accepts media whose signature has been checked. For more information, see SAP Note 2393060.

Proceed as follows to make the media available:

1. Identify the required media as listed below.

You need several media during an SAP system installation. We recommend that you copy all relevant media for an instance installation to the IFS of the IBM i host before you install the instance. For more information, see the section Copying the Installation Media Manually to Your IBM i [page 34].

If not already done, make sure you have configured your TCP/IP as described in SAP Note 92589. Do not forget afterwards to perform an IPL to make the change effective. Otherwise, copy performance is poor from your local Windows media drive or your local Windows file system to the IFS on your IBM i.

<table>
<thead>
<tr>
<th>Installation</th>
<th>Installation Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostics Agent</td>
<td>○ Software Provisioning Manager 1.0 archive</td>
</tr>
<tr>
<td></td>
<td>○ UC Kernel (folder K_&lt;Version&gt;<em>U</em>&lt;OS&gt;) where U means Unicode.</td>
</tr>
</tbody>
</table>

i Note
For information about supported kernel versions see Kernel for the Diagnostics Agent [page 15].

i Note
Every new Diagnostics Agent installation must be Unicode.

2. Make the installation media available on your Windows PC as follows:

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 28].
→ Recommendation

For Diagnostics Agent installations you only require a Software Provisioning Manager archive and a kernel archive. Alternative download paths that you may be more familiar with are documented in Diagnostics Agent Download Paths [page 37].

2. Download and unpack the kernel ZIP file to a dedicated directory. For details see Diagnostics Agent Download Paths [page 37]. The unpacked kernel can be made available on a local drive or on a network drive.

⚠️ Caution

If you copy the media to disk, make sure that the paths to the destination location of the copied media do not contain any blanks.

Related Information

Downloading and Extracting the Software Provisioning Manager 1.0 Archive [page 28]
Downloading Complete Installation Media [page 33]
Copying the Installation Media Manually to Your IBM i [page 34]
Copying the Installation Media Manually to Your IBM i [page 34]

3.6.3 Archive-Based Diagnostics Agent Installation

As an alternative to providing the complete SAP Kernel media, you can also download just the required installation archives for your Diagnostics Agent installation.

Context

We recommend to store the downloaded archives in a dedicated directory. During the installation procedure, on step Define Parameters, you can either specify the relevant directory, or you select the individual archives that must be used for the installation.

For a Diagnostics Agent installation, you only need to download - apart from the Software Provisioning Manager 1.0 archive which is always required for an installation - the SAPEXE.SAR, SAPHOSTAGENT.SAR, SAP JVM SAR-file, and the Diagnostics Agent SAR-file. (See also section Solution in SAP Note 2253383.)

ℹ️ Note

The signature of installation archives is checked automatically by the installer [page 41] during the Define Parameters phase while processing the Software Package Browser screens. The installer only accepts archives whose signature has been checked. After scanning the archives and verifying the signature, an info file is written where you can find detailed information about matching and non-matching archive files. You can access this info file by choosing the info file link in the Archive Scanning Result section.
of the *Software Package Browser* screen. The info file contains only the results of the latest archive scan. For more information, see SAP Note [2393060](#).

### i Note
The `SAPHOSTAGENT<Version>.SAR` archive is only prompted if there is either no SAP Host Agent available on the installation host or you specified during the Define Parameters phase that you want to upgrade an existing version of the SAP Host Agent already available on the installation host. In the latter case, you must specify a higher version of the `SAPHOSTAGENT<Version>.SAR`. Otherwise, the existing SAP Host Agent is not upgraded.

### Caution
- If you provide the archives in one download folder, and there is more than one version of the same archive available - for example `SAPEXE<Version>.SAR` - and these versions match the product-specific requirements, the installer selects one of these archive versions. If you want a specific archive version to be used, make sure that this is the only version available in the download folder. When running system provisioning in GUI mode, you can also check in the GUI which archive is being used. So even if there is more than one version of the same archive available in the download folder, you can select the exact archive version you want to use and enter the exact path to the required archive file.

### Procedure
- Download and extract the latest version of Software Provisioning Manager as described in [Downloading and Extracting the Software Provisioning Manager 1.0 Archive](page 28).
- Download and extract the required version of the `SAPEXE.SAR` archive from a path like the one below:
  - If you want to apply installation option *Install - Diagnostics Agent*, download the latest patch level of `SAPEXE.SAR` from: [Software Downloads > SUPPORT PACKAGES & PATCHES > By Category > Additional Components > SAP KERNEL > SAP KERNEL 64-BIT UNICODE > <SAP KERNEL 7.21 64-BIT UNICODE or KERNEL 7.21_EXT 64-BIT UC> > <Select your operating system> > #Database independent](#).
  - Download the latest patch level of `SAPHOSTAGENT.SAR` from: [Software Downloads > SUPPORT PACKAGES & PATCHES > By Category > SAP Technology Components > SAP HOST AGENT > SAP HOST AGENT 7.21 > <Select your operating system>](#).

### i Note
The `SAPHOSTAGENT<Version>.SAR` archive is only prompted if there is either no SAP Host Agent available on the installation host or you specified during the Define Parameters phase that you want to upgrade an existing version of the SAP Host Agent already available on the installation host. In the latter case, you must specify a higher version of the `SAPHOSTAGENT<Version>.SAR`. Otherwise, the existing SAP Host Agent is not upgraded.

- Download the latest patch level of the SAP JVM SAR-file, according to section Solution in SAP Note [2253383](#).
Download the latest patch level of the Diagnostics Agent SAR-file, according to section Solution in SAP Note 2253383.

3.6.4 Downloading Complete Installation Media

This section describes how you can download complete 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 28].
2. You identify the required media as listed in Media Required for the Installation [page 30].
3. 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://support.sap.com/sltoolset](https://support.sap.com/sltoolset) > System Provisioning > Software Provisioning Manager 1.0 SP<Current Version> > Download Kernel releases delivered for SL Toolset > SL TOOLSET 1.0 (INSTALLATIONS AND UPGRADES) > KERNEL FOR INSTALLATION/SWPM.
     - To download all media required for your SAP product, you can use one of the following navigation paths:

   - **Material number**
     All download objects that are part of an installation medium have the same material number and an individual sequence number:
     `<Material_Number>_<Sequence_Number>`

     - **Example**
       51031387_1
       51031387_2
       ...

Installation of Diagnostics Agent on IBM i
Preparation
Title

All objects that are part of an installation medium have the same title, such as
\(<\text{Solution}\><\text{Media\_Name}\><\text{OS}\>\) or \(<\text{Database}\><\text{RDBMS}\><\text{OS}\>\) for database media.

4. Download the objects to the download directory.

5. 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.

6. You need to copy the installation media manually to your IBM i.

Related Information

Copying the Installation Media Manually to Your IBM i

3.6.5 Copying the Installation Media Manually to Your IBM i

This section describes a secure way to copy the required installation media from your Windows PC to your IBM i using OS version V7R2 and higher. To copy the media, you have to use a binary share \(\text{TMPSAP}\). This guarantees that the content of the media is copied correctly from the Windows PC to your IBM i. No copied content is corrupted, and no copied files with longer file names are shortened by a converting share.

⚠️ Note

This procedure should not be used on a V7R1 IBM i host. On V7R1, you must use an alternative method such as FTP.

⚠️ Note

In the past, we suggested to create a binary share pointing to the root directory \(/\) on your IBM i host. We do not recommend this because it is not considered secure anymore.

Procedure

Creating a Binary Share on IBM i
If you do not already have a binary share **TMPSAP** on your IBM i, and you want to copy manually media from your Windows PC into the IFS of your IBM i, you have to create this share manually using the IBM Systems Director Navigator for i. To do so, proceed as follows:

1. Start the IBM Systems Director Navigator for i on your Windows PC.
2. Connect to your IBM i using **My Connections**.
3. To create or change the share **TMPSAP**, choose **File Systems > File Shares**.
5. Click the folder **Shared Objects** to see the shares.
6. To check the already existing share **TMPSAP** or create a new share **TMPSAP**, right-click **New > File**.

**Note**

The share **TMPSAP** must have the access permission **Read/Write** and the path name should be `/tmp/SAP`.

If the directory `/tmp/SAP` does not exist directly create it manually as QSECOFR or installation user using the following command:

```
mkdir /tmp/SAP
```

7. On the **Text Conversion** tab, do **not** select **Allow file text conversion**.
8. To save the share **TMPSAP**, press **OK**.

Now you have created the share **TMPSAP** on your IBM i.

**Copying the Installation Media Manually Using the Binary Share TMPSAP**

1. To open the command prompt on Windows, choose **Start > Run**.
2. Enter **cmd.exe**. The command prompt appears.
3. Press **OK**. The command prompt appears.
4. In the command prompt, enter **net use**. All network connections to shared resources are displayed.
5. To change to the new network drive, enter **X:** in the command prompt.
6. Create the subdirectories in your IFS where you want to copy the required media. For each media, enter:

```
mkdir /tmp/<DASID>/<Media_Name> or mkdir /tmp/<DASID>/<UnpackDirectoryName>
```

**Note**

You must avoid blanks or commas in the media path name.

7. Copy the installation media from your Windows drive (for example `D:\`) or your download directory to the IFS of your IBM i host by entering the following command:

```
xcopy D:\ X:\<DASID>\<Media_Name> /E or xcopy C:\tmp\download\<UnpackDirectoryName> X:\<DASID>\<UnpackDirectoryName> /E
```
i Note
You must copy the root directory of the media respectively of the `<Unpack_Directory>` and all required subdirectories to the IFS of your IBM i.

