INTERNAL

SAP HANA Client 2.0

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SAP HANA Client Installation and Update Guide

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Content

1 SAP HANA Client Installation and Update Guide

This guide describes how to install the SAP HANA database clients (for connecting applications).

2 Introduction

SAP HANA provides client interfaces for connecting applications as part of the SAP HANA client software package. The SAP HANA client can be installed on UNIX, Linux, macOS, and Microsoft Windows operating systems, as well as on an SAP HANA server host during server installation.

2.1 Supported Platforms

The SAP HANA client software can be installed on various platforms.

The following platform types are supported and in active maintenance:

- AIX
- Linux (x86_64, Power PC LE, ARM64)
- Microsoft Windows (x86, x64)
- macOS (x64, ARM64)
- Java SE 8

The following platform types are considered Legacy Platforms. They are only available in the 2.4 client version and receive emergency bug fixes:

- HP-UX IA64
- Linux IA32
- Linux Power PC BE
- Linux zSeries
- Solaris (SPARC, x64)
- Java SE (6, 7)

Related Information

SAP Product Availability Matrix (PAM)
SAP Note 2499500
SAP Note 3165810
SAP Note 2938939

2.2 How to Use the Client Interfaces with SAP HANA Service

There are some differences when using the client interfaces with SAP HANA Service. Refer to the client interfaces documentation for SAP HANA Service.

Related Information

SAP BTP, SAP HANA Service: SAP HANA Client Installation and Update Guide
SAP BTP, SAP HANA Service: SAP HANA Client Interface Programming Reference

3 SAP HANA Client on UNIX, macOS, or Linux

The SAP HANA client can be installed or uninstalled on supported UNIX, macOS, and Linux operating systems.

3.1 Planning an SAP HANA Client Installation on UNIX, macOS, or Linux

Before installing the SAP HANA client on a supported UNIX, macOS, or Linux operating system, review the available supported clients and the default installation paths.

3.1.1 Available Client Interfaces on UNIX, macOS, or Linux

When you install the SAP HANA client, supported client interfaces are installed and available.

The client interfaces available on UNIX, macOS, and Linux platforms are as follows:

- ODBC - AIX, Linux (x86_64, ARM64, PowerPC LE), macOS (x86_64, ARM64)
- JDBC - JVM 8 and higher
- Python - Linux (x86_64, ARM64, PowerPC LE), macOS (x86_64, ARM64)
- Go (golang) - Linux (x86_64, ARM64, PowerPC LE), macOS (x86_64, ARM64)
- Node.js - Linux (x86_64, ARM64, PowerPC LE), macOS (x86_64, ARM64)
- Ruby - Linux (x86_64, PowerPC LE), macOS (x86_64)
- Microsoft .NET Core - Linux (x86_64, ARM64), macOS (x86_64, ARM64)

3.1.2 Default Installation Paths for UNIX, macOS, or Linux

The SAP HANA client software is unpacked to a default path during installation, depending on the platform type and user. Change the default value can by using the `path` call option.

If you do not specify an installation path during installation, then the following default values apply:

Platform	Package Version	Installation Path
Linux x86, 32-bit	32-bit	`/usr/sap/hdbclient`

Platform	Package Version	Installation Path
Linux x86, 64-bit	64-bit	`/usr/sap/hdbclient`
Linux x86, 64-bit	32-bit	`/usr/sap/hdbclient32`
macOS	-	`/Applications/sap/hdbclient`

When installing the SAP HANA client without administrative rights, the installed SAP HANA client is only available to the user who installed it, and the default installation folder is `<$HOME>/sap/hdbclient`.

Related Information

3.2 Installing the SAP HANA Client on UNIX, macOS, or Linux

The SAP HANA client can be installed on the command line.

You can perform the install as root user or without administrative rights so that it is only available to the user who installed it.

3.2.1 Install the SAP HANA Client on UNIX, macOS, or Linux

Install the SAP HANA client from a graphical user interface or on the command line.

Context

To connect the SAP HANA client to the SAP HANA service, download the *SAP HANA CLIENT FOR HAAS 1.0* software. This software is the same as the SAP HANA client software that is part of the SAP HANA Platform Edition. If you already have a license for the SAP HANA Platform Edition, then you do not need to download the SAP HANA Client for SAP HANA Cloud separately.

