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SAP BW/4HANA Master Guide

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Document History

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

Version	Date	Description
1.0	September 07, 2016	Initial Version
1.1	March 26, 2018	Update: <ul style="list-style-type: none">• Installation Procedure• Installation Tool• Post-Installation
2.0	February 25, 2019	Update: <ul style="list-style-type: none">• Installation Procedure• Upgrade from 1.0 to 2.0
2.0 SP04	March 03, 2020	Update: <ul style="list-style-type: none">• SAP BW/4HANA Use Case• Planning the Use Case and its System Landscape• Before Upgrade Steps
2021 SP00	October, 25, 2021	Update: <ul style="list-style-type: none">• Installation Procedure
2023 SP00	October, 30, 2023	Update: <ul style="list-style-type: none">• Major Planning Steps and Related Documentation [page 10]• Planning the Use Case and its System Landscape [page 11]• Installation Procedure [page 13]• Before Upgrade Steps [page 19]• Checking Release Information Note [page 20]• Updating the SAP HANA Database [page 20]• Deploying AS ABAP and SAP BW/4HANA [page 21]

1 Getting Started

1.1 About this Document

This Master Guide is the central starting point for the technical implementation of SAP BW/4HANA 2023. It provides you with information about the use cases and the installable product instances.

Constraints

The scenarios that are presented here serve as examples of how you can use SAP software in your company. The scenarios are intended only as models and do not necessarily run as described here in your customer-specific system landscape. Check your requirements and systems to determine whether these scenarios can be used productively at your site. We also recommend that you test these scenarios thoroughly in your test systems in order to ensure that they are complete and are free of errors before going live.

1.2 Glossary

Short overview of some technical terms as well as key terms

Term	Explanation
Client	Clients are additional installable programs or tools. They reside either on local front-end PCs accessed by users or on back-end systems where they act as client programs within an SAP system landscape.
Landscape Pattern	Defines if a technical system is used by one or several product systems to calculate update and upgrade methods. The landscape pattern can be defined as "hub" system (if used by several product systems) or as "sidecar" system (if used by one product system).
LMDB	Landscape Management Database Central storage and editor for system information in SAP Solution Manager, supplied by a central SLD. In the LMDB, you manage technical information (such as technical systems and hosts) and logical information (such as product systems and technical scenarios). This data is the basis for other applications, like monitoring and alerting, diagnostics, maintenance transactions, and SAP Support Portal.
Logical Component	Group of technical systems that provide a concrete business function by installed product instances and by different roles (such as development, test, or production system).

Term	Explanation
Maintenance Planner	<p data-bbox="507 371 1342 432">Tool on SAP Support Portal to visualize the existing system landscape, and to plan and simulate updates, upgrades, and new installations.</p> <p data-bbox="507 456 1394 719">Maintenance planner is a solution hosted by SAP and helps you plan and maintain systems in your landscape. You can plan complex activities like installing a new system or updating existing systems. All changes can be scheduled to be deployed at a convenient time, to minimize downtime. Maintenance planner is the successor of Maintenance Optimizer, Landscape Planner, and Product System Editor. It simplifies the maintenance process by consolidating critical tasks such as definition of product maintenance dependencies, implementing changes by generating stack configuration, downloading archives, and so on, in one tool.</p>
Operating Scope	<p data-bbox="507 763 1394 853">Operating scope describes the usage of a system with regard to SAP BW/4HANA. It determines which SAP BW/4HANA objects are installed to make the system work for the defined use case.</p> <p data-bbox="507 882 1350 936">For Post-Installation set the operating scope to a value appropriate for your system use case.</p>
Product	<p data-bbox="507 981 1150 1003">An SAP offering in the SAP price list that performs business tasks.</p> <p data-bbox="507 1028 1382 1261">The complete product model is shipped as SAP Software Catalog. The availability of products is published in the Product Availability Matrix (PAM). The product model defines the product structure with its product instances, software components, version, and technical dependencies between product and its components. Products typically have a name starting with 'SAP...' and are characterized by a version period and a maintenance cycle. A product can be installed on one or more technical systems. All technical systems that are involved form the product system.</p> <p data-bbox="507 1285 900 1312">Example for product is SAP BW/4HANA.</p>
Product Instance	<p data-bbox="507 1350 1222 1373">Part of a product version that bundles one or more software components.</p> <p data-bbox="507 1397 1382 1529">A product instance is part of only one product version. It must be installed and updated as a whole on a single technical system. Patches can still be installed for individual software components. A product instance can contain other product instances. It can be re-used across products.</p> <p data-bbox="507 1554 916 1581">Example for product instance is AS ABAP.</p>
Product System	<p data-bbox="507 1619 1326 1673">A group of technical systems on which a product version is installed. Product system descriptions are used to maintain and plan products in the system landscape.</p>
Product Version	<p data-bbox="507 1711 772 1733">A release of a SAP product.</p> <p data-bbox="507 1765 1394 1890">It bundles product instances and the included software component versions that are available at a particular time for a specific scope of functionality. Like products, product versions are shipped in the SAP Software Catalog. They are the basis for the compatibility of closely coupled systems and the maintenance of product systems.</p>