8. For each required media, create a subdirectory and copy the required media.

i Note
For advanced users only: Instead of copying the complete media you also can copy only dedicated subdirectories. For IBM i the following directories have to be copied:

- `K_<Version>_U_OS400_PPC64`

---

### 3.7 Patching the Installation Media

#### SAR-Files

As of Diagnostics Agent 7.49 there are operating system independent `SMDA710*.SAR` and `SMDA720*.SAR` Download Objects available on the SAP Service Marketplace.

The SAR-files are required for the Archive-Based Diagnostics Agent Installation [page 31].

The SAR-files can also be used for patching Diagnostics Agents that are initially shipped via standard kernel media. The SAR-files are named like:

`SMDA<Release_Number>_SP<Support_Package_Number>_<Patch_Number>-<Number>.SAR`

#### Downloading

The SAR-files can be downloaded from:

http://support.sap.com/swdc ➔ Software Downloads ➔ SUPPORT PACKAGES & PATCHES ➔ By Alphabetical Index (A-Z) ➔ S ➔ SAP SOLUTION MANAGER ➔ SAP SOLUTION MANAGER 7.1 ➔ ENTRY BY COMPONENT ➔ AGENTS FOR MANAGED SYSTEMS ➔ DIAGNOSTICS AGENT `<Release_Number>` ➔ # OS independent

For a mapping of software provisioning manager version to Diagnostics Agent version refer to Installer and Diagnostics Agent Version Information [page 82].

#### Patching

Once you have downloaded and unpacked the software provisioning manager 1.0 archive and the kernel media that you have selected, you must replace the `SAPDIAGNOSTICSAGENT.SAR` file on the unpacked kernel media with the `SMDA<Release_Number>*.SAR` file that you have downloaded.
The SAPDIAGNOSTICSAGENT.SAR file can be found at the following location on the unpacked kernel media:

<Path_To_Unpack_Directory>/DBINDEP/SAPDIAGNOSTICSAGENT.SAR

### 3.8 Diagnostics Agent Download Paths

More general download instructions are provided in Preparing the Installation Media [page 28]. Alternatively the below download paths can be used to download installer and kernel archives that are needed for Diagnostics Agent installations. All of the below download paths lead to the same installer and kernel archives.

#### Download Paths via SL Toolset Pages

SL Toolset download path for installer archive: [http://support.sap.com/sitoolset](http://support.sap.com/sitoolset) ➾ System Provisioning ➾ Software Provisioning Manager 1.0 SP<current_SP> ➾ Download Software Provisioning Manager


#### Download Paths via SAP Solution Manager Pages

SAP Solution Manager download path for installer archive: [http://support.sap.com/swdc](http://support.sap.com/swdc) ➾ Software Downloads ➾ INSTALLATIONS & UPGRADES ➾ By Alphabetical Index (A-Z) ➾ S ➾ SAP SOLUTION MANAGER ➾ SAP SOLUTION MANAGER 71 ➾ SOFTWARE PROVISIONING MGR 1.0 ➾ <OS> ➾


#### Download Paths for Additional SAP Kernels

Additional SAP kernels that are not available via the before mentioned paths can be downloaded via: [http://support.sap.com/swdc](http://support.sap.com/swdc) ➾ Software Downloads ➾ By Alphabetical Index (A-Z) ➾ K ➾ SAP KERNEL 64-BIT UNICODE ➾ <Supported_Kernel_Version> ➾ INSTALLATION ➾ <OS> ➾
Related Documentation

The following sections contain information to support you in your decision on which installer and kernel archive to download:

- Product Availability Matrix [page 14]
- Kernel for the Diagnostics Agent [page 15]
4 Installation

4.1 Installation Checklist

In order to execute the installation you have to perform the following steps:

1. Make sure to fulfill the Prerequisites for Running the Installer [page 39].
2. Follow the instructions in Running the Installer [page 41].
3. For alternative installation scenarios refer to Additional Information About the Installer [page 45].
4. Continue with the Post-Installation [page 63] section.

4.2 Prerequisites for Running the Installer

Make sure you fulfill the following prerequisites before running the installer.

- For the SL Common GUI, 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 Common GUI:
    - 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 Common GUI 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 Common GUI.

⚠️ Caution

The installer uses a self-signed certificate, which is used temporarily only while the installer is running. This certificate is not trusted by the browser unless it is imported manually by the user running the installer. This behavior is intentionally designed in this way because - unlike ordinary public web servers - the installer has different usage patterns. You must configure your browser to trust the self-issued certificate of the installer after carefully performing the “thumbprint” verification described in Running the Installer [page 41]. For more information about adding trusted certificates, see the documentation of your browser.

For more information about the SL Common GUI, see Useful Information about the Installer [page 45].

- 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 installer. While running the installer, this setting is then also added to the environment of the <sapsid>adm user.
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.

- Make sure that you have logged on to your host as an installation user with similar authorization rights to QSECOFR. For more information about how to create an installation user, see Preparing an IBM i User Profile [page 26].
- Check the value of the temporary directory set in the environment if available:

<table>
<thead>
<tr>
<th>Shell</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command prompt</td>
<td>WRKENVVAR</td>
</tr>
<tr>
<td>Qp2Term</td>
<td>echo $TEMP, echo $TMP or echo $TMPDIR</td>
</tr>
</tbody>
</table>

- 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 you have at least 300 MB of free space in the installation directory for each installation option. In addition, you need 300 MB free space for the installer executables. If you cannot provide 300 MB free space in the temporary directory, you can set one of the environment variables TEMP, TMP, or TMPDIR to another directory with 300 MB free space for the installer 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 the Installer [page 45].
- Make sure that you have defined the most important SAP system parameters as described in Basic Installation Parameters [page 17] 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 installer and the SL Common GUI. 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 installer 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>
    ```

Example

```bash
CD_DIR('<Path_To_Unpack_Directory>')
CALL PGM(QP2TERM) PARM('./sapinst' 'SAPINST_HTTPS_PORT=<Free Port Number>')
```
4.3 Running the Installer

This section describes how to run the installer.

Prerequisites

For more information, see Prerequisites for Running the Installer [page 39].

Context

⚠️ Caution

The Diagnostics Agent Platform Availability Matrix supports a wide range of operating systems, operating system versions, hardware architectures, and kernel versions. The prerequisites checker integrated in the software provisioning manager may generate warnings for the operating system version that you are installing on, or for the kernel version that you are installing with. As long as you comply with the Diagnostics Agent Product Availability Matrix [page 14] you can ignore these prerequisites checker warnings.

The installer has a web browser-based GUI named “SL Common GUI of the Software Provisioning Manager” - “SL Common GUI” for short.

This procedure describes an installation where you run the installer and use the SL Common GUI, that is you can control the processing of the installer from a browser running on any device.

For more information about the SL Common GUI, see Useful Information About the Installer [page 45].

Procedure

1. Log on to the installation host as a user with similar authorization rights to QSECOFR. For more information, see Preparing an IBM i User Profile [page 26].

⚠️ Caution

Make sure that the installation user has not set any environment variables for a different SAP system or database or database by using the command WRKENVVAR.

⚠️ Caution

Do not use an existing <dasid>adm user for performing an uninstallation.

If your security policy requires that the person running the installer is not allowed to know QSECOFR like credentials 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.

2. Make the installation media available.

You have to confirm that the user is a trusted one. For more information, see SAP Note

For more information, see Preparing the Installation Media [page 28].

→ Recommendation

Make the installation media available locally. For example, if you use Network File System (NFS), reading from media mounted with NFS might fail.

3. Start the installer from the directory to which you unpacked the Software Provisioning Manager archive by entering the following commands:

```plaintext
CD DIR('<Path_To_Unpack_Directory>')
CALL PGM(QP2TERM) PARM('./sapinst')
```

Note

If you need to assign a logical host name and you do not want to assign it by entering it as a parameter using the installer screens (see Basic Installation Parameters [page 17]), you can alternatively assign it by starting the installer with the SAPINST_USE_HOSTNAME property:

```plaintext
CD DIR('<Path_To_Unpack_Directory>')
CALL PGM(QP2TERM) PARM('./sapinst'
'SAPINST_USE_HOSTNAME=<Logical_Host_Name>')
```

Before using this option, you should have read and understood the sections Installation Strategy [page 13] (especially the Agents On-the-fly feature) and Using Logical Host Names [page 25].

4. The installer is starting up.

The installer now starts and waits for the connection with the SL Common GUI.

