



PUBLIC

SAP BusinessObjects Business Intelligence platform

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Business Intelligence Platform Installation Guide for Unix

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1 Document History

The following table provides an overview of important document changes.

Version	Date	Description
SAP BusinessObjects Business Intelligence platform 4.1	May, 2013	First release of this document.
SAP BusinessObjects Business Intelligence platform 4.1 Support Package 1	August, 2013	<ul style="list-style-type: none">• Added instructions for updating SAP BW systems in Support for SAP BW [page 26].• Added post-installation steps to allow database access via DataDirect in <i>Configuring DataDirect DSN connections</i>.• Added Terminology [page 10] section.
SAP BusinessObjects Business Intelligence platform 4.1 Support Package 2	November, 2013	<ul style="list-style-type: none">• SAP System Landscape Directory (SLD) is now a hidden feature and automatically installed, so all reference to the associated feature code has been removed.• Changed the section <i>Checking the installed version</i>.
SAP BusinessObjects Business Intelligence platform 4.1 Support Package 4	June 2014	<ul style="list-style-type: none">• Underscores (" _ ") are not allowed in a SIA name.
SAP BusinessObjects Business Intelligence platform 4.1 Support Package 5	November, 2014	<p>The following updates are made to the Installation guide for Unix:</p> <ul style="list-style-type: none">• Updated the list of required libraries.• Added a KBA 2065789 and referenced to section Additional requirements for Red Hat Linux.• Updated the list of dependencies for Redhat Linux 6.x, which needs to be installed on the OS prior to installing the product for full crystal reports functionality. <p>The following update is made to the Installation guide for Unix and Installation guide for Windows:</p> <ul style="list-style-type: none">• You can manually edit the fontalias.xml file to increase the number of fonts available in Web Intelligence. For more information, see Post-installation configuration

Version	Date	Description
		of fonts in the fontalias.xml file [page 99] .
SAP BusinessObjects Business Intelligence platform 4.1 Support Package 6	June, 2015	Updated the Language support topic for modifying the BI platform installation.
SAP BusinessObjects Business Intelligence platform 4.2	November 2015	<ul style="list-style-type: none"> • Updated the Sybase SQL Anywhere in • Updated information about Tomcat in • Updated the Language support information in and Languages [page 31] • Added information about Phase-wise installation: To run a phase-wise installation [page 81] • Updated information about the password restrictions in Full installation [page 56] and Custom (New) installation [page 62] • Added Verifying fips in your installation in Post Installation Verifying fips in your installation [page 101]
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 01	December, 2015	<ul style="list-style-type: none"> • Updated Additional documentation Additional documentation [page 12] • Updated Upgrade support Upgrade support [page 30] • Updated information in Tomcat 8
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 02	March, 2016	<p>Updated a SAP Note in Support for SAP Solution Manager Diagnostics (SMD) [page 25]</p> <p>Updated a note in Installation option parameters [page 72]</p> <p>Updated a note in To run an interactive installation [page 54]</p>
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 03	August, 2016	Added phase-wise installation from user interface in To Run a Phase-wise Installation for an Update Installation From User Interface [page 85]

Version	Date	Description
		<p>Added information about Web Application Deployment in To Run a Phase-wise Installation for an Update Installation From User Interface [page 85]</p> <p>Added information about <code>efashion.unv</code>, <code>efashion.unx</code>, and <code>SPL_Warehouse.unx</code> universe sample installation in Custom / Expand installation [page 60]</p> <p>Added information about running <code>SPL_Warehouse.unx</code> sample universe in Running SPL_Warehouse.unx sample universe [page 101]</p>
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 04	March, 2017	<p>Updated the reference of Tomcat 8.0 with Tomcat 8.5 across the guide.</p> <p>Updated the reference of SQL Anywhere database from version 16 to 17 across the guide.</p> <p>Added the mention of special characters' support in the CMS administrator password in Full installation [page 56].</p>
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 05	October, 2017	<p>Updated the topic with the new features for SP05.</p>
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 06	July, 2018	<p>Added the topic To perform stand-alone pre-requisite check in the Terminal [page 54].</p> <p>Updated the mention of special characters' support in the CMS administrator password in Full installation [page 56] and in Custom (New) installation [page 62].</p> <p>Added the topic ONE Installer [page 51].</p> <p>Updated the topic with the new features for SP06.</p>

Version	Date	Description
SAP BusinessObjects Business Intelligence platform 4.2 Support Package 07	February 2019	Modified obsolete information through the guide to align with ONE installer.

2 Introduction

This document guides you through the installation of the BI platform.

2.1 About this Document

The following documentation provides administrators with information, procedures, and options for the installation, removal, and modification of a BI platform server. Two versions of this guide exist:

- *SAP BusinessObjects Business Intelligence Platform Installation Guide for Unix*: for use with Unix or Linux operating systems (this document).
- *SAP BusinessObjects Business Intelligence Platform Installation Guide for Windows*: for use with Microsoft Windows operating systems.

2.2 Purpose

This document is intended for system administrators performing a full installation of the BI platform. For information on applying minor release, Support Package, or Patch updates to your existing installation, see the Update installation guides at <http://help.sap.com/bobip>.

2.3 Constraints

This guide does not describe how to set up a supported host operating system, database, web application, or web server. If you are planning to use a dedicated database, web application, or web server, it must be installed and functioning before attempting to install the BI platform.

2.4 Variables

The following variables are used throughout this guide.

Variable	Description
<code><BIP_INSTALL_DIR></code>	The directory where the BI platform is installed.

Variable	Description
<WAS_HOSTNAME>	The hostname or IP of the web application server where BI platform web applications are deployed.

2.5 Terminology


The following terms are used throughout the BI platform documentation:

Term	Definition
add-on products	Products that work with the BI platform but have their own installation program, such as SAP BusinessObjects Explorer
Auditing Data Store (ADS)	The database used to store auditing data
BI platform	An abbreviation for the SAP BusinessObjects Business Intelligence platform
bundled database; bundled web application server	The database or web application server shipped with the BI platform
cluster (noun)	Two or more Central Management Servers (CMSs) working together and using a single CMS database
cluster (verb)	<p>To create a cluster.</p> <p>For example, to create a cluster:</p> <ol style="list-style-type: none"> 1. Install a CMS and CMS database on machine A. 2. Install a CMS on machine B. 3. Point the CMS on machine B to the CMS database on machine A.
cluster key	<p>Used to decrypt the keys in the CMS database.</p> <p>You can change the cluster key in the CCM, but you cannot reset the key like a password. It contains encrypted content and is important not to lose.</p>
CMS	An abbreviation for the Central Management Server
CMS database	The database used by the CMS to store information about the BI platform
deployment	The BI platform software installed, configured, and running on one or more machines

Term	Definition
installation	An instance of BI platform files created by the installation program on a machine
machine	The computer on which the BI platform software is installed
major release	A full release of the software, such as 4.0
migration	<p>The process of transferring BI content from a previous major release (for example, from XI 3.1), using the upgrade management tool.</p> <p>This term does not apply to deployments with the same major release. See promotion.</p>
minor release	A release of some components of the software, such as 4.2
node	A group of BI platform servers that run on the same machine and are managed by the same Server Intelligence Agent (SIA)
Patch	A small update for a specific Support Package version
promotion	The process of transferring BI content between deployments with the same major release (for example, 4.0 to 4.0), using the promotion management application
server	A BI platform process. A server hosts one or more services.
Server Intelligence Agent (SIA)	A process that manages a group of servers, including stopping, starting, and restarting servers
Support Package	A software update for a minor or major release
web application server	A server that processes dynamic content. For example, the bundled web application server for 4.2 is Tomcat 8.
upgrade	The planning, preparation, migration, and post-processes required to complete a migration process
ONE Installer	ONE Installer is a single installation package that supports multiple BI installation scenarios such as, fresh installation of a Service Package or Patch, any Patch to Patch update, or any Service Package to Patch update.

2.6 Additional documentation

Documents listed in the following table are relevant to deployment and installation. All 4.2 documents are available for download at <http://help.sap.com/bobip>.

Document Description	Document Title
Lists the supported platforms, databases, web application servers, web servers, and other systems.	<i>Product Availability Matrix (PAM)</i> at https://support.sap.com/content/dam/library/ssp/infopages/pam-essentials/SBOP_BI_42.pdf 
Overview of SAP BusinessObjects Business Intelligence platform documentation.	<i>SAP BusinessObjects Business Intelligence Suite Master Guide</i> under <i>Installation and Upgrade</i> section.
Overview of new features in SAP BusinessObjects Business Intelligence platform.	<i>What's New Guide</i> under <i>What's New</i> section.
Instructions for installing 4.2 directly on top of a 4.0 or a 4.1 release.	<i>Minor Release Update Guide</i> under <i>Installation and Upgrade</i> section.
Instructions to upgrade from a previous major release such as XI 3.1, 4.0 or 4.1	<i>Business Intelligence Platform Upgrade Guide</i> under <i>Installation and Upgrade</i> section.
Installation instructions on applying a Support Package update to your 4.2 deployment.	<i>Support Package Update Guide</i> under <i>Installation and Upgrade</i> section.
Detailed instructions for deploying BI platform web applications to supported web application servers.	<i>Web Application Deployment Guide for Windows</i> under <i>Installation and Upgrade</i> section.
	<i>Web Application Deployment Guide for Unix</i> under <i>Installation and Upgrade</i> section.
Administrative documentation for setting up and maintaining an SAP BusinessObjects Business Intelligence platform server.	<i>SAP BusinessObjects Business Intelligence Platform Administrator Guide</i> under <i>Administration</i> section.

2.7 System requirements


Use the following guidelines when you install the BI platform:

- Ensure that the operating system is supported. Only 64-bit operating systems are supported.
- Ensure that the following versions of Microsoft Visual C++ are installed:
 - Microsoft VC++ 2010 Redistributable (x64)
 - Microsoft VC++ 2010 Redistributable (x86)
 - Microsoft VC++ 2013 Redistributable (x64)
 - Microsoft VC++ 2013 Redistributable (x86)
 - Microsoft VC++ 2015 Redistributable (x64) (v 14.0.24210) + update
 - Microsoft VC++ 2015 Redistributable (x86) (v 14.0.24210) + update
- If you install the deployment on the operating system partition, ensure that there is enough room for the deployment and the operating system. It is recommended that you have at least 2 GB available for temporary files and web applications.

- If you have previously installed any SAP BusinessObjects BI Suite products, the installation program uses the existing directory.

i Note

To ensure the full path length is less than 256 characters, it is recommended to map the drive locally, if setup is being run from a network location. Also, the destination path must be less than 256 characters.

For a detailed list of supported operating systems and hardware requirements, consult the *Supported Platforms* documentation available at [Product Availability Matrix](#) .

2.7.1 Additional requirements for Red Hat Linux

Ensure required libraries are installed

Before installing on Red Hat Linux, you must ensure all the required libraries are installed. Ensure you have root access, then use the *Yum* software installation tool to run the following commands:

- `yum install libstdc++.i686`
- `yum install libstdc++.x86_64`
- `yum install compat-libstdc++-33.i686`
- `yum install compat-libstdc++-33.x86_64`
- `yum install glibc.i686`
- `yum install glibc.x86_64`
- `yum install libX11.i686`
- `yum install libX11.x86_64`
- `yum install libXext.i686`
- `yum install libXext.x86_64`
- `yum install expat.i686`
- `yum install expat.x86_64`
- `yum install libgcc.i686`
- `yum install libgcc.x86_64`
- `yum install libXcursor.i686`
- `yum install libXcursor.x86_64`
- `yum install libXrender.i686`
- `yum install libXrender.x86_64`
- `yum install libXfixes.i686`
- `yum install libXfixes.x86_64`
- `yum install libxcb.i686`
- `yum install libxcb.x86_64`
- `yum install libXau.i686`
- `yum install libXau.x86_64`

i Note

- If you are using Red Hat Linux **version 7.2**, ensure that the following are installed using the yum tool as well:

```
yum install glibc.i686
yum install glibc-common.x86_64 // if using Red hat 32 bit machine, use
yum install glibc-common.i686
yum install libstdc++.i686
yum install libgcc_s.so.1
yum install libstdc++.so.6
yum install compat-libstdc++-33-3.2.3-72.el7.i686
yum install compat-libstdc++-33-3.2.3-72.el7.x86_64
yum install libX11.i686
yum install libX11.so.6
yum install libXext-1.3.3-3.el7.i686
yum install libXext-1.3.3-3.el7.x86_64
yum install libXext-devel-1.3.3-3.el7.x86_64
yum install libXext-devel-1.3.3-3.el7.i686
```

If these libraries are not installed, you may encounter errors during the installation of SAP BusinessObjects Business Intelligence platform, as described in the following SAP Support Knowledge Base articles. You can search for these Knowledge Base Articles at <https://support.sap.com/notes>.

- 1692724
- 1692679
- 1692695
- 1875824
- 1968075
- 2065789

Ensure sufficient virtual memory is allocated

Some versions of Red Hat Linux include an updated `glibc` library that changes the way virtual memory is allocated by default. This can cause processes to allocate excessive amounts of virtual memory on startup and when used.

Refer to knowledge base (KBase) article 1968075 at [1968075](https://support.sap.com/notes/1968075) to determine if modifications are required to your Red Hat installation of the BI Platform.

i Note

Red Hat Enterprise Linux (RHEL) version **7.2** is supported with effect from Business Intelligence platform 4.2 SP4.

2.7.2 Additional requirements for Solaris

Packages required for Solaris 11.3

Before installing the BI platform on Solaris 11.3, you must install the following prerequisite packages:

Package	Minimum version	Description
pkg:/SUNWgzip	1.3.5-0.133	The GNU Zip (gzip) compression utility.
pkg:/SUNWlibC	0.5.11-0.133	Sun Workshop Compilers Bundled libC.
pkg:/SUNWmfrun	0.5.11-0.133	Motif libraries, headers, xmbind and bindings.
pkg:/compatibility/ucb	0.5.11-0.175.0.0.0.2.1	Utilities for user interface and source build compatibility.
pkg:/SUNWuiu8	0.5.11-0.133	Iconv modules for UTF-8 Locale.
pkg:/SUNWxcu4	0.5.11-0.133	Utilities providing conformance with XCU4 specifications.
pkg:/SUNWxwice	0.5.11-0.133	Library and utilities to support the X Window System Inter-Client Exchange (ICE) protocol.
pkg:/SUNWzlib	1.2.3-0.133	The Zip compression library.

Packages required for Solaris 11.2 or earlier

Before installing the BI platform on Solaris 11, you must install the following prerequisite packages:

Package	Minimum version	Description
pkg:/SUNWbash	0.5.11-0.133	GNU Bourne-Again shell (bash).
pkg:/SUNWgzip	1.3.5-0.133	The GNU Zip (gzip) compression utility.
pkg:/SUNWlibC	0.5.11-0.133	Sun Workshop Compilers Bundled libC.
pkg:/SUNWmfrun	0.5.11-0.133	Motif libraries, headers, xmbind and bindings.
pkg:/compatibility/ucb	0.5.11-0.175.0.0.0.2.1	Utilities for user interface and source build compatibility.
pkg:/SUNWuiu8	0.5.11-0.133	Iconv modules for UTF-8 Locale.
pkg:/SUNWxcu4	0.5.11-0.133	Utilities providing conformance with XCU4 specifications.
pkg:/SUNWxwice	0.5.11-0.133	Library and utilities to support the X Window System Inter-Client Exchange (ICE) protocol.
pkg:/SUNWxwplt	0.5.11-0.133	X Window System platform software (server, DPS, extensions, Xlib, required & common clients).
pkg:/SUNWzlib	1.2.3-0.133	The Zip compression library.

Scheduling control privilege required for Solaris 11

The user account running the BI platform installation program must have the `proc_prioctl` scheduling control privilege. This allows the installation processes run under that user account to change the threading priorities. To grant this privilege, logon to your Solaris 11 machine as the root user and run the following command:

```
usermod -K defaultpriv+=basic,proc_prioctl <userID>
```

Cannot install on soft partitions

The SAP BusinessObjects Business Intelligence platform cannot be installed onto a Solaris machine that is configured with soft partitions.

2.7.3 Additional requirements for SUSE

Before installing on SUSE Linux Enterprise, edit or add the following kernel parameters and values to the `/etc/sysctl.conf` file:

```
kernel.sem = 250 32000 32 1024
kernel.msgmni = 1024
kernel.shmmax = 18446744073709551615
```

The root user account must be used to edit this file. To view the current contents of the `/etc/sysctl.conf` file, run `sysctl -p` from the command line. To check current limit settings for your operating system, run `ipcs -l` from the command line.

Before installing on SUSE Linux, you must ensure all the required libraries are installed.

Ensure you have root access, then use the Zypper software installation tool to run the following commands:

- `zypper install glibc`
- `zypper install glibc-32bit`
- `zypper install libstdc++33`
- `zypper install libstdc++33-32bit`

2.7.4 Extra requirements for DataDirect

If you plan to run reports that use DataDirect ODBC database drivers, you must configure the `odbc.ini` file. See [Configuring DataDirect DSN connections \[page 90\]](#).

2.7.5 Account permissions

To install the BI platform on a Unix or Linux host, a user must have the following permissions:

Category	Required access
Operating system	<ul style="list-style-type: none">• Permission to read, write, and execute scripts in the destination directory.• For a system install, root access is required (the installation program creates start-up run control scripts in <code>/etc/rc</code> that start or stop the servers when the host machine is started or stopped).
Network	<ul style="list-style-type: none">• Network connectivity through appropriate ports to all machines in the deployment.• Access to shared file system directories.• Appropriate network authentication privileges.
Database	<ul style="list-style-type: none">• Permission for the SAP BusinessObjects user account to create, edit, and drop tables.• Permission for the SAP BusinessObjects user account to create stored procedures (required by the Central Management Server (CMS) system database).

2.7.5.1 Additional Unix and Linux requirements

Set the TZ environment variable

Before running the installation, you must ensure that the time zone on your machine is set correctly, using the TZ environment variable. If this is not set, the default timezone and daylight savings time rules will be used which may cause unpredictable behavior.

Export the TZ variable after you set it.

For example,

```
TZ="PST+8PDT+7,M4.1.0/02:00,M10.5.0/02:00"
export TZ
```

The format of a POSIX TZ variable is:

`STD (+/-) hh:mm:ssDST (+/-) hh:mm:ss,Mm.n.d/hh:mm:ss,Mm.n.d/hh:mm:ss`

- STD = the name for the time zone when following standard time (GMT, CET, PST). Ensure write permissions are set on the `odbc.ini` file
- DST = the name for the time zone when following daylight saving time (BST, CEST, PDT).
(+/-) means + or -; + if you're west of Greenwich and - if you're east of Greenwich (Note the + is optional).
- hh:mm:ss are hour:minute:second on the 24 hour clock (where minute and second are optional). Capital 'M' is a prefix for the start/end rules for DST.
- 'm' is the month (January = 1).

- 'n' is the week of month (1-5).
- 'd' is day of week (Sunday = 0).

Some examples of POSIX strings for TZ are:

London: "GMT0BST-1,M3.5.0/01:00,M10.5.0/01:00"

Paris: "CET-1CEST-2,M3.5.0/01:00,M10.5.0/01:00"

Berlin: "CET-1CEST-2,M3.5.0/02:00,M10.5.0/03:00"

i Note

Operating system-level time zone configurations is not in the realm of SAP Support. A good review on GNU POSIX syntax can be found on the following site: http://www.gnu.org/software/libc/manual/html_node/TZ-Variable.html ➡

Ensure write permissions are set on the odbc.ini file

The installation program writes DSN information to the file `<INSTALLDIR>/sap_bobj/enterprise_xi40/odbc.ini`. The user running the installation must have *write* access to this file. If you have an SAP HANA client installed on the BI platform machine, it may have set read-only access on this file, preventing the BI platform installing from adding the required information.

User account

Create a user account and group under which the software's background processes can run. Use this account to perform the installation and run the software. The account does not require root privileges.

Locale

Before you install, set the installing account's environment to use a supported UTF-8 locale and ensure that your console software supports UTF-8 character sets. To ensure that your operating system uses the correct locale, set the `LC_ALL` and `LANG` environment variables to your preferred locale in your login environment.

For example, the following `bash` shell commands set the locale to the United States English UTF-8 locale:

```
export LANG=en_US.utf8
export LC_ALL=en_US.utf8
```

→ Tip

Type `locale` to check that all of the related locale environment variables (such as `LC_MONETARY`, `LC_NUMERIC`) were properly set by `LC_ALL`.

For a detailed list of supported Unix and Linux environments, see the Product Availability Matrix (PAM).

Commands

In order for the installation program to run correctly, the following utilities must be installed on your system and available on the path:

/bin/sh	pwd	read	touch
uname	expr	hostname	sed
awk	chown	grep	tail
tar	id	dirname	gzip
stty	ulimit	which	ping

If one of them is not available on your system, install a version from your operating system vendor rather than a third-party vendor (such as the GNU project).

i Note

The output from a GNU version of a utility can differ significantly from the version provided by your operating system vendor. To prevent the installation program from encountering output in an unexpected format, ensure that no GNU utilities are used in the installing user account's environment.

Installations

A new installation can be one of two different types.

- **User installation**
The installed software is owned by the account that was used to run the installation program. This account must be used to start and stop the servers. Access to the root user account is not required to perform a user installation, and installation program will exit if it detects that it is being run as root.
- **System installation**
A system installation is a finished user installation with system startup and shutdown run control scripts added. These scripts automatically start and stop SAP BusinessObjects Business Intelligence platform server functions as the operating system starts up or shuts down. The script to install the run control scripts must be run with root privileges after a user installation has completed.

2.7.6 Choosing a server location

When planning a distributed installation, consider the latency between servers. To maintain high CMS performance, place your CMS on the same subnet as the CMS system and Auditing Data Store database servers.

