PUBLIC

Information platform services
Document Version: 4.2 Support Package 03 – 2016-08-29

Information platform services Installation Guide for Unix

SAP

Content

1 Document History. 4

2 Introduction. 6

2.1 About this Document. 6

2.2 Purpose. 6

2.3 Constraints. 6

2.4 Variables. 6

3 Planning. 8

3.1 New features and components. 8

3.2 Database servers. 10

3.3 Languages. 10

4 Preparation. 11

4.1 System requirements. 12

Additional requirements for Red Hat Linux. 12

Additional requirements for Solaris. 13

Additional requirements for SUSE. 14

Account permissions. 14

Additional Unix and Linux requirements. 15

Network permissions. 17

4.2 Preparing the CMS system or Auditing Data Store database. 17

Extra requirements for IBM DB2. 19

Extra requirements for Sybase ASE. 20

Extra requirements for CMS clustering with SQL Anywhere. 20

Bundled SQL Anywhere ODBC settings. 21

4.3 Set ulimit to unlimited. 21

4.4 SAP support. 22

Support for SAP System Landscape Directory (SLD). 22

Support for SAP Solution Manager Diagnostics (SMD). 23

Support for CA Wily Introscope. 24

4.5 Final checklist. 24

5 Installation. 26

5.1 Overview. 26

5.2 To download server installation program. 27

5.3 To run an interactive installation. 27

To select an install type. 29

While the installation program runs. 41
When installation is complete. 41
5.4 To run a silent installation. 42
Command-line switch parameters. 42
Installation option parameters. 44
5.5 To run a phase-wise installation. 51
To run a phase-wise installation for new installation from command prompt. 51
To run a phase-wise installation for update installation from command prompt. 53
To run a phase-wise installation for update installation from user interface. 55

6 Post-Installation. 57
6.1 Verifying your installation. 57
Troubleshooting login issues. 57
6.2 SAP support. 58
To configure System Landscape Directory (SLD) Data Supplier (DS) post installation. 58
To configure SMD Agent post installation. 58
To configure CA Wily Introscope Agent post installation. 59
6.3 Third-party ERP integration. 60
To enable Siebel Enterprise integration. 60
To enable JD Edwards EnterpriseOne integration. 60
To enable Oracle E-Business Suite (EBS) integration. 61
6.4 Post-install diagnostic checks. 62
6.5 Making changes to Information platform services. 62
To modify Information platform services. 62
To repair Information platform services. 63
To remove Information platform services. 63
Patching third party solutions bundled with Information platform services. 65

7 Verifying fips in your installation. 66

1 Document History

The following table provides an overview of important document changes.

Version	Date	Description
Information platform services 4.1	May, 2013	First release of this document.
Information platform services 4.1 Support Package 1	August, 2013	No changes
Information platform services 4.1 Support Package 2	November, 2013	No changes
Information platform services 4.1 Support Package 4	May, 2014	Underscores ("_") are not allowed in the SIA name.
Information platform services 4.2	November 2015	Updated the Sybase SQL Anywhere in New features and components [page 8] Updated information about Tomcat in New features and components [page 8] Updated the Language support information in New features and components [page 8] and Languages [page 10] Updated information about the password restrictions in Full installation [page 29] and Custom (New) installation [page 34] Added Verifying fips in your installation in Post Installation Verifying fips in your installation [page 66]
Information platform services 4.2 Support Package 01	December 2015	Updated information about Tomcat 8 in New features and components [page 8]
Information platform services 4.2 Support Package 02	March, 2016	Updated a note in To run an interactive installation [page 27] Updated a note in Installation option parameters [page 44] Updated a note in To remove Information platform services [page 63]

Version	Date	Description
Information platform services 4.2 Support Package 03	August, 2016	Added phase-wise installation from user interface in To run a phase-wise installation for update installation from user interface [page 55] Added phase-wise installation from command prompt for unix platform in To run a phase-wise installation for update installation from command prompt [page 53] Updated information about web application deployment in To run a phase-wise installation for update installation from command prompt [page 53] and To run a phase-wise installation for update installation from user interface [page 55]

2 Introduction

This document guides you through the installation of Information platform services.

2.1 About this Document

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

- *Information platform services Installation Guide for Unix*: for use with Unix or Linux operating systems (this document).
- *Information platform services 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 Information platform services.

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 Information platform services.

2.4 Variables

The following variables are used throughout this guide.

Variable	Description
`<IPS_INSTALL_DIR>`	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.

3 Planning

Information platform services 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 Information platform services are supported. See the Product Availability Matrix (PAM) at https://support.sap.com/release-upgrade-maintenance/pam.html.
- 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 Information platform services, 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.

  > **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 Information platform services 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 supported database 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 Information platform services.
  The installation program will only install Tomcat on the local machine. It cannot install across a network.

3.1 New features and components

The following features and components are new to the BI platform 4.2 installation program.

Sybase SQL Anywhere bundled database

Sybase SQL Anywhere, bundled database server for the CMS and Auditing Data Store is updated to version 16.

