PUBLIC

SAP BusinessObjects Business Intelligence platform

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Business Intelligence Platform Installation Guide for Windows

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1 Document History

The following table provides an overview of important document changes.

Version	Date	Description
SAP BusinessObjects Business Intelligence platform 4.3 SP2	December, 2021	Updated: • Post-installation configuration of fonts in the fontalias_v2.xml file [page 77] • Return codes for Silent Installation status (Unix)

SAP BusinessObjects Business Intelligence platform 4.3 SP1	December, 2020	• Updated the System requirements [page 15] with the default Xmx (maximum heap size) value for Tomcat.
		• Added two new topics:
		  • Return codes for Silent Installation status (Windows) [page 66]
		  • Return codes for Silent Installation status (Unix)

SAP BusinessObjects Business Intelligence platform 4.3	June 2020	Removed obselete information and added information about system requirements, command-line switch parameters and silent installation.

2 Introduction

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

2.1 About this Document

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

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

This document also provides information and procedures for the installation of the BI platform Client Tools.

2.2 Purpose

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

2.3 Constraints

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

2.4 Variables

The following variables are used throughout this guide.

Variable	Description
`<BIP_INSTALL_DIR>`	The directory where the BI platform is installed. On Windows, the default directory is `C:\Program Files (x86)\SAP BusinessObjects\`.
`<WAS_HOSTNAME>`	The hostname or IP of the web application server where BI platform web applications are deployed.

2.5 Terminology

The following terms are used throughout the BI platform documentation:

Term	Definition
Add-on products	Products that work with the BI platform but have their own installation program.
Auditing Data Store (ADS)	The database used to store auditing data
BI platform	An abbreviation for the SAP BusinessObjects Business Intelligence platform
Bundled database; bundled web application server	The database or web application server shipped with the BI platform
Cluster (noun)	Two or more Central Management Servers (CMSs) working together and using a single CMS database
Cluster (verb)	To create a cluster: 1. Install a CMS and CMS database on machine A. 2. Install a CMS on machine B. 3. Point the CMS on machine B to the CMS database on machine A.
Cluster key	Used to decrypt the keys in the CMS database. You can change the cluster key in the CCM, but you cannot reset the key like a password. It contains encrypted content and is important not to lose.
CMS	An abbreviation for the Central Management Server
CMS database	The database used by the CMS to store information about the BI platform

Term	Definition
Deployment	The BI platform software installed, configured, and running on one or more machines
Installation	An instance of BI platform files created by the installation program on a machine
Machine	The computer on which the BI platform software is installed
Major release	A full release of the software
Minor release	A release of some components of the software
Node	A group of BI platform servers that run on the same machine and are managed by the same Server Intelligence Agent (SIA)
Patch	A small update for a specific Support Package version
Promotion	The process of transferring BI content between deployments with the same major release (for example, 4.3 to 4.3), using the promotion management application
Server	A BI platform process. A server hosts one or more services
Server Intelligence Agent (SIA)	A process that manages a group of servers, including stopping, starting, and restarting servers
Support Package	A software update for a minor or major release
Web application server	A server that processes dynamic content
Upgrade	The planning, preparation, migration, and post-processes required to complete a migration process
ONE Installer	ONE Installer is a single installation package that supports multiple BI installation scenarios such as, fresh installation of a Service Package or Patch, any Patch to Patch update, or any Service Package to Patch update.

2.6 Additional documentation

Documents listed in the following table are relevant to deployment and installation. All 4.3 documents are available for download at http://help.sap.com/bobip.

Document Description	Document Title
Lists the supported platforms, databases, web application servers, web servers, and other systems.	Product Availability Matrix (PAM)
Overview of SAP BusinessObjects Business Intelligence platform documentation.	*SAP BusinessObjects Business Intelligence Suite Master Guide* under *Installation and Upgrade* section.
Overview of new features in SAP BusinessObjects Business Intelligence platform.	*What's New Guide* under *What's New* section.
Instructions for installing 4.3 directly on top of a 4.0, 4.1, or a 4.2 release.	*Minor Release Update Guide* under *Installation and Upgrade* section.
Instructions to upgrade from a previous major release such as XI 3.1, 4.0, 4.1, or 4.2.	*Business Intelligence Platform Upgrade Guide* under *Installation and Upgrade* section.
Installation instructions on applying a Support Package update to your 4.3 deployment.	*Support Package Update Guide* under *Installation and Upgrade* section.
Detailed instructions for deploying BI platform web applications to supported web application servers.	*Web Application Deployment Guide for Windows* under *Installation and Upgrade* section. *Web Application Deployment Guide for Unix* under *Installation and Upgrade* section.
Administrative documentation for setting up and maintaining an SAP BusinessObjects Business Intelligence platform server.	*SAP BusinessObjects Business Intelligence Platform Administrator Guide* under *Administration* section.

3 Planning

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

Before installing:

- Ensure the operating system, application server, database server, and other components on which you will install the BI platform are supported. See the SAP BusinessObjects BI 4.3 Product Availability Matrix (PAM).
- Decide whether to use the included Sybase SQL Anywhere database server for the CMS and auditing databases.
  If you do not have a database server to use with the BI platform, the installation program can install and configure one for you. It is recommended that you evaluate your requirements against information from your database server vendor to determine which supported database would best suit your organization's requirements.

  > **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.
- Please refer to the following Knowledge Base Articles to ensure that you do not miss out on the best practices & pre-requisites before initiating the install/update activity:
  • KBA 1952120 - Best practices & pre-requisites on Windows while Install/Update/Patching BI
  • KBA 2490588 - Best practices & pre-requisites on Linux while Install/Update/Patching BI
- Decide whether to use the included Tomcat web application server.
  If you do not have a web application server system to host BI platform web applications, the installation program can install and configure one for you. It is recommended that you evaluate your requirements against information from your web application server vendor to determine which web application server would best suit your organization's requirements. To use any other supported web application server, it must be installed, configured, enabled, and accessible before you install the BI platform.
  The installation program will only install Tomcat on the local machine. It cannot install across a network.
  During installation, users need to provide details regarding the SIA or Node name, the Cluster Key, and the Cluster name.SIA/Node name is an identifier only, it need not be a DNS resolvable hostname.It does need to be unique within the cluster, so something like Node1 would be appropriate, or ProdNode1.Cluster Name also need not be DNS resolvable. This is a user friendly name that identifies an overall environment which may encompass dozens of BOE servers working together.For example: BOEProduction or BOEDev, BOETest. The cluster name must be unique to each cluster of servers.This can be used to hide the real hostnames of machines when users log into the environment for security and simplicity reasons.This also allows you to add and remove hosts from the environment without making changes to the end user systems or processes.Cluster Key is a string that is used to prevent accidentally clustering machines together. You can think of it as a password that servers exchange behind the scene. Each cluster needs its own unique cluster key. This cluster key is also used for some encryption functionality and can be changed over time as needed with no impact to users.

> **Note**
>
> In BI 4.3 Support Package 1, the BI platform **compiler version is upgraded**. Since the **BI platform add-ons** (such as Lumira Server for BI Platform, Design Studio BI Platform Add On, and Analysis for Office BI Platform Add On) are tightly coupled with the BI Platform, they **have to be upgraded to the same compiler version**.
>
> It is recommend to review certain guidelines when planning your platform update or fresh installation of SAP BusinessObjects BI 4.3 with add-ons. For more details, refer to the SAP Note https://launchpad.support.sap.com/#/notes/2467541.

3.1 Upgrade support

Definition of Upgrade and Update

Update means adding support packages or patches to a 4.x release. *Upgrade* means moving a BusinessObject Enterprise XI 3.1 release to a BI platform 4.0 or 4.1 or 4.2 or 4.3 release.

Updating from 4.X to a 4.3 Support Package

Use this table to select the correct update guide.

> **Note**
>
> You can install the 4.3 Support Package update directly on a BI platform 4.0, 4.1, or 4.2 installation. You do not need to install the 4.2 update first.

You can go to SAP BusinessObjects Business Intelligence Platform product page in SAP Help Portal to check out the details.

Type of update	Example	Guide
Minor release update	• Installing 4.3 on a 4.0, 4.1, or 4.2 release	*Minor Release Update guide* under *Installation & Upgrade*.
Support Package update	Installing patch 1 on a 4.3 release	*Support Package Update Guide* under *Installation & Upgrade*.
Patch update for 4.3 release	Installing patch 1 on the 4.3 release	*Patch Update Guide* under *Installation & Upgrade*.

Upgrading from XI 3.1

To upgrade the SAP BusinessObjects Enterprise XI 3.1 or other 3.X release to the BI platform 4.3 SP1, you must first perform a full installation of BI platform 4.3, then use the Upgrade management tool to migrate content and settings from the 3.X installation. See the Upgrade Paths for more information.

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

3.2 Database servers

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

Sybase SQL Anywhere is the default database server. Any other database server must be running and accessible when you run the installation program.

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

For a list of supported database versions, revision levels, and requirements, consult the Product Availability Matrix (PAM).

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

3.3 Languages

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

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

1. Go to *Start* > *Control Panel* > *Programs and Features*
2. Select SAP BusinessObjects Business Intelligence platform base version.
3. Choose *Modify* and then choose *Next*.
4. Select the new language from the *Select language Packages* and choose *Next*.
5. Select the features and choose *Next*.
6. In the Expand Installation screen and Choose *Next*.
7. Enter the CMS administrator password and choose *Next*.
8. To start installation choose *Next*.
9. To complete the installation choose *Finish*

The new language is now added.

4 Preparation

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

Process Flow

1. Ensure that sufficient disk space is available. For disk cost requirement, see the Appendix section at Product Availability Matrix. Allow for both the operating system and the software to grow over time as patches or new components become available.
2. Gather the installation media or download the latest release and any Patches or Support Packages from the SAP Service Marketplace as described in To download the server installation program [page 24].
   SAP HOSTAGENT - a required software package for using SAP System Landscape Directory (SLD). To enable SAP System Landscape Directory (SLD) support [page 21]. The SAP HOSTAGENT is packaged in the following location `BusinessObjectsServer/Collaterals/Tools/SAP_HOSTAGENT`.
   In addition, download:
   SAPCAR - a compression utility used to compress and decompress downloaded packages in the `.SAR` format from SAP Service Marketplace.

   To download SAPCAR, go to *http://support.sap.com/home.html* > *Software Downloads* > *Support Packages and Patches* > *Browse our Download Catalog* > *SAP Technology Components* > *SAPCAR*.
3. If you plan to use SAP System Landscape Directory (SLD), ensure that the SAP Host Agent is installed before installing the BI platform. For more information on SLD, see "Registration of SAP BusinessObjects Business Intelligence platform in the System Landscape" in the *SAP BusinessObjects Business Intelligence Platform Administrator Guide*. For information on SAP Host Agent, see To enable SAP System Landscape Directory (SLD) support [page 21].
4. Decide the values for options you will set during the installation process. In most cases, you can accept the default values. More advanced installations require that you plan the installation process. The installation program prompts for the following information:
   - Product key.
   - Folder where the BI platform will be installed.
   - Web application server configuration, including type, connection, and authentication details.
   - Database server configuration, including type, connection, and authentication details.
   - CMS system and Auditing Data Store configuration information, including type, connection, and authentication details.
   - Central Management Server (CMS) administrator account password and cluster key.
   - CMS port number to receive incoming connections.
   - Server Intelligence Agent (SIA) name.
   - Server Intelligence Agent (SIA) port number for incoming connections.
   - SAP Solution Manager Diagnostics (SMD) configuration.
   - CA Wily Introscope Enterprise Manager configuration.
   - Subversion version control system configuration to store configuration files.
   - Promotion management configuration.

- Installation type (*Full*, *Custom / Expand*, and *Web Tier*). For an explanation of the different installation types, see To select an install type [page 28].

4.1 System requirements

Use the following guidelines when you install the BI platform:

- Ensure that the operating system is supported. Only 64-bit operating systems are supported.
  A supported version of Windows .NET Framework and the Windows Installer 4.0 (or greater) are required.
- Ensure that the following versions of Microsoft Visual C++ are installed:
  - Microsoft VC++ 2013 Redistributable (x64)
  - Microsoft VC++ 2013 Redistributable (x86)
  - Microsoft VC++ 2015 Redistributable (x64) (v 14.0.24210) + update
  - Microsoft VC++ 2015 Redistributable (x86) (v 14.0.24210) + update
- Before you run the installation program, certain windows operating system updates are required. For more details on the exact steps, please refer to 2451830.
- If you install the deployment on the operating system partition, ensure that there is enough room for the deployment and the operating system. It is recommended that you have at least 2 GB available for temporary files and web applications.
  - The default Xmx (maximum heap size) value for Tomcat is now increased from 2gb to 4gb. This change is introduced to address the symptom mentioned in the SAP Note https://launchpad.support.sap.com/#/notes/2536659.
- If you have previously installed any SAP BusinessObjects BI Suite products, the installation program uses the existing directory.
- Ensure that the full path of the files and directory (including installation-program-path and the sub-directories) where you run the installation program is less than 256 characters in length.

