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Getting Started with SAP HANA, express edition



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1 Solution Information

1.1 Installed Products

You get access to a system (landscape) that has been built using the following installation media:
SAP HANA Express Edition 2.0 (2.00.031.00)

1.2 Overview

The [SAP HANA, express edition](#) solution is a pre-configured appliance, ready to use for development purposes. The XSA runtime, including all appropriate SAP development and administration tools are installed and configured.

For further information about SAP HANA, express edition, including tutorials, content and getting started material, visit the [SAP HANA, express edition website](#).

2 Accessing the Solution

2.1 Overview

The solution is configured to be identical to the on-premises deployment of SAP HANA, express edition. Access a getting started tutorial [here](#).

Quick connect with XS Advanced tools

Use the tools included in the Extended Application Services, advanced model to perform administration and development tasks.

1. Map the external IP address of your cloud instance to the hostname `vhcalhxedb` in the hosts file in your local machine. Follow the steps described in step 3 [in this tutorial](#) if you need further details
2. Connect to `https://vhcalhxedb:39030` in a browser.
3. The buttons at the right-bottom corner show applications in XS Advanced. Click on Web IDE (webide) and use user XSA_DEV to sign in. The password is the same you set up as the master password.
4. Use XSA Cockpit for administration and access to other applications.

More information about these tools can be found [in this tutorial](#).

Quick connect with Eclipse or SAP HANA Studio

The solution is installed as MDC (Multi tenancy). Connect to either SystemDB, tenant or to HXE tenant depending on your usage scenario in Multiple Containers mode in SAP HANA Studio.

1. Start *SAP HANA Studio* > Systems Tab > right click to *Add System*.
2. Enter your Host Name and instance number (90), select Multiple containers mode > System database
3. Choose *Next* and enter *User Name* and *Password*.

For more information and how-to details, see [this tutorial](#). A number of other guides and tutorials for connecting development environments, frameworks and tools to SAP HANA can be found at the bottom of [this page](#).

Visit [SAP tutorial catalog](#) for a full listing of tutorials for SAP HANA, express edition, with example code, scenarios and best practices.

2.2 Database Server Details

Connect details are in the table below:

Name	Value	Description
Instance Number	90	Instance number of the HANA system
DB SID	HXE	System ID of the database of the SAP system
Username	SYSTEM XSA_ADMIN XSA_DEV XSA_SHINE	These are the standard users which you can use to access the database server.
Password	<Master Password>	The initial master password of the system you provided in the SAP Cloud Appliance Library when creating the instance. HXE master password requirements: <ul style="list-style-type: none"> • At least 8 characters • At least 1 uppercase letter • At least 1 lowercase letter • At least 1 number • Can contain special characters, but not backtick, \$ (dollar sign), \ (backslash), ' (single quote), or " (double quotes) • Cannot contain simplistic or systematic values, like strings in ascending or descending numerical or alphabetical order

2.3 OS Users and Groups

Name	Description
hxeadm	SAP system administrator
hxeshm	Group needed by SAP HANA database on OS level for shared memory operations
sapadm	SAP database administrator
sapsys	Group containing all <SID>adm users (should be a group in a central user storage like LDAP, NIS, or Active Directory)

2.3.1 Accessing Your Instance on OS Level

For information how to access a solution on OS level, go to [this FAQ wiki page](#) and check this question: How to connect to a running instance via the secure shell protocol (SSH)?

3 Licenses

3.1 Running Free Solutions

This solution can be used under the provisions in this [license agreement](#).

Once you create the solution instance, the SAP system will generate a license key that is appropriate for the usage of the solution.

4 Security Aspects

Be aware that creating your instances in the public zone of your cloud computing platform is convenient but less secure. Ensure that only port 22 (SSH) is opened when working with Linux-based solutions and port 3389 (RDP) when working with Windows based solutions. In addition, we also recommend that you limit the access to your instances by defining a specific IP range in the Access Points settings, using [CIDR notation](#). The more complex but secure alternative is to set up a virtual private cloud (VPC) with VPN access, which is described in [this tutorial on SCN](#).

The list below describes the ports opened for the security group formed by the server components of your solution instance:

To access back-end servers on the operating system (OS) level, use the following information:

Protocol	Port	Description
SSH	22	Used for SSH connection to Linux-based servers
RDP	3389	Used for RDP connection to Windows based servers

The additional ports for accessing SAP HANA are described below:

Protocol	Port	Description
SSH	22	Used for SSH connection to Linux-based servers
HTTP(s)	4390	SAP Web Dispatcher (HANA)
HTTP(s)	8090	SAP Web Dispatcher (HANA)
Custom	39013	SQL and MDX access port to the SYSTEM database
Custom	39015	SQL and MDX access to the first tenant of a HANA system – in the case of HXE, a user has to initiate the tenant before trying to connect to this port
Custom	39041-39045	Additional open ports for 5 Tenants
Custom	39017	Port for statistics server connections
HTTP(s)	39033	Default XSA port if hostname routing is used for HANA.
HTTP(s)	39032	Default XSA port if hostname routing is used for HANA.
HTTP(s)	39030	XS-controller managed Web Dispatcher
HTTP(s)	59013	Instance Agent
HTTP(s)	59014	Instance Agent SSL
HTTP(s)	51000-51060	XSA application instances.

Protocol	Port	Description
Custom	39026-39030	Ports for SDS streaming clients
Custom	39040	Default DPServer Port
Custom	1128-1129	SAP Host Agent
Custom	53075	WEB based IDE for XSA Development
Custom	53030	DICore Service

You must change the initial user passwords provided by SAP when you log onto the system for the first time.

Note that when using **HANA based appliances**, HANA systems are not installed individually but **cloned from a template system**. As a consequence 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](#).