You can find the URL you require to access the SL Common GUI at the bottom of the shell from which you are running the installer.

```
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 installer as described in Useful Information about the Installer [page 45].
2. Restart the installer from the command line with the SAPINST_GUI_HOSTNAME=<hostname> property.

You can use a fully-qualified host name.
Open the URL on a device with a supported web browser (see Prerequisites for Running the Installer [page 39]).

⚠️ 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 installer.
   Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the installer console:
   1. Go to the sapinst_exe.xxxxxx.xxxx directory in the temporary directory to which the installer has extracted itself:
      /home/<Installation_User>/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 Common GUI opens in the browser by displaying the Welcome screen.

5. On the Welcome screen, choose the required option:

   Go to ➤ Generic Options ➤ Diagnostics in SAP Solution Manager ➤ and choose one of:

<table>
<thead>
<tr>
<th>Diagnostics in SAP Solution Manager</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install - Diagnostics Agent</td>
<td>Choose this option to install a Diagnostics Agent instance.</td>
</tr>
<tr>
<td>Uninstall - Diagnostics Agent</td>
<td>Choose this option to uninstall a Diagnostics Agent instance.</td>
</tr>
<tr>
<td></td>
<td>For more information, see Deleting an SAP System or Single Instances [page 78].</td>
</tr>
</tbody>
</table>

6. Choose Next.

⚠️ Note

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

7. Follow the instructions on the installer 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 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 signature is not checked again.

For more information, see SAP Note 2393060.

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

8. To start the installation, choose Next.

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

9. If you copied the installer software to your hard disk, you can delete these files when the installation has successfully completed.

For more information, see Removing the Installer Installation Files [page 65].

10. For security reasons, we recommend that you remove the group SAPINST from the operating system users after you have completed the installation.

i Note

This step is only required, if you did not specify during the Define Parameters phase that the group SAPINST is to be removed from the operating system users after the execution of the installer has completed.

11. For security reasons, we recommend that you delete the .sapinst directory within the home directory of the user with which you ran the installer:

   /home/<Installation_User>/.sapinst

12. The installer 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 installer log files in the sapinst_instdir directory. For more information, see Useful Information about the Installer [page 45].
4.4 Additional Information about the Installer

The following sections provide additional information about the installer.

- Useful Information about the Installer [page 45]
- Interrupted Processing of the Installer [page 47]
- Troubleshooting with the Installer [page 50]
- Using the Step State Editor (SAP Support Experts Only) [page 51]

4.4.1 Useful Information about the Installer

This section contains some useful technical background information about the installer and the installer GUI.

- Software Provisioning Manager (the “installer” for short) has the web browser-based “SL Common GUI of the Software Provisioning Manager” - “SL Common GUI” for short. The SL Common GUI 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 footprint, since only a web browser is required on the client
  - New controls and functionality, for example, view logs in web browser.

The SL Common GUI 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 Common GUI the installer provides a pre-generated URL at the bottom of the shell from which you are running the installer. If you have a supported web browser installed on the host where you run the installer, you can start the SL Common GUI directly from this URL. Otherwise, open a web browser supported by the SL Common GUI on any device and run the URL from there.

For more information about supported web browsers see Prerequisites for Running the Installer [page 39]. If you need to run the SL Common GUI in accessibility mode, apply the standard accessibility functions of your web browser.

- As soon as you have started the sapinst executable, the installer 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 installer.

After you have reached the Welcome screen and selected the relevant installer option for the SAP system or instance to be installed, the installer creates a directory sapinst_instdir where it keeps its log files, and which is located directly below the temporary directory. The installer 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 installer 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 installer.
### Shell Used

<table>
<thead>
<tr>
<th>Command prompt</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADDENVVAR ENVVAR(TEMP) VALUE('&lt;Directory&gt;')</strong></td>
<td>*<em>REPLACE(<em>YES)</em></em></td>
</tr>
</tbody>
</table>

| Qp2Term                                                                     | **export TEMP=<Directory>**                                           |

### Caution

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

### Recommendation

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

- The installer extracts itself to the temporary directory. These executables are deleted again after the installer has stopped running. Directories called `sapinst_exe.xxxxx.xxxx` sometimes remain in the temporary directory after the installer 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 installer, which might be useful if an error occurs.

### Caution

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

- To see a list of all available installer properties, enter the following commands:

  ```
  CD_DIR('<Path_To_Unpack_Directory>')
  CALL QP2TERM PARM('./sapinst ' '-p')
  ```

- If you want to install or uninstall a Diagnostics Agent in unattended mode, see section [Unattended Installation](#). If required, stop the installer by choosing the `Cancel` button.

### Note

- If you need to terminate the installer, press `Shift + Esc` then `2` on your IBM i host.
4.4.2 Interrupted Processing of the Installer

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

Context

The processing of the installer might be interrupted for one of the following reasons:

- An error occurred during the Define Parameters or Execute phase:
  The installer 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 installer by choosing Cancel in the SL Common GUI.

⚠️ 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:

<table>
<thead>
<tr>
<th>Option</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retry</td>
<td>The installer retries the installation from the point of failure without repeating any of the previous steps. This is possible because the installer records the installation progress in the keydb.xml file. We recommend that you view the entries in the log files, try to solve the problem, and then choose Retry. If the same or a different error occurs, the installer displays the same dialog box again.</td>
</tr>
<tr>
<td>Stop</td>
<td>The installer stops the installation, closing the dialog box, the installer GUI, and the GUI server. The installer records the installation progress in the keydb.xml file. Therefore, you can continue the installation from the point of failure without repeating any of the previous steps. See the procedure below.</td>
</tr>
<tr>
<td>Continue</td>
<td>The installer continues the installation from the current point.</td>
</tr>
<tr>
<td>View Log</td>
<td>Access installation log files.</td>
</tr>
</tbody>
</table>

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 the Installer [page 41].

2. Make sure that the installation media are still available.
   For more information, see Preparing the Installation Media [page 28].

   → 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.

3. Make sure that the installation media are still available.
   For more information, see Preparing the Installation Media [page 28].

   → 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.

4. Restart the installer from the installation media directory to which you unpacked the Software Provisioning Manager archive.
   Enter the following commands:

   CD DIR('<Path_To_Unpack_Directory>')
   CALL PGM(QP2TERM) PARM('./sapinst')

5. The installer is restarting.

   The installer now starts and waits for the connection with the SL Common GUI.
   You can find the URL you require to access the SL Common GUI at the bottom of the shell from which you are running the installer.

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

   i Note
   If the host specified by <hostname> cannot be reached due to a special network configuration, proceed as follows:
   1. Terminate the installer as described in Useful Information about the Installer [page 45].
   2. Restart the installer from the command line with the SAPINST_GUI_HOSTNAME=<hostname> property.
   You can use a fully-qualified host name.
Open the URL on a device with a supported web browser (see Prerequisites for Running the Installer [page 39]).

⚠️ 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 installer.
   Proceed as follows to get the certificate fingerprint or thumbprint from the server certificate printed in the installer console:
   1. Go to the sapinst_exe.xxxxxxx.xxxx directory in the temporary directory to which the installer has extracted itself:
      /home/<Installation_User>/sapinst
   2. In the sapinst_exe.xxxxxxx.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 Common GUI opens in the browser by displaying the Welcome screen.

6. 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.

7. On the What do you want to do? screen, decide between the following alternatives and continue with Next:
<table>
<thead>
<tr>
<th>Alternative</th>
<th>Behavior</th>
</tr>
</thead>
</table>
| Perform a new run           | The installer does not continue the interrupted installation option. Instead, it moves the content of the old installer directory and all installer-specific files to a backup directory. Afterwards, you can no longer continue the old option. The following naming convention is used for the backup directory: \( \text{log}_{<\text{Day}>}_{<\text{Month}>}_{<\text{Year}>}_{<\text{Hours}>}_{<\text{Minutes}>}_{<\text{Seconds}>} \)

**Example**

\( \text{log}_{01}_{\text{Oct}}_{2016}_{13}_{47}_{56} \)

**Note**

All actions taken by the installation before you stopped it (such as creating directories or users) are not revoked.

**Caution**

The installer 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.

| Continue with the existing one | The installer continues the interrupted installation from the point of failure.                                                                                           |

### 4.4.3 Troubleshooting with the Installer

This section tells you how to proceed when errors occur while the installer is running.

**Context**

If an error occurs, the installer:

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

**Procedure**

1. Check SAP Note [1548438](https://example.com/) for known installer 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 installer 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 installer 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 which you used to start the installer.

For more information, see Useful Information about the Installer [page 45].

- To check the log and trace files of the installer GUI for errors, go to the directory /home/<Installation_User>/.sapinst/
- Then continue by choosing Retry.
- If required, abort the installer by choosing Cancel in the tool menu and restart the installer. For more information, see Interrupted Processing of the Installer [page 47].

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.

### 4.4.4 Using the Step State Editor (SAP Support Experts Only)

This section describes how to use the Step State Editor available in the installer.

**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 installer meets the requirements listed in Prerequisites for Running the Installer [page 39].

### Procedure

1. Start the installer from the command line as described in Running the Installer [page 41] with the additional command line parameter SAPINST_SET_STEPSTATE=true
2. Follow the instructions on the installer 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 installer during the Execute Service phase. By default all steps are in an initial state. Underneath each step, you see the assigned installer 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 installer to pause.
○ Mark the checkbox in front of the Skip option of the steps which you want the installer 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 installer 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 installer.

5. Continue until you have run through all the steps of the Execute Service phase of the installer.
5 Unattended Installation

The unattended installation and uninstallation mechanism, described in this section, is available per software provisioning manager 1.0 SP7. This new unattended installation mechanism is “properties file” based.

This mechanism can be used to run unattended installations (or uninstallations) of Diagnostics Agents on one, some, or a larger number of hosts, while providing the same or similar installation parameter sets for those installations. You specify the input parameters for the installation scenario in a properties file that you can then use for the unattended installations. Unattended installations are sometimes referred to as silent or dark mode installations.

5.1 Unattended Installation Checklist

Unattended Installation

In order to execute an unattended installation you have to perform the following steps:

1. Follow the instructions in the Planning Checklist [page 13].
2. Follow the instructions in the Preparation Checklist [page 23].
3. Execute Preparing an Unattended Installation [page 54].
4. Execute Running an Unattended Installation [page 55].
5. Follow the instructions in the Post-Installation Checklist [page 63].

Unattended Uninstallation

In order to execute an unattended uninstallation you have to perform the following steps:

1. Follow the instructions in the Preparation Checklist [page 23].
2. Execute Preparing an Unattended Installation [page 54].
3. Execute Running an Unattended Uninstallation [page 59].

5.2 Unattended Archive-Based Diagnostics Agent Installation

Refer to SAP Note 2253383 if you want to perform an unattended archive-based Diagnostics Agent installation.
5.3 Preparing an Unattended Installation

The described preparation steps must be executed on each host on which you want to run the installer in unattended mode.

Create an Installation Directory

Create an installation directory `<Installation_Directory>`.

**Example**

Create an `<Installation_Directory>` like `/unattended/install`.

**Caution**

Make sure that:

1. A user group `sapinst` is available.
   - If a user profile `sapinst` already exists, you have nothing to do. If no user profile `sapinst` exists, enter the following command:
     ```
     CRTUSRPRF USRPRF(SAPINST) GID(*GEN)
     ```
2. `sapinst` is assigned as a user group to your `<Installation_User>`:
   ```
   CHGUSRPRF USRPRF(<Installation_User>) GRPPRF(SAPINST)
   ```
3. The `<Installation_Directory>` is owned by user group `sapinst` and has at least permissions 775.
   - Change permissions: `CALL PGM(QP2TERM) PARM('/QOpenSys/usr/bin/chmod' '-R' '775' '<Installation_Directory>')` (press F3 to exit the session)
   - Change user group: `CALL PGM(QP2TERM) PARM('/QOpenSys/usr/bin/chgrp' '-R' 'sapinst' '<Installation_Directory>')` (press F3 to exit the session)
4. The installer executable must at least have permissions 775.
   - Change permissions: `CALL PGM(QP2TERM) PARM('/QOpenSys/usr/bin/chmod' '775' '<Installer_Media_Directory>/sapinst')` (press F3 to exit the session)

Create a start_dir.cd File

1. In the `<Installation_Directory>` create a file named `start_dir.cd`
2. In the file `start_dir.cd` you must specify the paths of the `<Installer_Media_Directory>` and the `<Kernel_Media_Directory>` that must be used for the unattended installation. For an unattended uninstallation the `<Kernel_Media_Directory>` does not have to be specified.

**Caution**

In the file `start_dir.cd` a separate line is required for each media directory path.
The media directory paths that must be added to the `start_dir.cd` file, are the paths that you get when browsing until the main `LABEL.ASC` file, in the respective media directories.

## 5.4 Running an Unattended Installation

### Creating a Properties File

   In this `<Installation_Properties_File>` you will specify the properties (name/value pairs) for the unattended installation.

2. The Diagnostics Agent related properties available for an unattended installation are:

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Parameter in Related Documentation Section</th>
<th>Property Value Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiagnosticsAgent.LogicalHostName</td>
<td>Host Name in General Installation Parameters [page 17]</td>
<td>Optional property. See mentioned section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If this property is omitted, the Diagnostics Agent will be installed on the physical host. This is recommended when using the Agents On-the-fly feature.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If this property is omitted, the Destination ASP will default to 1.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SID</td>
<td>Diagnostics Agent System ID (DASID) in Diagnostics Agent System ID and Instance Number [page 18]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.InstanceNumber</td>
<td>Instance Number of the Diagnostics Agent in Diagnostics Agent System ID and Instance Number [page 18]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.dasidAdmPassword</td>
<td>SAP System Administrator: dasid&lt;adm&gt;, including the password guidance, in Operating System Users [page 19]</td>
<td>See mentioned section.</td>
</tr>
</tbody>
</table>
### Property Name | Parameter in Related Documentation | Property Value Guidance
--- | --- | ---
hostAgent.sapAdmPassword | **SAP System Administrator:** sapadm, including the password guidance, in Operating System Users [page 19] | Optional property. See mentioned section. If an SAP Host Agent is not yet installed on the host, this property must be specified. If an SAP Host Agent is already installed on the host, this property must be omitted.

3. **The SLD related properties available for an unattended installation are:**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Parameter in Related Documentation</th>
<th>Property Value Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiagnosticsAgent.SLD.Connection</td>
<td><strong>SLD Destination for the Diagnostics Agent</strong> in Diagnostics Agent SLD Parameters [page 19]</td>
<td>Specify sld or no. If you specify sld, the Diagnostics Agent will be connected to the specified System Landscape Directory. If you specify no, the values further below in this table will be ignored and can be omitted.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SLD.HostName</td>
<td>SLD HTTP Host or SLD HTTPS HOST in Diagnostics Agent SLD Parameters [page 19]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SLD.PortNumber</td>
<td>SLD HTTP Host or SLD HTTPS HOST in Diagnostics Agent SLD Parameters [page 19]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SLD.UserName</td>
<td>User (SLD Data Supplier role) in Diagnostics Agent SLD Parameters [page 19]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SLD.Password</td>
<td>Password of user (SLD Data Supplier role) in Diagnostics Agent SLD Parameters [page 19]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SLD.UseHTTPS</td>
<td>Use HTTPS in Diagnostics Agent SLD Parameters [page 19]</td>
<td>Specify true or false.</td>
</tr>
</tbody>
</table>
4. The SAP Solution Manager related properties available for an unattended installation are:

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Parameter in Related Documentation Section</th>
<th>Property Value Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiagnosticsAgent.SolMan.Connection</td>
<td>Connection of the Diagnostics Agent to SAP Solution Manager in SAP Solution Manager Connectivity Parameters [page 21]</td>
<td>Specify solman or none. If you specify solman, the Diagnostics Agent will be connected to the specified SAP Solution Manager system. If you specify none, the values further below in this table, and the SAP Router related ones in next table will be ignored and can be omitted.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SolMan.UseSSL</td>
<td>Use SSL connectivity in SAP Solution Manager Connectivity Parameters [page 21]</td>
<td>Specify true or false.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SolMan.HostName</td>
<td>Host (FQN) in SAP Solution Manager Connectivity Parameters [page 21]</td>
<td>See mentioned section.</td>
</tr>
<tr>
<td>DiagnosticsAgent.SolMan.UserName</td>
<td>User (Administrator role) and Password in SAP Solution Manager Connectivity Parameters [page 21]</td>
<td>See mentioned section.</td>
</tr>
</tbody>
</table>

5. The SAP Router related properties available for an unattended installation are:

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Parameter in Related Documentation Section</th>
<th>Property Value Guidance</th>
</tr>
</thead>
</table>

6. Specify the properties that you require for the installation in your `<Installation_Properties_File>`. 
Caution

If you do not want to specify a specific property, the respective property should not be part of the property file at all. Just leaving the property value empty will not have the same effect as not specifying a property at all.

Recommendation

Unattended installations/uninstallations should be run with just the properties documented in this guide. You can generate an inifile.params file to fill the properties file you want to use for the unattended installation/uninstallation, by running the installer with command line parameter SAPINST_STOP_AFTER_DIALOG_PHASE=true. This causes the installer to exit after all parameters have been provided. You can find the file inifile.params under the path sapinst_instdir/GENERIC/SMD/INST. This path is located either in the directory defined by the environment variable TEMP or in %ProgramFiles%. Only specify the parameters you really want to set in your properties file. The generated inifile.params file also holds des24 encrypted values of all provided passwords, that can also be used in your properties file.

Example

DiagnosticsAgent.DestinationASP=1
DiagnosticsAgent.SID=DAA
DiagnosticsAgent.InstanceNumber=98
DiagnosticsAgent.dasidAdmPassword=Abcdef123456
hostAgent.sapAdmPassword=Klmnop123456
DiagnosticsAgent.SolMan.Connection=solman
DiagnosticsAgent.SolMan.UseSSL=true
DiagnosticsAgent.SolManHostException=host.domain.corp
DiagnosticsAgent.SolMan.PortNumber=44401
DiagnosticsAgent.SolMan.UserName=SMD_AGT
DiagnosticsAgent.SolMan.Password=Uvwxyz123456

Further Clarifications

1. You have now prepared your <Installation_Directory> and your <Installation_Properties_File>.
2. Before you continue, we recommend that you create a backup of your <Installation_Directory>.
3. To run the unattended installation, you will start the installer with several command line parameters. Executing the following command will give you an overview of the all command line parameters that are available:

```plaintext
CALL PGM(QP2TERM) PARM('"<Installer_Media_Directory>/sapinst' '-p')
```
4. The unattended installation requires you to specify a `<Product_ID>`. The specified `<Product_ID>` determines the installation option that will be executed and it defines which kernel versions will be accepted during the installation. Use the below table to select the `<Product_ID>` for your installation.

<table>
<thead>
<tr>
<th>Installation Option</th>
<th>Kernel Version</th>
<th><code>&lt;Product_ID&gt;</code> Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install - Diagnostics Agent</td>
<td>For details refer to Kernel for the Diagnostics Agent [page 15].</td>
<td>NW_DiagnosticsAgent:GENERIC.IND.PD</td>
</tr>
</tbody>
</table>

Running the Installation

⚠️ Caution

The `<Installation_Directory>` must not contain any leftovers from previous unattended installations or uninstallations. It must not contain more files than the ones mentioned in this section:

- `<Installation_Properties_File>`
- `<Uninstallation_Properties_File>`
- `start_dir.cd`

Now start the unattended installation in the following way:

1. `CD DIR('`<Installation_Directory>`')`
2. `CALL PGM(QP2TERM) PARM('`<Installer_Media_Directory>`/sapinst'
   'SAPINST_INPUT_PARAMETERS_URL=installation.properties'
   'SAPINST_EXECUTE_PRODUCT_ID=<Product_ID>' 'SAPINST_SKIP_DIALOGS=true' '-nogui'
   '-noguiserver')`

The Diagnostics Agent will now be installed in unattended mode. The installation duration will typically be between 5 and 15 minutes. You may check the result by opening the `sapinst_dev.log` file in the `<Installation_Directory>`.

The installation was successful if the file `installationSuccessfullyFinished.dat` has been generated.

5.5 Running an Unattended Uninstallation

Creating a Properties File


In this `<Uninstallation_Properties_File>` you will specify the properties (name/value pairs) for the unattended uninstallation.
2. The Diagnostics Agent related properties available for an unattended uninstallation are:

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Mandatory</th>
<th>Default Value</th>
<th>Property Value Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW_readProfileDir.profileDir</td>
<td>Yes</td>
<td></td>
<td>Location of the system profile directory for the Diagnostics Agent that you want to run an unattended uninstallation for, in the following format (applies also to Windows operating systems): /usr/sap/&lt;DASID&gt;/SYS/profile</td>
</tr>
<tr>
<td>NW_System_Uninstall.completeSystem</td>
<td>No</td>
<td>true</td>
<td>Specify true if you want to uninstall the complete Diagnostics Agent, including all the instances. If you specify false, you must specify the numbers of the instances that must be deleted in property NW_System_Uninstall.instanceNumberList.</td>
</tr>
<tr>
<td>NW_System_Uninstall.instanceNumberList</td>
<td>No</td>
<td></td>
<td>Comma separated list of the numbers of the instances that must be deleted, when NW_System_Uninstall.completeSystem equals false.</td>
</tr>
<tr>
<td>NW_System_Uninstall.uninstallHostAgent</td>
<td>No</td>
<td>true</td>
<td>Indicate if the SAP Host Agent should be uninstalled. An SAP Host Agent will only be uninstalled if no other SAP Systems are available on the host any more.</td>
</tr>
<tr>
<td>NW_System_Uninstall.removeUsers</td>
<td>No</td>
<td>false</td>
<td>Indicate if the related Diagnostics Agent and SAP Host Agent specific operating system users should be deleted. Values specified for NW_System_Uninstall.completeSystem and NW_System_Uninstall.uninstallHostAgent are considered.</td>
</tr>
</tbody>
</table>

3. Specify the properties that you require for the uninstallation in your `<Uninstallation_Properties_File>`.

⚠️ Caution

If you do not want to specify a specific property, the respective property should not be part of the property file at all. Just leaving the property value empty will not have the same effect as not specifying a property at all.
Recommendation
Unattended installations/uninstallations can usually be run with just the properties documented in this guide. You can generate an `inifile.params` file to fill the properties file you want to use for the unattended installation/uninstallation, by running the installer with command line parameter `SAPINST_STOP_AFTER_DIALOG_PHASE=true`. This causes the installer to exit after all parameters have been provided. You can find the file `inifile.params` under the path `sapinst_instdir/GENERIC/SMD/INST`. This path is located either in the directory defined by the environment variable `TEMP` or in `%ProgramFiles%`. It is usually sufficient to only specify the parameters you really want to set in your properties file. The generated `inifile.params` file also holds des24 encrypted values of all provided passwords, that can also be used in your properties file.

Example
This example shows how to uninstall a Diagnostics Agent and the SAP Host Agent, and how to remove related operating system users.

```plaintext
NW_readProfileDir.profileDir=/usr/sap/DAA/SYS/profile
NW_System_Uninstall.completeSystem=true
NW_System_Uninstall.uninstallHostAgent=true
NW_System_Uninstall.removeUsers=true
```

Example
This example shows how to uninstall only the Diagnostics Agent instances 96 and 97, while keeping the SAP Host Agent, and keeping related operating system users.

```plaintext
NW_readProfileDir.profileDir=/usr/sap/DAA/SYS/profile
NW_System_Uninstall.completeSystem=false
NW_System_Uninstall.instanceNumberList=96,97
NW_System_Uninstall.uninstallHostAgent=false
NW_System_Uninstall.removeUsers=false
```

Further Clarifications
1. You have now prepared your `<Installation_Directory>` and your `<Uninstallation_Properties_File>.
2. Before you continue, we recommend that you create a backup of your `<Installation_Directory>`.

Running the Uninstallation
## Caution

The `<Installation_Directory>` must not contain any leftovers from previous unattended installations or uninstallations. It must not contain more files than the ones mentioned in this section:

- `<Installation_Properties_File>`
- `<Uninstallation_Properties_File>`
- `start_dir.cd`

Now start the unattended uninstallation in the following way:

1. `CD DIR('`<Installation_Directory>`')`
2. `CALL PGM(QP2TERM) PARM('`<Installer_Media_Directory>`/sapinst'
   'SAPINST_INPUT_PARAMETERS_URL=uninstallation.properties'
   'SAPINST_EXECUTE_PRODUCT_ID=NW_Uninstall:GENERIC.IND.PD'
   'SAPINST_SKIP_DIALOGS=true')`

The Diagnostics Agent will now be uninstalled in unattended mode. The uninstallation duration will typically be between 5 and 10 minutes. You may check the result by opening the `sapinst_dev.log` file in the `<Installation_Directory>`.

The uninstallation was successful if the file `installationSuccesfullyFinished.dat` has been generated.

### 5.6 Troubleshooting an Unattended Installation

To not execute the installation, but just verify the provided command line parameters and installation or uninstallation properties, the command line parameter `SAPINST_STOP_AFTER_DIALOG_PHASE=true` can be used. For example:

```plaintext
CALL PGM(QP2TERM) PARM('`<Installer_Media_Directory>`/sapinst'
   'SAPINST_INPUT_PARAMETERS_URL=installation.properties'
   'SAPINST_EXECUTE_PRODUCT_ID=<Product_ID>'
   'SAPINST_SKIP_DIALOGS=true'
   'SAPINST_STOP_AFTER_DIALOG_PHASE=true')
```
6  Post-Installation

6.1  Post-Installation Checklist

After the installation of the Diagnostics Agent and before the Diagnostics Agent goes into production, you have to perform the following steps:

1. Check if you need to set the Operating System Limits for the Diagnostics Agent [page 80].
2. Ensure User Security [page 63].
3. If not done yet, you may want to remove the Installer Installation Files [page 65].

If you want to change Diagnostics Agent configuration parameters like the connection type, connection credentials, the SAP Solution Manager system the Diagnostics Agent is connected to, see Using the SMD Setup Script [page 67].

6.2  Ensuring User Security

You need to ensure the security of the users that the installer created during the installation.

→ 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.

For the users listed below, take the precautions described in the relevant SAP security guide.

For the security guide location and further security requirements refer to the Post-Installation Guidance in section Complying with SAP Solution Manager Security Guidelines [page 64].

To change passwords at the operating system level, use the command CHGPWD or CHGUSRPRF.
Operating System and Database Users

After the installation, operating system users for the Diagnostics Agent and SAP Host Agent are available as listed in the following table:

**Recommendation**

For security reasons, we recommend that you remove the group SAPINST from the operating system users 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 installer had completed.

<table>
<thead>
<tr>
<th>User Type</th>
<th>User</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system user</td>
<td>&lt;dasid&gt;adm</td>
<td>Administrator for the Diagnostics Agent.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Type</th>
<th>User</th>
<th>Comment</th>
</tr>
</thead>
</table>
| Operating system user   | sapadm | SAP Host Agent administrator is the user for central monitoring services.  
You do not need to change the password of this user after the installation.  
This user is for administration purposes only.  
On IBM i, you are not able to log on as sapadm as this user profile does not allow it. |

6.3 Complying with SAP Solution Manager Security Guidelines

Pre-Installation Guidance

Before the installation of a Diagnostics Agent, and before connecting a Diagnostics Agent to an SAP Solution Manager system, the SAP Solution Manager system must have been properly configured. Information on required administrator users for the SAP Solution Manager ABAP and Java systems, Secure Socket Layer (SSL) configuration, required communication channels and destinations, involved technical users, and much more, can be found in the relevant SAP Solution Manager Security Guide.
Post-Installation Guidance

After the installation of a Diagnostics Agent and before a Diagnostics Agent goes into production, it must be ensured that your respective end-to-end scenario complies with the guidance provided in the relevant SAP Solution Manager Security Guide.

Security Guide Location

SAP Solution Manager Security Guides can be found at: https://help.sap.com/solutionmanager

6.4 Removing the Installer Installation Files

You use this procedure to gain disk space after the installation by deleting the installer.

On the IBM i host, you should remove the installation directory, the temporary installer files, and the copied installation media.

⚠️ Caution

You might want to disconnect from the share TMPSAP and remove it from the IBM i. However, if you want to start tools like the SAP NetWeaver AS for Java EE ConfigTool from the share TMPSAP on your Windows PC, then you should keep the share.

⚠️ Caution

Do not use this procedure until all instances of the SAP system on the IBM i host have been installed.

Prerequisites

- You have completed the SAP system installation.
- The SAP system is up and running.

Procedure

⚠️ Caution

Only delete the log files if you are sure that you do not need them again. Do not delete log files other than those in the paths given here.
On IBM i:

1. If you want to remove the installer installation directory, enter the following command:
   ```bash
   RMVDIR DIR(''<Installation_Directory>'') SUBTREE(*ALL)
   ```

2. Parallel to the installer in the installation directory a library `SAP<SAPSID>` is created containing the ILE load tools for the database. When the installer installation directory is deleted, you can also remove this library using the following command:
   ```bash
   DLTLIB LIB(SAP<SAPSID>LOAD)
   ```

3. To remove temporary SAPINST files, enter the following command:
   ```bash
   RMVDIR DIR('/tmp/sapinst_exe*') SUBTREE(*ALL)
   ```

   **iNote**
   
   If you have chosen one of the three variables: TEMP, TMP, or TMPDIR for your temporary directory in section **Useful Information about the Installer** [page 45], you must use this temporary directory instead of '/tmp'.

4. To remove the downloaded and/or copied installation media, enter the following command:
   ```bash
   RMVDIR DIR('/tmp/<DASID>') SUBTREE(*ALL)
   ```

To disconnect your mapped drive from the IBM i, enter the following command on your Windows PC:

```bash
net use <Mapped_Drive>: /DELETE
```
7 Additional Information

7.1 Installing the Diagnostics Agent Optionally with the SAP System

Per software provisioning manager 1.0 SP10, the Diagnostics Agent can no longer be automatically installed during the installation process of AS ABAP and Java systems, and AS ABAP and Java based systems.

It is recommended to install the Diagnostics Agent separately and prior to the installation of an SAP system. For more information refer to the Diagnostics Agent Installation Strategy [SAP Note 1365123](#), [SAP Note 1833501](#), [SAP Note 1858920](#), and the latest Diagnostics Agent Installation and Setup Guide.

7.2 Using the SMD Setup Script

The `smdsetup` script can be used to update configuration parameters for the Diagnostics Agent.

More details about these configuration parameters are provided in the sections SAP Solution Manager Connectivity Parameters [page 21] and Diagnostics Agent SLD Parameters [page 19].

⚠️ Caution

The `smdsetup` script and the related Java implementation classes are automatically patched as soon as the Diagnostics Agent connects to the SAP Solution Manager system. The features available via the `smdsetup` script after the installation and a successful connection of the Diagnostics Agent to the SAP Solution Manager system are defined by the version of the SAP Solution Manager system.

This section documents a subset of the available features and illustrates how they may be used. The “Help Information” section below explains how to get `smdsetup` script help information for your Diagnostics Agent installation.

Script Location

The `smdsetup` script can be found in following directory:

- /usr/sap/<DASID>/SMDA<Instance_Number>/script
Restarting the Diagnostics Agent

The `smdsetup` script will modify one or more of the following configuration files:

- runtime.properties
- secstore.properties
- The Java KeyStore that the Diagnostics Agent uses for internal purposes.

The Diagnostics Agent will detect that these configuration files were changed and reload the modified files. A restart of the Diagnostics Agent is not required, unless it is explicitly stated in the below documentation, in the `smdsetup` script Help Information output (see below), or in the `smdsetup` script output.

Help Information

To determine the actions supported by the `smdsetup` script for your Diagnostics Agent installation, execute `smdsetup.sh` without any parameters.

Below you find a possible output of the `smdsetup` script.

### Example

Help Information

Script which allows to update some Diagnostics Agent configuration.

`smdsetup <action> <parameters>`

List of actions:

- `smdsetup secstorej2ee`
  user: `"<value>"` pwd: `"<value>"`
- `smdsetup secstoresld`
  user: `"<value>"` pwd: `"<value>"`
- `smdsetup sldconf`
  hostname: `"<fqdn>"` port: `"<HTTP port>"`
  [optional user: `"<value>"` pwd: `"<value>"`]
- `smdsetup managingconf`
  hostname: `"sapms://<fqdn>"` port: `"<MS HTTP port>"`
  [optional user: `"<value>"` pwd: `"<value>"` servername: `"<value>"`]
- `smdsetup managingconf`
  hostname: `"<fqdn>"` port: `"<P4 port>"`
  [optional user: `"<value>"` pwd: `"<value>"` servername: `"<value>"`]

Script Actions

The below table summarizes the `smdsetup` script actions.
### Action managingconf

This action changes the connection settings for the SAP Solution Manager system (also referred to as Managing System) to which the Diagnostics Agent connects.

#### Caution

For productive usage the Diagnostics Agent must be connected to the Java SCS Message Server of the SAP Solution Manager system. The connection via a Java EE dispatcher node should only be used for testing and debugging purposes.

- Connect the Diagnostics Agent via a P4 or P4 SSL connection via the [Java SCS Message Server HTTP Port](http://example.com) and [Java SCS Message Server HTTPS Port](http://example.com), see section SAP Solution Manager Connectivity Parameters [page 21]:
  
  ```
smdsetup managingconf hostname:"sapms://host.domain.corp" port:"8101"
  ```

---

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>managingconf</td>
<td>This action changes the connection settings for the SAP Solution Manager system (also referred to as Managing System) to which the Diagnostics Agent connects.</td>
</tr>
<tr>
<td>sldconf</td>
<td>This action changes the connection settings for the SLD system where the agent will register.</td>
</tr>
<tr>
<td>secstorej2ee</td>
<td>This action changes the user credentials used to connect the agent to the configured SAP Solution Manager system.</td>
</tr>
<tr>
<td>secstoresld</td>
<td>This action changes the user credentials used to register the agent with the configured SLD system.</td>
</tr>
<tr>
<td>changeservername</td>
<td>This action changes the server name attribute of the agent.</td>
</tr>
<tr>
<td>supportlogs</td>
<td>This action creates a ZIP-file holding Diagnostics Agent related configuration files and log files. The ZIP-file can be provided to SAP when creating a support ticket.</td>
</tr>
<tr>
<td>addsaprouter</td>
<td>See section SAP Router [page 84] for background information.</td>
</tr>
<tr>
<td>saprouterpass</td>
<td></td>
</tr>
<tr>
<td>removesaprouter</td>
<td></td>
</tr>
</tbody>
</table>
Optionally, you can specify corresponding user/password information to update the secstore.properties file of the Diagnostics Agent:
```
smdsetup managingconf hostname:"sapms://host.domain.corp" port:"8101"
user:"SMD_AGT" pwd:"xxxxxx"
```

- Connect the Diagnostics Agent via a direct P4 or P4 SSL connection via a Java EE dispatcher node:
  ```
  smdsetup managingconf hostname:"host.domain.corp" port:"53004"
  ```
- Optionally, you can specify corresponding user/password information to update the secstore.properties file of the Diagnostics Agent:
  ```
  smdsetup managingconf hostname:"host.domain.corp" port:"53004" user:"SMD_AGT"
  pwsd:"xxxxxx"
  ```

The Dispatcher P4 Port is determined as follows: 5<xx>04, where <xx> is the instance number of the SAP Solution Manager Java central instance.
The Dispatcher P4 SSL Port is determined as follows: 5<xx>06, where <xx> is the instance number of the SAP Solution Manager Java central instance.

**Action sldconf**

This action changes the connection settings for the SLD system where the agent will register.

- Register the agent with the SLD system:
  ```
  smdsetup sldconf hostname:"sldhost.domain.corp" port:"50000"
  ```
- Optionally, you can specify corresponding SLD user/password information on the command line to update the secstore.properties file of the agent:
  ```
  smdsetup sldconf hostname:"sldhost.domain.corp" port:"50000" user:"SLDDSUSER"
  pwsd:"xxxxxx"
  ```

**Action secstorej2ee**

This action changes the user credentials used to connect the agent to the configured SAP Solution Manager system.

- Updates the secstore.properties file of the agent:
  ```
  smdsetup secstorej2ee user:"SMD_AGT" pwd:"xxxxxx"
  ```

**Action secstoresld**

This action changes the user credentials used to register the agent with the configured SLD system.

- Updates the secstore.properties file of the agent:
  ```
  smdsetup secstoresld user:"SLDDSUSER" pwd:"xxxxxx"
  ```
**Action changeservername**

This action changes the server name attribute of the agent.

- Updates the runtime.properties file of the agent:
  
  smdsetup changeservername servername:"myservername"

**Action supportlogs**

This action creates a ZIP-file holding Diagnostics Agent related configuration files and log files. The ZIP-file can be provided to SAP when creating a support ticket.

- Execute: smdsetup supportlogs
  
  To create:
  
  /usr/sap/<DASID>/<Instance_Number>/SMDAgent/supportLogs_<Timestamp>.zip

The generated ZIP-file will (at least) contain the following:

- Diagnostics Agent check result file:
  
  /usr/sap/<DASID>/<Instance_Number>/SMDAgent/log/AgentSupportToolReport.log

- Diagnostics Agent log files
- Diagnostics Agent profile
- Installer log files
- Content of directory /usr/sap/<DASID>/<Instance_Number>/work
- Relevant files from directory /usr/sap/<DASID>/<Instance_Number>/SMDAgent
- Relevant files from directory /usr/sap/<DASID>/<Instance_Number>/SMDAgent/configuration

The Diagnostics Agent check that is performed will (at least) check for following:

- JDK version
- JVM parameters
- Host name resolution
- TCP port
- P4 protocol
- Java SCS Message Server connectivity
7.3 Changing the Log Level

The main Diagnostics Agent log files are stored in folder `usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent/log` and organized as follows:

<table>
<thead>
<tr>
<th>Filename</th>
<th>Default Settings</th>
<th>Default Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMDSYSTEM.LOG</td>
<td>10 files of 1 MB</td>
<td>INFO</td>
<td>This file reports all information about agent framework (like connection to SAP Solution Manager system, SLD report, agelets loading and patch sequence.</td>
</tr>
<tr>
<td>SMDSYSTEM.LOG</td>
<td>10 files of 1 MB</td>
<td>WARNING</td>
<td>This file reports all information about the agelets used by RCA applications, Setup Wizards and Introscope setup.</td>
</tr>
<tr>
<td>SMDAGENTAPPLICATION.LOG</td>
<td>10 files of 1 MB</td>
<td>NONE</td>
<td>This file reports all information about agent connections with the SAP Solution Manager system.</td>
</tr>
</tbody>
</table>

In case the Diagnostics Agent is currently connected to the SAP Solution Manager system, the procedure to change the log level of these log location is as follows:

1. Go to the Agent Administration UI
2. Select the tab Agent Log viewer
3. Select the relevant agent from dropdown list
