Getting Started with the SAP S/4HANA 1909 FPS02 Fully-Activated Appliance

SAP

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1   Appliance Template Information

1.1 Introduction

This guide provides information about the "SAP S/4HANA 1909 FPS02 Fully Activated Appliance" on SAP Cloud Appliance Library (SAP CAL, https://cal.sap.com).

The appliance contains an SAP S/4HANA 1909 FPS02 system with pre-configured SAP Best Practices and demo scenarios.

It can be rapidly brought up as your personal appliance with administrative rights either hosted in dedicated cloud providers such as Amazon, MS Azure or Google Cloud Platform (in ~2 hours) or on-premise on your own hardware (in ~2-3 days).

Typical use cases are trial system, sandboxing, proof-of-concept, or scoping exercises.

The usage as a development system in implementation projects is <u>not</u> recommended since the appliance might contain components and configuration settings (some with a separate license) that are conflicting with the later deployment in a quality or production system.

A **general introduction** into the appliance and the usage as trial or sandbox system can be found on
https://blogs.sap.com/?p=727457

Known issues will be continuously updated in this blog: https://blogs.sap.com/?p=897560

Post-installation steps and extensive demo guides with sample walkthrough scenarios can be found here:
https://blogs.sap.com/2019/04/23/sap-s4hana-fully-activated-appliance-demo-guides/.

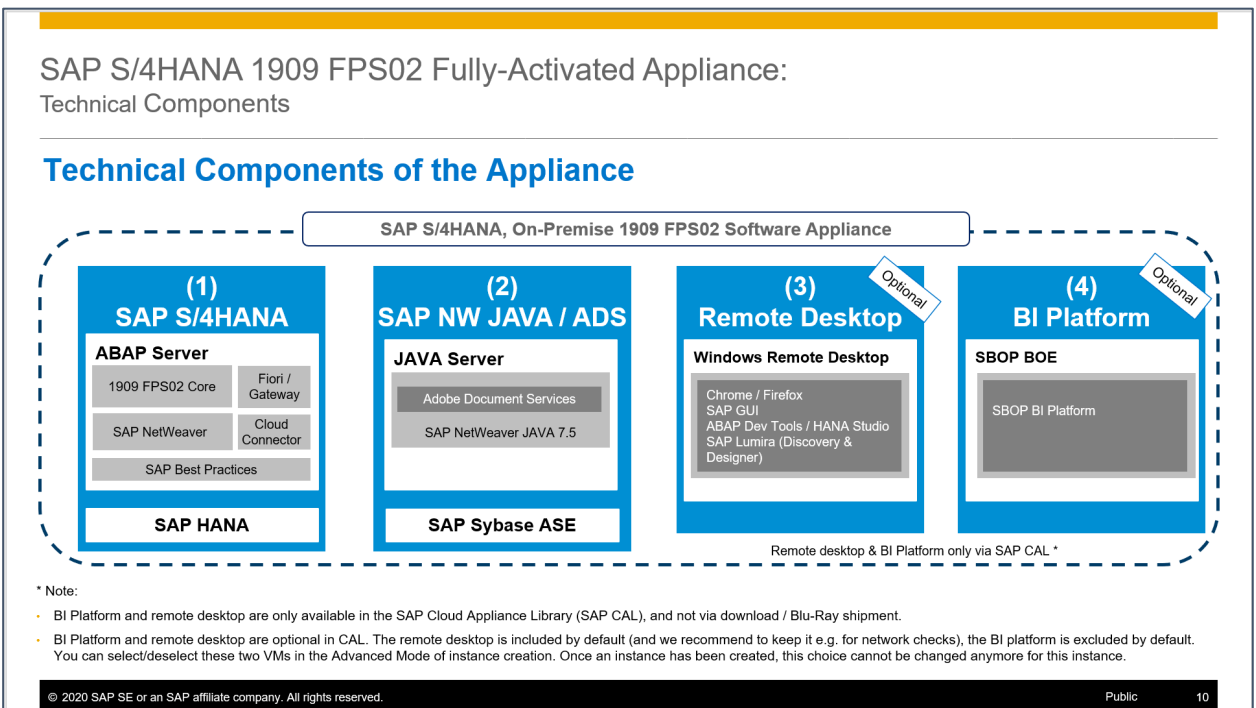**Video tutorials** how to create an AWS account and how to launch the appliance can be found here.
They might not necessarily show the creation of the SAP S/4HANA 1909 appliance (but another SAP appliance template), however, the concepts are the same.

1.2 Installed Products

When you deploy the appliance (either in Cloud Appliance Library or your own on-premise hardware), you get access to a system landscape that has been built using the following components (see picture below).

1. SAP NetWeaver 7.54 application server ABAP incl. SAP S/4HANA 1909 (FPS02)
2. SAP NetWeaver 7.50 application server JAVA with installed Adobe Document Services.
3. Optional: Microsoft Windows Server 2016 (as remote desktop) for easy frontend access.
4. Optional: SAP BusinessObjects BI Platform 4.2 SP7

SAP S/4HANA 1909 FPS02 Fully-Activated Appliance:
Technical Components

Technical Components of the Appliance

SAP S/4HANA, On-Premise 1909 FPS02 Software Appliance

(1) SAP S/4HANA	(2) SAP NW JAVA / ADS	(3) Remote Desktop *Optional*	(4) BI Platform *Optional*
ABAP Server	**JAVA Server**	**Windows Remote Desktop**	**SBOP BOE**
1909 FPS02 Core / Fiori / Gateway / SAP NetWeaver / Cloud Connector / SAP Best Practices	Adobe Document Services / SAP NetWeaver JAVA 7.5	Chrome / Firefox / SAP GUI / ABAP Dev Tools / HANA Studio / SAP Lumira (Discovery & Designer)	SBOP BI Platform
SAP HANA	**SAP Sybase ASE**		

Remote desktop & BI Platform only via SAP CAL *

* Note:
- BI Platform and remote desktop are only available in the SAP Cloud Appliance Library (SAP CAL), and not via download / Blu-Ray shipment.
- BI Platform and remote desktop are optional in CAL. The remote desktop is included by default (and we recommend to keep it e.g. for network checks), the BI platform is excluded by default. You can select/deselect these two VMs in the Advanced Mode of instance creation. Once an instance has been created, this choice cannot be changed anymore for this instance.

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Notes:

- The virtual machines (VMs) for the BI Platform and the remote desktop (RDP) are optional in Cloud Appliance Library. You can deselect these two VMs in the Advanced Mode of the appliance creation. Once an appliance has been created, this choice cannot be changed anymore for this appliance.
- The BI Platform and the remote desktop are only available when using SAP Cloud Appliance Library as described in this document. However, you can also receive the appliance for installation on your own on-premise hardware but in that case BI platform and remote desktop are not included. Please see SAP Note 2041140 for the option to install the appliance on your own hardware.

A detailed component list of the appliance can be found in the appendix of this guide.

1.3 Business Scenarios & Localizations

The appliance uses SAP Best Practices as main business content.

The chart below summarizes the Best Practices scope for SAP S/4HANA 1909 (details can be found on https://rapid.sap.com/bp/BP_OP_ENTPR).

In the appliance, the Best Practices have been fully activated, however, there are still areas that require additional configuration to be fully functional.
The integration into other SAP products or 3rd party software is such an example where you need to specify at least the credentials (tenant, account, etc.) of the integration target.
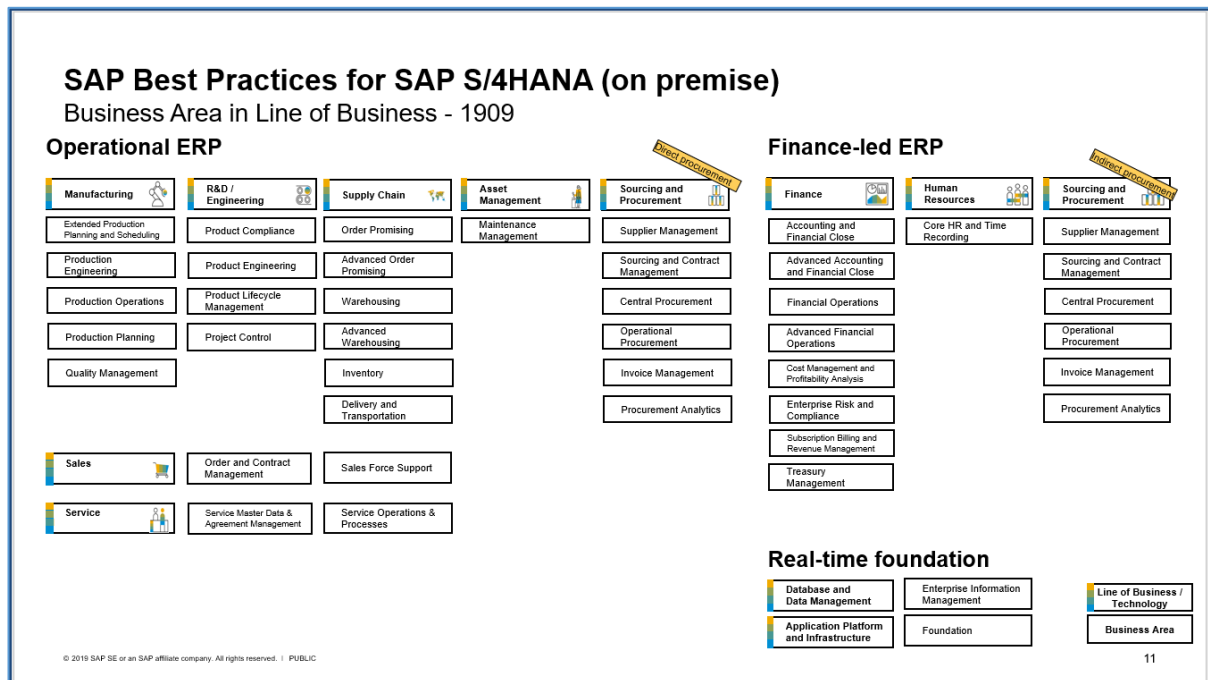
The SAP Best Practices configuration content of SAP S/4HANA 1909 is available for 42 countries/regions and 39 languages:

Australia, Austria, Belgium, Brazil, Canada, China, Czechia, Denmark, Finland, France, Germany, Hong Kong, Hungary, India, Indonesia, Ireland, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Romania, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, United States

In the appliance, all available localizations are activated (see the section *ABAP client structure & business users* later in this guide), however, the suggested demo walkthroughs (incl. demo data) in the appliance are configured for USA only (using company code 1710).

SAP Best Practices for SAP S/4HANA (on premise)
Localization Coverage - 1909

42 Country/Region Versions

Australia, Austria, **Belgium**, Brazil, Canada, China, **Czechia**, **Denmark**, **Finland**, France, Germany, Hong Kong, Hungary, India, **Indonesia**, Ireland, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, **Norway**, Philippines, **Poland**, **Portugal**, **Romania**, **Russia**, **Saudi Arabia**, Singapore, South Africa, **South Korea**, Spain, Sweden, Switzerland, Taiwan, **Thailand**, **Turkey**, United Arab Emirates, United Kingdom, United States

39 Languages

Arabic, **Bulgarian**, **Catalan**, Chinese (simplified), Chinese (traditional), **Croatian**, **Czech**, Danish, Dutch, English, **Estonian**, Finnish, French, German, **Greek**, **Hebrew**, **Hindi**, Hungarian, Italian, Japanese, **Kazakh**, Korean, **Latvian**, **Lithuanian**, Malay, Norwegian, Polish, Portuguese, **Romanian**, Russian, **Serbo-Croatian**, **Slovak**, **Slovenian**, Spanish, Swedish, **Thai**, **Turkish**, **Ukrainian**, **Vietnamese**

New in 1909

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1.4   ABAP client structure & business users

Multiple ABAP clients are configured in the appliance.

- 000 serves as standard delivery client (as usual in on-premise deployments)
- 100 is the primary demo client that contains the pre-configured scenarios and sample data.
- 200 can be used to experience the activation of SAP Best Practices on your own (see the SAP Best Practices implementation guide for details)
- 400 contains the activated Best Practices based on the merged-client-000 approach

Please see chapter 2 for default users and logon procedures.

SAP S/4HANA 1909 Fully-Activated Appliance
What client is used for what ?

ABAP Client	Description
100 Trial & exploration client (merged-000-client **)	▪ Pre-activated SAP Best Practices for SAP S/4HANA 1909 (Germany & US, demo flow localized for US) ▪ Additional configuration for end-to-end sample business process ▪ Customizing and transactional data in US company code (1710) ▪ SAP Fiori Apps ▪ Based on the merged-client approach
200 Ready-to-Activate client (white list **)	▪ Technical preparation activities prior to Best Practices content activation done ▪ No SAP Best Practices activations done yet ▪ Use case: sandbox for activating customer-specific SAP Best Practices scope
400 SAP Best Practices reference client (merged-000-client **)	▪ Full copy of client 000 customizing with SAP S/4HANA 1909 Best Practices activation (42 localizations*) ▪ This is the standard delivery state of Best Practices (no additional configuration, no corrections applied)

(*) There are 42 localizations contained in the SAP S/4HANA 1909 Best Practices:
Australia, Austria, Belgium, Brazil, Canada, China, Czechia, Denmark, Finland, France, Germany, Hong Kong, Hungary, India, Indonesia, Ireland, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Romania, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, United States

(**) For information on the 'white-list' and 'merged-000-client' approach, please see here

Client 300 is not delivered in the SAP S/4HANA 1909 Fully-Activated Appliance.

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(*) For the **US localization**, SAP Best Practices are delivered **with internal tax calculation**. This includes sample jurisdiction codes and sample rates so that you can execute the best practices test scripts. **The organizational structure and chart of accounts** are activated with SAP Best Practices sample content. Client 200 does not contain these settings.

(**) An explanation of Whitelist and merged-000 can be found in the *Implementation Guide* → *Prerequisite Settings* → *Setting up a new Best Practices Client - Client Setup Alternatives.*

1.5 Post-installation Steps & Sample Demo Walkthroughs

Once you have created an appliance in SAP Cloud Appliance Library, you will have a principally working system.

However, there are some settings that you should adapt prior to first usage to ensure the best experience for your end users, such as setting the open materials management period to the current month.

Please see this blog (https://blogs.sap.com/2019/04/23/sap-s4hana-fully-activated-appliance-demo-guides/) for post-installation steps and extensive demo guides with sample walkthrough scenarios.

1.6 More Information & Support

1.6.1 More Information

Overview blog in SAP Community: https://blogs.sap.com/?p=727457

Known issues blog in SAP Community: https://blogs.sap.com/?p=897560

Post installation steps and sample demo walkthroughs:
(https://blogs.sap.com/2019/04/23/sap-s4hana-fully-activated-appliance-demo-guides/

SAP S/4HANA Trial Landing Page (also containing a "Quick Start Guide" how to set up the appliance)
https://www.sap.com/cmp/oth/crm-s4hana/s4hana-on-premise.html

YouTube playlist (how to create Cloud Provider accounts, start an SAP S/4HANA appliance, etc):
https://www.youtube.com/playlist?list=PLWV533hWWvDmww3OX9YPhjjS1l1n6o-H2

1.6.2 Support

If you run a 30-day trial (i.e. no SAP Cloud Appliance Library subscription license), please use the **SAP Community** (preferably take SAP Cloud Appliance Library as it's very closely monitored):
- SAP Cloud Appliance Library (for CAL usage, access, etc.): https://answers.sap.com/tags/67837800100800004473
- SAP S/4HANA (for S/4 specific functional questions): https://answers.sap.com/tags/73554900100800000266

If you have an SAP CAL subscription license acquired, you can also report an incident (component BC-VCM-CAL).

2 Accessing the Appliance Template

2.1 Overview

The appliance can be accessed via a preconfigured Windows remote desktop (option 1) or via client tools on your local PC (option 2).

For first steps with the appliance, we recommend access via the remote desktop since you only need to have the Windows remote desktop client installed on your PC which in most cases will be the case,

Since UI performance are usually better via access from your local PC, please evaluate if you can use this method as standard access. It requires administrator access on your PC and 5 minutes of effort.

2.2 Option 1: System access via embedded Windows Remote Desktop frontend server

1. After your own appliance is created, click the Connect button in the Appliances view of the console.
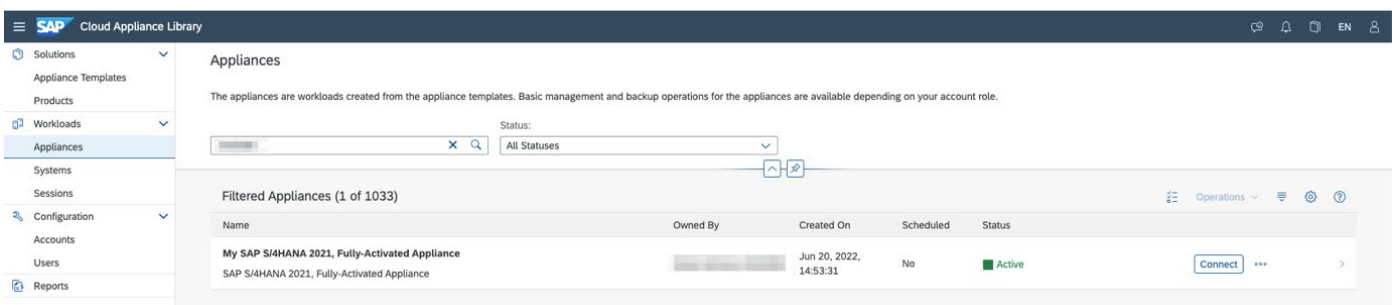
2. In the pop-up, click Connect in the "RDP Virtual Machine: Windows Remote Desktop" line **.**

