**Installation Guide** **CUSTOMER**

Software Provisioning Manager 1.0
Document Version: 2.3 – 2017-02-08

# Installation of SAP Web Dispatcher for SAP Systems Based on SAP NetWeaver 7.0 to 7.5 on IBM i

# Content


**1 Introduction. . . . . 5**
1.1 About this Document. . . . . 5
1.2 About Software Provisioning Manager. . . . . 5
1.3 New Features. . . . . 6
1.4 Architecture and Functions of the SAP Web Dispatcher. . . . . 7
1.5 SAP Notes for the Installation. . . . . 11
1.6 Accessing the SAP Library. . . . . 11
1.7 Naming Conventions. . . . . 12

**2 Planning. . . . . 13**
2.1 Hardware and Software Requirements. . . . . 13
Hardware and Software Requirements Tables. . . . . 13
2.2 Basic Installation Parameters. . . . . 17

**3 Preparation. . . . . 21**
3.1 SAP Directories. . . . . 21
3.2 Using Virtual Host Names. . . . . 23
3.3 Installing English as a Secondary Language. . . . . 23
3.4 Preparing an IBM i User Profile. . . . . 24
3.5 Enable the User QSECOFR. . . . . 25
3.6 Preparing the Installation Media. . . . . 26
Downloading the Software Provisioning Manager Archive. . . . . 27
Using the Physical Media from the Installation Package. . . . . 28
Downloading Specific Installation Archives (Archive-Based Installation). . . . . 29
Downloading the Complete Installation Media. . . . . 31
Copying the Installation Media Manually to Your IBM i. . . . . 32

**4 Installation. . . . . 35**
4.1 Prerequisites for Running the Installer. . . . . 35
4.2 Running the Installer. . . . . 37
4.3 Additional Information About the Installer. . . . . 39
Useful Information About the Installer. . . . . 39
Interrupted Processing of the Installer. . . . . 41
Performing a Remote Installation. . . . . 43
Starting the Installer GUI Separately. . . . . 45
Running the Installer in Accessibility Mode. . . . . 47
Troubleshooting with the Installer. . . . . 48

**5 Post-Installation Activities. . . . . 50**
5.1 Logging on to the SAP Web Dispatcher Management Console. . . . . 50
5.2 SAP Web Dispatcher Configuration . . . . . 51

**6 Additional Information. . . . . 52**
6.1 Using Virtual Host Names. . . . . 52
6.2 Starting and Stopping the Instance Manually. . . . . 52
6.3 Uninstall. . . . . 53

# Document History

> **Note**
>
> Before you start the implementation, make sure you have the latest version of this document, which is available at https://support.sap.com/sltoolset ▶ ▶ *System Provisioning* ▶.

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

Table 1:

| Version | Date | Description |
|---|---|---|
| 2.3 | 2017-02-06 | Updated version for software provisioning manager 1.0 SP19 (SL Toolset 1.0 SP19) |
| 2.2 | 2016-10-07 | |
| 2.1 | 2016-06-06 | Updated version for software provisioning manager 1.0 SP17 (SL Toolset 1.0 SP17)Updated version for software provisioning manager 1.0 SP18 (SL Toolset 1.0 SP18) |
| 2.0 | 2016-02-15 | Updated version for software provisioning manager 1.0 SP10 (SL Toolset 1.0 SP16):<br>Archive-Based Installation (see Preparing the Installation Media [page 26]) |
| 1.9 | 2015-10-12 | Updated version for software provisioning manager 1.0 SP09 (SL Toolset 1.0 SP15) |
| 1.8 | 2015-09-14 | Updated version for software provisioning manager 1.0 SP09 (SL Toolset 1.0 SP14) |
| 1.7 | 2015-04-27 | Updated version for software provisioning manager 1.0 SP08 (SL Toolset 1.0 SP13) |
| 1.6 | 2014-11-24 | Updated version for software provisioning manager 1.0 SP07 (SL Toolset 1.0 SP12) |
| 1.5 | 2014-07-07 | Updated version for software provisioning manager 1.0 SP18 (SLUpdated version for software provisioning manager 1.0 SP06 (SL Toolset 1.0 SP11) |
| 1.4 | 2014-03-17 | Updated version for software provisioning manager 1.0 SP09 (SL Toolset 1.0 SP10) |
| 1.3 | 2013-10-28 | Updated version |
| 1.2 | 2013-07-15 | Updated version |
| 1.1 | 2013-04-12 | Updated version |
| 1.0 | 2012-12-17 | Initial version |

# 1 Introduction

## 1.1 About this Document

This documentation describes how to install an SAP Web Dispatcher instance for SAP system products based on SAP NetWeaver 7.1 and higher using the installation tool software provisioning manager 1.0 SP19 (“installer” for short), which is part of SL Toolset 1.0 SP19.

You can find a complete list of supported SAP system products in SAP Note 1680045.

We recommend that you use a Web Dispatcher [page 7] when you run an SAP system with several application servers for web applications.

## 1.2 About Software Provisioning Manager

Software Provisioning Manager 1.0 is the successor of the product- and release-specific delivery of provisioning tools, such as SAPinst. Before you run it, we recommend that you always download the latest version of Software Provisioning Manager 1.0. Software Provisioning Manager 1.0 is part of the Software Logistics Toolset 1.0 (“SL Toolset” for short). This way, you automatically get the latest fixes and supported processes. For more information about Software Provisioning Manager as well as products and releases supported by it, see SAP Note 1680045 and http://scn.sap.com/docs/DOC-30236. “SAPinst” has therefore been renamed to “Software Provisioning Manager 1.0” in this documentation. However, the term “SAPinst” is still used in:

- Texts and screen elements in the Software Provisioning Manager GUI
- Naming of executables, for example `sapinst.exe`

In the following, we generally refer to Software Provisioning Manager 1.0 as the “installer”. We only use the term “Software Provisioning Manager 1.0” if this is required for technical reasons.

- ⚠ Caution

  SAP is going to restrict maintenance for operating system versions that have been initially released with SAP kernel 7.2<x> but are no longer supported for SAP kernel 7.40 and higher. The following Software Provisioning Manager operating system versions are affected:

  - IBM i: < 7.1

  With the release of Software Provisioning Manager 1.0 SPS 18, the `SWPM*.SAR` archive will stop working on the above listed outdated operating system versions.

  Instead of using the `SWPM*.SAR` archive, you must use the `RMOSSWPM*.SAR` archive for these outdated operating system versions.

  Keep in mind that the `RMOSSWPM*.SAR` archive will not receive improvements in the future. SAP maintenance for `RMOSSWPM*.SAR` will be finally stopped by the end of 2017.

SAP recommends upgrading the operating system to a more recent version and using `RMOSSWPM*.SAR` to export from existing SAP systems.

### Related Information

Preparing the Installation Media [page 26]

## 1.3 New Features

The table below provides an overview of the new features in Software Provisioning Manager.

Make sure that you also read the release notes for your SAP product at http://help.sap.com ▶ `<Product Area>` ▶ `<Product>` ▶ `<Release>` ▶ *What's New – Release Notes* ▶.

> **Note**
>
> Many installation concepts have changed, so make sure that you read the installation guide carefully.

Table 2:

| Feature | Description | Availability |
|---|---|---|
| Verification of Integrity of Data Units in Software Provisioning Manager | The integrity of data units extracted from the Software Provisioning Manager archive is verified. For more information, see Downloading the Software Provisioning Manager Archive [page 27].<br><br>In addition, check SAP Note 1680045 whether additional information is available. | Software Provisioning Manager 1.0 SP19 (SL Toolset 1.0 SP19) |
| Installation without Message Server Port Configuration | Configuration of message server host and port during the installation is now optional. For more information, see Basic Installation Parameters [page 17]. | Software Provisioning Manager 1.0 SP19 (SL Toolset 1.0 SP19) |
| `WEBDISPATCHER.SAR` Archive for Archive-Based Installation | You can now use a specific `WEBDISPATCHER.SAR` archive instead of the `SAPEXE.SAR` archive.<br><br>For more information, see Downloading Specific Installation Archives (Archive-Based Installation) [page 29] | Software Provisioning Manager 1.0 SP18 (SL Toolset 1.0 SP18) |
| Archive-Based Installation | You can now download the required **installation archives** instead of the complete SAP kernel installation media. For more information, see Downloading Specific Installation Archives (Archive-Based Installation) [page 29]. | Software Provisioning Manager 1.0 SP10 (SL Toolset 1.0 SP16) |

| Feature | Description | Availability |
| --- | --- | --- |
| System Provisioning for SAP NetWeaver 7.5 and SAP NetWeaver 7.5-based Products | All system provisioning tasks (installation, system copy, system rename) are available for the new SAP NetWeaver 7.5 release.<br>The Dual Stack option, which integrates an AS ABAP and AS Java in a single system (common System ID `<SAPSID>`, common startup framework, common database), is no longer supported in SAP systems based on SAP NetWeaver 7.5. | Software Provisioning Manager 1.0 SP09 (SL Toolset 1.0 SP15) |
| 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.<br>Port 4239 is used for displaying the feedback evaluation form. For more information, see the *Prerequisites* section in Running the Installer [page 37]. | 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.<br>For more information, see SAP Note 1979965. | Software Provisioning Manager 1.0 SP06 (SL Toolset 1.0 SP11) |

## 1.4 Architecture and Functions of the SAP Web Dispatcher

The SAP Web Dispatcher is located between the Web client (browser) and your SAP system that is running the Web application.