4. Configure the expected level

In case the Diagnostics Agent is not connected to the SAP Solution Manager system, the procedure to change the log level is as follows:

1. At OS level, login as user `<dasid>adm`
2. Stop the agent
3. Go to folder `/usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent/configuration`
4. Open file `log-configuration.xml`
5. Adapt the level for the respective filenames and indicated lines, according the below given table
   ○ Attribute: effective-severity
   ○ ALL, DEBUG, INFO, WARNING, ERROR, NONE
6. Save the file and restart the agent
7.4 Starting and Stopping SAP System Instances Using the SAP Management Console

You can start and stop all instances of your SAP system using the SAP Management Console (SAP MC) except the database instance.

Prerequisites

- Make sure that the host names defined in the DNS server match the names of the SAP system instance hosts. In particular, keep in mind that host names are case-sensitive. For example, if the names of the SAP system instance hosts are in upper case, but the same host names are defined in the DNS server in lower case, starting and stopping the system does not work.
- If you want to start or restart remote systems or instances, make sure that you have registered them in the SAP Management Console (SAP MC). You do not need to register SAP systems or instances installed on the local host, because the SAP MC displays them automatically.
- The SAP Host Agent is installed on the host where the application server of the SAP system or instance runs.
- You have installed Java Runtime Environment (JRE) 5.0 or higher.
- Your Web browser supports Java.
- Your Web browser’s Java plug-in is installed and enabled to run scripting of Java applets.
Context

→ Recommendation

If you experience any issues when starting or using the SAP MC, refer to SAP Note 1153713.

- For more information about handling the SAP MC, see the SAP Library at:

<table>
<thead>
<tr>
<th>SAP Release and SAP Library Quick Link</th>
<th>SAP Library Path (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP NetWeaver 7.3</td>
<td>Application Help → Function-Oriented View: English → Solution Life Cycle Management → SAP Management Console</td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw73">http://help.sap.com/nw73</a></td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver 7.3 including Enhancement Package 1</td>
<td></td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw731">http://help.sap.com/nw731</a></td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver 7.4</td>
<td></td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw74">http://help.sap.com/nw74</a></td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver AS for ABAP 7.52</td>
<td></td>
</tr>
<tr>
<td><a href="https://help.sap.com/nw752abap">https://help.sap.com/nw752abap</a></td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver 7.5</td>
<td></td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw75">http://help.sap.com/nw75</a></td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver Application Server for ABAP 7.51 innovation package</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td><a href="https://help.sap.com/nw752abap">https://help.sap.com/nw752abap</a></td>
<td></td>
</tr>
</tbody>
</table>

- If your newly installed SAP system is part of a heterogeneous SAP system landscape comprising systems or instances on Windows platforms, you can also start and stop it from a Windows system or instance using the SAP Microsoft Management Console (SAP MMC).
For more information about handling the SAP MMC, see the SAP Library at:

<table>
<thead>
<tr>
<th>Release SAP Library Quick Link</th>
<th>SAP Library Path (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ SAP NetWeaver 7.3</td>
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</tr>
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<td><a href="http://help.sap.com/nw73">http://help.sap.com/nw73</a></td>
<td>Function-Oriented View: English</td>
</tr>
<tr>
<td>○ SAP NetWeaver 7.3 including Enhancement Package 1</td>
<td>Solution Life Cycle Management</td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw731">http://help.sap.com/nw731</a></td>
<td>SAP Microsoft</td>
</tr>
<tr>
<td>○ SAP NetWeaver 7.4</td>
<td>Management Console: Windows</td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw74">http://help.sap.com/nw74</a></td>
<td></td>
</tr>
<tr>
<td>○ SAP NetWeaver 7.5</td>
<td></td>
</tr>
<tr>
<td><a href="http://help.sap.com/nw75">http://help.sap.com/nw75</a></td>
<td></td>
</tr>
<tr>
<td>○ SAP NetWeaver Application Server for ABAP 7.51 innovation package</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td><a href="https://help.sap.com/nw752abap">https://help.sap.com/nw752abap</a></td>
<td></td>
</tr>
</tbody>
</table>

### Procedure

- **Starting the Web-Based SAP Management Console**
  1. Start a Web browser and enter the following URL:
     
     http://<Host_Name>:5<Instance_Number>13

    **Example**

    If the instance number is 53 and the host name is saphost06, you enter the following URL:

    http://saphost06:55313

    This starts the SAP MC Java applet.

    **i Note**

    If your browser displays a security warning message, choose the option that indicates that you trust the applet.

    2. Choose **Start**.

    The SAP Management Console (SAP MC) appears.

    By default, the instances installed on the host you have connected to are already added in the SAP MC.

    **i Note**

    If the instances have not been added or if you want to change the configuration to display systems and instances on other hosts, you have to register your system manually. This is described in *Registering Systems and Instances in the SAP Management Console* below.

- **Starting SAP Systems or Instances**
Similarly, you can start or restart all SAP systems and individual instances registered in the SAP MC.

1. In the navigation pane, open the tree structure and navigate to the system node that you want to start.
2. Select the system or instance and choose Start from the context menu.
3. In the Start SAP System(s) dialog box, choose the required options.
4. Choose OK.

The SAP MC starts the specified system or system instances.

\[\text{Note}\]

The system might prompt you for the SAP system administrator credentials. To complete the operation, you require administration permissions.

Log in as user <dasid>adm.

### Stopping SAP Systems or Instances

Similarly, you can stop all SAP systems and individual instances registered in the SAP MC.

1. Select the system or instance you want to stop and choose Stop from the context menu.
2. In the Stop SAP System(s) dialog box, choose the required options.
3. Choose OK.

The SAP MC stops the specified system or system instances.

\[\text{Note}\]

The system might prompt you for the SAP system administrator credentials. To complete the operation, you require administration permissions.

Log in as user <dasid>adm.

### 7.5 Starting and Stopping the Diagnostics Agent on IBM i

#### Use

An installed Diagnostics Agent in IBM i, is managed as any other SAP system.

You can start and stop the Diagnostics Agent using the commands STARTSAP and STOPSAP.

\[\text{Note}\]

You can only start or stop the Diagnostics Agent separately. It is not started or stopped automatically with the SAP system.

You can also use the SAP Management Console (SAP MC) to start or stop the Diagnostics Agent. For more information, see Starting and Stopping SAP System Instances Using the SAP Management Console [page 73].

In addition, you can use the PASE program sapcontrol to start and stop the Diagnostics Agent. For more information, see Starting and Stopping the Diagnostics Agent [page 77].
Procedure

Starting the Diagnostics Agent

To start the Diagnostics Agent, proceed as follows:

1. Log on to your system as user <dasid>adm.
2. To start the Diagnostics Agent, enter the following command and press F4:
   
   \[ \text{STARTSAP SID(<DASID>) INSTANCE(<Instance_Number>)} \]

   \[ \text{i Note} \]
   
   You can start all instances of the Diagnostics Agent at the same time by entering the following command:
   
   \[ \text{STARTSAP SID(<DASID>) INSTANCE(*ALL)} \]

Stopping the Diagnostics Agent

To stop the Diagnostics Agent, proceed as follows:

1. Log on to your system as user <dasid>adm.
2. To stop the Diagnostics Agent, enter the following command and press F4:
   
   \[ \text{STOPSAP SID(<DASID>) INSTANCE(<Instance_Number>)} \]

   \[ \text{i Note} \]
   
   You can stop all instances of the Diagnostics Agent at the same time by entering the following command:
   
   \[ \text{STOPSAP SID(<DASID>) INSTANCE(*ALL)} \]

7.6 Starting and Stopping the Diagnostics Agent

The Diagnostics Agent is started at the end of the installation. You can start and stop the Diagnostics Agent by running sapcontrol. The sapcontrol executable is located in the Diagnostics Agent instance specific exe directory:

- \[ /usr/sap/<DASID>/SMDA<Instance_Number>/exe \]

See also section SAP Directories [page 23].

\[ \text{i Note} \]

You can only start or stop the Diagnostics Agent separately. It is not started or stopped automatically with an SAP system that you start or stop.

You can also use the SAP Management Console (SAP MC) to start or stop the Diagnostics Agent. For more information see Starting and Stopping SAP System Instances Using the SAP Management Console [page 73].
### Procedure

You have logged on to the host as `<dasid>adm`.

- To start or stop the Diagnostics Agent system (all instances) with `sapcontrol`, enter one of the following commands:

  ```
  CALL PGM(QP2TERM) PARM('sapcontrol' '-prot PIPE' '-nr <Instance_Number>' '-function StartSystem')
  CALL PGM(QP2TERM) PARM('sapcontrol' '-prot PIPE' '-nr <Instance_Number>' '-function StopSystem')
  ```

- To start or stop a single Diagnostics Agent instance with `sapcontrol`, enter one of the following commands:

  ```
  CALL PGM(QP2TERM) PARM('sapcontrol' '-prot PIPE' '-nr <Instance_Number>' '-function Start')
  CALL PGM(QP2TERM) PARM('sapcontrol' '-prot PIPE' '-nr <Instance_Number>' '-function Stop')
  ```

### 7.7 Deleting an SAP System or Single Instances

This section describes how to delete a complete SAP system or single SAP instances with the **Uninstall** option of the installer.

### Prerequisites

- You have installed your SAP system with standard SAP tools according to the installation documentation.
- You are logged on as user `QSECOFR` or as a user that has the same authorizations as `QSECOFR`.

⚠️ **Caution**

Do not use the `<dasid>adm` user to delete the Diagnostics Agent.

- Make sure that the SAP system, or single instance, or standalone engine, or optional standalone unit to be deleted is down and that you are not logged on as one of the SAP system users. Also check that all SAP-related processes are stopped. If there is a lock on one of the SAP system objects, the uninstall fails.

⚠️ **Note**

You do not have to stop the SAP Host Agent. The SAP Host Agent is stopped automatically during the uninstall process.

- When starting the uninstall, make sure that there are no SAP system user sessions still open.
Context

Note the following when deleting an SAP system or single instances:

- During the uninstall process, all file systems and subdirectories of the selected SAP system or single instance are deleted. Before you start uninstalling, check that you have saved a copy of all files and directories that you want to keep to a secure location.
- The uninstall process is designed to remove as much as possible of the SAP system to be deleted. If an item cannot be removed, a message informs you that you have to remove this item manually. You can do this either at once or after the uninstall process has finished. As soon as you confirm the message, the uninstall process continues.

i Note

If uninstalling a system from an independent ASP after removal ensure that the following directories have been removed:

/IASP_Name>/usr/sap/<SAPSID> and /IASP_Name>/sapmnt/<SAPSID>

⚠️ Caution

Make sure to follow these recommendations related to uninstalling Diagnostics Agents:

- SCN Wiki article on "Diagnostics Agent Maintenance Procedures" (http://wiki.scn.sap.com/wiki/x/n4efFg).
- Section "Deleting a Diagnostics Agent Manually" in the UNIX/Linux specific SAP Note 1259982.

In case of problems see Components for Reporting an Incident [page 10].

Procedure

1. Start the installer as described in Running the Installer [page 41].
2. On the Welcome screen, choose:

   Generic Installation Options ➤ Diagnostics in SAP Solution Manager ➤ Uninstall - Diagnostics Agent

3. Follow the instructions on the installer screens to delete a complete SAP system or single instances.

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.

The following table provides information about deleting a complete system or single instances with the installer.
### Deletion of Diagnostics Agent

If you want to delete a Diagnostics Agent instance, enter the location of the profile directory of the Diagnostics Agent that you want to uninstall on the General SAP System Parameters screen:

```
/usr/sap/<DASID>/SYS/profile
```

#### Standalone SAP Host Agent

The SAP Host Agent is automatically uninstalled from a host together with the last remaining SAP system instance.

If you want to uninstall a standalone SAP Host Agent, deselect Profiles Available and select Uninstall Standalone SAP Host Agent on the General SAP System Parameters screen.

### 4. When you have finished, delete the relevant directory structure on the global host.

### 5. To remove obsolete SLD data, see the following document:

```
```

### 7.8 Setting Operating System Limits for the Diagnostics Agent

Certain operating systems limit operating system resources (such as the maximum number of open files) too strictly in the default settings. As a result, some SAP instance types (such as the Diagnostics Agent instances) do not work correctly. Therefore, the operating system settings must be adjusted.

Depending on how the Diagnostics Agent is started, limits have to be set either for the specific `<dasid>adm` user or in such a way that they also take effect for the `sapstartsrv` that was started either as a daemon at the time of the operating system boot process or using a web service client (`sapcontrol`, SAP MMC, SAP MC, and so on).

### Procedure

If `sapstartsrv` was started as `<dasid>adm` in a shell running commands like:

- `/usr/sap/sapservices`
- `sapstartsrv pf=<Instance_Profile>`
- `sapcontrol -nr <Instance_Number> -function StartService <DASID>`

you need to set the limits in the shell before doing so.

To do this, the individual platforms provide various mechanisms to set these globally or for individual processes or users.
To set the limits for all sapstartsrv daemons that were started via the sapinit script at operating system boot time, you can set the limits in `/usr/sap/sapservices`:

```plaintext
limit.descriptors=<Value>
limit.stacksize=<Value>
```

⚠️ Caution

Make sure to follow the instructions in SAP Note [1437105](https://support.sap.com).

To take the new limits into account you have to:

- Stop the Diagnostics Agent:
  ```plaintext
  sapcontrol -prot PIPE -nr <Instance_Number> -function StopWait 60 1
  ```
- Stop the sapstartsrv process:
  ```plaintext
  sapcontrol -prot PIPE -nr <Instance_Number> -function StopService
  ```
- Start the sapstartsrv process and the Diagnostics Agent:
  ```plaintext
  sapcontrol -prot PIPE -nr <Instance_Number> -function StartService <DASID>
  ```

Just restarting sapstartsrv is not enough since it would just send a restart request to sapstartsrv. Then the new sapstartsrv would inherit the limits of the currently running one.

7.9 Backup and Recovery

Once a Diagnostics Agent is installed and has been connected to an SAP Solution Manager system, it downloads latest binaries and configuration information from the SAP Solution Manager system. Relevant configuration changes that you do after the installation (e.g. enabling Agents On-the-fly) are stored by SAP Solution Manager. Diagnostics Agents that get corrupted can easily be recovered, by reinstalling and reconnecting to the SAP Solution Manager system. A dedicated backup and recovery procedure is not mandatory.

If you should want to put a backup and recovery procedure for Diagnostics Agents in place, please refer to the respective Accessing the SAP Library [page 11](#) documentation for SAP NetWeaver systems. Any database related instructions are can be ignored; Diagnostics Agents do not have a database dependency.

<table>
<thead>
<tr>
<th>Release</th>
<th>SAP Library Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP NetWeaver 7.3</td>
<td>➜ <a href="#">Solution Life Cycle Management</a> ➜ <a href="#">Backup and Recovery</a></td>
</tr>
<tr>
<td>SAP NetWeaver 7.3 including Enhancement Package 1</td>
<td></td>
</tr>
<tr>
<td>SAP NetWeaver 7.3</td>
<td></td>
</tr>
</tbody>
</table>
7.10 Troubleshooting the Diagnostics Agent

Refer to the Diagnostics Agent Troubleshooting Guide (reference is provided at Online Information from SAP [page 86]).

7.11 Installer and Diagnostics Agent Version Information

Per software provisioning manager 1.0 SP5, information about the installer version used to install the Diagnostics Agent is consistently stored in the installationinfo.properties files that are generated by the SWPM installer. The installationinfo.properties file can be found at the following location:

/usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent/configuration/installationinfo.properties

The value of the sapinst_version property in combination with the below table can be used to determine the software logistics toolset, software provisioning manager, and Diagnostics Agent versions that were used at the time of the installation.

If you should have the need to determine this information for older Diagnostics Agent installations, you can report an incident at component SV-SMG-INS-AGT. Following information must be attached to the incident:

- File /usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent/lib/smdagent.jar
- Listing of the files in directory /usr/sap/<DASID>/SMDA<Instance_Number>/SMDAgent/bootstrap
- Recent Diagnostics Agent supportLogs_<Timestamp>.zip file for the respective installation. See Action supportlogs in Using the SMD Setup Script [page 67].

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### 7.12 Unsupported Features

The below table gives an overview and explanations on features that are not supported for the Diagnostics Agent.

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<thead>
<tr>
<th>Software Provisioning Manager (SWPM) Version</th>
<th>Feature Description</th>
<th>Support Statement</th>
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</table>
| 1.0 SP6                                      | System Copy         | Per software provisioning manager 1.0 SP6, we officially communicate that this feature is not supported and not relevant for the Diagnostics Agent.  
This statement applies to all software provisioning manager versions.  
For alternatives, see the System Copy section in SCN Wiki article “Diagnostics Agent Maintenance Procedures” (http://wiki.scn.sap.com/wiki/x/n4efFg). |

| 1.0 SP6                                      | System Rename       | Per software provisioning manager 1.0 SP6, we officially communicate that this feature is not supported for the Diagnostics Agent.  
This statement applies to all software provisioning manager versions.  
For alternatives, see the System Rename section in SCN Wiki article “Diagnostics Agent Maintenance Procedures” (http://wiki.scn.sap.com/wiki/x/n4efFg). |

### 7.13 SAP Router

The Diagnostics Agent can be connected to the SAP Solution Manager system via an SAP router. The installer supports configuring the Diagnostics Agent connection via an SAP router. Alternatively the route string can be maintained after the Diagnostics Agent installation using the `smdsetup` script (see Using the SMD Setup Script [page 67]).
The automatic activities *Introscope Host Adapter* and *Introscope Byte Code Adapter Installation* in the SAP Solution Manager scenario *Managed System Configuration* (transaction SOLMAN_SETUP) will also use the provided route string.
A.1  Online Information from SAP

More information is available online as follows:

<table>
<thead>
<tr>
<th>Title</th>
<th>Internet Address</th>
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<tr>
<td>How to Use SAP Solution Manager Configuration (SOLMAN_SETUP)</td>
<td><a href="http://wiki.scn.sap.com/wiki/display/SMSETUP/Home">http://wiki.scn.sap.com/wiki/display/SMSETUP/Home</a></td>
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