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

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

4.1.1 Account permissions

To install the BI platform on a Windows host, a user must have the following permissions:

Category	Required access
Operating system	Local administrative privileges.

Category	Required access
Network	• Network connectivity through appropriate ports to all machines in the deployment. • Access to shared file system directories for users of the deployment. • Appropriate network authentication privileges.
Database	• Permission for the BI platform user account to create, edit, and drop tables. • Permission for the BI platform user account to create stored procedures (required by the Central Management Server (CMS) system database). • Permission for the BI platform user account to create a sequence.

> **Note**
>
> You cannot install the deployment on a domain controller, or on a Windows host where the default local Administrator group security settings have been modified.

4.1.2 Network permissions

Ensure that the upgrade management tool can communicate with the source and destination deployments. For more information on network permissions, see the "Securing SAP BusinessObjects Business Intelligence platform" chapter of the *SAP BusinessObjects Business Intelligence platform Administrator's Guide*.

4.1.2.1 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 *SAP BusinessObjects Business Intelligence Platform Administrator Guide* for more information on clustering CMS server processes.

4.2 Preparing the CMS system or Auditing Data Store database

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

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

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

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

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

Database	Information required by installation program
Microsoft SQL Server using ODBC	• ODBC DSN name (selected from the Windows System DSN list) • Account username • Account password • Database name • *Use trusted connection* checkbox **ⓘ Note** • When using an ODBC connection with Windows NT authentication, a trusted connection is used. You must select *Use trusted connection* during the installation and ensure that the system account has access to the database. • When using an ODBC connection with SQL Server authentication (username and password), a trusted connection is not used. Ensure that *Use trusted connection* is unselected. • *Show system database* checkbox • *Reset existing database* checkbox (recommended setting)

Database	Information required by installation program
MySQL	• CMS database name • Server hostname • Port number (default is 3306) • Account username • Account password • *Reset existing database* checkbox (recommended setting)
IBM DB2	• DB2 Alias name • Account username • Account password • *Reset existing database* checkbox (recommended setting)
Oracle	• Oracle TNSNAME connection identifier • Account username • Account password • *Reset existing database* checkbox (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* checkbox (recommended setting)
Sybase SQL Anywhere using ODBC	• DSN • Account username • Account password • *Reset existing database* checkbox (recommended setting)
SAP HANA Database using ODBC	• DSN • Account username • Account password • *Reset existing database* checkbox (recommended setting)

4.2.1 Extra requirements for IBM DB2

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

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

```
Collating Sequence = "Identity"
```

```
Codeset = "UTF-8"
Territory = "<XX>"
```

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

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

4.2.2 Extra requirements for Sybase ASE

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

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

4.2.3 Extra requirements for CMS clustering with SQL Anywhere

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

1. You must install the SQL Anywhere Database Client.
   Download the SQL Anywhere 17 client for your operating system at: http://scn.sap.com/docs/DOC-35857
2. You must create an ODBC DSN connecting to the primary node SQL Anywhere CMS database.
   On the primary node, right-click the SIA in the Central Configuration Manager (CCM) and select *Properties*. The CMS DSN is found on the *Configuration* tab with details found in the Windows *ODBC Data Source Administrator*. By default the DSN is `BI4_CMS_DSN`.

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

1. Install the SQL Anywhere Database Client. This installs the SQL Anywhere 17 database driver.

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

ODBC property	SQL Anywhere value (primary node)
Data source name	BI4_CMS_DSN
User ID	dba
Password	mypassword
Host	192.0.2.0
Port	2638
Server name	BI4
Database name	BI4_CMS

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

4.3 SAP support

4.3.1 Support for SAP System Landscape Directory (SLD)

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

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

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

- Version
- Host information
- Connection information

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

4.3.1.1 To enable SAP System Landscape Directory (SLD) support

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

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

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

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

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

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

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

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

   ```
   saphostexec -install
   ```

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

   ```
   <%Program Files%>\SAP\hostctrl\exe
   ```

5. Create an SLD key with the following command:

   ```
   sldreg –configure connect.key
   ```

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

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

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

4.3.2 Support for SAP Solution Manager Diagnostics (SMD)

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

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

Tools integrated into SMD include:

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

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

To use SMD, the SMD Agent must be installed. SMD Agent may be installed and configured before or after installing the BI platform. During installation, the installation program prompts for the hostname and port number of the SMD Agent. If you do not want to use SMD, or you will install SMD later, you can choose not to use SMD. The SMD Agent can be configured later in the Central Management Console (CMC) *Placeholders* screen. For more information, seeTo configure SMD Agent post installation [page 68].

For more information on SMD Agent, see 1858920.

4.3.3 Support for CA Wily Introscope

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

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

During installation, the installation program prompts for the hostname and port number of the Introscope Agent. If you do not want to use Introscope, or you will install it later, you can choose not use Introscope. Introscope can be configured later in the Central Management Console (CMC) *Placeholders* screen. For more information, see To configure CA Wily Introscope Agent post installation [page 69].

4.3.4 Support for SAP BW

The BI platform can integrate with SAP BW. To get the best performance from SAP BW, follow the instructions in these SAP Notes:

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

5 Installation

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

5.1 Overview

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

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

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

When the installation program detects an identical previously-installed version, it will enter maintenance mode, allowing you to remove, repair, or modify the software.

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 the server installation program

You have the following tools available:

- WinZip/WinRAR to uncompress .rar files.
- SAP Download manager to download software files.

Follow the below procedure to download the server installation program:

1. Go to https://support.sap.com/home.html > *Download Software*.

2. Under *Installations and Upgrades*, expand *By Alphabetical Index (A–Z)*.
3. Select *B* > *SBOP BI platform (former SBOP Enterprise)* > *SBOP BI PLATFORM (ENTERPRISE)* > *SBOP BI PLATFORM 4.3* >.
4. Select *Installation and Upgrade*, and then select your platform.

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

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.

> ⚠ Caution
>
> - Ensure that you have downloaded the **.executable (exe) as well as the .rar file** in the same location for a successful installation.
> - If you download the server installation program without the SAP Download manager, it results in failed or partial downloads.

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

5.2.1 ONE Installer

About ONE Installer:

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

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

The information mentioned in the table below is applicable for BI 4.2 SP06 and above, and 4.3 versions as well.

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

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

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

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

Scenario	Example	Existing Procedure	ONE Installer Procedure
Fresh installation	To install BI **4.2 SP06**.	1. Install SAP BusinessObjects BI platform 4.2 SP06.	1. Directly install 4.2 SP06 in one step.
	To install BI **4.2 SP06 Patch x**.	Fresh installation to a Patch level is currently not supported. However, you can follow the steps below: 1. Install SAP BusinessObjects BI Platform 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x	1. Directly install 4.2 SP06 Patch x in one step.
Patch to Patch update	To update from **4.1 SP05 Patch 1** to **4.2 SP06 Patch x**.	1. Update from 4.1 SP05 Patch 1 to 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x	1. Directly update from 4.1 SP05 Patch 1 to 4.2 SP06 Patch x in one step.
	To update from **4.2 SP06 Patch x** to **4.2 SP06 Patch y**.	1. Use the Regular Patch Installer to update from 4.2 SP06 Patch x to 4.2 SP06 Patch y (delta update).	1. Directly update from 4.2 SP06 Patch x to 4.2 SP06 Patch y in one step.
Patch to Support Pack update	To update from **4.1 SP05 Patch 1** to **4.2 SP06**.	1. Update from 4.1 SP05 Patch 1 to 4.2 SP06	1. Directly update from 4.1 SP05 Patch 1 to 4.2 SP06 in one step.
Support Package to Patch update	To update from **4.1 SP05** to **4.2 SP06 Patch x**.	1. Update from 4.1 SP05 to 4.2 SP06 2. Use the Regular Patch Installer to update from 4.2 SP06 to 4.2 SP06 Patch x.	1. Directly update from 4.1 SP05 to 4.2 SP06 Patch x in one step.

5.2.2 Advantages of using ONE Installer

By using ONE Installer, you achieve the following:

1. One-Step Install:
    1. New customers can update to the latest Patch level of the latest available Support Package in a single step.
    2. Existing customers can eliminate the step of updating the landscape to a Support Pack level before patching.

2. Save approximately 50% of the install time since two steps of patching are reduced to one step.
3. Reduced production downtime during updates, for end users.
4. Perform validation and testing only once after updating to the required Support Package or Patch.
5. Better maintenance experience for BI Platform administrators.

5.3 To perform stand-alone pre-requisite check in the command prompt

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

1. Ensure to have a mandatory **response.ini** file that contains `SetupUILanguage=en` option.
2. Navigate to command prompt.
3. Navigate to the location where the software is downloaded and extracted.
4. Execute the command `setup.exe -pre_requisite_check <response file path> <file path to store failed pre-requisite info>.`

   Example: `setup.exe -pre_requisite_check C:\response.ini C:\logs\xyz_failedpc.txt`

   > **Note**
   >
   > It is mandatory to provide both the parameters, i.e. `response.ini` file that contains **SetupUILanguage=en** option and the `file path` value that captures the failed pre-requisites.
   >
   > If the `file path` value provided is not valid, then the file with the following default name **failedPrerequisites.txt** is created under the temp directory where the **setupengine.log** is being saved.

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

   > **Note**
   >
   > If the product pre-requisites fail, the **.txt** file contains: `<pre-requisite name>` and `<info related to the pre-requisite failure.>`
   >
   > If the product pre-requisites pass, the **.txt** file contains a single line info as written in the **setupengine.log** i.e. **"All product pre-reqs have passed."**

5.4 To run an interactive installation

Before installing, ensure that the account being used has Administrator privileges. The installation requires that the account being used is a member of the Windows *Administrators* group, and that the default privileges assigned to the *Administrators* group have not been modified.

The installation program requires a minimum screen resolution of 1024 × 768 pixels. Using Microsoft Remote Desktop Connection to run the installation program is supported, as long as a minimum screen resolution of 1024 × 768 pixels is used.

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

1. Go to the package download location and run `setup.exe` with administrative privileges.
2. 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 Windows components configured by the installation program, such as Windows service names and Start menu shortcuts. These names cannot be changed later and are not affected by language settings once the installation is complete.

3. On the *Check Prerequisites* page, review the results and decide whether to continue with the installation, or abort and correct any requirements that are not fulfilled.

   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.
4. Review the installation welcome page.
5. On the *License Agreement* page, review the agreement and select *I accept the License Agreement*.
6. 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.

7. 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 it is used if a problem is detected with an individual language.

The *Select Install Type* page appears.

5.4.1 To select an install type

The *Select Install Type* page is used to select the type of installation to perform.

1. Select one of the following install type options:
   - Full
     Installs all required server components onto a single machine. Use this option to create a single-host deployment, such as a pre-production development or test environment.
   - Custom / Expand

Allows experienced users to select individual features. Use this option:

- When distributing server components between more than one host, such as creating a CMS cluster.
- When you want full control over which features are deployed to a host.

> **Note**
>
> If you are adding a new node to a CMS cluster that uses the bundled SQL Anywhere database server, see Extra requirements for CMS clustering with SQL Anywhere [page 19] before proceeding with the installation.

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

2. Proceed to the next page to start configuring the selected installation.

   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 is not set to the same folder in which the installation program has been extracted.
   > - If you have already installed SAP BusinessObjects products, the *Destination Folder Information* field is not editable, and the path to the existing folder is displayed.

   - If you selected a *Full* installation, proceed to the following *Full* section.
   - If you selected a *Custom / Expand* installation, proceed to the following *Custom / Expand* section.
   - If you selected a *Web Tier* installation, proceed to the following *Web Tier* section.

5.4.1.1 Full installation

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

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

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

Option	Description
	Note Installation of third-party patches or updates is not supported for bundled software. For details, see Patching third-party solutions bundled with the BI platform [page 75].
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. **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 the BI platform [page 75].
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.

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

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

> **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 "Version management" and "Promotion management" sections of the *Business Intelligence Platform 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.

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 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.

> **Note**
>
> During installation process, the following character usage is not supported for password creation:
> 1. For a **BI Administrator**, you cannot have: " ', space tab, and a trailing backspace (\).
> 2. For **cluster key**, you cannot have: " ', $, #, and a space tab.

3. For **SQL Anywhere**, you cannot have: "&`', <>, @, \, |, (), [], {}, ^, $, *, +, ?, ., ;, and space tab.
4. For **subversion**, you cannot have: |, &, and ".