The CMS can also be clustered, so that CMS server processes run on different host systems in the cluster. When creating a CMS cluster, ensure that each machine experiences the same network latency to the CMS system or Auditing Data Store.

Consult the “Clustering Central Management Servers” section of the *SAP BusinessObjects Business Intelligence Platform Administrator Guide* for more information on clustering CMS server processes.

2.8 Preparing the CMS system or Auditing Data Store database

To use a database server other than the default one, complete the following tasks before installing the BI platform.

- Create a database (or tablespace or schema, if applicable to your database), and account to store CMS configuration and system information. A second tablespace or scheme is required to hold auditing information. Record the database, tablespace, and account information so you can enter the details when prompted by the BI platform installation program.

⚠ Caution

If you have an existing BI platform v3.x or v4.x installation, then you must create a fresh database and migrate existing content after the install is complete.

- Ensure that your database server is configured to use Unicode character encoding (such as UTF-8).
- Ensure that the database accounts have privileges to create, modify, and delete tables, and to create stored procedures.
- When using a database server on a network, the appropriate database client drivers must be installed and verified as working before installing BI platform. Contact your database administrator to establish which drivers are required for your database.

During your installation, you will be prompted for the connection and authentication credentials so that the installation program can initialize the database. The table below shows which information is required for supported databases:

Database	Information required by installation program
MySQL	<ul style="list-style-type: none">• CMS database name• Server hostname• Port number (default is 3306)• Account username• Account password• Reset existing database option (recommended setting)
IBM DB2	<ul style="list-style-type: none">• DB2 Alias name• Account username• Account password• Reset existing database option (recommended setting)
Oracle	<ul style="list-style-type: none">• Oracle TNSNAME connection identifier• Account username• Account password• Reset existing database option (recommended setting)

Database	Information required by installation program
Sybase ASE	<ul style="list-style-type: none"> Service name <div> <p>i Note</p> <ul style="list-style-type: none"> The Sybase Adaptive Server Enterprise (ASE) service name is a combination of the host-name and the port number, set by your database administrator in the <code>sql.ini</code> and <code>interfaces</code> files. BI platform will connect to the default database for the user you specify. The default is set by the database administrator. </div> <ul style="list-style-type: none"> Account username Account password Reset existing database option (recommended setting)
Sybase SQL Anywhere using ODBC	<ul style="list-style-type: none"> DSN Account username Account password Reset existing database option (recommended setting)
SAP HANA Database using ODBC	<ul style="list-style-type: none"> DSN Account username Account password Reset existing database option (recommended setting)

i Note

- MaxDB support for CMS system or Auditing Data Store database is deprecated from BI platform 4.2.
- If you are using MaxDB for CMS system or auditing data store database, we recommend you to migrate your data to other supported database.
For more information on migrating your data to other database refer, SAP Business Intelligence Platform Administrator Guide.
For more information on other supported database, see PAM <http://support.sap.com/pam>

2.8.1 Extra requirements for IBM DB2

IBM DB2 has requirements that must be met before installing the BI platform:

- Ensure that the DB2 database is created with the following settings:

```
Collating Sequence = "Identity"
Codeset = "UTF-8"
Territory = "<XX>"
```

Replace `<XX>` with the code that is appropriate for your location. Consult your DB2 documentation for more information. If your DB2 database does not have the `Collating Sequence = "Identity"` setting, the user and user group objects may not sort as expected in the CMC.

- Create a user temporary table space before installing the BI platform. If you do not create a user temporary table space, the BI platform installation program will not be able to configure the DB2 database.

For more information on user temporary table spaces in IBM DB2, see *DB2 Basics: Table spaces and buffer pools* in the IBM technical library: <http://www.ibm.com/developerworks/data/library/techarticle/0212wieser/0212wieser.html> .

- When using IBM DB2 to host an Auditing Data Store database, ensure that the page size for the auditing table space is set to a minimum of 8192 (8 KB).
- Ensure that the CMS system database is not partitioned. The Auditing Data Store database may be partitioned.

In addition, consider the following user account requirements:

- Ensure that the ID of the user account used to host the DB2 database meets the following requirements from IBM. For more information on IBM's requirements for Unix or Linux systems hosting DB2, see *DB2 users and groups (Linux and Unix)* in the *Database Fundamentals* section of the "DB2 Solution Information Center" at <http://www.ibm.com/support> .
 - Must have a primary group other than `guests`, `admins`, `users`, or `local`
 - Can include only lowercase letters (a-z), numbers (0-9), or the underscore character (`_`)
 - Cannot be longer than eight characters
 - Cannot begin with `IBM`, `SYS`, `SQL`, or a number
 - Cannot be a DB2 reserved word (`USERS`, `ADMINS`, `GUESTS`, `PUBLIC`, or `LOCAL`), or an SQL reserved word
 - Cannot use any user IDs with `root` privilege for the DB2 instance ID, DAS ID, or fenced ID.
 - Cannot include accented characters
 - If existing user IDs are specified instead of creating new user IDs, ensure that the user IDs:
 - Are not locked
 - Do not have expired passwords
 - The primary group of the user must meet the following requirements:
 - Cannot be one of `guests`, `admins`, `users`, or `local`
 - Cannot start with `sql` or `ibm`
 - Cannot start with a number
 - Must contain only lowercase letters (a-z), or numbers (0-9).

If you plan to install an IBM DB2 database and the Central Management Server (CMS) on the same machine:

- ensure the `thread-max` setting and the user account `ulimit` setting is sufficient. It is recommended to configure `ulimit` as *unlimited*.


2.8.2 Extra requirements for Sybase ASE

If you are using Sybase ASE for the CMS or auditing database:

- Create a database with a `page size` of 8 KB. The default page size is 2KB, which is too small for the CMS system database to run efficiently. The page size is set up during the database creation and cannot be changed after the database is created.
- Use a Unicode character set, such as UTF-8.
- If you're using SAP Adaptive Server Enterprise v16.0 or later as the CMS database, then you should disable the index compression.

2.8.3 Extra requirements for CMS clustering with SQL Anywhere

If you are using the bundled SQL Anywhere database server for the CMS, there are two prerequisites before adding a new node on a new machine to CMS cluster. On the machine hosting the new node:

1. You must install the SQL Anywhere Database Client.
Download the SQL Anywhere 17 client for your operating system at: <http://scn.sap.com/docs/DOC-35857>

2. You must create an ODBC DSN connecting to the primary node SQL Anywhere CMS database.
On the primary node, open the ODBC system information file to note the DSN details. For example, `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/odbc.ini`. By default the DSN is `BI4_CMS_DSN<Unix timestamp>`.

Consider the following example. A primary node with a CMS server and bundled SQL Anywhere database is installed on one machine. To create a new CMS node on a new machine:

1. Install the SQL Anywhere Database Client. This installs the SQL Anywhere 17 database driver.
2. Create an ODBC DSN to the primary node SQL Anywhere CMS database using the SQL Anywhere 17 driver. For example, assume the primary node host is 192.0.2.0 and uses default port and values for the SQL Anywhere installation:

```
[ODBC Data Sources]
BI4_CMS_DSN_1362069282=SQLAnywhere 16.0
[BI4_CMS_DSN_1362069282]
UID=dba
PWD=mypassword
DatabaseName=BI4_CMS
ServerName=BI4_1362069282
Host=192.0.2.0:2638
Driver=/opt/sqlanywhere16/lib64/libdbodbc16.so
```

3. Run the BI platform server installation program and select *Custom / Expand* as the installation type. During the installation select the following:
 - On the *Select Features* page, select the *Central Management Server* feature. Unselect the *Sybase SQL Anywhere Database*, *Subversion*, and *WebTier* features.
 - On the *Select New or Expand Installation* page, select *Expand an existing SAP BusinessObjects BI platform deployment*.
 - On the *Select Existing CMS Database Type* page, select *SAP Sybase SQL Anywhere using ODBC*.
 - On the *Configure CMS Repository Database - SQL Anywhere (ODBC)* page, select the ODBC DSN created in step 2 and enter the “dba” account password.
 - Proceed and complete the installation of the new CMS server node.

2.8.4 Bundled SQL Anywhere ODBC settings

During the installation of the bundled SQL Anywhere for the CMS and auditing database, the installation program attempts to find and write new DSN entries to an existing ODBC system information file. If no existing file is detected or set, the installation program will create a file with the new DSN entries at

`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/odbc.ini`.

If you introduce new ODBC entries for reporting and analytic purposes, consolidate these entries into the same `.ini` file as the CMS and auditing database.

2.9 Set ulimit to unlimited

To successfully build and deploy BI platform web applications, the host operating system or user account `ulimit` setting must be configured as *unlimited*.

Set the `ulimit` configuration with the `ulimit` command, or for Linux, modify the system configuration file `/etc/security/limits.conf`. For more information about the `ulimit` setting, see the documentation included with your operating system.

2.10 SAP support

2.10.1 Support for SAP System Landscape Directory (SLD)

SAP System Landscape Directory (SLD) is a directory service that maintains a list of installed SAP and (optionally) non-SAP software. SLD provides two main categories of information:

- Software already installed
- Software that could be installed at a later time

SAP systems come with a data supplier (DS) component that automatically updates the landscape directory. Non-SAP software that supports SLD registers through an open API. The information gathered on installed software includes:

- Version
- Host information
- Connection information

To use SLD support, ensure that SAP Host Agent is installed and working on the system(s) that host the BI platform. SAP Host Agent may be installed and configured before or after installing the BI platform.

2.10.1.1 To enable SAP System Landscape Directory (SLD) support

If you plan on using SAP System Landscape Directory (SLD) or SAP Solution Manager Diagnostics (SMD), ensure that the SAP Host Agent is installed and configured. The following steps walk you through installing SAP Host Agent.

SAP Host Agent may be installed and configured before or after installing the BI platform. For more information on SAP Host Agent, see “Registration of SAP BusinessObjects Business Intelligence platform in the System Landscape” in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

i Note

If you have installed SAP GUI or SAP Solution Manager Diagnostics (SMD), skip to step 4 below.

Prior to installing support for SAP System Landscape Directory (SLD) there must be an `sapadm` user with root privileges.

The `SAP_LocalAdmin` group must also exist, and the `sapadm` user must be a member. The `sapadm` user password is required during the SAPHOSTCONTROL installation.

1. The SAP HOST AGENT is packaged in collaterals, in the following location
`<Package_Download_Location>/BusinessObjectsServer/Collaterals/Tools/
SAP_HOSTAGENT.`

i Note

`<Package_Download_Location>` refers to the location where you've downloaded the BI installer package.

2. Launch command prompt with administrative privileges from `SAP_HOSTAGENT` folder.
3. Install SAPHOSTCONTROL by entering the following command:

```
saphostexec -install
```
4. Locate the `sldreg` tool, which is usually located in the following folder:

```
/usr/sap/hostctrl/exe
```
5. Create an SLD key with the following command:

```
sldreg -configure connect.key
```

You will be prompted to supply a username, password, host, port, and protocol for connecting to the SLD server.
6. Enter the information requested.
The `sldreg` tool creates a `connect.key` file that will automatically be used by `sld-ds` to push information to SLD server.

If you have already installed the BI platform, restart all SIA nodes in the Central Configuration Manager (CCM) to register with the SLD.

2.10.2 Support for SAP Solution Manager Diagnostics (SMD)

SAP Solution Manager Diagnostics (SMD) monitors the performance of systems in the SAP System Landscape Directory (SLD). Problems can be identified, analyzed, and resolved with the information gathered by SMD, which includes:

- Performance monitoring
- Configuration management
- Log management
- Load testing
- Alerting
- Resource monitoring

Tools integrated into SMD include:

- CA Wily Introscope
For full instrumentation, both SMD and CA Wily Introscope should be used.
- SAP LoadRunner by HP

Non-SAP software with an SAP-certified integration is entered into a central repository and transferred automatically to your SAP System Landscape Directories (SLD). SAP customers can then easily identify which version of third-party product integration has been certified by SAP within their SAP system environment. This service provides additional awareness for third-party products besides our online catalogs for third-party products.

To use SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing the BI platform. During installation, the installation program prompts for the hostname and port number of the SMD Agent. If you do not want to use SMD, or you will install SMD later, you can choose not to use SMD. The SMD Agent can be configured later in the Central Management Console (CMC) *Placeholders* screen. For more information, see [To configure SMD Agent post installation \[page 93\]](#).

For more information on SMD Agent, see [1858920](#).

2.10.3 Support for CA Wily Introscope

CA Wily Introscope is included as a part of SAP Solution Manager Diagnostics (SMD). For full instrumentation, both SMD and CA Wily Introscope should be used.

To use CA Wily Introscope and SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing the BI platform.

During installation, the installation program prompts for the hostname and port number of the Introscope Agent. If you do not want to use Introscope, or you will install it later, you can choose not use Introscope. Introscope can be configured later in the Central Management Console (CMC) *Placeholders* screen. For more information, see [To configure CA Wily Introscope Agent post installation \[page 94\]](#).

2.10.4 Support for SAP BW

The BI platform can integrate with SAP BW. To get the best performance from SAP BW, follow the instructions in these SAP Notes on <https://service.sap.com>:

- 1771995 - Incorrect number of hierarchy levels in Design Time
- 1750788 - BICS metadata service enhancement
- 1767351 - Missing metadata of characteristics in the fix filter
- 1776999 - Incorrect hierarchy sorting
- 1777544 - Metadata missing for node type attributes
- 1778347 - Attributes for node types are not read
- 1770434 - Dynamic filter of compound char. is incorrect
- 1762156 - Nodes in fixed filter in Design Time are incorrect
- 1776688 - Too many hierarchy levels are read
- 1798297 - Correction for issue found on Samsung queries

- 1806813 - Text of characteristic values is not read
- 1809517 - Correction for invalid variable order when retrieving the list of variables through the design time services
- 1811124 - This note fixes the sorting of the of drill down characteristics returned by the design-time API so that it matches the runtime sorting
- 1812142 - This note fixes the sorting of the hierarchies returned by the design-time API so that it matches the runtime sorting
- 1817482 - This note adds the feature for the Design Time API to choose whether members should be read initially or not. By default, there are not read; this provides a performance enhancement for SL.

2.11 Final checklist

Prior to installing the BI platform, review the following checklist.

- Have you decided on the installation destination folder?

i Note

- The use of Unicode characters in the destination folder is not supported.
- Ensure that the installation destination folder is not the same folder in which the installation program has been extracted (do not install to the current working directory when running the installation program from the current working directory).

- Have you verified appropriate network connectivity between all machines that will be part of your deployment?
- If you are using your own database server:
 - Have you created a database, tablespace (if required), and accounts for the CMS system and Auditing Data Store databases?
 - Have you made sure you can log onto the database from the BI platform host?
 - If you are using IBM DB2 or Sybase ASE, have you verified that your database was created with the correct settings? (Some settings can't be modified after the database has been created.)
 - Has the database client software been properly configured?
- If you are using your own web application server:
 - Have you decided on which web application server to use?
 - Has the server already been installed and configured?
 - Have you ensured that your existing web application server has the required JDK installed?
- If you plan to use SAP System Landscape Directory (SLD), ensure that SAP Host Agent been installed and configured. For more information, see [Support for SAP System Landscape Directory \(SLD\) \[page 24\]](#).
- If you plan to use SAP Solution Manager Diagnostics (SMD), SMD Agent may have been installed and configured before or after the BI platform. For more information, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).

On Unix, the TZ environment variable must be set for all BI platform servers in order to ensure the timestamps on future scheduled jobs are correct. If the TZ environment variable is not set correctly then the time zone rules default to US-standard which may cause problems in other locations.

The TZ variable must be set in order to provide the start and end information about DST.

❖ Example

An example TZ setting is as follows: TZ='EST-10EDT-11,M10.1.0/02:00:00,M4.1.0/03:00:00'.

i Note

Setting the TZ variable conforms with POSIX 1003.1, section 8.1.1. For more details on the format, refer to <http://www.opengroup.org/onlinepubs/007908799/xbd/envvar.html>.

3 Planning

The BI platform can be installed on Windows, Unix, or Linux platforms.

Before installing:

- Ensure the operating system, application server, database server, and other components on which you will install the BI platform are supported. See the SAP BusinessObjects BI 4.2 Product Availability Matrix (PAM) at https://support.sap.com/content/dam/library/ssp/infopages/pam-essentials/SBOP_BI_42.pdf.
- Decide whether to use the included Sybase SQL Anywhere database server for the CMS and auditing databases.

If you do not have a database server to use with the BI platform, the installation program can install and configure one for you. It is recommended that you evaluate your requirements against information from your database server vendor to determine which supported database would best suit your organization's requirements.

i Note

If you do not plan to use the default database that is included in the installation program, ensure the database that you plan to use is configured before beginning the installation. The database must have user accounts with the appropriate database privileges ready, and the appropriate drivers must be installed and verified as working. The installation program will connect to and initialize the database.

The installation program will only install a database on the local machine. It cannot install across a network.

- Decide whether to use the included Tomcat web application server.

If you do not have a web application server system to host BI platform web applications, the installation program can install and configure one for you. It is recommended that you evaluate your requirements against information from your web application server vendor to determine which web application server would best suit your organization's requirements. To use any other supported web application server, it must be installed, configured, enabled, and accessible before you install the BI platform.

The installation program will only install Tomcat on the local machine. It cannot install across a network. During installation, users need to provide details regarding the SIA or Node name, the Cluster Key, and the Cluster name. SIA/Node name is an identifier only, it need not be a DNS resolvable hostname. It does need to be unique within the cluster, so something like Node1 would be appropriate, or ProdNode1. Cluster Name also need not be DNS resolvable. This is a user friendly name that identifies an overall environment which may encompass dozens of BOE servers working together. For example: BOEProduction or BOEDev, BOETest. The cluster name must be unique to each cluster of servers. This can be used to hide the real hostnames of machines when users log into the environment for security and simplicity reasons. This also allows you to add and remove hosts from the environment without making changes to the end user systems or processes. Cluster Key is a string that is used to prevent accidentally clustering machines together. You can think of it as a password that servers exchange behind the scene. Each cluster needs its own unique cluster key. This cluster key is also used for some encryption functionality and can be changed over time as needed with no impact to users.

⚠ Caution

In BI 4.2 Support Package 4, the BI platform **compiler version has been upgraded**. Since the **BI platform add-ons** (such as Lumira Server for BI Platform, Design Studio BI Platform Add On and

Analysis for Office BI Platform Add On) are tightly coupled with the BI Platform, they **need to be upgraded to the same compiler version**. We recommend you to review certain guidelines when planning your platform update or fresh installation of SAP BusinessObjects BI 4.2 SP4 with add-ons. For more details, refer to the SAP Note <https://launchpad.support.sap.com/#/notes/2467541>.

3.1 Upgrade support

Definition of Upgrade and Update

Update means adding support packages or patches to a 4.x release. *Upgrade* means moving a BusinessObject Enterprise XI 3.1 release to a BI platform 4.0 or 4.1 or 4.2 release.

Updating from 4.X to a 4.2 Support Package

Use this table to select the correct update guide.

i Note

You can install the 4.2 Support Package update directly on a BI platform 4.0 or 4.1 installation. You do not need to install the 4.2 update first.

You should go to [SAP BusinessObjects Business Intelligence Platform](#) product page in SAP Help Portal to .

Type of update	Example	Guide
Minor release update	<ul style="list-style-type: none">Installing 4.2 on a 4.0 or 4.1 release	<i>Minor Release Update guide under Installation & Upgrade.</i>
Support Package update	<ul style="list-style-type: none">Installing 4.2 SP4 on a 4.1 SP6 releaseInstalling 4.2 SP4 on a 4.0 SP12 release	<i>Support Package Update Guide under Installation & Upgrade.</i>
Patch update for 4.2 release	<ul style="list-style-type: none">Installing patch 1 on the 4.2 SP4 release	<i>Patch 4.x Update Guide 4.2 SP4 under Installation & Upgrade.</i>

Upgrading from XI 3.1

To upgrade the SAP BusinessObjects Enterprise XI 3.1 or other 3.X release to the BI platform 4.2 SP06, you must first perform a full installation of BI platform 4.2, then use the Upgrade management tool to migrate content and settings from the 3.X installation. See the *Business Intelligence Platform Upgrade Guide* for more information.

You can perform a 3.X/4.X side-by-side installation, which installs the new version 4.X, leaving the previously installed 3.X version intact. However, this is not a recommended installation scenario. In this case, ensure that you do not choose port numbers and directories that are already in use by the earlier install to perform installation to a unique directory and not creating port conflicts. A machine can host more than one version of SAP BusinessObjects Business Intelligence platform, although system performance may be degraded if both are running at once.

3.2 Database servers

If you do not have a database server in place for use with the BI platform, the installation program can install and configure one for you. It is recommended that you evaluate your requirements against information from your database server vendor to determine which supported database would best suit your organization's requirements.

i Note

The database client and server must use the Unicode character set.

For a list of supported database versions, revision levels, and requirements, consult the *Product Availability Matrix (PAM)*, available at https://support.sap.com/content/dam/library/ssp/infopages/pam-essentials/SBOP_BI_42.pdf.

i Note

The CMS database should be on the local network, and not accessed across a WAN connection. It should be very responsive, on the order of less than 10ms response time, 5ms or faster.

3.3 Languages

The BI platform user interface is available in many languages. For complete list of supported languages, refer to [Product Availability Matrix](#). You can add support for different languages by installing language packs, either during the full installation or when modifying the installation. We recommend that you install only the language packs that are required because the installed size of language packs can be large.

To add a new language in unix platform, follow the procedure below

1. Go to <Install_Dir>.
2. Run `modifyOrRemoveProducts.sh` program
3. Select the new language from the [Select language Packages](#) and press [Enter](#).
4. Choose [Modify](#) and then press [Enter](#).
5. Select the new language from the [Select language Packages](#) and press [Enter](#).
6. Select the features and press [Enter](#).
7. In the Expand Installation screen, press [Enter](#).
8. Enter the CMS administrator password and press [Enter](#).