If you are using the update installation program to update a 4.0 installation that uses the bundled IBM DB2 Workgroup edition database server to 4.2, your DB2 database is preserved and can be used. You can use this

bundled database server with no further action. Alternatively,you can migrate your existing databases to Sybase SQL Anywhere by following the steps described in "Migrating to Sybase SQL Anywhere" in the *SAP BusinessObjects Suite 4.1 Update Guide*.

Tomcat 8 bundled web application server

Tomcat 8.0 is now the default, bundled web application server.

If you are using the update installation program to update a 4.0 or 4.1 installation that uses the bundled Tomcat 6.0 or 7.0 web application server respectively to 4.2, your system is automatically updated to Tomcat 8.0.

Note

- Any custom settings which you have applied in Tomcat 6.0 are migrated to Tomcat 8.0. Certain Tomcat 6.0 configuration files are backed up automatically to: `<INSTALL_DIR>/tomcat6ConfBackup/`
- Any Custom settings you had applied in Tomcat 7.0 are retained in Tomcat 8.0 web application server. However, we strongly recommend you to validate if the custom settings are available in Tomcat 8
- If you are using a tomcat cluster configuration on your existing BI platform, then remove the following listener tag from the cluster configuration before updating to BI platform 4.2
  Listener tag : `org.apache.catalina.ha.session.JvmRouteSessionIDBinderListener`
- If you are using tomcat cluster configuration on your existing BI platform, and you have already updated to BI platform 4.2, then remove the following listener tag from the cluster configuration and restart tomcat 8
  Listener tag : `org.apache.catalina.ha.session.JvmRouteSessionIDBinderListener`
- If Tomcat 8 does not start automatically, we recommended you to validate the custom settings in par with tomcat 8 migration guidelines. For more information, please referhttps://tomcat.apache.org/migration-8.html

New Language support for BI platform

You can now add or remove a language by modifying your BI platform installation.

When you update the BI platform from base version to 4.2, new languages that are added in the higher version are not displayed in the base version.

For Example: If you update from the base version 4.1 SPX to 4.2, new languages that are added in 4.2 is not displayed in the base version 4.1 SPX. If you want new languages (such as Arabic) to be displayed in 4.2 , modify the base version 4.1 SPX.

To add or remove a language, run the `modifyOrRemoveProducts.sh` program, select your BI platform product and then the *Modify* option, and add or remove languages from the *Choose Language Packs* screen.

3.2 Database servers

If you do not have a database server in place for use with Information platform services, 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.

> **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 SAP BusinessObjects BI 4.2 *Product Availability Matrix (PAM)*, available at https://support.sap.com/release-upgrade-maintenance/pam.html.

3.3 Languages

The BI platform user interface has been translated into more than 40 languages. 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 and 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 Information platform services.

Process Flow

1. Ensure that sufficient disk space is available. 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 server installation program [page 27]. In addition, download:
   - SAP HOST AGENT - a required software package for using SAP System Landscape Directory (SLD). For details, see To enable SAP System Landscape Directory (SLD) support [page 22].

     To download SAP HOST AGENT, go to *http://support.sap.com/home.html* > *Software Downloads* > *Support Packages and Patches* > *Browse our Download Catalog* > *SAP Technology Components* > *SAP HOST AGENT*.
   - 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 Information platform services. For more information on SLD, see "Registration of Information platform services in the System Landscape" in the *Information platform services Administrator Guide*. For information on SAP Host Agent, see To enable SAP System Landscape Directory (SLD) support [page 22].
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 Information platform services will be installed.
   - Web application server configuration, including type, connection, and authentication details.
   - Database server configuration, 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.
   - CMS system and Auditing Data Store configuration information, including type, connection, and authentication details.
   - SAP Solution Manager Diagnostics (SMD) configuration.
   - Introscope Enterprise Manager integration configuration.
   - Subversion or ClearCase 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 29].

4.1 System requirements

Use the following guidelines when you install Information platform services:

- Ensure that the operating system is supported.
- Before you run the installation program, ensure that the destination partition has enough room for the deployment to expand (when updates and new features are added in the future).
- 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 gigabytes 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.

For a detailed list of supported operating systems and hardware requirements, consult the *Supported Platforms* documentation available at https://support.sap.com/home.html.

4.1.1 Additional requirements for Red Hat Linux

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 compat-libstdc++-33-3.2.3-69.el6.i686`
- `yum install compat-libstdc++-33.i686`
- `yum install compat-libstdc++-33-3.x86_x64`
- `yum install glibc.i686`
- `yum install libstdc++.i686`
- `yum install libX11-1.3-2.el6.i686`

If these libraries are not installed, you may encounter errors during the installation of Information platform services, as described in the following SAP Support Knowledge Base articles:

- 1692724
- 1692679
- 1692695
- 1875824

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 at 1968075 to determine if modifications are required to your Red Hat installation of the BI Platform.

4.1.2 Additional requirements for Solaris

Packages required for Solaris 11

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

Table 1:

Package	Minimum version	Description
pkg:/SUNW-bash	0.5.11-0.133	GNU Bourne-Again shell (bash).
pkg:/SUNWgzip	1.3.5-0.133	The GNU Zip (gzip) compression utility.
pkg:/SUNW-libC	0.5.11-0.133	Sun Workshop Compilers Bundled libC.
pkg:/SUNWmfrun	0.5.11-0.133	Motif libraries, headers, xmbind and bindings.
pkg:/compatibil-ity/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 cli-ents).
pkg:/SUNW-zlib	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 Information platform services 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.

