Welcome to the e-learning course for SAP Business One Analytics Powered by SAP HANA: Installation and Licensing. This course is valid for release 9.0.
At the end of this course, you will be able to:

- Discuss architecture and main components
- List the installation steps
- Describe the licensing process

At the end of this course, you will be able to discuss the architecture and main components, list the installation steps and describe the licensing process for SAP Business One, version for SAP HANA.
In this course, we begin with a look at the architecture behind SAP Business One, version for SAP HANA. We discuss the installation steps and go through those steps which are specific to the version for SAP HANA. We cover the basics of licensing.
First we will take a look at the architecture.
This is the main architecture of SAP Business One 9.0, version for SAP HANA.

On the bottom of the graphic we see the SAP HANA server on the Linux box. Inside SAP HANA there is one database server holding all company databases and the SBOCOMMON database. The company database stores all business data and transactional data. Customers can create several company databases. SBOCOMMON is the central database that holds system data, SAP Business One, version for SAP HANA version information and upgrade information. SBOCOMMON does not store any business data.

Above the SAP HANA platform we see the Tomcat Server on the Linux box. This server has the web tier for presentation and the business tier services. Here we have the Business One Server containing the dashboards, enterprise search, analytics server, the extreme apps and the mailer.

The SAP Business One client applications are run in the window environment as before. The connection to the Linux server is by ODBC/OBDO connection. The Tomcat server connects to the web browsers for analytics and search.

SAP Business One analytics is embedded in the SAP Business One 9.0, version for SAP HANA. Once the analytics installation is complete, you can see the analytics services.

Also in a Windows environment we see the B1i Integration Framework and the SDK. This is shown in the graphic on the top right. We have mobile applications that can connect via the B1i integration framework. Server tools are installed in windows platform and can connect to HANA server. SAP Business One, version for SAP HANA can run on Windows Terminal Services or Citrix Server and can run multiple instances for different sessions. The license server can be on a different computer from the main server.
Here is a list of the main components for SAP Business One, version for SAP HANA and the type of server used for those components.

On the Windows side we have the HANA client and HANA studio, and the SAP Business One client, server tools, integration framework, SDK and any SAP Business One Add-ons.

On the Linux side, we need the HANA database server and clients. The components on the Linux side include the server tools, the SAP Business One server (SBO-Common) and the SAP Business One analytics.

When installing the solution, check the Partner Edge Portal for the latest information on the correct supported version and patch level. The revisions shown are as of the time this training was created, you need to check in the software center for the current revision needed or contact your local product expert or solution architect.

Remember that all data resides in the SAP HANA database. The Windows client connects to SAP HANA in Linux for data.

### B1H 9.0 Main Components

<table>
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<tr>
<th>Windows</th>
<th>Linux</th>
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<tr>
<td><strong>Precondition</strong></td>
<td></td>
</tr>
<tr>
<td>- HANA Client rev69* 32bits</td>
<td></td>
</tr>
<tr>
<td>- HANA Studio rev69* (optional)</td>
<td></td>
</tr>
<tr>
<td><strong>Component</strong></td>
<td></td>
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<tr>
<td>- B1 Client 9.0, version for HANA</td>
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<tr>
<td>- B1 Server Tools</td>
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<tr>
<td>- B1i, SDK, Add-on, …</td>
<td></td>
</tr>
<tr>
<td><strong>Precondition</strong></td>
<td></td>
</tr>
<tr>
<td>- HANA DB Server rev69*</td>
<td></td>
</tr>
<tr>
<td>- HANA Client rev69* 32bits</td>
<td></td>
</tr>
<tr>
<td>- HANA Client rev69* 64bits (X-App)</td>
<td></td>
</tr>
<tr>
<td><strong>Component</strong></td>
<td></td>
</tr>
<tr>
<td>- B1 Server (SBO-Common)</td>
<td></td>
</tr>
<tr>
<td>- B1 Analytics component</td>
<td></td>
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<tr>
<td>(Tomcat for new app)</td>
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</tr>
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</table>

*Check for the latest revision number in the software center:  http://service.sap.com/sbo-swcenter*

Remember all the data is in the SAP HANA database. The Windows client connects to SAP HANA in Linux for data.
Now we will discuss the installation components and focus on the steps that are specific to the SAP Business One, version for SAP HANA.
SAP Business One 9.0, version for SAP HANA supports support SUSE 11, SP2 for the Linux Platform.