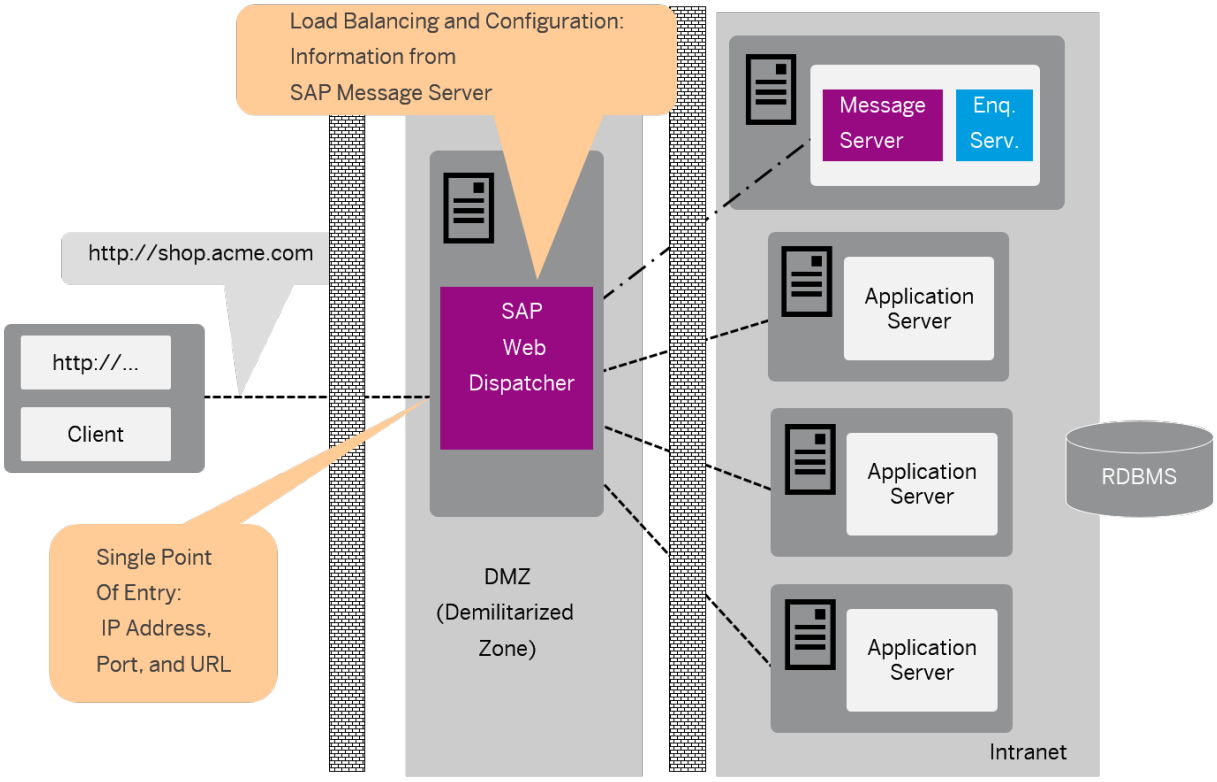


Figure 1: SAP Web Dispatcher in the System Landscape

It forwards the incoming requests (HTTP, HTTPS) in turn to the application server (AS) of the SAP system. The number of requests that are sent to an AS depends on its capacity. The capacity of an AS ABAP depends on the number of configured dialog work processes. The capacity of a AS Java depends on the number of server processes. If the application is stateful, the SAP Web Dispatcher ensures that with the next request, the user is forwarded to the server that is processing his or her application. To do this, it uses the session cookie with HTTP connections, and the client IP address with end-to-end SSL.

Furthermore, the SAP Web Dispatcher decides whether the incoming request should be forwarded to an ABAP or Java Server.

> **Note**
>
> Unlike HTTP load balancing with the SAP Message Server, redirects are not executed when the SAP Web Dispatcher is used. This avoids the associated disadvantages (several IP addresses must be known, book marking is not possible, authentication after changing the application server).

## SAP Web Dispatcher for Multiple Systems

In the figure the SAP Web Dispatcher is located in front of an SAP system.

You can also place the SAP Web Dispatcher in front of multiple systems (SAP and/or external systems). In this case use parameter `wdisp/system_ <xx>` to inform the SAP Web Dispatcher of all the systems and their message servers.

## Structure of the SAP Web Dispatcher

The architecture is the same as the architecture of the Internet Communication Manager (ICM). The SAP Web Dispatcher uses the same HTTP framework and is likewise structured modularly from subhandlers. But unlike the ICM, the SAP Web Dispatcher does not directly pass incoming requests to a work process (such as a server process)– it passes them to the ICM of the application server. The response of the application server to a request returns to the client using the same network connection via the SAP Web Dispatcher.

If the application server acting as the client opens connections to external HTTP servers, these connections go direct to the server (or possibly via a configured proxy) and not via the SAP Web Dispatcher.

The Web Dispatcher has the function of a “reverse proxy”, and not that of a “proxy”.

## Processing HTTP Requests

Like the ICM the SAP Web Dispatcher uses various handlers to process incoming requests. With the exception of the ABAP handler and the Java handler the handlers are called in the precise sequence described in "Processing HTTP Requests". The **dispatching handler** comes last and this performs the load balancing and then forwards the request to the ICM of the appropriate application server.

## Information Tables

The SAP Web Dispatcher gets information about the SAP system that it needs for load distribution from the message server and application server via HTTP.

> **Note**
>
> With Java-only installations of the SAP NetWeaver AS the message server of the “Central Services” (SCS) supplies the information. With ABAP installations the information comes from the message server of the AS ABAP. The SAP Web Dispatcher knows which message server is used from the parameters `rdisp/mshost` and `ms/http_port` or `wdisp/system_ <xx>`.

You can also use HTTPS here. The SAP Web Dispatcher keeps the information in the following tables:

Table 3:

| Table | Information | Source of Information |
|---|---|---|
| Server table | All AS instances that process the HTTP(S) requests. | Message server of the SAP system with the server list. |

| Table | Information | Source of Information |
| --- | --- | --- |
| Group table | Groups of HTTPS-enabled ABAP servers. Here there are known logon groups that are maintained in the system, as well as the following internal groups: | You maintain logon groups in transaction `SMLG` in AS ABAP. The SAP Web Dispatcher can get the information from any AS ABAP.<br>Each application server belongs to at least two of the internal groups. Each server can also offer ABAP and Java and hence belong to all groups.<br>You can also configure logon groups for AS Java. |
| !ALL | Group of all connected application servers. | |
| !J2EE | Group of those application servers that contain the AS Java. | |
| !DIAG | Group of ABAP servers that provide the dialog work processes. | |
| !J2EES | Group of HTTPS-enabled application servers that contain the AS Java. | |
| !DIAGS | Group of HTTP-enabled servers that provide the dialog work processes. | |
| URL mapping table | Mapping of the path part that is specified in the browser to the information about the server (groups).<br>**Example**<br>You can determine, for example, that all requests that contain the path prefix `/sap/bc`are only processed by the servers that process logon group `GROUP_1`. | You maintain the URL path in transaction `SICF` in AS ABAP as a service in the HTTP service tree.<br>The SAP Web Dispatcher can get the information from any AS. |

## More Information

For more information, see the Web Dispatcher documentation in the SAP Library [page 11] at: *Function-Oriented View* > *Application Server Infrastructure* > *Components of SAP NetWeaver Application Server* > *SAP Web Dispatcher*

## 1.5 SAP Notes for the Installation

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

Make sure that you have the up-to-date version of each SAP Note which you can find in the SAP Service Marketplace at http://service.sap.com/notes.

Table 4: SAP Notes for the Installation

| SAP Note Number | Title | Description |
|---|---|---|
| 1680045 | Release Note for Software Provisioning Manager 1.0 | Remarks, annotations, and corrections discovered after publication of the documentation Software Provisioning Manager |
| 908097 | SAP Web Dispatcher: Release, Installation, Patches, Documentation | Contains information about the following:<br>• How to apply patches to an existing Web Dispatcher installation<br>• Which Web Dispatcher release you can use with which SAP NetWeaver release |

## 1.6 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 5:

| Product and Release | SAP Library Path |
|---|---|
| SAP systems based on SAP NetWeaver 7.3 | http://help.sap.com/nw73 ▶ *Application Help* ▶ *Function-Oriented View: English* ▶ |
| SAP systems based on SAP NetWeaver 7.3 including Enhancement Package 1 | http://help.sap.com/nw731 ▶ *Application Help* ▶ *Function-Oriented View: English* ▶ |
| SAP systems based on SAP NetWeaver 7.4 | http://help.sap.com/nw74 ▶ *Application Help* ▶ *Function-Oriented View: English* ▶ |
| SAP systems based on SAP NetWeaver 7.5 | http://help.sap.com/nw75 ▶ *Application Help* ▶ *Function-Oriented View: English* ▶ |

## 1.7 Naming Conventions

In this documentation, the following naming conventions apply:

> **Note**
>
> From a technical point of view, the web dispatcher is set up like an SAP system with its own SAP system ID (SAPSID), its own operating system users, and its own directory structure.