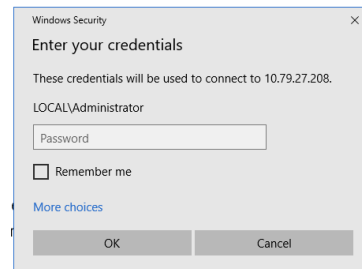3. Confirm the pop-up window to allow Remote Desktop Connection (click on "Connect").
Enter user Administrator (local domain of the remote desktop) and your <Master Password> that you specified during the appliance creation in the SAP Cloud Appliance Library console.
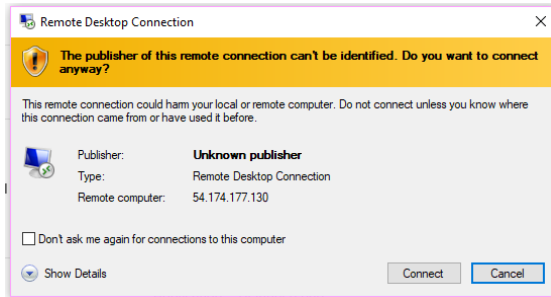
4. Next you will see the pre-configured Windows Frontend Server. Follow the information on the Welcome page (start link also on desktop if it doesn't come up automatically) to logon to the SAP S/4HANA system, and to run sample scenarios. More details on system connectivity can be found in section 3.3.
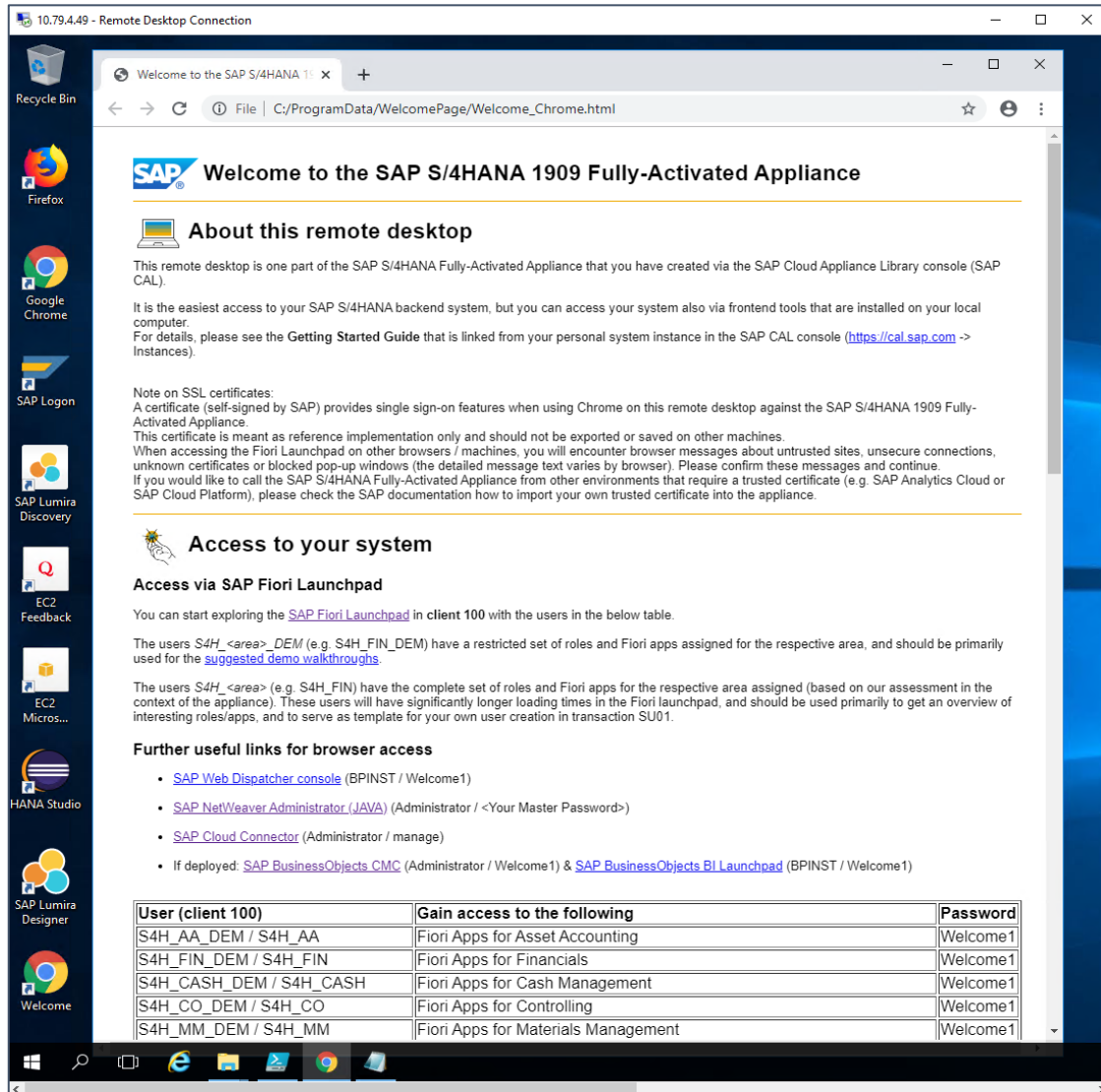
 Note:

The embedded Windows Remoted Desktop license allows 2 concurrent sessions (e.g. one for the existing user Administrator and one for another user that you can create on the remote desktop). Installing your own RDP license might also be an option to allow more concurrent users on the RDP.

2.3   Option 2: System access via local PC

2.3.1   Mapping your local */etc/hosts* file

To log on to the Fiori Launchpad from your local PC, you need to ensure that you have mapped the IP addresses of your appliance against clear text host names. This mapping step is needed since the connection to the cloud providers uses IP addresses, whereas the S/4HANA system needs dedicated host names to work correctly.

After you have done the mapping (by editing a local file on your computer), you will be able to access the Fiori Launchpad of SAP S/4HANA via this URL:
https://vhcals4hcs.dummy.nodomain:44301/sap/bc/ui5_ui5/ui2/ushell/shells/abap/FioriLaunchpad.html

If you cannot map your local hosts file (e.g. you don't have administrator rights on your computer), you can use the IP address of your appliance in the URL (https://<IP_Address>:44301/...), however, not all applications and scenarios will work correctly with it e.g. WebGUI or Web Dynpro applications will not display in the browser.

Another option could be to use browser plugins (e.g. Chrome Virtual Host) that simulate the mapping in the browser session only. Again, not all scenarios might work correctly with it.

The following describes how to modify the local hosts file on a Windows computer (for Mac, please search the Internet for options).

1. Open Notepad as administrator (search for Notepad on your computer > Right mouse click > Run as administrator):
2. Click File → Open and enter the following path:
      For Windows operating system: `c:\windows\system32\drivers\etc\hosts`
      For Linux operating system: `/etc/hosts`
3. Ensure to select All Files (*.*)
4. Open the hosts file and add the following lines to it (the IP addresses for the servers are displayed in the Cloud Appliance Library console in the appliance properties, take the external IP address):
      `# S4H Appliance`

      `<External IP Address SAP S4HANA/HDB server>` `vhcals4hci.dummy.nodomain vhcals4hci vhcals4hcs.dummy.nodomain vhcals4hcs vhcalhdbdb vhcaldhbdb.dummy.nodomain`

      `<IP Address SAP NW JAVA/ASE/ADS server>` `vhcalj2eci.dummy.nodomain vhcalj2eci vhcalj2ecs.dummy.nodomain vhcalj2ecs vhcalj2edb vhcalj2edb.dummy.nodomain`

      `<IP Address SAP BI Platform >` `bihost bihost.dummy.nodomain`

5. Save the hosts file and exit.

2.4   Users & passwords for the system components

Note upfront: For URLs starting with `vhcal`... you will need to map your /etc/hosts file as described in chapter 2.3.

2.4.1   SAP S/4HANA ABAP application server

2.4.1.1   Pre-configured business users in SAP S/4HANA

Client	Business Content	Sample users (password *Welcome1 if not noted otherwise*)
000 Standard delivery client	• Nothing specific (standard customizing only)	• BPINST • DDIC / SAP* (<Master_Password>)
100 Trial & Exploration client	• Pre-activated SAP Best Practices for SAP S/4HANA 1909 (Germany & US, sample demo flow localized for US) * • Customizing and transactional data in US company code (1710) • SAP Fiori Apps • Based on the merged-client approach • BW configuration for Integrated Business Planning (IBP) Note on the users: The users *S4H_<area>_DEM* (e.g. S4H_FIN_DEM) have a restricted set of roles and Fiori apps assigned for the respective area, and should be primarily used for the suggested demo walkthroughs. The users *S4H_<area>* (e.g. S4H_FIN) have the complete set of roles and Fiori apps for the respective area assigned (based on our assessment in the context of the appliance). These users will have significantly longer loading times in the Fiori launchpad, and should be used primarily to get an overview of interesting	• *S4H_AA_DEM / S4H_AA* (Asset Accounting) • *S4H_FIN_DEM / S4H_FIN* (Finance) • *S4H_CASH_DEM / S4H_CASH* (Cash Management) • *S4H_CO_DEM / S4H_CO* (Controlling) • *S4H_MM_DEM / S4H_MM* (Materials Management) • *S4H_PP_DEM / S4H_PP* (Production Planning • *S4H_SD_DEM / S4H_SD* (Sales & Distribution) • *S4H_EXT* (Extensibility) • *S4H_EWM_DEM* (Warehouse Management) • *S4H_DDR_DEM* (Demand-Driven Replenishment) • *S4H_PPM_...* (Portfolio & Project Management) • *S4H_TM_DEM* (Transportation Management) • *S4H_PAI* (Predictive Analytics) • *S4H_MG* (Data Migration) • *SERV_EMPL / SERV_MAN / SLS_MAN / IC_AGENT_SRV* (SAP S/4HANA Service)