4.1.4 Account permissions

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

Category	Required access
Operating system	• 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 `/etc/rc` that start or stop the servers when the host machine is started or stopped).
Network	• Network connectivity through appropriate ports to all machines in the deployment. • Access to shared file system directories. • Appropriate network authentication privileges.

Category	Required access
Database	• Permission for the Information platform services user account to create, edit, and drop tables. • Permission for the Information platform services user account to create stored procedures (required by the Central Management Server (CMS) system database).

4.1.5 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, the following `Korn` shell command sets the timezone to Pacific Standard Time where daylight savings time is observed:

```
TZ=PST8PDT
export TZ
```

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:

Table 2:

/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).

> **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 Information platform services 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 Network permissions

When you install Information platform services across multiple machines, use the following guidelines to ensure your network functions properly:

- Servers running on all hosts must be able to communicate with each other.
- Each machine must be able to communicate with the web application server, the Central Management Server (CMS) host, all SIA hosts, and clients.
- On any host with more than one network interface card (NIC), ensure that the primary NIC is routable before running the installation program. If the primary NIC is not routable, you will have to re-configure the networking settings after the installation. For information on how to bind to routable NICs, see the "Managing and Configuring Servers" chapter of the *Information platform services Administrator Guide*.
- Each machine must use a fixed hostname. Fully-qualified hostnames are supported.

  Note

  Ensure that deployment hostnames do not include any of the following characters: underscore (`_`), period (`.`), backslash (`\`), or forward-slash (`/`).

- If you run the installation program behind a firewall, see the "Securing Information platform services" chapter of the *Information platform services Administrator's Guide*.

4.1.6.1 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 *Information platform services 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 database bundled with Information platform services, the following tasks must be completed before installing Information platform services.

- 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 Information platform services installation program.

  > **Caution**
  >
  > If you have an existing Information platform services installation, 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 Information platform services. 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:

Table 3:

Database	Information required by installation program
MySQL	• CMS database name • Server hostname • Port number (default is 3306) • Account username • Account password • *Reset existing database* option (recommended setting)
IBM DB2	• DB2 Alias name • Account username • Account password • *Reset existing database* option (recommended setting)
Oracle	• Oracle TNSNAME connection identifier • Account username • Account password • *Reset existing database* option (recommended setting)

Sybase ASE	• Service name
	  Note
	  ○ The Sybase Adaptive Server Enterprise (ASE) service name is a combination of the hostname and the port number, set by your database administrator in the `sql.ini` and *interfaces* files.
	  ○ BI platform will connect to the default database for the user you specify. The default is set by the database administrator.
	• Account username
	• Account password
	• *Reset existing database* option (recommended setting)

Database	Information required by installation program
Sybase SQL Anywhere using ODBC	• DSN • Account username • Account password • *Reset existing database* option (recommended setting)
SAP HANA Database using ODBC	• DSN • Account username • Account password • *Reset existing database* option (recommended setting)

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

4.2.1 Extra requirements for IBM DB2

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

- 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 an 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 Sybase database 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.

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 12.0.1 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, `<<IPS_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 12 database driver.
2. Create an ODBC DSN to the primary node SQL Anywhere CMS database using the SQL Anywhere 12 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 12.0
[BI4_CMS_DSN_1362069282]
UID=dba
PWD=mypassword
DatabaseName=BI4_CMS
ServerName=BI4_1362069282
Host=192.0.2.0:2638
Driver=/opt/sqlanywhere12/lib64/libdbodbc12.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 Information platform services 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 `<<IPS_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 Information platform services 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 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 Information platform services. SAP Host Agent may be installed and configured before or after installing Information platform services.

4.4.1.1 To enable SAP System Landscape Directory (SLD) support

If you plan on using SAP System Landscape Directory (SLD), 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 Information platform services.

For more information on SAP Host Agent, see “Registration of Information platform services in the System Landscape” in the *Information platform services Administrator Guide*.

> **Note**
>
> If you have installed SAP GUI, 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. Download SAP Host Agent (`SAPHOSTAGENT.SAR`) from the SAP Software Distribution Center of the SAP Service Marketplace (https://support.sap.com/swdc).

   Log on with your SAP Service Marketplace ID and locate the version of `SAPHOSTAGENT.SAR` appropriate for your system.
2. Extract `SAPHOSTAGENT.SAR` by entering the following command:

   ```
   sapcar -xvf SAPHOSTAGENT.SAR
   ```

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 Information platform services, 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

To use SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing Information platform services. 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 58].

For more information on SMD, or to download SMD, visit the SAP Service Marketplace at: https://support.sap.com/swdc.

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 Information platform services.

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 SMD Agent post installation [page 58].

4.5 Final checklist

Prior to installing the Information platform services, review the following checklist.

- Have you decided on the installation destination folder?

  > **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 22].
- 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 23].