- *installer* refers to *software provisioning manager 1.0*.
- *SAP system* refers to *web dispatcher* .
- *instance* refers to a *web dispatcher Instance*.

# 2 Planning

## 2.1 Hardware and Software Requirements

You check that your hosts meet the hardware and software requirements for your operating system and the Web Dispatcher.

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

### Process Flow

1. Check the *Product Availability Matrix* at http://service.sap.com/pam for supported operating system releases.
2. Check the hardware and software requirements table for the Web Dispatcher Instance [page 13].
3. If you want to use the Web Dispatcher for a **production** system, the values provided by the Prerequisite Checker and the hardware and software requirements checklists are not sufficient. In addition, do the following:
   - You use the hardware sizing information available at http://service.sap.com/sizing.
     For the Web Dispatcher, there is a sizing guideline available at:
     http://service.sap.com/sizing > *Sizing Guidelines* > *Solutions & Platform* > *Sizing the SAP Web Dispatcher*
   - You contact your hardware vendor, who can analyze the load and calculate suitable hardware sizing depending on:
     - The set of applications to be deployed
     - How intensively the applications are to be used
     - The number of users

### 2.1.1 Hardware and Software Requirements Tables

The Web Dispatcher host must meet the following requirements:

Table 7: Hardware Requirements

| Requirement | Values and Activities |
| --- | --- |
| Hardware requirements | • Optical Media drive (on the Windows installer GUI host)<br>• Before installing an SAP system on IBM i, you must obtain detailed sizing information from your IBM representative. |
| Optical media drive | ISO 9660 compatible |
| Hard disk space | • **General Requirements:**<br>  ○ 2 GB of temporary disk space for each required physical installation media - or alternatively the downloaded SAP kernel archives - that you have to copy to a local hard disk. For more information, see Preparing the Installation Media [page 26].<br>  ○ If you prefer downloading the installation archives instead of using the physical media, you require 1 GB of temporary disk space for the archives that you have to copy to a local hard disk. For more information, see Downloading Specific Installation Archives (Archive-Based Installation) [page 29].<br>  ○ 2 GB of temporary disk space for the installation.<br>  ○ If an advanced disk array is available (for example, RAID), contact your hardware vendor to make sure that the data security requirements are covered by this technology.<br>• **Instance-Specific Requirements:**<br>The SAP Web Dispatcher instance requires at least 1 GB of hard disk space for the installation as such. For production use of the SAP Web Dispatcher, you need to reserve at least 5 GB. |
| RAM | 500 MB RAM |
| Space requirements | The amount of space required for an SAP system on IBM i is dependent on many variables, such as:<br>• Number of work processes<br>• Number of users<br>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. |

Table 8: Software Requirements

| Requirement | Values and Activities |
| --- | --- |
| Operating system requirements | The SAP products based on SAP NetWeaver 7.10, 7.11,7.2 and 7.3 are released for V6R1, V7R1,V7R2, and V7R3.<br><br>The SAP products based on SAP NetWeaver 7.3 EHP1 and 7.4 are released for V7R1, V7R2, and V7R3.<br><br>The SAP products based on SAP NetWeaver 7.5 are released for V7R2 and V7R3.<br><br>For information about which operating system versions have been released for SAP on IBM i, see the Product Availability Matrix (PAM) at http://support.sap.com/pam and search for `<product>` then choose `<product>`. On the *Database Platforms* tab, you see the supported releases under *DB2/400 ...*. *OS/400 ...*.<br><br>For information about which operating system versions have been released for SAP on IBM i, see the following:<br><br>For more information about V6R1, see SAP Note 1148480.<br><br>For more information about V7R1, see SAP Note 1432783.<br><br>For more information about V7R2, see SAP Note 2011710.<br><br>For more information about V7R3 see SAP Note 2299407.<br><br>**PTF and Information APAR**<br><br>For the latest information on cumulative PTF package (CUM package) release levels and operating system corrections related to SAP products on IBM DB2 for i, see the following IBM information APAR:<br><br>APAR II14362 (V6R1M0)<br><br>APAR II14535 (V6R1M1)<br><br>APAR II14536 (V7R1M0)<br><br>APAR II14741 (V7R2M0)<br><br>APAR II14816 (V7R3M0)<br><br>To load an information APAR onto your IBM i using the IBM ECS link, enter:<br><br>`SNDPTFORD PTFID((<Info APAR ID>))`<br><br>**Example**<br><br>To load an information APAR for V7R2M0, enter:<br><br>`SNDPTFORD PTFID(II14741)`<br><br>For information about the releases and PTFs for SAP on IBM i and the address where you can find the information APARs, see SAP Note 83292.<br><br>To be able to run an SAP system on IBM i with ASCII code pages, make sure that you have installed 57nnSS1 option `21` – Extended NLS Support. This option is delivered to you by IBM with the installation media of the operating system. |

| Requirement | Values and Activities |
| --- | --- |
| | For more information about how to install the secondary language, see the IBM documentation *AS/400 National Language Support* (SC41-5101-01).<br>**Other Products**<br>The following products are **required**:<br>**Note**<br>xx=70 (V7R1,V7R2 and V7R3), xx=61(V6R1) and xx=22(V5R4)<br>• 57xxTC1 option `*BASE` – IBM TCP/IP Connectivity Utilities for iSeries<br>• 57xxSS1 option `*BASE` – i5/OS<br>• 57xxSS1 option `1` – Extended Base Support<br>• 57xxSS1 option `2` – Online Information<br>• 57xxSS1 option `3` – Extended Base Directory Support<br>• 57xxSS1 option `12` – Host Servers<br>• 57xxSS1 option `13` – System Openness Includes<br>• 57xxSS1 option `21` – Extended NLS Support<br>• 57xxSS1 option `30` – Qshell Interpreter<br>• 57xxSS1 option `33` – Portable Application Solutions Environment (PASE) |
| SAP Kernel Releases and Versions | To use regular Software Provisioning Manager (`SWPM10<Version>.SAR`) with SAP kernel 7.49 or higher on RHEL 6 or SLES 11 or Oracle Linux 6, you must install the required `libstdc++` RPM packages. For more information, see SAP Note 2195019. |
| National Language Support (NLS) | Make sure that National Language Support (`NLS`) and corresponding `locales` are installed. |

Table 9: Other Requirements

| Requirement | Values and Activities |
| --- | --- |
| Minimum Web Browser | Make sure that you have at least one of the following web browsers installed on the host where you run the installer GUI:<br>• Internet Explorer 9.0 or higher<br>• Mozilla Firefox<br>• Google Chrome<br>You need this to be able to display the Evaluation Form and send it to SAP. |

| Requirement | Values and Activities |
| --- | --- |
| Host name | To find out **physical** host names, open a command prompt and enter `hostname`.<br><br>**Note**<br>Instead of using the command prompt, you `CALL QP2TERM` on IBM i.<br><br>For more information about the allowed host name length and characters allowed for SAP system instance hosts, see SAP Note 611361.<br><br>If you want to use **virtual** host names, see SAP Note 962955.<br><br>If you want to use **virtual** host names on IBM i, see SAP Note 1624061. |
| Login shell | The installer only prompts you for this parameter if you use a login shell other than the recommended C shell (csh).<br><br>For more information, see SAP Note 202227.<br><br>**Note**<br>On IBM i, you do not have to add or change any entry in the login shell input field. |
| Shared file systems for decentralized systems | If application servers are installed decentralized, a “shared” file system must be installed, for example Network File System (NFS).<br><br>**Note**<br>On IBM i, you use `QFileSvr.400`. |
| Installer GUI host | Windows or Linux PC to start the installer GUI |

## 2.2 Basic Installation Parameters

The table below lists the basic input parameters that are prompted by the installer. For all other SAP system parameters, use the F1 help in the installer screens.

