Installation with HANA hdblcm

XS Advanced can be installed using the HANA `hdblcm` installer. The most convenient way to do this is using the XSA Monsoon Readymade.

If you want to install manually on a machine capable of running HANA (see HANA System Prerequisites), follow these instructions:

Contents

Installation archive locations

The installation files are located in the following directories on the `/sapmnt/production` share:

HANA SPS13 (2.0)

HANA	Weekstone	`/sapmnt/production/makeresults/newdb_archive/HANA_WS_COR/released_weekstones/LastWS/lcm/linuxx86_64`
XSA Runtime	Weekstone	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS13/LASTWS/XSA_RT/li`
	Release	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS13/LASTREL/XSA_RT/l`
XSA additional content	Weekstone	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS13/LASTWS/XSA_CONT`
	Release	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS13/LASTREL/XSA_CONT`

HANA SPS12

HANA	Release	`/sapmnt/production/makeresults/newdb_archive/NewDB100/rel/LastRevision/lcm/linuxx86_64/SAP_HANA_LCM`
XSA Runtime	Weekstone	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS12/LASTWS/XSA_RT/li`
	Release	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS12/LASTREL/XSA_RT/l`
XSA additional content	Weekstone	`/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS12/LASTWS/XSA_CONT`

	Release	/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS12/LASTREL/XSA_CONT

HANA SPS11

HANA	Release	/sapmnt/production/makeresults/newdb_archive/NewDB100/rel/LastMaintenanceRevision_SP11/lcm/linuxx86
XSA Runtime	Weekstone	/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS11/LASTWS/XSA_RT/li
	Release	/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS11/LASTREL/XSA_RT/l
XSA additional content	Weekstone	/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS11/LASTWS/XSA_CONT
	Release	/sapmnt/production/makeresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS11/LASTREL/XSA_CONT

Mounting the /sapmnt/production share

You only need to perform these steps in case the network shares `/sapmnt/production/...` were not mounted by SAP IT's auto mounter on your machine. In this case, mount the shares manually (root rights needed):

```
sudo mkdir -p /sapmnt/production/makeresults/newdb_dev
sudo mount -t nfs
derotvi0303.wdf.sap.corp:/derotvi0303a_newdb_dev/q_newdb_dev
/sapmnt/production/makeresults/newdb_dev

sudo mkdir -p /sapmnt/production/makeresults/newdb_archive
sudo mount -t nfs derotvi0157.wdf.sap.corp:/derotvi0157a_ld9252/q_files
/sapmnt/production/makeresults/newdb_archive
```

Quirk: On some machines, the above mount points do not exist and you're not allowed to manually mount them into the directory `/net` either.

Solution:

- Replace `/net` by `/net2` in the above mount statements.
- Replace `/sapmnt/production/makeresults/newdb_archive/` by `/net2/sapmnt.production.makeresults.newdb_archive/` in the above archive locations.
- Replace `/sapmnt/production/makeresults/newdb_dev/` by `/net2/sapmnt.production.makeresults.newdb_dev/` in the above archive locations.
- Start the installation with the replaced locations

See also: HANA Mountpoints

Start the installation

After mounting the /sapmnt/production shares, the installation is started by:

```
sudo {HANA-LOCATION}/hdblcm
--component_dirs={XSA-LOCATION},{OPTIONAL-ADDITIONAL-CONTENT-LOCATION}
```

where `{HANA-LOCATION}`, `{XSA-LOCATION}` and `{OPTIONAL_ADDITIONAL-CONTENT-LOCATION}` have to be picked from the "archive locations table" above.