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'. For more details on the format, please refer to http://www.opengroup.org/onlinepubs/007908799/xbd/envvar.html

Note

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

5 Installation

There are two different methods of running the installation program for Information platform services:

- 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, which override the installation program's default values. The command-line can be used to give some or all installation options. When an installation option is not given on the command-line, the installation program uses a default value.
  Installation options can be given in a response file rather than directly on the command-line. This type of silent installation uses the `-r` command-line parameter to read installation options from the response file. Use this option if you want to install multiple machines with the same configuration. Installation options stored in a response file can be overridden by giving them on the command-line.
  When the `-q` (quiet mode) switch is used, the installation program does not prompt for any user input during the installation.

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.

5.1 Overview

There are two 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.

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.

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

5.2 To download server installation program

1. Go to https://support.sap.com/home.html > *Software Downloads*.
2. Select *Installations and Upgrades>A–Z Index*.
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.
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.

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.

Support Packages and Patches are installation programs that contain updates to BI platform software. You can download them from https://support.sap.com/home.html>*Software Downloads* > *Support Packages and Patches* > *A–Z Index*. For more information on installing Support Packages and Patches, see the SAP BusinessObjects BI Suite Update Guides.

> **Note**
>
> - Users need to use the SAP Download manager for download. When you download the server installation program without the download manager, it results in failed or partial downloads.
> - To extract the solaris and air tar files, users need to use gnu tar, or gtar, to extract, and not the default tar utility. Else, the installation would fail.

5.3 To run an interactive installation

Load, mount, or download the the Information platform services 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
```

> **Note**
>
> The installation log file is saved to `<<BOE_INSTALL_DIR>>/InstallData/logs/<<DATEandTIME>>/setupengine.log`.

1. Locate and run `./setup.sh` from the command-line.

   > **Note**
   >
   > For Data Services, the license key is embedded to run an interactive installation. For this, instead of 'setup.sh', locate and run a different executable 'InstallIPS.sh' for Unix platform from the same location.

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`.

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.

   > **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.

   > **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.

5.3.1 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 Install
     Allows experienced users to select individual components. 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 components are deployed to a host.
   - Web Tier
     The web tier includes web applications such as the Central Management Console (CMC). Use the *Web Tier* installation option to install Java web applications onto a dedicated 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 screen to start configuring the selected installation.

   You may return to the *Select Install Type* page at any time later.
3. If you selected a *Full* installation, proceed to the following *Full* section.
4. If you selected a *Custom / Expand* installation, proceed to the following *Custom / Expand* section.
5. If you selected a *Web Tier* installation, proceed to the following *Web Tier* section.

5.3.1.1 Full installation

The following steps are performed for *Full* installations of the Information platform services.

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. **Note** Installation of third-party patches or updates is not supported for bundled software. For details, see Patching third party solutions bundled with Information platform services [page 65].
Configure an existing database	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.

Option	Description
	Note 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.

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
Install the default Tomcat Java Web Application Server and automatically deploy web applications	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. **Note** Installation of third party patches or updates is not supported for bundled software. For details, see Patching third party solutions bundled with Information platform services [page 65].
Manually deploy web applications to a supported Java Web Application Server after the installation	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 *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide* **Note** 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.
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.

> **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.

4. 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 *Information Platform Services Administrator Guide*.

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.

> **Note**
>
> If you are configuring Information platform services for *SAP Data Services* and *SAP Information Steward*, skip the *Select Version Management* page and proceed with the installation.

5. On the *Configure Server Intelligence Agent (SIA)* page, review the default name and port number for the SIA node.

Option	Description
Node Name	This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA. 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.
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.

6. 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 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.

> **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.

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. 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.
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	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.

> **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 22].
- 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 58].
- For information on installing SMD Agent before installing the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 23].
- For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 58].

12. On the *Select Connectivity to Introscope Enterprise Manager* page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

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

Option	Description
Configure connectivity to Introscope Enterprise Manager	The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager. 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 *While the installation program runs*.

5.3.1.2 Custom / Expand installation

The following steps are performed for *Custom / Expand* installations of the Information platform services.

The *Select Features* screen displays selectable components that can be installed.

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.

  > **Note**
  >
  > If you plan to use SAP BW authentication, ensure that the *BW Publisher Server* feature is selected in the *Integration Servers* feature list.

- *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.

- *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.

2. On the *Select New or Expand Installation* page, select the type of installation to perform.

Option	Description
Start a new Information platform services deployment	Select if you are installing a stand-alone BI platform server, or the first server in a cluster,
Expand an existing Information platform services 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 Information platform services deployment* on the last screen, proceed to *Custom (New) installation*.

If you selected *Expand an existing Information platform services deployment* on the last screen, proceed to *Custom (Expand) installation*.

5.3.1.2.1 Custom (New) installation

If you chose the *Start a new Information platform services deployment* option for a *Custom / Expand* installation:

1. If you deselected the *Sybase SQL Anywhere Database* feature in the *Select Feature* page:
   a. On the *Select Existing CMS Database Type* page, select the database type to use for the CMS database.
   b. 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*.
2. On the *Configure Server Intelligence Agent (SIA)* page, review the default name and port number for the SIA node.

Option	Description
Node Name	This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA. 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..
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.

   > **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.
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.

8. 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.

9. 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.

10. 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.

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 the BI platform, see To enable SAP System Landscape Directory (SLD) support [page 22].
- For information on installing the SAP Host Agent after the BI platform, see To configure System Landscape Directory (SLD) Data Supplier (DS) post installation [page 58].
- For information on installing SMD Agent before the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 23].

- For information on installing SMD Agent after the BI platform, see To configure SMD Agent post installation [page 58].

11. On the *Select Connectivity to Introscope Enterprise Manager* page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

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

Option	Description
Configure connectivity to Introscope Enterprise Manager	The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager. 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 *While the installation program runs*.

5.3.1.2.2 Custom (Expand) installation

If you chose the *Expand an existing Information platform services 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	This is the name that you will see in the Central Configuration Manager (CCM). Many CMS servers can be managed by a single SIA. The name must consist of English alphanumeric characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation aside from underscores. The SIA name cannot start with a number.
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 *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	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.

Option	Description
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 the BI platform, see To enable SAP System Landscape Directory (SLD) support [page 22].
> - For information on installing the SAP Host Agent after the BI platform, see To configure System Landscape Directory (SLD) Data Supplier (DS) post installation [page 58].
> - For information on installing SMD Agent before the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 23].
> - For information on installing SMD Agent after the BI platform, see To configure SMD Agent post installation [page 58].

12. On the *Select Connectivity to Introscope Enterprise Manager* page, decide whether to integrate the BI platform with an existing Introscope Enterprise Manager server.

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

Option	Description
Configure connectivity to Introscope Enterprise Manager	The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager. 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 *While the installation program runs*.

5.3.1.3 Web Tier installation

The web tier hosts web applications such as the Central Management Console (CMC) to serve content to users over the web. Use the *Web Tier* installation option to install BI platform Java web applications onto a dedicated Java web application server.

Note

- During the web tier installation, you are prompted to logon to an existing Central Management Server (CMS) as the BI platform Administrator account. 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 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 perfom 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)
-

If you do not have a web application server in place for use with Information platform services, 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 Information platform services.

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.

> **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 23].
> - For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 58].

Option	Description
Configure connectivity to Introscope Enterprise Manager	The BI platform can integrate with your organization's deployment of CA Wily Introscope Enterprise Manager. 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 *While the installation program runs*.

5.3.2 While the installation program runs

The progress bar illustrates the progress of the installation as a whole.

The installation program installs SAP activity and resource monitoring tools. These tools enable you to provide detailed technical information about your installation in the event of a problem.

5.3.3 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. For more information on deploying web applications to a Java web application server, see the *SAP BusinessObjects Enterprise Web Application Deployment Guide*.

5.4 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.

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:

```
./setup.sh [...] -r $HOME/response.ini [...]
```

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 44]. For an example of a response file, see Response file example [page 49].

5.4.1 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.

Table 4: Installation program command-line switch parameters

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

5.4.1.1 To use a response file

To use a response file, run the installation program with the `-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 -r $HOME/response.ini
```

To override an installation option in a response file, give that option on the command-line. Installation options given on the command-line take precedence over the options in the response file. For a complete list of installation options, see *Installation option parameters* below.

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:

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

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

5.4.1.1.1 To write a response file

To create a response file, run the installation program with the `-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 -w $HOME/response.ini
```

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

> **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.

5.4.1.1.2 To read 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`, but overrides the response file's setting for the installation destination folder:

```
./setup.sh -r $HOME/response.ini InstallDir=/opt/sap/sap_bobj/
```

5.4.2 Installation option parameters

Table 5: Installation option parameters

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

Parameter	Description
installtype=<<VALUE>>	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 <<VALUE>> to default. To install a custom selection of components, set <<VALUE>> to custom. To install a web tier components, set <<VALUE>> to webtier.
introscope_ent_host=<<HOSTNAME>>	Hostname of the Introscope server. Substitute <<HOSTNAME>> with the Introscope server hostname.
introscope_ent_port=<<PORT>>	Network TCP listening port number used by the Introscope server. Substitute <<PORT>> with the Introscope server port number.
lcmname=LCM_Repository	Hostname of the SAP Lifecycle management server. **Note** Do not change this value.
lcmpassword=<<PASSWORD>>	User password to access SAP Lifecycle management server. Substitute <<PASSWORD>> with the password.
lcmport=<<PORT>>	Network TCP listening port number used by the SAP Lifecycle management server. Substitute <<PORT>> with the port number.
lcmusername=LCM	Username to access SAP Lifecycle management server. **Note** Do not change this value.
neworexistinglcm=<<VALUE>>	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 <<VALUE>> to new. To perform an expand installation, set <<VALUE>> to expand.
productkey=<<KEY>>	Product license key issued when you purchased the software. Substitute <<KEY>> with the product key in the format XXXXX-XXXXXX-XXXXXX-XXXX.
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.

Parameter	Description
selectedlanguagepacks=<<CODE>>	Installs language support for users and administrators to interact with Information platform services 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: `SelectedLanguagePacks="en;ja;zh_cn;th"` Substitute the following language codes where <<CODE>> is: • Arabic: ar • 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 • Russian: ru • Simplified Chinese: zh_cn • Slovak: sk • Slovenian: sl • Spanish: ed • Swedish: sv • Thai: th • Traditional Chinese: zh_tw • Turkish: tr
selectintegrateddatabase=<<VALUE>>	Determines whether or not the bundled database will be installed. To install the bundled database, set <<VALUE>> to 1. The bundled database is Sybase SQL Anywhere.

Parameter	Description
setupuilanguage=<<CODE>>	Determines which language for the installation program to use during the installation. Substitute the language code where <<CODE>> is: • 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 • Russian: ru • Simplified Chinese: zh_cn • Slovak: sk • Slovenian: sl • Spanish: es • Swedish: sv • Thai: th • Traditional Chinese: zh_tw • Turkish: tr
sianame=<<NAME>>	Name of the Server Intelligence Agent (SIA) node create for this installation. The name must be alphanumeric and cannot start with a number. Substitute <<NAME>> with the SIA name.
siaport=<<PORT>>	Network TCP listening port number used by the SIA. Substitute <<PORT>> with the port number.
smdagent_host=<<HOSTNAME>>	Hostname of the SMD Agent. Substitute <<HOSTNAME>> with the agent hostname.
smdagent_port=<<PORT>>	Network TCP listening port number used by the SMD Agent. Substitute <<PORT>> with the agent port number.