For the Linux server, there are several machines currently certified by SAP. To ensure you have the most updated list, refer to the product availability matrix (pam) at http://service.sap.com/pam.
Because you will be doing a Windows type installation on Linux server and moving files between your Linux and Windows servers, you will need to use two types of open source tools.

You will need a SSH Client tool to log into a Linux machine from Windows. Using this type of tool, you can run Windows commands on your Linux server.

You will need a file transfer client (or FTP) to transfer files between Linux and Windows servers.

There are a number of free solutions available that meet these requirements. You can use an internet search engine (such as Google) to find these types of open source tools.
Prerequisites for Business One installation

Before installing SAP Business One check that the required components are installed properly on the SAP HANA Server.

The SAP Business One prerequisites can be found in the B1_for_SAP_HANA_Admin_Guide.pdf in the documentation folder.

There are a number of required libraries in SuSE Linux in addition to the SAP HANA Components listed below:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANA Engine</td>
<td>HANA DB Engine for B1 company databases etc.</td>
</tr>
<tr>
<td>HANA Client 32 bit</td>
<td>Used by Server Tools</td>
</tr>
<tr>
<td>HANA Client 64 bit</td>
<td>Used by SAP Business One Extreme Apps</td>
</tr>
<tr>
<td>HANA AFL</td>
<td>Used by Pervasive Analytics for Predictive Analysis</td>
</tr>
</tbody>
</table>

In this unit we will focus on installing the SAP Business One components. However, before you install SAP Business One Server Tools and Server, you need to make sure that the required components are installed properly on the SAP HANA server.

The SAP Business One prerequisites can be found starting on page 11 of B1_for_SAP_HANA_Admin_Guide.pdf that can be found in the documentation folder that is created when you unzip the files.

There are a number of required libraries in SuSE Linux in addition to the SAP HANA Components listed on the graphic.

An excellent description of the installation process can be found in the SCN blog “Draft 9.0 Bare Metal to Live System” found at http://scn.sap.com/community/business-one/blog/2013/08/08/90-bare-metal-to-live-system
To perform a correct and complete installation, do the following:
1. Install SAP Crystal Reports, version for the SAP Business One application, on the Windows server.
2. Install the SAP Business One, version for SAP HANA server components on the Linux Server.
3. Install SAP Business One, analytics powered by SAP HANA on the Linux Server.
4. Install the SAP Business One DI Server and Workflow on Windows.
5. Install the SAP Business One version for SAP HANA client application on workstations.
6. Install optional components (SDK, DTW, Add-ons). This is done on the Windows side.
7. Install integration components for SAP Business One, version for SAP HANA.

The precise sequence of these steps depends on your installation scenario. Consult the Administration Guide for more details.

We will focus on steps 2 and 3 in this course.

### Installation Steps for SAP Business One

<table>
<thead>
<tr>
<th>Tool</th>
<th>Operating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  SAP Crystal Reports, version for SAP Business One</td>
<td>Windows</td>
</tr>
<tr>
<td>2  SAP Business One version for HANA, server components</td>
<td>Linux</td>
</tr>
<tr>
<td>3  SAP Business One, analytics powered by SAP HANA</td>
<td>Linux</td>
</tr>
<tr>
<td>4  SBO DI Server and Workflow</td>
<td>Windows</td>
</tr>
<tr>
<td>5  SAP Business One Client Application on workstations</td>
<td>Windows</td>
</tr>
<tr>
<td>6  Optional components (SDK, DTW, Add-ons)</td>
<td>Windows</td>
</tr>
<tr>
<td>7  Integration Components</td>
<td>Linux / Windows</td>
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</tbody>
</table>

- The precise sequence of the steps depends on your installation scenario.
- Consult the Administration Guide for more details.
In this course, we will skip over the steps for performing the Crystal Reports installation and go directly to the steps for installing the server components for SAP Business One, version for SAP HANA.