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 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. Special characters are allowed in the CMS administrator password with effect from 4.2 SP4. Additional special characters are added to the existing list of special characters allowed in 4.2 SP4 with effect from 4.2 SP6.

8. Configure the CMS system database.
   a. If you selected *Configure and install a Sybase SQL Anywhere database*, enter the account and port information on the *Configure Sybase SQL Anywhere* page.

      Enter the port number for Sybase SQL Anywhere to listen for incoming database queries. The database must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately. Also enter and confirm the database 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.

      If you're using an ODBC database driver, you must configure an ODBC data source. A system ODBC DSN can be configured from: *Start* > *Control Panel* > *Administrative Tools* > *Data Sources (ODBC)*.

   c. If you selected *Configure an existing database*, and you plan to use auditing, enter the connection information for your existing database to use for the ADS on the *Configure Auditing Database* page.

9. If you selected *Install the default Tomcat Java Web Application Server and automatically deploy web applications*, review the default port values on the *Configure Tomcat* page.

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

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

10. On the *Configure HTTP Listening Port* page, review the HTTP Listening Port number on the page for WACS to listen for incoming connections from web clients.

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

11. If you selected *Configure and install Subversion* review the port number and enter a Subversion password (user account is "LCM") on the *Configure Subversion* page.

12. On the *Select Connectivity for Solution Management Diagnostics (SMD) Agent* page, decide whether to integrate the BI platform with an existing SMD Agent.

Option	Description
Configure connectivity to SMD Agent	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 21].
> - 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 68].
> - For information on installing SMD Agent before installing the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 22].
> - For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 68].

13. 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	You can configure Introscope Enterprise Manager in the CMC *Placeholders* screen later after the installation program is complete.

Option	Description
Introscope Enterprise Manager	

The *Start Installation* page appears. Start the installation.

Proceed to When installation is complete [page 42].

5.4.1.2 Custom / Expand installation

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

1. On the *Select Features* page, select the features to install from the list.

   Features are grouped under the following headings:

   - *Web Tier*
     The web tier components include web applications such as BI launch pad and the Central Management Console (CMC) that allow end users and administrators to interact with BI content and the BI platform installation.
     If you do not have a web application server in place for use with the BI platform, the installation program can install and configure a Tomcat web application server for you. It is recommended that you evaluate your requirements against information from your web application server vendor to determine which supported web application server would best suit your organization's needs.
     If you already have a supported web application server installed, you can deselect the option to install Tomcat, and only install the Java web applications
   - *Servers*
     Server features include the Business Intelligence platform servers (such as processing and scheduling servers), major system components (such as the CMS, Event Server, bundled database, and a version control system), and servers that integrate the BI platform into your organization's existing network infrastructure, such as SAP BW or other Enterprise Resource Planning (ERP) systems.

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

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

   - *Administrator Tools*
     The Administrator Tools features help administrators maintain an installation. For example, the Upgrade management tool allows you migrate BI content during an upgrade between different versions of the BI platform.
   - *Developer Tools*
     If you plan to develop your own applications with a the BI platform .NET Software Development Kit (SDK), install the *Developer Tools* feature.

> **Note**
>
> Select *SPL Warehouse* to install the SQL Anywhere database, the sample dataset and the `SPL_Warehouse.unx` sample universe. See Running SPL_Warehouse.unx sample universe [page 79] to perform the post-installation steps that are required to get the database running.

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

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

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

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

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

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

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

5.4.1.2.1 Custom (New) installation

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

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.

> **Note**
>
> During installation process, the following character usage is not supported for password creation:
> 1. For a **BI Administrator**, you cannot have: " ', space tab, and a trailing backspace (\).
> 2. For **cluster key**, you cannot have: " ', $, #, and a space tab.
> 3. For **SQL Anywhere**, you cannot have: "&`', <>, @, \, |, (), [], {}, ^, $, *, +, ?, ., ;, and space tab.
> 4. For **subversion**, you cannot have: |, &, and ".

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. Special characters are allowed in the CMS administrator password with effect from 4.2 SP4. Additional special characters are added to the existing list of special characters allowed in 4.2 SP4 with effect from 4.2 SP6.

5. Configure the CMS system database.

   a. If you selected the *Sybase SQL Anywhere Database* feature in the *Select Feature* page, enter the account and port information on the *Configure Sybase SQL Anywhere* page.

      Enter the port number for Sybase SQL Anywhere to listen for incoming database queries. The database must be able to receive incoming connections on this port, so ensure that your firewall is configured appropriately. Also enter and confirm the database 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.

   If you're using an ODBC database driver, you must configure an ODBC data source. A system ODBC DSN can be configured from: *Start* > *Control Panel* > *Administrative Tools* > *Data Sources (ODBC)*.

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 installing the BI platform, see To enable SAP System Landscape Directory (SLD) support [page 21].

- 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 68].
- For information on installing SMD Agent before installing the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 22].
- For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 68].

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 When installation is complete [page 42].

5.4.1.2.2 Custom (Expand) installation

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

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

Option	Description
Node Name	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.

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

> **Note**
>
> During installation process, the following character usage is not supported for password creation:
> 1. For a **BI Administrator**, you cannot have: " ', space tab, and a trailing backspace (\).
> 2. For **cluster key**, you cannot have: " ', $, #, and a space tab.
> 3. For **SQL Anywhere**, you cannot have: "&`', <>, @, \, |, (), [], {}, ^, $, *, +, ?, ., ;, and space tab.
> 4. For **subversion**, you cannot have: |, &, and ".

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 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.

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.
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 21].
> - 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 68].
> - For information on installing SMD Agent before installing the BI platform, see Support for SAP Solution Manager Diagnostics (SMD) [page 22].
> - For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 68].

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	You can configure Introscope Enterprise Manager in the CMC *Placeholders* screen later after the installation program is complete.

Option	Description
Introscope Enterprise Manager	

The *Start Installation* page appears. Start the installation.

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

Proceed to When installation is complete [page 42].

5.4.1.3 Web Tier installation

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

> **Note**
>
> - During the web tier installation, you are prompted to logon to an existing Central Management Server (CMS) as the BI platform Administrator. You must have a CMS running remotely or on the same machine to perform the web tier installation.
> - If you plan to use a web tier with third-party authentication, or integration for Enterprise Resource Planning (ERP) systems such as Siebel Enterprise, JD Edwards EnterpriseOne, or Oracle E-Business Suite, you must perform a *Custom / Expand* installation and select the components you need.
> For example, to perform a web tier installation with ERP support, select the following components from the *Custom / Expand* feature list:
> - *Instances* > *WebTier* > *Java Web Applications*
> - *Instances* > *WebTier* > *Tomcat 8.0* (if you do not already have a web application server)
> - *Instances* > *Database Access* (select the name of the ERP system)

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

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

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

1. On the *Select Features* page, select the features to install under *Instances* > *WebTier*.

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

2. If you selected the *Tomcat 8.0* feature, review the default port values on the *Configure Tomcat* page.

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

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

> **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 22].
> - For information on installing SMD Agent after installing the BI platform, see To configure SMD Agent post installation [page 68].

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 When installation is complete [page 42].

5.4.2 When installation is complete

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

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

5.5 To run a silent installation

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

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

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

Execute the command `setup.exe [...] -r C:\<parent_folder>\<response_file_name>.ini [...]` with administrative privileges to create the response file.

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

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

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

> **Note**
>
> The installation program returns the cursor to the command-line prompt when it starts. To run the installation program from a script, or to force the installation program to wait to complete before returning to the command-line, use the Windows Command Interpreter `start /wait` command to invoke `setup.exe`.
>
> For example:
>
> ```
> start /wait setup.exe [<COMMAND_LINE_OPTIONS>]
> ```

For a complete list of installation options, see Installation option parameters [page 43]. For an example of a response file, see Response file example [page 52].

5.5.1 Installation option parameters

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

Installation option parameters

Parameter	Description
`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. When installing to a host that already has an installation of the BI platform, the value of `installdir` will be automatically set to the same path as the existing installation. **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).
`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.

Parameter	Description
`lcmname=LCM_Repository`	Hostname of the SAP Lifecycle management server. ⚠ Caution 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. ⚠ Caution 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 the BI platform in a supported language. If more than one language pack is to be installed, use a semi-colon delimited list without spaces, within quotes, to separate each code. In the following example, language support for English, Japanese, Simplified Chinese, and Thai will be installed: `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 • Hebrew: iw • Hungarian: hu • Italian: it • Japanese: ja • Kazakh: kk • Korean: ko • Norwegian Bokmal: nb • Polish: pl • Portuguese: pt • Romanian: ro • Russian: ru • Simplified Chinese: zh_cn • Slovak: sk • Slovenian: sl • Spanish: ed • Swedish: sv • Thai: th • Traditional Chinese: zh_tw • Turkish: tr • Ukrainian: uk
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` • Romanian: `ro` • Russian: `ru` • Simplified Chinese: `zh_cn` • Slovak: `sk` • Slovenian: `sl` • Spanish: `es` • Swedish: `sv` • Thai: `th` • Traditional Chinese: `zh_tw` • Turkish: `tr`

Parameter	Description
`sianame=<NAME>`	Name of the Server Intelligence Agent (SIA) node created for this installation. Substitute `<NAME>` with the SIA name. The name must consist of English characters (A-Z, a-z, and 0-9) and contain no spaces or other punctuation. Underscores ("_") are not allowed. The SIA name cannot start with a number. **Note** During installation process, the following character usage is not supported for password creation: 1. For a **BI Administrator**, you cannot have: " ', space tab, and a trailing backspace (\). 2. For **cluster key**, you cannot have: " ', $, #, and a space tab. 3. For **SQL Anywhere**, you cannot have: "&`', <>, @, \, |, (), [], {}, ^, $, *, +, ?, ., ;, and space tab. 4. For **subversion**, you cannot have: |, &, and ".
`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.
`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.

Parameter	Description
`webappservertype=<VALUE>`	Sets the web application server to use for web application deployment. The default value is `tomcat, manual, and wacs.`. **Note** • If you do not have a web application server in place for use with the BI platform, then use *tomcat*. • If you have an existing, supported Java web application server, then use *manual*. • If you do not want to use a Java application server to host your BI platform web applications, then use *wacs*.
`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 49].

5.5.1.1 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

> **Note**
>
> If you plan to use a web tier with third-party authentication, or integration for Enterprise Resource Planning (ERP) systems such as SAP BW, Siebel Enterprise, JD Edwards EnterpriseOne, or Oracle E-Business Suite, you must perform a *Custom / Expand* installation and select the components you need.
>
> For example, to perform a web tier installation with SAP BW and SAP authentication support, select the following components from the *Custom / Expand* feature list:
>
> - *Instances* > *WebTier* > *Java Web Applications*
> - *Instances* > *WebTier* > *Tomcat 8.0* (if you do not already have a web application server)
> - *Instances* > *Database Access* > *SAPBW*
> - *Instances* > *Database Access* > *SAP*
>
> To 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)

    - `JavaWebApps1` Java Web Applications
    - `MobileServices`
      - `MobileServers`
      - `MobileAddon` (CMS plugin for Mobile)
    - `IntegratedTomcat` (install bundled Tomcat web application server)
  - `Servers`: install all server components
    - `PlatformServers`: install all platform servers
      - `CMS` (Central Management Server)
      - `FRS` (File Repository Servers)
      - `PlatformServers.IntegratedDB.SQLAnywhere` (installs bundled Sybase SQL Anywhere database server)
      - `PlatformServers.EventServer`
      - `PlatformServers.WebAppContainerService` (WACS)
      - `AdaptiveProcessingServer` (platform processing)
      - `AdaptiveJobServer` (scheduling)
      - `Platform.RestWebService`
      - `Platform.Action.Framework.backend` (Insight to Action framework)
      - `Subversion` (Subversion version control system)
    - `ConnectionServices`: install connectivity components
      - `ConnectionProcService`
    - `DataFederatorServices`: install all data federation components
      - `DataFederatorQueryService`
    - `AdvancedAnalysisServices`: install all Analysis components
      - `MultidimensionalAnalysisServices` (MDAS)
      - `BExWebApplicationsService`
    - `CrystalReportsServers`: install all SAP Crystal Reports components
      - `CrystalReportsProcServices` (SAP Crystal Reports Processing)
      - `CrystalReportSchedulingServices`
      - `CrystalReport2011ProcServices` (SAP Crystal Reports 2016 Processing)
      - `CrystalReport2011SchedulingServices` (SAP Crystal Reports 2016 Scheduling)
    - `WebIServers`: install all Web Intelligence components
      - `WebIProcServer` (Web Intelligence Processing)
      - `WebISchedulingServices` (Web Intelligence Scheduling)
    - `XcelsiusServers` (Dashboards)
    - `IntegrationServers`: install all integration components
      - `BWPublisherServer` (SAP BW authentication and SAP BW Publisher support)
  - `AdministratorTools`: install all administrator tools
    - `UpgradeManager` (Upgrade management tool)
    - `Automation.Framework`
    - `PromotionManagementWizard`
    - `MultitenancyManager`
- `DeveloperTools`: install all developer tool components