sqlanywhereadminpassword=<<PASSWORD>>	Admin password to assign to the Sybase SQL Anywhere dba administrative user account. Substitute <<PASSWORD>> with the password.
sqlanywhereport=<<PORT>>	Network TCP listening port number used by the Sybase SQL Anywhere database server bundled with the BI platform. Substitute <<PORT>> with the database server port number.

Parameter	Description
`tomcatconnectionport=<<PORT>>`	Network TCP listening port number used by the Tomcat web application server for inbound connections. Substitute `<<PORT>>` with the port number.
`tomcatredirectport=<<PORT>>`	Network TCP listening port number used by the Tomcat web application server for server request redirection. Substitute `<<PORT>>` with the port number.
`tomcatshutdownport=<<PORT>>`	Network TCP listening port number used by the Tomcat web application server to trigger a server shutdown. Substitute `<<PORT>>` with the port number.
`webappservertype=<<VALUE>>`	Sets the web application server to use for web application deployment. The default value is `tomcat`. Before deploying web applications with the WDeploy tool, you must still manually update the WDeploy configuration files. For more information, see the *SAP BusinessObjects Business Intelligence Platform Web Application Deployment Guide*.
`features=<<CODE>>`	List of components to install. Used in combination with the `installtype=custom` or `installtype=webtier` parameter. This parameter should not be modified manually. Features must be selected through the installation program user interface when creating a response file. For a complete list of feature codes, see Feature codes [page 48].

5.4.2.1 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
    - `JavaWebApps1` Java Web Applications
    - `PlatformServers.WebAppContainerService`
    - `CMC.Monitoring`
    - `LCM` (Lifecycle Manager)
    - `IntegratedTomcat` (installs bundled Tomcat web application server)
    - `CMC.AccessLevels`
    - `CMC.Applications`
    - `CMC.Audit`
    - `CMC.Authentication`
    - `CMC.Calendars`
    - `CMC.Categories`
    - `CMC.CryptographicKey`
    - `CMC.Events`
    - `CMC.Folders` (Public Folders)
    - `CMC.Inboxes`
    - `CMC.Licenses`

    - `CMC.PersonalCategories`
    - `CMC.PersonalFolders`
    - `CMC.Servers`
    - `CMC.Sessions`
    - `CMC.Settings`
    - `CMC.TemporaryStorage`
    - `CMC.UsersAndGroups`
    - `CMC.QueryResults`
    - `CMC.InstanceManager`
  - `PlatformServers`: install all platform servers
    - `CMS` (Central Management Server)
    - `FRS` (File Repository Servers)
    - `PlatformServers.IntegratedDB.SQLAnywhere` (installs bundled Sybase SQL Anywhere database server)
    - `PlatformServers.AdaptiveProcessingServer` (Platform Processing Services)
    - `PlatformServers.AdaptiveJobServer` (Platform Scheduling Services)
    - `ClientAuditingProxyProcessingService`
    - `LCMProcessingServices` (Lifecycle Management Processing Services)
    - `MonitoringProcessingService`
    - `SecurityTokenService`
    - `AdvancedAnalysisServices`
      - `MultidimensionalAnalysisServices`
    - `DestinationSchedulingService` (Program Scheduling Service)
    - `ProgramSchedulingService`
    - `Subversion`
  - `AdminTools`: install all administrator tools
    - `UpgradeManager` (Upgrade management tool)
  - `DataAccess` install all Enterprise Resource Planning (ERP) access components
    - `DataAccess.SAP`
    - `DataAccess.Peoplesoft` (PeopleSoft Enterprise)
    - `DataAccess.JDEdwards` (JD Edwards EnterpriseOne)
    - `DataAccess.Siebel` (Siebel Sign-on Server)
    - `DataAccess.OracleEBS` (Oracle E-Business Suite)

5.4.2.2 Response file example

The following example response file contains options for installing Information platform services.

> **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=XXXXX-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
#List the features installed by default
features=JavaWebApps1,tomcat80,WebTier,CMS,FRS,PlatformServers.IntegratedDB.SQLAny
where,PlatformServers.SystemLandscapeSupplier,Subversion,MultidimensionalAnalysisS
ervices,AdvancedAnalysisServices,UpgradeManager,DataAccess.SAP
```

5.5 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

5.5.1 To run a phase-wise installation for new installation from command prompt

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

1. Navigate to command prompt.
2. Enter the location where the software is downloaded..
3. Enter the setup.sh -cache `<path><file name>`.
   For example: `setup.sh -cache usr/sap/response.ini`

   > **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.