To update the SAP HANA client to SAP HANA Cloud, download *SAP HANA CLIENT FOR HAAS 1.0 (Maintenance Product)*.

Procedure

1. Download and extract the software to an empty directory.
2. Open a shell and go to the directory where you unpacked the software.
3. Call the program `hdbsetup` (GUI installation) or `hdbinst` (command-line installation) by entering one of the following commands:

Option	Description
Command line	`./hdbinst [-a client] [<option list>]`

   You can omit the call option `-a client` if you only have one installation kit (one installation variant) on your system.

4. Follow the instructions displayed by the installation tool.
5. For the environment of client users, including the `<sid>` adm user, add the installation path to the `PATH` and library path environment variables. The library path environment variable differs according to the operating system:

Operating System	Library Path Environment Variable
AIX	`LIBPATH`
HP-UX	`SHLIB_PATH`
Linux	`LD_LIBRARY_PATH`
Solaris	`LD_LIBRARY_PATH`
macOS	`DYLD_LIBRARY_PATH`

   For information on how to set environment variables, see your operating system documentation. The SAP HANA client installation includes a bash script, `hdbclienv.sh`, that sets all relevant environment variables for the client, such as:

   - PATH
   - `<library-path>`
   - HDB_CLIENT_HOME
   - SECUDIR, if SAP Cryptographic Library is installed

> **i** Note
>
> In order to source the bash script for your environment, type `source hdbclienv.sh`.

Results

The client software is installed.

Related Information

Connecting to SAP HANA Databases and Servers
Configuring the Client for Client-Side Encryption and LDAP

3.2.2 Logging the Installation on UNIX, macOS, or Linux

The SAP HANA client installation is logged by the system.

The following log files are written during installation.

- `*.log`: can be read using a text editor
- `*.msg`: XML format for the display in the installation tool with the graphical user interface

The log files are stored in `/var/tmp/hdb_client_<timestamp>`.

3.3 Uninstalling the SAP HANA Client on UNIX, macOS, or Linux

Each installation has its own uninstallation tool. Use the hdbuninst program of the software package for which you want to uninstall the client software.

3.3.1 Uninstall on UNIX, macOS, or Linux in Interactive Mode

Each installation has its own uninstallation tool.

Prerequisites

You are logged on to the host where the client software is installed.

Context

Use the hdbuninst program of the software package for which you want to uninstall the client software. Interactive mode requires call options to be accepted or changed during installation. Defaults are offered for some call options.

Procedure

1. Open a shell and go to the directory in which the client is installed.
2. Enter the following command:

   `install/hdbuninst`
3. Press y to finalize the configuration.

Results

The client software is removed from this host.

3.3.2 Uninstall on UNIX, macOS, or Linux in Batch Mode

Each installation has its own uninstallation tool.

Context

Use the hdbuninst program of the software package for which you want to uninstall the client software. Batch mode runs the installation without interaction. Required call options must be specified with the command; defaults are accepted for all unspecified call options.

To call the hdbuninst program in batch mode, specify the installation path of the client software by using the `-path` option.

If you omit the installation path, then the program does not run in batch mode but instead queries the installation ID.

Procedure

1. Open a shell and go to the directory in which the client is installed.
2. Enter the following command:

```
install/hdbuninst --path <installation-path> -b
```

Results

The client software is removed from this host.

4 SAP HANA Client on Microsoft Windows

The SAP HANA client can be installed or uninstalled on supported Microsoft Windows operating systems.

4.1 Planning an SAP HANA Client Installation on Microsoft Windows

Before installing the SAP HANA client on Microsoft Windows, review the available supported clients and the default installation paths.

The SAP HANA client cannot be installed directly to UNC network paths (such as `\\server\share`).

4.1.1 Available Client Interfaces on Microsoft Windows

When you install the SAP HANA client, supported client interfaces are installed and available.

The following client interfaces are available on Microsoft Windows platforms:

- SQLDBC
- ODBC
- JDBC - JVM 8 and higher
- Microsoft ADO.NET - Microsoft .NET Framework and Microsoft .NET Core
- Python (PyDBAPI) - Microsoft Windows x64
- Go (golang) - Microsoft Windows x64
- Node.js - Microsoft Windows x64
- Ruby - Microsoft Windows x64

Related Information

SAP Note 1577128

4.1.2 Default Installation Paths for Microsoft Windows

The SAP HANA client software is unpacked to a default path during installation, depending on the platform type and user. The default value can be changed by using the `path` call option.