Important Hints

⚠ During installation, your're asked for the local host name:

```
Enter Local Host Name [your_host]:
```

Here, in order to be able to reach your XSA system from the outside, **don't take the default** (which is the short host name) but specify the **fully qualified hostname!**

For example, in case you're installing on Monsoon, you have to add **.mo.sap.corp** to the end of the Monsoon hostname! (Only if you are able to correctly access short monsoon hostnames from your machine you can keep the default setting)

Examples:

HANA + XSA without additional content:

```
sudo
/sapmnt/production/makeresults/newdb_archive/HANA_WS_COR/released_weekston
es/LastWS/lcm/linuxx86_64/SAP_HANA_LCM/hdblcm
--component_dirs=/sapmnt/production/makeresults/newdb_dev/POOL_EXT/externa
l_components/XSA_RT/SPS12/LASTWS/XSA_RT/linuxx86_64
```

HANA + XSA with additional content (Monitoring and admin apps, shine demo application):

```
sudo
/sapmnt/production/makeresults/newdb_archive/HANA_WS_COR/released_weekston
es/LastWS/lcm/linuxx86_64/SAP_HANA_LCM/hdblcm
--component_dirs=/sapmnt/production/makeresults/newdb_dev/POOL_EXT/externa
l_components/XSA_RT/SPS12/LASTWS/XSA_RT/linuxx86_64,/sapmnt/production/mak
eresults/newdb_dev/POOL_EXT/external_components/XSA_RT/SPS12/LASTWS/XSA_CO
NT
```

Known issues

SLES11 SP3: Make sure glibc++ 3.4.19 is installed

Symptom: Installation fails with the error that the application `component-registry` failed to deploy:

```
java.lang.RuntimeException: Execution of command 'deploy
/data/SQLScriptData/PRO/xs/installation-scripts/installation/../../install
data/apps/component-registry/component-registry.mtar' failed.
```

Most likely, you're missing libstdc++ 3.4.19. You can check this by looking at the logs of component-registry-db. Therefore, execute "`xs logs component-registry-db --all`" in the space "SAP". You should see the line:

```
node: /usr/lib64/libstdc++.so.6: version `GLIBCXX_3.4.19' not found
(required by node)
```

Solution: Update your system by running this command (on SUSE):

n addition, if not auto mounted, create the following mounts

```
sudo mkdir -p /net/sapmnt.appl_sw
sudo mount -t nfs derotvi0270.wdf.sap.corp:/vol/applsw_linux/q_linux-x86_64
/net/sapmnt.appl_sw
```

Then install

```
sudo zypper install -f -y /net/sapmnt.appl_sw/gcc-4.8/rpm/*.rpm
```

Re-run the installation afterwards.

SLES11 SP3 and HANA SP13/2.0: Make sure libgcc_s1 5.3.1 is installed

Symptom: Installation fails

```
The operating system is not ready to perform gcc 5 assemblies
  rpm package 'libgcc_s1' needs at least version 5.3.1. (current version =
4.8.3+r212056)
  rpm package 'libstdc++6' needs at least version 5.3.1. (current version =
4.8.3+r212056)
```

Solution: Update your system by running this command (on SUSE):

in addition, if not auto mounted, create the following mounts

```
sudo mkdir -p /net/sapmnt.appl_sw
sudo mount -t nfs derotvi0270.wdf.sap.corp:/vol/applsw_linux/q_linux-x86_64
/net/sapmnt.appl_sw
```

Then install

```
sudo zypper install /net/sapmnt.appl_sw/gcc-5/rpm/sles11/*rpm
```

Re-run the installation afterwards.

Installation may fail on SLES 12 due to missing libraries

If installation fails because libssl.so.0.9.8 or libcrypto.so.0.9.8 are missing, do this.

Download cryptolibs.0.9.8.tgz to your system and execute

```
sudo tar -xf cryptolibs.0.9.8.tgz -C /
```

The libraries in this archive are copied from a SLES 11 SP3 system.