> **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 Instllation : 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 apperars, To start caching, choose *Next*.
12. *Caching completed successfully* screen appears.

> **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 -resume_after_cache `<path><file name>`
    For example: `setup.sh -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 of is completed successfully.

> **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

5.5.2 To run a phase-wise installation for update installation from command prompt

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 command prompt.
2. Navigate to the download location of software.
3. Execute the command `./setup.sh -cache <path>/<file name>`.
   For example: `./setup.sh -cache /build/response.ini`

   > **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*.

   > **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.

   > **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.

> **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.

> **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 -resume_after_cache <path>/<file name>`.
    For example: `./setup.sh -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*.

> **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.

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

5.5.3 To run a phase-wise installation for update installation from user interface

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

1. Open command prompt.
2. Navigate to the download location of the software.
3. Execute the command `./setup.sh` file.
   Use the `InstallDir=<DESTINATION_DIR>` parameter to set the destination folder from the command line. For example, to install the Information Platform Services 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.
   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.
6. In the *License Agreement* window, review and 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*.

> **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.

> **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*.
9. In the *Select Installation Mode* window, select the *Phase-wise Installation* option.

> **Note**
>
> Information platform services 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*.
    Caching completed successfully window appears.
11. To exit the phase-wise installation, press *Enter*.

> **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 *Resume Installation* window, press *Enter* to resume the installation.
    Update installation begins. When the installation is complete, Post installation Steps window appears.
15. In the *Post Installation Steps* window, follow the instructions and press *Enter*.

> **Note**
>
> The installer does not display the *Post Installation Steps* window, if you are updating Information platform services4.2 SP2 to higher version of Information platform services 4.2 and when your base setup has bundled default Tomcat Web Application Server.