Table 10:

| Parameters | Description |
| --- | --- |
| SAP System ID `<SAPSID>` | The SAP System ID `<SAPSID>` identifies the whole SAP system.<br><br>**⚠ Caution**<br>Choose your SAP system ID carefully. You **cannot** change the SAP system ID after the installation.<br><br>Make sure that your SAP system ID:<br>• Is unique throughout your organization<br>• Consists of exactly three alphanumeric characters<br>• Contains only uppercase letters<br>• Has a letter for the first character<br>• Does not include any of the reserved IDs listed in SAP Note 1979280. |
| Instance Number for the SAP Web Dispatcher | **Instance Number:**<br><br>Technical identifier for internal processes. Consists of a two-digit number from 00 to 97. The instance number must be unique on a host. That is, if more than one SAP instance is running on the same host, these instances must be assigned different numbers. |
| Virtual Host Name | Virtual host name (network name) of the `SAP<SAPSID>` cluster group<br><br>If you provide a virtual host name in the `<Instance_Name>` *Virtual Host* field of the screen of an instance, this instance is installed with the given virtual host name. After the installation has completed, all application servers can use this virtual host name to connect to the instance. The virtual host name is also a global host name. If you do not provide the virtual host name, the instance is installed automatically using its physical host name.<br><br>You must have already reserved the virtual host name (network name) and its IP address on a DNS server before you run the installer. For more information, see Using Virtual Host Names [page 23].<br><br>**ℹ Note**<br>Fully qualified host names, `IPv4`, `IPv6` are not accepted as virtual host names.<br><br>Alternatively you can assign virtual host names also by starting the installer with the `SAPINST_USE_HOSTNAME` property. For more information, see Running the Installer [page 37]. |
| Message Server Host | You can configure the SAP Web Dispatcher to connect to an SAP system immediately during the installation by defining the host on which the message server is located (profile parameter `MSHOST`).<br><br>However, you can also specify to not configure the message server host and configure it manually after the installation has completed. |

| Parameters | Description |
| --- | --- |
| Message Server HTTP(S) Port | You can configure the SAP Web Dispatcher to connect to an SAP system immediately during the installation by defining the HTTP(S) port of the message server (profile parameter `MSPORT_<XX>`).<br><br>However, you can also specify to not configure the HTTP(S) port of the message server and configure it manually after the installation has completed. |
| SAP Web Dispatcher Configuration | • You can specify a maximum of incoming concurrent connections<br>This value is directly mapped to the tuning parameter `icm/max_conn`. For more information, see SAP Note 2007212.<br>• HTTPS port:<br>The HTTPS port of the SAP Web Dispatcher is an entry point to the SAP system.<br>The default is `443<XX>`(where `<XX>` is the instance number).<br>• HTTP port:<br>Optionally you can change the HTTP port number if the port number assigned by default does not suit your needs.<br>The HTTP port of the SAP Web Dispatcher is an entry point to the SAP system.<br>The default is `80<XX>` (where `<XX>` is the instance number).<br>You can either accept a default value for the HTTP port number or configure the port number as required.<br><br>➡ Recommendation<br><br>If you want to install SAP Web Dispatcher version 7.21, we recommend that you choose the HTTP port, because the HTTPS port is not available after the installation without further configuration.<br><br>For more information about port configuration for SAP Web Dispatcher, see the SAP Library [page 11] at: *Application Server* > *Application Server Infrastructure* > *Components of SAP NetWeaver Application Server* > *SAP Web Dispatcher* > *Administration of the SAP Web Dispatcher* > *Configuration of the SAP Web Dispatcher Server Port* |
| Encryption Mode | The Encryption Mode defines the encryption for communication between the SAP Web Dispatcher and the back-end system. You can choose between one of the following options:<br><br>• Always: HTTPS is used.<br>• Never: HTTP is used.<br>• IDepending on the incoming protocol:<br>HTTPS is used for requests to the SAP Web Dispatcher HTTPS port, whereas HTTP is used for requests to the SAP Web Dispatcher HTTP port.<br><br>The profile parameter responsible for the encryption mode is named `SSL_ENCRYPTION`. |

| Parameters | Description |
| --- | --- |
| Activate ICF nodes | The SAP Web Dispatcher uses ICF services of SAP ABAP system's application servers to retrieve information about server groups and URL mappings. By default, all ICF services are inactive. For more information, see SAP Note 552286. |

# 3 Preparation

## 3.1 SAP Directories

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

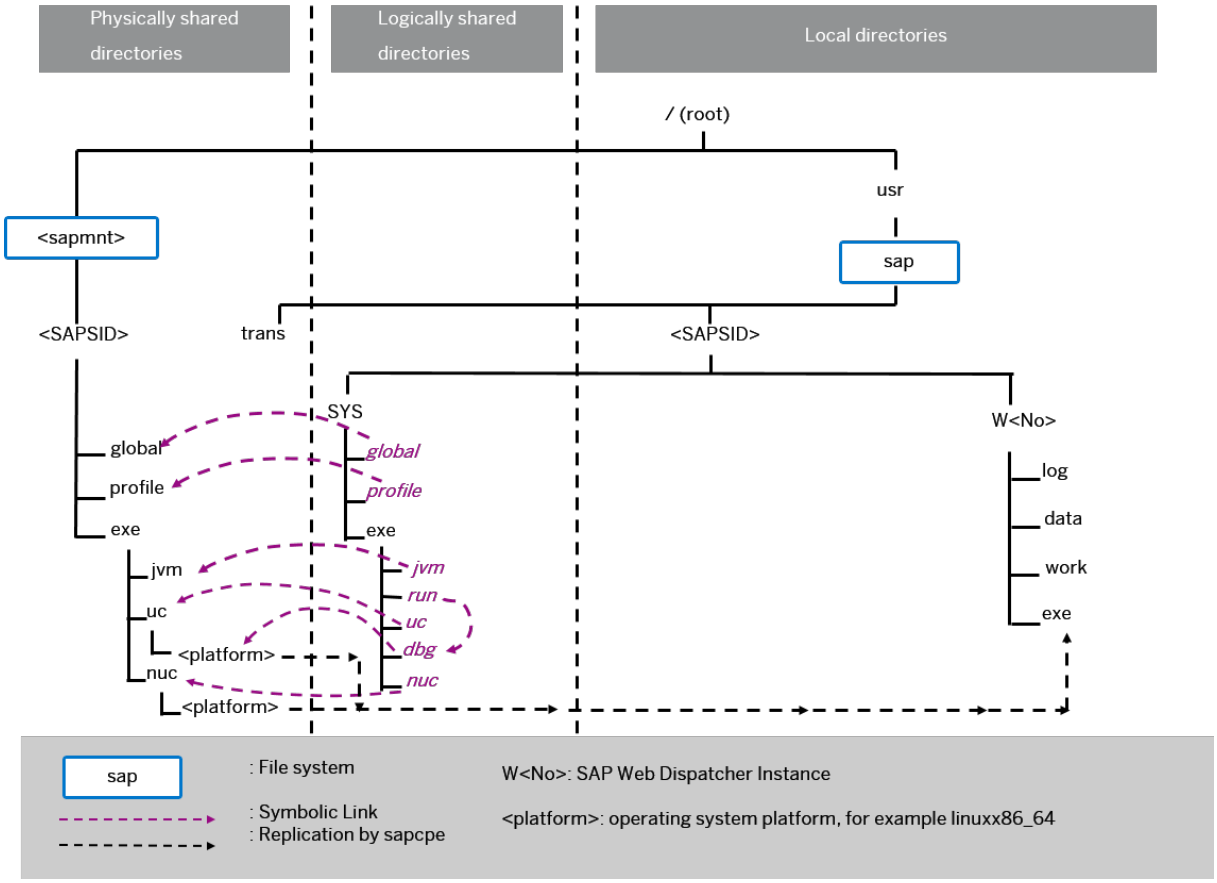


Figure 2:

The directory of the SAP Web Dispatcher instance is `W<Instance_Number>`, for example `W00`.

## SAP Directories in Detail

> **Note**
>
> The listed file system sizes are initial SAP requirements.
>
> Depending on your operating system, you might also have to add space for administrative purposes.

Table 11:

| File System Name | Description | Space Required |
|---|---|---|
| /<sapmnt>/<SAPSID> | The default name for the SAP system mount directory is sapmount.<br>• exe<br>Contains executable kernel programs<br>• global<br>Contains log files<br>• profile<br>Contains the start and operations profiles of the Web Dispatcher instance | 500 MB |
| /usr/sap/<SAPSID> | This directory contains the following subdirectories:<br>• SYS<br>**Note**<br>The subdirectories of /usr/sap/<SAPSID>/SYS have symbolic links to the corresponding subdirectories of /<sapmnt>/<SAPSID>, as shown in the figure above.<br>• <INSTANCE><br>The instance name (instance ID) of the Web Dispatcher instance is W<Instance_Number>, for example W00.<br>There are subdirectories of /usr/sap/<SAPSID>/SYS with symbolic links to subdirectories of /<sapmnt>/<SAPSID>: | 500 MB |
| /usr/sap/trans | This directory contains SAP software for the transport of objects between SAP systems . | This value heavily depends on the use of your SAP system.<br>For the installation, it is sufficient to use 200 MB. You can enlarge the file system afterwards if required. |

## 3.2 Using Virtual Host Names

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

### Prerequisites

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

### Procedure

Proceed as described in SAP Note 1624061.

## 3.3 Installing English as a Secondary Language

### Use

On every IBM i where English is not the primary language, you must install English as the secondary language library. This is necessary for SAP to be able to provide support.