For more information about security vulnerabilities, see this [community page](#).

5 Solution Provisioning in 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.

For more information about the supported cloud providers, see the [FAQ page](#).

- Navigate to SAP Cloud Appliance Library

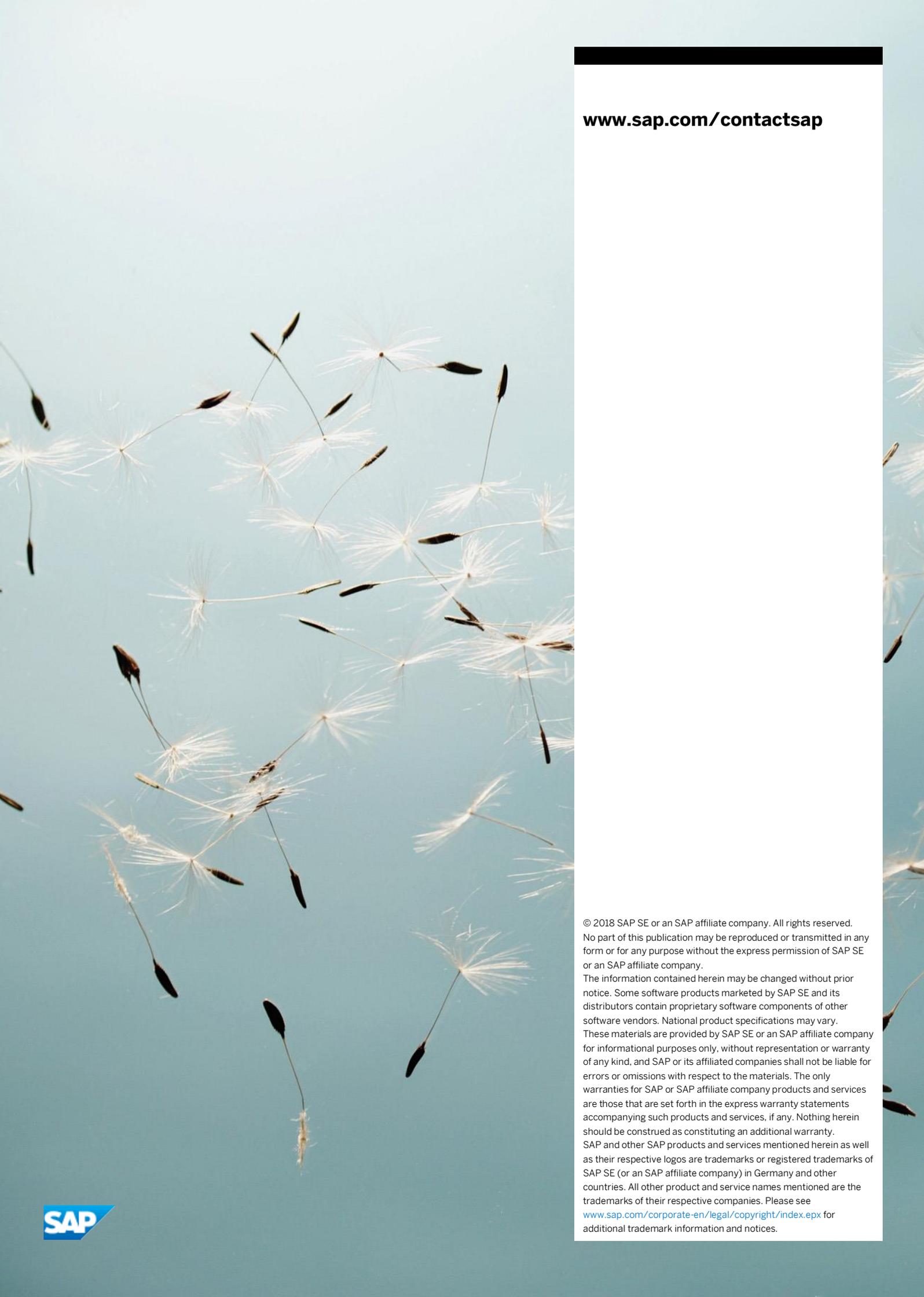
Open the SAP Cloud Appliance Library in your Web browser using the following link: <https://cal.sap.com>

For more information about how to use solutions in SAP Cloud Appliance Library, see the official documentation of SAP Cloud Appliance Library (choose [Support](#) → [Documentation](#) link and choose  (expand all) button to see all documents in the structure). You can also use the context help in SAP Cloud Appliance Library by choosing the [Help](#) panel from the right side.

6 Appendix

Installed Software Components

Name	Release	Support Package Stack
HDB_LCM_LINUX_X86_64	2.00.031.00	2
HDB_SERVER_LINUX_X86_64	2.00.031.00	2
HDB_AFL_LINUX_X86_64	2.00.031.00	2
HDB_EML_AFL_LINUX_X86_64	2.00.031.00	2
XSA_RT_10_LINUX_X86_64	1.0.85	2
XSA_CONTENT_10	1.0.85	2
XSAC_SAP_WEB_IDE_20	4.	2
XSAC_HRTT_20	2.	2
HANA_COCKPIT_20	2.3.9	2
HCO_HANA_SHINE	1.2	2
SAP_HANA_STREAMING	2.00.031.00	2
HANA_SDI	2.00.031.00	2
HANA_DP_AGENT_20_LIN_X86_64	2.00.031.00	2
XSA_CLIENT_10	2.00.031.00	2
HDB_CLIENT_LINUX_X86_64	2.3.106	2
HDB_CLIENT_LINUX_PPC64LE	2.3.106	2
HDB_CLIENT_WINDOWS_X86_64	2.3.106	2
HDB_CLIENT_NTINTEL	2.3.106	2
HDB_CLIENT_MACOS	2.3.106	2



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