9. To start installation press *Enter*.
10. To complete the installation press *Finish*

The new language has now been added.

4 Preparation

This section details how to prepare for the installation of the BI platform.

Process Flow

1. Ensure that sufficient disk space is available. For disk cost requirement, see the Appendix section at [Product Availability Matrix](#). Allow for both the operating system and the software to grow over time as patches or new components become available.
2. Gather the installation media or download the latest release and any Patches or Support Packages from the SAP Service Marketplace as described in [To download the server installation program \[page 50\]](#).
SAP HOSTAGENT - a required software package for using SAP System Landscape Directory (SLD). [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#). The SAP HOSTAGENT is packaged in the following location `BusinessObjectsServer/Collaterals/Tools/SAP_HOSTAGENT`.
In addition, download:
SAPCAR - a compression utility used to compress and decompress downloaded packages in the .SAR format from SAP Service Marketplace.
To download SAPCAR, go to ► <http://support.sap.com/home.html> ► [Software Downloads](#) ► [Support Packages and Patches](#) ► [Browse our Download Catalog](#) ► [SAP Technology Components](#) ► [SAPCAR](#) ►.
3. If you plan to use SAP System Landscape Directory (SLD), ensure that the SAP Host Agent is installed before installing the BI platform. For more information on SLD, see “Registration of SAP BusinessObjects Business Intelligence platform in the System Landscape” in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*. For information on SAP Host Agent, see [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#).
4. Decide the values for options you will set during the installation process. In most cases, you can accept the default values. More advanced installations require that you plan the installation process. The installation program prompts for the following information:
 - Product key.
 - Folder where the BI platform will be installed.
 - Web application server configuration, including type, connection, and authentication details.
 - Database server configuration, including type, connection, and authentication details.
 - CMS system and Auditing Data Store configuration information, including type, connection, and authentication details.
 - Central Management Server (CMS) administrator account password and cluster key.
 - CMS port number to receive incoming connections.
 - Server Intelligence Agent (SIA) name.
 - Server Intelligence Agent (SIA) port number for incoming connections.
 - SAP Solution Manager Diagnostics (SMD) configuration.
 - CA Wily Introscope Enterprise Manager configuration.
 - Subversion version control system configuration to store configuration files.
 - Promotion management configuration.

- Installation type (*Full, Custom / Expand, Web Tier*). For an explanation of the different installation types, see [To select an install type \[page 56\]](#).

4.1 System requirements

Use the following guidelines when you install the BI platform:

- Ensure that the operating system is supported. Only 64-bit operating systems are supported.
- Ensure that the following versions of Microsoft Visual C++ are installed:
 - Microsoft VC++ 2010 Redistributable (x64)
 - Microsoft VC++ 2010 Redistributable (x86)
 - Microsoft VC++ 2013 Redistributable (x64)
 - Microsoft VC++ 2013 Redistributable (x86)
 - Microsoft VC++ 2015 Redistributable (x64) (v 14.0.24210) + update
 - Microsoft VC++ 2015 Redistributable (x86) (v 14.0.24210) + update
- If you install the deployment on the operating system partition, ensure that there is enough room for the deployment and the operating system. It is recommended that you have at least 2 GB available for temporary files and web applications.
- If you have previously installed any SAP BusinessObjects BI Suite products, the installation program uses the existing directory.

i Note

To ensure the full path length is less than 256 characters, it is recommended to map the drive locally, if setup is being run from a network location. Also, the destination path must be less than 256 characters.

For a detailed list of supported operating systems and hardware requirements, consult the *Supported Platforms* documentation available at [Product Availability Matrix](#).

4.1.1 Additional requirements for Red Hat Linux

Ensure required libraries are installed

Before installing on Red Hat Linux, you must ensure all the required libraries are installed. Ensure you have root access, then use the *Yum* software installation tool to run the following commands:

- `yum install libstdc++.i686`
- `yum install libstdc++.x86_64`
- `yum install compat-libstdc++-33.i686`
- `yum install compat-libstdc++-33.x86_64`
- `yum install glibc.i686`
- `yum install glibc.x86_64`
- `yum install libX11.i686`

- `yum install libX11.x86_64`
- `yum install libXext.i686`
- `yum install libXext.x86_64`
- `yum install expat.i686`
- `yum install expat.x86_64`
- `yum install libgcc.i686`
- `yum install libgcc.x86_64`
- `yum install libXcursor.i686`
- `yum install libXcursor.x86_64`
- `yum install libXrender.i686`
- `yum install libXrender.x86_64`
- `yum install libXfixes.i686`
- `yum install libXfixes.x86_64`
- `yum install libxcb.i686`
- `yum install libxcb.x86_64`
- `yum install libXau.i686`
- `yum install libXau.x86_64`

Note

- If you are using Red Hat Linux **version 7.2**, ensure that the following are installed using the yum tool as well:

```
yum install glibc.i686
yum install glibc-common.x86_64 // if using Red hat 32 bit machine, use
yum install glibc-common.i686
yum install libstdc++.i686
yum install libgcc_s.so.1
yum install libstdc++.so.6
yum install compat-libstdc++-33-3.2.3-72.el7.i686
yum install compat-libstdc++-33-3.2.3-72.el7.x86_64
yum install libX11.i686
yum install libX11.so.6
yum install libXext-1.3.3-3.el7.i686
yum install libXext-1.3.3-3.el7.x86_64
yum install libXext-devel-1.3.3-3.el7.x86_64
yum install libXext-devel-1.3.3-3.el7.i686
```

If these libraries are not installed, you may encounter errors during the installation of SAP BusinessObjects Business Intelligence platform, as described in the following SAP Support Knowledge Base articles. You can search for these Knowledge Base Articles at <https://support.sap.com/notes>.

- 1692724
- 1692679
- 1692695
- 1875824
- 1968075
- 2065789

Ensure sufficient virtual memory is allocated

Some versions of Red Hat Linux include an updated `glibc` library that changes the way virtual memory is allocated by default. This can cause processes to allocate excessive amounts of virtual memory on startup and when used.

Refer to knowledge base (KBase) article 1968075 at [1968075](#) to determine if modifications are required to your Red Hat installation of the BI Platform.

i Note

Red Hat Enterprise Linux (RHEL) version **7.2** is supported with effect from Business Intelligence platform 4.2 SP4.

4.1.2 Additional requirements for Solaris

Packages required for Solaris 11.3

Before installing the BI platform on Solaris 11.3, you must install the following prerequisite packages:

Package	Minimum version	Description
pkg:/SUNWgzip	1.3.5-0.133	The GNU Zip (gzip) compression utility.
pkg:/SUNWlibC	0.5.11-0.133	Sun Workshop Compilers Bundled libC.
pkg:/SUNWmfrun	0.5.11-0.133	Motif libraries, headers, xmbind and bindings.
pkg:/compatibility/ucb	0.5.11-0.175.0.0.0.2.1	Utilities for user interface and source build compatibility.
pkg:/SUNWuiu8	0.5.11-0.133	Iconv modules for UTF-8 Locale.
pkg:/SUNWxcu4	0.5.11-0.133	Utilities providing conformance with XCU4 specifications.
pkg:/SUNWxwice	0.5.11-0.133	Library and utilities to support the X Window System Inter-Client Exchange (ICE) protocol.
pkg:/SUNWzlib	1.2.3-0.133	The Zip compression library.

Packages required for Solaris 11.2 or earlier

Before installing the BI platform on Solaris 11, you must install the following prerequisite packages:

Package	Minimum version	Description
pkg:/SUNWbash	0.5.11-0.133	GNU Bourne-Again shell (bash).
pkg:/SUNWgzip	1.3.5-0.133	The GNU Zip (gzip) compression utility.
pkg:/SUNWlibC	0.5.11-0.133	Sun Workshop Compilers Bundled libC.

Package	Minimum version	Description
pkg:/SUNWmfrun	0.5.11-0.133	Motif libraries, headers, xmbind and bindings.
pkg:/compatibility/ucb	0.5.11-0.175.0.0.0.2.1	Utilities for user interface and source build compatibility.
pkg:/SUNWuiu8	0.5.11-0.133	Iconv modules for UTF-8 Locale.
pkg:/SUNWxcu4	0.5.11-0.133	Utilities providing conformance with XCU4 specifications.
pkg:/SUNWxwice	0.5.11-0.133	Library and utilities to support the X Window System Inter-Client Exchange (ICE) protocol.
pkg:/SUNWxwplt	0.5.11-0.133	X Window System platform software (server, DPS, extensions, Xlib, required & common clients).
pkg:/SUNWzlib	1.2.3-0.133	The Zip compression library.

Scheduling control privilege required for Solaris 11

The user account running the BI platform installation program must have the `proc_priocntl` scheduling control privilege. This allows the installation processes run under that user account to change the threading priorities. To grant this privilege, logon to your Solaris 11 machine as the root user and run the following command:

```
usermod -K defaultpriv+=basic,proc_priocntl <userID>
```

Cannot install on soft partitions

The SAP BusinessObjects Business Intelligence platform cannot be installed onto a Solaris machine that is configured with soft partitions.

4.1.3 Additional requirements for SUSE

Before installing on SUSE Linux Enterprise, edit or add the following kernel parameters and values to the `/etc/sysctl.conf` file:

```
kernel.sem = 250 32000 32 1024
kernel.msgmni = 1024
kernel.shmmax = 18446744073709551615
```

The root user account must be used to edit this file. To view the current contents of the `/etc/sysctl.conf` file, run `sysctl -p` from the command line. To check current limit settings for your operating system, run `ipcs -l` from the command line.

Before installing on SUSE Linux, you must ensure all the required libraries are installed.

Ensure you have root access, then use the Zypper software installation tool to run the following commands:

- `zypper install glibc`
- `zypper install glibc-32bit`
- `zypper install libstdc++33`
- `zypper install libstdc++33-32bit`

4.1.4 Extra requirements for DataDirect

If you plan to run reports that use DataDirect ODBC database drivers, you must configure the `odbc.ini` file. See [Configuring DataDirect DSN connections \[page 90\]](#).

4.1.5 Account permissions

To install the BI platform on a Unix or Linux host, a user must have the following permissions:

Category	Required access
Operating system	<ul style="list-style-type: none"> • Permission to read, write, and execute scripts in the destination directory. • For a system install, root access is required (the installation program creates start-up run control scripts in <code>/etc/rc</code> that start or stop the servers when the host machine is started or stopped).
Network	<ul style="list-style-type: none"> • Network connectivity through appropriate ports to all machines in the deployment. • Access to shared file system directories. • Appropriate network authentication privileges.
Database	<ul style="list-style-type: none"> • Permission for the SAP BusinessObjects user account to create, edit, and drop tables. • Permission for the SAP BusinessObjects user account to create stored procedures (required by the Central Management Server (CMS) system database).

4.1.5.1 Additional Unix and Linux requirements

Set the TZ environment variable

Before running the installation, you must ensure that the time zone on your machine is set correctly, using the TZ environment variable. If this is not set, the default timezone and daylight savings time rules will be used which may cause unpredictable behavior.

Export the TZ variable after you set it.

For example,

```
TZ="PST+8PDT+7,M4.1.0/02:00,M10.5.0/02:00"
export TZ
```

The format of a POSIX TZ variable is:

STD (+/-) hh:mm:ss DST (+/-) hh:mm:ss, Mm.n.d/hh:mm:ss, Mm.n.d/hh:mm:ss

- STD = the name for the time zone when following standard time (GMT, CET, PST). Ensure write permissions are set on the `odbc.ini` file
- DST = the name for the time zone when following daylight saving time (BST, CEST, PDT). (+/-) means + or -; + if you're west of Greenwich and - if you're east of Greenwich (Note the + is optional).
- hh:mm:ss are hour:minute:second on the 24 hour clock (where minute and second are optional). Capital 'M' is a prefix for the start/end rules for DST.
- 'm' is the month (January = 1).
- 'n' is the week of month (1-5).
- 'd' is day of week (Sunday = 0).

Some examples of POSIX strings for TZ are:

London: "GMT0BST-1,M3.5.0/01:00,M10.5.0/01:00"

Paris: "CET-1CEST-2,M3.5.0/01:00,M10.5.0/01:00"

Berlin: "CET-1CEST-2,M3.5.0/02:00,M10.5.0/03:00"

i Note

Operating system-level time zone configurations is not in the realm of SAP Support. A good review on GNU POSIX syntax can be found on the following site: http://www.gnu.org/software/libc/manual/html_node/TZ-Variable.html ➡

Ensure write permissions are set on the `odbc.ini` file

The installation program writes DSN information to the file `<INSTALLDIR>/sap_bobj/enterprise_xi40/odbc.ini`. The user running the installation must have *write* access to this file. If you have an SAP HANA client installed on the BI platform machine, it may have set read-only access on this file, preventing the BI platform installing from adding the required information.

User account

Create a user account and group under which the software's background processes can run. Use this account to perform the installation and run the software. The account does not require root privileges.

Locale

Before you install, set the installing account's environment to use a supported UTF-8 locale and ensure that your console software supports UTF-8 character sets. To ensure that your operating system uses the correct locale, set the `LC_ALL` and `LANG` environment variables to your preferred locale in your login environment.

For example, the following `bash` shell commands set the locale to the United States English UTF-8 locale:

```
export LANG=en_US.utf8
export LC_ALL=en_US.utf8
```

→ Tip

Type `locale` to check that all of the related locale environment variables (such as `LC_MONETARY`, `LC_NUMERIC`) were properly set by `LC_ALL`.

For a detailed list of supported Unix and Linux environments, see the Product Availability Matrix (PAM).

Commands

In order for the installation program to run correctly, the following utilities must be installed on your system and available on the path:

<code>/bin/sh</code>	<code>pwd</code>	<code>read</code>	<code>touch</code>
<code>uname</code>	<code>expr</code>	<code>hostname</code>	<code>sed</code>
<code>awk</code>	<code>chown</code>	<code>grep</code>	<code>tail</code>
<code>tar</code>	<code>id</code>	<code>dirname</code>	<code>gzip</code>
<code>stty</code>	<code>ulimit</code>	<code>which</code>	<code>ping</code>

If one of them is not available on your system, install a version from your operating system vendor rather than a third-party vendor (such as the GNU project).

i Note

The output from a GNU version of a utility can differ significantly from the version provided by your operating system vendor. To prevent the installation program from encountering output in an unexpected format, ensure that no GNU utilities are used in the installing user account's environment.

Installations

A new installation can be one of two different types.

- User installation

The installed software is owned by the account that was used to run the installation program. This account must be used to start and stop the servers. Access to the root user account is not required to perform a user installation, and installation program will exit if it detects that it is being run as root.

- **System installation**

A system installation is a finished user installation with system startup and shutdown run control scripts added. These scripts automatically start and stop SAP BusinessObjects Business Intelligence platform server functions as the operating system starts up or shuts down. The script to install the run control scripts must be run with root privileges after a user installation has completed.

4.1.6 Choosing a server location

When planning a distributed installation, consider the latency between servers. To maintain high CMS performance, place your CMS on the same subnet as the CMS system and Auditing Data Store database servers.

The CMS can also be clustered, so that CMS server processes run on different host systems in the cluster. When creating a CMS cluster, ensure that each machine experiences the same network latency to the CMS system or Auditing Data Store.

Consult the “Clustering Central Management Servers” section of the *SAP BusinessObjects Business Intelligence Platform Administrator Guide* for more information on clustering CMS server processes.

4.2 Preparing the CMS system or Auditing Data Store database

To use a database server other than the default one, complete the following tasks before installing the BI platform.

- Create a database (or tablespace or schema, if applicable to your database), and account to store CMS configuration and system information. A second tablespace or scheme is required to hold auditing information. Record the database, tablespace, and account information so you can enter the details when prompted by the BI platform installation program.

Caution

If you have an existing BI platform v3.x or v4.x installation, then you must create a fresh database and migrate existing content after the install is complete.

- Ensure that your database server is configured to use Unicode character encoding (such as UTF-8).
- Ensure that the database accounts have privileges to create, modify, and delete tables, and to create stored procedures.
- When using a database server on a network, the appropriate database client drivers must be installed and verified as working before installing BI platform. Contact your database administrator to establish which drivers are required for your database.

During your installation, you will be prompted for the connection and authentication credentials so that the installation program can initialize the database. The table below shows which information is required for supported databases:

Database	Information required by installation program
MySQL	<ul style="list-style-type: none"> • CMS database name • Server hostname • Port number (default is 3306) • Account username • Account password • Reset existing database option (recommended setting)
IBM DB2	<ul style="list-style-type: none"> • DB2 Alias name • Account username • Account password • Reset existing database option (recommended setting)
Oracle	<ul style="list-style-type: none"> • Oracle TNSNAME connection identifier • Account username • Account password • Reset existing database option (recommended setting)
Sybase ASE	<ul style="list-style-type: none"> • Service name <div data-bbox="443 1064 1391 1294" data-label="Complex-Block"> <p>i Note</p> <ul style="list-style-type: none"> ◦ The Sybase Adaptive Server Enterprise (ASE) service name is a combination of the host-name and the port number, set by your database administrator in the <code>sql.ini</code> and <code>interfaces</code> files. ◦ BI platform will connect to the default database for the user you specify. The default is set by the database administrator. </div> <ul style="list-style-type: none"> • Account username • Account password • Reset existing database option (recommended setting)
Sybase SQL Anywhere using ODBC	<ul style="list-style-type: none"> • DSN • Account username • Account password • Reset existing database option (recommended setting)
SAP HANA Database using ODBC	<ul style="list-style-type: none"> • DSN • Account username • Account password • Reset existing database option (recommended setting)

i Note

- MaxDB support for CMS system or Auditing Data Store database is deprecated from BI platform 4.2.
- If you are using MaxDB for CMS system or auditing data store database, we recommend you to migrate your data to other supported database.
For more information on migrating your data to other database refer, SAP Business Intelligence Platform Administrator Guide.

4.2.1 Extra requirements for IBM DB2

IBM DB2 has requirements that must be met before installing the BI platform:

- Ensure that the DB2 database is created with the following settings:

```
Collating Sequence = "Identity"
Codeset = "UTF-8"
Territory = "<XX>"
```

Replace `<XX>` with the code that is appropriate for your location. Consult your DB2 documentation for more information. If your DB2 database does not have the `Collating Sequence = "Identity"` setting, the user and user group objects may not sort as expected in the CMC.

- Create a user temporary table space before installing the BI platform. If you do not create a user temporary table space, the BI platform installation program will not be able to configure the DB2 database. For more information on user temporary table spaces in IBM DB2, see *DB2 Basics: Table spaces and buffer pools* in the IBM technical library: <http://www.ibm.com/developerworks/data/library/techarticle/0212wieser/0212wieser.html>.
- When using IBM DB2 to host an Auditing Data Store database, ensure that the page size for the auditing table space is set to a minimum of 8192 (8 KB).
- Ensure that the CMS system database is not partitioned. The Auditing Data Store database may be partitioned.

In addition, consider the following user account requirements:

- Ensure that the ID of the user account used to host the DB2 database meets the following requirements from IBM. For more information on IBM's requirements for Unix or Linux systems hosting DB2, see *DB2 users and groups (Linux and Unix)* in the *Database Fundamentals* section of the "DB2 Solution Information Center" at <http://www.ibm.com/support>.
 - Must have a primary group other than `guests`, `admins`, `users`, or `local`
 - Can include only lowercase letters (a-z), numbers (0-9), or the underscore character (`_`)
 - Cannot be longer than eight characters
 - Cannot begin with `IBM`, `SYS`, `SQL`, or a number
 - Cannot be a DB2 reserved word (`USERS`, `ADMINS`, `GUESTS`, `PUBLIC`, or `LOCAL`), or an SQL reserved word
 - Cannot use any user IDs with `root` privilege for the DB2 instance ID, DAS ID, or fenced ID.
 - Cannot include accented characters
 - If existing user IDs are specified instead of creating new user IDs, ensure that the user IDs:
 - Are not locked
 - Do not have expired passwords
 - The primary group of the user must meet the following requirements:
 - Cannot be one of `guests`, `admins`, `users`, or `local`
 - Cannot start with `sql` or `ibm`
 - Cannot start with a number
 - Must contain only lowercase letters (a-z), or numbers (0-9).

If you plan to install an IBM DB2 database and the Central Management Server (CMS) on the same machine:

- ensure the `thread-max` setting and the user account `ulimit` setting is sufficient. It is recommended to configure `ulimit` as *unlimited*.


4.2.2 Extra requirements for Sybase ASE

If you are using Sybase ASE for the CMS or auditing database:

- Create a database with a `page size` of 8 KB. The default page size is 2KB, which is too small for the CMS system database to run efficiently. The page size is set up during the database creation and cannot be changed after the database is created.
- Use a Unicode character set, such as UTF-8.
- If you're using SAP Adaptive Server Enterprise v16.0 or later as the CMS database, then you should disable the index compression.

4.2.3 Extra requirements for CMS clustering with SQL Anywhere

If you are using the bundled SQL Anywhere database server for the CMS, there are two prerequisites before adding a new node on a new machine to CMS cluster. On the machine hosting the new node:

1. You must install the SQL Anywhere Database Client.
Download the SQL Anywhere 17 client for your operating system at: <http://scn.sap.com/docs/DOC-35857>

2. You must create an ODBC DSN connecting to the primary node SQL Anywhere CMS database.
On the primary node, open the ODBC system information file to note the DSN details. For example, `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/odbc.ini`. By default the DSN is `BI4_CMS_DSN<Unix timestamp>`.