    - `BOE64bitNETSDK` (64-bit BI platform .NET SDK)
    - `SL_SDK`
        - `SL_SDK_java`
        - `SL_SDKSamples`
    - `WebI_REST_samples`
    - `SPL_Warehouse`
- `DataAccess` install all database access components
    - `DataAccess.DataFederator`
    - `DataAccess.HPVertica`
    - `DataAccess.MySQL`
    - `DataAccess.GenericJDBC`
    - `DataAccess.GenericODBC`
    - `DataAccess.GenericODBC.DataDirect7`
    - `DataAccess.GenericODBC.DataDirect7.1`
    - `DataAccess.GenericOLEDB`
    - `DataAccess.OptionalDataDirectODBC7.1`
    - `DataAccess.MaxDB`
    - `DataAccess.SAPHANA`
    - `DataAccess.Salesforce` (Salesforce.com)
    - `DataAccess.Netezza`
    - `DataAccess.Microsoft_AnalyticalServices`
    - `DataAccess.MicrosoftExchange`
    - `DataAccess.MicrosoftOutlook`
    - `DataAccess.Microsoft_SQLServer`
    - `DataAccess.Microsoft_Access`
    - `DataAccess.Ingres`
    - `DataAccess.Greenplum`
    - `DataAccess.PostgreSQL`
    - `DataAccess.Progress`
    - `DataAccess.IBMDB2`
    - `DataAccess.Informix`
    - `DataAccess.Oracle`
    - `DataAccess.Sybase`
    - `DataAccess.Teradata`
    - `DataAccess.SAPBW`
    - `DataAccess.SAPBW64`
    - `DataAccess.SAPERP`
    - `DataAccess.XMLWebServices`
    - `DataAccess.OData`
    - `DataAccess.SAP` (security and data access for SAP BW and R/3 systems)
    - `DataAccess.PersonalFiles`
    - `DataAccess.JavaBean`

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

- `Samples`: install sample reports and data sources

5.5.1.2 Response file example

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

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

Example: response.ini

```
### Choose to Integrate Introscope Enterprise Manager: integrate or nointegrate
chooseintroscopeintegration=integrate
```

```
### Choose to Integrate Solution Manager Diagnostics (SMD) Agent: integrate or
nointegrate
choosesmdintegration=integrate
### CMS cluster key
clusterkey=********
### CMS administrator password
cmspassword=********
### CMS connection port
cmsport=6400
### Installation Directory
installdir=E:\Program Files (x86)\SAP BusinessObjects\
### Choose install type: default, custom, webtier
installtype=default
### Introscope Enterprise Manager Hostname
introscope_ent_host=localhost
### Introscope Enterprise Manager Instrumentation
introscope_ent_instrumentation=true
### Introscope Enterprise Manager Port Number
introscope_ent_port=6001
### LCM server name
lcmname=LCM_repository
### LCM password
lcmpassword=********
### LCM port
lcmport=3690
### LCM user name
lcmusername=LCM
### #property.NCSInstrumentLevelThreshold.description#
ncsinstrumentlevelthreshold=10
### Install new or use existing LCM: new or existing
neworexistinglcm=new
### Product Keycode
productkey=********
### Language Packs Selected to Install
selectedlanguagepacks=en
### Choose to Install integrated database: 0 or 1
selectintegrateddatabase=1
### Setup UI Language
setupuilanguage=en
### SIA node name
sianame=WEBTIER
### SIA connector port
siaport=6410
### SMD Agent Hostname
smdagent_host=localhost
### SMD Agent Port Number
smdagent_port=6404
### Sybase SQL Anywhere database administrator password
sqlanywhereadminpassword=********
### Sybase SQL Anywhere database server port
sqlanywhereport=2638
### Tomcat connection port
tomcatconnectionport=8080
### Tomcat redirect port
tomcatredirectport=8443
### Tomcat shutdown port
tomcatshutdownport=8005
### WACS port
wacsport=6405
### Web application server type: Tomcat, manual, or WACS
webappservertype=tomcat
### Available features
### ------------------
### root
###   WebTier
###     JavaWebApps1
###     MobileServices
###       MobileServers
```

```
###       MobileAddon
###     IntegratedTomcat
###   Servers
###     PlatformServers
###       CMS
###       FRS
###       PlatformServers.IntegratedDB.SQLAnywhere
###       PlatformServers.EventServer
###       PlatformServers.WebAppContainerService
###       AdaptiveProcessingServer
###       AdaptiveJobServer
###       Platform.RestWebService
###       Platform.Action.Framework.backend
###       Subversion
###     ConnectionServices
###       ConnectionProcService
###     DataFederatorServices
###       DataFederatorQueryService
###     AdvancedAnalysisServices
###       MultidimensionalAnalysisServices
###       BExWebApplicationsService
###     CrystalReportsServers
###       CrystalReportsProcServices
###       CrystalReportSchedulingServices
###       CrystalReport2011ProcServices
###       CrystalReport2011SchedulingServices
###     WebIServers
###       WebIProcServer
###       WebISchedulingServices
###     XcelsiusServers
###     IntegrationServers
###       BWPublisherServer
###   AdministratorTools
###     UpgradeManager
###     Automation.Framework
###     PromotionManagementWizard
###     MultitenancyManager
###   DeveloperTools
###     BOE64bitNETSDK
###     SL_SDK
###       SL_SDK_java
###       SL_SDKSamples
###     WebI_REST_samples
###     SPL_Warehouse
###   DataAccess
###     DataAccess.DataFederator
###     DataAccess.HPVertica
###     DataAccess.MySQL
###     DataAccess.GenericJDBC
###     DataAccess.GenericOLEDB
###     DataAccess.OptionalDataDirectODBC.DataDirect7.1
###     DataAccess.MaxDB
###     DataAccess.SAPHANA
###     DataAccess.Salesforce
###     DataAccess.Netezza
###     DataAccess.Microsoft_AnalyticalServices
###     DataAccess.MicrosoftExchange
###     DataAccess.MicrosoftOutlook
###     DataAccess.Microsoft_SQLServer
###     DataAccess.Microsoft_Access
###     DataAccess.Ingres
###     DataAccess.Greenplum
###     DataAccess.PostgreSQL
###     DataAccess.Progress
###     DataAccess.IBMDB2
###     DataAccess.Informix
###     DataAccess.Oracle
###     DataAccess.Sybase
```

```
###     DataAccess.Teradata
###     DataAccess.SAPBW
###     DataAccess.SAPBW64
###     DataAccess.SAPERP
###     DataAccess.XMLWebServices
###     DataAccess.OData
###     DataAccess.SAP
###     DataAccess.PersonalFiles
###     DataAccess.JavaBean
###     DataAccess.OpenConnectivity
###     DataAccess.HadoopHive
###     DataAccess.Amazon
###     DataAccess.Spark
###     DataAccess.Hortonworks
###     DataAccess.Essbase
###     DataAccess.Peoplesoft
###     DataAccess.JDEdwards
###     DataAccess.Siebel
###     DataAccess.OracleEBS
###     DataAccess.Universe
###     DataAccess.MyCube
###     DataAccess.XML
###     DataAccess.ADO.NET
###     DataAccess.COMData
###     DataAccess.DataSet
###     DataAccess.SymantecACT
###     DataAccess.BDE
###     DataAccess.CDO
###     DataAccess.FieldDefinitions
###     DataAccess.FileSystem
###     DataAccess.NTEventLog
###     DataAccess.WebActivityLog
###     DataAccess.Btrieve
###     DataAccess.dBase.DataDirect7.1
###     DataAccess.UWSC
###     DataAccess.CMSDBDriver
###   Samples
features=JavaWebApps1,MobileServers,MobileAddon,MobileServices,IntegratedTomcat,W
ebTier,CMS,FRS,PlatformServers.IntegratedDB.SQLAnywhere,PlatformServers.EventServ
er,AdaptiveProcessingServer,AdaptiveJobServer,Platform.RestWebService,Platform.Ac
tion.Framework.backend,Subversion,ConnectionProcService,ConnectionServices,DataFe
deratorQueryService,DataFederatorServices,MultidimensionalAnalysisServices,BExWeb
ApplicationsService,AdvancedAnalysisServices,CrystalReportsProcServices,CrystalRe
portSchedulingServices,CrystalReport2011ProcServices,CrystalReport2011SchedulingS
ervices,CrystalReportsServers,WebIProcServer,WebISchedulingServices,WebIServers,X
celsiusServers,BWPublisherServer,IntegrationServers,UpgradeManager,Automation.Fra
mework,PromotionManagementWizard,MultitenancyManager,AdministratorTools,BOE64bitN
ETSDK,SL_SDK_java,SL_SDKSamples,SL_SDK,DataAccess.DataFederator,DataAccess.HPVert
ica,DataAccess.MySQL,DataAccess.GenericJDBC,DataAccess.GenericOLEDB,DataAccess.Op
tionalDataDirectODBC.DataDirect7.1,DataAccess.MaxDB,DataAccess.SAPHANA,DataAccess
.Salesforce,DataAccess.Netezza,DataAccess.Microsoft_AnalyticalServices,DataAccess
.MicrosoftExchange,DataAccess.MicrosoftOutlook,DataAccess.Microsoft_SQLServer,Dat
aAccess.Microsoft_Access,DataAccess.Ingres,DataAccess.Greenplum,DataAccess.Postgr
eSQL,DataAccess.Progress,DataAccess.IBMDB2,DataAccess.Informix,DataAccess.Oracle,
DataAccess.Sybase,DataAccess.Teradata,DataAccess.SAPBW,DataAccess.SAPBW64,DataAcc
ess.SAPERP,DataAccess.XMLWebServices,DataAccess.OData,DataAccess.SAP,DataAccess.P
ersonalFiles,DataAccess.JavaBean,DataAccess.OpenConnectivity,DataAccess.HadoopHiv
e,DataAccess.Amazon,DataAccess.Spark,DataAccess.Hortonworks,DataAccess.Essbase,Da
taAccess.Peoplesoft,DataAccess.JDEdwards,DataAccess.Siebel,DataAccess.OracleEBS,D
ataAccess.Universe,DataAccess.MyCube,DataAccess.XML,DataAccess.ADO.NET,DataAccess
.COMData,DataAccess.DataSet,DataAccess.SymantecACT,DataAccess.BDE,DataAccess.CDO,
DataAccess.FieldDefinitions,DataAccess.FileSystem,DataAccess.NTEventLog,DataAcces
s.WebActivityLog,DataAccess.Btrieve,DataAccess.dBase.DataDirect7.1,DataAccess.UWS
C,DataAccess.CMSDBDriver,Samples
```

5.6 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. Every option in the *Maintenance* wizard can be read from a response file invoked in the command-line. This is referred to as a silent installation. When parameters are supplied on the command-line, the installation will not prompt for information.

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.exe -w "C:\response.ini"`
`-r <FILENAME>`	Reads installation options from a response file named `<FILENAME>`.	`setup.exe -r "C:\response.ini"`
`-i <product key name>`	This parameter is the keyname of the product that is used to perform maintenance operations.	`"setup.exe -i response.ini -i bipclient"`

5.6.1 To use a response file

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

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

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

For example, the following command reads installation options from the response file `C:\<parent_folder>\<response_file_name>.ini`, but overrides the response file's setting for the installation destination folder:

```
setup.exe -r C:\<parent_folder>\<response_file_name>.ini
InstallDir="C:\SAP\BusinessObjects BI platform"
```

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

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

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

5.6.1.1 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 `C:\<parent_folder>\<response_file_name>.ini`:

```
setup.exe -w C:\<parent_folder>\<response_file_name>.ini
```

-i <product key name>: This parameter is the keyname of the product that is used to perform maintenance operations.

```
./setup.sh -w "$HOME/ response.ini"
```

> **Note**
>
> The parent folder should exist before you execute the command.

Response file for various clients

Client	Response File
SAP Crystal Reports	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Crystal Reports for Enterprise	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Businessobjects Explorer	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Lumira	`SAPLumiraSetup.exe -w c:\<parent_folder>\<response_file_name>.ini`

Client	Response File

SAP BusinessObjects Web Intelligence Rich client	For Scripted :
	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
	For Command-line :
	`setup.exe –q C:\<parent_folder>\<response_file_name>.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.

5.6.1.2 To read 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 `C:\<parent_folder>\<response_file_name>.ini`:

```
setup.exe -r C:\<parent_folder>\<response_file_name>.ini
```

-r < RESPONSE FILE NAME >: This parameter reads installation options from a response file named <RESPONSE FILENAME>.

-i <product key name>: This parameter is the keyname of the product that is used to perform maintenance operations.