> **Note**
>
> To check if English is already installed on your IBM i as a secondary language, enter **`GO LICPGM`** on the IBM i command line and use option **`20`**. If one of the following secondary language libraries is displayed, you have already installed English as a secondary language library:
>
> `QSYS2924`, `QSYS2938`, `QSYS2959`, or `QSYS2984`.

### Procedure

1. On the IBM i command line, enter **`GO LICPGM`**
2. Enter option **`21`** (install secondary languages).
3. Enter option **`1`** to select any of the following libraries: `QSYS2924`, `QSYS2938`, `QSYS2959`, or `QSYS2984`.

## 3.4 Preparing an IBM i User Profile

For the installation you need to create a user account on the IBM i you want to install.

The following requirement applies:

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

### Procedure

> **Note**
>
> The user name `SAPIUSR` and the password `SAP` are used as examples in the procedures.

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)
> ```

> **Note**
>
> 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) 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 an installation on IBM i, the user `QSECOFR` must be enabled. Although for an SAP system installation you only need 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.
- The complete media or dedicated installation archives (`SAR` files) containing the software to be installed, which are available as follows:
  - You can use the physical installation media as part of the installation package as described in *Using the Physical Media from the Installation Package* (see the *Related Information* section below).
  - You download the complete installation media as described in *Downloading the Complete Installation Media* (see the *Related Information* section below).
  - As an alternative to downloading the complete SAP kernel media, you can download the specific **SAP kernel archives** (`SAR` files), as described in *Downloading SAP Kernel Archives (Archive-Based Installation)* (see the *Related Information* section below).

For more information about which kernel version to use, see SAP Note 1680045. In addition, check the Product Availability Matrix at: http://support.sap.com/pam.

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 32].

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.

### Related Information

Downloading the Software Provisioning Manager Archive [page 27]
Downloading the Complete Installation Media [page 31]
Using the Physical Media from the Installation Package [page 28]
Downloading Specific Installation Archives (Archive-Based Installation) [page 29]
Copying the Installation Media Manually to Your IBM i [page 32]

## 3.6.1 Downloading the Software Provisioning Manager Archive

You always have to download and unpack the Software Provisioning Manager 1.0 archive (`SWPM10SP<Support_Package_Number>_<Version_Number>.SAR`) from the SAP Software Download Center because you must use the latest version.

### Prerequisites

Make sure the latest version of the `SAPCAR` archiving tool is available on your Windows PC.

You require the `SAPCAR` archiving tool to be able to unpack software component archives (*.SAR files), which is the format of software lifecycle media and tools that you can download from the SAP Software Download Center.

If required, you can download the latest Windows version of `SAPCAR` to your Windows PC from:

http://support.sap.com/swdc > *Software Downloads* > *SUPPORT PACKAGES & PATCHES* > *By Alphabetical Index (A-Z)* > *S* > *SAPCAR* >.

For more information about `SAPCAR`, see SAP Note 212876.

### Procedure

1. Download the latest version of the Software Provisioning Manager 1.0 archive `SWPM10SP<Support_Package_Number>_<Version_Number>.SAR` from:

   http://support.sap.com/swdc > *Software Downloads* > *SUPPORT PACKAGES & PATCHES* > *By Alphabetical Index (A-Z)* > *S* > *SOFTWARE PROVISIONING MANAGER* >

   > **Note**
   >
   > If you have an operating system version that has been initially released with SAP kernel 7.2`<X>` but is no longer supported for SAP kernel 7.40 and higher, instead of the `SWPM*.SAR` archive you must download the `RMOSSWPM*.SAR` archive for these outdated operating system versions. For more information, see About Software Provisioning Manager [page 5].

2. We recommend that you copy the software provisioning manager 1.0 archive to the `IFS` of the IBM i host.
3. 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, copy performance is poor from your local Windows optical media drive or Windows file system to the `IFS` on your IBM i.
4. If you want to verify the signature of the `SWPM10SP<Support_Package_Number>_<Version_Number>.SAR` archive, execute the following commands on your Windows PC:

> **Note**
>
> In addition, check SAP Note 1680045 whether additional information is available.

```
<Path to SAPCAR>\sapcar.exe -tVvf<Path to Temporary Directory>
\SWPM10SP<Support_Package_Number>_<Version_Number>.SAR
```

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 Temporary Directory>
\SWPM10SP<Support_Package_Number>_<Version_Number>.SAR
```

> **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.

## 3.6.2 Using the Physical Media from the Installation Package

This section describes how you use the physical installation media as part of the installation package.

### Procedure

1. Identify the required media for your installation as listed below.

Table 12:

| Installation Media | Description |
|---|---|
| Software Provisioning Manager 1.0 | Software provisioning manager 1.0 archive<br>`SWPM10SP<Support_Package_Number>_<Version_Number>.SAR` |

| Installation Media | Description |
| --- | --- |
| SAP Kernel | Make sure that either the UC kernel or the NUC kernel software are available, depending on the installation option you want to choose:<br>○ Unicode (UC) Kernel if you want to install the SAP Web Dispatcher with kernel version 745 (installation option *SAP Web Dispatcher (Unicode)*):<br>Folder `K_<Version>_U_<OS>` where `U` means “Unicode”.<br>○ Non-Unicode (NUC) Kernel if you want to install the SAP Web Dispatcher with kernel version 721 or 742 (installation option *SAP Web Dispatcher (Non-Unicode)*):<br>Folder `K_<Version>_N_<OS>` where `N` means “non-Unicode”. |

2. Make the installation media available on your Windows PC as follows:
   a. Download and unpack the latest version of Software Provisioning Manager as described in Downloading the Software Provisioning Manager Archive [page 27].
   b. Make the media containing the software to be installed available.

      You can do this in one of the following ways:
      - Copy the required media folders directly to the installation host.
      - Mount the media on a central media server that can be accessed from the installation hosts.

      To make media available, copy the media manually to your IBM i host **before** you start the installation. Do not use the Media Browser dialog **during** the installation to copy the entire installation media from Windows to your IBM i host. Make sure that all users have read permissions for all copied directories and files on your IBM i host.

      You need to copy the installation media manually to your IBM i [page 32].

      > **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.

## 3.6.3 Downloading Specific Installation Archives (Archive-Based Installation)

As an alternative to downloading the complete SAP Kernel media, you can also download exactly the installation archives that are required for your installation.

### Context

You must download - apart from the Software Provisioning Manager 1.0 archive which is always required for an installation - the `sapwebdisp_<Version>.sar` and `SAPHOSTAGENT<Version>.SAR` archive files.

See also section *Updating SAP Web Dispatcher* in SAP Note 908097.

During the installation, you can either specify the path to each archive separately, or provide the path to a download basket with all downloaded archives.

> **Caution**
>
> - Make sure that you always use the highest available patch level unless special patch levels are specified for the relevant package in SAP Note 1680045.
> - Make sure that you always choose `SAPEXE<Version>.SAR`, `SAPEXEDB<Version>.SAR` of the **same** SAP kernel release and extension:
>
> **Example**
>
> - If `SAPEXE<Version>.SAR` is of version **7.42 EXT**, then `SAPEXEDB<Version>.SAR` must also be of version **7.42 EXT**.
> - If `SAPEXE<Version>.SAR` is of version **7.45**, then `SAPEXEDB<Version>.SAR` must also be of version **7.45**.
>
> - 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

1. Download and unpack the latest version of Software Provisioning Manager as described in Downloading the Software Provisioning Manager Archive [page 27].
2. Go to http://support.sap.com/swdc > *Software Downloads* > *SUPPORT PACKAGES & PATCHES* > *By Category* >
3. Download the latest patch level of the following software component archives (*.SAR files) from the following paths:
   - If you want to apply installation option *SAP Web Dispatcher (Unicode)*, download `sapwebdisp_<Version>.sar` from the following path:
     > *SAP TECHNOLOGY COMPONENTS* > > *SAP WEB DISPATCHER* > *SAP WEB DISPATCHER 7.45* > `<Operating System>` >
   - If you want to apply installation option *SAP Web Dispatcher (Non-Unicode)*, download `sapwebdisp<Version>.sar` from the following path:
     > *SAP TECHNOLOGY COMPONENTS* > *SAP Web Dispatcher* > *SAP WEB DISPATCHER* `<7.21 or 7.42>` > `<Operating System>` >
   - If you want to apply installation option *SAP WEB DISPATCHER* `<7.21 or 7.42>` with SAP Kernel 7.21., download the latest patch level of `SAPCRYPTOLIB <Version>.SAR`:

*Additional Components* > *SAPCRYPTOLIB* > *COMMONCRYPTOLIB*`<Version>` > `<Operating System>`

- `SAPHOSTAGENT <Version>.SAR`:
  *SAP Technology Components* > *SAP HOST AGENT* > *SAP HOST AGENT 7.21* > `<Operating System>`

## 3.6.4 Downloading the Complete Installation Media

This section describes how you 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 the Software Provisioning Manager Archive [page 27].
2. Create a download directory on your Windows host from where you will transfer the media to your IBM i host (for example, `C:\tmp\download`)
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:
     You can download installation media from the SAP Software Download Center using one of the following paths:
     - http://support.sap.com/swdc > *Software Downloads* > *INSTALLATIONS & UPGRADES* > *By Alphabetical Index (A-Z)* > `<First_Letter_Of_Your_Product>` > `<Your_Product>` > `<Your_Product_Version>`
     - http://support.sap.com/swdc > *Software Downloads* > *INSTALLATIONS & UPGRADES* > *By Category* > `<Your_Product>` > `<Your_Product_Version>`
     - For downloading the kernel media, proceed as described in the *Kernel Media* section of SAP Note 1680045.
   - 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`