Term	Explanation
SLD	<p data-bbox="507 371 788 394">System Landscape Directory</p> <p data-bbox="507 423 1390 517">Central provider of information on technical systems, for consumers in the system landscape and for external consumers. The SLD obtains its information mainly from SLD data suppliers, which are installed on the technical systems, and from the SAP software catalog.</p> <p data-bbox="507 546 1326 607">With the SLD, you collect and edit system data that is required for system landscape management.</p>
Software Component	<p data-bbox="507 640 1023 663">Delivery and product unit of an SAP software product</p> <p data-bbox="507 692 1378 887">A software component comprises a set of packages that are delivered in a single unit. You always assign repository objects to a software component by assigning the package containing these objects. This makes it possible to move repository objects from one software component to another during a release upgrade. A software component is released in successive releases with new functions. You can import patches into each software component separately.</p>
Software Provisioning Manager	<p data-bbox="507 920 1362 1021">A tool that performs software provisioning processes such as installation, uninstallation, system copy, or system transformation. The Software Provisioning Manager is delivered with the Software Logistics Toolset.</p>
Stack configuration file	<p data-bbox="507 1055 1378 1189">The stack configuration file is created by the Maintenance Planner and is system-specific. Depending on the software components that are installed in a system, the Maintenance Planner calculates the required software components that have to be updated to reach a certain target configuration.</p>
Technical System	<p data-bbox="507 1223 1394 1283">Describes a part of a product's software that is installed on one or several physical or virtual hosts.</p> <p data-bbox="507 1312 1378 1469">A technical system is installed and administered as a whole. It is identified by a system ID (SID) or extended SID, a host, and an installation number. There are different technical system types, for example Application Server (AS) ABAP. Technical systems are central elements when it comes to software component deployment and operational activities, such as monitoring and alerting.</p>
Update	<p data-bbox="507 1503 1362 1570">Activities to maintain or enhance a system, such as installing enhancement packages, installing add-ons, or applying support package stacks or support packages.</p> <p data-bbox="507 1599 1362 1727">Note: The tool for system maintenance tasks is the Software Update Manager (SUM). In the SUM guide, the term "Update" is used as collective term for all the tasks that can be performed using this tool (such as performing release upgrades, installing enhancement packages, or updating a system with Support Package Stacks).</p>
Use Case	<p data-bbox="507 1760 1378 1850">A definition of use from the end users' perspective for accomplishing a specific goal within a system. Use cases represent the main capabilities of the system to fulfill specific requirements.</p>

1.3 SAP BW/4HANA Use Case

SAP BW/4HANA is a data warehouse solution which is highly optimized for the SAP HANA platform. It offers a managed approach to data warehousing. This means that prefabricated templates (building blocks) are offered for building a data warehouse in a standardized way. The use case illustrates how you can use your SAP BW/4HANA implementation. The main use case of SAP BW/4HANA is Data Warehousing.

SAP BW/4HANA provides you with a simplified data warehouse, with agile and flexible data modeling, SAP HANA-optimized processes and state-of-the-art user interfaces. The core functionality of SAP BW is preserved. In SAP BW/4HANA, objects for data modeling, as well as processes and user interfaces, are especially primed for use with a SAP HANA database. Data modeling is restricted to the small number of objects that are well-suited for modeling the layer architecture of a data warehouse on SAP HANA (LSA++). In SAP BW/4HANA, data warehouse models can be flexibly combined with SAP HANA views. An intuitive Eclipse-based modeling environment supports object modeling here.

Customers running a SAP Datasphere today

These customers perfectly benefit from tight integration through cross-consumption: SAP BW/4HANA is the starting point for a gradual transition from on-premise data warehouse to SAP Datasphere.

SAP BW/4HANA can be easily enhanced with cloud scenarios:

- Fast time-to-value for Line of Business (LoB) users independent of IT
- Easy consumption of existing SAP BW/4HANA data models
- LoB-driven connection of additional sources
- LoB-built and managed data models
- Leverage your existing SAP BW/4HANA or SQL skill set

For customers running SAP Datasphere, SAP BW/4HANA offers a scalable and mature platform to store their enterprise data that can then be flexibly combined with LoB specific data in a space in SAP Datasphere. Data Integration to SAP HANA is possible using the “ABAP” connection type in SAP Datasphere.

Customers running SAP Business Warehouse on any database

These customers benefit greatly from moving their current SAP BW to SAP BW/4HANA because in this context they will experience both premium performance for data loads and analysis, and a highly simplified BW in terms of reduced data layers and consolidation of modelling objects. This enables far greater agility when it comes to business process changes and new business requirements.

SAP BW/4HANA is open to SAP systems as well as non-SAP systems via the SAP HANA EIM integration with its predefined adaptors and flexible access methods like virtualization, real time replication etc. or an automated switch between the different methods. This amounts to a decisive step towards a scalable, service-driven logical data warehouse.