Consider the following example. A primary node with a CMS server and bundled SQL Anywhere database is installed on one machine. To create a new CMS node on a new machine:

1. Install the SQL Anywhere Database Client. This installs the SQL Anywhere 17 database driver.
2. Create an ODBC DSN to the primary node SQL Anywhere CMS database using the SQL Anywhere 17 driver.
For example, assume the primary node host is 192.0.2.0 and uses default port and values for the SQL Anywhere installation:

```
[ODBC Data Sources]
BI4_CMS_DSN_1362069282=SQLAnywhere 16.0
[BI4_CMS_DSN_1362069282]
UID=dba
PWD=mypassword
DatabaseName=BI4_CMS
ServerName=BI4_1362069282
Host=192.0.2.0:2638
Driver=/opt/sqlanywhere16/lib64/libdbodbc16.so
```

3. Run the BI platform server installation program and select *Custom / Expand* as the installation type. During the installation select the following:

- On the [Select Features](#) page, select the [Central Management Server](#) feature. Unselect the [Sybase SQL Anywhere Database](#), [Subversion](#), and [WebTier](#) features.
- On the [Select New or Expand Installation](#) page, select [Expand an existing SAP BusinessObjects BI platform deployment](#).
- On the [Select Existing CMS Database Type](#) page, select [SAP Sybase SQL Anywhere using ODBC](#).
- On the [Configure CMS Repository Database - SQL Anywhere \(ODBC\)](#) page, select the ODBC DSN created in step 2 and enter the “dba” account password.
- Proceed and complete the installation of the new CMS server node.

4.2.4 Bundled SQL Anywhere ODBC settings

During the installation of the bundled SQL Anywhere for the CMS and auditing database, the installation program attempts to find and write new DSN entries to an existing ODBC system information file. If no existing file is detected or set, the installation program will create a file with the new DSN entries at

`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/odbc.ini`.

If you introduce new ODBC entries for reporting and analytic purposes, consolidate these entries into the same `.ini` file as the CMS and auditing database.

4.3 Set ulimit to unlimited

To successfully build and deploy BI platform web applications, the host operating system or user account `ulimit` setting must be configured as *unlimited*.

Set the `ulimit` configuration with the `ulimit` command, or for Linux, modify the system configuration file `/etc/security/limits.conf`. For more information about the `ulimit` setting, see the documentation included with your operating system.

4.4 SAP support

4.4.1 Support for SAP System Landscape Directory (SLD)

SAP System Landscape Directory (SLD) is a directory service that maintains a list of installed SAP and (optionally) non-SAP software. SLD provides two main categories of information:

- Software already installed
- Software that could be installed at a later time

SAP systems come with a data supplier (DS) component that automatically updates the landscape directory. Non-SAP software that supports SLD registers through an open API. The information gathered on installed software includes:

- Version
- Host information
- Connection information

To use SLD support, ensure that SAP Host Agent is installed and working on the system(s) that host the BI platform. SAP Host Agent may be installed and configured before or after installing the BI platform.

4.4.1.1 To enable SAP System Landscape Directory (SLD) support

If you plan on using SAP System Landscape Directory (SLD) or SAP Solution Manager Diagnostics (SMD), ensure that the SAP Host Agent is installed and configured. The following steps walk you through installing SAP Host Agent.

SAP Host Agent may be installed and configured before or after installing the BI platform. For more information on SAP Host Agent, see “Registration of SAP BusinessObjects Business Intelligence platform in the System Landscape” in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

i Note

If you have installed SAP GUI or SAP Solution Manager Diagnostics (SMD), skip to step 4 below.

Prior to installing support for SAP System Landscape Directory (SLD) there must be an `sapadm` user with root privileges.

The `SAP_LocalAdmin` group must also exist, and the `sapadm` user must be a member. The `sapadm` user password is required during the SAPHOSTCONTROL installation.

1. The SAP HOST AGENT is packaged in collaterals, in the following location
`<Package_Download_Location>/BusinessObjectsServer/Collaterals/Tools/SAP_HOSTAGENT`.

i Note

`<Package_Download_Location>` refers to the location where you've downloaded the BI installer package.

2. Launch command prompt with administrative privileges from SAP_HOSTAGENT folder.
3. Install SAPHOSTCONTROL by entering the following command:

```
saphostexec -install
```

4. Locate the `sldreg` tool, which is usually located in the following folder:

```
/usr/sap/hostctrl/exe
```

5. Create an SLD key with the following command:

```
sldreg -configure connect.key
```

You will be prompted to supply a username, password, host, port, and protocol for connecting to the SLD server.

6. Enter the information requested.

The `sldreg` tool creates a `connect.key` file that will automatically be used by `sld-ds` to push information to SLD server.

If you have already installed the BI platform, restart all SIA nodes in the Central Configuration Manager (CCM) to register with the SLD.

4.4.2 Support for SAP Solution Manager Diagnostics (SMD)

SAP Solution Manager Diagnostics (SMD) monitors the performance of systems in the SAP System Landscape Directory (SLD). Problems can be identified, analyzed, and resolved with the information gathered by SMD, which includes:

- Performance monitoring
- Configuration management
- Log management
- Load testing
- Alerting
- Resource monitoring

Tools integrated into SMD include:

- CA Wily Introscope
For full instrumentation, both SMD and CA Wily Introscope should be used.
- SAP LoadRunner by HP

Non-SAP software with an SAP-certified integration is entered into a central repository and transferred automatically to your SAP System Landscape Directories (SLD). SAP customers can then easily identify which version of third-party product integration has been certified by SAP within their SAP system environment. This service provides additional awareness for third-party products besides our online catalogs for third-party products.

To use SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing the BI platform. During installation, the installation program prompts for the hostname and port number of the SMD Agent. If you do not want to use SMD, or you will install SMD later, you can choose not to use SMD. The SMD Agent can be configured later in the Central Management Console (CMC) [Placeholders](#) screen. For more information, see [To configure SMD Agent post installation \[page 93\]](#).

For more information on SMD Agent, see [1858920](#) .

4.4.3 Support for CA Wily Introscope

CA Wily Introscope is included as a part of SAP Solution Manager Diagnostics (SMD). For full instrumentation, both SMD and CA Wily Introscope should be used.

To use CA Wily Introscope and SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing the BI platform.

During installation, the installation program prompts for the hostname and port number of the Introscope Agent. If you do not want to use Introscope, or you will install it later, you can choose not to use Introscope. Introscope can be configured later in the Central Management Console (CMC) [Placeholders](#) screen. For more information, see [To configure CA Wily Introscope Agent post installation \[page 94\]](#).

4.4.4 Support for SAP BW

The BI platform can integrate with SAP BW. To get the best performance from SAP BW, follow the instructions in these SAP Notes on <https://service.sap.com>:

- 1771995 - Incorrect number of hierarchy levels in Design Time
- 1750788 - BICS metadata service enhancement
- 1767351 - Missing metadata of characteristics in the fix filter
- 1776999 - Incorrect hierarchy sorting
- 1777544 - Metadata missing for node type attributes
- 1778347 - Attributes for node types are not read
- 1770434 - Dynamic filter of compound char. is incorrect
- 1762156 - Nodes in fixed filter in Design Time are incorrect
- 1776688 - Too many hierarchy levels are read
- 1798297 - Correction for issue found on Samsung queries
- 1806813 - Text of characteristic values is not read
- 1809517 - Correction for invalid variable order when retrieving the list of variables through the design time services
- 1811124 - This note fixes the sorting of the of drill down characteristics returned by the design-time API so that it matches the runtime sorting
- 1812142 - This note fixes the sorting of the hierarchies returned by the design-time API so that it matches the runtime sorting
- 1817482 - This note adds the feature for the Design Time API to choose whether members should be read initially or not. By default, there are not read; this provides a performance enhancement for SL.

4.5 Final checklist

Prior to installing the BI platform, review the following checklist.

- Have you decided on the installation destination folder?

i Note

- The use of Unicode characters in the destination folder is not supported.
- Ensure that the installation destination folder is not the same folder in which the installation program has been extracted (do not install to the current working directory when running the installation program from the current working directory).

- Have you verified appropriate network connectivity between all machines that will be part of your deployment?
- If you are using your own database server:
 - Have you created a database, tablespace (if required), and accounts for the CMS system and Auditing Data Store databases?
 - Have you made sure you can log onto the database from the BI platform host?
 - If you are using IBM DB2 or Sybase ASE, have you verified that your database was created with the correct settings? (Some settings can't be modified after the database has been created.)

- Has the database client software been properly configured?
- If you are using your own web application server:
 - Have you decided on which web application server to use?
 - Has the server already been installed and configured?
 - Have you ensured that your existing web application server has the required JDK installed?
- If you plan to use SAP System Landscape Directory (SLD), ensure that SAP Host Agent been installed and configured. For more information, see [Support for SAP System Landscape Directory \(SLD\) \[page 24\]](#).
- If you plan to use SAP Solution Manager Diagnostics (SMD), SMD Agent may have been installed and configured before or after the BI platform. For more information, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).

On Unix, the TZ environment variable must be set for all BI platform servers in order to ensure the timestamps on future scheduled jobs are correct. If the TZ environment variable is not set correctly then the time zone rules default to US-standard which may cause problems in other locations.

The TZ variable must be set in order to provide the start and end information about DST.

❖ Example

An example TZ setting is as follows: TZ='EST-10EDT-11,M10.1.0/02:00:00,M4.1.0/03:00:00'.

i Note

Setting the TZ variable conforms with POSIX 1003.1, section 8.1.1. For more details on the format, refer to <http://www.opengroup.org/onlinepubs/007908799/xbd/envvar.html>.

5 Installation

This chapter guides you through the installation of the BI platform.

5.1 Overview

There are three different methods of running the installation program for the BI platform:

- **Interactive installation**
An interactive wizard prompts for all information related to the installation. Use this option to select individual installation options from a series of screens. This is the default installation method.
- **Silent installation**
Installation options are given on the command-line or in a text file. This option is useful if you want to install the same configuration on multiple machines.
- **Phase-wise installation**
The installation is performed in two phases - Caching and Installation after caching

If the installation program encounters an unexpected condition, and is unable to continue, it will undo any work completed up to that point, and return the system to the state that it was in before the installation started.

The BI platform requires a database server and web application server to function. If you do not have an existing database, the installation program automatically installs and configures a Sybase SQL Anywhere database. If you do not have an existing web application server, the installation program automatically installs and configures a Tomcat web application server.

i Note

The installation program may take more than one hour to complete.

5.2 To download the server installation program

You have the following tools available:

- A Windows machine with WinZip/WinRAR to extract .rar files and execute .exe files.
- SAP Download manager to download software files.

Follow the below procedure to download the server installation program:

1. Go to <https://support.sap.com/home.html> > *Download Software*.
2. Under *Installations and Upgrades*, expand *By Alphabetical Index (A–Z)*.
3. Select ► *B* ► *SBOP BI platform (former SBOP Enterprise)* ► *SBOP BI PLATFORM (ENTERPRISE)* ► *SBOP BI PLATFORM 4.2* ►.

4. Select [Installation and Upgrade](#) and then select your platform.
[You can choose the OS from the drop-down.]
5. Select all of the packages titled [SBOP BI PLATFORM <version> SERVER](#) plus any additional add-on products you require, then follow the instructions on the website to download and extract the packages.

i Note

You should ensure that you download the .rar and .exe package at same location in a Windows machine or system.

6. Run the .exe file.
7. Copy the extracted files to the Unix machine or system.

The software may take a long time to download, and you may need to contact the system administrator to ensure your company's firewall will not terminate the download process.

i Note

You can download the ONE Installer package from either [Installation & Upgrades](#) or [Support Packages & Patches](#) category and use the package for fresh and update installation scenarios. For more information on installing support packages and patches, see the *SAP BusinessObjects Business Intelligence Platform Support Package Update Guide*.

5.2.1 ONE Installer

About ONE Installer:

ONE Installer is a single installation package that supports multiple BI installation scenarios -

- Fresh installation of a Support Package/Patch
- Update of any Support Package/Patch to any Support Package/Patch

Below information is applicable for BI 4.2 SP06 and above:

If you are new to SAP BusinessObjects BI Platform, then you can use ONE Installer for fresh installation of the latest Support Package or Patch version of the BI release.

If you are currently using an older version of the SAP BusinessObjects BI Platform, then you can use ONE Installer to update to any later version (including the latest available Patch) of BI release.

ONE Installer is available for all BI Suite products and can be installed on all platforms supported by the regular BI Suite Installers.

Given below is a table with different scenarios in which you can use ONE Installer. You can compare the existing procedure with the ONE Installer procedure.

Scenario	Example	Existing Procedure	ONE Installer Procedure
Fresh installation	To install BI 4.2 SP06 .	1. Install SAP BusinessObjects BI platform 4.2 SP06.	1. Directly install 4.2 SP06 in one step.

Scenario	Example	Existing Procedure	ONE Installer Procedure
	To install BI 4.2 SP06 Patch x .	<p>Fresh installation to a Patch level is currently not supported. However, you can follow the steps below:</p> <ol style="list-style-type: none"> 1. Install SAP BusinessObjects BI Platform 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x 	<ol style="list-style-type: none"> 1. Directly install 4.2 SP06 Patch x in one step.
Patch to Patch update	To update from 4.1 SP05 Patch 1 to 4.2 SP06 Patch x .	<ol style="list-style-type: none"> 1. Update from 4.1 SP05 Patch 1 to 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x 	<ol style="list-style-type: none"> 1. Directly update from 4.1 SP05 Patch 1 to 4.2 SP06 Patch x in one step.
	To update from 4.2 SP06 Patch x to 4.2 SP06 Patch y .	<ol style="list-style-type: none"> 1. Use the Regular Patch Installer to update from 4.2 SP06 Patch x to 4.2 SP06 Patch y (delta update). 	<ol style="list-style-type: none"> 1. Directly update from 4.2 SP06 Patch x to 4.2 SP06 Patch y in one step.
Patch to Support Pack update	To update from 4.1 SP05 Patch 1 to 4.2 SP06 .	<ol style="list-style-type: none"> 1. Update from 4.1 SP05 Patch 1 to 4.2 SP06 	<ol style="list-style-type: none"> 1. Directly update from 4.1 SP05 Patch 1 to 4.2 SP06 in one step.
Support Package to Patch update	To update from 4.1 SP05 to 4.2 SP06 Patch x .	<ol style="list-style-type: none"> 1. Update from 4.1 SP05 to 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x. 	<ol style="list-style-type: none"> 1. Directly update from 4.1 SP05 to 4.2 SP06 Patch x in one step.

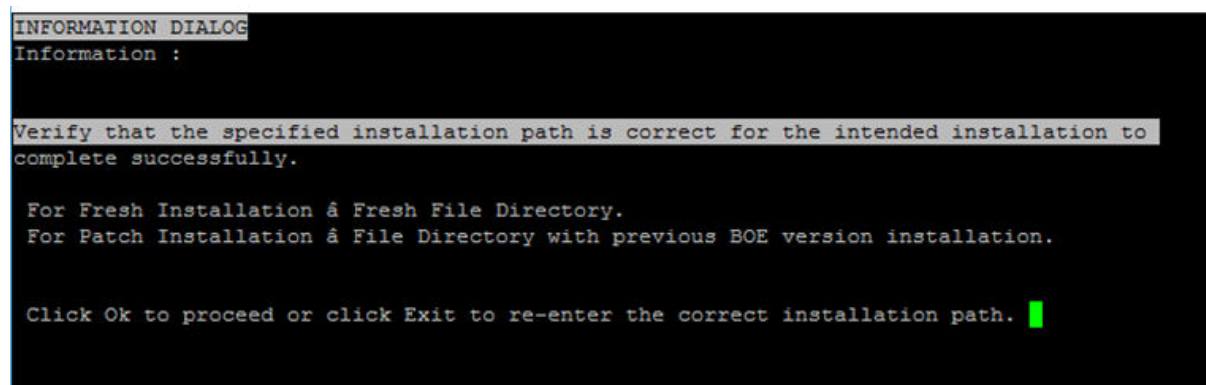
5.2.1.1 Using ONE Installer

In Unix Operating System the installation process using ONE Installer is as mentioned below:

- For a fresh installation of the SAP BI Platform, run the following command in the command prompt:
`./setup.sh -<InstallDir i.e. Destination folder into which the setup program will install>`
- For an update or Patch install scenario, run the following command in the command prompt:
`./setup.sh -<InstallDir i.e. path where the base has been installed>`

For example: `./setup.sh -InstallDir/build/BOE`

In the following image the **specified installation path** refers to the **InstallDir** path mentioned above.



i Note

The newly introduced pre-requisite check functionality can be used with ONE Installer package for Unix platforms as follows:

Syntax: `./setup.sh -InstallDir <Folder path, same as the value for InstallDir option in the response file> -pre_requisite_check <response file path> <file path to store failed pre-requisite info>`

Example: `./setup.sh -InstallDir /build/BOE - pre_requisite_check \build \response.ini \build\failed.txt`

5.2.1.2 Advantages of using ONE Installer

By using ONE Installer, you achieve the following:

1. One-Step Install:
 1. New customers can update to the latest Patch level of the latest available Support Package in a single step.
 2. Existing customers can eliminate the step of updating the landscape to a Support Pack level before patching.
2. Save approximately 50% of the install time since two steps of patching are reduced to one step.
3. Reduced production downtime during updates, for end users.
4. Perform validation and testing only once after updating to the required Support Package or Patch.
5. Better maintenance experience for BI Platform administrators.

5.3 To perform stand-alone pre-requisite check in the Terminal

To check the pre-requisites, perform the following steps:

1. Ensure to have a mandatory **response.ini** file that contains `SetupUILanguage=en` and `InstallDir` options.
2. Open Terminal from the file menu.
3. Navigate to the location where the software is downloaded and extracted.
4. Execute the command `setup.sh -InstallDir <Install_Dir_Path> -pre_requisite_check <response file path> <file path to store failed pre-requisite info>`.

Example: `./setup.sh -pre_requisite_check <Unix_Directory>\response.ini <Unix_Directory>\logs\xyz_failedpc.txt`

In this example, `<Unix_Directory>` can be any file location in a UNIX system.

i Note

It is mandatory to provide both the parameters, i.e. `response.ini` file that contains **SetupUILanguage=en** option and **InstallDir** value, and the `file path` value that captures the failed pre-requisites.

If the `file path` value provided is not valid, then the file with the following default name **failedPrerequisites.txt** is created under the temp directory where the **setupengine.log** is being saved.

5. The results of the pre-requisite check are written to the **.txt** file and the process exits.

i Note

If the product pre-requisites fail, the **.txt** file contains: `<pre-requisite name>` and `<info related to the pre-requisite failure.>`

If the product pre-requisites pass, the **.txt** file contains a single line info as written in the **setupengine.log** i.e. **"All product pre-reqs have passed."**

5.4 To run an interactive installation

Load, mount, or download the the SAP BusinessObjects Business Intelligence (BI) platform installation media. Ensure that `LC_ALL` has been set to a supported UTF-8 character set, such as `en_US.utf8`. For example:

```
export LANG=en_US.utf8
export LC_ALL=en_US.utf8
```

i Note

The installation log file is created in the Temp directory first, and then during the installation, the log file is moved and saved to `<BIP_INSTALL_DIR>/InstallData/logs/<DATEandTIME>/setupengine.log`.

1. Go to the package download location through command-line and run `./setup.sh` command as a non-root user.

Use the `InstallDir=<DESTINATION_DIR>` parameter to set the destination folder from the command line. For example, to install the BI platform into the folder `/opt/sap`, use the command `./setup.sh - InstallDir <InstallDir_Path>`.

2. On the [Select Installer Language](#) page, select the setup language.

The language setting is used by the installation program to display information to you in the language of your choice. If you select a non-English language, the corresponding language pack is automatically installed on the server.

i Note

The installation program will automatically run in the same language as your operating system. The language used by the installation program will determine the names used for components configured by the installation program. These names cannot be changed later and are not affected by language settings once the installation is complete.

3. On the [Configure Destination Folder](#) page, review the destination folder shown.

This is the folder into which the installation program will install the BI platform. If the folder does not exist, the installation program creates it.

i Note

- The use of Unicode characters in the destination folder is not supported.
- Ensure that the destination folder name does not contain spaces.
- Ensure that the destination folder is not the same folder in which the installation program has been extracted (do not install to the current working directory when running the installation program from the current working directory).

4. On the [Check Prerequisites](#) page, review the results and decide whether to continue with the installation, or abort and correct any unmet requirements.

The installation program checks for required components and conditions. If a dependency prerequisite condition is critical, the installation program will not allow the installation to proceed. If the missing or unsupported component is optional, you have the option to either continue with the installation or stop and correct the condition.

5. Review the installation welcome page.
6. On the [License Agreement](#) page, review and accept the license agreement.
7. On the [Configure Product Registration](#) page, enter the product key.

→ Tip

Store the product key in a safe place in case you need to re-install the product.

8. On the [Select Language Packs](#) page, select additional languages to install from the list.

The language currently being used by the operating system is selected automatically. English language support cannot be deselected because the BI platform falls back to using English if a problem is detected with an individual language.

The [Select Install Type](#) page appears.

5.4.1 To select an install type

The [Select Install Type](#) page is used to select the type of installation to perform.

1. Select one of the following install type options:
 - Full
Installs all required server components onto a single machine. Use this option to create a single-host deployment, such as a pre-production development or test environment.
 - Custom / Expand
Allows experienced users to select individual features. Use this option:
 - When distributing server components between more than one host, such as creating a CMS cluster.
 - When you want full control over which features are deployed to a host.

i Note

If you are adding a new node to a CMS cluster that uses the bundled SQL Anywhere database server, see [Extra requirements for CMS clustering with SQL Anywhere \[page 23\]](#) before proceeding with the installation.

- Web Tier
The web tier includes web applications such as BI launch pad and the Central Management Console (CMC). Use the [Web Tier](#) installation option to install Java web applications onto a default Java web application server.
If you already have a supported web application server installed, you can deselect the option to install Tomcat, and only install the Java web applications.
2. Proceed to the next page to start configuring the selected installation.

You may return to the [Select Install Type](#) page at any time later.

- If you selected a [Full](#) installation, proceed to the following [Full](#) section.
- If you selected a [Custom / Expand](#) installation, proceed to the following [Custom / Expand](#) section.
- If you selected a [Web Tier](#) installation, proceed to the following [Web Tier](#) section.