If you would like more information on the Crystal Reports installation, see the SAP Business One Administrator’s Guide, version for SAP HANA.
The SAP Business One Server Components installation is for both the server tools and server.

The server tools installation includes the System Landscape Directory, the license server, the extreme app framework and the SBO mailer. We recommend you install everything in the server tools section, but if you want to limit what is installed you can uncheck the mailer and the extreme app framework. You need the System Landscape Directory and License Manager.

The Business One server installation includes the shared folder (B1_SHF) for shared network objects, the system database (SBO-COMMON), demo databases with transactional data for testing, online help files in all supported languages, registration of SAP Add-ons on the server, and the Microsoft Outlook Integration server which includes Microsoft Office templates required for the Microsoft Outlook Integration add-on.

<table>
<thead>
<tr>
<th>SAP Business One server tools</th>
<th>SAP Business One server</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Landscape Directory (SLD)</td>
<td>Shared folder (B1_SHF)</td>
</tr>
<tr>
<td>License Server</td>
<td>Common database(SBO-COMMON):</td>
</tr>
<tr>
<td>Extreme App Framework</td>
<td>Demo databases</td>
</tr>
<tr>
<td>SBO Mailer</td>
<td>Online help files in supported languages</td>
</tr>
<tr>
<td></td>
<td>Registration of SAP Add-Ons</td>
</tr>
<tr>
<td></td>
<td>Microsoft Outlook integration server</td>
</tr>
</tbody>
</table>
The server components installation is performed on the Linux server. As mentioned before, the SAP HANA database client must already be installed. The SAP Business One Server tools depend on SAP HANA and both versions of the SAP HANA client. If you want to use the Extreme App Framework, you should have the 64-bit version of the database client.

Instructions for installing the server components can be found in section 4.1 of the SAP Business One Administrator’s Guide, version for SAP HANA.

The SAP Business One Server Components installer requires a graphical interface. There are useful tips for this in the SCN blog SAP Business One Application 9.0 Bare Metal to Live System.

You start the install using /install bin. The installation wizard will guide you through the installation.
Here are some of the windows you will see during the server components installation. The windows walk you through choosing the installation folder, selecting the type of installation, selecting features, setting the port and passwords, and so on. After selecting components you specify the port to install the service on. It is important to be aware that the service port on Linux is 40000 unlike the port number in Windows. You will set the password of the B1SiteUser. You will need this when installing other components later. Provide certificate details or choose self-signed. The initial install can use a self-signed certificate.

In the window for the Database Server for System Landscape Directory, we specify the port for the SAP HANA Server. In this case, the port is set to 30015. The 3 at the beginning and the 15 at the end are always set. The next two letters are set to 00 for Business One. Therefore this port will always be 30015 for a SAP Business One installation. Also in this window you set the database credentials. We recommend the option to use the same credentials for all components. The SAP Business One server requires the SAP HANA user SYSTEM. During the installation you have the option to set windows a domain controller in order to set up single-sign on for your Business One users. Then no password would be necessary for the users once they log in with a Windows password. Make sure to review your settings.
Once the server tools are installed, the SLD service begins automatically.

You can open the system landscape directory by entering the IP address and hostname of your server followed by the port number 40000 then Control Center as shown in the graphic. Note that the URL is case-sensitive.

Enter the B1SiteUser. Remember that the user name is case sensitive.
For databases to appear on the application’s logon window, they must be registered on the landscape server using the SLD.