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

Response file for various clients

Client	Response File
SAP Crystal Reports	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`

Client	Response File
SAP Crystal Reports for Enterprise	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
SAP Businessobjects Explorer	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
SAP Lumira	`SAPLumiraSetup.exe -r c:\<parent_folder>\<response_file_name>.ini`

SAP BusinessObjects Web Intelligence Rich client	For Scripted :
	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
	For Command-line :
	`setup.exe –r C:\<parent_folder>\<response_file_name>.ini`

5.7 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

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

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

1. Launch command prompt with administrative privileges.
2. Enter the location where the software is downloaded..

3. Enter the `setup.exe -cache <path><file name>`.
   For example: `setup.exe -cache c:\<parent_folder>\<response_file_name>.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. Follow the installation wizard and select the required options that will be recorded in the response file.
5. *Start Installation* window apperars, To start caching, choose *Next*.
6. *Caching completed successfully* screen appears.

   > **Note**
   > During the caching process, you will not experience the system downtime.

7. Navigate to the directory where response.ini file is located.
8. 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.

9. Navigate to command prompt.
10. Enter the location where the software is downloaded.
11. Enter the `setup.exe -resume_after_cache <path><file name>`
    For example: `setup.exe -resume_after_cache c:\<parent_folder>\<response_file_name>.ini`
12. In the *Resume installation* window, choose *OK*
13. In the *Post Installation Steps* window, follow the instructions and choose *Next*

The installation is completed successfully.

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

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

To do a phase-wise installation in any update scenario

1. Launch command prompt with administrative privileges.
2. Enter the location where the software is downloaded.
3. Enter the `setup.exe -cache <path><file name>`.
   For example: `setup.exe -cache c:\<parent_folder>\<response_file_name>.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. Follow the installation wizard and select the required options that will be recorded in the response file.
5. *Start Installation* window apperars, To start caching, choose *Next*.
6. *Caching completed successfully* screen appears.

   > **Note**
   > During the caching process, you will not experience the system downtime.

7. Navigate to the directory where response.ini file is located.
8. Navigate to command prompt.
9. Enter the location where the software is downloaded.
10. Enter the `setup.exe -resume_after_cache <path><file name>`
    For example: `setup.exe -resume_after_cache c:\<parent_folder>\<response_file_name>.ini`
11. In the *Resume installation* window, choose *OK*
12. In the *Post Installation Steps* window, follow the instructions and choose *Next*

The installation of SAP BusinessObjects Business Intelligence Platform 4.3 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.

> **Note**
> 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
```

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

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

1. Go to package downloaded location and locate setup.exe.
2. Execute the setup.exe file with administrative privileges.
3. 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.
4. In the *Installation wizard* window, review the instructions displayed.
5. In the *License Agreement* window, review and accept the license agreement.
6. In the *New License Key Requirement* window, review the contents of the New License Key Requirement, and select the checkbox, and choose *Next*.

> **Note**
>
> The BI installer will display the *New License Key Requirement* window, if you are updating SAP BusinessObjects Business Intelligence Platform 4.3 SP1 or earlier versions to higher version of SAP BusinessObjects Business Intelligence Platform 4.3, otherwise the BI installer shall not display the *New License Key Requirement* window.

> **Note**
>
> When you update your system from Business Intelligence Platform 4.3 SP1 or earlier versions to Business Intelligence Platform higher versions, the existing licenses behave as invalid licenses. You need to request a new license key for Business Intelligence Platform 4.3 update from SAP Service Market Place. Visit https://support.sap.com/keys-systems-installations/keys.html to request a new license key.
>
> For more information on how to request a new license key, visit http://scn.sap.com/docs/DOC-70095.
>
> After you update your system to Business Intelligence Platform 4.3 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**.

7. In the *Existing CMS Deployment Information* window, enter the CMS logon administrator *Password* information.
8. In the *Select Installation Mode* window, choose the *Phase-wise Installation* radio button.

> ⓘ Note
>
> BI Platform installer performs installation in two phases – Caching and Installation after caching.
>
> During Caching, there is no system downtime and you can continue working on the system.
>
> During Installation after caching, in system in which you install the software, there is system downtime.

9. To start the Caching phase, choose *Next*.
   Once the caching process is completed successfully, *Caching completed successfully* window appears.
10. To exit the phase-wise installation, choose *Finish*.

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

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

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

   - Choosing the *Deploy web applications now* radio button deploys the web application contents on the bundled default Tomcat JAVA web application server.
   - Choosing the *Deploy web applications later* radio button does not deploy the web application contents on the bundled default Tomcat JAVA web application server.
   - We recommend you to choose the *Deploy web applications later* radio button when you are installing BI platform and SAP BusinessObjects Explorer add-on product. When you are installing the Explorer add-on product in your system, choose the *Deploy web applications now* radio button. This way you can experience overall reduction in system downtime.
14. In the *Resume Installation* window, choose *Next* 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 choose *Next*.

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

16. To exit the installation, choose *Finish*.

The installation of SAP BusinessObjects Business Intelligence Platform 4.3 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.

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 *SAP BusinessObjects Business Intelligence Platform Administrator Guide*.

6.1.1 Checking the installed version

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

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

BI products and Client Tools

You can see the current version information for BI platform Client Tools and other SAP BusinessObjects BI products such as SAP Crystal Reports in the *Help* > *About* menu.

6.1.2 Troubleshooting login issues

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

1. Is a firewall blocking the CMS port number (default 6400) or the web application server port?
   Check the Windows Firewall settings by going to: *Start* > *Settings* > *Control Panel* > *Windows Firewall*.
2. Is the URL correct?
   The default URL to access the CMC is:

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

   Substitute `<WAS_HOSTNAME>` for the hostname of the web application server and `<PORT>` for the web application server's listening port. If you are using a custom web application server root context or `BOE.war` web application context, the URL will be different.
3. Is the correct method specified in the *Authentication* field?
   The default authentication type is *Enterprise*, referring to native BI platform authentication system.
   If you are using an LDAP or Windows AD single sign-on authentication system, select the system instead.
4. Did you provide the correct user credentials in the *User Name* and *Password* fields on the CMC login screen?
   The name of the administrative account is **`Administrator`**. You entered the password during the installation process.
5. Is the Server Intelligence Agent (SIA) running.?
   Go to: *Start* > *Programs* > *SAP Business Intelligence* > *SAP BusinessObjects BI platform 4.3* > *Central Configuration Manager*.
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.

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

6.1.3 Return codes for Silent Installation status (Windows)

Following are the return codes from the installer when launched in silent mode in automated scenarios.

Return Code	Installation Status	Scenarios
0	Success	Installation completed successfully.

Return Code	Installation Status	Scenarios
1	Error / Abnormal End (Crash)	Installation failed due to some critical errors. For example: • Failed to register any dll • Errors occurred while adding node • Wrong/Invalid values supplied for any Installation Option Parameters during Silent Installation via the response file or in the command prompt. • Due to abnormal end (crash) of the Setup program. • Setup program got closed forcibly from the taskbar or task manager.
2	Warning	Installation completed with warnings. For example: • Any issues related DFO deployment or DFO upload.

6.2 Creating additional Adaptive Processing Servers

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

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

You can create additional APSs in two ways:

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

→ Remember

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

6.3 Deploying web applications

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

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

6.4 SAP support

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

If you decided not to enable support for SAP System Landscape Directory (SLD) when installing the BI platform, you can enable it at any time later by installing SAP Host Agent. For more information, see To enable SAP System Landscape Directory (SLD) support [page 21].

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

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

6.4.2 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 the BI platform.

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

6.4.3 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.

6.5 Third-party ERP integration

6.5.1 To enable Siebel Enterprise integration

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

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

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

   The Java data bean files are typically located in the `SIEBEL_HOME\classes` folder. For example, the Siebel `classes` folder may be `C:\Program Files (x86)\Siebel\7.8\classes`.
2. Copy the `SiebelJI.jar` and `SiebelJI_enu.jar` Java data bean files to the BI platform Java `lib` directory.

   For example, copy `C:\Program Files (x86)\Siebel\7.8\classes\SiebelJI.jar` and `C:\Program Files (x86)\Siebel\7.8\classes\SiebelJI_enu.jar` to `<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\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 `C:\Program Files (x86)\Siebel\7.8\classes\SiebelJI.jar` and `C:\Program Files (x86)\Siebel\7.8\classes\SiebelJI_enu.jar` to `<WAS_INSTALL_DIR>\lib\`. If you installed the Tomcat web application server bundled with the BI platform, the folder is `<BIP_INSTALL_DIR>\tomcat\lib`.
4. Restart the Central Management Server and web application server.

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

6.5.2 To enable JD Edwards EnterpriseOne integration

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

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

   The Java data bean files are typically located in the `<JDE_HOME>\system\classes` folder.
2. Locate the following Java data bean files:
   - `kernel.jar`
   - `jdeutil.jar`
   - `log4j.jar`
   - `pseoneqryxml.jar`
   - `pseonexml.jar`
3. Copy the `.jar` files above into the BI platform JD Edwards lib folder:

   `<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\java\lib\jdedwards\default\jdedwards`.
4. Also copy the `.jar` into the web application server Java lib folder. For example, if you're using the web application server bundled with the BI platform, the default web application server lib directory is:

`<BIP_INSTALL_DIR>\tomcat\lib`.

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

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

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

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

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

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

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

   - Oracle JDBC driver
   - JDBC-OCI bridge

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

   Copy:

   - `<ORA_HOME>\bin\ocijdbc11.dll`

   To: `<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\win64_x64`.

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

   Copy:

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

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

   `<BIP_INSTALL_DIR>\tomcat\lib`.

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

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

8. Restart the web application server.

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

`<BIP_INSTALL_DIR>\SAP BusinessObjects Enterprise XI 4.0\Samples\ebs\bobj_pkg.txt`

6.6 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.

6.7 Making changes to the BI platform

6.7.1 To modify the BI platform

These instructions describe the process to modify your BI platform installation by adding or removing installed components though the Windows Control Panel.

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

1. Go to: *Start* > *Control Panel* > *Programs and Features*.
2. Right-click *SAP BusinessObjects Business Intelligence platform 4.3* and select *Uninstall/Change*.
3. On the *Application Maintenance* page, select *Modify* and click *Next*.
4. On the *Select Language Packs* page, select any languages you want to install; unselect any languages you want to remove. Click *Next* to continue.
5. On the *Select Features* page, select any features you want to install; unselect any features you want to remove.

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

6. Click *Next* to apply your changes.

The *Start Installation* page appears. Start the installation.

6.7.2 To repair the BI platform

These instructions describe the process to repair a BI platform installation from the Microsoft Windows Control Panel. This process restores the files and settings originally configured by the setup program.

It is recommended that you back up the CMS system database before running a repair.

1. Go to: *Start* > *Control Panel* > *Programs and Features*.
2. Right-click *SAP BusinessObjects Business Intelligence platform 4.3* and select *Uninstall/Change*.
3. On the *Application Maintenance* page, select *Repair* and click *Next*.
4. (Optional) On the *Existing CMS Deployment Information* page, enter the CMS connection and logon information for the existing, remote CMS.

   > **Note**
   > If you cannot connect to your existing, remote CMS, click *No* when prompted and you can proceed with the repair.

The *Start Installation* page appears. Start the installation. Once the repair is complete, the system is restored to its original configuration.

6.7.3 To remove the BI platform

These instructions describe the process to permanently uninstall the BI platform from a machine.

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

> **Note**
>
> Add-on products that have dependencies on other products should be removed before the product on which they depend. For example, if Explorer installed on a machine, remove it first, as it will not function without the BI platform.

> **Note**
>
> Prerequisite for uninstalling or downgrading SAP BusinessObjects BI platform 4.3.
>
> - When uninstalling or downgrading SAP BusinessObjects BI Platform from 4.3 to 4.2 SPXX or 4.1.x or 4.0.x, ensure that you remove the new license key pertaining to BI Platform 4.2 SPxx from CMC.
> - If you had uninstalled SAP BusinessObjects BI Platform from 4.3 without removing the new license key, run the script to the remove the key. For more information, see 2276413. You can also check the blog BI4.2 New License Key Requirement when updating from BI4.0/BI4.1 to learn more about license keys.

1. Run the Central Configuration Manager (CCM) by selecting *Start* > *Programs* > *SAP Business Intelligence* > *SAP BusinessObjects BI platform 4.3* > *Central Configuration Manager*.
2. Change the status of all servers to stopped.
3. When all of the servers are stopped, close the CCM.
4. Go to: *Start* > *Control Panel* > *Programs and Features*.
5. Right-click *SAP BusinessObjects Business Intelligence platform 4.3*, and select *Uninstall/Change*.
6. On the *Application Maintenance* page, select *Remove* and click *Next*.
7. On the *Uninstall Confirmation* page, confirm that you want uninstall by clicking *Next*.
   The uninstallation program starts and the BI platform is removed from the system.
8. After uninstalling BI Platform from a higher version to a lower version, you should ensure to restore the CMS system database and the filestore to the downgraded version of the BI Platform. For example, you have updated from BI 4.2 SP06 to BI 4.3, then you want to uninstall BI 4.2 SP06. In such a scenario, you should restore the CMS database from BI 4.3 to BI 4.2 SP06 manually from a backup taken before installing 4.3.

   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:
     `<BIP_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 manually by an administrator if required.

6.7.4 Patching third-party solutions bundled with the BI platform

There are several third-party software solutions bundled with the BI platform 4.3 installation, including:

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

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

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

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

6.7.5 To downgrade or uninstall patch or add-on in BI platform

These instructions describe the process to permanently uninstall the BI platform from a machine.

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

> **Note**
>
> Add-on products that have dependencies on other products should be removed before the product on which they depend. For example, if Explorer installed on a machine, remove it first, as it will not function without the BI platform.

> **Note**
>
> Prerequisite for uninstalling or downgrading SAP BusinessObjects BI platform 4.3.
>
> - When uninstalling or downgrading SAP BusinessObjects BI Platform from 4.3 to 4.2 SPxx or 4.1.x or 4.0.x, ensure that you remove the new license key pertaining to BI Platform 4.2 SPxx from CMC.

- If you have uninstalled SAP BusinessObjects BI Platform from 4.2 SPxx without removing the new license key, run the script to the remove the key. For more information, see 2276413. You can also check the blog BI4.2 New License Key Requirement when updating from BI4.0/BI4.1 to learn more about license keys.

Note

Prerequisite for uninstalling or downgrading from SAP BusinessObjects BI platform 4.3 to 4.2 or 4.1 SP05 and from 4.2 to 4.0 SP11.

When uninstalling or downgrading SAP BusinessObjects BI Platform from 4.3 to 4.2 or 4.1 SP05 and from 4.2 to 4.0 SP11, make sure that you restore the FRS file backup and CMS database backup manually. Also, perform the following:

- Navigate to the following DFO location *Install Location* > *SAP BusinessObjects Enterprise XI 4.0* > *dfo* > *dfo_xxxxxxxxxxxxxxx* > *SI*
- Search for all files having these strings in the file-name: **CrystalReportsNextGenProcessingServiceContainer** or **OutOfBoxCrystalReportsNextGenProcessingServer**, and move them into a new directory
- Then restart the SIA

Caution

If you do not follow this step, the un-installation does not complete successfully and instead gives an error.

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: `<BIP_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

These items can be removed manually by an administrator if required.

1. Run the Central Configuration Manager (CCM) by selecting *Start* > *Programs* > *SAP Business Intelligence* > *SAP BusinessObjects BI platform 4.3* > *Central Configuration Manager*.
2. Change the status of all servers to stopped.
3. When all of the servers are stopped, close the CCM.
4. Go to: *Start* > *Control Panel* > *Programs and Features*.
5. Right-click *SAP BusinessObjects Business Intelligence platform 4.3*, and select *Uninstall/Change*.
6. On the *Application Maintenance* page, select *Remove* and click *Next*.
7. On the *Uninstall Confirmation* page, confirm that you want uninstall by clicking *Next*.
   The uninstallation program starts and the BI platform is removed from the system.

8. After uninstalling BI Platform from a higher version to a lower version, you should ensure to restore the CMS system database and the filestore to the downgraded version of the BI Platform. For example, you have updated from BI 4.1 SP06 to BI 4.2 SP06 and then, you want to uninstall BI 4.2 SP06. In such a scenario, you should restore the CMS database from BI 4.2 SP06 to BI 4.1 SP06 manually from a backup taken before installing 4.2 SP06.

6.8 When the Administrator account password is lost

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

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

6.9 Post-installation configuration of fonts in the fontalias_v2.xml file

You can increase the number of fonts available in Web Intelligence by manually editing the `fontalias_v2.xml` file.

As of 4.3 SP2, some font names have changed and the fonts file name has been renamed to `fontalias_v2.xml`. If you're performing a patch install, the previous `fontalias.xml` file isn't removed. Also, if you've made configuration changes to the previous `fontalias.xml`, make sure to replicate them manually to the new `fontalias_v2.xml` file.

> **Note**
>
> You must obtain and install fonts on your machine before configuring fonts in the `fontalias_v2.xml` file.

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

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

A sample of the default `fontalias_v2.xml` appears below:

```
<FONTALIASMANAGER>
  <FONT NAME="Arial">
    <FONTFAMILY PLATFORM="ttf" NAME="Arial">
```

```
      <FONTATTRIBUTE BOLD="false" ITALIC="false" LOGICAL="Arial"
PHYSICAL="Arial.ttf;arial.ttf;ArialMTPro-Regular.ttf"/>
      <FONTATTRIBUTE BOLD="true" ITALIC="false" LOGICAL="Arial Bold"
PHYSICAL="Arial-Bold.ttf;arialbd.ttf;arialb.ttf;ArialMTPro-Bold.ttf"/>
      <FONTATTRIBUTE BOLD="false" ITALIC="true" LOGICAL="Arial Italic"
PHYSICAL="Arial-Italic.ttf;ariali.ttf;ArialMTPro-Italic.ttf"/>
      <FONTATTRIBUTE BOLD="true" ITALIC="true" LOGICAL="Arial
Bold Italic" PHYSICAL="Arial-BoldItalic.ttf;arialbi.ttf;arialz.ttf;ArialMTPro-
BoldItalic.ttf"/>
    </FONTFAMILY>
    <FONTFAMILY PLATFORM="win" NAME="Arial"/>
    <FONTFAMILY PLATFORM="java" NAME="Arial, Helvetica, 'Courier New', 'Times
New Roman'"/>
    <FONTFAMILY PLATFORM="html" NAME="Arial, Helvetica, 'Courier New', 'Times
New Roman'"/>
  </FONT>
</FONTALIASMANAGER>
```

You need to do the following:

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

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

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

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

> **Note**
>
> We recommend that you use typeface-specific TrueType fonts for bold, italic and bold-italic. If a non-regular `FONTATTRIBUTE` entity is missing from a `FONT` entity, the Web Intelligence Processing Server synthesizes

the font typeface from the specified regular typeface. Synthesized fonts will have lower quality than fonts explicitly designed for non-regular typefaces.

6.10 Verifying fips in your installation

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

1. Navigate *Start* > *Central Configuration Manager*.
2. In the *Central Configuration Manager* window, right-click on *Server Intelligent Agent* and select *Properties*.
3. 4. In the *Command* key value – fips is appended by default.

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

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

6.11 Viewing log summary

ErrorsAndWarnings.log file contains exclusively the errors and warnings that occurred during performing the install, uninstall, modify, or repair actions in the BI platform. The status of install or uninstall of the SAP BusinessObjects BI platform 4.3 / 4.2 has following scenarios:

- BI platform 4.3 / 4.2 has been successfully installed or uninstalled
- BI platform 4.3 / 4.2 has been successfully installed or uninstalled with warnings.
- BI platform 4.3 / 4.2 has encountered errors during the install or uninstall process

The hyperlink *Click here for details* appears in case of warnings or errors during the installation, uninstallation, modifying, or reparing. When you select *Click here for details*, you can see the errors and warnings listed in the file.

Alternatively the errors and warnings log file is saved to `<INSTALL_DIR>\InstallData\logs\<DATEandTIME>\ErrorsAndWarnings.log.`

6.12 Running SPL_Warehouse.unx sample universe

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

- The SQL Anywhere database and drivers

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

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

The following items are installed on the CMS repository:

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

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

6.12.1 About the sample connection

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

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

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

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

6.12.2 To start the sample dataset

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

You have selected the sample during installation.

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

   ```
   -n SPL_Warehouse
   ```

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

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

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

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

This database is not declared as a service. Make sure the `dbsrv16` process is running to access the database.

7 Installing BI Platform Client Tools

The BI platform Client Tools can only be installed by a dedicated installation program, and are no longer bundled with the installation of the BI platform servers.

The BI platform Client Tools installation program installs a suite of desktop clients on supported Windows operating systems only. Client Tools are not available for Unix or Linux operating systems.

> **Note**
>
> - From BI 4.3 onwards, the following Client Tools can only be installed on 64-bit operating systems:
> - SAP BusinessObjects BI platform Client Tools
> - SAP Crystal Server Client Tools
> - SAP Crystal Reports
> - SAP Crystal Reports for Enterprise
> - SAP Crystal Reports viewer
> - SAP Crystal Reports Server, OEM Edition
> - SAP BusinessObjects Web Intelligence
>
> Existing clients installed on 32-bit operating system can't be updated to BI 4.3.
> - Installing Web Intelligence Rich Client on the same machine as the BI platform servers is not supported. Web Intelligence Rich Client and the BI Platform servers have binaries in common, which could cause issues to your deployment if you upgrade the installation (client or server). If you are installing Web Intelligence Rich Client, install it on a separate machine.

Some of the client applications that make up the Client Tools suite are also available with their own stand-alone installation program. This allows you to install the client application by itself, without having to install the Client Tools suite's *Custom* installation option.

No product key is required to install Client Tools, but you require administrative privileges for the account being used to run the installation program.

If a file is in use during the installation, the installation program recommends a system reboot when the install is complete. Although the reboot can be postponed, and you can continue to use the system after the installation, the system may be in an unsupported state until it is rebooted. It is recommended that you restart the system at the end of an installation if a reboot is recommended.

7.1 Desktop client applications

The following desktop client applications are installed by the BI platform Client Tools installation program:

- Web Intelligence Rich Client
- Business View Manager
- Universe design tool

- Information design tool
- Translation Management Tool
- Data Federation Administration Tool
- Developer Components
  For integrating BusinessObjects functionality into interactive web applications. Includes the BI platform Java SDK, Web Services SDK, and .NET SDK.
- Data Access and Security

7.1.1 Web Intelligence Rich Client

Web Intelligence Rich Client is an ad-hoc analysis and reporting tool for business users with or without access to the BI platform.

It allows business users to access data via universes (.unv and .unx), BEx queries, or other sources, using familiar business terms in a drag-and-drop interface. Workflows allow very broad or very narrow questions to be analyzed, and for further questions to be asked at any point in the analysis workflow.

Web Intelligence Rich Client users can continue working with Web Intelligence document files (.wid) even when unable to connect to a Central Management Server (CMS).

> **Note**
>
> - We do not recommend installing Web Intelligence Rich Client on the same machine as the BI platform servers. Web Intelligence Rich Client and the BI Platform servers have binaries in common, which could cause issues to your deployment if you upgrade the installation (client or server). If you are installing Web Intelligence Rich Client, please install it on a separate machine.
> - If you're upgrading from 4.2, make sure to stop and close previous version before installing the 4.3 version. Check the Windows system tray, the Rich Client might be minimized and is still running.

7.1.2 Business View Manager

Business View Manager allows users to build semantic layer objects that simplify underlying database complexity.

Business View Manager can create data connections, dynamic data connections, data foundations, business elements, business views, and relational views. It also allows detailed column and row-level security to be set for the objects in a report.

Designers can build connections to multiple data sources, join tables, alias field names, create calculated fields, and then use the simplified structure as a Business View. Report designers and users can then use the business view as the basis for their reports, rather than and building their own queries from the data directly.

7.1.3 Report Conversion Tool

RCT is deprecated in BI 4.3 release. For more details, please refer to 2801797

7.1.4 Universe Design Tool

Universe Design Tool (formerly Universe Designer) allows data designers to combine data from multiple sources in a semantic layer that hides database complexity from end users. It abstracts the complexity of data by using business rather than technical language to access, manipulate, and organize data.

Universe Design Tool provides a graphical interface to select and view tables in a database. The database tables are represented as table symbols in a schema diagram. Designers can use this interface to manipulate tables, create joins between tables, create alias tables, create contexts, and solve loops in a schema.

You can also create universes from metadata sources. Universe Design Tool is used for the universe generation at the end of the creation process.

7.1.5 Information Design Tool

Information Design Tool (formerly Information Designer) is a metadata design environment that enables a designer to extract, define, and manipulate metadata from relational and OLAP sources to create and deploy SAP BusinessObjects universes.

7.1.6 Translation Management Tool

The BI platform provides support for multilingual documents and universes. A multilingual document contains localized versions of universe metadata and document prompts. A user can create reports, for example, from the same universe in their chosen languages.

Translation Management Tool (formerly Translation Manager) defines the multilingual universes and manages translation of universes and other report and analytic resources in the CMS repository.

Translation Management Tool:

- Translates universe or documents for a multilingual audience.
- Defines the metadata language parts of a document, and the appropriate translation. It generates external XLIFF format and imports XLIFF files to get translated information.
- Lists the universe or document structure to be translated.
- Lets you translate the metadata through the user interface, or through an external translation tool by importing and exporting XLIFF files.
- Creates multilingual documents.

7.1.7 Data Federation Administration Tool

The Data Federation Administration Tool (formerly Data Federator) is a rich client application that offers easy-to-use features to manage your data federation service.

Tightly integrated in the BI platform, the data federation service enables multi-source universes by distributing queries across disparate data sources, and lets you federate data through a single data foundation.

The data federation administration tool lets you optimize data federation queries and fine-tune the data federation query engine for the best possible performance.

You use the data federation administration tool to do the following:

- Test SQL queries.
- Visualize optimization plans which detail how federated queries are distributed to each source.
- Compute statistics and set system parameters to fine-tune the data federation services and get the best possible performance.
- Manage properties to control how queries are executed in each data source at the connector level.
- Monitor running SQL queries.
- Browse the history of executed queries.

7.1.8 Widgets for the BI Platform

BI Widget is deprecated in BI 4.3 release. For more details, please refer to 2837139.

7.2 To download the Client Tools installation program

1. Go to https://support.sap.com/home.html > *My Support* > *Software Downloads*.
2. Select *Installations and Upgrades*>*Access Downloads*.
3. Select *By Alphabetical Index (A-Z)*.
4. Select *B* > *SBOP BI Platform (FORMER SBOP ENTERPRISE)* > *SBOP BI PLATFORM (ENTERPRISE)* > *SBOP BI PLATFORM 4.3*.
5. Select *Installation and Upgrade* and then select your platform.
6. Select *SBOP BI PLATFORM <version> CLIENT TOOLS WINDOWS (64B)*, then follow the instructions on the website to download and extract the objects.

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* > *By Alphabetical Index (A-Z)*. For more information on installing Support Packages and Patches, see the SAP BusinessObjects BI Suite Update Guides.

7.3 Client Tools installation prerequisites

Before installing or making changes to a Client Tools installation, ensure that:

- Any existing BI Suite client tools and products are closed before running the installation program. If any client tool fails to start after the installation, running the installation program in repair mode should correct the issue.
- All BI platform servers on the machine are stopped except the CMS and File Repository Servers (FRS).
- The account being used has Administrator privileges. The installation requires that the account being used is a member of the Windows *Administrators* group, and that the default privileges assigned to the *Administrators* group have not been modified.
- You are using a minimum screen resolution of 1024 × 768 pixels. Using Microsoft Remote Desktop Connection to run the installation program is supported, as long as a minimum screen resolution of 1024 × 768 pixels is used.

7.4 To run an interactive installation of Client Tools

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

1. Locate and run `setup.exe`.
2. 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 Windows components configured by the installation program, such as Windows service names and Start menu shortcuts. These names cannot be changed later and are not affected by language settings once the installation is complete.

3. 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.
4. Review the installation welcome page.
5. On the *License Agreement* page, review the agreement and select *I accept the License Agreement*.

6. 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 it is used if a problem is detected with an individual language.

7. 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 Client Tools. 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 is not set to the same folder in which the installation program has been extracted.
   > - If you have already installed SAP BusinessObjects products, the *Destination Folder Information* field is not editable, and the path to the existing folder is displayed.

8. On the *Select Features* page, select the features to install from the list.

   Features are grouped under the following headings:

   - Client components
     Desktop client applications:
     - Web Intelligence Rich Client
     - Business View Manager
     - Universe Design Tool
     - Information Design Tool
     - Translation Management Tool
     - Data Federation Administration Tool
   - Developer Components
     - SAP BusinessObjects BI platform Java SDK
     - SAP BusinessObjects BI platform Web Services SDK
     - SAP BusinessObjects BI platform .NET SDK
     - Crystal Reports Java SDK
     - SAP BusinessObjects Semantic Layer Java SDK
       - Semantic Layer SDK
       - Semantic Layer SDK Samples
   - Data Access and Security
     The individual drivers listed under this heading allow client tools to access supported reporting database systems, or third-party authentication for Enterprise Resource Planning (ERP) systems.

The *Start Installation* page appears. Start the installation.

7.5 To run a silent installation of Client Tools

Every option in the installation wizard can be given from the command-line. This type of installation is known as a silent install.

Installation options can be given directly on the command-line as a parameter, or can be stored in a response file.

- Giving installation options on the command-line
  Installation options can be passed directly to the setup program from the command-line as a parameter. For example, the installation option `CMSPort=6401` can be given on the command-line as a parameter when running the installation program to set the CMS port number to 6401, instead of the default value of 6400.
  In the following example of giving the `CMSPort` parameter on the command-line, ellipses (`[...]`) are shown to indicate where other installation options would normally be present:
  `setup.exe [...] CMSPort=6401 [...]`
- Giving installation options in a response file
  Installation options can be stored in a response file, which 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.exe [...] -r C:\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
  [...]
  ```