If you do not specify an installation path during installation, then the following default values apply:

Platform	Package Version	Installation Path
Microsoft Windows x86, 32-bit	32-bit	`C:\Program Files\SAP\hdbclient`
Microsoft Windows x86, 64-bit	64-bit	`C:\Program Files\SAP\hdbclient`
Microsoft Windows x86, 64-bit	32-bit	`C:\Program Files (x86)\SAP\hdbclient`

When installing the SAP HANA client without administrative rights, the installed SAP HANA client is only available to the user who installed it, and the default installation folder is `<%USERPROFILE%>\SAP\hdbclient`.

> **i** Note
>
> The SAP HANA client cannot be installed directly to UNC network paths (such as `\\server\share`).

Related Information

4.2 Installing the SAP HANA Client on Microsoft Windows

The SAP HANA client can be installed on the command line.

An administrator can perform the installation of the SAP HANA client. If the SAP HANA client is installed by a user without administrative rights, then it is only available to the user who installed it.

> **i** Note
>
> The SAP HANA client cannot be installed directly to UNC network paths (such as `\\server\share`).

4.2.1 Install the SAP HANA Client on Microsoft Windows

Install the SAP HANA client from a graphical user interface or on the command line.

Context

To connect the SAP HANA client to the SAP HANA service, download the *SAP HANA CLIENT FOR HAAS 1.0* software. This software is the same as the SAP HANA client software that is part of the SAP HANA Platform Edition. If you already have a license for the SAP HANA Platform Edition, you do not need to download the SAP HANA Client for SAP HANA Cloud separately.

To update the SAP HANA client for SAP HANA Cloud, download *SAP HANA CLIENT FOR HAAS 1.0 (Maintenance Product)*.

Procedure

1. Download and extract the software to an empty directory.
2. Open a command prompt and go to the directory where you unpacked the software.
3. Call the program `hdbsetup` (GUI installation) or `hdbinst` (command-line installation) by entering one of the following commands:

Option	Description
Command line	`hdbinst [-a client] [<option-list>]`

   If you only have one installation kit (one installation variant) on your system, then you can omit the call option `-a client`.
4. Follow the instructions displayed by the installation tool.
5. The client installer automatically adds the installation path to the `PATH` environment variable. Modify the `PATH` variable to reflect any additional changes required. If you do not want the PATH variable modified at installation time, set the environment variable HDB_INSTALL_NOPATH first.

   For information on setting environment variables, see the documentation for your operating system. The SAP HANA client installation includes a batch file, `hdbclient.bat`, that sets all relevant environment variables for the client, such as:
   - PATH
   - HDB_CLIENT_HOME
   - SECUDIR, if SAP Cryptographic Library is installed

Results

The client software is installed.

Related Information

Connecting to SAP HANA Databases and Servers
Configuring the Client for Client-Side Encryption and LDAP
Environment Variables

4.2.2 Logging the Installation on Microsoft Windows

The SAP HANA client installation is logged by the system. There are two log files written during installation.

- `*.log`: can be read using a text editor
- `*.msg`: XML format for the display in the installation tool with the graphical user interface

The log files are stored in `%TEMP%\hdb_client_<time-stamp>`.

4.3 Uninstall the SAP HANA Client on Microsoft Windows

Each installation has its own uninstallation tool. Use the hdbuninst program of the software package for which you want to uninstall the client software.

Procedure

1. Open a command prompt and go to the directory where you unpacked the software for this installation.
2. Enter the following command:

   ```
   hdbuninst
   ```
3. Enter the installation ID assigned to the client software installation and press `Enter`.

Results

The client software is removed from this host.

> **i** Note
>
> You can also use the standard Microsoft Windows functionality *Start* > *Control Panel* > *Add or remove programs* to remove the client software.

5 Download and Install SAP Common Crypto Library

Download SAP Common Crypto Library from SAP Software Downloads and install it locally to encrypt communication between your SAP HANA client and the SAP HANA server.

Prerequisites

The SAP Common Crypto Library must be installed on the host where the SAP HANA client will be installed or already is installed.