The possibility to automatically generate SAP HANA views for data models that can then be consumed by any SQL tool or SAP HANA modeling studio provides additional flexibility together with openness to SQL-based data warehouse approaches.

All of this comes with a unified modern UI across all modeling tools.

For these customers, switching to SAP BW/4HANA is highly recommended because their legacy BW objects can now be transferred to the SAP HANA optimized BW objects. SAP BW/4HANA only provides the new SAP HANA optimized BW objects and does not contain any BW legacy.

Customers who are running SAP Business Warehouse on any database and decide to move to SAP BW/4HANA will either take a migration approach or a green field implementation.

For these customers, the best overall move is from a traditional data warehouse to a Business Analytics Platform.

Customers running SAP BW powered by SAP HANA already

Customers running SAP BW powered by SAP HANA already benefit from performance improvements, reduced data layers and to some extent also from simplifications based on the consolidation of modeling objects. They are usually in the process of further converting their old objects to the new modeling objects, such as the advanced DataStore Object and the new CompositeProvider.

The recommendation for existing SAP BW powered by SAP HANA customers would be to implement SAP BW powered by SAP HANA, release 7.5. You can now switch to the B4H compatibility mode, which enables you to use the existing transfer tools, combined with SAP's service offering, to convert their old objects to the SAP HANA optimized BW objects. This will bring them as close as possible to SAP BW/4HANA.

Customers running a SQL based data warehouse today

For customers running a SQL based data warehouse, based on Oracle for example, and have now decided to move to a SAP HANA based data warehouse it depends on their preferences, skill set, and modeling approaches (degree of freedom) whether SAP BW/4HANA will be an option. For these customers, SAP BW/4HANA needs to be positioned in the context of mixed scenarios with openness towards SQL-based approaches.

More Information

You can obtain all information about the product in the SAP Help Portal and in SAP Community Network (SCN):

- **SAP Help Portal**
SAP Help Portal bundles access to SAP product documentation and also related information, such as SAP Notes, product availability information, as well as community content.
- **SAP Community Network (SCN)**
The SCN is organized into more than 300 "spaces", which support small, self-contained communities. These communities are typically focused around a topic, an SAP product, or an industry. Each space

contains a complete set of social networking tools including a discussion forum, a blogging area, and an area where you can publish and collaborate on documents.

As a logged-on member, you can go to any space in the SCN landscape. but it is likely that you will be interested in visiting and following a particular set of spaces that reflect your particular range of interests and that members who share your interests are likely to visit too.

SCN spaces are where you can find the latest news from SAP and the community, where you interact with your peers, where you earn points for your contributions, and where you can establish your reputation as an expert on certain topics

1.4 Mapping of Use Case to Installable Software Unit

To give you a quick overview, the table below shows the mapping between use case and required SAP software units.

Use Case	Product Instance	Standalone Engines	Optional Standalone Units	Clients
Data Warehousing	<ul style="list-style-type: none"> SAP_BASIS SAP_GWFND SAP_UI SAP_ABA ST-PI DW4CORE SWC UIBAS001 			<ul style="list-style-type: none"> SAP GUI Modeling Tools for SAP BW/4HANA (BW Modeling Tools) SAP BusinessObjects Analysis, Edition for Microsoft Office* SAP BusinessObjects Design Studio*

*Note that SAP BusinessObjects products require separate licenses.

Note

The installation or upgrade also contains BW4CONT and BW4CONTB to make the SAP BW/4HANA installation complete from the beginning.

Related Information

[Description of Software Units \[page 23\]](#)

2 Planning SAP BW/4HANA

The general sequence for the implementation of an SAP BW/4HANA system is as follows:

1. You plan the implementation (such as scope, hardware and software requirements, release restrictions).
2. You plan the system landscape for the use cases.

Related Information

[Major Planning Steps and Related Documentation \[page 10\]](#)

[Planning the Use Case and its System Landscape \[page 11\]](#)


2.1 Major Planning Steps and Related Documentation

During an implementation project, you have to take many aspects into account and make various decisions. The major planning steps of this process are outlined below.