```
...
```

- Title
  All objects that are part of an installation medium have the same title, such as `<Solution><Media_Name><OS>`.

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 [page 32].

## Related Information

Copying the Installation Media Manually to Your IBM i [page 32]

# 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. To copy the media, you have to use a binary share `ROOTBIN`. 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.

## Procedure

### Creating a Binary Share ROOTBIN on IBM i

If you do not already have a binary share `ROOTBIN` 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 `ROOTBIN`, choose *File Systems* > *File Shares*.

4. Right-click ▶ *File Shares* ▶ *Open i5/OS Netserver* ◀.
   A new screen *i5/OS Netserver* appears.
5. Click the folder *Shared Objects* to see the shares.
6. To check the already existing share `ROOTBIN` or create a new share `ROOTBIN`, right-click ▶ *New* ▶ *File* ◀.

> **Note**
>
> The share `ROOTBIN` must have the access permission *Read/Write* and the path name should be */*.

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

Now you have created the share `ROOTBIN` on your IBM i.

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

1. To open the command prompt on Windows, choose ▶ *Start* ▶ *Run* ◀.
2. Enter **`cmd.exe`**.
3. Press **OK**.
   The command prompt appears.
4. In the command prompt, enter **`net use`**.
   All network connections to shared resources are displayed.
5. Check if you have a connection to your IBM i.
   If you find `\\<IBM_i_Host_Name>\ROOTBIN` in the *Remote* column and a drive directory letter in the *Local* column, you have already established the required connection to your IBM i.
   Otherwise, you have to establish this connection. To do this, enter:
   **`net use X: \\<IBM_i_Host_Name>\ROOTBIN SAP /USER:SAPIUSR`**
   `X:` is now your new network drive to share `\\<IBM_i_Host_Name>\ROOTBIN` to your IFS on the IBM i. If `X:` is already in use, choose another drive letter that is free.

> **Note**
>
> We use the user name `SAPIUSR` and the password `SAP` as examples. For more information about how to create the installation user `SAPIUSR`, see Preparing an IBM i User Profile [page 24].

6. To change to the new network drive, enter **`X:`** in the command prompt.
7. Create the subdirectories in your IFS where you want to copy the required media.
   For each media, enter:

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

8. 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:

> **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.

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

> **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:

# 4 Installation

## 4.1 Prerequisites for Running the Installer

Make sure you fulfil the following prerequisites before running the installer:

- 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 24].
- Check the value of the temporary directory set in the environment if available:

  Table 13:

| Shell | Command |
|---|---|
| Command prompt | **`WRKENVVAR`** |
| Qp2Term | **`echo $TEMP, echo $TMP or echo $TMPDIR`** |

- 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.
- Each SAP instance requires a separate installation directory.

  **Recommendation**

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

- 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 39].

  **Note**

  This is optional for advanced users.

  Make sure that your `DISPLAY` environment variable is set to **`<Host_Name>:0.0`**, where `<Host_Name>` is the host on which you want to display the installer GUI.

You can set values for the `DISPLAY` environment variables as follows:

Table 14:

| Shell Used | Command |
| --- | --- |
| Command prompt | `ADDENVVAR ENVVAR(DISPLAY) VALUE('<Host_Name>:0.0') REPLACE(*YES)` |
| Qp2Term | `export DISPLAY=<Host_Name>:0.0` |

> **Note**
>
> When you leave your Qp2Term session, all changes of the environment variables done by the command export are reverted.

> **Note**
>
> For advanced users only:
>
> PASE, which is similar to AIX, allows you to set the `DISPLAY` variable. If your X server for Microsoft Windows or Linux is already configured and running, you can try to direct the graphical output of the installer to an XWindow by setting the `DISPLAY` variable. If this works, you do not have to use the remote installer GUI separately. We do not recommend that you start the installer using the `DISPLAY` variable as there is no support available.

> **Note**
>
> For advanced users only:
>
> Beside using an XWindows Server and the `DISPLAY` variable, you can use VNC. For more information about VNC, see the IBM i documentation. VNC also offers a GUI by using IBM i tools. When VNC is prepared as described in the IBM i documentation, the installer GUI is directly started on your Windows PC after starting the installer on IBM i.

- 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 21212 is used by default for communication between the installer GUI server and the installer GUI client.
    If this port cannot be used, you can assign a free port number by executing `sapinst` with the following command line parameter:
    `SAPINST_DIALOG_PORT=<Port_Number>`

    > **Example**
    >
    > ```
    > CD DIR('<Path_To_Unpack_Directory>')
    >
    > CALL PGM(QP2TERM) PARM('./sapinst' '-nogui' 'SAPINST_DIALOG_PORT=21212')
    > ```

  - 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=<Port_Number>`**

## 4.2 Running the Installer

This section describes how to run the installation tool Software Provisioning Manager 1.0 (the "installer" for short).

Software Provisioning Manager 1.0 includes a GUI client and a GUI server, which both use Java. In the following, GUI client and GUI server are called the "installer GUI".

This procedure describes an installation where the installer and the installer GUI are running on the same host.

If you need to see the installation on a remote display, we recommend that you perform a remote installation [page 43], where the installer GUI is running on a **separate** host from the installer.

Alternatively you can use an X server for Microsoft Windows or other remote desktop tools for remote access to the installer GUI on Windows workstations. For more information, see SAP Note 1170809.

> **Recommendation**
>
> Since IBM i does not have GUI capabilities, we recommend that you perform a remote installation with the installer. You first have to start the installer without the installer GUI on the IBM i host using `QP2TERM` and then you have to start the installer GUI on the Windows installation host. Afterwards the installer behaves the same as if started completely on one host. For more information, see Performing a Remote Installation [page 43] and Starting the Installer GUI Separately [page 45]. The remote installation is the default installation option on IBM i. The section *Running the Installer* is used only for information.
>
> However, the remote GUI display (using the `DISPLAY` environment variable) is possible, but this is considered an advanced user option.

### Prerequisites

For more information, see Prerequisites for Running the Installer [page 35].

### Procedure

1. Make sure that you log on to your host as a user with similar authorization rights to `QSECOFR`. For more information, see Preparing an IBM i User Profile [page 24].

> **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**.

2. Start 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')
   ```

   > **Note**
   >
   > As a default, there is no GUI on IBM i, so you do not see the *Welcome* screen for the installer. You must start the installer with the parameter **'-nogui'** and the installer GUI separately on your Windows installation host. For more information, see Performing a Remote Installation [page 43] and Starting the Installer GUI Separately [page 45].

   > **Note**
   >
   > If you need to assign a virtual host name to the instance to be installed and you do not want to assign it by entering it as a parameter using the installer screens (see Basic Installation Parameters [page 17]), you can alternatively assign it by starting the installer with the `SAPINST_USE_HOSTNAME` property:
   >
   > ```
   > CD DIR('<Path_To_Unpack_Directory>')
   > CALL PGM(QP2TERM) PARM('./sapinst' 'SAPINST_USE_HOSTNAME=<Virtual_Host_Name>')
   > ```
   >
   > For more information, see Using Virtual Host Names [page 23].

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

3. On the *Welcome* screen, execute the required option:
   - To install a new SAP Web Dispatcher instance, choose one of the following:

     Table 15:

     | Option | Description |
     | --- | --- |
     | *Generic Options* > *SAP Web Dispatcher (Non-Unicode)* | Installs a non-Unicode SAP Web Dispatcher instance using *SAP WEB DISPATCHER* `<7.21 or 7.42>`. |
     | *Generic Options* > *SAP Web Dispatcher (Unicode)* | Installs a Unicode SAP Web Dispatcher instance using *SAP WEB DISPATCHER 7.45*. |

- To rename an existing SAP Web Dispatcher instance, go to *System Rename* and choose: ▶ *Distributed System* ▶ *System Rename for Web Dispatcher Instance* ◀
- To uninstall an existing SAP Web Dispatcher instance, go to ▶ *Generic Options* ▶ `<Database>` ▶ *Uninstall* ◀ and choose:

4. Choose *Next*.
5. Follow the instructions on the installer screens and enter the required parameters.

   > **Note**
   >
   > To find more information on each parameter during the input phase of the installation, position the cursor on the required parameter and press `F1`.

   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.
6. To start the installation, choose *Start*.
   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`.
7. We recommend that you delete all files in the directory `/home/<Installation_User>/.sdtgui`.
8. If you copied the installer software to your hard disk, you can delete these files when the installation has successfully completed.