Client	Business Content	Sample users (password *Welcome1 if not noted otherwise*)
	roles/apps, and to serve as template for your own user creation in transaction SU01.	• *MDG_…* (Master Data Governance) • *S4H_HCM_…* (Human Capital Management) • *BPINST* (Generic user. Caution: very long loading times in Fiori Launchpad)
200 Ready-to-Activate client (white list)	• Ready-to-Activate client with all pre-activation preparation activities executed	*BPINST*
400 SAP Best Practices reference client (merged-000-client)	• Pre-activated SAP Best Practices for SAP S/4HANA 1909 without transactional data • Based on the merged-client approach	*BPINST*

All above users have the default password *Welcome1.*

2.4.1.2   Administrative data & users for SAP S/4HANA

Connect to SAP S4H using the information in the table below (URLs with the host name vhcal… require hosts file mapping before, see chapter 2.3).

Name	Value	Description
SID	S4H	System ID of the SAP system
Instance Number	00	The instance number of the central instance (CI)
Clients	See section 1.4	These are the pre-configured clients, see section "Business Scenarios & Localizations" for details
Password for users DDIC & SAP*	*<Master Password>* in client 000. *Welcome1* in other clients	The master password is the password that you chose in the SAP Cloud Appliance Library when creating the appliance.
ABAP administrator	s4hadm / *<Master Password>*	Additional user for ABAP lifecycle management – start/stop, administration,

Name	Value	Description
SAP Web Dispatcher administrator	webadm / VA1MPwd_ *or* bpinst / Welcome1	Access to Web Dispatcher console: https://vhcals4hcs.dummy.nodomain:44301/sap/admin/public/default.html bpinst is case sensitive.
Technical user for HANA DB connectivity (schema user)	SAPHANADB / *<Master Password>*	See tCode *DBACOCKPIT* → *System Landscape* → *Database Connections* for additional usage of the SAPHANADB user
SAP Cloud Connector	Administrator / manage	Initial credentials for the integrated SAP Cloud Connector (access via https://vhcals4hcs,dummy.nodomain:8443)

2.4.2   SAP HANA DB server

Two database entities are relevant for the appliance:
The tenant database (used to store the S/4HANA data) and the system database (for general data and settings e.g. maintaining the license key for SAP HANA).
An entry for both is pre-configured in the HANA Studio on the remote desktop but you can also add entries in your local HANA Studio.

Tenant database (use Single Container when adding it to your local HANA Studio)

Name	Value	Description
HANA DB system	HDB	System ID of the HANA DB
HANA DB Instance Number	02	Instance number of HANA DB
HANA SYSTEM user name	SYSTEM / *<Master Password>*	Standard HANA system user
HANA administrator name	hdbadm / *<Master Password>*	Additional user for HANA lifecycle management – start/stop, administration functions, recovery.
Generic HANA DB user	BPINST / Welcome1	Generic user that can be used to access HANA DB
Technical S/4HANA user	SAPHANADB / *<Master Password>*	Technical user for accessing HANA from the S/4HANA server. Defined in /nDBACOCKPIT; HANA schema SAPHANADB contains the S/4HANA data

System database (use *Multiple Containers* → *System DB* when adding it to your local HANA Studio, needed e.g. for applying your own HANA DB license key)

Name	Value	Description
HANA DB system	SYSTEMDB	System ID of the HANA DB
HANA DB Instance Number	02	Instance number of HANA DB
HANA SYSTEM user name	SYSTEM / *<Master Password>*	Standard HANA system user
HANA administrator name	hdbadm / *<Master Password>*	Additional user for HANA lifecycle management – start/stop, administration functions, recovery.
Generic HANA DB user	BPINST / Welcome1	Generic user that can be used to access HANA DB

2.4.3   Java Application Server

The administration users for ASE and JAVA on operating system level are defined as follows:

Name	Value	Description
ASE administrator name	sybadm / *<Master Password>*	Additional user for Sybase ASE lifecycle management – start/stop, administration.
JAVA administrator name	Administrator / *<Master Password>*	Additional user for JAVA lifecycle management – start/stop, administration, functions, recovery. Access to SAP NetWeaver Administrator: https://vhcalj2eci.dummy.nodomain:50001/nwa
Additional JAVA user	BPINST / Welcome1	Generic user in case other users are locked

2.4.4   SAP BusinessObjects BI platform

The administration users for SAP BusinessObjects BI Platform are defined as follows:

Parameter ID	Parameter Value	Note
Administrator name	Administrator / Welcome1	Use for all administrative functions of the BI platform e.g. in CMC
BI Power User	BPINST / Welcome1	Use for BI Launchpad
SQL Anywhere DB user	dba / Appl1ance	Use to log on to the DB of the BI platform on Linux backend stored under `/data/bobj/sqlanywhere/database`

Parameter ID	Parameter Value	Note
BI Platform Linux backend user	bipadm / *<Master Password>*	

In the logon screen (http://bihost:8080/BOE/BI), use *bihost:6400* as system and Enterprise authentication. Usage of the *bihost* alias requires local host file mapping when using local PC access (see section 2.3). The Windows remote desktop has the mapping pre-configured.

2.4.5   Windows Frontend Server Details

Connect to the Frontend server using the information in the table below.

SAP does not provide a separate MS Windows Terminal Server license as part of the appliance; hence, you can connect with a maximum of two concurrent users (with different user IDs) at the same time. The *Administrator* account is pre-configured, and you may create additional user IDs in the local user administration of the remote desktop if needed.

If you want to use the remote desktop with larger user numbers, please apply your own MS Terminal Server license to the remote desktop and potentially choose a larger sizing for the RDP in the Cloud Appliance Library console.

Name	Value	Description
IP Address	<IP Address>	The IP address of your frontend server appliance you created in SAP Cloud Appliance Library (use the "external" IP address)
User	Administrator / *<Master Password>*	User for the Windows frontend server. This is a local user on the remote desktop. Only one Administrator user can logon to the front-end server at the same point in time.

A note on browsers:

Google Chrome and Firefox are pre-installed on the Remote Desktop. In the Fiori launchpad, you might find slightly different rendering behaviors depending on the browser version. If you encounter rendering problems, please search for SAP Notes how to potentially fix them.

If you want to access the Fiori Launchpad with a local browser, please be sure to map your local host file as described in section 2.3 of this document or on https://www.sap.com/cmp/oth/crm-s4hana/s4hana-on-premise.html → *Quick Start Guide* since otherwise some Fiori applications (e.g. WebGUI or Web Dynpro) will not work correctly.

2.4.6   Accessing Your Appliance on Linux Level

You can access the Linux backend system of your appliance (ABAP / JAVA / BI) as *root* using secure SSH tools, e.g. PuTTY

For information how to access an appliance template on OS level, go to this FAQ page and look under the question: **How to connect to a running appliance via the secure shell protocol (SSH)?**

Parameter ID	Parameter Value	Note
OS User Name	root	The default Linux administrator user
OS Password	<none>	Use the generated private key with SSH tools

Note:

You must use the private key (file format .pem) that was generated in the last step of the Create Appliance wizard from SAP Cloud Appliance Library. During the creation, you were asked to either store the key file attached to your appliance within SAP Cloud Appliance Library or download it to a local secure file share on your computer.

2.5 Optional: Get your own fully-qualified domain name & SSL certificate

The SAP S/4HANA Fully-Activated Appliance by default contains these two settings:

- A dummy domain name for Fiori access (*.dummy.nodomain)
- A certificate self-signed by SAP (issuer cal.dummy.nodomain)

Depending on network setup and end-user authorizations, these settings may cause problems:

- Business users need to change the */etc/hosts* file with administrator rights on their PC (often not allowed)
- The corporate proxy or the end-user web browser might generally not trust self-signed certificates and bounces them back
- Inbound connectivity into the S/4HANA system (e.g. from SAP Analytics Cloud) is not trusted due to a self-signed certificate

On the demo guide blog of the appliance, you can find a technical guide how to enable this for your system.

The Fiori domain name change requires on SAP GUI access (~ 15 minutes); the SSL certificate requires access to the Linux OS and basic Linux skills (~ 30 minutes).

Please be aware that the mentioned guide is meant to provide a quick workaround and might not comply with the security recommendations that are issued by SAP in general.

3   Licenses

SAP Cloud Appliance Library is a platform for quickly using SAP on-premise software products in a hyperscaler environment. Therefore, three separate license / cost factors need to be considered, each depending on the duration that your system should be used:

a) the SAP on-premise product (e.g. SAP S/4HANA)

b) SAP Cloud Appliance Library

c) the chosen hyperscaler

This table gives an overview about the different aspects. Details are mentioned in the paragraphs afterwards.