⚠ Caution

Unicode

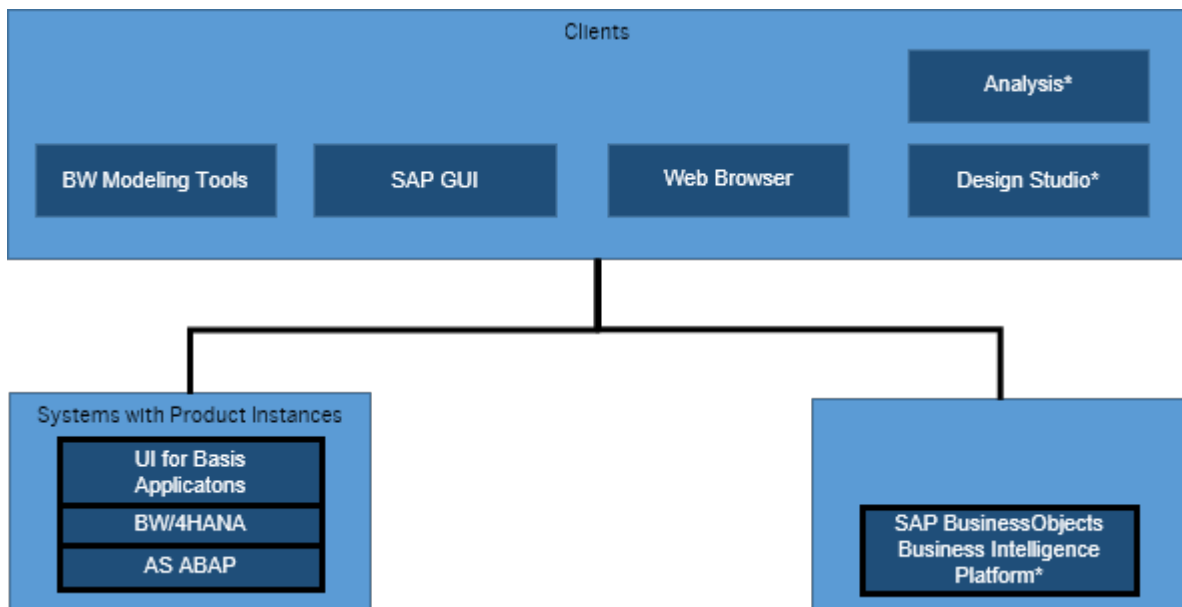
SAP BW/4HANA supports Unicode only. Make sure that the original system already supports Unicode.

Step	Step Description	Further Information
Scope and Requirements	You determine the scope of your SAP BW/4HANA implementation.	For more information, see SAP BW/4HANA Use Case [page 7] .
Landscape Planning	You determine the system landscape and consider the landscape-relevant aspects concerning your required use case.	See Planning the Use Case and its System Landscape [page 11] .
Hardware & Software Prerequisites	Use the <i>Product Availability Matrix</i> (PAM) to check which platforms (operating systems, databases, browsers) are supported for your SAP BW/4HANA components.	http://support.sap.com/pam 
	Check the recommended minimum database versions.	SAP HANA 2.0 SPS07 Rev.71

Step	Step Description	Further Information
Release Restrictions	Check SAP Notes for any release restrictions.	
SAP Solution Manager Prerequisites	<p>We recommend always using the latest SAP Solution Manager release.</p> <p>Make sure that your SAP Solution Manager system has the required support package level and content.</p> <p>Check if you need to update or upgrade your SAP Solution Manager application or content.</p> <p>After upgrading or updating to the latest SAP Solution Manager release, you need to carry out follow-up actions as described in the section <i>Software Change Management</i> of the <i>Solution Operations Guide</i>.</p>	<ul style="list-style-type: none"> See SAP Note 631042 for information about the Release strategy for Implementation Content (ST-ICO). See SAP Note 781448 for information about Support Package levels of SAP Solution Manager installations and upgrades. The Solution Operations Guide for SAP Solution Manager is available at: http://service.sap.com/in-stguides SAP Components SAP Solution Manager <Release> Operations

2.2 Planning the Use Case and its System Landscape

The following figure shows the software units that are used for data warehousing.



* Note that SAP BusinessObjects products require separate licenses.

- With SAP BW/4HANA, SAP offers the SAP HANA database. This is the in-memory deployment option for data warehousing. In combination with SAP BW/4HANA 2023, it is necessary to use SAP HANA 2.0 SPS07 Rev.71 or a higher revision.

- For SAP HANA Native Storage Extension (NSE) for Data Tiering Optimization (DTO) see SAP Note [2771956](#) for information about limitations.
- The Modeling Tools represent a modeling IDE (Integrated Development Environment) built on top of the Eclipse platform. Its main objective is to support SAP BW/4HANA model developers in today's increasingly complex BI environments by offering state-of-the-art modeling tools. These tools include integration with SAP HANA modeling and the consumption of SAP HANA elements in Open ODS Views or CompositeProviders with powerful UI (user interface) capabilities.

3 Implementing SAP BW/4HANA

The general sequence for the implementation of an SAP BW/4HANA system is as follows:

1. You install the components of your SAP BW/4HANA system.
2. You configure your systems.

Related Information

[Installation Procedure \[page 13\]](#)

[Post-Installation \[page 17\]](#)

[System Copy \[page 18\]](#)

[Upgrade Process \[page 19\]](#)

3.1 Installation Procedure

The installation procedure is divided into the following sections: Preparation, installation of the required SAP BW/4HANA systems, installation of standalone engines, installation of clients.

1. **You prepare the installation procedure.**

Tasks	Documentation
You identify the DVDs and archives required for the installation of the required software units.	You normally obtain the installation media as part of the installation package from SAP. However, you can also download installation media from the SAP Software Center on the SAP Support Portal at https://launchpad.support.sap.com/#/softwarecenter .

Note

Since the material numbers of the corresponding DVDs, CDs, and archives might change when new updates become necessary, we recommend visiting the SAP Software Distribution Center to make sure that you are always using the most recent version of the indicated data carriers.