## 4.3 Additional Information About the Installer

The following sections provide additional information about the installer:


- Useful Information About the Installer [page 39]
- Interrupted Installation [page 41]
- Performing a Remote Installation [page 43]
- Starting the Installer GUI Separately [page 45]
- Running the Installer in Accessibility Mode [page 47]
- Troubleshooting with the Installer [page 48]


### 4.3.1 Useful Information About the Installer

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

- The installer creates the installation directory `sapinst_instdir` 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` as **default** installation directory.
  If you want to use an **alternative** installation directory, set the environment variable `TEMP`, `TMP`, or `TMPDIR` to the required directory before you start the installer.

Table 18:

| Shell Used | Command |
| --- | --- |
| Command prompt | `ADDENVVAR ENVVAR(TEMP) VALUE('<Directory>') REPLACE(*YES)` |
| Qp2Term | `export TEMP=<Directory>` |

> **Note**
>
> When you leave your Qp2Term session, all changes of the environment variables done by the command export are reverted.

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

- For each option, the installer creates a subdirectory located in the `sapinst_instdir` directory.
- The installer extracts itself to the temporary directory. These executables are deleted again after the installer has stopped running.
  Directories called `sapinst_exe.xxxxxx.xxxx` sometimes remain in the temporary directory. You can safely delete them.
  The temporary directory also contains the log file `dev_selfex.out` from the extraction process, 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 PGM(QP2TERM) PARM('./sapinst' '-p')
  ```
- If you need to run the installer in accessibility mode, proceed as described in Running the Installer in Accessibility Mode [page 47].
- If required, stop the installer by choosing *SAPinst* > *Exit Process* in the installer GUI menu on your Windows PC.

> **Note**
>
> If you need to terminate the installer, press `Shift` + `Esc` then `2` on your `IBM i` host.

- If you want to install an SAP system in unattended mode, see SAP Note 2230669 which describes an improved procedure using `inifile.params`.

## 4.3.2 Interrupted Processing of the Installer

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 installation by choosing *Exit Process* in the *SAPinst* menu.

> ⚠ 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 19:

| Option | Definition |
|---|---|
| *Retry* | The installer retries the installation from the point of failure without repeating any of the previous steps.<br>This is possible because the installer records the installation progress in the `keydb.xml` file.<br>We recommend that you view the entries in the log files, try to solve the problem, and then choose *Retry*.<br>If the same or a different error occurs, the installer displays the same dialog box again. |
| *Stop* | The installer stops the installation, closing the dialog box, the installer GUI, and the GUI server.<br>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. |
| *Continue* | The installer continues the installation from the current point. |
| *View Log* | Access installation log files. |

### Procedure

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

1. Log on to the installation host as a user with the required permissions as described in Running the Installer [page 37].

2. Make sure that the installation media are still available on the installation host.
   For more information, see Preparing the Installation Media [page 26].

   > **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. 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')` or
   `CALL PGM(QP2TERM) PARM('./sapinst' '-nogui')` (using the default: remote installer GUI)

   > **Note**
   >
   > As a default, there is no GUI on IBM i, so you do not see the *Welcome* screen for the installer. You must start the installer with the parameter `'-nogui'` and the installer GUI separately on a Windows platform. For more information, see Performing a Remote Installation [page 43].

4. 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.
5. On the *What do you want to do?* screen, decide between the following alternatives and continue with *Next*:

Table 20:

| Alternative | Behavior |
| --- | --- |
| *Run a new option* | The installer does not continue the interrupted installation option. Instead, it moves the content of the old installation directory and all installation-specific files to a backup directory. Afterwards, you can no longer continue the old installation option.<br><br>The following naming convention is used for the backup directory:<br><br>`log_<Day>_<Month>_<Year>_<Hours>_<Minutes>_<Seconds>`<br><br>**Example**<br><br>`log_01_Oct_2008_13_47_56`<br><br>**Note**<br><br>All actions taken by the installation before you stopped it (such as creating directories or users) are not revoked.<br><br>**Caution**<br><br>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 old option* | The installer continues the interrupted installation from the point of failure. |

## 4.3.3 Performing a Remote Installation

You use this procedure to install your SAP system on a **remote** host. In this case, the installer runs on the **remote host**, and the installer GUI runs on the **local** host. The local host is the host from which you control the installation with the installer GUI. The installer GUI connects using a secure SSL connection to the installer.

If your security policy requires that the person performing the installation by running the installer GUI on the local host is not allowed to know `QSECOFR` like credentials on the remote host, you can specify another operating system user for authentication purposes. You do this using the `SAPINST_REMOTE_ACCESS_USER` parameter when starting the `sapinst` executable from the command line. You have to confirm that the user is a trusted one. For more information, see SAP Note 1745524.

Alternatively you can use an X server for Microsoft Windows or other remote desktop tools for remote access to the installer GUI on Windows workstations. For more information, see SAP Note 1170809.

**Caution**

In this section, “local host” refers to the Windows installation host, and “remote host” refers to the IBM i host where the SAP system is installed.

## Prerequisites

- The remote host meets the prerequisites for starting the installer as described in Prerequisites for Running the Installer [page 35].
- Both computers are in the same network and can ping each other.
  To test this:
  1. Log on to your remote host (IBM i) and enter the command:
     ```
     PING RMTSYS('<Local_Host>')
     ```
  2. Log on to the local host (Windows PC) and enter the command:
     ```
     ping <Remote_Host>
     ```
- If you need to specify another operating system user with the `SAPINST_REMOTE_ACCESS_USER` command line parameter, make sure that this user exists on the remote host and that this user owns an existing home directory on IBM i (`/home/<User_Name>`).

## Procedure

1. Log on to your host as the installation user with similar authorization rights to `QSECOFR`. For more information, see Preparing an IBM i User Profile [page 24].

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

2. Make the installation media available on the remote host.
   For more information, see Preparing the Installation Media [page 26].

   > **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. Check the version of the `sapinst` executable by entering the following commands:
   ```
   CD DIR('<Path_To_Unpack_Directory>')
   CALL PGM(QP2TERM) PARM('./sapinst' '-sfxver')
   ```
   The version of the `sapinst` executable must be exactly the same as the version of the `sapinstgui` executable on the local host (see also Starting the Installer GUI Separately [page 45]).
4. Start the installer by entering the following commands:
   ```
   CD DIR('<Path_To_Unpack_Directory>')
   CALL PGM(QP2TERM) PARM('./sapinst' '-nogui')
   ```

   > **Note**
   >
   > If you need to specify another operating system user for authentication purposes, this command is as follows:
   >
   > ```
   > CALL PGM(QP2TERM) PARM('./sapinst' '-nogui'
   > 'SAPINST_REMOTE_ACCESS_USER=<Specified_OS_User>')
   > ```

The installer now starts and waits for the connection to the installer GUI. You see the following at the command prompt:
`guiengine: no GUI connected; waiting for a connection on host <Host_Name>, port <Port_Number> to continue with the installation`

5. There is no GUI on IBM i, so you do not see the installer *Welcome* screen. As a default, you must start the installer GUI separately on a Windows operating system . For more information, see Starting the Installer GUI Separately [page 45].

## 4.3.4 Starting the Installer GUI Separately

You use this procedure to start the installer GUI separately.

You might need to start the installer GUI separately in the following cases:

- You are running IBM i and did not set a `DISPLAY` environment variable.
- You closed the installer GUI using *File* > *Close GUI only* from the installer menu while the installer is still running.
- You want to perform a remote installation, where the installer GUI runs on a different host from the installer. For more information, see Performing a Remote Installation [page 43].
- You want to run the installer in accessibility mode. In this case, you have to start the installer GUI separately on a Windows host as described below with the command line parameter **`-accessible`**. For more information, see Running the Installer in Accessibility Mode [page 47].

> **Caution**
>
> This is the default on IBM i. Since there is no GUI on IBM i, you must start the installer GUI separately.

### Prerequisites

- The host on which you want to start the installer GUI meets the prerequisites for starting the installer as described in Prerequisites for Running the Installer [page 35].

  > **Note**
  >
  > If you want to run the installer on a Windows host, make sure that you meet the prerequisites for the installer listed in the relevant Windows guide.

### Procedure

In this procedure, the following variables are used: `<Remote_Host>` is the name of the remote host, and `<Port_Number_Gui_Server_To_Gui_Client>` is the port the GUI server uses to communicate with the GUI client (21212 by default).

> **Note**
>
> If you want to run the installer GUI on a remote host, it is mandatory to start the installer using the `-nogui` property. If you have already started the installer without the `-nogui` property and want to run the GUI on a different host, you have to exit the installation process by choosing *SAPinst* > *Exit Process* and then follow the steps described in Interrupted Installation [page 41]. Use the `-nogui` property to restart the installer and start the installer GUI on the intended host.

**Starting the Installer GUI on Windows**

1. Make the installer software available on the host on which you want to start the installer GUI.