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

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
```

> **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 *Information platform services Administrator Guide*.

6.1.1 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 BusinessObjects Enterprise 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) is running.
   Start the CCM with the `ccm.sh` script.
   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.
7. If you are attempting to connect to a CMS cluster using the **`@<clustername>`** format, and this is your first attempt to connect to the cluster, the CMC will not know which CMS servers belong to the cluster.
   In this case, you need to specify a list of CMS servers in the `web.xml`, found in the `WEB-INF` folder of the CMC web application WAR file. Follow the instructions in the `cms.clusters` section of `web.xml` for more details. It is also possible to specify CMS cluster information for the BI launch pad by modifying its corresponding `web.xml` file.

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

6.2 SAP support

6.2.1 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 Information platform services, 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 22].

Once SAP Host Agent is installed, open the Central Configuration Manager (CCM), 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 Enterprise Web Application Deployment Guide*.

6.2.2 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).

> **Note**
>
> SMD Agent must be installed before configuring the SMD Agent hostname and port number in Information platform services.

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. 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.

6.2.3 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).

> **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 `%IntroscopeAgenEnterpriseManagerPort%` placeholder with the Introscope Agent port number.
   d. Review `%IntroscopeAgenEnterpriseManagerTransport%` 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.

6.3 Third-party ERP integration

6.3.1 To enable Siebel Enterprise integration

To enable Siebel Enterprise integration, the Siebel Java Data Bean JAR files must be copied to the Information platform services Java `lib` folder.

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 Information platform services Java `lib` directory.

   For example, copy `/opt/siebel/7.8/classes/SiebelJI.jar` and `/opt/siebel/7.8/classes/SiebelJI_enu.jar` to `<IPS_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 `<IPS_INSTALL_DIR>/sap_bobj/tomcat/lib`.
4. Restart your Central Management Server and web application server.

For more information, see "Configuring for Siebel integration" in the *Information platform services Administrator Guide*.

6.3.2 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 Information platform services 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 Information platform services JD Edwards lib folder:

   `<<IPS_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 Information platform services, the default web application server lib directory is:

<<IPS_INSTALL_DIR>>/sap_bobj/tomcat/lib.

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

For more information, see "Configuring for JD Edwards EnterpriseOne integration" in the *Information platform services Administrator Guide*.

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

To enable Information platform services 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 Information platform services 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 Information platform services Oracle library.

   Copy:
   - <<ORA_HOME>>/lib/ocijdbc11.so (on HP-IA: libocijdbc11.sl)
   - <<ORA_HOME>>/lib/libclntsh.so.11.1 (on HP-IA: libclntsh.sl.11.1)
   - <<ORA_HOME>>/lib/libnnz11.so (on HP-IA: libnnz11.sl)

   To: <<IPS_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 Information platform services, the default web application server lib directory is:

   <<IPS_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 6.0 web application server supplied with Information platform services, remove all the files in the Tomcat work folder (<<IPS_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:

<IPS_INSTALL_DIR>/Samples/ebs/bobj_pkg.txt

6.4 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.

6.5 Making changes to Information platform services

6.5.1 To modify Information platform services

These instructions describe the process to modify your Information platform services installation by adding or removing installed features.

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

> **Note**
>
> The CMS must be running in order to modify an Information platform services installation.

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

   ```
   ./modifyOrRemoveProducts.sh
   ```

   > **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.

6.5.2 To repair Information platform services

These instructions describe the process to repair an Information platform services installation. This process restores the files and setting originally configured by the setup program.

It is recommended that you back up the CMS system database before repairing Information platform services.

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

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

   ```
   ./modifyOrRemoveProducts.sh
   ```

   > **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.

6.5.3 To remove Information platform services

These instructions describe the process to permanently uninstall Information platform services from a system.

It is recommended that you back up the CMS system database before removing Information platform services.

> **Note**
>
> Add-on products that with dependencies on other products should be removed before the product on which they depend. For example, for servers with Information platform services Explorer installed, Information platform services Explorer should be removed first, as it will not function without Information platform services.

> **Note**
>
> **Prerequisite for uninstalling or downgrading Information Platform Services 4.2 SP2**
>
> - When uninstalling or downgrading Information Platform Services from 4.2 SP2 to 4.2 SP1 or 4.1 or 4.0, ensure that you remove the new license key pertaining to Information Platform Services 4.2 SP2 from CMC

- If you had uninstalled Information Platform Services from 4.2 SP2 without removing the new license key, run the script to the remove the key. For more information on removing the key through the script, see SAP Note 2276413

> **Note**
>
> Removing Information platform services removes the core product plus any installed maintenance packages. To remove maintenance packages individually, see the installation guides for those maintenance packages.

The following items will remain:

- The CMS repository auditing databases, as they may be shared with other programs. If you are using the bundled Sybase SQL Anywhere database server, a backup of the CMS and auditing database files (`.db`) remain at the following location: `<<IPS_INSTALL_DIR>>/sqlanywhere/database.backup.<<DATE>>/`
- The file repository folder, as it may contain user data
- Web applications deployed to a web application server will not be undeployed. Use the WDeploy command or the web application server administrative console to undeploy web applications.
- Web application files customized to an individual web application server
- Configuration files

> **Note**
>
> These items can be removed later manually by an administrator, if required.

1. Stop all server processes.

   Change directory to the `<<IPS_INSTALL_DIR>>/sap_bobj` folder and run the command:

   ```
   ./ccm.sh -stop all
   ```

   Alternatively, run the command:

   ```
   ./stopservers
   ```

2. Change directory to the `<<IPS_INSTALL_DIR>>` folder.

   For example, run the following command:

   ```
   cd ..
   ```

3. Run the command:

   ```
   ./modifyOrRemoveProducts.sh
   ```

   > **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.

4. Select the installation to remove.
5. Select the *Remove* option and confirm.

6.5.4 Patching third party solutions bundled with Information platform services

There are several third party software solutions bundled with the Information platform services 4.1 installation, including:

- SAP Sybase SQL Anywhere
- Apache Tomcat 8.0
- 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 Feature Packs (FPs), 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.

> **Note**
>
> The SAP JVM/JDK must not be swapped with another vendors JVM/JDK.

7 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 is displays *-fips* by default.

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

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

> **Note**
>
> FIPS is default only for a new installation.

Important Disclaimers and Legal Information

Coding Samples

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

Accessibility

The information contained in the SAP documentation represents SAP's current view of accessibility criteria as of the date of publication; it is in no way intended to be a binding guideline on how to ensure accessibility of software products. SAP in particular disclaims any liability in relation to this document. This disclaimer, however, does not apply in cases of wilful misconduct or gross negligence of SAP. Furthermore, this document does not result in any direct or indirect contractual obligations of SAP.

Gender-Neutral Language

As far as possible, SAP documentation is gender neutral. Depending on the context, the reader is addressed directly with "you", or a gender-neutral noun (such as "sales person" or "working days") is used. If when referring to members of both sexes, however, the third-person singular cannot be avoided or a gender-neutral noun does not exist, SAP reserves the right to use the masculine form of the noun and pronoun. This is to ensure that the documentation remains comprehensible.

Internet Hyperlinks

The SAP documentation may contain hyperlinks to the Internet. These hyperlinks are intended to serve as a hint about where to find related information. SAP does not warrant the availability and correctness of this related information or the ability of this information to serve a particular purpose. SAP shall not be liable for any damages caused by the use of related information unless damages have been caused by SAP's gross negligence or willful misconduct. All links are categorized for transparency (see: http://help.sap.com/disclaimer).

go.sap.com/registration/contact.html

© 2016 SAP SE or an SAP affiliate company. All rights reserved.
No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company. The information contained herein may be changed without prior notice.
Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.
These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.
SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.
Please see http://www.sap.com/corporate-en/legal/copyright/index.epx for additional trademark information and notices.