5.4.1.1 Full installation

The following steps are performed for [Full](#) installations of the BI platform.

1. On the [Select Default or Existing Database](#) page, select a database option to store Central Management Server (CMS) and Auditing Data Store (ADS) information.

Option	Description
Configure and install a Sybase SQL Anywhere database	If you do not have a database server in place for use with the BI platform, the installation program can install and configure Sybase SQL Anywhere for you.

Option	Description
	<p>i Note</p> <p>Installation of third-party patches or updates is not supported for bundled software. For details, see Patching third-party solutions bundled with the BI platform [page 98].</p>
<i>Configure an existing database</i>	<p>If you have an existing database server, the installation program prompts for information on the database type and connection credentials for both the CMS system and auditing databases.</p> <p>i Note</p> <p>An existing database must have user accounts with the appropriate privileges ready, and the appropriate drivers must be installed and verified as working. The installation program attempts to connect to, and initialize, the database as a part of the installation process.</p>

It is recommended that you evaluate your requirements against information from your database server vendor to determine which supported database would best suit your organization's needs.

2. If you selected *Configure an existing database*:
 - a. On the *Select Existing CMS Database Type* page, select the database type of the existing CMS database.
 - b. On the *Select Existing Auditing Database Type* page, select the database type of the existing auditing database.

If you do not want to use the auditing feature, select *No auditing database*.
3. On the *Select Java Web Application Server* page, select an option for hosting the BI platform web applications.

Option	Description
<i>Install the default Tomcat Java Web Application Server and automatically deploy web applications</i>	<p>If you do not have a web application server in place for use with the BI platform, the installation program can install and configure a Tomcat web application server for you. The BI platform web applications are automatically deployed to Tomcat.</p> <p>i Note</p> <p>Installation of third party patches or updates is not supported for bundled software. For details, see Patching third-party solutions bundled with the BI platform [page 98].</p>
<i>Manually deploy web applications to a supported Java Web Application Server after the installation</i>	<p>If you have an existing, supported Java web application server, select this option and then deploy web applications to it later (after installation) using the WDeploy tool. For more information, see the <i>SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide</i>.</p> <p>i Note</p> <p>The BI platform does not support the automatic deployment of web applications to any web application server other than the bundled Tomcat web application server during the installation program.</p>

Option	Description
Install the Web Application Container Server and automatically deploy web applications	If you do not want to use a Java application server to host your BI platform web applications, then select this option to host them on Web Application Container Server (WACS).

It is recommended that you evaluate your requirements against information from your web application server vendor to determine which supported web application server would best suit your organization's needs.

i Note

When configuring a production environment, it is recommended that the web application server is hosted on a separate system from the BI platform servers. Running the BI platform servers and a web application server on the same host in a production environment may decrease performance.

- On the [Select Version Management](#) page, decide whether to install and configure Subversion version control system.

Option	Description
Configure and install Subversion	Installs and configures Subversion version control system.
Do not configure a version control system at this time	If you have an existing, supported version control system, you must manually configure it with the Central Management Console (CMC) after the installation is complete. For more information, see the "Version management" and "Promotion management" sections of the <i>Business Intelligence Platform Administrator Guide</i> .

The BI platform can maintain different versions of BI resources that exist in the CMS repository in a version control system, making it easier to revert to a previous configuration when needed using the CMC.

- On the [Configure Server Intelligence Agent \(SIA\)](#) page, review the default name and port number for the SIA node.

Option	Description
Node Name	<p>This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA.</p> <p>The name must consist of English characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation. Underscores ("_") are not allowed. The SIA name cannot start with a number.</p>
SIA Port	<p>The port is used for the SIA to listen for incoming connections from the CMS. The SIA must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately.</p> <p>Port 6410 is a standard TCP/IP port number reserved for use with a BI platform SIA.</p>

- On the [Configure Central Management Server \(CMS\)](#) page, review the default value for the CMS port number.

This is the port on which the CMS listens for incoming connections from the web application server, web server (if applicable), other CMS nodes (if applicable) and servers. The CMS must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately.

Port 6400 is a standard TCP/IP port number reserved for use with the BI platform CMS.

7. On the [Configure CMS Account](#) page, enter and confirm the CMS Administrator account password and the CMS cluster key.

The CMS Administrator is a super-user account in the BI platform authentication system, used only to administer your server configuration. It is not part of any operating system or single sign-on authentication system.

Communication between some CMS components is encrypted to provide a higher level of security when using clusters.

i Note

The administrator password entered during full install must always contain at least two of the following character classes: Upper case letters and lower case letters. Special characters are allowed in the CMS administrator password with effect from 4.2 SP4. Additional special characters are added to the existing list of special characters allowed in 4.2 SP4 with effect from 4.2 SP6.

8. Configure the CMS system database.
 - a. If you selected [Configure and install a Sybase SQL Anywhere database](#), enter the account and port information on the [Configure Sybase SQL Anywhere](#) page.

Enter the port number for Sybase SQL Anywhere to listen for incoming database queries. The database must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately. Also enter the administrator account password.
 - b. If you selected [Configure an existing database](#), enter the connection information for your existing database to use for the CMS on the [Configure CMS Repository Database - <database type>](#) page.
 - c. If you selected [Configure an existing database](#), and you plan to use auditing, enter the connection information for your existing database to use for the ADS on the [Configure Auditing Database](#) page.
9. If you selected [Install the default Tomcat Java Web Application Server and automatically deploy web applications](#), review the default port values on the [Configure Tomcat](#) page.

Option	Description
Connection port	The port on which the web application server listens for incoming connections from web clients.
Shutdown port	The port that allows the web application to be shut down remotely.
Redirect port	The port that enables redirects to secure web connections.

Tomcat must be able to receive incoming connections on the given port numbers, so ensure that your firewall is configured appropriately.

10. On the [Configure HTTP Listening Port](#) page, review the HTTP Listening Port number on the page for WACS to listen for incoming connections from web clients.

WACS must be able to receive incoming connections on the given port numbers, so ensure that your firewall is configured appropriately.
11. If you selected [Configure and install Subversion](#) review the port number and enter a Subversion password (user account is "LCM") on the [Configure Subversion](#) page.
12. On the [Select Connectivity for Solution Management Diagnostics \(SMD\) Agent](#) page, decide whether to integrate the BI platform with an existing SMD Agent.

Option	Description
Configure connectivity to SMD Agent	<p>The BI platform can integrate with your organization's deployment of SAP Solution Manager Diagnostics (SMD).</p> <p>If you select this option, enter the SMD Agent hostname and port number on the following Configure Connectivity to SMD Agent page.</p>
Do not configure connectivity to SMD Agent	You can configure SMD Agent in the CMC Placeholders screen later after the installation program is complete.

i Note

To use SAP Solution Manager Diagnostics (SMD), SAP Host Agent and SMD Agent must be installed:

- For information on installing the SAP Host Agent before installing the BI platform, see [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#).
- For information on installing the SAP Host Agent after installing the BI platform, see [To configure System Landscape Directory \(SLD\) Data Supplier \(DS\) post installation \[page 93\]](#).
- For information on installing SMD Agent before installing the BI platform, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).
- For information on installing SMD Agent after installing the BI platform, see [To configure SMD Agent post installation \[page 93\]](#).

- On the [Select Connectivity to Introscope Enterprise Manager](#) page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

i Note

To use CA Wily Introscope Enterprise Manager, SMD Agent must be installed.

Option	Description
Configure connectivity to Introscope Enterprise Manager	<p>The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager.</p> <p>If you select this option, enter the hostname and port number for the Introscope Enterprise Manager server on the following Configure Connectivity to Introscope Enterprise Manager page.</p>
Do not configure connectivity to Introscope Enterprise Manager	You can configure Introscope Enterprise Manager in the CMC Placeholders screen later after the installation program is complete.

The [Start Installation](#) page appears. Start the installation.

Proceed to [When installation is complete \[page 69\]](#).

5.4.1.2 Custom / Expand installation

The following steps are performed for [Custom / Expand](#) installations of the BI platform.

1. On the [Select Features](#) page, select the features to install from the list.

Features are grouped under the following headings:

- [Web Tier](#)

The web tier components include web applications such as BI launch pad and the Central Management Console (CMC) that allow end users and administrators to interact with BI content and the BI platform installation.

If you do not have a web application server in place for use with the BI platform, the installation program can install and configure a Tomcat web application server for you. It is recommended that you evaluate your requirements against information from your web application server vendor to determine which supported web application server would best suit your organization's needs.

If you already have a supported web application server installed, you can deselect the option to install Tomcat, and only install the Java web applications

- [Servers](#)

Server features include the Business Intelligence platform servers (such as processing and scheduling servers), major system components (such as the CMS, Event Server, bundled database, and a version control system), and servers that integrate the BI platform into your organization's existing network infrastructure, such as SAP BW or other Enterprise Resource Planning (ERP) systems.

i Note

If you plan to use SAP BW authentication, ensure that the [BW Publisher Server](#) feature is selected in the [Integration Servers](#) feature list.

i Note

The sample universes `efashion.unv` and `efashion.unx` are available in `/Universes/Samples/` folder of the CMS repository after installation of Web Intelligence servers. This means you can login to CMC and follow the folder structure `/Universes/Samples/` to access the sample universe.

- [Administrator Tools](#)

The Administrator Tools features help administrators maintain an installation. For example, the Upgrade management tool allows you migrate BI content during an upgrade between different versions of the BI platform.

- [Developer Tools](#)

If you plan to develop your own applications with a the BI platform .NET Software Development Kit (SDK), install the [Developer Tools](#) feature.

i Note

Select [SPL Warehouse](#) to install the SQL Anywhere database, the sample dataset and the `SPL_Warehouse.unx` sample universe. See [Running SPL_Warehouse.unx sample universe \[page 101\]](#) to perform the post-installation steps that are required to get the database running.

- [Database Access](#)

To access, analyze, and report on the data in your organization's existing databases, select the appropriate [Database Access](#) features. If your organization does not use a particular database, you can deselect it.

Note

- Integration for PeopleSoft Enterprise, JD Edwards EnterpriseOne, Siebel, or Oracle EBS Enterprise Resource Planning (ERP) systems is not selected by default. If you plan to use an ERP single sign-on authentication, or other ERP features, ensure that the appropriate ERP feature is selected in the [Data Access](#) feature list.
- If you plan to use integration for SAP, SAP BW, or SAP R3 systems, ensure that the [SAPBW](#) and [SAP](#) features are selected in the [Data Access](#) feature list.

- [Samples](#)

The samples features installs sample reports, templates, and reporting databases. If you do not need samples, you can deselect it.

- On the [Select New or Expand Installation](#) page, select the type of installation to perform.

Option	Description
Start a new SAP BusinessObjects BI platform deployment	Select if you are installing a stand-alone BI platform server, or the first server in a cluster.
Expand an existing SAP BusinessObjects BI platform deployment	Select if you already have a CMS and want to create a new server node as part of a cluster.

If you selected [Start a new SAP BusinessObjects BI platform deployment](#) on the last page, proceed to *Custom (New) installation*.

If you selected [Expand an existing SAP BusinessObjects BI platform deployment](#) on the last page, proceed to *Custom (Expand) installation*.

5.4.1.2.1 Custom (New) installation

If you chose the [Start a new SAP BusinessObjects BI platform deployment](#) option for a *Custom / Expand* installation:

- If you deselected the [Sybase SQL Anywhere Database](#) feature in the [Select Feature](#) page:
 - On the [Select Existing CMS Database Type](#) page, select the database type to use for the CMS database.
 - On the [Select Existing Auditing Database Type](#) page, select the database type to use for the auditing database.

If you do not want to use the auditing feature, select [No auditing database](#).
- On the [Configure Server Intelligence Agent \(SIA\)](#) page, review the default name and port number for the SIA node.

Option	Description
Node Name	<p>This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA.</p> <p>The name must consist of English alphanumeric characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation. Underscores (" _ ") are not allowed. The SIA name cannot start with a number.</p>

Option	Description
SIA Port	The port is used for the SIA to listen for incoming connections from the CMS. The SIA must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately. Port 6410 is a standard TCP/IP port number reserved for use with a BI platform SIA.

3. On the [Configure Central Management Server \(CMS\)](#) page, review the default value for the CMS port number.

This is the port on which the CMS listens for incoming connections from the web application server, web server (if applicable), other CMS nodes (if applicable) and servers. The CMS must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately.

Port 6400 is a standard TCP/IP port number reserved for use with the BI platform CMS.

4. On the [Configure CMS Account](#) page, enter and confirm the CMS Administrator account password and the CMS cluster key.

The CMS Administrator is a super-user account in the BI platform authentication system, used only to administer your SAP BusinessObjects server configuration. It is not part of any operating system or single sign-on authentication system.

Communication between some CMS components is encrypted to provide a higher level of security when using clusters.

i Note

The administrator password entered during full install must always contain at least two of the following character classes: Upper case letters and lower case letters. Special characters are allowed in the CMS administrator password with effect from 4.2 SP4. Additional special characters are added to the existing list of special characters allowed in 4.2 SP4 with effect from 4.2 SP6.

5. Configure the CMS system database.
 - a. If you selected the [Sybase SQL Anywhere Database](#) feature in the [Select Feature](#) page, enter the account and port information on the [Configure Sybase SQL Anywhere](#) page.

Enter the port number for Sybase SQL Anywhere to listen for incoming database queries. The database must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately. Also enter and confirm the database server name and administrator account password.
 - b. If you deselected the [Sybase SQL Anywhere Database](#) feature in the [Select Feature](#) page, enter the connection information for your existing database to use for the CMS on the [Configure CMS Repository Database - <database type>](#) page.
 - c. If you deselected the [Sybase SQL Anywhere Database](#) feature in the [Select Feature](#) page, and you plan to use auditing, enter the connection information for your existing database to use for the ADS on the [Configure Auditing Database](#) page.
6. On the [Select Automatic Server Start](#) page, decide whether to start the servers as soon as the installation is complete.

If you select [No](#), the servers must be started manually with the Central Configuration Manager (CCM) after the installation is complete.
7. If you selected the [Tomcat](#) feature in the [Select Feature](#) page, review the default port values on the [Configure Tomcat](#) page.

Option	Description
Connection port	The port on which the web application server listens for incoming connections from web clients.
Shutdown port	The port that allows the web application to be shut down remotely.
Redirect port	The port that enables redirects to secure web connections.

Tomcat must be able to receive incoming connections on the given port numbers, so ensure that your firewall is configured appropriately.

- If you selected the [Web Application Container Server](#) or [RESTful Web Service](#) features in the [Select Feature](#) page, review the [HTTP Listening Port](#) number on the [Configure HTTP Listening Port](#) page.
WACS must be able to receive incoming connections on the given port numbers, so ensure that your firewall is configured appropriately.
- If you selected the [Subversion](#) feature in the [Select Feature](#) page, review the port number and enter a Subversion password (user account is "LCM") on the [Configure Subversion](#) page.
- On the [Select Connectivity for Solution Management Diagnostics \(SMD\) Agent](#) page, decide whether to integrate the BI platform with an existing SMD Agent.

Option	Description
Configure connectivity to SMD Agent	The BI platform can integrate with your organization's deployment of SAP Solution Manager Diagnostics (SMD). If you select this option, enter the SMD Agent hostname and port number on the following Configure Connectivity to SMD Agent page.
Do not configure connectivity to SMD Agent	You can configure SMD Agent in the CMC Placeholders screen later after the installation program is complete.

i Note

To use SAP Solution Manager Diagnostics (SMD), SAP Host Agent and SMD Agent must be installed:

- For information on installing the SAP Host Agent before installing the BI platform, see [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#).
- For information on installing the SAP Host Agent after installing the BI platform, see [To configure System Landscape Directory \(SLD\) Data Supplier \(DS\) post installation \[page 93\]](#).
- For information on installing SMD Agent before installing the BI platform, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).
- For information on installing SMD Agent after installing the BI platform, see [To configure SMD Agent post installation \[page 93\]](#).

- On the [Select Connectivity to Introscope Enterprise Manager](#) page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

i Note

To use CA Wily Introscope Enterprise Manager, SMD Agent must be installed.

Option	Description
Configure connectivity to Introscope Enterprise Manager	<p>The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager.</p> <p>If you select this option, enter the hostname and port number for the Introscope Enterprise Manager server on the following Configure Connectivity to Introscope Enterprise Manager page.</p>
Do not configure connectivity to Introscope Enterprise Manager	You can configure Introscope Enterprise Manager in the CMC Placeholders screen later after the installation program is complete.

The [Start Installation](#) page appears. Start the installation.

Proceed to [When installation is complete \[page 69\]](#).

5.4.1.2.2 Custom (Expand) installation

If you chose the [Expand an existing SAP BusinessObjects BI platform deployment](#) option for a *Custom / Expand* installation:

1. On the [Select Existing CMS Database Type](#) page, select the database type of the existing, remote CMS database.
2. On the [Configure Server Intelligence Agent \(SIA\)](#) page, review the default name and port number for the new SIA node.

Option	Description
Node Name	<p>This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA.</p> <p>The name must consist of English alphanumeric characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation. Underscores (" _ ") are not allowed. The SIA name cannot start with a number.</p>
SIA Port	<p>The port is used for the SIA to listen for incoming connections from the CMS. The SIA must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately.</p> <p>Port 6410 is a standard TCP/IP port number reserved for use with a BI platform SIA.</p>

3. On the [Existing CMS Deployment Information](#) page, enter connection information for the existing, remote CMS, including the Administrator password.
4. On the [Configure CMS Account](#) page, enter and confirm the CMS cluster key for the new CMS.

The CMS Administrator is a super-user account in the BI platform authentication system, used only to administer your SAP BusinessObjects server configuration. It is not part of any operating system or single sign-on authentication system.

Communication between some CMS components is encrypted to provide a higher level of security when using clusters.
5. On the [Configure Central Management Server \(CMS\)](#) page, review the default value for the CMS port number.

This is the port on which the CMS listens for incoming connections from the web application server, web server (if applicable), other CMS nodes (if applicable) and servers. The CMS must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately.

Port 6400 is a standard TCP/IP port number reserved for use with the BI platform CMS.

6. On the [Configure CMS Repository Database - <database type>](#) page, enter connection details for the CMS system database.

If you are using the Sybase SQL Anywhere database bundled with the BI platform on the existing CMS, to which you are attempting to connect, enter the system ODBC DSN connection for the existing CMS system database.

If you are using a different previously installed database, enter connection credentials for the CMS to connect to the database.

7. On the [Select Automatic Server Start](#) page, decide whether to start the servers as soon as the installation is complete.

If you select [No](#), the servers must be started manually with the Central Configuration Manager (CCM) after the installation is complete.

8. If you selected the [Tomcat 7.0](#) feature, review the default port values on the [Configure Tomcat](#) page.

Option	Description
Connection port	The port on which the web application server listens for incoming connections from web clients.
Shutdown port	The port that allows the web application to be shut down remotely.
Redirect port	The port that enables redirects to secure web connections.

9. On the [Configure HTTP Listening Port](#) page, review the HTTP Listening Port number on the page for WACS to listen for incoming connections from web clients.

WACS must be able to receive incoming connections on the given port numbers, so ensure that your firewall is configured appropriately.

10. If you selected the [Subversion](#) feature, review the port number and enter a Subversion password (user account is "LCM") on the [Configure Subversion](#) page.

11. On the [Select Connectivity for Solution Management Diagnostics \(SMD\) Agent](#) page, decide whether to integrate the BI platform with an existing SMD Agent.

Option	Description
Configure connectivity to SMD Agent	<p>The BI platform can integrate with your organization's deployment of SAP Solution Manager Diagnostics (SMD).</p> <p>If you select this option, enter the SMD Agent hostname and port number on the following Configure Connectivity to SMD Agent page.</p>
Do not configure connectivity to SMD Agent	You can configure SMD Agent in the CMC Placeholders screen later after the installation program is complete.

Note

To use SAP Solution Manager Diagnostics (SMD), SAP Host Agent and SMD Agent must be installed:

- For information on installing the SAP Host Agent before installing the BI platform, see [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#).

- For information on installing the SAP Host Agent after installing the BI platform, see [To configure System Landscape Directory \(SLD\) Data Supplier \(DS\) post installation \[page 93\]](#).
- For information on installing SMD Agent before installing the BI platform, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).
- For information on installing SMD Agent after installing the BI platform, see [To configure SMD Agent post installation \[page 93\]](#).

12. On the [Select Connectivity to Introscope Enterprise Manager](#) page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

i Note

To use CA Wily Introscope Enterprise Manager, SMD Agent must be installed.

Option	Description
Configure connectivity to Introscope Enterprise Manager	<p>The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager.</p> <p>If you select this option, enter the hostname and port number for the Introscope Enterprise Manager server on the following Configure Connectivity to Introscope Enterprise Manager page.</p>
Do not configure connectivity to Introscope Enterprise Manager	<p>You can configure Introscope Enterprise Manager in the CMC Placeholders screen later after the installation program is complete.</p>

The [Start Installation](#) page appears. Start the installation.

i Note

When performing an Expand installation, the existing CMS may be restarted automatically as a part of the installation process.

Proceed to [When installation is complete \[page 69\]](#).

5.4.1.3 Web Tier installation

The web tier contains web applications such as BI launch pad and the Central Management Console (CMC). Use the [Web Tier](#) installation option to install BI platform web applications onto your web application server.

i Note

- During the web tier installation, you are prompted to logon to an existing Central Management Server (CMS) as the BI platform Administrator. You must have a CMS running remotely or on the same machine to perform the web tier installation.
- If you plan to use a web tier with third-party authentication, or integration for Enterprise Resource Planning (ERP) systems such as Siebel Enterprise, JD Edwards EnterpriseOne, or Oracle E-Business Suite, you must perform a [Custom / Expand](#) installation and select the components you need.