The third column in the table below (on-premise installation) is an alternative to SAP Cloud Appliance Library and not covered in detail in this document (please see SAP Note 2041140 for details).

SAP S/4HANA 1909 Fully-Activated Appliance:
Fees, licenses, and support for the different channels

	SAP CAL 30-day trial	SAP CAL >30 days	On-Premise installation [2]
SAP S/4HANA licenses ?	No Covered by web-based terms & conditions form on cal.sap.com	Yes [1] Bring your own (trial) licenses. Appliance has 90-day temporary license key as courtesy.	Yes [1] Bring your own (trial) licenses. Appliance has 90-day temporary license key as courtesy.
SAP CAL license ?	No Covered by web-based terms & conditions form on cal.sap.com	Yes Monthly CAL subscription is needed (see here)	No
Hosting fees ?	Yes Hosting provider will charge you	Yes Hosting provider will charge you	No
Server hardware costs ?	No	No	Yes Hardware (x86_64) with Linux OS needed
Support ?	SAP community	SAP Incident (BC-VCM-CAL)	SAP Incident (BC-INS-SRN)

[1] What SAP S/4HANA licenses are needed ?

Free 90-day SAP S/4HANA trial licenses (Enterprise Management, professional use) are sufficient for non-productive usage and can be obtained via

- SAP Account Executive
- SAP Store (customer self-service)

For SAP Partners, a fitting T&D license is sufficient.

[2]
See SAP Note 2041140 for details.
This deployment channel needs additional licenses when ordered via account executive; the SAP Store self-service license has those included already.

Supported hosting providers as of Decmber 2019 are Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)

3.1   First 30 days: Running your appliance as trial

In the first 30 days, the SAP license fees (Cloud Appliance Library & S/4HANA) are waived. During this period, you only need to bear the hosting fees of your cloud provider.

The 30-day period starts when you accept the form for the trial agreement in the Cloud Appliance Library console (after clicking on "Create Appliance").
During the instantiation, the S/4HANA system will generate a temporary license key that is enough for exploration purposes.

3.2   Beyond 30 days: Running your appliance with SAP licenses

If you want to use an appliance beyond the 30-day trial period (i.e. unlock the appliance template in SAP CAL), you need to obtain two SAP licenses:

1.   The SAP Cloud Appliance Library (SAP CAL) subscription
2.   The SAP product licenses

The validity of these licenses will be automatically checked after the first 30 days. In case of a missing license component an error message will be displayed in the SAP Cloud Appliance Library console and the respective appliance will stay in status "Suspended".

The cloud provider fees will stay the same as during the first 30 days.

You can continue to use a trial appliance from the first 30 days under these conditions, all your changes in that appliance will be preserved once you unlock the appliance template.

3.2.1   SAP Cloud Appliance Library subscription

You can purchase the subscription package via the SAP Store on https://www.sapstore.com/solutions/99007/SAP-Cloud-Appliance-Library.

The minimum subscription is 3 months for one appliance (i.e. you can have exactly one appliance active at a time during these 3 months). You can also choose longer subscription periods and higher appliance numbers (i.e. you can activate multiple appliance templates in parallel).

In the SAP Store, you will need an S-user that has the "SAP Store buyer role" assigned. Please make sure that the SAP Store user and the SAP Cloud Appliance Library user belong to the same organization, otherwise the mapping between the license and the to-be-unlocked appliance is not possible.

3.2.2   SAP product licenses

3.2.2.1   SAP S/4HANA

To use an appliance under your own SAP Product License Agreements, you need to possess at least a license for the SAP HANA DB (application runtime) and for SAP S/4HANA Enterprise Management professional use.

If you don't possess these licenses already, you can either obtain them via your SAP account executive, or online as self-service by licensing the free SAP S/4HANA 90-day trial in SAP Store.

The Cloud Appliance Library infrastructure checks whether the customer/partner organization of the S-user who created the appliance in SAP Cloud Appliance Library possesses these licenses. Only if this check is passed, the appliance can be activated in SAP Cloud Appliance Library.

The licenses entitle your organization to use the appliance, however, since technically you will still be running under the 90-day temporary license key, we recommend generating your own license key and apply it to your system as soon as possible. 90 days after the initial appliance creation, the system will stop working without these technical license keys (see the next chapter for details).

Note:
The following separately licensed SAP S/4HANA capabilities are also configured and described in the pre-configured demo scenarios of the appliance. These capabilities will technically work in your appliance without entering dedicated license keys for them, however, they might not be part of your customer-specific license agreement for implementation / production systems.

- SAP S/4HANA Finance for cash mgmt.
- SAP S/4HANA Finance for receivables mgmt.
- SAP S/4HANA for advanced compliance reporting
- SAP Business Planning and Consolidation, add-on for S/4HANA
- SAP S/4HANA for extended planning
- SAP S/4HANA Advanced Available-to-Promise
- SAP S/4HANA for Advanced Variant Configuration, standard
- SAP Portfolio and Project Management for SAP S/4HANA professional
- SAP Enterprise Master Data Governance for SAP S/4HANA

3.2.2.2   Optional: SAP BusinessObjects BI Platform licenses

If you chose to use the optional SAP BusinessObjects Platform in your appliance, the temporary license key for BI will be valid for 30 days. It needs to be replaced by your own permanent key for the BI platform after that time if you want the BI platform to work.

If you don't apply a permanent license key, the BI platform cannot be used anymore.
The other appliance components (S/4HANA etc.) will not be affected and can be used even without the BI platform.

3.2.3   License key installation in your appliance

Latest 90 days after appliance creation (but better directly after unlocking the appliance template in CAL after 30 days), you need to apply a valid license key to the system components.

- SAP S/4HANA
- SAP HANA database
- SAP NetWeaver J2EE platform
- Optional: SAP BusinessObjects BI platform

The first three are part of the SAP S/4HANA license; the BI platform needs to be licensed separately.

To get license keys for your system components, you first need to register them as a customer installation (see https://support.sap.com/en/my-support/systems-installations.html).

Afterwards you can request license keys via the SAP license key application (https://support.sap.com/licensekey).

During the license key generation, you will be asked for certain parameters (hardware keys and other system properties). The table below has the details.

For more information about how to request and install product license keys, see this blog.

Note to SAP employees:

You can generate SAP-internal license keys (18 months validity) directly in the license key application without having to register your system (just enter the hardware key and the needed parameters).

SID	Product	Version	DB	OS	Comment	Where to apply (incl. hardware key) ?
HDB	SAP HANA, platform edition	SAP HANA 2.0, platform edition	n/a	Linux	License type: SAP In-memory Appliance platform Quantity: 256 GB Memory Volume	Right-click in HANA Studio on HANA System DB → *Properties* → *Licenses.* Remote desktop has pre-configured entry Local HANA Studio: host name vhcalhdbdb or IP address; instance number 02; multiple containers > system database.
S4H	SAP S/4HANA	SAP S/4HANA 1909	SAP HANA database	Linux	N/A	S/4HANA GUI tCode /nSLICENSE
J2E	SAP NetWeaver	SAP NetWeaver 7.5	Sybase ASE	Linux	As license type, select 'J2EE - Web AS JAVA'	NW Administrator (https://vhcalj2eci.dummy.nodomain:50001/nwa) → Configuration → Infrastructure → Licenses.
BIP	Optional: SAP BusinessObjects Business	SAP BusinessObjects Business Intelligence platform 4.2	n/a	Linux	Material: Choose SAP BO BI Platform …	BOE CMC (http://bihost:8080/BOE/CMC) → Licenses

SID	Product	Version	DB	OS	Comment	Where to apply (incl. hardware key) ?
	Intelligence platform					

4 Security Aspects in SAP Cloud Appliance Library

4.1 Internet ports for accessing your system

By default, the following ports are opened for your appliance (i.e. this is the <u>inbound</u> firewall of your cloud provider). The access from your local computer to your appliance happens via those ports (see 'Description' what port is used where).

Please make sure that your <u>outbound</u> firewall (e.g. if you are behind a corporate firewall) allows access through the needed ports as well. If you encounter problems behind a firewall, a good test is to use a public network (e.g. from home) or test access via the delivered remote desktop – assuming you can access the remote desktop via port 3389.

You can edit/add/remove ports manually in the appliance details (click on the appliance link in the Cloud Appliance Library console → Edit → Virtual Machine → Access Points).