To install SAP Common Crypto Library, use the SAPCAR utility, which is included in your SAP HANA client installation.

> **i** Note
>
> This process is only required if your client installation does not already contain the file `sapcrypto.dll` (Microsoft Windows), `libsapcrypto.so` (Linux/UNIX), or `libsapcrypto.dylib` (macOS).

Context

You must use SAP Common Crypto Library if you are using client-side data encryption or LDAP authentication.

Procedure

1. Download SAP Common Crypto Library from SAP Software Downloads.
   a. Navigate to the SAP ONE Support Launchpad.
   b. Click *Software Downloads*.
   c. Click *INSTALLATIONS & UPGRADES*.
   d. Open *By Alphabetical Index (A-Z)* > *C*.
   e. Click *SAP CRYPTOGRAPHIC SOFTWARE* > *SAPCRYPTOLIB*.
   f. Click *COMMONCRYPTOLIB 8* > *DOWNLOADS*.
   g. Select your operating system from the dropdown menu, and download the desired `.SAR` file.
2. Install SAP Common Crypto Library on your local computer.

a. Using the SAPCAR utility, navigate to the directory where you downloaded the SAP Common Crypto Library and run the following command to unpack the `.SAR` file:

```
sapcar -xvf <sar-filename>.SAR
```

b. Set the SECUDIR environment variable to the directory where the extracted files are located and ensure that the following criteria are met:

To use the SAP CommonCryptoLib (CCL), you must define several environment variables. For example, `<SECUDIR>`, `<PATH>`, and `<LD_LIBRARY_PATH>`. Instead of configuring these environment variables individually, you can run the scripts below with the SAP HANA client installer to set these variables automatically. Use `hdbclienv.sh` for Linux, UNIX, and macOS and `hdbclienv.bat` for Microsoft Windows.

Operating System	Method	Command
Linux/UNIX/macOS	bash	Set the environment variables temporarily in a bash shell by running the following command: `. /usr/sap/hdbclient/hdbclienv.sh` To set the environment variables for your operating system on every login, source the `hdbclienv.sh` environment script in your login script (`~/.bashrc`).
Microsoft Windows	Command prompt	Set the environment variables by using the `hdbclienv.bat` batch file by running the following command: `"C:\Program Files\SAP\hdbclient\hdbclienv"` To set the environment variables permanently for all users, use the Microsoft = Windows Environment Variables system setting. If you are using client communication encryption, then the %SECUDIR% environment variable must contain the location of `sapcli.pse`.

For Linux, UNIX, and macOS, in addition to the root environment script, two helper scripts are also provided to launch the hdbuserstore or hdbsql utilities with the environment script already sourced and SAP CommonCryptoLib already configured:

- `/scripts/hdbuserstore`

- `/scripts/hdbsql`

Results

You have successfully downloaded and installed the SAP Common Crypto Library.

Related Information

SAP HANA Platform: Cryptographic Service Provider

6 Command and Call Option Reference

The SAP HANA installation tool, hdbinst, can be called on the command line in combination with call options.

Commands

Operating System	Syntax
UNIX or Linux	`./hdbinst [-a client] [<option-list>]` `<option-list> :: = <option> <option> ...`
Microsoft Windows	`hdbinst [-a client] [<option-list>]` `<option-list> :: = <option> <option> ...`

For a list of available call options, visit the Parameter Reference topic in the SAP HANA Server Installation and Update Guide.

> **i Note**
>
> The following SAP HANA client call option differs from the above-mentioned SAP HANA server call options list:

Option	Notes
-H hostname --hostname=hostname	Creates a install/installation.ini file in the installation directory that is used to determine the virtual hostname when connecting via the user store.

Related Information

Default Installation Paths for UNIX, macOS, or Linux [page 6]
Default Installation Paths for Microsoft Windows [page 13]

7 Important Disclaimer for Features in SAP HANA

For information about the capabilities available for your license and installation scenario, refer to the Feature Scope Description for SAP HANA. Some SAP HANA features and capabilities mentioned in this document are not applicable in the SAP BTP, SAP HANA service context. In some cases, additional information about the SAP HANA service context is placed near the feature information to advise you.

For information about the capabilities available for your contract type and provisioning scenario, refer to the Feature Scope Description for SAP HANA Service for SAP BTP or Feature Scope Description for SAP HANA Cloud.

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