   For more information, see Preparing the Installation Media [page 26].
2. Start the installer GUI by executing the `sapinstgui` executable with the appropriate command line parameters:

   > **Note**
   >
   > If you start the installer GUI executable on Windows 7 or Windows 2008, you must use the option *Run as administrator*. Typically, you first start a command prompt using *Run as administrator*. Then in this command prompt, you enter the installer GUI command.

   > **Note**
   >
   > If you have a share `ROOTBIN` on your IBM i and you have mapped this share to the drive for example X, you can start the installer GUI using your copied unpack directory:
   >
   > For more information, see Copying the Installation Media Manually to Your IBM i [page 32].
   >
   > By default the Windows `sapinstgui.exe` is part of the Software Provisioning Manager archive for IBM i. Only when the file `sapinstgui.exe` is missing, you must download the Software Provisioning Manager archive for Windows .

   - If you want to perform a remote installation, proceed as follows:
     1. Check the version of `sapinstgui.exe` by entering the following command:
        ```
        <Path_To_Unpack_Directory>\sapinstgui.exe -sfxver
        ```
        The version of the `sapinstgui` executable must be exactly the same as the version of the `sapinst` executable on the remote host (see also Performing a Remote Installation [page 43]).
     2. Start the installer GUI by entering the following command:
        ```
        <Path_To_Unpack_Directory>\sapinstgui.exe -host <Remote_Host> -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```
   - If you closed the installer GUI using *File* > *Close GUI only* and want to reconnect to the installer, proceed as follows:
     1. If you are performing a local installation with the installer and the installer GUI running on the **same** host, execute the following command:
        ```
        <Path_To_Unpack_Directory>\sapinstgui.exe -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```
     2. If you are performing a remote installation with the installer and the installer GUI running on **different** hosts, execute the following command:
        ```
        <Path_To_Unpack_Directory>\sapinstgui.exe -host <Remote_Host> -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```

3. The installer GUI starts and connects to the installer.

**Starting the Installer GUI on UNIX**

1. Make the installer software available on the host on which you want to start the installer GUI.
   For more information, see Preparing the Installation Media [page 26].
2. Start the installer GUI by executing the `sapinstgui` executable with the appropriate command line parameters:
   - If you want to perform a remote installation, proceed as follows:
     1. Check the version of the `sapinstgui` executable by entering the following command:
        ```
        <Path_To_Unpack_Directory>/sapinstgui -sfxver
        ```
        The version of the `sapinstgui` executable must be exactly the same as the version of the `sapinst` executable on the remote host (see also Performing a Remote Installation [page 43]).
     2. Start the installer GUI by entering the following command:
        ```
        <Path_To_Unpack_Directory>/sapinstgui -host <Remote_Host> -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```
   - If you closed the installer GUI using *File* > *Close GUI only* and want to reconnect to the installer, proceed as follows:
     1. If you are performing a local installation with the installer and the installer GUI running on the same host, execute the following command:
        ```
        <Path_To_Unpack_Directory>/sapinstgui -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```
     2. If you are performing a remote installation with the installer and the installer GUI running on different hosts, execute the following command:
        ```
        <Path_To_Unpack_Directory>/sapinstgui -host <Remote_Host> -port
        <Port_Number_Gui_Server_To_Gui_Client>
        ```
3. The installer GUI starts and connects to the installer.

## 4.3.5 Running the Installer in Accessibility Mode

You can also run the installer in accessibility mode. The following features are available:

- Keyboard access:
  This feature is available for all operating systems.
- High-contrast color:
  This feature is derived from the Windows display properties. Therefore, to enable this feature, perform a remote installation with the installer GUI running on a Windows host.
- Custom font setting:
  This feature is derived from the Windows display properties. Therefore, to enable this feature, perform a remote installation with the installer GUI running on a Windows host.

### Procedure

**Activating and Adjusting Accessibility Settings on Windows**

You first have to activate and adjust the relevant settings for the font size and color schemes **before** you start the installer or the installer GUI.

> **Note**
>
> The following procedure applies for Windows Server 2008 and might be different when using another Windows operating system.

1. Right click on your Windows desktop and choose *Personalize*.
2. Choose *Adjust font size (DPI)* and choose *Larger scale (120 DPI)*.
   To define other font size schemes, choose *Custom DPI*.
3. In the right-hand pane, select *Window Color and Appearance*.
   Select a color scheme from the *Color scheme* dropdown box.
   To define your own color schemes, choose *Advanced*.

**Running the Installer in Accessibility Mode**

You perform a remote installation as follows:

1. Start the installer on the remote IBM i host by executing the following command from the command line as described in Performing a Remote Installation [page 43]:
   ```
   CD DIR('<Path_To_Unpack_Directory>')
   CALL PGM(QP2TERM) PARM('./sapinst' '-nogui')
   ```
2. Start the installer GUI on a local Windows host by executing the following command from the command line as described in Starting the Installer GUI Separately [page 45]:
   ```
   sapinstgui.exe -accessible -host <Remote_Host> -port
   <Port_Number_Gui_Server_To_Gui_Client>
   ```

## 4.3.6 Troubleshooting with the Installer

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

If an error occurs, the installer:

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

### Procedure

1. Check SAP Note 1548438 for known installer issues.
2. To view the log file, choose *View Logs*.
3. If an error occurs during the dialog or processing phase, do one of the following:
   - Try to solve the problem.
   - Abort the installer by choosing *Stop* from the error message or *SAPinst* > *Exit Process* in the tool menu.
     For more information, see Interrupted Installation [page 41].

   Continue by choosing *Retry*.

4. Check the log and trace files of the GUI server and the installer GUI in the directory `/home/<Installation_User>/.sdtgui/` for errors.
   - If the GUI server or the installer GUI does not start, check the file `sdtstart.err` in the current `/home/<Installation_User>` directory.
   - If the installer GUI aborts without an error message, restart the installer GUI as described in Starting the Installer GUI Separately [page 45].
   - If you use an X Server for Microsoft Windows or other remote desktop tools for the Remote Access of the installer GUI on Windows Workstations and you experience display problems such as missing repaints or refreshes, contact your X Server vendor. The vendor can give you information about whether this X Server supports Java Swing-based GUIs and also tell you about further requirements and restrictions. For more information, see SAP Note 1170809.
5. If you cannot resolve the problem, report an incident using component BC-INS.
   For more information about using subcomponents of BC-INS, see SAP Note 1669327.

# 5 Post-Installation Activities

## 5.1 Logging on to the SAP Web Dispatcher Management Console

This section describes how to log on to the SAP Web Dispatcher.

### Context

You must log on to the SAP Web Dispatcher Management Console to do the following:

- Check whether the SAP Web Dispatcher was installed successfully,
- Change the password of the `webadm` user,
- Access monitoring and administration tools.

### Procedure

1. Open a web browser.
2. Enter the following URL, depending on whether you use HTTP or HTTPS:

   **`http(s)://<Webdispatcher_Host>:<HTTP(S)_PORT>/sap/wdisp/admin`**

   Example

   **`https://plx282:44300/sap/wdisp/admin`**

3. Log on as user `webadm` with the password that you entered during the input phase of the installation.

   The *SAP Web Dispatcher Monitor* screen appears.
4. We recommend that you change the password of `webadm` immediately after the installation for security reasons.

   For more information, see the Web Dispatcher documentation in the SAP Library [page 11] at: *Application Help* > *Function-Oriented View* > *Application Server Infrastructure* > *Components of SAP NetWeaver Application Server* > *SAP Web Dispatcher* > *Administration of the SAP Web Dispatcher* > *Using the Web Administration Interface* > *Area menu* > *Section "HTTP Handler"*

## 5.2 SAP Web Dispatcher Configuration

After installing SAP Web Dispatcher, you must configure it to be able to use it.

For more information, see the Web Dispatcher documentation in the SAP Library [page 11] at: *Application Help* > *Function-Oriented View* > *Application Server Infrastructure* > *Components of SAP NetWeaver Application Server* > *SAP Web Dispatcher*

# 6 Additional Information

## 6.1 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.

### Procedure

Proceed as described in SAP Note 1624061.

## 6.2 Starting and Stopping the Instance Manually

### Use

You check that you can start and stop the Web Dispatcher by entering the commands `STARTSAP` and `STOPSAP`.

### Procedure

#### Starting the Instance

1. Log on as user `<sapsid>adm` to the Web Dispatcher host.
2. Enter the following command and choose F4: **STARTSAP**
3. Enter the SAP system ID (for example, **C11**) and the instance number (for example, **90**).
4. To check whether the instance started successfully, enter the following command:
   **WRKACTJOB SBS(R3_<Instance_Number>)**.

#### Stopping the Instance

1. Log on as user `<sapsid>adm` to the Web Dispatcher host.
2. Enter the following command and choose F4: **STOPSAP**
3. Enter the SAP system ID (for example, **C11**) and the instance number (for example, **90**).

## 6.3 Uninstall

### Use

The following procedure describes how to uninstall a Web Dispatcher using the installer.

### Procedure

1. Start the Installer [page 37].
2. On the Welcome screen, choose *Generic Installation Options* > `<Database>` > *Uninstall* > *Uninstall SAP Systems or Single Instances*.
3. Follow the instructions in the installer screens.

# Important Disclaimers and Legal Information

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Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

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