Virtual Machine*	Protocol	Port (open by default)	Description
ABAP	SSH	22	Used for secure connection to Linux-based server operating system
ABAP	HTTPS	44301, 44300	Used for access of a local web browser to appliance (Fiori etc.). 44301 via Web Dispatcher, 44300 via ABAP ICM directly
ABAP	HTTP	50000	Standard HTTP port for ABAP
ABAP	HTTPS	8443	Access to integrated Cloud Connector
ABAP	SAP GUI	3200	Used for access of local SAP GUI to appliance
ABAP	TCP	3300	Used for connection of ABAP Development Tools (Eclipse-based) to SAP S/4HANA ABAP repository & RFC calls to other systems if intended
ABAP	TCP	30213 / 30215	Used for connection of SAP HANA Studio to HANA DB
JAVA	SSH	22	SSH connection to Linux operating system (e.g. for PuTTY)
JAVA	HTTPS	50001	Used for access to SAP NetWeaver Administrator and other web-based J2EE applications
BIP	SSH	22	Used for secure connection to Linux-based server operating system
BIP	HTTP	8080 & 6400	Used for HTTP connection to BI platform
WIN	RDP	3389	Used for access from MS Windows remote desktop connection

* *JAVA = SAP NetWeaver 7.50 AS JAVA incl. ADS (Adobe Document Service)*
ABAP = SAP NetWeaver 7.53 AS ABAP incl. SAP S/4HANA
BIP = SAP BusinessObjects BI Platform 4.2
WIN = MS Windows Remote Desktop

4.2 Network security considerations

Be aware that creating your appliances in the public zone of your cloud computing platform (i.e. the "open Internet") is convenient but less secure than providing it within your corporate network.
If you want to tighten the security, open as few ports as really needed for your scenario.

In addition, we also recommend that you limit the access to your appliances by defining a whitelisted IP range of IP addresses that may access your appliance template (e.g. the subnet of your company). With this, only computers within the white-listed IP range can access your system via the specific port. You can maintain the IP Range settings in the Cloud Appliance Library console → *Edit* → *Virtual Machine* → *Access Points.*, using CIDR notation.
The more complex but also more secure alternative to public Internet is to set up a virtual private cloud (VPC) with VPN access, which is described in this tutorial on SCN.

Note that when using HANA based appliances, HANA systems are not installed individually but cloned from a template system. Because of this cloning process, the existing root keys are cloned. For more information, see this SAP Note 2134846 - HANA encryption key handling during system cloning.

4.3 ABAP user roles and profiles

The ABAP business users listed in chapter 2 have a large set of roles and extensive authorizations **(including the SAP_ALL profile)**.

If you plan to release the appliance to a larger set of users (especially in the Internet scenario), it is advised to restrict/lock the access with these users (or change the initial passwords) and create your own users with fitting roles and authorizations.

This can be done using the standard user management capabilities (e.g. tCode SU01, etc.).

Please also note that the user BPINST is used in various RFC connections (tCode SM59) with its fixed password. If you lock the BPINST user or change its password, please also adapt these connections accordingly.

4.4 Certificates

The appliance comes with a certificate that was self-signed by SAP. Most local browsers will issue a warning message that such a certificate is untrusted, and you will need to add the affected URLs (Fiori launchpad and others) to the list of trusted sites once.

Hence, if you see messages about unsafe connections, untrusted certificates, etc., please click on "Proceed" or "I know the risk", etc. (the screens and needed clicks will vary depending on the browser).

As an alternative, you can also apply your own trusted certificate to the system (using tCode STRUST, etc.).

On the delivered remote desktop, the self-signed certificate has already been imported into the store with trusted certificates, and you will not see a warning if you access the Fiori launchpad. The web sites of the J2EE server or the SAP Cloud Connector will still display warnings, please acknowledge the risk and continue as outlined above.

5   Working with Appliance Templates via SAP Cloud Appliance Library

If you have a user in SAP Cloud Appliance Library, you need to meet the following prerequisites before starting to use the SAP Cloud Appliance library:

- Cloud Provider Configurations

You have a valid account in one of the cloud providers supported by SAP Cloud Appliance Library. If you already have an active cloud provider account, you can proceed directly with the next section. Otherwise, navigate to the cloud provider home page and sign up.

- Navigate to SAP Cloud Appliance Library

Open the SAP Cloud Appliance Library in your Web browser using the following link: https://cal.sap.com

To familiarize yourself how to use appliance templates via SAP Cloud Appliance Library, go to this topic.