Proxy issues

- ensure that `localhost` with and the short hostname are part of the no_proxy list

Basic Test

A basic test to see if your system works after installation using xs command line client:

```
$ xs login -a https://<your-hana-host>:3<instance-nr>30 -u
<org-master-user> -p <org-master-pwd> --skip-ssl-validation
 $ xs apps
   Getting apps in org "XS" / space "PROD" as d038406...
   Found apps:
   name               requested state   instances   memory   disk
urls

------------------------------------------------------------------------
--------------------------------
   deploy-service     STARTED           1/1         512 MB   <unlimited>
http://lu450964.wdf.sap.corp:40003
   product-installer  STARTED           1/1         512 MB   <unlimited>
http://lu450964.wdf.sap.corp:40004
 $ xs set-env xs2-monitor destinations "[{\"name\":\"controller\",
\"url\":\"http://lu450964.wdf.sap.corp:30029\"},{\"name\":\"ui5\",
\"url\":\"https://sapui5.netweaver.ondemand.com\",
\"proxyHost\":\"proxy.wdf.sap.corp\", \"proxyPort\":\"8080\"}]"
```

Now you can open the URL of your xs2-monitor as found in your "xs apps" command output in your browser and login using your org master user/password.

Hostname Routing

Starting with XSA weekstone 1545 you can enable the so called "hostname routing mode" for the installed system.

The default-domain you specify during installation has to point to that HANA host that runs the xscontroller. Also, a wildcard DNS entry for this domain has to exist to also point to the xscontroller host (*.<domain-name> should point to <domain-name>) (see also SAP Note 22456631). If you need access to such a hostname you can contact Marc Becker

HANA SPS11

hdblcm for HANA SPS11 does not provide an option to select the routing mode. Thus, you need to create the following file BEFORE the installation: */var/tmp/XSA_PROPERTIES*

Place the following line in it: *ROUTING_MODE=hostnames*

HANA SPS12

hdblcm for HANA SPS12 will query the routing mode and default domain conveniently as part of the installation.

Setting a router certificate

If you want to set a custom router certificate for the XSA default domain at installation time you can use the parameters CERTIFICATE_PUBLIC_KEY and CERTIFICATE_PRIVATE_KEY within the */var/tmp/XSA_PROPERTIES* file.

You have to create the */var/tmp/XSA_PROPERTIES* file BEFORE the installation and place two lines in it.

CERTIFICATE_PUBLIC_KEY=<path to the certificate chain file>
CERTIFICATE_PRIVATE_KEY=<path to the private key file>

The files specified within the paths have to be the same files you could pass to the xs command "xs set-certificate" (see here for reference) and need to be readable.

Disabling SSL

To disable SSL for the XSA runtime create the following file BEFORE the installation: */var/tmp/XSA_PROPERTIES*

Place the following line in it*: ENABLE_SSL=false*

Secure Store Usage

Starting with HANA weekstone 1544, the secure store FS becomes accessible to the installation. The consequence is that the parameter file <XSA_installation_dir>/xs_parameters gets no longer written to the file system

If you need to know the installation parameters you can access them using the following commands in a Unix shell:

```
su - <sidadm>

XS_INST_DIR="<XSA_installation_dir>"     #e.g /hana/shared/XSA/xs
JAVA_HOME="$XS_INST_DIR/sapjvm_8"
JARS_DIR="$XS_INST_DIR/jars"
$JAVA_HOME/bin/java  -classpath "$JARS_DIR/*"
com.sap.xs2rt.installation.impl.util.AccessSecureStoreFs
```

Upgrade

To upgrade your existing installation, run exactly the same command as for the initial installation:

```
sudo {HANA-LOCATION}/hdblcm
--component_dirs={XSA-LOCATION},{OPTIONAL-ADDITIONAL-CONTENT-LOCATION}
```

Then choose update, e.g.

```
Choose system to update, or choose installation

  Index | System             | Database Properties

-------------------------------------------------------------------------
-----------------------------------------------------
  1     | <SID> (update)     | 2.00.000.00.1464682535
        |                    | dewdfl450962.xs2tests-wdf.sap.corp (Database
Worker (worker))

  [...]
```

and afterwards xs update:

```
[...]
7     | xs         | Update SAP HANA XS Advanced Runtime from version
0.1622.1622.270886 to version 0.1622.1622.270886
[...]
```

Uninstall

Run the `hdblcm` binary of your HANA instance as root user:

```
$ sudo /hana/shared/<SID>/hdblcm/hdblcm
```

Here, you can choose to remove either XSA or the whole HANA instance.