Tasks	Documentation
SAP BW/4HANA runs on SAP HANA only. It supports SAP HANA 2.0 SPS07 Rev.71 or higher.	SAP HANA Master Guide on the SAP Help Portal at http://help.sap.com/hana_platform Implement Installation and Update SAP HANA Master Guides

2. **You install the required SAP BW/4HANA systems.**

The initial stack of the installation contains the following software components:

- SAP_BASIS 7.58 SP00
- SAP_ABA 7.5I SP00
- SAP_GWFND 7.58 SP00
- SAP_UI 7.58 SP00
- ST-PI 740 SP23
- DW4CORE 400 SP00
- UIBAS001 758 SP00

For installation use Software Provisioning Manager 2.0, see [2568783](#) - Release Note for Software Provisioning Manager 2.0.

Tasks	Documentation
You install SAP BW/4HANA systems with the required product instances.	See: 3365187 - SAP BW/4HANA Release Information Note
During the planning of your system in the Maintenance Planner, there is the option to add the Content add-ons created for BW/4HANA. Please select these if you want to make use of the Content add-ons.	See 2393067 - Release strategy for the ABAP add-on BW4CONT / BW4CONTB.
SAP BW/4HANA Content add-ons 2.0 include basic BI Content objects and functions to enable SAP HANA-optimized BI Content data models.	
SAP Kernel Update Make sure that you apply the latest kernel as described in the Installation Guide.	Installation Guide <i>Installing SAP Systems Based on SAP NetWeaver 7.1 and Higher - Using Software Provisioning Manager 2.0</i> Specific installation guides are provided for all supported combinations of technologies (ABAP), databases and operating systems at Installation Guides - Application Server Systems - Software Provisioning Manager 2.0 .

Tasks

Installation guides describing the installation of application server systems with the Software Provisioning Manager 2.0 which is part of SL Toolset 1.0. Make sure that you always use the latest SP version of the tool and guides available on the SAP Support Portal at <http://help.sap.com/sltoolset>.

Documentation

You find these guides (as well as a link to the SPM tool) at <https://support.sap.com/sltoolset> **System Provisioning** > **System Provisioning Scenarios** > **Install a System using Software Provisioning Manager** > **Installation Option of Software Provisioning Manager 2.0 SP 00 (or higher)** > **Installation Guides - Application Server Systems** (Installation Guides - Application Server Systems - Software Provisioning Manager 2.0).

These installation guides are sorted by database, technical stack (ABAP and Java), and operating system platform. For the installation of SAP BW/4HANA, choose the SAP HANA Database guide for your operating system (UNIX, IBM, or Windows), the ABAP Stack and the SAP HANA database.

SAP HANA Server Installation and Update Guide

You need the *SAP HANA Server Installation and Update Guide* for the installation of the following components:

- SAP LiveCache on SAP HANA
If you plan to use the SAP S/4HANA **Production Planning & Detailed Scheduling (PP/DS)** application, it is important that you install HANA integrated liveCache, which is the HANA component SAP LCA (also called LCAPPS- or liveCache Applications plugin).
- VCH AFL (SAP VCH AFL 1809.00)
See SAP Note [1898497](https://support.sap.com/1898497).

Note

For each SAP HANA revision, there is a corresponding version of these SAP HANA system components.

You can find this guide at http://help.sap.com/hana_platform **Installation and Upgrade** > **SAP HANA Server Installation and Update Guide** > For information about how to install or update these components, see the *Managing SAP HANA System Components* section in the guide.

Support Package Stack Update

We recommend always applying the latest Support Package Stack.

You can apply Support Package Stacks on top of SAP BW/4HANA 2023 and higher by using the Software Update Manager tool (<http://support.sap.com/sltoolset>).

Tasks	Documentation
<p>Secure by default</p> <p>As of SAP BW/4HANA 2023 security by default setting is enabled during installation and system copies.</p>	<p>Depending on the SAP BW/4HANA release, the scope of secure by default might change. Settings affect the profile parameters, ABAP platform configurations and SAP HANA auditing. Customers have the option of skipping the activation of the secure profile parameters. Due to the nature of the settings, ABAP platform configurations and SAP HANA auditing are always enabled.</p> <p>For more information about SAP BW/4HANA secure by default settings, see 2926224 Information published on SAP site.</p>

3. You install the standalone engines.

Tasks	Documentation
Web Dispatcher	<i>Installing Web Dispatcher for SAP Systems using Software Provisioning Manager 1.0</i>
Standalone Gateway	<i>Installing Gateway for SAP Systems and higher using Software Provisioning Manager 1.0</i>

4. You install the clients.

Tasks	Documentation
SAP GUI for Windows	<i>SAP Front End Installation Guide</i>
ABAP Development Tools for SAP NetWeaver (ADT)	<p>Installation Guide <i>ABAP Development Tools for SAP NetWeaver</i></p> <p>ADT can be downloaded from the SAP Software Download Center at https://support.sap.com/swdc</p>
BW Modeling Tools	<i>Installation Guide for Modeling Tools for SAP BW/4HANA and SAP BW powered by SAP HANA</i> at SAP Help Portal using the address https://help.sap.com/viewer/p/SAP_BW4HANA .
SAP NetWeaver Business Client	<p>SAP Help Portal at http://help.sap.com/nw75</p> <p>► <i>System Administration and Maintenance Information</i></p> <p>► <i>Technical Operations for SAP NetWeaver</i> ► <i>Technical Operations for SAP NetWeaver Business Client</i> ►</p>

3.2 Post-Installation

This section includes the post-installation steps that you have to perform.