> **Note**
>
> The installation program returns the cursor to the command-line prompt when it starts. To run the installation program from a script, or to force the installation program to wait to complete before returning to the command-line, use the Windows Command Interpreter `start /wait` command to invoke `setup.exe`.
>
> For example:
>
> ```
> start /wait setup.exe [<COMMAND_LINE_OPTIONS>]
> ```

For a complete list of installation options, see Installation option parameters for Client Tools [page 92]. For an example of a response file, see Response file example [page 52].

7.5.1 Command-line silent install of Client Tools

You can install Client Tools with one command by giving parameters on the command-line. Every option in the *Maintenance* wizard can be read from a response file invoked in the command-line. This is referred to as a silent installation. When parameters are supplied on the command-line, the installation will not prompt for information.

A response file is a text file containing installation option parameters in the key-value format. The installation program is run from the command-line with the following parameters where -r parameter stands for read

operation, the -w parameter is used for write operation, and <RESPONSE FILE> is the name of the response file.

- `-w <FILENAME>`: This parameter writes a response file named <RESPONSE FILENAME>, containing the options selected from the installation wizard.
  Example: `./setup.sh -w "$HOME/ response.ini"`
- `-r <FILENAME>`: This parameter reads installation options from a response file named <RESPONSE FILENAME>.
  Example: `./setup.sh -r "$HOME/ response.ini"`
- `-i <product key name>`: This parameter is the keyname of the product that is used to perform maintenance operations.

Example: `"setup.exe -w response.ini -i bipclient"`

7.5.1.1 To use a response file

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

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

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

For example, the following command reads installation options from the response file `C:\<parent_folder>\<response_file_name>.ini`, but overrides the response file's setting for the installation destination folder:

```
setup.exe -r C:\<parent_folder>\<response_file_name>.ini
InstallDir="C:\SAP\BusinessObjects BI platform"
```

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

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

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

7.5.1.1.1 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 `C:\<parent_folder>\<response_file_name>.ini`:

```
setup.exe -w C:\<parent_folder>\<response_file_name>.ini
```

-i <product key name>: This parameter is the keyname of the product that is used to perform maintenance operations.

```
./setup.sh -w "$HOME/ response.ini"
```

> **Note**
>
> The parent folder should exist before you execute the command.

Response file for various clients

Client	Response File
SAP Crystal Reports	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Crystal Reports for Enterprise	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Businessobjects Explorer	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
SAP Lumira	`SAPLumiraSetup.exe -w c:\<parent_folder>\<response_file_name>.ini`

SAP BusinessObjects Web Intelligence Rich client	For Scripted :
	`setup.exe -w C:\<parent_folder>\<response_file_name>.ini`
	For Command-line :
	`setup.exe –q C:\<parent_folder>\<response_file_name>.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.

7.5.1.1.2 To read 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 `C:\<parent_folder>\<response_file_name>.ini`:

```
setup.exe -r C:\<parent_folder>\<response_file_name>.ini
```

-r < RESPONSE FILE NAME >: This parameter reads installation options from a response file named <RESPONSE FILENAME>.

-i <product key name>: This parameter is the keyname of the product that is used to perform maintenance operations.

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

Response file for various clients

Client	Response File
SAP Crystal Reports	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
SAP Crystal Reports for Enterprise	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
SAP Businessobjects Explorer	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
SAP Lumira	`SAPLumiraSetup.exe -r c:\<parent_folder>\<response_file_name>.ini`

Client	Response File

SAP BusinessObjects Web Intelligence Rich client	For Scripted :
	`setup.exe -r C:\<parent_folder>\<response_file_name>.ini`
	For Command-line :
	`setup.exe –r C:\<parent_folder>\<response_file_name>.ini`

7.5.2 Installation option parameters for Client Tools

The following table lists the parameters that can be used to select installation options on both the command-line and in response files.

Installation option parameters

Parameter	Description
`InstallDir=<PATH>`	Destination folder into which the setup program will install. When installing to a host that already has an installation of the BI platform, the value of `InstallDir` will be automatically set to the same path as the existing installation. **Note** • The use of Unicode characters in the destination folder path is not supported. • Ensure that the destination folder is not set to the same folder in which the installation program has been extracted.

Parameter	Description
`SelectedLanguagePacks=<CODE>`	Installs language support for users and administrators to interact with the BI platform in a supported language. If more than one language pack is to be installed, use a semi-colon delimited list without spaces, within quotes, to separate each code. In the following example, language support for English, Japanese, Simplified Chinese, and Thai will be installed: `SelectedLanguagePacks="en;ja;zh_cn;th"` Substitute the following language codes 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` • Spanish: `es` • Swedish: `sv` • Thai: `th` • Traditional Chinese: `zh_tw` • Turkish: `tr`

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` • Spanish: `es` • Swedish: `sv` • Thai: `th` • Traditional Chinese: `zh_tw` • Turkish: `tr`
`Features=<CODE>`	List of components to install. To select multiple features, use a comma-delimited list without spaces to give each code. In the following example, Web Intelligence Rich Client, Business View Manager, and Report Conversion Tool are selected for install: `Features=WebI_Rich_Client,Business_View_Manager, Report_Conversion,[...]` For a complete list of feature codes, see *Feature codes*.

7.5.2.1 Feature codes for Client Tools

Use the following feature codes to select features for installation. To select multiple features, separate each feature code with a comma, without spaces. For example, the following feature list selects Web Intelligence Rich Client, and Business View Manager clients for installation:

```
features=WebI_Rich_Client,Business_View_Manager,[...]
```

- `root`: install all features
  - `ClientComponents`: install all client components
    - `WebI_Rich_Client` (Web Intelligence Rich Client)
    - `Business_View_Manager`
    - `Universe_Designer` (Universe design tool)
    - `InformationDesignTool`
      - `InformationDesignTool_Core`(Information Design Tool)
      - `UniverseLandscapeMigration` (Universe Landscape Migration add-in - requires Information Design Tool to also be installed)
    - `Translation_Manager` (Translation management tool)
    - `DataFederationAdministrationTool`
  - `DevComponents`: install all developer tool components
    - `JavaSDK` (BI platform Java SDK)
    - `WebSDK` (BI platform Java Web Services SDK)
    - `DotNetSDK` (BI platform .NET SDK)
    - `CRJavaSDK` (SAP Crystal Reports Java SDK)
  - `DataAccess`: install all data source drivers and files
    - `DataFed_DataAccess` (Data Federator)
    - `HPNeoView_DataAccess`
    - `MySQL_DataAccess`
    - `GenericODBC_DataAccess`
    - `GenericOLEDB_DataAccess`
    - `GenericJDBC_DataAccess`
    - `MaxDB_DataAccess`
    - `SalesForce_DataAccess` (Salesforce.com)
    - `Netezza_DataAccess`
    - `Microsoft_DataAccess`
    - `Ingres_DataAccess`
    - `Greenplum_DataAccess`
    - `IBMDB2`
    - `Informix_DataAccess`
    - `Progress_Open_Edge_DataAccess`
    - `Oracle_DataAccess`
    - `Sybase_DataAccess`
    - `TeraData_DataAccess`
    - `SAPBW_DataAccess`
    - `SAP_DataAccess`
    - `PersonalFiles_DataAccess`
    - `JavaBean_DataAccess`
    - `OpenConnectivity_DataAccess`
    - `HSQLDB_DataAccess`
    - `Derby_DataAccess`

- `Essbase_DataAccess`
- `PSFT_DataAccess` (PeopleSoft Enterprise)
- `JDE_DataAccess` (JD Edwards EnterpriseOne)
- `Siebel_DataAccess` (Siebel Sign-on Server)
- `EBS_DataAccess` (Oracle E-Business Suite)