Under the Servers and Companies tab, you choose Add to enter the details of the SAP HANA database. You enter the hostname of the SAP HANA server. The database user name is SYSTEM. After entering the password, choose OK. You will see the system added. When you select the system, you will see the companies. If this is a fresh SAP Business One installation, you will not see any companies until you install the SAP Business One client.

Here we can see a SAP HANA server with the two companies.

These steps are also covered in the section on Performing Post-Installation Activities in the Administrator’s Guide.
Here we can enable the single sign on using the Windows domain account.
Here we have the additional services such as the license control center and the mailer.
Now we will discuss some key points for the installation of the analytics components.

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<td>7 Integration Components</td>
<td>Linux / Windows</td>
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</tbody>
</table>
You must install the SAP Business One, analytics powered by SAP HANA version that ships with SAP Business One. This is installed on the same machine on which you installed SAP HANA. To install or remove the application, you must be the Linux root user. You should use the wizard provided by SAP to install the application.

After choosing the option to install analytics, you will come to this window. You will then go to a window asking you to enter a user ID and company name.

Detailed instructions for the installation are found in the Administrator’s Guide in section 4.2. In this course we will discuss the analytics installation at a high level.
Choose either the *Typical* or *Custom* installation.

Choose *Custom* only if you wish to change the installation folder.

The next step will be to choose either a typical or custom installation. To automatically install all required components in the preset installation folder, select the *Typical* radio button. Choose *Custom* only if you wish to specify a different installation folder. As you select features, you can view the descriptions for each feature. You need to install all the features for the system to work properly.
After the B1H installation, a java folder exists. Browse for that folder and choose it. Make sure you use the java version referenced in the installation guide.

Ensure that you do not move or delete this directory or any files contained within it after installing analytics.

The path shown in the graphic is the usual location but it does not have to be there.
Input information about the system landscape directory in the SLD Authentication window. The address should be the full hostname or IP address. The port is 40000 by default. You have the option to choose single-sign on to enable a HTTPS-encrypted connection for the analytics. Then specify the Admin User, typically this is the B1SiteUser.
In the Choose HANA Instance window, specify the Server Name – Select the SAP HANA database server (Linux server) from the dropdown list.

The other details will default in. By default, the system ID is set to NDB and the SAP HANA instance number is set to 00.

Enter the Database User ID and password used for the SAP HANA database user account.

In the Choose HANA Instance window, specify the Server Name – Select the SAP HANA database server (Linux server) from the dropdown list.

The other details will default in. By default, the system ID is set to NDB and the SAP HANA instance number is set to 00.

Enter the SYSTEM user account to access the SAP HANA database server. Use the SYSTEM user password that you use in SAP HANA.

Then the final steps will be to review and accept your settings.
After SAP Business One analytics is installed, you need to initialize any new company databases in the Administrative Console. Once this step is done, you can begin to use the analytic functions such as enterprise search, real-time dashboards, interactive analysis and Crystal Reports.

The format for the address is shown on the graphic. You would replace the words IPAddress with your IPAddress.

If you are not logged into the SLD service, you need to enter the B1SiteUser and password.
Company databases created before installing analytics are initialized by default.

You only need to manually initialize company databases created after the analytics installation.

To initialize:
1. Open the Administration Console.
2. Go to the Companies tab.
3. Choose Initialize.

Company databases created before installing SAP Business One analytics are initialized by default, unless you have chosen not to initialize company databases during the installation. You only need to manually initialize company databases created after the analytics installation.

To initialize, follow these three steps:
1. Log on to the Administration Console and ensure the server is connected.
2. Select the company database that you want to initialize.
3. In the Database Initialization section, choose the Initialize button. The initialization process may take some time, depending on the size of the database.

When the initialization is completed, the initialization status changes from New to In process… to Initialized.
The last four steps are well discussed in the Administrator's Guide.