6 Appendix

6.1 Installed Technical Component Details

6.1.1 SAP NetWeaver 7.54 application server ABAP incl. SAP S/4HANA 1909 FPS02

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_BASIS	754	0002	SAPK-75402INSAPBASIS	SAP Basis Component
SAP_ABA	75E	0002	SAPK-75E02INSAPABA	Cross-Application Component
SAP_GWFND	754	0002	SAPK-75402INSAPGWFND	SAP Gateway Foundation
SAP_UI	754	0003	SAPK-75403INSAPUI	User Interface Technology
ST-PI	740	0012	SAPK-74012INSTPI	SAP Solution Tools Plug-In
SAP_BW	754	0002	SAPK-75402INSAPBW	SAP Business Warehouse
UIBAS001	500	0002	SAPK-50002INUIBAS001	UI for Basis Applications
MDG_FND	804	0002	SAPK-80402INMDGFND	MDG Foundation
S4FND	104	0002	SAPK-10402INS4FND	Foundation
MDG_APPL	804	0002	SAPK-80402INMDGAPPL	MDG Applications
MDG_UX	804	0002	SAPK-80402INMDGUX	MDG Additional User Interface
S4CORE	104	0002	SAPK-10402INS4CORE	S4CORE
S4CRM	204	0002	SAPK-20402INS4CRM	S4CRM
SAP_HR	608	0078	SAPKE60878	Human Resources
SAP_HRCAE	608	0078	SAPK-60878INSAPHRCAE	Subcomponent SAP_HRCAE of SAP_HR
SAP_HRCAR	608	0078	SAPK-60878INSAPHRCAR	Subcomponent SAP_HRCAR of SAP_HR
SAP_HRCAT	608	0078	SAPK-60878INSAPHRCAT	Subcomponent SAP_HRCAT of SAP_HR
SAP_HRCAU	608	0078	SAPK-60878INSAPHRCAU	Subcomponent SAP_HRCAU of SAP_HR
SAP_HRCBE	608	0078	SAPK-60878INSAPHRCBE	Subcomponent SAP_HRCBE of SAP_HR
SAP_HRCBG	608	0078	SAPK-60878INSAPHRCBG	Subcomponent SAP_HRCBG of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRCBR	608	0078	SAPK-60878INSAPHRCBR	Subcomponent SAP_HRCBR of SAP_HR
SAP_HRCCA	608	0078	SAPK-60878INSAPHRCCA	Subcomponent SAP_HRCCA of SAP_HR
SAP_HRCCH	608	0078	SAPK-60878INSAPHRCCH	Subcomponent SAP_HRCCH of SAP_HR
SAP_HRCCL	608	0078	SAPK-60878INSAPHRCCL	Subcomponent SAP_HRCCL of SAP_HR
SAP_HRCCN	608	0078	SAPK-60878INSAPHRCCN	Subcomponent SAP_HRCCN of SAP_HR
SAP_HRCCO	608	0078	SAPK-60878INSAPHRCCO	Subcomponent SAP_HRCCO of SAP_HR
SAP_HRCCZ	608	0078	SAPK-60878INSAPHRCCZ	Subcomponent SAP_HRCCZ of SAP_HR
SAP_HRCDE	608	0078	SAPK-60878INSAPHRCDE	Subcomponent SAP_HRCDE of SAP_HR
SAP_HRCDK	608	0078	SAPK-60878INSAPHRCDK	Subcomponent SAP_HRCDK of SAP_HR
SAP_HRCEG	608	0078	SAPK-60878INSAPHRCEG	Subcomponent SAP_HRCEG of SAP_HR
SAP_HRCES	608	0078	SAPK-60878INSAPHRCES	Subcomponent SAP_HRCES of SAP_HR
SAP_HRCFI	608	0078	SAPK-60878INSAPHRCFI	Subcomponent SAP_HRCFI of SAP_HR
SAP_HRCFR	608	0078	SAPK-60878INSAPHRCFR	Subcomponent SAP_HRCFR of SAP_HR
SAP_HRCGB	608	0078	SAPK-60878INSAPHRCGB	Subcomponent SAP_HRCGB of SAP_HR
SAP_HRCGR	608	0078	SAPK-60878INSAPHRCGR	Subcomponent SAP_HRCGR of SAP_HR
SAP_HRCHK	608	0078	SAPK-60878INSAPHRCHK	Subcomponent SAP_HRCHK of SAP_HR
SAP_HRCHR	608	0078	SAPK-60878INSAPHRCHR	Subcomponent SAP_HRCHR of SAP_HR
SAP_HRCHU	608	0078	SAPK-60878INSAPHRCHU	Subcomponent SAP_HRCHU of SAP_HR
SAP_HRCID	608	0078	SAPK-60878INSAPHRCID	Subcomponent SAP_HRCID of SAP_HR
SAP_HRCIE	608	0078	SAPK-60878INSAPHRCIE	Subcomponent SAP_HRCIE of SAP_HR
SAP_HRCIN	608	0078	SAPK-60878INSAPHRCIN	Subcomponent SAP_HRCIN of SAP_HR
SAP_HRCIT	608	0078	SAPK-60878INSAPHRCIT	Subcomponent SAP_HRCIT of SAP_HR
SAP_HRCJP	608	0078	SAPK-60878INSAPHRCJP	Subcomponent SAP_HRCJP of SAP_HR
SAP_HRCKR	608	0078	SAPK-60878INSAPHRCKR	Subcomponent SAP_HRCKR of SAP_HR
SAP_HRCKW	608	0078	SAPK-60878INSAPHRCKW	Subcomponent SAP_HRCKW of SAP_HR
SAP_HRCKZ	608	0078	SAPK-60878INSAPHRCKZ	Subcomponent SAP_HRCKZ of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRCMX	608	0078	SAPK-60878INSAPHRCMX	Subcomponent SAP_HRCMX of SAP_HR
SAP_HRCMY	608	0078	SAPK-60878INSAPHRCMY	Subcomponent SAP_HRCMY of SAP_HR
SAP_HRCNL	608	0078	SAPK-60878INSAPHRCNL	Subcomponent SAP_HRCNL of SAP_HR
SAP_HRCNO	608	0078	SAPK-60878INSAPHRCNO	Subcomponent SAP_HRCNO of SAP_HR
SAP_HRCNZ	608	0078	SAPK-60878INSAPHRCNZ	Subcomponent SAP_HRCNZ of SAP_HR
SAP_HRCOM	608	0078	SAPK-60878INSAPHRCOM	Subcomponent SAP_HRCOM of SAP_HR
SAP_HRCPH	608	0078	SAPK-60878INSAPHRCPH	Subcomponent SAP_HRCPH of SAP_HR
SAP_HRCPL	608	0078	SAPK-60878INSAPHRCPL	Subcomponent SAP_HRCPL of SAP_HR
SAP_HRCPT	608	0078	SAPK-60878INSAPHRCPT	Subcomponent SAP_HRCPT of SAP_HR
SAP_HRCQA	608	0078	SAPK-60878INSAPHRCQA	Subcomponent SAP_HRCQA of SAP_HR
SAP_HRCRO	608	0078	SAPK-60878INSAPHRCRO	Subcomponent SAP_HRCRO of SAP_HR
SAP_HRCRU	608	0078	SAPK-60878INSAPHRCRU	Subcomponent SAP_HRCRU of SAP_HR
SAP_HRCSA	608	0078	SAPK-60878INSAPHRCSA	Subcomponent SAP_HRCSA of SAP_HR
SAP_HRCSE	608	0078	SAPK-60878INSAPHRCSE	Subcomponent SAP_HRCSE of SAP_HR
SAP_HRCSG	608	0078	SAPK-60878INSAPHRCSG	Subcomponent SAP_HRCSG of SAP_HR
SAP_HRCSI	608	0078	SAPK-60878INSAPHRCSI	Subcomponent SAP_HRCSI of SAP_HR
SAP_HRCSK	608	0078	SAPK-60878INSAPHRCSK	Subcomponent SAP_HRCSK of SAP_HR
SAP_HRCTH	608	0078	SAPK-60878INSAPHRCTH	Subcomponent SAP_HRCTH of SAP_HR
SAP_HRCTR	608	0078	SAPK-60878INSAPHRCTR	Subcomponent SAP_HRCTR of SAP_HR
SAP_HRCTW	608	0078	SAPK-60878INSAPHRCTW	Subcomponent SAP_HRCTW of SAP_HR
SAP_HRCUA	608	0078	SAPK-60878INSAPHRCUA	Subcomponent SAP_HRCUA of SAP_HR
SAP_HRCUN	608	0078	SAPK-60878INSAPHRCUN	Subcomponent SAP_HRCUN of SAP_HR
SAP_HRCUS	608	0078	SAPK-60878INSAPHRCUS	Subcomponent SAP_HRCUS of SAP_HR
SAP_HRCVE	608	0078	SAPK-60878INSAPHRCVE	Subcomponent SAP_HRCVE of SAP_HR
SAP_HRCZA	608	0078	SAPK-60878INSAPHRCZA	Subcomponent SAP_HRCZA of SAP_HR
SAP_HRGXX	608	0078	SAPK-60878INSAPHRGXX	Subcomponent SAP_HRGXX of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRRXX	608	0078	SAPK-60878INSAPHRRXX	Subcomponent SAP_HRRXX of SAP_HR
EA-DFPS	804	0002	SAPK-80402INEADFPS	SAP Enterprise Extension Defense Forces & Public Security
EA-HR	608	0078	SAPK-60878INEAHR	SAP Enterprise Extension HR
EA-HRCAE	608	0078	SAPK-60878INEAHRCAE	Subcomponent EA-HRCAE of EA-HR
EA-HRCAR	608	0078	SAPK-60878INEAHRCAR	Subcomponent EA-HRCAR of EA-HR
EA-HRCAT	608	0078	SAPK-60878INEAHRCAT	Subcomponent EA-HRCAT of EA-HR
EA-HRCAU	608	0078	SAPK-60878INEAHRCAU	Subcomponent EA-HRCAU of EA-HR
EA-HRCBE	608	0078	SAPK-60878INEAHRCBE	Subcomponent EA-HRCBE of EA-HR
EA-HRCBG	608	0078	SAPK-60878INEAHRCBG	Subcomponent EA-HRCBG of EA-HR
EA-HRCBR	608	0078	SAPK-60878INEAHRCBR	Subcomponent EA-HRCBR of EA-HR
EA-HRCCA	608	0078	SAPK-60878INEAHRCCA	Subcomponent EA-HRCCA of EA-HR
EA-HRCCH	608	0078	SAPK-60878INEAHRCCH	Subcomponent EA-HRCCH of EA-HR
EA-HRCCL	608	0078	SAPK-60878INEAHRCCL	Subcomponent EA-HRCCL of EA-HR
EA-HRCCN	608	0078	SAPK-60878INEAHRCCN	Subcomponent EA-HRCCN of EA-HR
EA-HRCCO	608	0078	SAPK-60878INEAHRCCO	Subcomponent EA-HRCCO of EA-HR
EA-HRCCZ	608	0078	SAPK-60878INEAHRCCZ	Subcomponent EA-HRCCZ of EA-HR
EA-HRCDE	608	0078	SAPK-60878INEAHRCDE	Subcomponent EA-HRCDE of EA-HR
EA-HRCDK	608	0078	SAPK-60878INEAHRCDK	Subcomponent EA-HRCDK of EA-HR
EA-HRCEG	608	0078	SAPK-60878INEAHRCEG	Sub component EA-HRCEG of EA-HR
EA-HRCES	608	0078	SAPK-60878INEAHRCES	Subcomponent EA-HRCES of EA-HR
EA-HRCFI	608	0078	SAPK-60878INEAHRCFI	Subcomponent EA-HRCFI of EA-HR
EA-HRCFR	608	0078	SAPK-60878INEAHRCFR	Subcomponent EA-HRCFR of EA-HR
EA-HRCGB	608	0078	SAPK-60878INEAHRCGB	Subcomponent EA-HRCGB of EA-HR
EA-HRCGR	608	0078	SAPK-60878INEAHRCGR	Subcomponent EA-HRCGR of EA-HR
EA-HRCHK	608	0078	SAPK-60878INEAHRCHK	Subcomponent EA-HRCHK of EA-HR
EA-HRCHR	608	0078	SAPK-60878INEAHRCHR	Subcomponent EA-HRCHR of EA-HR

Component	Release	SP-Level	Support Package	Short Description of Component
EA-HRCHU	608	0078	SAPK-60878INEAHRCHU	Subcomponent EA-HRCHU of EA-HR
EA-HRCID	608	0078	SAPK-60878INEAHRCID	Subcomponent EA-HRCID of EA-HR
EA-HRCIE	608	0078	SAPK-60878INEAHRCIE	Subcomponent EA-HRCIE of EA-HR
EA-HRCIN	608	0078	SAPK-60878INEAHRCIN	Subcomponent EA-HRCIN of EA-HR
EA-HRCIT	608	0078	SAPK-60878INEAHRCIT	Subcomponent EA-HRCIT of EA-HR
EA-HRCJP	608	0078	SAPK-60878INEAHRCJP	Subcomponent EA-HRCJP of EA-HR
EA-HRCKR	608	0078	SAPK-60878INEAHRCKR	Subcomponent EA-HRCKR of EA-HR
EA-HRCKW	608	0078	SAPK-60878INEAHRCKW	Subcomponent EA-HRCKW of EA-HR
EA-HRCKZ	608	0078	SAPK-60878INEAHRCKZ	Subcomponent EA-HRCKZ of EA-HR
EA-HRCMX	608	0078	SAPK-60878INEAHRCMX	Subcomponent EA-HRCMX of EA-HR
EA-HRCMY	608	0078	SAPK-60878INEAHRCMY	Subcomponent EA-HRCMY of EA-HR
EA-HRCNL	608	0078	SAPK-60878INEAHRCNL	Subcomponent EA-HRCNL of EA-HR
EA-HRCNO	608	0078	SAPK-60878INEAHRCNO	Subcomponent EA-HRCNO of EA-HR
EA-HRCNZ	608	0078	SAPK-60878INEAHRCNZ	Subcomponent EA-HRCNZ of EA-HR
EA-HRCOM	608	0078	SAPK-60878INEAHRCOM	Subcomponent EA-HRCOM of EA-HR
EA-HRCPH	608	0078	SAPK-60878INEAHRCPH	Subcomponent EA-HRCPH of EA-HR
EA-HRCPL	608	0078	SAPK-60878INEAHRCPL	Subcomponent EA-HRCPL of EA-HR
EA-HRCPT	608	0078	SAPK-60878INEAHRCPT	Subcomponent EA-HRCPT of EA-HR
EA-HRCQA	608	0078	SAPK-60878INEAHRCQA	Subcomponent EA-HRCQA of EA-HR
EA-HRCRO	608	0078	SAPK-60878INEAHRCRO	Subcomponent EA-HRCRO of EA-HR
EA-HRCRU	608	0078	SAPK-60878INEAHRCRU	Subcomponent EA-HRCRU of EA-HR
EA-HRCSA	608	0078	SAPK-60878INEAHRCSA	Subcomponent EA-HRCSA of EA-HR
EA-HRCSE	608	0078	SAPK-60878INEAHRCSE	Subcomponent EA-HRCSE of EA-HR
EA-HRCSG	608	0078	SAPK-60878INEAHRCSG	Subcomponent EA-HRCSG of EA-HR
EA-HRCSI	608	0078	SAPK-60878INEAHRCSI	Subcomponent EA-HRCSI of EA-HR
EA-HRCSK	608	0078	SAPK-60878INEAHRCSK	Subcomponent EA-HRCSK of EA-HR