For example, to perform a web tier installation with ERP support, select the following components from the *Custom / Expand* feature list:

- ► [Instances](#) ► [WebTier](#) ► [Java Web Applications](#) ►
- ► [Instances](#) ► [WebTier](#) ► [Tomcat 8.0](#) ► (if you do not already have a web application server)
- ► [Instances](#) ► [Database Access](#) ► (select the name of the ERP system)

If you do not have a web application server to use with the BI platform, the installation program can install and configure a Tomcat web application server for you. It is recommended that you evaluate your requirements against information from your web application server vendor to determine which supported web application server would best suit your organization's needs.

If you already have a supported web application server installed, you can deselect the option to install Tomcat, and only install the Java web applications. This option will not deploy the web applications to your web application server. To deploy web applications to a web application server after a web tier installation, use the WDeploy tool. For more information on using the WDeploy tool, see the *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide*.

The following steps are performed for *Web Tier* installations of the BI platform.

1. On the [Select Features](#) page, select the features to install under ► [Instances](#) ► [WebTier](#) ►.

Option	Description
Java Web Applications	Installs the BI platform web applications to the machine.
Tomcat 8.0	Installs and configures the bundled Apache Tomcat web application server.

2. If you selected the [Tomcat 8.0](#) feature, review the default port values on the [Configure Tomcat](#) page.

Option	Description
Connection port	The port on which the web application server listens for incoming connections from web clients.
Shutdown port	The port that allows the web application to be shut down remotely.
Redirect port	The port that enables redirects to secure web connections.

3. On the [Existing CMS Deployment Information](#) page, logon to an existing CMS.
4. On the [Select Connectivity to Introscope Enterprise Manager](#) page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

i Note

To use CA Wily Introscope Enterprise Manager, SMD Agent must be installed.

- For information on installing SMD Agent before installing the BI platform, see [Support for SAP Solution Manager Diagnostics \(SMD\) \[page 25\]](#).
- For information on installing SMD Agent after installing the BI platform, see [To configure SMD Agent post installation \[page 93\]](#).

Option	Description
Configure connectivity to Introscope Enterprise Manager	The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager.

Option	Description
	If you select this option, enter the hostname and port number for the Introscope Enterprise Manager server on the following Configure Connectivity to Introscope Enterprise Manager page.
Do not configure connectivity to Introscope Enterprise Manager	You can configure Introscope Enterprise Manager in the CMC Placeholders screen later after the installation program is complete.

The [Start Installation](#) page appears. Start the installation.

Proceed to [When installation is complete](#) [page 69].

5.4.2 When installation is complete

When the installation is complete, review the information in the [Post Installation Steps](#) screen. If you are not using the bundled Tomcat web application server, you must deploy web applications with the WDeploy web application deployment tool.

i Note

If a file is locked during the installation, you may be prompted to restart the server after the installation. You can choose to reboot immediately, or later. However, if you choose to suppress the reboot, the system may be in an unsupported state until the system is rebooted.

5.5 To run a silent installation

Every option in the installation wizard can be read from a response file invoked at the command-line. This type of installation is called a silent install.

i Note

You cannot use a silent installation to modify or remove the BI platform.

A response file is a text file containing installation option parameters in key-value format. When using a response file to give installation options, the installation program is run from the command-line with the `-r <RESPONSE_FILE>` parameter, where `<RESPONSE_FILE>` is the name of the response file.

The response file contains multiple installation options, with one installation option per line. In the following example, the response file is given as a parameter:

Execute the command `./setup.sh [...] -InstallDir <InstallDir_Path> -r $HOME/response.ini [...]` with root user privileges to create a response file.

For example, the installation option `cmsport=6401` can be given on a line in the response file to set the CMS port number to 6401, instead of the default value of 6400.

In the following example of giving the `cmsport` parameter in a response file, ellipses (`[. . .]`) are shown to indicate where other installation options would normally be present:

```
[ . . . ]  
cmsport=6401  
[ . . . ]
```

For a complete list of installation options, see [Installation option parameters \[page 72\]](#). For an example of a response file, see [Response file example \[page 79\]](#).

5.5.1 Command-line switch parameters

The following table lists the switch parameters that can be given to the installation program on the command-line to perform a silent installation.

Installation program command-line switch parameters

Switch parameter	Description	Example
<code>-w <FILENAME></code>	Writes a response file to <code><FILENAME></code> , containing the options selected from the installation wizard.	<code>./setup.sh -InstallDir <InstallDir_Path> -w "\$HOME/response.ini"</code>
<code>-r <FILENAME></code>	Reads installation options from a response file named <code><FILENAME></code> .	<code>./setup.sh -InstallDir <InstallDir_Path> -r "\$HOME/response.ini"</code>

5.5.1.1 To use a response file

A response file installation is started on the command-line, but installation options are read from a ASCII text file with the options stored in key-value format. This is useful when setting up a cluster, or for creating development or test environments with standardized options.

When an option is given both on the command-line and in a response file, the command-line options take precedence over the response file options. This allows an administrator to override an option in a response file when required. This provides three levels precedence for installation options:

1. Installation options given on the command-line take highest precedence, and will always override response file and default values.
2. Installation options given in a response file are used when not given on the command-line, and override default values.
3. Installation option default values are used when not given on the command-line or in a response file.

For example, the following command reads installation options from the response file `$HOME/response.ini`:

```
./setup.sh -InstallDir <InstallDir_Path> -r $HOME/response.ini
```

If an unexpected condition is encountered, an error message is written to the installation log file and the installation program exits. Installation activity, warnings, and errors are written to the installation log file in the folder:

```
<BIP_INSTALL_DIR>/InstallData/logs/<DATEandTIME>/setupengine.log
```

If the `<BIP_INSTALL_DIR>` folder has not been created by the time the installation program exits, look for `setupengine.log` in the temporary folder specified by the system `<TEMP>` environment variable.

5.5.1.1.1 To write a response file

To create a response file, run the installation program with the `-InstallDir <InstallDir_Path> -w <RESPONSE_FILE>` parameter and select the desired installation options with the installation wizard. When the wizard completes, the installation program exits and the response file is created. The response file can then be used for future installations.

For example, the following command creates the response file `$HOME/response.ini`:

```
./setup.sh -InstallDir <InstallDir_Path> -w $HOME/response.ini
```

Response file for various clients

Client	Response File
SAP Crystal Reports	<pre>./setup.sh -InstallDir <InstallDir_Path> -w \$HOME/ response.ini</pre>
SAP Crystal Reports for Enterprise	<pre>./setup.sh -InstallDir <InstallDir_Path> -w \$HOME/ response.ini</pre>
SAP Businessobjects Explorer	<pre>./setup.sh -InstallDir <InstallDir_Path> -w \$HOME/ response.ini</pre>
SAP Lumira	<pre>./SAPLumiraSetup.sh -w \$HOME/ response.ini</pre>
SAP BusinessObjects Web Intelligence Rich client	For Scripted : <pre>./setup.sh -InstallDir <InstallDir_Path> -w \$HOME/ response.ini</pre>

Once created, the response file can be updated with a text editor.

i Note

When creating a response file with the GUI installation program, the license key and all passwords entered via the GUI are not written to the response file in plain text format. You must replace the starred entries (*****) with your passwords before performing a silent installation.

5.5.1.1.2 To read a response file

To use a response file, run the installation program with the `-InstallDir <InstallDir_Path> -r <RESPONSE_FILE>` parameter. The installation program reads all installation options from the response file, and no further input is required.

For example, the following command reads installation options from the response file `$HOME/response.ini`:

```
./setup.sh -InstallDir <InstallDir_Path> -r $HOME/response.ini
```

The response file for SAP BusinessObjects Explorer add-on is here `./setup.sh -InstallDir <InstallDir_Path> -r $HOME/response.ini`.

5.5.2 Installation option parameters

The following table lists the parameters that can be used to select installation options in response files.

Installation option parameters

Parameter	Description
<code>chooseintroscopeintegration=<VALUE></code>	Determines whether Introscope support will be enabled or not. To enable Introscope integration, set <code><VALUE></code> to <code>integrate</code> . To disable Introscope integration, set <code><VALUE></code> to <code>nointegrate</code> .
<code>choosesmdintegration=<VALUE></code>	Determines whether SAP Solution Manager Diagnostics (SMD) Agent support will be enabled or not. To enable SMD integration, set <code><VALUE></code> to <code>integrate</code> . To disable SMD integration, set <code><VALUE></code> to <code>nointegrate</code> .
<code>clusterkey=<KEY></code>	Cryptographic key used to encrypt secure CMS cluster communications. Substitute <code><KEY></code> with the key string.
<code>cmspassword=<PASSWORD></code>	Password to use for the CMS Administrator account. Substitute <code><PASSWORD></code> with the password.
<code>cmsport=<PORT></code>	Network TCP listening port number used by the CMS for incoming connections. Substitute <code><PORT></code> with the port number. The default value is 6400.
<code>enableservers=<SWITCH></code>	Determines whether or not the CMS servers will be started automatically after the installation is complete. To enable servers automatically after the installation, set <code><SWITCH></code> to 1. To not enable the servers, so that they must be started manually at a later time, set <code><SWITCH></code> to 0.

Parameter	Description
<code>installdir=<PATH></code>	Destination folder into which the setup program will install. <div> <p>i Note</p> <p>The use of Unicode characters in the destination folder is not supported.</p> <ul style="list-style-type: none"> The use of Unicode characters in the destination folder is not supported. Ensure that the destination folder is not the same folder in which the installation program has been extracted (do not install to the current working directory when running the installation program from the current working directory). </div>
<code>installtype=<VALUE></code>	Determines whether or not the installation program should select installable components based upon the default settings, custom settings (allows you to select components), or settings used for installing web tier components (when installing to a web application server). To install the default components, set <code><VALUE></code> to <code>default</code> . To install a custom selection of components, set <code><VALUE></code> to <code>custom</code> . To install a web tier components, set <code><VALUE></code> to <code>webtier</code> .
<code>introscope_ent_host=<HOSTNAME></code>	Hostname of the Introscope server. Substitute <code><HOSTNAME></code> with the Introscope server hostname.
<code>introscope_ent_port=<PORT></code>	Network TCP listening port number used by the Introscope server. Substitute <code><PORT></code> with the Introscope server port number.
<code>lcmname=LCM_Repository</code>	Hostname of the SAP Lifecycle management server. <div> <p>⚠ Caution</p> <p>Do not change this value.</p> </div>
<code>lcmpassword=<PASSWORD></code>	User password to access SAP Lifecycle management server. Substitute <code><PASSWORD></code> with the password.
<code>lcmport=<PORT></code>	Network TCP listening port number used by the SAP Lifecycle management server. Substitute <code><PORT></code> with the port number.
<code>lcmusername=LCM</code>	Username to access SAP Lifecycle management server. <div> <p>⚠ Caution</p> <p>Do not change this value.</p> </div>
<code>neworexistinglcm=<VALUE></code>	Determines whether or not the installation is a new LCM on a fresh server, or an expand installation used to create a CMS cluster. To perform a new installation, set <code><VALUE></code> to <code>new</code> . To perform an expand installation, set <code><VALUE></code> to <code>expand</code> .
<code>productkey=<KEY></code>	Product license key issued when you purchased the software. Substitute <code><KEY></code> with the product key in the format <code>XXXXX-XXXXXX-XXXXXX-XXXX</code> .

Parameter	Description
registeredcompany=<NAME>	Name of the company to whom the software is registered. Substitute <NAME> with the name.
registereduser=<NAME>	Name of the user to whom the software is registered. Substitute <NAME> with the name.
selectedlanguagepacks=<CODE>	<p>Installs language support for users and administrators to interact with the BI platform in a supported language. If more than one language pack is to be installed, use a semi-colon delimited list without spaces, within quotes, to separate each code. In the following example, language support for English, Japanese, Simplified Chinese, and Thai will be installed:</p> <pre>SelectedLanguagePacks="en;j a ;zh_cn ;th"</pre> <p>Substitute the following language codes where <CODE> is:</p> <ul style="list-style-type: none"> • Arabic: ar • Czech: cs • Danish: da • Dutch: nl • English: en • Finnish: fi • French: fr • German: de • Hebrew: iw • Hungarian: hu • Italian: it • Japanese: ja • Kazakh: kk • Korean: ko • Norwegian Bokmal: nb • Polish: pl • Portuguese: pt • Romanian: ro • Russian: ru • Simplified Chinese: zh_cn • Slovak: sk • Slovenian: sl • Spanish: es • Swedish: sv • Thai: th • Traditional Chinese: zh_tw • Turkish: tr • Ukrainian: uk
selectintegrateddatabase=<VALUE>	<p>Determines whether or not the bundled database will be installed. To install the bundled database, set <VALUE> to 1.</p> <p>The bundled database is Sybase SQL Anywhere.</p>

Parameter	Description
setupuilanguage=<CODE>	<p>Determines which language for the installation program to use during the installation. Substitute the language code where <CODE> is:</p> <ul style="list-style-type: none"> • Czech: cs • Danish: da • Dutch: nl • English: en • Finnish: fi • French: fr • German: de • Hungarian: hu • Italian: it • Japanese: ja • Korean: ko • Norwegian Bokmal: nb • Polish: pl • Portuguese: pt • Romanian: ro • Russian: ru • Simplified Chinese: zh_cn • Slovak: sk • Slovenian: sl • Spanish: es • Swedish: sv • Thai: th • Traditional Chinese: zh_tw • Turkish: tr
sianame=<NAME>	<p>Name of the Server Intelligence Agent (SIA) node created for this installation. Substitute <NAME> with the SIA name.</p> <p>The name must consist of English characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation. Underscores ("_") are not allowed. The SIA name cannot start with a number.</p>
siaport=<PORT>	<p>Network TCP listening port number used by the SIA. Substitute <PORT> with the port number.</p>
smdagent_host=<HOSTNAME>	<p>Hostname of the SMD Agent. Substitute <HOSTNAME> with the agent host-name.</p>
smdagent_port=<PORT>	<p>Network TCP listening port number used by the SMD Agent. Substitute <PORT> with the agent port number.</p>
sqlanywhereadminpassword=<PASSWORD>	<p>Admin password to assign to the Sybase SQL Anywhere dba administrative user account. Substitute <PASSWORD> with the password.</p>

Parameter	Description
<code>sqlanywhereport=<PORT></code>	Network TCP listening port number used by the Sybase SQL Anywhere database server bundled with the BI platform. Substitute <code><PORT></code> with the database server port number.
<code>tomcatconnectionport=<PORT></code>	Network TCP listening port number used by the Tomcat web application server for inbound connections. Substitute <code><PORT></code> with the port number.
<code>tomcatredirectport=<PORT></code>	Network TCP listening port number used by the Tomcat web application server for server request redirection. Substitute <code><PORT></code> with the port number.
<code>tomcatshutdownport=<PORT></code>	Network TCP listening port number used by the Tomcat web application server to trigger a server shutdown. Substitute <code><PORT></code> with the port number.
<code>webappservertype=<VALUE></code>	Sets the web application server to use for web application deployment. The default value is <code>tomcat</code> , <code>manual</code> , and <code>wacs</code> .

i Note

- If you do not have a web application server in place for use with the BI platform, then use [tomcat](#).
- If you have an existing, supported Java web application server, then use [manual](#).
- If you do not want to use a Java application server to host your BI platform web applications, then use [wacs](#).

<code>features=<CODE></code>	<p>List of components to install. Used in combination with the <code>installtype=custom</code> or <code>installtype=webtier</code> parameter. This parameter should not be modified manually. Features must be selected through the installation program user interface when creating a response file.</p> <p>For a complete list of feature codes, see Feature codes [page 76].</p>
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5.5.2.1 Feature codes

The following feature codes to select features for installation. Multiple features are separated with commas.

- `root`: install all features
 - `WebTier`: install all web tier components

i Note

If you plan to use a web tier with third-party authentication, or integration for Enterprise Resource Planning (ERP) systems such as SAP BW, Siebel Enterprise, JD Edwards EnterpriseOne, or Oracle E-Business Suite, you must perform a [Custom / Expand](#) installation and select the components you need.

For example, to perform a web tier installation with SAP BW and SAP authentication support, select the following components from the [Custom / Expand](#) feature list:

- ► [Instances](#) > [WebTier](#) > [Java Web Applications](#) ►
 - ► [Instances](#) > [WebTier](#) > [Tomcat 8.0](#) ► (if you do not already have a web application server)
 - ► [Instances](#) > [Database Access](#) > [SAPBW](#) ►
 - ► [Instances](#) > [Database Access](#) > [SAP](#) ►
- To perform a Web Tier installation with support for a different ERP system, select:
- ► [Instances](#) > [WebTier](#) > [Java Web Applications](#) ►
 - ► [Instances](#) > [WebTier](#) > [Tomcat 8.0](#) ► (if you do not already have a web application server)
 - ► [Instances](#) > [Database Access](#) ► (select the name of the ERP system)

- JavaWebApps1 Java Web Applications
- MobileServices
 - MobileServers
 - MobileAddon (CMS plugin for Mobile)
- IntegratedTomcat (install bundled Tomcat web application server)
- Servers: install all server components
 - PlatformServers: install all platform servers
 - CMS (Central Management Server)
 - FRS (File Repository Servers)
 - PlatformServers.IntegratedDB.SQLAnywhere (installs bundled Sybase SQL Anywhere database server)
 - PlatformServers.EventServer
 - PlatformServers.WebAppContainerService (WACS)
 - AdaptiveProcessingServer (platform processing)
 - AdaptiveJobServer (scheduling)
 - Platform.RestWebService
 - Platform.Action.Framework.backend (Insight to Action framework)
 - Subversion (Subversion version control system)
 - ConnectionServices: install connectivity components
 - ConnectionProcService
 - DataFedoratorServices: install all data federation components
 - DataFedoratorQueryService
 - AdvancedAnalysisServices: install all Analysis components
 - MultidimensionalAnalysisServices (MDAS)
 - BExWebApplicationsService
 - CrystalReportsServers: install all SAP Crystal Reports components
 - CrystalReportsProcServices (SAP Crystal Reports Processing)
 - CrystalReportSchedulingServices
 - CrystalReport2011ProcServices (SAP Crystal Reports 2016 Processing)
 - CrystalReport2011SchedulingServices (SAP Crystal Reports 2016 Scheduling)
 - WebIServers: install all Web Intelligence components
 - WebIProcServer (Web Intelligence Processing)
 - WebISchedulingServices (Web Intelligence Scheduling)

- XcelsiusServers (Dashboards)
 - IntegrationServers: install all integration components
 - BWPublisherServer (SAP BW authentication and SAP BW Publisher support)
 - AdministratorTools: install all administrator tools
 - UpgradeManager (Upgrade management tool)
 - Automation.Framework
 - PromotionManagementWizard
 - MultitenancyManager
- DataAccess install all database access components
 - DataAccess.DataFederator
 - DataAccess.HPVertica
 - DataAccess.MySQL
 - DataAccess.GenericJDBC
 - DataAccess.GenericODBC
 - DataAccess.GenericODBC.DataDirect7
 - DataAccess.GenericODBC.DataDirect7.1
 - DataAccess.GenericOLEDB
 - DataAccess.OptionalDataDirectODBC7.1
 - DataAccess.MaxDB
 - DataAccess.SAPHANA
 - DataAccess.Salesforce (Salesforce.com)
 - DataAccess.Netezza
 - DataAccess.Microsoft_AnalyticalServices
 - DataAccess.MicrosoftExchange
 - DataAccess.MicrosoftOutlook
 - DataAccess.Microsoft_SQLServer
 - DataAccess.Microsoft_Access
 - DataAccess.Ingres
 - DataAccess.Greenplum
 - DataAccess.PostgreSQL
 - DataAccess.Progress
 - DataAccess.IBMDB2
 - DataAccess.Informix
 - DataAccess.Oracle
 - DataAccess.Sybase
 - DataAccess.Teradata
 - DataAccess.SAPBW
 - DataAccess.SAPBW64
 - DataAccess.SAPERP
 - DataAccess.XMLWebServices
 - DataAccess.OData
 - DataAccess.SAP (security and data access for SAP BW and R/3 systems)

- `DataAccess.PersonalFiles`
- `DataAccess.JavaBean`
- `DataAccess.OpenConnectivity`
- `DataAccess.HSQLDB`
- `DataAccess.Derby`
- `DataAccess.HadoopHive`
- `DataAccess.Essbase`
- `DataAccess.Peoplesoft` (PeopleSoft Enterprise)
- `DataAccess.JDEdwards` (JD Edwards EnterpriseOne)
- `DataAccess.Siebel` (Siebel Enterprise Server)
- `DataAccess.OracleEBS` (Oracle E-Business Suite)
- `DataAccess.Universe` (SAP BusinessObjects Universe)
- `DataAccess.MyCube` (OLAP Cube)
- `DataAccess.XML`
- `DataAccess.ADO.NET`
- `DataAccess.COMData`
- `DataAccess.DataSet` (Dataset Consumer)
- `DataAccess.SymantecACT`
- `DataAccess.BDE` (IDAPI Database DLL)
- `DataAccess.CDO` (Crystal Data Objects)
- `DataAccess.FieldDefinitions`
- `DataAccess.FileSystem`
- `DataAccess.NTEventLog`
- `DataAccess.WebActivityLog`
- `DataAccess.Btrieve` (Pervasive Database Driver)
- `DataAccess.dBase.DataDirect7.1`
- `DataAccess.UWSC` (Universal Web Services Connector (UWSC))
- `DataAccess.CMSDBDriver`
- **Samples:** install sample reports and data sources

5.5.2.2 Response file example

The following example response file contains options for installing BI platform.

→ Tip

An example response file called `response.ini` is also included with your installation package.