One point to note when installing the SAP Business One client is that the port of the license server will default to 30000 but you will need to change the port to 40000.

Since the remaining installation steps are the quite similar to what would be performed for any SAP Business One installation, regardless of the type of database used so they will not be discussed in detail in this course. Instead we will move on to the licensing process.
Now we will talk about licensing.
Here are the steps for requesting a permanent SAP HANA license.

Step 1 – Refresh your current hardware key.

Step 2 – Request a HANA permanent key license.

Step 3 – Install the SAP HANA permanent license key

Step 4 – Optionally restart the HANA server with command reboot.

We will go through each step.
The first step is to refresh your current hardware key. This optional step should be performed if your system is a preconfigured system that already has SAP HANA installed. The SAP Note listed on the graphic has more details on how to update the SAP HANA Linux server hardware key for more details.
The second step is to request a SAP HANA license key.

Use the link for PartnerEdge shown here. Then choose to request a license key. Choose NDB as the system ID.

It will ask for the SAP HANA hardware key and generate the file for you. SAP will send the license file via email.

The hardware key can be found in the SAP HANA Studio. Select your NDB system in the Navigator. Then choose Properties and then License.
The third step is to install the SAP HANA permanent license key.

This is also done in the SAP HANA Studio. Once again you go the Properties for your NDB system. Under License, you will find the option to install the license file.

After installing the license file, check to ensure that that SAP HANA studio can connect with SAP HANA.

If you have problems, you can delete a current license key in order to install the one you have just received.
The final step is also an optional step.

The SAP Note 1739427 has details on the entire process of requesting and installing license key.
To use your SAP Business One, version for SAP HANA application according to your contract, you are required to install a license key assigned by SAP within 31 days. You also must install a new license key whenever any of the following occurs:

- You have additional users or components.
- Hardware key changes.
- Current license key expires.
- You install a new version of SAP Business One, version for SAP HANA.
To install the Business One license key: you can navigate directly to the License Control Center by entering the URL.

1. Go to the License Control Center: https://<IPAddress-Hostname>:40000/LicenseControlCenter
2. Browse to select the file from SAP.
3. Then choose Import License File.

Another option for accessing the License Control Center is to go to the Services tab in the SLD and choose the license manager link.

This location is used both to provide you the information required to request a license and to upload the license.

More detailed information on licensing is found in section 6 (Performing Post-Installation Activities) in the Administrator’s Guide.
Here is a list of documentation and useful links.
For more information

Installation & Implementation Knowledge Center:
https://service.sap.com/hana

Documentation on SAP HANA (not SAP Business One specific):
http://help.sap.com/hana_appliance

B1H Bare Metal to Live System Blog

SAP Business One, version for SAP HANA documentation

SAP Business One Administrator’s Guide, version for SAP HANA

License Guide for SAP Business One
http://sapapartneredge.com/B1/documentation

Installation & Implementation Knowledge Center:
https://service.sap.com/hana
Documentation on SAP HANA (not SAP Business One specific):
http://help.sap.com/hana_appliance
B1H Bare Metal to Live System Blog
SAP Business One, version for SAP HANA documentation
SAP Business One Administrator’s Guide, version for SAP HANA
License Guide for SAP Business One
http://sapapartneredge.com/B1/documentation
The SAP HANA database contains all SAP Business One company databases and the SBOCOMMON database, and resides on a Linux server. The SAP Business One client applications are run in Windows. The connection to Linux is by ODBC/OBDO. The Tomcat server connects to web browsers for analytics and search.

- Use open source tools for logging on to Linux from Windows and for transferring files between Linux and Windows servers.
- You can find more details on installation in the Administration Guide.
- You are required to have a license for both SAP Business One and for SAP HANA.
Thank you

This concludes the topic for installation and licensing.

Thank you for your time.

This concludes the topic for installation and licensing in SAP Business One, version for SAP HANA. Thank you for your time.