1. After installation and before you start working with SAP BW/4HANA, you need to run task list **SAP_BW4_SETUP_SIMPLE** in transaction `STC01`. This task list performs the basic system setup tasks, like creating and configuring the SAP BW/4HANA background user, setting the SAP BW/4HANA client, and installing the essential technical content (content objects, mainly InfoObjects, and variables which are needed to make SAP BW/4HANA work).

The technical content is grouped by the **operating scope**.

In the SAP BW/4HANA use case as a data warehouse, the maximum scope is required. Please therefore set the parameter to 16 in the task list.

Note

It is **not** possible to **remove** an operating scope using a lower number. You can always **add** usages to the system by increasing the operating scope.

SAP BW/4HANA provides a Web Administration tool called **SAP BW/4HANA Cockpit**.

For initial configuration of a freshly installed SAP BW/4HANA system, basic configuration for the Fiori Launchpad can be performed using the standard task list **SAP_FIORI_LAUNCHPAD_INIT_SETUP**.

Caution

Before running the task list, please exit [2510134](#).

When running the task list, the following tasks are **not** needed and should be deselected beforehand:

- Activate Gateway OData Services for Launchpad (/IWFND/MAINT_SERVICE) (technical name `CL_STCT_ACTIVATE_SERVICES_FLP`)
- Activate HTTP Services for SAP Fiori Launchpad (SICF) (technical name `CL_STCT_ACTIVATE_SICF_FLP`)

After doing this, run task list **SAP_BW4_SETUP_SIMPLE**. This will carry out the SAP BW/4HANA specific part of the configuration of the Fiori Launchpad.

Note

This procedure is designed for new installations.

If you upgrade or update your system, you can find information here:

- [Post Upgrade Steps \[page 21\]](#)
- [Update Process \[page 22\]](#)

2. After running the task list, use the Implementation Guide (IMG) to add further settings.
3. You must install a permanent SAP license. When you install your SAP system, a temporary license is installed automatically.

Caution

Before the temporary license expires, you must apply for a permanent license key from SAP. We recommend applying for a permanent license key as soon as possible after installing your system.

For more information about SAP license keys and how to obtain them, see <http://support.sap.com/licensekey>.

3.3 System Copy

Use

At several stages in the lifecycle of your SAP solution, you will face the requirement to perform a system copy. For example, SAP recommends that you perform a system copy to create test, demo and training systems.

For this, SAP is offering system copy services (Backup and Recovery) that enable you to create consistent copies of your SAP systems, flexibly adapted to your needs - be it an SAP system distributed to several hosts, a high-availability system or a system on a rather exotic operating system/database combination.

More Information

- For an introduction into system copy, see <http://scn.sap.com/docs/DOC-8324> in the SAP Community Network.
- System copy guides are available on SAP Service Marketplace at <http://service.sap.com/installnw75>.

4 Upgrade Process

If you upgrade your system from SAP BW/4HANA 1.0 or SAP BW/4HANA 2.0 or SAP BW/4HANA 2021 to SAP BW/4HANA 2023, use Software Update Manager 2.0. You have to take a number of aspects into consideration. These are outlined below.

Related Information

[Before Upgrade Steps \[page 19\]](#)

[Checking Release Information Note \[page 20\]](#)

[Updating the SAP HANA Database \[page 20\]](#)

[Downloading Upgrade Files for AS ABAP and SAP BW/4HANA \[page 20\]](#)

[Migrating Object Types \[page 21\]](#)




[Deploying AS ABAP and SAP BW/4HANA \[page 21\]](#)

[Post Upgrade Steps \[page 21\]](#)

4.1 Before Upgrade Steps

Before starting the upgrade process, preparational steps in SAP BW/4HANA 1.0 or 2.0 are necessary. For SAP BW/4HANA 2021 and onwards, you don't have to execute any preparational steps before upgrade.

For more information see the following SAP notes:

- for SAP BW/4HANA 2.0 see [3077431](#) ,
- for SAP BW/4HANA 1.0 see [2846537](#) ,
- for corrections relevant for all releases see [3083828](#) .

For your convenience, we have implemented a `SAP_BW4_BEFORE_UPGRADE` tasklist to speed up the preparation for the upgrade. The task list should be run at least directly before the downtime begins.

However it is possible to run some tasks repeatedly, so it is possible to run those tasks already during the preparation phase. More information you can find in the system documentation of the tasks.

4.2 Checking Release Information Note

As an integral part of the upgrade process, you have to adhere to all of the instructions in the Release Information Note (RIN) for SAP BW/4HANA 2023, number [3365187](#).