7.5.2.2 Response file example for Client Tools

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

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

Example

In this example, the response file is named `C:\response.ini`.

```
### Installation directory
installdir=C:\Program Files (x86)\SAP BusinessObjects\
### #property.SelectedLanguagePack.description#
selectedlanguagepacks=cs;da;nl;en;fi;fr;de;hu;it;ja;ko;nb;pl;pt;ru;zh_cn;sk;es;sv
;th;zh_tw;tr
### Setup UI language
setupuilanguage=en
### Available features
### ------------------
### root
###   ClientComponents
###     WebI_Rich_Client
###     Business_View_Manager
###     Report_Conversion
###     Universe_Designer
###     QAAWS
###     InformationDesignTool
###       InformationDesignTool_Core
###       UniverseLandscapeMigration
###     Translation_Manager
###     DataFederationAdministrationTool
###     biwidgets
###   DevComponents
###     JavaSDK
###     WebSDK
###     DotNetSDK
###     CRJavaSDK
###   DataAccess
###     DataFed_DataAccess
###     HPNeoView_DataAccess
###     MySQL_DataAccess
###     GenericODBC_DataAccess
###     GenericOLEDB_DataAccess
###     GenericJDBC_DataAccess
###     MaxDB_DataAccess
###     SalesForce_DataAccess
```

```
###     Netezza_DataAccess
###     Microsoft_DataAccess
###     Ingres_DataAccess
###     Greenplum_DataAccess
###     IBMDB2
###     Informix_DataAccess
###     Progress_Open_Edge_DataAccess
###     Oracle_DataAccess
###     Sybase_DataAccess
###     TeraData_DataAccess
###     SAPBW_DataAccess
###     SAP_DataAccess
###     PersonalFiles_DataAccess
###     JavaBean_DataAccess
###     OpenConnectivity_DataAccess
###     HSQLDB_DataAccess
###     Derby_DataAccess
###     Essbase_DataAccess
###     PSFT_DataAccess
###     JDE_DataAccess
###     Siebel_DataAccess
###     EBS_DataAccess
features=WebI_Rich_Client,Business_View_Manager,Report_Conversion,Universe_Design
er,QAAWS,InformationDesignTool,Translation_Manager,DataFederationAdministrationTo
ol,biwidgets,ClientComponents,JavaSDK,WebSDK,DotNetSDK,CRJavaSDK,DevComponents,Da
taFed_DataAccess,HPNeoView_DataAccess,MySQL_DataAccess,GenericODBC_DataAccess,Gen
ericOLEDB_DataAccess,GenericJDBC_DataAccess,MaxDB_DataAccess,SalesForce_DataAcces
s,Netezza_DataAccess,Microsoft_DataAccess,Ingres_DataAccess,Greenplum_DataAccess,
IBMDB2,Informix_DataAccess,Progress_Open_Edge_DataAccess,Oracle_DataAccess,Sybase
_DataAccess,TeraData_DataAccess,SAPBW_DataAccess,SAP_DataAccess,PersonalFiles_Dat
aAccess,JavaBean_DataAccess,OpenConnectivity_DataAccess,HSQLDB_DataAccess,Derby_D
ataAccess,Essbase_DataAccess,PSFT_DataAccess,JDE_DataAccess,Siebel_DataAccess,EBS
_DataAccess,DataAccess,root
```

7.6 Making changes to Client Tools

7.6.1 To modify Client Tools

These instructions describe the process to modify your Client Tools installation by adding or removing installed components though the Windows Control Panel.

1. Go to: *Start* > *Control Panel* > *Programs and Features*.
2. Right-click *SAP BusinessObjects Business Intelligence platform 4.3 Client Tools* and select *Uninstall/Change*.
3. On the *Application Maintenance* page, select *Modify* and click *Next*.
4. On the *Select Language Packs* page, select any languages you want to install; unselect any languages you want to remove. Click *Next* to continue.
5. On the *Select Features* page, select any features you want to install; unselect any features you want to remove.

   Features are grouped under the following headings:

   - Client components
     - Web Intelligence Rich Client
     - Business View Manager

    - Universe Design Tool
    - Information Design Tool
      - Universe Landscape Migration
        This feature requires Information Design Tool to also be installed. If you currently have both features installed and want to remove Information Design Tool, you must unselect and remove both features.
    - Translation Management Tool
    - Data Federation Administration Tool
  - Developer Components
    - SAP BusinessObjects BI platform Java SDK
    - SAP BusinessObjects BI platform Web Services SDK
    - SAP BusinessObjects BI platform .NET SDK
    - Crystal Reports Java SDK
    - SAP BusinessObjects Semantic Layer Java SDK
      - Semantic Layer Java SDK
      - Semantic Layer Java SDK Samples
  - Data Access and Security
    The individual drivers listed under this heading allow client tools to access a broad range of supported data sources.
6. Click *Next* to apply your changes.

The *Start Installation* page appears. Start the installation.

7.6.1.1 Silent Modify

To silently modify the Client Tool installation using a response file, follow the steps mentioned below:

1. Go to the *Install* directory.
2. Open the command prompt to generate a response file.
3. To write the parameter and generate a response file to perform silent modify operation, run the `setup.exe` file with `setup.exe -w < generated response file path> -i <product key name>` parameter.

   ```
   setup.exe -w response.ini -i bipclient
   ```

   Access the product key names in the Product Key name list [page 101].
4. The *Maintenance* dialog box opens with 3 options: Modify, Repair, and Remove.
5. Complete the wizard by selecting *Modify* button as the maintenance operation.
6. Click *Next*.

   The response file is generated once the wizard completes the installation program.
7. Update the CMS password in the generated response file.
8. To read the parameter and perform silent modify operation, run `setup.exe` file with `setup.exe -r < generated response file path> -i <product key name>` parameter.

   ```
   setup.exe -r response.ini -i bipclient
   ```

7.6.2 To repair a Client Tools installation

These instructions describe the process to repair your Client Tools installation through the Windows Control Panel. This process restores the files originally installed by the setup program.

It is recommended that you back up your system before running a repair.

1. Go to: *Start* > *Control Panel* > *Programs and Features*.
2. Right-click *SAP BusinessObjects Business Intelligence platform 4.3 Client Tools* and click *Uninstall/Change*.
3. On the *Application Maintenance* page, select *Repair* and click *Next*.

The *Start Installation* page appears. Start the installation. Once the repair is complete, the Client Tools are restored their original configuration.

7.6.2.1 Silent Repair

To silently repair the Client Tool installation using a response file, follow the steps mentioned below:

1. Go to *Install* directory.
2. Open the command prompt to generate a response file.
3. To write the parameter and generate a response file to perform silent repair operation, run `setup.exe` file with `setup.exe -w < generated response file path> -i <product key name>` parameter.
   `setup.exe -w <response file path> -i <product key name>`

   ```
   setup.exe -w response.ini -i bipclient
   ```

   Access the product key names in the Product Key name list [page 101].
4. The *Maintenance* dialog box opens with 3 options: Modify, Repair, and Remove.
5. Complete the wizard by selecting *Repair* button as the maintenance operation.

   The response file is generated once the wizard completes the installation program.
6. Click *Next*.
7. Update the CMS password in the generated response file.
8. To read the parameter and perform silent repair operation, run `setup.exe` file with `setup.exe -r < generated response file path> -i <product key name>` parameter.

   ```
   setup.exe -r response.ini -i bipclient
   ```

7.6.3 To remove Client Tools

The following steps remove the entire set of BI platform Client Tools from a system.

> **Note**
>
> To add or remove individual tools and applications, use the steps described in To modify Client Tools [page 97].

1. Go to the Windows *Control Panel*.
2. Right-click *SAP BusinessObjects Business Intelligence platform 4.3 Client Tools* and click *Uninstall/Change*.

> **Note**
>
> If you have installed a Client Tools application using another installation method, each application instance will appear separately in the *Programs and Features* list.
>
> For example, if Web Intelligence Rich Client was installed once by the Client Tools installation program, and then again with the stand-alone installation program, there is an entry in the *Programs and Features* list for both Web Intelligence Rich Client and BI platform 4.3 Client Tools (containing a separate installation of Web Intelligence Rich Client). Either can be removed without affecting the other. To remove the application entirely, remove both Web Intelligence Rich Client and BI platform 4.3 Client Tools.

3. On the *Application Maintenance* page, select *Remove* and click *Next*.
4. On the *Uninstall Confirmation* page, confirm that you want uninstall by clicking *Next*.
   The uninstallation program starts and the BI platform Client Tools are removed from the system.

7.6.3.1 Silent Remove (Uninstall)

If an update is installed in the system, you can remove (uninstall) the latest patch silently using the response files in two ways:

- Update Product uninstall
- Base Product uninstall

> **Note**
>
> To remove an installed patch, the Product Key name should be suffixed with the patch (mandatory). This operation always removes the latest patch installed in the system. For example, `<product key name>+patch` (bipclientpatch).

- *Update Product uninstall*
  To silently remove (uninstall) the update done in a product using a response file, follow the steps mentioned below:
  1. Go to *Install* directory.
  2. Open the command prompt to generate a response file.
  3. To write the parameter and perform silent remove (uninstall) operation, run the `setup.exe` file with `setup.exe -w <response file path> -i <product key name>+patch` parameter.
     Example: `setup.exe -w response.ini -i bipserverpatch`
     Access the product key names in the Product Key name list [page 101].
  4. The *Maintenance* dialog box opens with 3 options: Modify, Repair, and Remove.
  5. Complete the wizard by selecting *Remove* button as the maintenance operation.
  6. Click *Next*.
  7. The response file is generated once the wizard completes the installation program and exits.
  8. Update the CMS password in the generated response file.

9. To read the parameter and perform silent remove (uninstall) operation, run the `setup.exe` file with `setup.exe -r < generated response file path> -i <product key name>+patch` parameter.
   Example: `setup.exe -r response.ini -i bipserverpatch`

- *Base Product uninstall*
  To silently remove (uninstall) the base using a response file, follow the steps mentioned below:
  1. Go to *Install* directory.
  2. Open the command prompt to generate a response file.
  3. To write the parameter and perform silent remove (uninstall) operation, run the `setup.exe` file with `setup.exe -w <response file path> -i <product key name>` parameter.
     `setup.exe -w response.ini -i bipserverpatch`.
     Click here to view the Product Key name list [page 101].
  4. The *Maintenance* dialog box opens with 3 options: Modify, Repair, and Remove.
  5. Complete the wizard by selecting *Remove* button as the maintenance operation.
  6. Click *Next*.
  7. The corresponding response file is created in the system.
  8. To read the parameter and perform silent remove (uninstall) operation, run the `setup.exe` file with `setup.exe -r < generated response file path> -i <product key name>` parameter.
     Example: `setup.exe -r response.ini -i bipserverpatch`
  9. Click *Finish* to generate a response file to complete the remove action.

7.7 Product Key name list

The Product Key name should be suffixed with patch (mandatory) (for example, `<product key name>+patch` - bipclientpatch), and it will always un-install the latest patch installed in the system.

Please find the Product Key name list for Modify / Repair / Remove (uninstall) below:

Sl.No	Product Name	Product Key name (Modify/Repair/Remove)	Product Key name (Remove) If machine has a patch installed
1	SAP BusinessObjects BI Platform Client Tools	bipclient	bipclientpatch
2	SAP Crystal Reports 2020	crystalreports	crystalreportspatch
3	SAP Crystal Reports for Enterprise	crenterprise	crenterprisepatch
4	SAP Crystal Server Client Tools 2020	crystalserverclient	crystalserverclientpatch
5	SAP Integration for Microsoft SharePoint	ioms	iomspatch
6	SAP BusinessObjects Live Office	liveoffice	liveofficepatch

Sl.No	Product Name	Product Key name (Modify/Repair/Remove)	Product Key name (Remove) If machine has a patch installed
7	SAP User Management Client 10.3	umc	umcpatch
8	SAP BusinessObjects BI Platform	bipserver	bipserverpatch
9	SAP Crystal Server 2020	crystalserver	crystalserverpatch
10	Information Platform Services	ips	ipspatch
11	SAP Crystal Reports Server 2020	crystalreportsserver	<No patch>
12	SAP Crystal Reports 2020 viewer	crystalreportsviewer	<No patch>
13	BusinessObjects Runtime 64	bipruntime64	<No patch>
14	BusinessObjects Runtime	bipruntime32	<No patch>
15	Lumira Discovery	lumiradiscovery	<No patch>
16	Lumira Addon	lumiraserver	lumiraserverpatch
17	Analysis Office Addon	analysisoffice	<No patch>

7.8 Upgrading Client Tools

The Client Tools installation program will not modify existing previous versions of the BI platform Client Tools. BI platform Client Tools are supported when installed on systems that also contain the following previous Client Tool versions:

- SAP BusinessObjects Business Intelligence platform XI 3.1 (any version)
- BusinessObjects Enterprise XI 3.0
- BusinessObjects Enterprise XI R2

The installation of BI platform Client Tools with Client Tools form BusinessObjects Enterprise 10 or BusinessObjects Enterprise XI is not supported and you may encounter compatibility issues.

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