Component	Release	SP-Level	Support Package	Short Description of Component
EA-HRCTH	608	0078	SAPK-60878INEAHRCTH	Subcomponent EA-HRCTH of EA-HR
EA-HRCTR	608	0078	SAPK-60878INEAHRCTR	Subcomponent EA-HRCTR of EA-HR
EA-HRCTW	608	0078	SAPK-60878INEAHRCTW	Subcomponent EA-HRCTW of EA-HR
EA-HRCUA	608	0078	SAPK-60878INEAHRCUA	Subcomponent EA-HRCUA of EA-HR
EA-HRCUN	608	0078	SAPK-60878INEAHRCUN	Subcomponent EA-HRCUN of EA-HR
EA-HRCUS	608	0078	SAPK-60878INEAHRCUS	Subcomponent EA-HRCUS of EA-HR
EA-HRCVE	608	0078	SAPK-60878INEAHRCVE	Subcomponent EA-HRCVE of EA-HR
EA-HRCZA	608	0078	SAPK-60878INEAHRCZA	Subcomponent EA-HRCZA of EA-HR
EA-HRGXX	608	0078	SAPK-60878INEAHRGXX	Subcomponent EA-HRGXX of EA-HR
EA-HRRXX	608	0078	SAPK-60878INEAHRRXX	Subcomponent EA-HRRXX of EA-HR
EA-PS	804	0002	SAPK-80402INEAPS	SAP Enterprise Extension Public Services
FI-CAX	804	0002	SAPK-80402INFICAX	FI-CA Extended
INSURANCE	804	0002	SAPK-80402ININSURANC	SAP Insurance
IS-OIL	804	0002	SAPK-80402INISOIL	IS-OIL
IS-PRA	804	0002	SAPK-80402INISPRA	SAP IS-PRA
IS-PS-CA	804	0002	SAPK-80402INISPSCA	IS-PUBLIC SECTOR CONTRACT ACCOUNTING
IS-UT	804	0002	SAPK-80402INISUT	SAP Utilities/Telecommunication
S4COREOP	104	0002	SAPK-10402INS4COREOP	S/4HANA, On-Premise only parts
GBX01HR	600	0016	SAPK-60016INGBX01HR	FIORI X1 HCM
GBX01HR5	605	0013	SAPK-60513INGBX01HR5	FIORI X1 HCM
SRA004	600	0011	SAPK-60011INSRA004	Create Travel Request OData Integration
UIAPFI70	700	0002	SAPK-70002INUIAPFI70	UI SFIN
UIHR001	100	0016	SAPK-10016INUIHR001	UI for ERP Human Capital Management
UIHR002	100	0009	SAPK-10009INUIHR002	UI for ERP Human Capital Management 100
UIS4HOP1	500	0002	SAPK-50002INUIS4HOP1	UI for S/4HANA On Premise
PERSONAS	300	0010	SAPK-30010INPERSONAS	PERSONAS - SAP GUI PERSONALISATION
ST-A/PI	01T_731	0003	SAPKITAB9X	Servicetools for SAP Basis 731 and highe

6.1.2 SAP NetWeaver 7.50 application server JAVA with Adobe Document Services installed
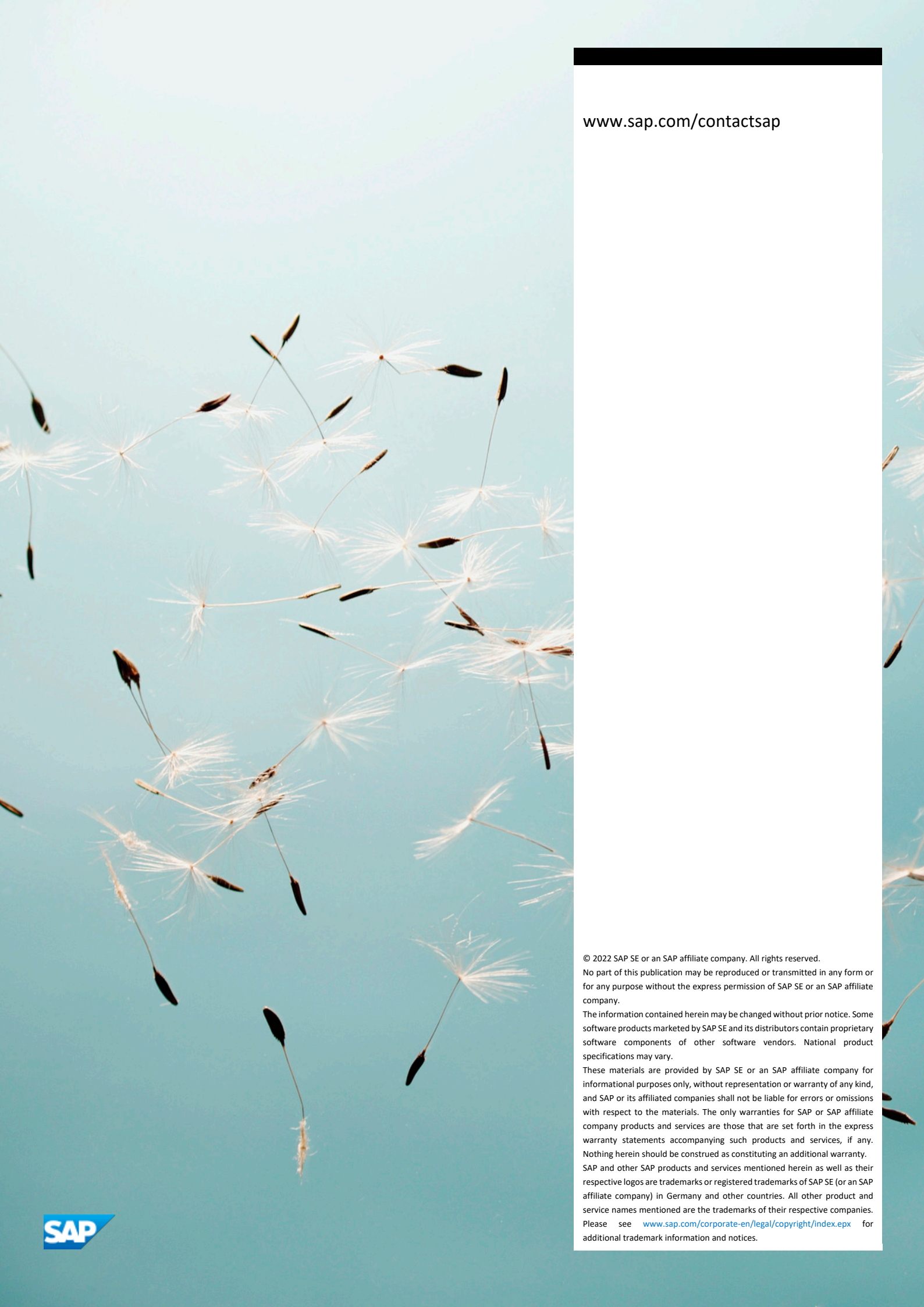
Product Name	Name	Version	Vendor	Description
SAP NETWAVER J2EE	7.50	16	sap.com	SAP NETWEAVER 7.5: Adobe Document Services
SAP NETWAVER J2EE	7.50	16	sap.com	SAP NETWEAVER 7.5: Application Server Java

6.1.3 Windows Remote Desktop

- o SAP GUI for Windows 7.50
- o SAP HANA Studio & ABAP Development Tools
- o SAP Lumira 2.0 (Discovery & Designer)
- o Google Chrome
- o Mozilla Firefox

6.1.4 SAP BusinessObjects BI Platform 4.2

- o SBOP BI PLATFORM 4.2 SP07 SERVER LINUX (64B)
- o SAP Lumira Server for BI Platform

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