You can find this RIN under <https://launchpad.support.sap.com/#/mynotes>. Enter the RIN number in the corresponding field in the upper right corner of the screen.

4.3 Updating the SAP HANA Database

SAP HANA SPS07 Rev.71 is required.

SAP ships SAP HANA support package revisions containing the latest capabilities in SAP HANA. Check the Release Information Note (RIN) for SAP BW/4HANA 2023 [3365187](#) to find information about the minimum SAP HANA revision required for SAP BW/4HANA. You can find the RIN under <https://launchpad.support.sap.com/#/mynotes>. Enter the RIN number in the corresponding field in the upper right corner of the screen.

Note

SAP BW/4HANA 1.0 and 2.0 are also running on SAP HANA 2.0. You can therefore only upgrade your SAP HANA version and run the SAP BW/4HANA upgrade at a later point in time.

4.4 Downloading Upgrade Files for AS ABAP and SAP BW/4HANA

The following documentation describes the planning and execution of the maintenance procedure for the upgrade of the SAP BW/4HANA add-on.

The maintenance procedure is executed using Maintenance Planner, a tool that is based on SAP Solution Manager's processes and data. Maintenance Planner is part of the SL Toolset. It ensures that all required components are automatically identified and provided for installation with the add-on.

Note

- During the upgrade procedure, you must ensure that the latest support package of SAP BW/4HANA is selected.
- New software components might have been introduced to the support package stack. Refer to the Release Information Note (RIN) of the support package (RIN), number [3365187](#), for information on stack components before processing the support package upgrade. Check if all required component versions are automatically selected before you start the download.

Maintenance Planner provides you with new software components under the product SAP BW/4HANA. Select SAP BW/4HANA.

After completing the upgrade planning procedure, check your download basket for all required components.

For information about the add-on upgrade, see section [Planning a System Update or Upgrade](#) of the Maintenance Planner User Guide on the SAP Help Portal at:

<http://help.sap.com/maintenanceplanner> ► *Application Help* ►

4.5 Migrating Object Types

During the upgrade, some object types are converted automatically.

Process chains are now displayed in the InfoAreas in the *BW Repository* tree and can be created and opened using the BW Modeling tools. During the upgrade, existing display components or groups are converted into InfoAreas.

4.6 Deploying AS ABAP and SAP BW/4HANA

The actual deployment of the SAP BW/4HANA add-on is executed using the Software Logistics Toolset (SL Toolset), and the latest version of the Software Update Manager (SUM).

Note

Make sure that you use no other tools than the SL Toolset 1.0 SPS39 and the latest SUM version to deploy SAP BW/4HANA.

For the specific steps to be executed, see the SAP Support Portal at:

[Software Update Manager 2.0](#) ► *<Select "SAP HANA DB" in the "Filter" field of column "Database">* ► *<Select "Download PDF" for your operating system>* ►

(<https://support.sap.com/sltoolset> ► *System Maintenance* ► *System Maintenance Scenarios* ► *Software Update/Upgrade using SUM* ► *Software Update/Upgrade with SUM 2.0 SP 004* ► *Guides for SUM 2.0 SP004* ► *<Select "SAP HANA DB" in the "Filter" field of column "Database">* ► *<Select "Download PDF" for your operating system>* ►)

4.7 Post Upgrade Steps

After finishing the upgrade process, an additional step is necessary.

After finishing the upgrade process, execute the task list **SAP_BW4_AFTER_UPGRADE**.

5 Update Process


If you update your system to a current support package of SAP BW/4HANA, there are a number of aspects that you should take into consideration. These are outlined below.

After finishing the update process, execute task list `SAP_BW4_AFTER_UPDATE`. This task list re-installs changed InfoObjects of the previously installed technical content and/or installs newly delivered technical objects. A number of cleanup and repair tasks also run.

6 Appendix

6.1 Additional Information for Implementing SAP BW/4HANA

The following table contains links to information available on SAP Service Marketplace or in the SAP Library which is relevant for implementing SAP BW/4HANA.

Content	Location on SAP Service Marketplace or in SAP Library
Information about security	<i>Security Guide for SAP BW/4HANA</i> , see https://help.sap.com/viewer/p/SAP_BW4HANA .
Information about SAP BW/4HANA Support Package Stacks	http://support.sap.com/sp-stacks 
SAP Solution Manager Guides	All SAP Solution Manager-related guides, such as <ul style="list-style-type: none">• Master Guide• Configuration Guide• Security Guide• Master Guide are available at https://help.sap.com/viewer/product/SAP_Solution_Manager .
Information about Maintenance Tools: Maintenance Planner and Maintenance Optimizer	See SAP Community Network at https://help.sap.com/viewer/p/MAINTENANCE_PLANNER .

6.2 Description of Software Units

The following sections provide more details about product instances, standalone engines, and clients of SAP BW/4HANA.

Caution

Uninstalling additional product instance

Note that it is not possible to uninstall additional product instances and that this is also not supported by SAP.