❖ Example

`response.ini`

```
# InstallDir requires a trailing slash
InstallDir=/opt/sap/sap_bobj/
ProductKey=XXXXXX-XXXXXX-XXXXXX-XXXX
```

```

SetupUILanguage=en
InstallType=default
TomcatConnectionPort=10001
TomcatRedirectPort=10002
TomcatShutdownPort=10003
CMSPort=10004
CMSPassword=Password1
ClusterKey=Password1
SIAName=sia
SIAPort=10006
SelectedLanguagePacks=en
RunMonitorTool=0
LCMName=localhost
LCMPort=10004
LCMUserName=Administrator
LCMPassword=Password1
NewOrExistingLCM=new
#Choose to Integrated Introscope: integrate or nointegrate
ChooseIntroscopeIntegration=nointegrate
### Choose to Integrate Solution Manager Diagnostics (SMD) Agent: integrate
or nointegrate
choosesmdintegration=nointegrate
# Change this to "0" if you want to use existing db
SelectIntegratedDatabase=1
SQLAnywhereAdminPassword=Password1
SQLAnywherePort=2638
# Choose your existing database types
UsingCMSDBType=sqlanywhere
UsingAuditDBType=sqlanywhere
# Enter appropriate values for the db type
ExistingCMSDBServer=www
ExistingCMSDBPort=111
ExistingCMSDBDatabase=xxx
ExistingCMSDBUser=yyy
ExistingCMSDBPassword=zzz
ExistingCMSDBReset=1
# Enter appropriate values for the db type
ExistingAuditingDBServer=aaa
ExistingAuditingDBPort=111
ExistingAuditingDBDatabase=bbb
ExistingAuditingDBUser=ccc
ExistingAuditingDBPassword=ddd
#Enter appropriate values for the Introscope
Introscope_ENT_HOST=localhost
Introscope_ENT_PORT=6001
Introscope_ENT_INSTRUMENTATION=10
#Enter appropriate values for the SMD Agent
SMDAgent_HOST=localhost
SMDAgent_PORT=6001
#WACS Port
WACSPort=6405
# The acceptable value of WebAppServerType: tomcat/wacs/manual/none
WebAppServerType=tomcat
#List the features installed by default
features=JavaWebApps1,tomcat80,WebTier,CMS,FRS,PlatformServers.IntegratedDB.SQL
Anywhere,PlatformServers.EventServer,AdaptiveProcessingServer,AdaptiveJobServ
er,Platform.RestWebService,Platform.Action.Framework.backend,Subversion,Connec
tionProcService,ConnectionServices,DataFedoratorQueryService,DataFedoratorServ
ices,MultidimensionalAnalysisServices,BExWebApplicationsService,AdvancedAnalys
isServices,CrystalReportsProcServices,CrystalReportSchedulingServices,CrystalR
eport2011ProcServices,CrystalReport2011SchedulingServices,CrystalReportsServer
s,WebIProcServer,WebISchedulingServices,WebIServers,XcelsiusServers,MobileAddo
n,MobileServices,BWPublisherServer,IntegrationServers,MultitenancyManager,Upgr
adeManager,AdministratorTools,DataAccess.DataFedorator,DataAccess.HPNeoView,Da
taAccess.MySQL,DataAccess.GenericJDBC,DataAccess.GenericOLEDB,DataAccess.Optio
nalDataDirectODBC,DataAccess.Salesforce,DataAccess.Netezza,DataAccess.Microsof
t_AnalyticalServices,DataAccess.MicrosoftExchange,DataAccess.MicrosoftOutlook,
DataAccess.Microsoft_SQLServer,DataAccess.Microsoft_Access,DataAccess.Ingres,D

```



```
ataAccess.Greenplum, DataAccess.IBMDB2, DataAccess.Informix, DataAccess.ProgressO
penEdge, DataAccess.Oracle, DataAccess.Sybase, DataAccess.Teradata, DataAccess.SAP
BW, DataAccess.SAP, DataAccess.SAPHANA, DataAccess.PersonalFiles, DataAccess.JavaB
ean, DataAccess.OpenConnectivity, DataAccess.HSQLDB, DataAccess.Derby, DataAccess.
HadoopHive, DataAccess.Essbase, DataAccess.Universe, DataAccess.MyCube, DataAccess
.XML, DataAccess.ADO.NET, DataAccess.COMData, DataAccess.DataSet, DataAccess.Syman
tecACT, DataAccess.BDE, DataAccess.CDO, DataAccess.FieldDefinitions, DataAccess.Fi
leSystem, DataAccess.NTEventLog, DataAccess.WebActivityLog, DataAccess.Btrieve, Da
taAccess.dBase, DataAccess.UWSC, DataAccess.SAPERP, DataAccess.XMLWebServices, Dat
aAccess.OData, DataAccess.Excel, DataAccess.OracleEBS, Samples
```

5.6 To run a phase-wise installation

The installation is performed in two phases - Caching and Installation after caching.

- Caching is the process of copying the software to the installation directory
- Installation after caching is the actual installation process

5.6.1 To run a phase-wise installation for new installation (from command line) on the Unix platform

To do a phase-wise installation, perform the following steps:

1. Launch Terminal from the file menu.
2. Enter the location where the software is downloaded..
3. Enter the `setup.sh -InstallDir <InstallDir_Path> -cache <path><file name>`.
For example: `setup.sh -InstallDir <InstallDir_Path> -cache usr/sap/response.ini`

i Note

- If you do not use an existing response.ini file, BI Platform installer creates one for you during the installation.
- If you prefer to use an existing response.ini file, ensure to use a valid response.ini file and you need to enter valid credentials.
- An invalid response.ini file with invalid credentials shall cause the installation to fail without any notification.

4. In the Select setup language window, select the setup language.
The setup language setting is to display information during the installation in the language of your choice.
5. In the [Check Prerequisites](#) window, review the results and decide whether to continue with the installation, or abort and correct any unmet requirements.
The installation program checks for required components and conditions.

- If a dependency prerequisite condition is critical, the installation program will not allow the installation to proceed
 - If the missing or unsupported component is optional, you have the option to either continue with the installation or abort and correct the condition
6. In the *Installation wizard* window, review the instructions displayed.
 7. In the *License Agreement* window, review and accept the license agreement.
 8. In the *Configure Product Registration* window, enter the product key.
 9. In the *Select Language Packages* window, select additional languages to install from the list.
The language currently being used by the operating system is selected automatically. English language support cannot be deselected because the BI platform uses English if a problem is detected with an individual language.

i Note

In the *Select Languages Packages* window, you can select the check box to add or remove language packs.

10. In the *Select Install Type* window, select one of the type of install
 - Full Installation :If you selected a *Full* installation, proceed to the following *Full installation* section.
 - Custom/Expand Installation : If you selected a *Custom/Expand* installation, proceed to the following *Custom/Expand installation* section.
 - Web Tier: If you selected a *Web Tier* installation, proceed to the following *Web Tier installation* section.
11. *Start Installation* window appears, To start caching, choose *Next*.
12. *Caching completed successfully* screen appears.

i Note

During the caching process the system downtime is eliminated.

13. Navigate to the directory where response.ini file is located.
14. Enter the passwords and product key; and save the response.ini file.
For example: Enter the *CMS Cluster Key*, *CMS Administrator Password*, and *SQL Anywhere Password* information.

⚠ Caution

When creating a response file, the license key and all passwords entered by the user are not written to the response file in plain text format. You must replace the starred entries (*****) with their specific values during the phase-wise installation.

15. Navigate to command prompt.
16. Enter the location where the software is downloaded.
17. Enter the `setup.sh -InstallDir <InstallDir_Path> -resume_after_cache <path><file name>`
For example: `setup.sh -InstallDir <InstallDir_Path> -resume_after_cache usr/sap/response.ini`
18. In the *Resume installation* window, choose *OK*
19. In the *Post Installation Steps* window, follow the instructions and choose *Next*

The installation is completed successfully.

i Note

- You can experience the system downtime only during the installation after caching, hence the overall system downtime is reduced.
- After you start the installation, the installer repairs any errors that occurred during the caching and proceeds with the installation

5.6.2 To run a phase-wise installation for update installation (from command line) on the Unix platform

To do a phase-wise installation patch update, perform the following steps:

Ensure that LC_ALL has been set to a supported UTF-8 character set, such as `en_US.utf8`. For example:

```
export LANG=en_US.utf8
export LC_ALL=en_US.utf8
```

1. Open Terminal from the file menu.
2. Navigate to the software package location.
3. Execute the command `./setup.sh -InstallDir <InstallDir_Path> -cache <path>/<file name>`.
For example: `./setup.sh -InstallDir <InstallDir_Path> -cache /build/response.ini`

i Note

If you prefer to use an existing response.ini file with necessary inputs, installer directly starts Caching phase without prompting for any information.

4. In the *Check Prerequisites* window, review the results and decide whether to continue with the installation, or abort and correct any unmet requirements. If you decide to continue with the installation, press *Enter*. The installation program checks for required components and conditions.
 - If a dependency prerequisite condition is critical, the installation program does not allow the installation to proceed.
 - If missing or unsupported component is optional, you have the option to either continue with the installation or abort and correct the condition.
5. In the *Installation wizard* window, review the instructions displayed and press *Enter*.
6. In the *License Agreement* window, review and press *Enter* to accept the license agreement.
7. In the *New License Key Requirement* window, review the contents of the New License Key Requirement, and press *Enter to agree to delete the old license key and add the new license key after update installation*.

i Note

The installer will display the *New License Key Requirement* window, if you are updating Information platform services 4.2 SP1 or earlier versions to higher version of Information platform services 4.2, otherwise the installer shall not display the *New License Key Requirement* window.

i Note

When you update your system from Information platform services 4.2 SP1 or earlier versions to Information platform services higher versions, the existing licenses behave as invalid licenses. You need to request a new license key for Information platform services 4.2 update from SAP Service Market Place. Visit <https://support.sap.com/keys-systems-installations/keys.html> to request a new license key.

For more information on how to request a new license key, visit <http://scn.sap.com/docs/DOC-70095>.

After you update your system to Information platform services 4.2 update, you must log on to Central Management Console; delete the old license key and add the new license key. Alternatively, you can run the script to delete the license keys. For more information on how to delete the license key through the script, see the [2276413](#).

Until you add the new license key in Central Management Console, certain servers are in disabled state.

Once you add the new license key, navigate to Servers window; enable the servers that are in disabled state.

For more information, see the **Business Intelligence Platform Administrator Guide**.

8. In the *Existing CMS Deployment Information* window, enter the administrator *Password* and press *Enter*.
9. In the *Start Installation* window, press *Enter* to start caching.
Caching begins. When caching completes, *Caching completed successfully* window appears.

i Note

During the caching phase, there is no system downtime and you can continue working on the system.

10. In the *Caching completed successfully* window, press *Enter* to exit the phase-wise installation.

i Note

You can perform Installation after caching phase when maintenance time is available.

11. Navigate to the response.ini file directory location.
12. Enter the *CMS Administrator Password* and save the response.ini file.
13. Open to command prompt.
14. Navigate to the download location of the software.
15. Execute the command `./setup.sh -InstallDir <InstallDir_Path> -resume_after_cache <path>/<file name>`.
For example: `./setup.sh -InstallDir <InstallDir_Path> -resume_after_cache /build/response.ini`
16. To resume installation, press *Enter*.
After you resume the installation, the installer repairs any errors that occurred during the caching and proceeds with the installation
Installation begins. When the installation is complete, a completion screen shall appear which contain some post-installation instructions.
17. In the *Post Installation Steps* window, press *Enter*.

i Note

The installer does not display the [Post Installation Steps](#) window, if you are updating Information platform services 4.2 SP2 to higher version of Information platform services 4.2 and when your base setup has bundled default Tomcat Web Application Server.

18. Press [Enter](#) to exit the installation.

The installation of Information platform services 4.2 update is completed successfully.

i Note

You shall experience the system downtime only during the installation after caching, hence there is an overall reduction in the system downtime.

5.6.3 To Run a Phase-wise Installation for an Update Installation From User Interface

Follow the steps below to do a phase-wise installation patch update:

1. Open Terminal from the file menu.
2. Navigate to the software package location.
3. Execute the command `./setup.sh -InstallDir <InstallDir_Path> file.`
Use the `InstallDir=<DESTINATION_DIR>` parameter to set the destination folder from the command line. For example, to install the BI platform into the folder `/opt/sap`, use the command `./setup.sh InstallDir=/opt/sap`.
4. In the [Check Prerequisites](#) window, review the results and decide whether to continue with the installation, or abort and correct any unmet requirements. If you decide to continue with the installation, press [Enter](#). The installation program checks for required components and conditions.
 - If a dependency prerequisite condition is critical, the installation program does not allow the installation to proceed.
 - If missing or unsupported component is optional, you have the option to either continue with the installation or abort and correct the condition.
5. In the [Installation wizard](#) window, review the instructions displayed and press [Enter](#).
6. In the [License Agreement](#) window, review and press [Enter](#) to accept the license agreement.
7. In the [New License Key Requirement](#) window, review the contents of the New License Key Requirement, and press [Enter to agree to delete the old license key and add the new license key after update installation](#).

i Note

The BI installer will display the [New License Key Requirement](#) window, if you are updating SAP BusinessObjects Business Intelligence Platform 4.2 SP1 or earlier versions to higher version of SAP BusinessObjects Business Intelligence Platform 4.2, otherwise the BI installer shall not display the [New License Key Requirement](#) window.

i Note

When you update your system from Business Intelligence Platform 4.2 SP1 or earlier versions to Business Intelligence Platform higher versions, the existing licenses behave as invalid licenses. You need to request a new license key for Business Intelligence Platform 4.2 update from SAP Service Market Place. Visit <https://support.sap.com/keys-systems-installations/keys.html> to request a new license key.

For more information on how to request a new license key, visit <http://scn.sap.com/docs/DOC-70095>.

After you update your system to Business Intelligence Platform 4.2 update, you must log on to Central Management Console; delete the old license key and add the new license key. Alternatively, you can run the script to delete the license keys. For more information on how to delete the license key through the script, see the [2276413](#).

Until you add the new license key in Central Management Console, certain servers are in disabled state.

Once you add the new license key, navigate to Servers window; enable the servers that are in disabled state.

For more information, see the **Business Intelligence Platform Administrator Guide**.

8. In the *Existing CMS Deployment Information* window, enter the administrator *Password* and press *Enter*.
9. In the *Select Installation Mode* window, select the *Phase-wise Installation* option and press *Enter*.

i Note

BI Platform installer performs installation in two phases – Caching and Installation after caching.

During Caching, there is no system downtime and you can continue working on the system.

During Installation after caching, in system in which you install the software, there is system downtime.

10. To start the Caching phase, press *Enter*.
Once the caching process is completed successfully, *Caching completed successfully* window appears.
11. To exit the phase-wise installation, press *Enter*.

i Note

You can perform Installation after caching phase when maintenance time is available.

12. To resume the installation after caching phase, perform the steps 1 and 2.
13. To proceed further, Perform steps 3, 5, 6 and 7.
14. In the *Web Application Deployment* window, choose the suitable web application deployment option and press *Enter*.

i Note

If default Tomcat JAVA Web Application Server is present in the base installation, Business Intelligence Platform installer prompts the Web Application Deployment window. Else, the installer does not prompt Web Application Deployment window.

- Choosing the *Deploy web applications now* option deploys the web application contents on the bundled default Tomcat JAVA web application server.

- Choosing the *Deploy web applications later* option does not deploy the web application contents on the bundled default Tomcat JAVA web application server.
 - We recommend you to choose the *Deploy web applications later* option when you are installing BI platform and SAP BusinessObjects Explorer add-on product. When you are installing the Explorer add-on product in your system, choose the *Deploy web applications now* option. This way you can experience overall reduction in system downtime.
15. In the *Resume Installation* window, press *Enter* to resume the installation.
Update installation begins. When the installation is complete, Post installation Steps window appears.
16. In the *Post Installation Steps* window, follow the instructions and press *Enter*

i Note

BI installer does not display the *Post Installation Steps* window, if you are updating SAP BusinessObjects Business Intelligence Platform 4.2 SP2 to higher version of SAP BusinessObjects Business Intelligence Platform 4.2 and when your base setup has bundled default Tomcat Web Application Server.

17. To exit the installation, press *Enter*.

The installation of SAP BusinessObjects Business Intelligence Platform 4.2 update is completed successfully.

i Note

You shall experience the system downtime only during the installation after caching, hence there is an overall reduction in the system downtime.

6 Post-Installation

This section describes the activities that should be performed after the installation program has finished, to test that the installation was successful.

6.1 Verifying your installation

You can verify that your installation was successful by using a Central Management Console (CMC) to log onto your CMS. The CMC is used to administer servers, users and groups, rights, and security policies.

If you have installed a dedicated web application server, you can enter the web application server's URL to access the CMC. Use the following URL:

```
http://<WAS_HOSTNAME>:<PORT>/BOE/CMC
```

i Note

Default Tomcat Web Application Server's listening port number is 8080.

Substitute `<WAS_HOSTNAME>` for the hostname of the web application server and `<PORT>` for the web application server's listening port. If you are using a custom web application server root context or `BOE.war` web application context, the URL will be different.

If you are using Internet Explorer, you may receive several Internet Explorer Enhanced Security Configuration warnings because the new server is not yet added to the list of trusted sites. Click [Add](#) to add the local web server to the list of trusted web sites. If your server is not using SSL encryption, deselect [Require server verification \(https:\) for all sites in this zone](#).

Log on as the Administrator user by typing **Administrator** into the *User Name* field and entering the administrative password that you entered into the installation program.

For more information on using the CMC, see the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

6.1.1 Checking the installed version

Use one of the following methods to check the version of the BI platform that you have installed:

- On Windows deployments, use Windows Add Remove Programs (ARP)
- On Unix or Linux deployments, run `modifyOrRemoveProducts.sh`

BI products and Client Tools

You can see the current version information for BI platform Client Tools and other SAP BusinessObjects BI products such as SAP Crystal Reports in the ► [Help](#) ► [About](#) ► menu.

6.1.2 Troubleshooting login issues

If you are unable to log on to the CMS using the CMC, or launch the CMC, evaluate the following possible causes:

1. Is a firewall blocking the CMS port number (default 6400) or the web application server port?
2. Is the URL correct?

The default URL to access the CMC is:

```
http://<WAS_HOSTNAME>:<PORT>/BOE/CMC
```

Substitute `<WAS_HOSTNAME>` for the hostname of the web application server and `<PORT>` for the web application server's listening port. If you are using a custom web application server root context or `BOE.war` web application context, the URL will be different.

3. Is the correct method specified in the [Authentication](#) field?
The default authentication type is [Enterprise](#), referring to native BI platform authentication system. If you are using an LDAP single sign-on authentication system, select the system instead.
4. Did you provide the correct user credentials in the [User Name](#) and [Password](#) fields on the CMC login screen?

The name of the administrative account is **Administrator**. You entered the password during the installation process.

5. Is the Server Intelligence Agent (SIA) running.?

To retrieve the status of the SIA server execute the following command: `-$./ccm.sh -cms servername.<CMSName>:<PORT> -username Administrator -password <password> -authentication secEnterprise -display`

If the SIA is not running, start it.

6. Ensure that the database server(s) used for the CMS system and Auditing Data Store databases are running, and that the network connection from the CMS to the database is working.

i Note

When you are installing BI platform on Unix platform and after restarting the system, if `setupinit.sh` fails to restart the servers automatically, you should restart the servers manually.

If none of these solutions work, consider repairing or reinstalling the software or contacting support at: <https://support.sap.com/home.html> 🛠️.

6.2 Creating additional Adaptive Processing Servers

The installation program installs one Adaptive Processing Server (APS) per host system. Depending on the features that you've installed, this APS may host a large number of services, such as the Monitoring Service, Lifecycle Management Service, Multi-Dimensional Analysis Service (MDAS), Publishing Service, and others.

For production or test systems, the best practice is to create additional APSs, and configure the APSs to meet your business requirements.

You can create additional APSs in two ways:

- Run the System Configuration Wizard.
The wizard helps you with basic configurations of your BI platform system, including configuring APSs according to predefined deployment templates. The APS configuration provided by the wizard is a good starting point; however, system sizing must still be performed.
The wizard is available from the Central Management Console (CMC). For more information about the wizard, see “Introduction to the System Configuration Wizard” in the *Business Intelligence Platform Administrator Guide*. For more information about default deployment templates, see the *SAP BusinessObjects BI platform Deployment Templates* document, which is available from within the wizard, and also at <http://help.sap.com/bobip>.
- Use the CMC to manually create and configure additional APSs. For details, see “Adding, cloning, and deleting servers” in the *Business Intelligence Platform Administrator Guide*.

→ Remember

Selecting a deployment template in the wizard or manually creating additional APSs does not replace system sizing. Ensure that sizing is performed. To see the BI Sizing Guide, go to <http://help.sap.com/bobip>.

6.3 Deploying web applications

The installation only deploys web applications to the bundled version of Tomcat. To deploy web applications to a supported web application server, you must deploy the web applications manually with the WDeploy tool, or with the web application server administrative console.

The WDeploy tool automates the deployment of web applications to supported web application servers. For more information on using WDeploy, see the *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide*.

6.4 Configuring DataDirect DSN connections

You can create a report that uses a DataDirect DSN to define a connection to a data source. Before you upload this report to the BI platform, configure the BI platform `odbc.ini` file for the DataDirect connection used by the report.

6.4.1 To configure the odbc.ini file for DataDirect connections

The BI platform can use DataDirect ODBC database drivers to connect to a data source. ODBC drivers use an `odbc.ini` file to define connections to specific data sources. If you plan to upload a report that uses DataDirect to connect to the reporting database, you must add DataDirect connection information to the BI platform `odbc.ini` file.

For the examples in this section, assume your report uses an SQL Server Native Wire Protocol connection called `SQL_NWP_1`.