6.2.1 Systems with Product Instances

Installation Options for SAP BW/4HANA Systems With Product Instances

The standard SAP installation tool `software_provisioning_manager 2.0` offers the following options for installing SAP BW/4HANA systems with product instances:

- **Application Server ABAP**
This installation option installs an Application Server ABAP which is the basis for product instance SAP BW/4HANA.
Application Server ABAP provides a complete development and runtime environment for ABAP-based applications. It is optimized for the development of highly scalable business applications. The ABAP development environment is used both for developing completely new applications and extending and modifying SAP standard applications for customers. The entire, powerful infrastructure of the Application Server for ABAP can be used, which even supports the creation of the most complex applications by large groups of developers.

SAP BW/4HANA

SAP BW/4HANA provides the infrastructure for the following functions:

- Data warehousing
- Various analytical technologies and functions
- Open analysis interfaces that make available various interfaces for connecting front-end tools of third-party providers

6.2.2 Standalone Engines

For SAP BW/4HANA, the following standalone engines are available:

Content Server

Content Server is a separate server instance that is used to store documents or other types of content related to SAP applications. The accompanying cache server can cache content if your company operates in several locations. This reduces load on the wide area network when working with documents.

SAP NetWeaver Gateway

SAP NetWeaver Gateway facilitates easier provisioning and consumption of business logic and content of SAP back-end systems for mobile and web applications. It aims to reduce the complexity and the skill set required to access SAP data, thereby removing deployment barriers. Simple interfaces also help to shorten development times.

SAP NetWeaver Gateway enables people-centric applications to consume SAP Business Suite data through popular platforms and devices (such as the iPad and Blackberry) in an easy and standards-based manner. It is a framework that connects business users to SAP systems using consumer technologies, groupware, and

mobile devices and is based on open standards (such as the Atom Publishing Protocol and OData) that offer simple services based on the REST principle.

For more information, see SAP Help Library at <http://help.sap.com/nwgateway>

6.2.3 Clients

SAP NetWeaver Business Client

SAP NetWeaver Business Client (NWBC) is a high fidelity desktop client that allows users to display their assigned roles and to launch applications. SAP NetWeaver Business Client offers a unified environment for and a single point of entry to SAP business applications and technologies. NWBC is ideal for displaying business applications such as classical SAP GUI UIs, Web Dynpro UIs, BSP pages, and other content using its multiple rendering engines. NWBC provides role-based access to applications either via the portal or directly using role maintenance (transaction PFCG). In addition to the basic capabilities detailed above, the SAP NetWeaver Business Client makes use of its tight desktop integration to provide additional benefits such as desktop search functionality. In the newest SAP NetWeaver Business Client version you will find the improved user interface (UI) based on the SAP Signature design. This UI offers in part an expert-based interactive paradigm and a superior look and feel matching the expectations of today's users aiming to maximize their daily activities.

SAP NetWeaver Business Client is one of the main components of the User Interface Add-On for SAP NetWeaver. For more information, see the SAP Help Portal at <http://help.sap.com/nw-uiaddon> **Application Help**.

SAP GUI

SAP offers three different client applications for accessing ABAP applications in SAP systems (such as SAP NetWeaver systems with product instance AS ABAP). This SAP GUI family consists of:

- SAP GUI for HTML
SAP GUI for HTML is based on the SAP integrated Internet Transaction Server (ITS) which is included in the installation of SAP NetWeaver systems as of SAP NetWeaver 7.0. On the client side, only a suitable browser and a virtual machine are required. For information about supported browser versions, see the Product Availability Matrix on SAP Service Marketplace at <http://service.sap.com/pam>.
- SAP GUI for the Java environment (SAP GUI for Java)
SAP GUI for Java is a generic SAP GUI that covers a variety of platforms.
For more information about the installation of SAP GUI for Java, see the documentation *Installation Guide – SAP Front End*.
- SAP GUI for the Windows environment (SAP GUI for Windows)
SAP GUI for Windows is SAP's universal client for accessing all SAP applications built on ABAP technology. It is available on the Microsoft Windows platform only and offers the broadest feature set of all members of the SAP GUI family.
For more information about the installation of SAP GUI for Windows, see the *Installation Guide – SAP Front End*.

The following SAP GUI versions are supported with SAP NetWeaver 7.5:

- SAP GUI for Windows 7.40 (or higher)
- SAP GUI for Java 7.40 (or higher)
- SAP integrated ITS

For more information about the SAP GUI family, see SAP Community Network at <http://scn.sap.com/community/gui>.

Modeling Tools for SAP BW/4HANA

The Modeling Tools represent a modeling IDE (Integrated Development Environment) build on top of the Eclipse platform.



Its main objective is to support SAP BW/4HANA model developers in today's increasingly complex BI environments by offering state-of-the-art modeling tools for objects such as InfoObjects, DataStoreObjects (advanced), or Queries. These tools include integration with SAP HANA modeling and the consumption of SAP HANA elements in Open ODS Views or CompositeProviders with powerful UI (user interface) capabilities.

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