1. Change directory to `<INSTALLDIR>/sap_bobj/enterprise_xi40`. It contains the files:
 - `odbc.ini` (BI platform `odbc.ini` file)
 - `odbc_dd_7_1_5_sample.ini` (sample DataDirect `odbc.ini` file)
2. Open `odbc_dd_7_1_5_sample.ini` and copy the DSN declaration for the data source used by your report, under `[ODBC Data Sources]`, to the declaration section in the `odbc.ini` file. For Example: Copy the declaration
`SQL Native Wire Protocol=DataDirect 7.1.5 SQL Server Native Wire Protocol`
3. Edit the declaration to use the connection name used by your report. For Example:
`SQL_NWP_1=DataDirect 7.1.5 SQL Server Native Wire Protocol`
4. In the `odbc_dd_7_1_5_sample.ini` file, locate the definition for the DSN used by your report. For example:

```
[SQL Server Native Wire Protocol]
Driver=/build/taffi/aurora/sap_bobj/enterprise_xi40/linux_x86/odbc/7.1.5/lib/
CRsqls27.so
Description=DataDirect 7.1.5 SQL Server Native Wire Protocol
...1
XML Describe Type=-10
```

5. Copy this definition from `odbc_dd_7_1_5_sample.ini` file to the `odbc.ini` file and change it to use the connection name used by your report. For example:

```
[SQL_NWP_1]
Driver=/build/taffi/aurora/sap_bobj/enterprise_xi40/linux_x86/odbc/7.1.5/lib/
CRsqls27.so
Description=DataDirect 7.1.5 SQL Server Native Wire Protocol
...
XML Describe Type=-10
```

6. Define any variables in the DSN definition.

For the `[SQL_NWP_1]` definition, you must define:

- `Database=<database_name>`
- `HostName=<SQL_Server_host>`
- `PortNumber=<SQL_Server_server_port>`

7. Save the `odbc.ini` file.

❖ Example

Suppose you want to upload a report that uses an SQL Server Native Wire Protocol connection called `SQL_NWP_1`. This example shows how the modified `odbc.ini` file would look on a Red Hat installation:

```
[ODBC Data Sources]
BI4_CMS_DSN_1375267365=SQLAnywhere 16
```

```

BI4_Audit_DSN_1375267365=SQLAnywhere 16
DB2_Wire_Protocol=DataDirect 7.1.5 DB2 Wire Protocol
Informix_Wire_Protocol=DataDirect 7.1.5 Informix Wire Protocol
Oracle_Wire_Protocol=DataDirect 7.1.5 Oracle Wire Protocol
Sybase_Wire_Protocol= DataDirect 7.1.5 Sybase Wire Protocol
Text=DataDirect 7.1.5 TextFile (*.*)
SQL_NWP_1=DataDirect 7.1.5 SQL Server Native Wire Protocol
[BI4_CMS_DSN_1373070022]
UID=dba
DatabaseName=BI4_CMS
ServerName=BI4_1373070022
Host=localhost:2638
Driver=/build/taffi/aurora/sqlanywhere/lib64/libdbodbc12.so
[BI4_Audit_DSN_1373070022]
UID=dba
DatabaseName=BI4_Audit
ServerName=BI4_1373070022
Host=localhost:2638
Driver=/build/taffi/aurora/sqlanywhere/lib64/libdbodbc12.so
...
[SQL_NWP_1]
Driver=/build/taffi/aurora/sap_bobj/enterprise_xi40/linux_x86/odbc/7.1.5/lib/
CRsqs27.so
Description=DataDirect 7.1.5 SQL Server Native Wire Protocol
AlternateServers=
AlwaysReportTriggerResults=0
AnsiNPW=1
ApplicationName=
ApplicationUsingThreads=1
AuthenticationMethod=1
BulkBinaryThreshold=32
BulkCharacterThreshold=-1
BulkLoadBatchSize=1024
BulkLoadOptions=2
ConnectionReset=0
ConnectionRetryCount=0
ConnectionRetryDelay=3
Database=<database_name>
EnableBulkLoad=0
EnableQuotedIdentifiers=0
EncryptionMethod=0
FailoverGranularity=0
FailoverMode=0
FailoverPreconnect=0
FetchTSWTZasTimestamp=0
FetchTWFSasTime=1
GSSClient=native
HostName=<SQL_Server_host>
HostNameInCertificate=
InitializationString=
Language=
LoadBalanceTimeout=0
LoadBalancing=0
LoginTimeout=15
LogonID=
MaxPoolSize=100
MinPoolSize=0
PacketSize=-1
Password=
Pooling=0
PortNumber=<SQL_Server_server_port> 1433
QueryTimeout=0
ReportCodePageConversionErrors=0
SnapshotSerializable=0
TrustStore=
TrustStorePassword=
ValidateServerCertificate=1
WorkStationID=

```

6.5 SAP support

6.5.1 To configure System Landscape Directory (SLD) Data Supplier (DS) post installation

If you decided not to enable support for SAP System Landscape Directory (SLD) when installing the BI platform, you can enable it at any time later by installing SAP Host Agent. For more information, see [To enable SAP System Landscape Directory \(SLD\) support \[page 24\]](#).

Once SAP Host Agent is installed, open the Central Management Console (CMC), select the [Servers](#) tab, and restart the SIA nodes. SLD registration will automatically occur whenever a SIA is restarted or created.

To enable SLD support for web applications deployed to a web application server, see “SAP System Landscape Directory (SLD) registration” in the *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide*.

6.5.2 To configure SMD Agent post installation

If you did not configure SAP Solution Manager Diagnostics (SMD) during the installation process, you can still give the SMD Agent hostname and port number in the Central Management Console (CMC).

i Note

SMD Agent must be installed before configuring the SMD Agent hostname and port number in the BI platform.

1. Open the Central Management Console.
2. Select the [Servers](#) tab.
3. Expand the SIA [Nodes](#) folder in server list, and right-click the SIA to be updated.
4. Select [Placeholders](#) from the context menu.
5. Ensure that the placeholders related to SMD Agent are set correctly:
 - a. Update the %SMDAgentHost% placeholder with the SMD Agent hostname.
 - b. Update the %SMDAgentPort% placeholder with the SMD Agent port number.
6. Save and close the [Placeholders](#) screen.
7. Restart the SIA.
8. When more than one SIA is present, repeat steps 3-7 for each SIA in the [Nodes](#) folder.

6.5.3 To configure CA Wily Introscope Agent post installation

If you did not configure CA Wily Introscope during the installation process, you can configure it later in the Central Management Console (CMC).

i Note

The Introscope Agent must be installed and running before configuring it in the CMC.

1. Open the Central Management Console.
2. Select the [Servers](#) tab.
3. Expand the SIA [Nodes](#) folder in server list, and right-click the SIA to be updated.
4. Select [Placeholders](#) from the context menu.
5. Ensure that the placeholders related to Introscope are set correctly:
 - a. Change the `%IntroscopeAgentEnableInstrumentation%` placeholder from `false` to `true`.
 - b. Update the `%IntroscopeAgentManagerHost%` placeholder with the Introscope Agent hostname.
 - c. Update the `%IntroscopeAgentEnterpriseManagerPort%` placeholder with the Introscope Agent port number.
 - d. Review `%IntroscopeAgentEnterpriseManagerTransport%` to ensure that the correct network transport is selected (for example, `TCP`).
6. Save and close the [Placeholders](#) screen.
7. Restart the SIA.
8. When more than one SIA is present, repeat steps 3-7 for each SIA in the [Nodes](#) folder.

6.6 Third-party ERP integration

6.6.1 To enable Siebel Enterprise integration

To integrate the BI platform with Siebel Enterprise, you may need to take some additional steps. There are two methods you can use to report off Siebel data:

- Reporting from a local Siebel client
To report from a local Siebel client, ensure that Siebel Enterprise is configured so that either Siebel Dedicated Web Client or Mobile Web Client is enabled and accessible.
- Report directly off your Siebel Enterprise server
To enable Siebel Enterprise integration, the Siebel Java Data Bean JAR files must be copied to the BI platform and web application server `lib` folders.

1. Locate the `classes` folder that was created when you installed Siebel Tools.

The Java data bean files are typically located in the `SIEBEL_HOME/classes` folder. For example, the Siebel `classes` folder may be `/opt/siebel/7.8/classes`.

2. Copy the `SiebelJI.jar` and `SiebelJI_enu.jar` Java data bean files to the BI platform Java `lib` directory.

For example, copy `/opt/siebel/7.8/classes/SiebelJI.jar` and `/opt/siebel/7.8/classes/SiebelJI_enu.jar` to `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/java/lib/siebel`.

3. Copy the `SiebelJI.jar` and `SiebelJI_enu.jar` Java data bean files to the `lib` directory of your web application server.

For example, copy `/opt/siebel/7.8/classes/SiebelJI.jar` and `/opt/siebel/7.8/classes/SiebelJI_enu.jar` to `<WAS_INSTALL_DIR>/lib`. If you installed the Tomcat web application server bundled with the BI platform, the folder is `<BIP_INSTALL_DIR>/tomcat/lib`.

4. Restart the Central Management Server and web application server.

For more information, see “Configuring for Siebel integration” in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

6.6.2 To enable JD Edwards EnterpriseOne integration

To enable JD Edwards EnterpriseOne integration, the JD Edwards Java Data Bean JAR files must be copied to the BI platform Java `lib` folder.

1. Locate the `classes` folder that was created when you installed JD Edwards EnterpriseOne.

The Java data bean files are typically located in the `<JDE_HOME>/system/classes` folder.

2. Locate the following Java data bean files:

- `kernel.jar`
- `jdeutil.jar`
- `log4j.jar`
- `pseoneqryxml.jar`
- `pseonexml.jar`

3. Copy the `.jar` files above into the BI platform JD Edwards `lib` folder:

`<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/java/lib/jdedwards/default/jdedwards.`

4. Also copy the `.jar` into the web application server Java `lib` folder. For example, if you're using the web application server bundled with the BI platform, the default web application server `lib` directory is:

`<BIP_INSTALL_DIR>/sap_bobj/tomcat/lib.`

5. Restart the Central Management Server and Web Application Server.

For more information, see “Configuring for JD Edwards integration” in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

6.6.3 To enable Oracle E-Business Suite (EBS) integration

To enable reporting from Oracle EBS data sources in SAP Crystal Reports, ensure that the 32-bit Oracle client is installed on systems running SAP Crystal Reports.

To enable BI platform integration with Oracle EBS, including Oracle EBS authentication and import roles, follow the steps below.

1. Install and configure the 64-bit Oracle client on BI platform hosts.

When installing the 64-bit Oracle client, ensure that the following components are installed:

- Oracle JDBC driver
- JDBC-OCI bridge

2. Verify that the Oracle client can connect by logging on to the Oracle EBS database on the client.
3. Copy the following Oracle client binaries to the BI platform Oracle library.

Copy:

- `<ORA_HOME>/lib/ocijdbc11.so`
- `<ORA_HOME>/lib/libclntsh.so.11.1`
- `<ORA_HOME>/lib/libnnz11.so`

To: `<BIP_INSTALL_DIR>/sap_bobj/enterprise_xi40/java/lib/oracle/default.`

4. Copy the following file to the web application server `lib` directory.

Copy:

- `<ORA_HOME>/jdbc/lib/ojdbc5.jar`

Copy the file to the web application server `lib` directory. For example, if you're using the web application server bundled with the BI platform, the default web application server `lib` directory is:

`<BIP_INSTALL_DIR>/sap_bobj/tomcat/lib.`

5. Restart the CMS.
6. Stop the web application server.
7. Clean up the web application work folder.

For example, on the Tomcat web application server bundled with the BI platform, remove all the files in the Tomcat work folder (`<BIP_INSTALL_DIR>/sap_bobj/tomcat/work/Catalina/localhost/BOE`).

8. Restart the web application server.

After installing integration for Oracle E-Business Suite, ensure that the Oracle EBS security context is enforced. To do this, manually create the `bobj_pkg` package in any new Oracle EBS database before using the integration solution for the first time. To generate the package, log on to the Oracle EBS database and use the PL\SQL code given in the following file:

`<BIP_INSTALL_DIR>/Samples/ebs/bobj_pkg.txt`

6.7 Post-install diagnostic checks

You can run the Monitoring Tool at any time to run a diagnostics check and look for problems.

To access the Monitoring Tool in order to run diagnostic tests, log on to the Central Management Console (CMC), select the [Monitoring](#) screen, and click the [Probes](#) tab.

6.8 Making changes to SAP BusinessObjects Business Intelligence platform

6.8.1 To modify SAP BusinessObjects Business Intelligence platform

These instructions describe the process to modify your SAP BusinessObjects Business Intelligence (BI) platform installation by adding or removing installed features.

It is recommended that you back up the CMS system database before modifying the BI platform.

i Note

In order to modify an installation, you must stop all the others servers except CMS. Also, it should be verified using the following command: `ps -ef |grep sap_bobj` command.

1. Change directory to the `<BIP_INSTALL_DIR>` folder.
2. Run the command:

```
./modifyOrRemoveProducts.sh
```

i Note

Log files, configuration files for web applications, and web applications will not be removed by the removal program. Folders left after removing a corresponding feature can be removed manually later with the `rm` command.

3. Select the installation to be modified.
4. Select *Modify*.
5. On the *Select Language Packs* page, select any languages you want to install; unselect any languages you want to remove. Click *Next* to continue.
6. Ensure that all features you want available are selected. Ensure that features you do not want installed are deselected.

Expand the highlighted feature in the selection tree by pressing the keyboard `[spacebar]`. Use the arrow keys to navigate up or down. Toggle feature selections with the `[x]` key.

When you are satisfied with the selected features, press `[Enter]`.
7. If you are modifying a server with a CMS installed, press `[Enter]` to apply the changes. If you are modifying a server that uses a remotely installed CMS, enter the hostname, port, and an administrative account username and password.
8. When the changes have been made, press `[Enter]` to return to the command-line.

The installation has been updated.

6.8.2 To repair SAP BusinessObjects Business Intelligence platform

These instructions describe the process to repair an SAP BusinessObjects Business Intelligence platform installation. This process restores the files and settings originally configured by the setup program.

It is recommended that you back up the CMS system database before repairing SAP BusinessObjects Business Intelligence platform.

i Note

The CMS must be running in order to modify an installation.

1. Change directory to the `<BIP_INSTALL_DIR>` folder.
2. Run the command:

```
./modifyOrRemoveProducts.sh
```

i Note

Log files, configuration files for web applications, and web applications will not be removed by the removal program. Any remaining folders can be removed manually with the `rm` command.

3. Select the installation to be repaired.
4. Select the *Repair* option.
5. Enter your CMS connection and logon information and proceed through to confirm the repair.
6. When the repair is finished, press `Enter` to return to the command-line.


The installation has been repaired, restoring your system to its original configuration.

6.8.3 Patching third-party solutions bundled with the BI platform

There are several third-party software solutions bundled with the BI platform 4.2 installation, including:

- SAP Sybase SQL Anywhere
- Apache Tomcat 8.5
- SAP JVM

These third-party solutions are delivered as-is and without any support to patch them with vendor-delivered patches or updates. In the event of a security issues arising in those delivered products, SAP will patch them in subsequent Support Packages (SPs) or Patches as necessary.

If your business has the need to run a newer version or patch of the bundled software, consider switching to a fully featured solution providing you with a greater flexibility and support. For a list of databases, web application servers, and other systems supported by this release, see the *Product Availability Matrix* (Supported Platforms/PAR), available on the SAP BusinessObjects section of the SAP Support Portal at: <https://support.sap.com/home.html> .

i Note

The SAP JVM/JDK must not be swapped with another vendor's JVM/JDK.

6.9 When the administrator account password is lost

If the credentials for the BI platform *administrator* account are lost, consider whether another administrative account is available, and use it to change the password for the BI platform *administrator* account.

If this is not possible, refer to SAP Knowledge Base Article 1679970 - How to reset the Administrator password in Business Intelligence Platform 4.X.

6.10 Post-installation configuration of fonts in the fontalias.xml file

You can increase the number of fonts available in Web Intelligence by manually editing the `fontalias.xml` file.

i Note

You must obtain and install fonts on your machine before configuring fonts in the `fontalias.xml` file.

- On UNIX, the file is located in the following directory:
`<BOBJ_INST_DIR>/sap_bobj/enterprise_xi40/<platform>_x64/fonts`
- On the 64-bit Windows server, the file is located in the following folder:
`<SAP_BOBJ_INST_DIR>\SAP BusinessObjects Enterprise XI 4.0\win64_x64\fonts`
- On the 32-bit Windows client, the file is located in the following folder:
`<SAP_BOBJ_INST_DIR>\SAP BusinessObjects Enterprise XI 4.0\win32_x86\fonts`

i Note

To ensure consistent fonts are used, ensure that the fonts added to the Web Intelligence Rich Client machine deployments are also added to the BI Platform server machine deployments.

A sample of the default `fontalias.xml` appears below:

```
<FONTALIASMANAGER>
  <FONT NAME="Arial">
    <FONTFAMILY PLATFORM="ttf" NAME="Arial">
      <FONTATTRIBUTE BOLD="false" ITALIC="false" LOGICAL="Arial"
        PHYSICAL="Arial.ttf;arial.ttf"/>
      <FONTATTRIBUTE BOLD="true" ITALIC="false" LOGICAL="Arial Bold" PHYSICAL="Arial-
        Bold.ttf;arialbd.ttf;arialb.ttf"/>
      <FONTATTRIBUTE BOLD="false" ITALIC="true" LOGICAL="Arial Italic"
        PHYSICAL="Arial-Italic.ttf;ariali.ttf"/>
      <FONTATTRIBUTE BOLD="true" ITALIC="true" LOGICAL="Arial Bold Italic"
        PHYSICAL="Arial-BoldItalic.ttf;arialbi.ttf;arialz.ttf"/>
    </FONTFAMILY>
  </FONT>
</FONTALIASMANAGER>
```

```

</FONTFAMILY>
<FONTFAMILY PLATFORM="win" NAME="Arial"/>
<FONTFAMILY PLATFORM="java" NAME="Arial, Helvetica, 'Courier New', 'Times New
Roman'"/>
<FONTFAMILY PLATFORM="html" NAME="Arial, Helvetica, 'Courier New', 'Times New
Roman'"/>
</FONT>
</FONTALIASMANAGER>

```

You need to do the following:

- Define a **FONT** entity for each new font.
- List the font name in the **NAME** attribute for the Web Intelligence applications.
- Specify in each **FONTATTRIBUTE** entity the **LOGICAL** name of the font, as well as the **PHYSICAL** (file name) of the font. Any substitution fonts will be listed in the **PHYSICAL** attribute separated by semicolons.
- Give each **FONT** entity four **FONTFAMILY** entities, one for each of the **PLATFORM** types:

Platform	Name	Description
ttf	Font family name	Used for TrueType fonts that are a subset (embedded) in PDF exports.
win	Font name as it is listed in Windows OS	Used in Microsoft export formats, such as Excel.
java	Font name as it appears in Java. Substitution fonts are separated by comma.	Used in the Java Web Intelligence Applet or Rich Client interface.
html	Font name specified in HTML style. Substitution fonts are separated by comma.	Used in the Web Intelligence HTML interface.

The **ttf** **PLATFORM** entity should contain four **FONTATTRIBUTE** entities, for each possible combination of **BOLD** and **ITALIC** Boolean attributes:

BOLD	ITALIC	Description
false	false	Regular typeface
true	false	Bold typeface
false	true	Italic typeface
true	true	Bold italic typeface

i Note

We recommend that you use typeface-specific TrueType fonts for bold, italic and bold-italic. If a non-regular **FONTATTRIBUTE** entity is missing from a **FONT** entity, the Web Intelligence Processing Server synthesizes the font typeface from the specified regular typeface. Synthesized fonts will have lower quality than fonts explicitly designed for non-regular typefaces.

6.11 Verifying fips in your installation

To verify fips in your installation, perform the following steps:

1. Execute the command `vi <Install_Dir>/sap_bobj/ccm.config`
2. The value key displays `-fips` by default.
1. Execute the command `vi <Install_Dir>/sap_bobj/ccm.config`
2. The value key displays `-fips` by default.

You can see fips is enabled by default in your installation.

i Note

FIPS is default only for a new installation.

6.12 Running SPL_Warehouse.unx sample universe

If you have selected *Warehouse Database and Universe Sample* at installation, the following items are installed on your machine:

- The SQL Anywhere database and drivers
- The sample dataset
- The `launch_splwarehouse_database` script used to start the database
- The `SPL_Warehouse.conf` configuration file

`SPL_Warehouse.db` is the database backup itself and its size is around 7MB. Backup, script, and configuration file are copied to `<bip-install-dir>\Samples\splwarehouse`.

The following items are installed on the CMS repository:

- The `SPL_Warehouse.unx` sample universe in `/Universes/Samples/` folder
- The connection `SPL_Warehouse.cnx` in `/Connections/` folder

After installation, you must deploy the sample dataset on the database so that end-users can use the sample in the information design tool.

6.12.1 About the sample connection

The sample connection points to the sample database deployed in the SQL Anywhere database. The connection parameters are the following:

- Server : `SPL_Warehouse`
- Database name : `SPL_Warehouse`
- Username: `SPL_Warehouse`

- Password: `SPL_Warehouse`

The database backup must be installed on the same server than the database, hence the database server name set in the connection is `localhost`. If this is not the case, you must modify the server name in the connection.

The connection port and the database name must also be modified if they have been modified in the `SPL_Warehouse.conf` file.

6.12.2 To start the sample dataset

Launch a script to start the sample dataset on the SQL Anywhere database.

You have selected the sample during installation.

1. Optionally, open the `SPL_Warehouse.conf` file for editing and modify the database name on the following line to avoid database name conflict:

```
-n SPL_Warehouse
```

→ Remember

The default database name is `SPL_Warehouse`. If it is modified, then this name must also be updated in the `SPL_Warehouse` connection installed in the CMS repository with the sample.

2. Optionally, modify the following line to start the database on another port:

```
-x "tcpip(PORT=6016) "
```



3. Run the `launch_splwarehouse_database` script to start the database.

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